OMB Number: 4040-0004
Expiration Date: 11/30/2025

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [x] Preapplication
- [ ] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: Completed by Grants.gov upon submission.

4. Applicant Identifier: County of Pinellas

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: County of Pinellas

* b. Employer/Taxpayer Identification Number (EIN/TIN): 596000800

* c. UEI: R37RMC63XKG1

d. Address:

* Street1: 400 S. Ft. Harrison Ave - 3rd FL
Street2:
* City: Clearwater
County/Parish: Pinellas
* State: FL: Florida
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 33765-5338

e. Organizational Unit:

Department Name: Public Works

Division Name: Captial Improvement Division

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Ms.
* First Name: Joan
Middle Name: M.
* Last Name: Rice
Suffix:

Title: Multimodal Traffic Project Coordinator

Organizational Affiliation: Employee

* Telephone Number: 7274648610
Fax Number: n/a

* Email: jrice@pinellas.gov

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

B: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

DOT Federal Highway Administration

11. Catalog of Federal Domestic Assistance Number:

20.205

CFDA Title:

Highway Planning and Construction

*** 12. Funding Opportunity Number:**

693JJ324NF00006

* Title:

Fiscal Year (FY) 2023 through FY 2026 Bridge Investment Program, Planning and Bridge Project Grants

13. Competition Identification Number:

FHWA-BIP-24-002-109892

Title:

FY 23 to 26 Bridge Investment Program, Planning and Bridge Project Grants

14. Areas Affected by Project (Cities, Counties, States, etc.):

Areas Affected by Project.pdf | Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Dunedin Bridge Replacement

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: FL-013

* b. Program/Project: FL-013

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 04/01/2028

* b. End Date: 04/01/2031

18. Estimated Funding ($):

* a. Federal	79,088,000.00
* b. Applicant	19,772,000.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	98,860,000.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Mr.

* First Name: Barry

Middle Name: A.

* Last Name: Burton

Suffix:

* Title: County Administrator

* Telephone Number: (727) 464-3485

Fax Number:

* Email: bburton@pinellas.gov

* Signature of Authorized Representative: Completed by Grants.gov upon submission.

* Date Signed: Completed by Grants.gov upon submission.

Areas Affected by Project

County of Pinellas and City of Dunedin

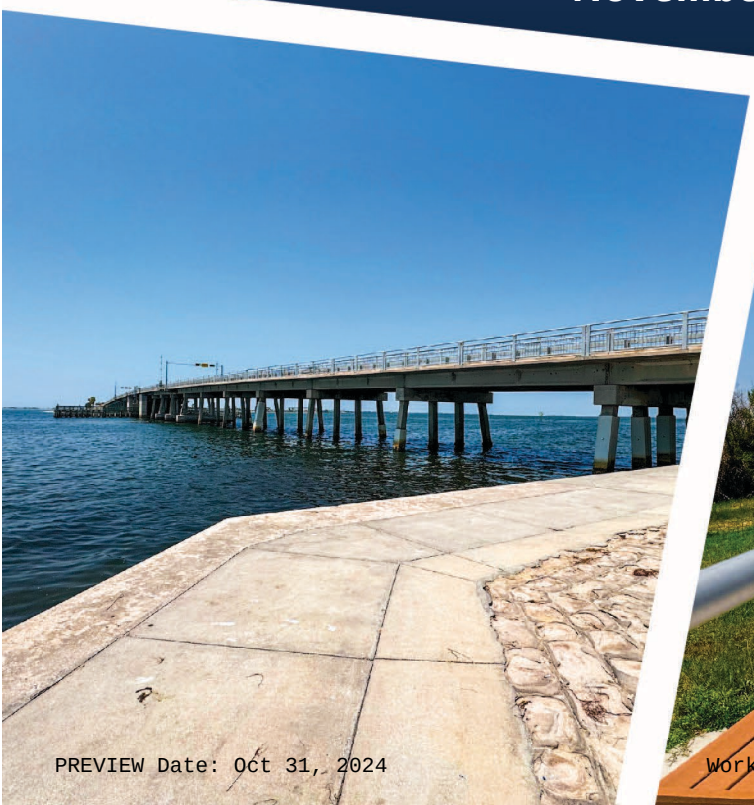
USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Supplemental Narrative

Dunedin, FL

November 1, 2024



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

USDOT - FHWA BRIDGE INVESTMENT PROGRAM FY 2025
Dunedin Causeway Main Bridge Replacement Project
Dunedin, FL

Contents

Dunedin Causeway Main Bridge Replacement Project 1
Contents i
I. Basic Project Information 1
Project Description 1
Proposed Improvements 2
Project Location 4
Lead Applicant 6
Other Public & Private Parties 6
Additional Eligibility Requirements 6
II. National Bridge Inventory Data 6
III. Project Budget – Grant Funds, Sources & Uses 6
IV. Merit Criteria 7
Criterion #1: State of Good Repair 7
Criterion #2: Safety and Mobility 10
Criterion #3: Economic Competitiveness and Opportunity 13
Criterion #4: Climate Change, Sustainability, Resiliency, and the Environment 14
Criterion #5: Equity and Quality of Life 15
Criterion #6: Innovation 19
V. Benefit-Cost Analysis Summary 20
VI. Project Readiness & Environmental Risk 21
Technical Feasibility & Technical Competency 21
Project Schedule 22
Required Approvals 22
Environmental Permits & Reviews 22
State & Local Approvals 24
Federal Transportation Requirements Affecting State and Local Planning 24
Assessment of Project Risks and Mitigation Strategies 24

VII. Administration Priorities & Departmental Strategic Plan Goals..... 24

Figures

Figure 2. Proposed Typical Section....4
Figure 1. Existing Typical Section....4
Figure 3. Project Location Map....5
Figure 4. Replacement Bridge Design Enhancements....12
Figure 5. Historically Disadvantaged Communities and Urbanized Areas: Areas of Persistent Poverty....16
Figure 6. Project Schedule & Approvals....22

Tables

Table 1. Existing and Proposed Main Bridge Characteristics....3
Table 2. Recent Pinellas County Transportation Projects with Federal Funding....6
Table 3. Project Funding by Source and Timeline....7
Table 4. Benefit-Cost Analysis Results (in millions of 2022$)....21
Table 5. Project Permits....23

Appendices

A. Technical Documents
- A.1 Pinellas County Asset Management Plan
- A.2 Dunedin Causeway Bridges PD&E Study: Type 2 Categorical Exclusion
- A.3 Dunedin Causeway Bridge PD&E Study: Preliminary Engineering Report
- A.4 Federal Emergency Management Agency. 2011. Benefit-Cost Analysis Re-engineering

B. Funding Documentation
C. Schedule
D. BCA Narrative
E. BCA Tool Outputs
F. Letters of Support

I. Basic Project Information

Project Description

Constructed in 1963, the Dunedin Causeway Main Bridge (National Bridge Inventory [NBI] Identification Number 150068) is a two-lane, undivided low-level bascule bridge that spans the Gulf Intracoastal Waterway (GIWW) and connects Ward Island to the Dunedin Causeway within the City of Dunedin, Pinellas County, Florida. Dunedin Causeway, also known as Causeway Boulevard and County Road 586, includes both the Main Bridge and West Tide Relief Bridge as well as a smaller 145-foot structure (NBI Identification Number 154005) that connects directly to the Pinellas County mainland. This roadway serves as the sole link between the mainland of Pinellas County and barrier islands located to the west (including Ward Island and Honeymoon Island). Honeymoon Island is home to nearly 800 residents and Honeymoon Island State Park, one of the most economically significant state parks of the Florida parks system. Ward Island includes approximately 410 residences, a marina, and multiple commercial establishments. The Dunedin Causeway itself is a significant regional destination, offering access to several adjacent public beaches.

The Dunedin Causeway Main Replacement Bridge will: :

- **Address the structural and functional deficiencies of the existing bridge.**
- **Meet USCG navigation clearance guidelines.**
- **Maintain access to Honeymoon Island, home to 794 residents and 1.5 million visitors annually.**
- **Enhance emergency evacuation capabilities and incident management response times through improved shoulders.**
- **Reduce mechanical failures and vessel collisions with the bridge.**
- **Decrease bridge maintenance costs by 25%.**

On the mainland of Pinellas County, Dunedin Causeway transitions to State Road 586 (east of US 19A) and facilitates important east-west traffic within the northern portion of the county. Dunedin Causeway is a designated Florida Division of Emergency Management (FDEM) and Pinellas County evacuation route, providing critical access to the Pinellas County mainland for residents, as well as visitors located on both Honeymoon Island and Ward Island.

Pinellas County proposes replacement of the Dunedin Causeway Main Bridge due to increasing deficiencies associated with the bridge. At 61 years old, it has exceeded its original life expectancy of 50 years. As documented through the 2024 NBI and Florida Department of Transportation (FDOT) information, the identified deficiencies include:

- **Deteriorating structural conditions.** Structural elements of the bridge are in Fair condition, and scour on the bridge is critical.
- **Inadequate functional design elements.** The bridge is "Functionally Obsolete" as it does not meet 2024 FDOT design standards (adopted by Pinellas County).
- **Substandard clearance at the navigable waterway channel.** The vertical clearance of the Main Bridge does not meet current United States Coast Guard (USCG) clearance guidelines over the navigable GIWW.

To date, Pinellas County has invested or committed approximately $11.3 million for the planning and design phases of the Dunedin Main Bridge Replacement project. The anticipated remaining project cost for the construction phase totals $98.86 million (2028 dollars). **As the bridge owner and project sponsor, Pinellas County is requesting $79.088 million (2028 dollars) in United States Department of Transportation (USDOT)-Federal Highway Administration (FHWA) Bridge Investment Program (BIP) grant funding to maximize its local dollars and advance the project.** Roadway construction associated with the project will be limited to the Main Bridge approaches. In addition to this project, $13.1 million is programmed to replace the West Tide Relief Bridge to ensure that the entire Dunedin Causeway meets current engineering standards and provides safe and reliable access to Honeymoon Island. The Pinellas County Capital Improvement Program FY 2025 includes a total of $118.7 million for both bridge projects.

Proposed Improvements

Pinellas County is proposing to replace the existing two-lane low-level bascule Main Bridge with a two-lane mid-level bascule bridge. The new Main Bridge will be constructed within existing right-of-way, using approximately the same alignment as the existing bridge. The width of the new Main Bridge is expected to increase by 22.5 feet (for a total width of approximately 63 feet) to accommodate two 11-foot-wide travel lanes with 8-foot-wide shoulders that can function as undesignated bicycle lanes.

A barrier-separated 5-foot-wide sidewalk is proposed on the north side of the bridge. A barrier-separated 15-foot-wide multi-use trail (to continue to serve as a spur of the Fred Marquis Pinellas Trail) is proposed on the south side of the bridge. New access to parking along the Dunedin Causeway is also proposed at each approach to the bridge along with a vehicle turn around underneath each end of the bridge.

The bridge approaches will be lengthened to allow for a higher vertical clearance at the GIWW navigation channel, ultimately reducing the need for bridge openings. The proposed mid-level bridge will provide 35 feet of vertical clearance over the GIWW navigation channel at the fenders in the closed position. Unlimited vertical clearance will be provided in the open position for the width of the channel between the fenders. The new bridge will accommodate full vehicular loads, including all emergency service vehicle types, while improving safety and access for pedestrians and cyclists.

The maximum proposed grade is 3%, which is the same as the existing bridge and meets requirements of the Americans with Disabilities Act (ADA). Reconstruction of the Dunedin Causeway itself will be limited to the bridge approaches. The approach roadway is proposed to return to existing grade approximately 566 feet from the eastern end and approximately 575 feet from the western end of the proposed bridge.

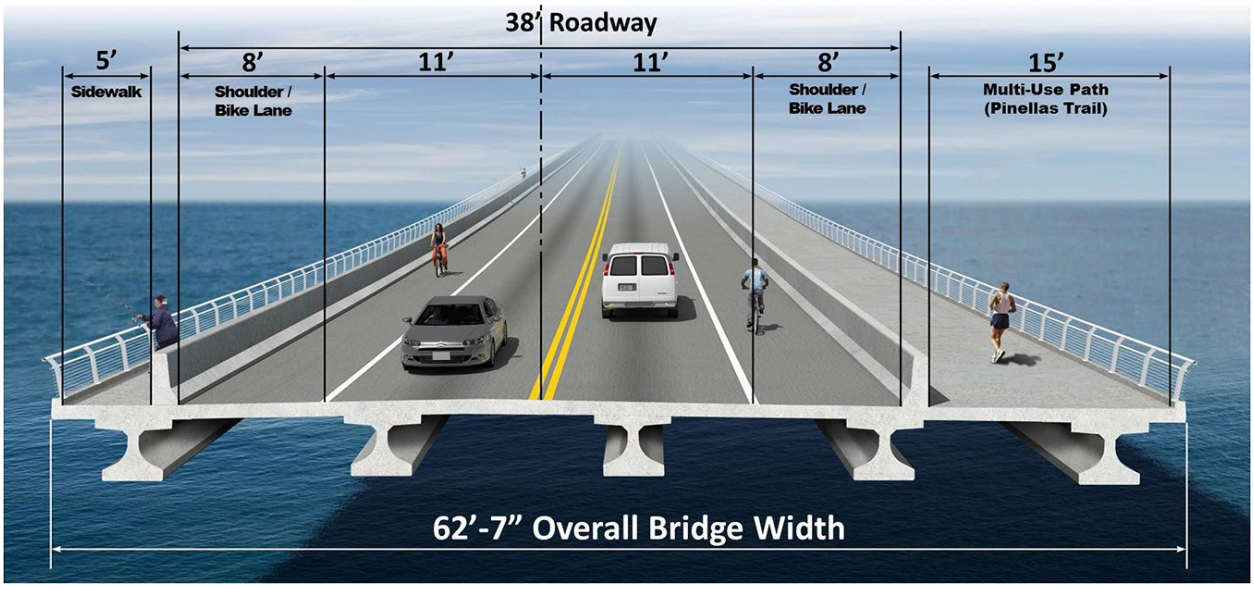
Table 1 provides a comparison of the existing and proposed Main Bridge typical sections and physical characteristics. **Figures 1** and **2** show the differences between the existing and proposed bridge typical sections.

Table 1. Existing and Proposed Main Bridge Characteristics

	Existing Bridge	Proposed Bridge
Movable Bridge Type	Low-level bascule bridge	Mid-level bascule bridge
Bridge Width	40'1"	62'7"
Bridge Length	1,190'5.5" (133'0.5" movable span)	1,741'2" (196' 8' movable span)
Vehicular Lanes	Two 11' lanes; Two 2' shoulders	Two 11' lanes; Two 8' shoulders (that can serve as undesignated bicycle lanes)
Bicycle/Pedestrian Facilities	3' 6" sidewalk (not ADA accessible) on the north side; 6' sidewalk (functioning as multi-use trail) on the south side	5' sidewalk (ADA accessible) on the north side; 15' multi-use trail on the south side
Maximum Vertical Grade	3%	3% (same as existing bridge)
Vertical Clearance at Navigation Channel (Bridge Closed)	20'	35'
Vertical Clearance (Bridge Open)	Unlimited	Unlimited
Horizontal Clearance (Bridge Closed)	90'	90'
Horizontal Clearance (Bridge Open)	90'	90'
Lighting	Limited (associated with control house & drawbridge signals)	Additional to be provided (sea turtle-friendly)
Bridge Railings	Do not meet crash rating standards	Meet crash rating standards

Figure 2. Existing Typical Section

Figure 1. Proposed Typical Section



Project Location

As depicted in **Figure 3**, the Main Bridge (NBI Identification Number 150068) of the Dunedin Causeway within the City of Dunedin, Pinellas County, Florida (28°03'03.9"N, 82°47'43.5"W). Pinellas County is part of the Tampa–St. Petersburg–Clearwater Metropolitan Statistical Area situated in central Florida along the Gulf of Mexico. Pinellas County is 38 miles long and 15 miles wide at its broadest point, consisting of 280 square miles in total. The County is comprised of a series of barrier islands and a land peninsula that runs the length of Tampa Bay to the east and

the Gulf of Mexico to the west. It includes 588 miles of coastline. The intermingling of the County's land area with multiple waterways, connecting the barrier islands to the mainland, creates a heavy reliance on the area's many bridges for all modes of transportation. The Dunedin Causeway Main Bridge is a movable bridge over the GIWW that connects Ward Island and a narrower barrier island of the Dunedin Causeway. It links the mainland of Pinellas County and Honeymoon Island, a barrier island containing the 385-acre Honeymoon Island State Park with 4 miles of beach as well as private residences. The structure provides access for an estimated 1.5 million visitors annually to the state park[1] and offers access to the heavily used public beaches, water sports, park, and multi-use trail along the Dunedin Causeway itself.

Figure 3. Project Location Map

[1] Florida Department of Environmental Protection, Economic Impact Assessment Report Florida State Park System, 2023.

Lead Applicant

Pinellas County, the lead applicant and project sponsor for the Dunedin Causeway Main Bridge Replacement project, has invested or committed funding for the planning and design phases. The County has extensive experience managing federal grants as a previous recipient of federal funds for numerous transportation projects, such as those listed in **Table 2**. Covering a wide range of responsibilities, including airports, solid waste, animal services, emergency medical services, parks, planning, and public works, Pinellas County managed a Fiscal Year 2024 operations and capital budget of $3.9 billion. The County also has transparent processes and standards for implementation of a fiscally responsible budget that meets the needs of community programs and services.

Table 2. Recent Pinellas County Transportation Projects with Federal Funding

Project Name	Project Cost	Federal Participation
Fort DeSoto Bay Pier Replacement	$4.46M	$1M
Belleair Causeway Bridge Replacement	$72.6M	$33.7M
Starkey Road Sidewalk Improvements	$2.49M	$1.89M
Bryan Dairy Road Widening	$10.6M	$2.82M

Other Public & Private Parties

Pinellas County is the lead applicant on the project, but will work in partnership with the City of Dunedin and Florida Department of Transportation, as needed.

Additional Eligibility Requirements

Following replacement of the Dunedin Causeway Main Bridge, the annual budgeted need for operation, maintenance, and repairs is estimated to be reduced from $300,000 to $225,000 (in 2022 dollars), a 25% decrease. Pinellas County has implemented a countywide asset management plan to improve bridge maintenance, operation, and monitoring (see **Appendix A.1**). The County will use this plan to organize historical documentation, maintenance records, and plans related to the bridge in one central location, which will result in more effective tracking of inspections, repairs, and monitoring. The County will fund the maintenance costs associated with the Main Bridge, which are estimated to be $16.9 million over the 75-year life expectancy of the new bridge.

II. National Bridge Inventory Data

Information from the August 2024 NBI database pertaining to the Dunedin Causeway Main Bridge is included in the recommended application template.

III. Project Budget – Grant Funds, Sources & Uses

To date, Pinellas County has invested or committed $11.3 million for the planning and design phases of the Dunedin Causeway Main Bridge Replacement project. The anticipated remaining project cost for the construction phase is $98.86 million (2028 dollars). **As the bridge owner and**

project sponsor, Pinellas County is seeking to obtain $79.088 million (2028 dollars) or 80% of the total project eligible costs through a USDOT-FHWA BIP grant. As shown in **Table 3**, the **local match provided by Pinellas County is $19.772 million (2028 dollars). Appendix B** depicts the funding amounts allocated in the Pinellas County Capital Improvement Program FY 2025 for the Main Bridge Replacement project and West Tide Relief Bridge Replacement project.

Table 3. Project Funding by Source and Timeline

Project Phase	Funding Source		Total Project Eligible Costs	Timeline
	BIP Request Amount	Pinellas County		
Bridge Construction*	$79,088,000 (80%)	$19,772,000 (20%)	**$98,860,000 (100%)**	Begin 2028; End 2030

(*) Construction cost includes Construction Engineering and Inspection (CEI)/post-design and contingency. Figures are in 2028 dollars.

IV. Merit Criteria

Criterion #1: State of Good Repair

The Dunedin Causeway Main Bridge is a 61-year-old movable bridge that is structurally deficient, functionally obsolete, and does not meet current USCG navigation clearance guidelines.

Deteriorating Structural Conditions. Based on the FDOT June 2024 Florida Bridge Information Report, **a Sufficiency Rating of 49.5 and a Health Index of 73.32 were assigned to the Main Bridge.** The Sufficiency Rating and Health Index values range from 0 (poor) to 100 (excellent). A bridge Sufficiency Rating is an overall rating of a bridge's fitness to remain in service. **A Sufficiency Rating below 50.0 qualifies a bridge for replacement funds.** A bridge's Health Index is a performance measure that assesses the overall condition of a bridge structure. **Per FDOT policy, bridges with a Health Index of less than 85 require repairs or replacement.**

In addition, August 2024 NBI data reported ranks or conditions for several elements pertaining to the Main Bridge, including structural components. The ranks/conditions were based on a scale of 0 (the bridge is out of service, beyond corrective action, and in need of replacement) to 9 (the bridge is in excellent condition and no deficiencies have been identified). The ranks/conditions for the elements that were examined are as follows:

Bridge Element	Rank/Condition
Deck	5 (Fair)
Superstructure	5 (Fair)
Substructure	5 (Fair)
Scour	Critical
Overall	5 (Fair)

Notes:
5 = Fair Condition: Structural elements are sound but may have minor section loss, cracking, spalling, or scour.
Scour Critical: Bridge foundations are unstable for calculated scour conditions.

The overall condition of the bridge is consistent with its age, severe environmental exposure conditions, and heavy use.

As a result of continuous exposure to the saltwater environment, the concrete of both the superstructure and substructure are likely contaminated with chlorides, creating a condition conducive to continuing corrosion of the reinforcing steel. Elements in or closer to water (e.g., piles) and elements subject to repeated splashing from waves (e.g., pile caps, beam ends and diaphragms), exhibit higher concentrations of chlorides and ultimately exhibit more advanced corrosive deterioration. For most of the bridge elements, chlorides have reached a critical threshold where corrosion is anticipated to continue even after repairs are performed. A Phase 4 Countermeasure Design and Plan of Action analysis was conducted as part of previous bridge inspections, providing a conceptual plan of scour countermeasure alternatives for protecting the structural elements considered at risk of failure due to scour, i.e., the substructure units. Given current conditions, the bridge elements are at risk of further damage from storm waves and vessel collisions. **Overall, the bridge is at an advanced stage of corrosive deterioration.**

Inadequate Functional Design Elements. The FDOT June 2024 Florida Bridge Information Report and August 2024 NBI data indicate that **the bridge is "Functionally Obsolete"** as it is approximately 40 feet wide and does not meet 2024 FDOT design standards (adopted by Pinellas County). The existing typical section of the bridge consists of one 11-foot-wide travel lane with a 2-foot-wide outside shoulder in each direction, a 3.5-foot-wide sidewalk on the north side, and a 6-foot-wide sidewalk on the south side that functions as a multi-use trail (specifically, a spur of the countywide Fred Marquis Pinellas Trail). Currently, dedicated bicycle lanes are not provided. Lighting on the bridge is limited to the control house and drawbridge signals. The curb mounted traffic railings located on each side of the bridge as well as the approach guardrails, guardrail end treatments, and transitions do not meet current standards for roadside safety in terms of both geometry and impact resistance. Given the inadequate shoulder widths, one lane (or both lanes) may be blocked temporarily during periods of maintenance or if a traffic incident occurs. **The inadequate facilities of the bridge create concerns related to safety conditions such as efficient evacuation and emergency service response times, efficient incident management and maintenance, and potential increased collisions between pedestrians and cyclists or cyclists and vehicles due to the sharing of existing limited infrastructure.**

Substandard Navigation Clearance. The Main Bridge crosses the GIWW, a designated USCG navigable waterway. The existing vertical clearances for the Main Bridge are 20 feet above the mean high water elevation at the face of the fenders in the closed position and unlimited navigation clearance in the open position. Current USCG vertical navigation clearance guidelines for movable bridges at this location on the GIWW are 21 feet of vertical clearance in the closed position and unlimited clearance in the open position. As per the County's monthly reports of bridge openings in 2023, the Dunedin Causeway Main Bridge requires approximately 2.8 openings per day to accommodate vessels using the GIWW given its limited height. Based on the survey of vessels height completed during the PD&E study, it is estimated that with an increase to 35 feet of vertical clearance, **the proposed replacement bridge will reduce the need to open by 50%**.

Outdated Equipment. The condition of the operating machinery and electrical and control system associated with the bascule (or movable) Main Bridge is consistent with the age of the bridge and the frequency of operation. In general, the equipment exhibits moderate wear and deterioration. Incidents of mechanical failure of the bridge have affected both vehicular and boat traffic; there have been cases of vessel collisions with the bridge structure caused by such failures. **The costs required for safe and reliable operation, maintenance, and monitoring of the Main Bridge continue to increase annually.** The bridge replacement is anticipated to reduce the annual operation, maintenance, and repairs budget from $300,000 to $225,000, a 25% decrease. This equates to an annual savings of $75,000, and a 30-year total discounted value of $897,000 (both amounts in 2022 dollars). **Major rehabilitation or replacement of the Main Bridge is needed to keep the bridge open and operating efficiently. Ongoing maintenance and repair of the Main Bridge machinery affects its reliability, often resulting in increased travel times for both vehicles and vessels as well as longer emergency service response times.**

Summary. The project contributes to the State of Good Repair criterion by replacing the bridge structure completely to raise all NBI ratings to Excellent and meet all current engineering standards. Addressing these elements, in turn, mitigates current safety deficiencies and creates reliable multimodal infrastructure to serve the community needs while preserving the environment. The replacement bridge is expected to be more reliable, have lower operation and maintenance costs (these costs are anticipated to decrease by 25% with the replacement), reduce impacts from bridge closures, and preserve critical access between Honeymoon Island and the Pinellas County mainland. The new structure will be designed with a 75-year service life. The replacement bridge will be designed with adequate capacity to provide long-term resiliency for extreme weather events. The proposed bridge replacement is expected to retain some value beyond the 2060 time horizon, based on its 75-year useful lifespan, for which the project residual value was computed. **The monetized state of good repair benefits, based on the combined operations and maintenance cost savings and residual value, are projected to total $17.0 million (in 2022 dollars) in discounted terms.**

Criterion #2: Safety and Mobility

The proposed replacement bridge will meet 2024 FDOT design standards (adopted by Pinellas County). As the designated state and county evacuation route that provides the only connection to the Pinellas County mainland from Honeymoon Island, the proposed replacement bridge will enhance safety and mobility of both vehicular and boat traffic.

The Dunedin Causeway Main Bridge does not currently meet the USCG vertical navigation clearance guidelines established for the GIWW. In addition, the facilities provided on the bridge do not meet current design standards. The existing typical section of the bridge consists of one 11-foot-wide travel lane with a 2-foot-wide outside shoulder in each direction, a 3.5-foot-wide sidewalk on the north side, and a 6-foot-wide sidewalk on the south side that functions as a multi-use trail (specifically, a spur of the countywide Fred Marquis Pinellas Trail). Dedicated bicycle lanes are not provided. Lighting on the bridge is limited to the control house and drawbridge signals. The curb mounted traffic railings located on each side of the bridge as well as the approach guardrails, guardrail end treatments, and transitions do not meet current engineering standards for roadside safety in terms of both geometry and impact resistance. **The bridge and its substandard facilities affect efficiency and access as well as safety conditions for all travel modes crossing over or under the bridge – pedestrians, cyclists, vehicles/emergency services, and vessels.**

Due to the narrow sidewalk and trail widths and lack of dedicated bicycle lanes across the bridge, pedestrians and cyclists are forced to intermingle. Cyclists must dismount if they use the sidewalk or trail because the facilities are too narrow and collisions with pedestrians (including injuries) often occur. Accordingly, Pinellas County recently posted a sign prohibiting cyclists on the multi-use trail. The existing shoulders on the bridge are also too narrow to accommodate cyclists. As a result, many cyclists opt to ride in vehicular traffic. This situation consequently increases their vulnerability in potentially sustaining injuries due to possible collisions with vehicles. **The addition of 8-foot-wide shoulders (which may be used as undesignated bicycle lanes), a barrier-separated 5-foot-wide sidewalk on the north side, and a barrier-separated 15-foot-wide multi-use trail on the south side proposed as part of the project are intended to enhance mobility and safety for non-motorized traffic, including pedestrians and cyclists, by better dispersing, separating, and protecting the various modes.**

The narrow shoulders also prevent incapacitated vehicles from moving out of oncoming traffic, consequently obstructing traffic flow. This circumstance increases the vulnerability of the disabled vehicle occupant(s) in sustaining injuries while waiting for assistance due to possible collisions with free-flowing vehicles. The limited shoulders on the bridge additionally restrict the ability of motorists to avoid hazards within each directional travel lane without veering from the lane and causing direct impacts. The five-year (2019-2023) crash analysis revealed that there were 32 crashes within the project limits, of which 15 were Property Damage Only (PDO), and the others resulted in 26 injuries.[2]

Furthermore, in periods of congestion, the narrow shoulders hinder the passage of emergency service vehicles when responding to an emergency event/accessing a crash site. It is important to note that Dunedin Causeway is a designated FDEM and Pinellas County evacuation route as the sole roadway connecting the mainland of Pinellas County and the barrier islands located to the west (including Ward Island and Honeymoon Island). As part of the Dunedin Causeway, the Main Bridge is a critical facility in evacuating the 800 residents of Honeymoon Island as well as the visitors and resident staff of Honeymoon Island State Park. During peak hours and/or peak seasons (such as spring break), vehicle queuing can occur on the Dunedin Causeway from Honeymoon Island to US 19A as vehicles attempt to access the recreational assets located on Honeymoon Island and along the causeway itself. Given that the Dunedin Causeway is the only facility providing access between Honeymoon Island and the mainland of Pinellas County, emergency responders are forced in the same traffic congestion as the general travelling public.

The replacement bridge design incorporates a variety of features that may mitigate flaws and improve safety conditions as well as enhance mobility options across the bridge for the surrounding communities. As shown in **Figure 4**, these features include:

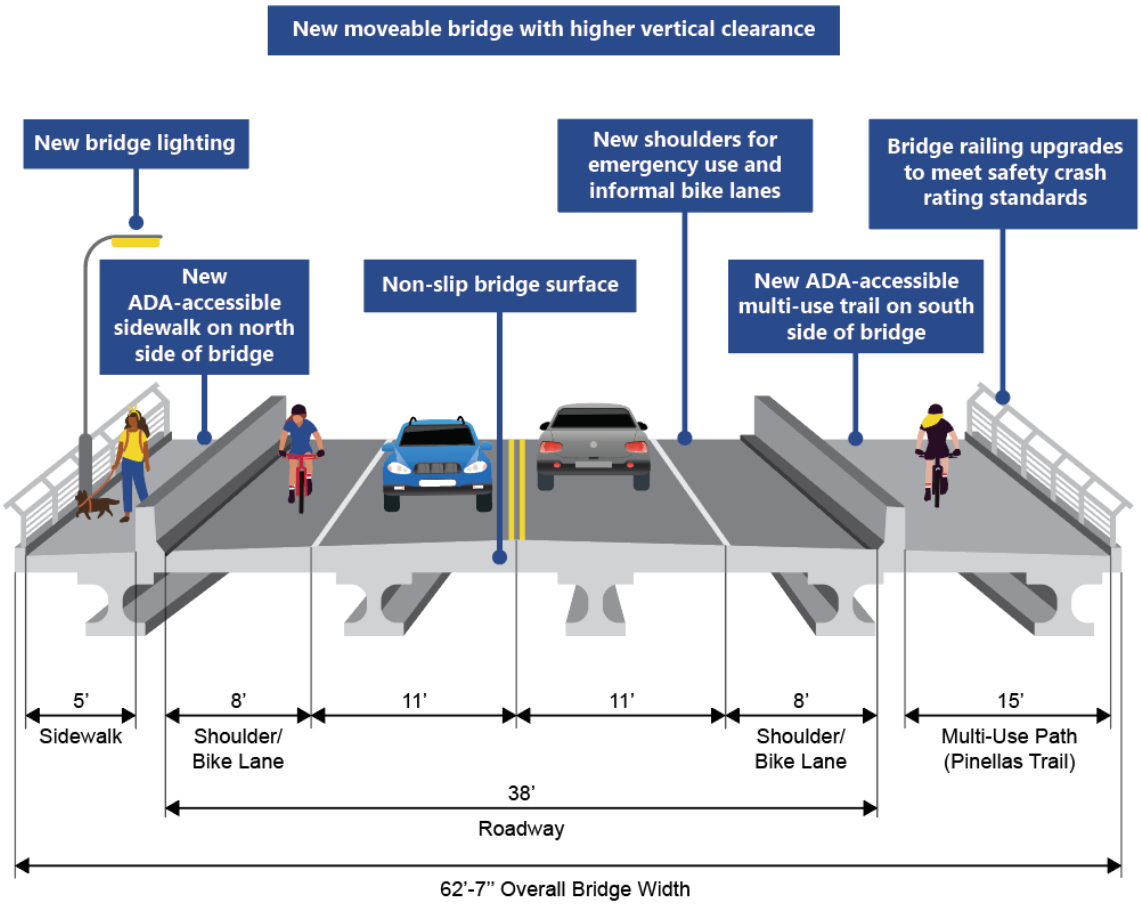
- **Wider shoulders.** New 8-foot-wide shoulders are intended to accommodate disabled vehicles and maintenance vehicles, allow emergency service vehicles to pass and respond during emergency situations, and serve as undesignated bicycle lanes for cyclists.
- **Enhanced multimodal facilities and ADA accommodations.** The proposed bridge includes a barrier-separated 5-foot-wide sidewalk on the north side and a barrier-separated 15-foot-wide multi-use trail on the south side, providing dedicated space for non-motorized traffic.

[2] Signal Four Analytics, August 2024.

- **Increased vertical clearance.** Increasing the vertical clearance of the bridge from 20 feet to 35 feet allows for more vessels to navigate the bridge in the closed position, reducing the number of bridge openings and queuing of both vehicles and vessels.
- **Bridge railing and roadway guardrail upgrades.** Standard crash rated safety bridge railings and roadway guardrails will be installed to improve crash survivability and safety for any vehicle lane departures.
- **Lighting.** New sea turtle-friendly bridge and roadway lighting will be installed to provide illumination of the facility itself, shoulders, sidewalk, and multi-use trail, thereby improving safety and security for travelers on the bridge and approaches.
- **Non-slip bridge surface.** The deck of the replacement bridge includes a solid concrete riding surface, which replaces the existing open-steel grating that is undesirable for cyclists and can be slippery in wet weather conditions.

The improved design elements of the new bridge are expected to result in crash savings totaling $7.8 million (2022 dollars) in discounted terms.

Figure 4. Replacement Bridge Design Enhancements



As part of the project PD&E Study, a vessel height survey was performed for the bridge over a nine-month period. The survey revealed that only 4.5% of vessels using the channel could pass under the existing bridge that has 20 feet of vertical clearance in the closed position. During that survey, it was estimated that 49% of vessels that used the channel would be able to pass under aa mid-level bridge that has 35 feet of vertical clearance in the closed position. **With the higher vertical clearance that is proposed, the replacement bridge will enhance the efficiency of vessel traffic and result in fewer bridge openings.**

The total safety and mobility benefits of the new bridge through 2060, based on the combined crash savings and travel time savings from reduced bridge openings, are forecasted to amount to $18.2 million (2022 dollars) in discounted terms.

Criterion #3: Economic Competitiveness and Opportunity

Upon completion, the replacement bridge will contribute to the economic vitality of the local and regional economies by maintaining access across the bridge for a range of users. The increase in vertical clearance from 20 to 35 feet provided by the replacement bridge's elevated design is anticipated to reduce the number of required openings by 49%, thereby improving travel time reliability and access to surrounding area jobs and essential services. The enhanced multimodal facilities improve access for residents on the barrier islands to jobs, essential services, and recreational facilities. In addition, the new bridge is anticipated to enhance connections to the area transportation network for vehicles, pedestrians, and cyclists, better positioning amenities and services of the area to realize their full potential. The proposed project is anticipated to generate several economic related benefits, described below.

<u>Growing local/regional tourism.</u> The replacement bridge will continue to contribute to the growing local tourism-based economy of Pinellas County. The bridge links the mainland of Pinellas County with Honeymoon Island, which contains the 385-acre Honeymoon Island State Park, and offers access to the heavily used public beaches, water sports, park, and multi-use trail along the Dunedin Causeway itself. The Honeymoon Island State Park is visited by 1.5 million guests annually, supporting approximately 2,590 jobs and contributing $185 million in total direct economic impact. Statewide, Florida state parks contribute about $3.6 billion in direct economic impact to local communities annually, generating approximately 50,400 jobs while welcoming more than 28.7 million visitors.[3] Continued access for residents and millions of tourists (both local and non-local) to the noted amenities, jobs, and essential services of the area is contingent upon the replacement of the Main Bridge. The Main Bridge (along with the West Tide Relief Bridge, the smaller 145-foot structure [NBI Identification Number 154005] on the causeway) service gaps that are otherwise unfilled as they provide the sole connection between the barrier islands and the mainland of Pinellas County.

[3] Florida Department of Environmental Protection. (2023). *Economic Impact Assessment Report Florida State Park System*.

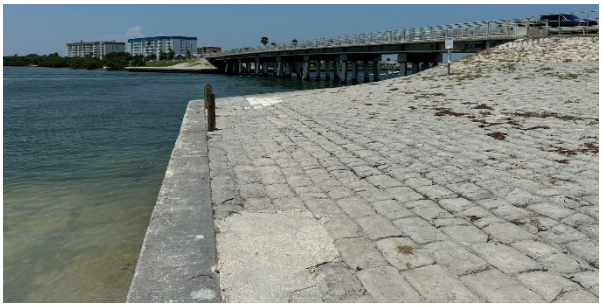
Job creation and regional impact. Injection of capital infrastructure spending into the area economy, such as that related to the proposed bridge replacement project, is expected to lead to direct construction and related professional services jobs, supporting indirect jobs (such as suppliers of materials and equipment), and induced jobs and earnings associated with the larger regional economy and beyond. The project is also expected to further attract businesses and related jobs.

Land use. The replacement Main Bridge will improve access to the surrounding land uses by creating better multimodal access for residents, visitors, recreational users, business owners, boaters, and others who are trying to connect to the residential, commercial, and recreational uses along the causeway. The improved bridge vertical clearance and the enhanced connections to the area transportation network for vehicles, pedestrians, and cyclists (particularly through the provision of upgraded, wider shoulders and multimodal facilities) improve access for residents on the barrier islands to jobs, essential services, and recreational facilities, better positioning these amenities and services of the area to realize their full potential.

Criterion #4: Climate Change, Sustainability, Resiliency, and the Environment

The replacement bridge will improve resiliency by reducing damage from high waves during significant storms and vessel impacts, and help mitigate impacts created by closures to residents and visitors to Honeymoon Island.

Improve resiliency of at-risk infrastructure. The replacement bridge structure will be strengthened against the weathering effects and stresses of storm events that could increase in frequency and intensity in the future. Storm surge and wave action (including wave crest elevation or height and force) associated with a storm event may affect the reliability of the bridge for evacuation. Based on a 2015 hydraulic modeling report prepared for the Dunedin Causeway bridges, the 100-year storm surge elevation at the bridge is anticipated to be approximately 9 feet. Large waves are also predicted to impact the bridge during the 100-year storm event given its exposure to the Gulf of Mexico; waves could reach a maximum crest elevation of 17 feet. As such, structural components of the existing bridge are susceptible to wave damage. The replacement bridge will be designed to survive a 100-year storm event and resist wave forces at the Extreme Event Limit State with a performance level of "Repairable Damage." This means that the bridge would be designed to survive a 100-year storm event but could experience some damage that would require minimal repair before the bridge is returned to service.



Incorporate living shorelines. The bridge replacement project provides opportunities to incorporate resilient shorelines, innovative stormwater technologies, and active recreation enhancements, creating ancillary community assets. Natural features in the area can be enhanced to provide ecosystem services, such as improved water quality, with the shoreline and stormwater design. These features can also be designed to add resilient coastal habitat for native, intertidal, and salt-tolerant plant species, as well as serve as enhanced recreational spaces.

Environment. Honeymoon Island State Park is a refuge for several species of plants and animals, including south Florida slash pines, estuarine wetlands/mangroves, and numerous threatened and endangered species. Natural shoreline design features along the causeway included as part of the replacement bridge project can support fisheries and provide foraging habitat for birds, while also improving recreational access for boaters, kayakers, and others who use the causeway beaches.

Criterion #5: Equity and Quality of Life

Extensive community engagement has been conducted for this project since the initiation of the PD&E Study in 2014. As documented in **Appendices A.1 and A.2**, the engagement activities offered opportunities for all affected communities, including nearby Historically Disadvantaged Communities (HDCs), to provide input on the project and be involved in the decision-making process. Specific engagement activities that were performed are summarized below:

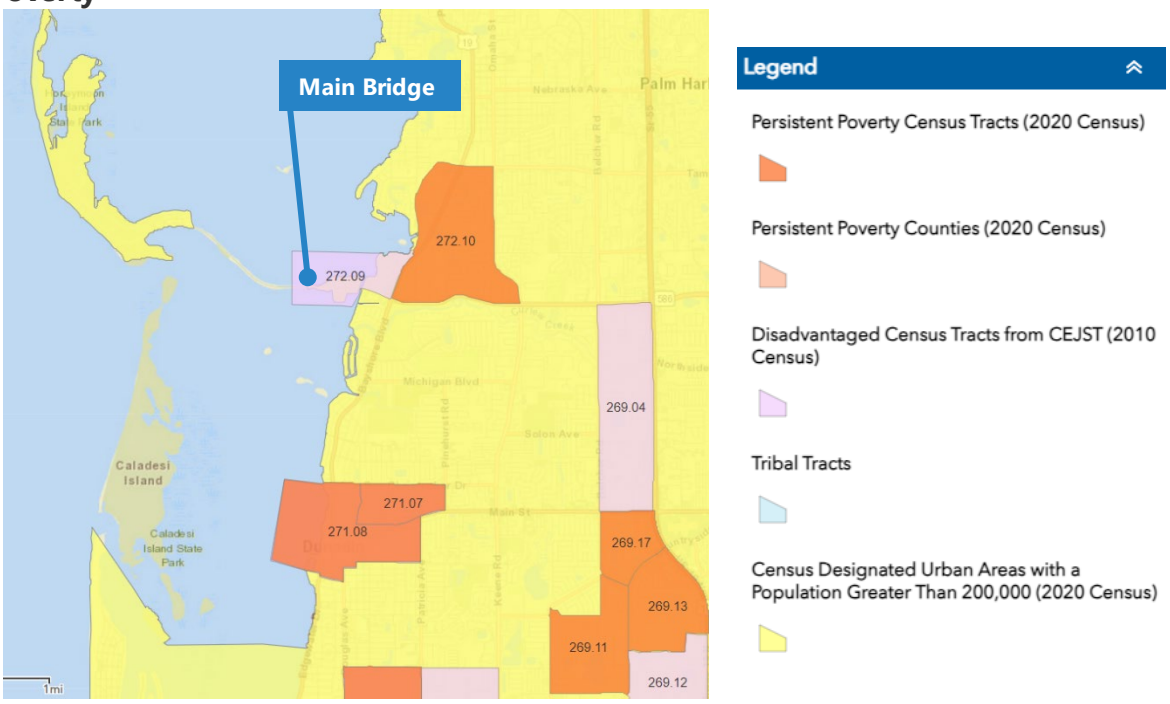
- A comprehensive mailing list and project-specific web page hosted on the Pinellas County website were developed to inform property owners, local government staff and officials, agency representatives, special interest groups, stakeholders, and other interested parties about project activities. Opportunities for input were provided throughout the study.
- Three large-scale public meetings were hosted by Pinellas County, in coordination with FDOT: the Kick-Off Open House (March 31, 2015), the Alternatives Public Workshop (March 29, 2016), and the Public Hearing (March 11, 2020). Public comments were considered during the development of project alternatives.
- Numerous meetings and presentations were given to local governments and community organizations, including the Pinellas County Board of County Commissioners, the City of Dunedin Commission, and the Pinellas County Metropolitan Planning Organization (now Forward Pinellas). Additionally, a Dunedin Causeway Bridge Ad Hoc Advisory Committee, consisting of six staff members and seven public representatives, was established for the project by the City of Dunedin on June 19, 2014.

The proposed replacement bridge will benefit surrounding communities, including nearby transportation disadvantaged populations, by providing enhanced mobility options through the

addition of non-vehicular transportation infrastructure and improving emergency response times/preserving a critical evacuation route with the inclusion of wider shoulders. These improvements are anticipated to increase overall corridor reliability.

Historically Disadvantaged Communities (HDC). As shown in **Figure 5**, a portion of the Dunedin Causeway, including the Main Bridge, is located within a disadvantaged Census Tract (12103027209 or 272.09) as identified through the Federal Council on Environmental Quality Climate and Economic Justice Screening Tool (CEJST). This tract is considered disadvantaged because it meets more than one burden threshold and the associated socioeconomic threshold. Indicators contributing to this determination pertain to the presence of low median income/poverty level and education level populations in the area and disparities and/or exposure related to factors of climate change, water and wastewater, public health, and housing. A second Census Tract (12103027210 or 272.10), located immediately east to the one identified above, is designated as an Area of Persistent Poverty by the United States Census Bureau. This designation indicates that the area has maintained a poverty rate of 20% or more for the past 30 years (1990-2019). With the inclusion of multimodal infrastructure, the bridge replacement is anticipated to benefit these communities by preserving access and enhancing mobility options to the public waterfront/recreational areas served by the bridge. The project will also preserve and enhance access to Honeymoon Island, which can only be reached by the Dunedin Causeway or by boat.

Figure 5. Historically Disadvantaged Communities and Urbanized Areas: Areas of Persistent Poverty[4]

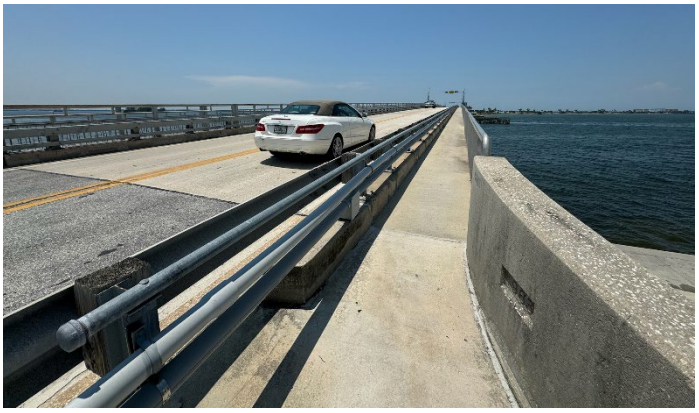


[4] DOT Grant Project Location Verification Map Viewer, https://maps.dot.gov/BTS/GrantProjectLocationVerification/

Addition of non-vehicular facilities. Feedback received from the community during the planning phase included concerns about the existing substandard multimodal facilities on the bridge and the need to provide improved, safer facilities for non-vehicular active transportation modes across the bridge.

The existing typical section of the bridge consists of one 11-foot-wide travel lane with a 2-foot-wide outside shoulder in each direction, a 3.5-foot-wide sidewalk on the north side, and a 6-foot-wide sidewalk on the south side that functions as a multi-use trail (specifically, a spur of the countywide Fred Marquis Pinellas Trail). Dedicated bicycle lanes are not provided. Lighting on the bridge is limited to the control house and drawbridge signals. The curb mounted traffic railings located on each side of the bridge as well as the approach guardrails, guardrail end treatments, and transitions do not meet current engineering standards for roadside safety in terms of both geometry and impact resistance. Due to the narrow sidewalk and trail widths and lack of dedicated bicycle lanes across the bridge, pedestrians and cyclists are forced to intermingle. Cyclists must dismount if they use the sidewalk (as they are prohibited on the trail to date) or ride with vehicular traffic since the shoulders are not wide enough for their use, consequently increasing their vulnerability.

Transportation infrastructure that accommodates active travel modes is proposed as part of the project, including 8-foot-wide shoulders (that may be used as undesignated bicycle lanes), a barrier-separated 5-foot-wide sidewalk on the north side, and a barrier-separated 15-foot-wide multi-use trail (to continue to serve as a spur of the Fred Marquis Pinellas Trail) on the south side.



These facilities are intended to boost quality of life for surrounding residents (including nearby disadvantaged communities) by providing a dedicated space for pedestrians and cyclists, thereby enhancing the appeal and physical use of the bridge/corridor. The bridge also provides access to other recreational assets/destinations in the area [e.g., Honeymoon Island State Park, beaches and water sports along the Dunedin Causeway, the Fred Marquis Pinellas Trail, etc.] that create latent demand for pedestrian and bicycle activity. Given that populations of disadvantaged communities have a higher propensity to walk or bike to access essential services or other accommodations, these communities are expected to directly benefit from the project. **The projected benefits of the improved active transportation accommodations with the new bridge amount to $3.3 million (2022 dollars) in discounted terms.**

Improved emergency response. The narrow shoulders on the bridge limit emergency service vehicle access. The City of Dunedin Fire Rescue Department has six stations within approximately seven miles of Honeymoon Island; as such, all emergency service vehicle types (e.g., fire trucks, ambulances, etc.) must be able to be accommodated and cross the bridge to respond to emergency calls. The need for any of these stations to respond quickly is critical when seconds matter in life-saving situations. The City of Dunedin Fire Rescue Department was dispatched almost 400 times between January 2022 and June 2024 to areas along the Dunedin Causeway west of the Main Bridge; of the close to 400 incidents, 32 involved cardiac related events.[5] The average response time for the cardiac arrest-related calls was 8.5 minutes.

It is also important to note that Dunedin Causeway is a designated FDEM and Pinellas County evacuation route as the sole roadway connecting the mainland of Pinellas County and the barrier islands located to the west (including Ward Island and Honeymoon Island). As part of the Dunedin Causeway, the Main Bridge is a critical facility for evacuation of the 800 residents of Honeymoon Island as well as the visitors and resident staff of Honeymoon Island State Park. During peak hours and/or peak seasons (such as spring break), vehicle queuing can occur on the Dunedin Causeway from Honeymoon Island to US 19A as vehicles attempt to access the recreational assets located on Honeymoon Island and along the causeway itself. Given that the Dunedin Causeway is the only facility providing access between Honeymoon Island and the mainland of Pinellas County, emergency responders are forced in the same traffic congestion as the general travelling public. The wider shoulders, to be included with the new bridge, are intended to accommodate emergency vehicles, reducing travel and response times. **The emergency response improvements are forecasted to total about $60.4 million (2022 dollars) in discounted benefit terms.**

Avoided Displacement/Buyout Costs. This section provides an estimate of the avoided costs of displacement and buyout of the residential units located in Honeymoon Island, which would be potentially incurred in the No-Build case. The year 2024 total market value for the 484 condominium units on Honeymoon Island is estimated to total $135.4 million in 2022 dollars (or $140.8 million) in undiscounted terms. Under the assumption that the costs associated with avoidance of the buyout would be incurred in 2060, **the avoided costs are projected at $54.2 million in discounted terms.**

The total monetized quality of life and equity benefits; based on the combined non-vehicular health and amenity benefits, the improved emergency response times for out-of-

[5] Source: Pinellas County Emergency Response Times Analysis, September 2024.

hospital cardiac arrest cases, and the avoided displacement/buyout costs; are projected to amount to $117.9 million (2022 dollars) in discounted terms.

Criterion #6: Innovation

The proposed replacement bridge offers multiple innovative design technology improvements, including sustainable elements, to create a consistent, long-term service life. These innovative improvements include:

Living shorelines. The new bridge will incorporate bio-engineered solutions, such as living shoreline features, to boost structural resiliency, especially as the bridge exists in a coastal area. The natural mimicking features of a living shoreline can offer better and longer-lasting protection to infrastructure and interior areas than traditional hardened structures.

Composite reinforcing bars. The replacement bridge will use composite reinforcing bars on the susceptible concrete elements to extend the life of the bridge. While the initial cost of composite reinforcing bars is higher than mild steel, the reduced maintenance cost and extended life span justify the additional cost. In addition to the wind and wave forces that the Main Bridge is subjected to during extreme weather events, the coastal location subjects the bridge to an aggressive saltwater environment. This environment is particularly corrosive for the reinforced concrete portions of the bridge because the embedded mild reinforcing steel corrodes and causes cracking in the concrete. The composite reinforcing bars are intended to reduce the amount of steel needed in the structure, as the bars are rust resistant and non-corrosive, making them ideal for uses in marine environments.

Reliability and redundancy in operating machinery. Mechanical equipment supporting the bascule bridge may include redundant elements so backup systems reduce bridge closures/maintenance. A double-leaf bascule bridge is inherently redundant as it allows one of the two leaves to remain in the lowered position to perform maintenance and repairs while the other leaf remains operable, with half of the channel available for navigation traffic. In addition, the operating machinery for the bridge may be designed for redundant operation with twin independent drive trains, each with the capability to operate the bridge by itself, while the other is temporarily removed from service for repair or replacement. The electrical power and control systems may be designed with back-up systems so that failure of a component does not render the bridge inoperable. This includes stand-by generator(s), bypass switches and redundant limit switches. For those components with long lead time to acquire replacement parts, spare parts may be procured in advance and stored on-site or at the County's maintenance facility for rapid deployment. Equipment may also be designed with heightened durability for a lower probability of premature failure and a prolonged service life.

Innovative financing. On November 7, 2017, voters renewed the one cent sales tax that funds long-term capital infrastructure projects that support the local community. Dubbed "Penny for Pinellas," this sales tax was first approved by Pinellas County voters in 1989. This tax remains popular as nearly 83% of voters countywide supported its renewal. This tax is collected by the county and is shared with the 24 municipalities within the county. This innovative infrastructure funding source combines with sales tax revenue to fund much of the County's Capital Improvement Program.

V. Benefit-Cost Analysis Summary

This section summarizes the findings of the Benefit-Cost Analysis (BCA) performed for the Dunedin Causeway Main Bridge Replacement project in accordance with the latest USDOT Guidance for Discretionary Grant Programs[6] and using the BIP BCA Tool.

Table 4 below presents the project's BCA findings. **All monetary values are expressed in 2022 constant dollars**. The period from 2014 to 2060 (47 years overall) was used to estimate benefits and costs related to the two Bridge Replacement scenarios (With [Build] and Without [No-Build]). This evaluation timeframe includes the initial capital deployment (2014 through 2030), and 30 full years of operations (2031 through 2060) during which benefits will accrue.

As shown in **Table 4**, with a 3.1 percent real discount rate, the total monetized benefits of the proposed Main Bridge Replacement project are forecasted at $153.1 million (in present discounted value terms) while the total discounted costs of the project are forecasted at $80.7 million. This results in a **Benefit-Cost Ratio of about 1.9** and a **net present value (NPV) of about $72.4 million**.

Among the project benefits, other benefits (consisting of combined property buyout, improved emergency response times, and reduced bridge openings at $125 million, in present value terms over 30 years) are projected to be the largest category, followed by residual value ($16.1 million), safety ($7.8 million), facility amenity benefits ($3.3 million), and maintenance benefits ($0.9 million).

Overall, these results indicate that this project looks strong from an economic feasibility standpoint as the projected benefits outweigh the projected costs by about 1.9 to 1, yielding about $72.4 million in discounted net benefits.

[6] USDOT, Benefit-Cost Analysis Guidance for Discretionary Grant Programs, December 2023.

Details pertaining to the methodology, assumptions, and additional results presentation related to the BCA of this project are presented in the BCA Narrative (see **Appendix D**). **Appendix A.4** provides information pertaining to the Federal Emergency Management Agency BCAR.

Table 4. Benefit-Cost Analysis Results (in millions of 2022$)

Benefit and Cost Metrics	2014-2060 Totals* Discounted at 3.1%[7]
Project Benefits	
Safety	$7.8
Health and Amenity	$3.3
Maintenance	$0.9
Residual Value	$16.1
Other Benefits	$125.0
Total Discounted Benefits	**$153.1**
Total Discounted Costs	**$80.7**
Key Metrics	
Benefit-Cost Ratio	**1.9**
Net Present Value (NPV)	**$72.4**

* Unless specified otherwise, the numbers are rounded.

VI. Project Readiness & Environmental Risk

Technical Feasibility & Technical Competency

Pinellas County is the owner of the Dunedin Causeway Main Bridge and will serve as the direct recipient of funds for the proposed bridge replacement project. The County's leadership has a proven track record of delivering major studies and projects, including roadway, bridge, and stormwater improvements. Some specific examples include the following:

Studies:

- Beckett Bridge Project Development & Environment Study
- Dunedin Causeway Bridge Project Development & Environment Study
- 126th Avenue Project Development & Environment Study
- San Martin Boulevard Bridge Project Development & Environment Study

Construction Projects:

- Belleair Causeway Bridge Replacement ($72.6M)
- Bryan Dairy Road Widening ($10.6M)
- Keystone Road Widening ($31.6M)
- Fort DeSoto Bay Pier Replacement ($4.46M)
- Old Coachman Road Bridge Replacement ($6.87M)

[7] This discount rate is in accordance with the US DOT BCA Guidance, December 2023.

The Preliminary Engineering Report prepared as part of the PD&E Study provided a cost estimate for the project of $77,221,000 (2020 dollars) (see **Appendix A.3**). The final estimate for bridge construction, inspections, and post-design services was increased to $98,860,000 (2028 dollars) based on an approximate 28% cumulative escalation factor and a later date for construction completion.

The project design phase is anticipated to begin in 2025 and end in 2027. The County anticipates advertising the construction phase for project in Fall 2027. The construction phase is anticipated to begin in early 2028 and will take approximately 36 months.

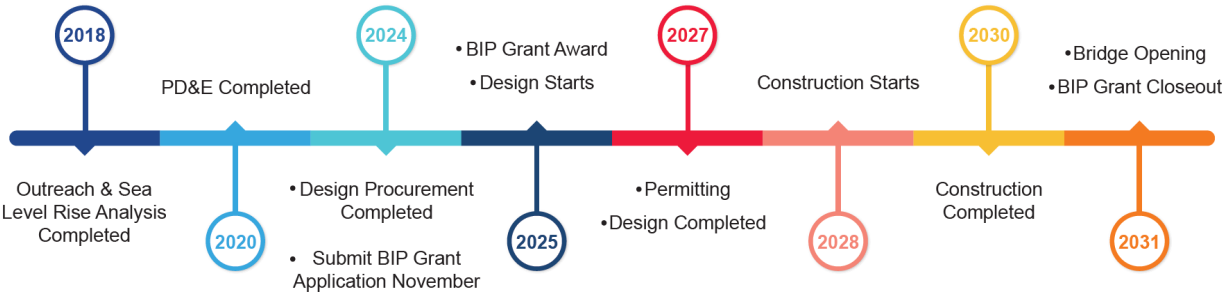
Pinellas County will successfully deliver the project in compliance with all applicable federal, state, and local requirements.

Project Schedule

Pinellas County understands how to deliver this project on budget and on time, meeting the requirements of the grant and the expectations of the community. All pre-construction planning has been completed. The design phase, including environmental permitting and associated approvals, will begin in 2025. The County anticipates advertising the construction phase for the project in Fall 2027. The construction phase is anticipated to begin in early 2028 and will take approximately 36 months (see **Appendix C**).

Figure 6 outlines the schedule milestones of the Dunedin Main Bridge Replacement project. All pre-construction activities will be completed to allow grant funds to be obligated sufficiently in advance of the statutory deadline (September 2028) for FY 2025 BIP funds.

Figure 6. Project Schedule & Approvals



Required Approvals

Environmental Permits & Reviews

A PD&E Study was conducted between 2014 and 2020. The study resulted in a Type 2 Categorical Exclusion, prepared in accordance with the National Environmental Policy Act (NEPA) and

approved by FDOT Office of Environmental Management on August 24, 2020.[8] No right-of-way is needed as the new bridge will be constructed approximately along the same alignment.

The Dunedin Causeway Main Bridge Project's environmental risk is low. A summary of technical findings from the Type 2 Categorical Exclusion is provided below:

- The proposed improvements are anticipated to enhance access to tourist attractions between coastal communities and the mainland of Pinellas County, as well as improve pedestrian/bicycle safety and mobility through the provision of sidewalks and bicycle lanes. In addition, the project will enhance mobility and reduce delay to and from Honeymoon Island since the higher clearance of the replacement bridge will result in fewer openings per day. Access to the causeway's recreational areas will be maintained to the extent feasible during construction to minimize disruption to the enjoyment of these activities by the surrounding community. Further, the Main Bridge crosses the GIWW, which is a navigable waterway that supports interstate commerce and is listed as part of Florida's Strategic Intermodal System (SIS).
- The project will not have significant impacts to cultural resources.
- The project may, but is not likely to adversely affect, federally listed or state listed species.
- The project will temporarily occupy approximately 0.92 acre of the County-owned beach area of the Dunedin Causeway due to the need for a temporary movable bridge and temporary road during construction.
- A commitment to prohibit staging of equipment and/or vehicles in the City of Dunedin-owned beach area during construction is included in the environmental document. Based on these considerations, there will be no Section 4(f) use of this resource.

The approved Type 2 Categorical Exclusion may be found in **Appendix A.2**, which includes the list of the project commitments.

It is anticipated that the permits listed in **Table 5** will be required.

Table 5. Project Permits

Federal Permit Name	Federal Agency	Permit Status
Section 10 Permit or Section 404 Permit	United States Army Corps of Engineers	To be acquired.
Bridge Permit	United States Coast Guard	To be acquired.
State Permit Name	**State Agency**	**Permit Status**
National Pollutant Discharge Elimination System Permit	Florida Department of Environmental Protection	To be acquired.
Environmental Resource Permit	Southwest Florida Water Management District	To be acquired.

[8] **Appendix A.2:** Dunedin Causeway Bridges PD&E Study: Type 2 Categorical Exclusion (August 24, 2020)

State & Local Approvals

The Dunedin Causeway Bridge Replacement project has high levels of local and regional support. The community expressed support for the project during the planning phase. Forward Pinellas has provided letters of support for BIP grant funding (see **Appendix F**). No other approvals from Tribal governments, state agencies, or additional local agencies are required prior to the design phase to advance the project.

The Dunedin Causeway Main Bridge Replacement project is included in the Forward Pinellas Transportation Improvement Program FYs 2024/25-2028/29 (adopted June 10, 2024) by reference to the Pinellas County Capital Improvement Program FY 2025. It should be noted that the Pinellas County Capital Improvement Program FY 2025 includes a total of $118.7 million for this project and the accompanying West Tide Relief Bridge Replacement project (see **Appendix B**).

Federal Transportation Requirements Affecting State and Local Planning

Forward Pinellas is the land use and transportation planning agency for Pinellas County and is responsible for developing the Long Range Transportation Plan (LRTP) for Pinellas County, referred to as Advantage Pinellas. The replacement of the Dunedin Causeway Main Bridge is identified in the 2045 LRTP or Advantage Pinellas, adopted November 13, 2019 (see **Appendix B**).

Assessment of Project Risks and Mitigation Strategies

Pinellas County recognizes that all projects come with potential risks. Due to ongoing supply issues, the County understands that project costs may increase, and that additional funding may be needed to complete the project. During the contracting period, Pinellas County is committed to increasing its funding using local tax revenues to cover any shortfalls that may emerge during contract negotiations or construction.

VII. Administration Priorities & Departmental Strategic Plan Goals

The Dunedin Main Bridge Replacement project addresses the administration priorities and Departmental Strategic Plan Goals as follows:

- **Safety.** As demonstrated in Criterion #2, replacement will provide increased safety for travelers crossing the bridge by replacing the narrow, deficient structure with 8-foot-wide shoulders, a 5-foot-wide sidewalk on the north side and 15-foot-wide multi-use path on the south side of the bridge, roadway and bridge lighting, Americans with Disabilities Act (ADA) accommodations, safety bridge barriers/railings, and a non-slip movable bridge surface.

- **Climate Change & Sustainability.** Detailed in Criterion #4, the bridge resiliency will be strengthened against the weathering effects and stresses of storm events of increased frequency and intensity and other probable future extreme weather events.
- **Equity.** Public outreach was a critical component of the planning phase, as shown in Criterion #5. The proposed improvements incorporate non-vehicular transportation and are intended to increase corridor reliability. Furthermore, the addition of a sidewalk, multi-use path and wider shoulders will improve access and conditions on the bridge that will boost quality of life for nearby communities. The increased vertical clearance will reduce the number of required openings by 50% and result in less vehicular and fewer boat traffic delays.
- **Workforce Development, Job Quality and Wealth Creation.** Pinellas County has instituted a Small Business Enterprise (SBE) participation requirement policy to maximize opportunities for qualifying firms to participate in County contracts, including construction contracts. An SBE is defined as a local business that is independently owned and which is not dominant in its field of operation. As part of the bridge contractor procurement, the County will ensure that the selected contractor will include SBE qualified firm participation to support the County's annual hiring goal.

The following attachment is not included in the view since it is not a read-only PDF file.

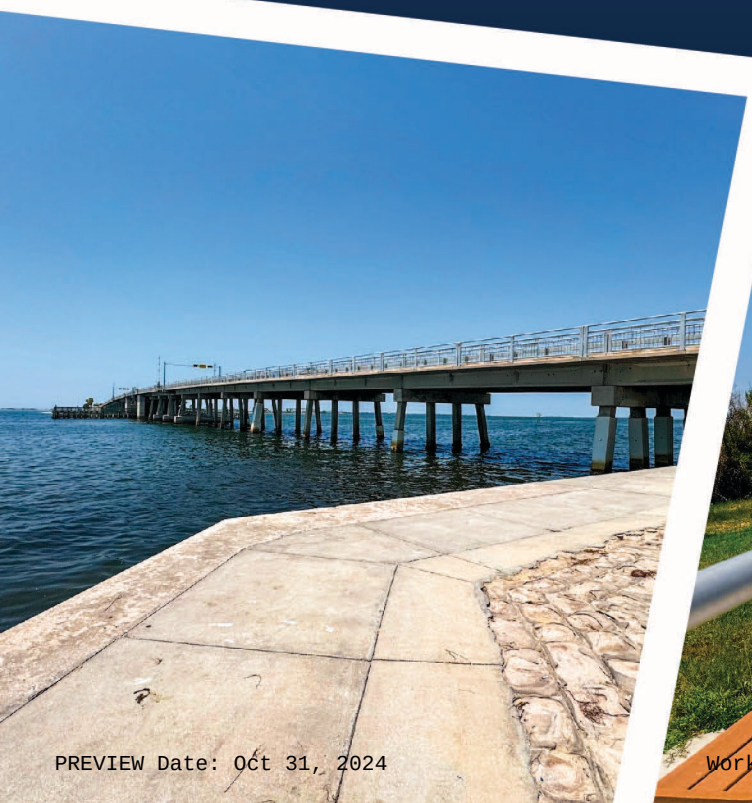
Upon submission, this file will be transmitted to the Grantor without any data loss.

AppendixA_Technical_Documents.pdf

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix B: Funding Documentation



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

Pinellas County Capital Improvement Program FY2025

Dunedin Causeway Bridge Project

Project Category/Function: Transportation

Fund Type: GOVERNMENTAL FUND

Project Number:000423A

Project Status/Phase: Active

Project Description: Design and construction of the Dunedin Causeway Bascule Bridge and Tide Relief Bridge, and associated roadway design for Causeway Boulevard

Revisions from Previous Year: The project has been advertised for design and negotiations with the consultant are underway.

Location: Dunedin

Program

	FY24 Estimate	FY25	FY26	FY27	FY28	FY29	FY30
3031-Bridges-Repair and Improvement	**$1,478,000**	**$3,547,000**	**$3,547,000**	**$2,217,000**	**$30,000,000**	**$46,000,000**	**$36,000,000**
Construction	*$0*	*$0*	*$0*	*$0*	*$30,000,000*	*$46,000,000*	*$36,000,000*
Design	*$1,478,000*	*$3,547,000*	*$3,547,000*	*$2,217,000*	*$0*	*$0*	*$0*
Grand Total	**$1,478,000**	**$3,547,000**	**$3,547,000**	**$2,217,000**	**$30,000,000**	**$46,000,000**	**$36,000,000**

Funding Source

	FY24 Estimate	FY25	FY26	FY27	FY28	FY29	FY30
Penny for Pinellas	$1,478,000	$3,547,000	$3,547,000	$2,217,000	$10,000,000	$21,000,000	$11,000,000
To Be Determined	$0	$0	$0	$0	$20,000,000	$25,000,000	$25,000,000
Grand Total	**$1,478,000**	**$3,547,000**	**$3,547,000**	**$2,217,000**	**$30,000,000**	**$46,000,000**	**$36,000,000**

2017 Penny List of Projects and Statuses as of May 21st, 2024

Penny Category	Status	Request ID or Project #	Project Name	Original 2017 Project Name	CIP PHASE from PA	Construction Start
Water Quality, Flood and Sewer Spill Prevention	**Completed**	000164A	Lealman Area Drainage Improvements	Lealman Area	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	000700A	Westwinds Drive Bridge Replacement over Westwind Canal	Westwinds Drive and Crosswinds Drive bridges	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	002686A	Sidewalk Hercules Avenue Phase II from Sherwood Street to Sunset Point Road	Hercules Avenue from Sunset Point to Sherwood Street	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	002702A	67th Street N. Roadway Improvements from 48th Ave. N. to 50th Avenue N and 67th Street N. from 54th Avenue N. to south Dead End	Paving of unpaved roads (MSTU Program)	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	002932A	Crystal Beach Paving & Drainage Improvements	Paving of unpaved roads (MSTU Program)	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	003885A	Virginia Ave. Sidewalk Improvements from CR 1 to N. Hercules Ave.	Virginia Avenue from Keene Road to Hercules Avenue	**Completed**	**Complete**
Water Quality, Flood and Sewer Spill Prevention	**Completed**	002931A (sub of 000969A)	Wexford Leas Boulevard Drainage Improvements	Wexford Leas Roadway	**Completed**	**Complete**
Water Quality, Flood and Sewer Spill Prevention	**Completed**	003130A	Roosevelt Creek Stormwater Facility Improvements	Roosevelt Creek Pond Improvements	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	003315B (sub of 004144A)	Belleair Road ADA & Sidewalk Upgrade from S Ft Harrison Avenue to US Hwy 19	Belleair Road from Fort Harrison to Lake Avenue	**Completed**	**Complete**
Community Vitality	**Completed**	003505A	Windsor School Property Acquisition and Improvements	Lealman Community Recreational Center	**Completed**	**Complete**
Water Quality, Flood and Sewer Spill Prevention	**Completed**	N/A	N/A	Drainage improvements along 62nd Street North and side streets	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	000958A	49th St N @ 38th Ave N and 30th Ave N, 58th St N @ 38th Ave N ADA Ramps Upgrade, Sidewalk, and Intersection Improvements	49th Street/58th Avenue N	**Completed**	**Complete**
Preserving Parks & Our Environment	**Completed**	002033A	Turner Bungalow	Turner Bungalow renovation	**Completed**	**Complete**
Safe, Secure Community	**Completed**	004186A	Lealman Fire Station 19	Fire and EMS facilities, vehicles, vessels and other equipment to support personnel and maintain fast emergency response standards throughout our dependent, independent and municipal agency partners.	**Completed**	**Complete**

Infrastructure supporting Economic Development (Countywide Investment)	**Completed**	004251A	Tampa Bay Innovation Center Incubator	Infrastructure supporting Economic Development (Countywide Investment)	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	000702A	Crosswinds Drive Bridge Replacement over Crosswinds Canal	Westwinds Drive and Crosswinds Drive bridges	**Completed**	**Substantially complete**
Safe, Secure Community	**Completed**	003901A	Radio Equipment Shelter Replacement at multiple sites	Emergency Communication Radio Towers	**Completed**	**Substantially complete**
Safe, Secure Community	**Completed**	004968A	Public Safety Radio Compliance Mutual Aid	Emergency Communication Radio Towers	**Completed**	**Substantially complete**
Safe, Secure Community	**Completed**	004969A	Public Safety Radio Sustainment-Hospital Microwave	Emergency Communication Radio Towers	**Completed**	**Substantially complete**
Preserving Parks & Our Environment	**Fully Programmed**	000064A	Wall Springs Coastal Add III, IV Development	Create public access to north and central tracts of Wall Springs Park including trails, boardwalks, shelters, canoe/kayak launch, primitive camping, and interpretive signage.	**Planning**	**2026**
Roads, Bridges & Trails	**Fully Programmed**	000087A, 002508A	22nd Ave S - 51st St S to 34th St S Roadway Improvement / 22nd Av S Drain Imp-51st/55th	22nd Avenue S. from 58th Street to 34th Street	**000087A in Construction; 002508A complete**	**Under Construction**
Roads, Bridges & Trails	**Fully Programmed**	000097A	62nd Avenue N Roadway Improvement from 34th Street N to 49th Street N	62nd Avenue N. from 34th Street to 49th Street	**Preliminary Design**	**2028**
Preserving Parks & Our Environment	**Fully Programmed**	000341A	CW Park Utility Infrastructure	Replace aging utility infrastructure within parks and preserves to prevent sewer spills	**Recurring Program Project**	**NA**
Roads, Bridges & Trails	**Fully Programmed**	000423A	Dunedin Causeway Bridge Project	Dunedin Causeway Bridge	**Planning**	**2028**
Roads, Bridges & Trails	**Fully Programmed**	001035A	Oakwood Drive over Stephanie's Channel Bridge Replacement	Oakwood Drive Bridge	**Bidding**	**2024**
Roads, Bridges & Trails	**Fully Programmed**	001036A	San Martin Blvd. over Riviera Bay Bridge Replacement	San Martin Boulevard Bridge and Road	**Design**	**2026**
Roads, Bridges & Trails	**Fully Programmed**	001037A	Beckett Bridge Replacement	Beckett Bridge	**Design**	**2025**
Water Quality, Flood and Sewer Spill Prevention	**Fully Programmed**	001328A	Cross Bayou Estates Drainage Phase 1	Cross Bayou Estates	**Preliminary Design**	**2028**
Water Quality, Flood and Sewer Spill Prevention	**Fully Programmed**	001328B	Cross Bayou Estates Drainage Phase 2	Cross Bayou Estates	**Preliminary Design**	**2029**
Roads, Bridges & Trails	**Fully Programmed**	002063A	Starkey Road road reconstruction & widening from Flamevine to Bryan Dairy Road	Starkey Road from East Bay Drive to Flamevine	**Design**	**2025**
Roads, Bridges & Trails	**Fully Programmed**	002105A	Starkey Road roadway improvement from Bryan Dairy Road to Ulmerton Road	Starkey Road from East Bay Drive to Flamevine	**Planning**	**2029**
Roads, Bridges & Trails	**Fully Programmed**	004229A	Starkey Rd. Sidewalk from Ulmerton Rd to East Bay Drive	Starkey Road from East Bay Drive to Flamevine	**Construction**	**Under Construction**
Water Quality, Flood and Sewer Spill Prevention	**Fully Programmed**	002064A	Storm Sewer Pipeline Rehabilitation and CIPP	Stormwater/Sanitary Sewer System Projects - Reduce Sanitary Sewer Overflows	**Recurring Program Project**	**NA**

Transportation Improvement Program

Fiscal Years 2024/25-2028/29

FORWARD PINELLAS

Integrating Land Use & Transportation

Table 12- Summary Table of Bridges, Sidewalk, and Trail Projects in the 2023-2028 Pinellas County Capital Improvement Program

Project Number	Location	Project Description	Status
4116A **Map 3: Bike Lane and Trail Projects**	Joe's Creek Trail and Stormwater Management	Trail and Drainage Improvements	Design Underway, Construction 2026
5752A **Map 3: Bike Lane and Trail Projects**	Pinellas Trail Loop Phase 5 – San Martin Blvd – Macoma Dr to Gandy Blvd	Design a Trail, including determining the best location and connections to existing trails.	Design 2024
6030A **Map 2: Sidewalk Projects**	Highpoint: Russell Ave Connection	Sidewalk Improvement	Construction 2024
5749A **Map 1: Bridge Projects**	Ridgemoor Blvd Bridge	Bridge Replacement	Construction 2025
2232A **Map 2: Sidewalk Projects**	Indian Rocks Rd (Phase 2B) from Kent Dr to 8th Ave SW	Sidewalk and Drainage Improvements	Construction 2024
087A*	22nd Ave S from 58th St S to 34 St S	Sidewalk and Roadway Improvement	Construction Underway
2128A **Map 2: Sidewalk Projects**	42nd Avenue from 35th Street N to 46th Street N	Drainage and Sidewalk Improvements	Construction Underway
2927A*	46th Ave. N. from 49th St. N. to 55th St. N.	Sidewalk Improvements and include driveways and ADA ramps on both sides of the street.	Construction 2024
3883A **Map 3: Bike Lane and Trail Projects**	Pinellas Trail Loop (Duke Energy) South Gap from 126th Ave to Ulmerton	Shared Use Bike Path/Trail	Design Underway, Construction 2024
4539A **Map 2: Sidewalk Projects**	71st St N Sidewalk Improvement from 38th Ave. N. to 54th Ave. N.	Sidewalk Improvements	Design Underway, Construction 2025
702A **Map 1: Bridge Projects**	Crosswinds Dr Bridge over Crosswinds Canal	Bridge Replacement	Construction Underway
1034A **Map 1: Bridge Projects**	Old Coachman Rd over Alligator Creek	Bridge Replacement	Construction 2024
1035A **Map 1: Bridge Projects**	Oakwood Dr over Stephanie's Channel	Bridge Replacement	Construction Underway
1036A **Map 1: Bridge Projects**	San Martin Blvd over Riviera Bay	Bridge Replacement	Design Underway, Construction 2026

1037A **Map 1: Bridge Projects**	Beckett Bridge	Design and Construction of Bridge Replacement after project development and environment study is completed.	Construction 2024
423A **Map 1: Bridge Projects**	Dunedin Causeway Bridge Project	Bridge Construction	Design Underway, Construction 2026

Appendix D: Pinellas County FY2023/24-FY2027/28 Capital Improvement Program

Function: Transportation **Activity: Road & Street Facilities**

Project: 000423A **Dunedin Causeway Bridge Project**

Description: Design and construction of the Dunedin Causeway Bascule Bridge and Tide Relief Bridge, and associated roadway design for Causeway Boulevard

Start : 01-OCT-11 Finish : 30-SEP-28

Project Classifications:

2017 Penny List Project	This project was identified on the 2017 Penny Projects and Categories list published during the 2017 Penny IV Education Campaign
CIE Elements	Transportation/Transportation Systems
CIP Phase	Design
Location	Dunedin
Penny Program	Roads, Bridges & Trails

Budget		Current Year Estimate 2022	2023	2024	2025	2026	2027	2028	Total
Fund: 3001	Capital Projects	Center: 414100	CIP-Transportation	Program: 3031	Bridges-Repair & Improvement				
020.1	Design-Penny	0	250,000	2,600,000	2,600,000	326,000	135,000	200,000	6,111,000
030.1	Construct-Prelim Est	0	0	0	13,300,000	16,900,000	13,900,000	1,433,000	45,533,000
Project Total for : Fund: 3001	Capital Projects	Center: 414100	CIP-Transportation	Program: 3031	Bridges-Repair & Improvement				
		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000
Total for Project: 000423A		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000
Funding Source									
Penny for Pinellas		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000
Funding Total:		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000

Advantage PINELLAS

ENGAGE. ADAPT. CONNECT.

FORWARDPINELLAS

2045LONGRANGETRANSPORTATIONPLAN

PLAN ADOPTION: NOVEMBER 13, 2019

COST FEASIBLE ACTIVE TRANSPORTATION PLAN PROJECTS 2025-2045

	Active Transportation Project	Total Project Cost
1	Oldsmar Canal Park Connection	$1,591,400
2	Nebraska Avenue Loop	$9,212,100
3	Sunsent Point Corridor	$2,986,800
4	142nd Avenue Corridor	$9,883,800
5	70th Avenue Corridor	$6,501,500
6	28th Street Corridor	$8,857,400
7	San Martin Boulevard	$920,100
8	Joe's Creek Greenway Trail	$10,029,000
9	9th Avenue N. Corridor	$6,334,100
10	18th Avenue South Corridor & Salt Creek Trail Extension	$4,942,800
	Total Active Transportation Plan Projects:	$61,259,000

Note: For more detailed phasing information, see Appendix C.

Table 8.4: Cost Feasible Active Transportation Projects.

maintenance projects, Forward Pinellas has committed to setting aside $1 to $5 million annually to fund management and operational improvements. These management and operations projects could include intersection or turn-lane projects as well as future technology projects that will ease congestion.

As a coastal community, bridges provide a critical connection for residents and visitors between the beach communities and the mainland of Pinellas County. As part of Advantage Pinellas, Forward Pinellas has identified replacement for the following major bridges by 2045:

- Beckett Bridge
- Dunedin Causeway Bridge
- San Martin Bridge

Ultimately, the timing for replacing these bridges will be based on the safety and replacement need.

Advance Congestion Management Process

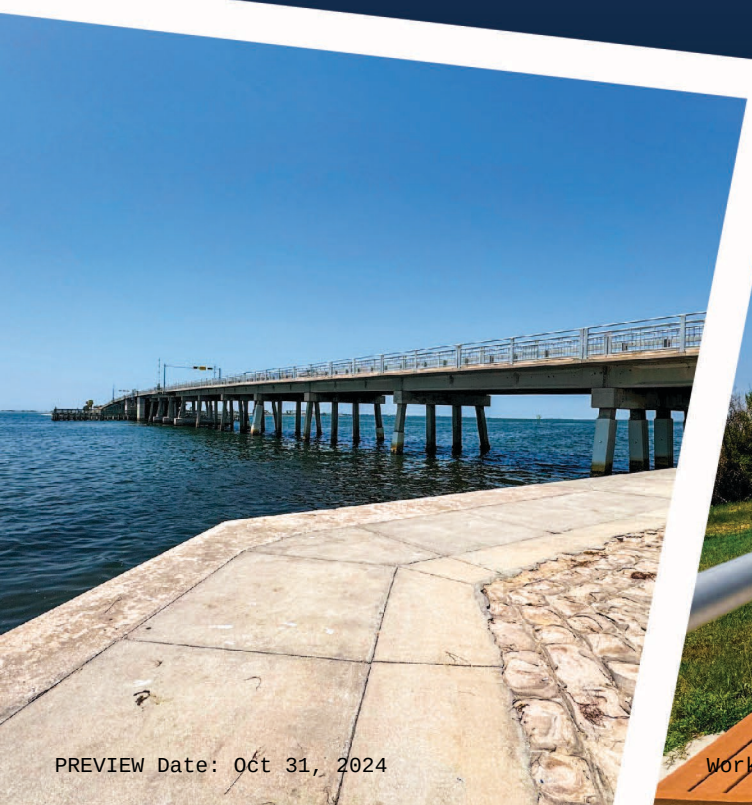
Congestion management is the use of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. The congestion management process (CMP) is a systematic approach for providing safe and effective integrated management and operation of the multimodal transportation system.

The overall CMP goal is to ensure the safe and efficient movement of people and goods by successfully addressing areas of recurring and non-recurring congestion with low cost and cost effective operational and multi-modal improvements before considering any capital-intensive capacity improvements.

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix C: Schedule

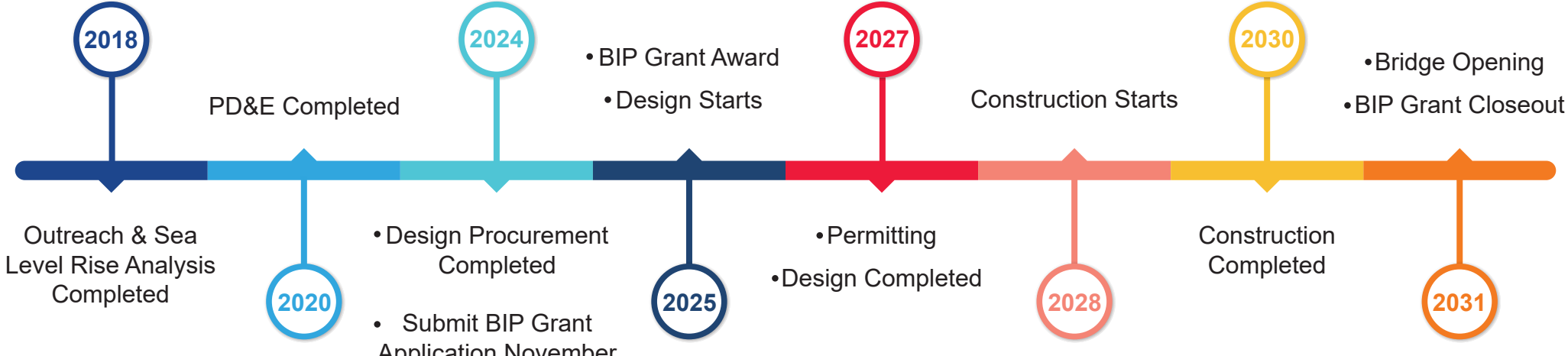


Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

Dunedin Causeway Main Bridge Project Schedule



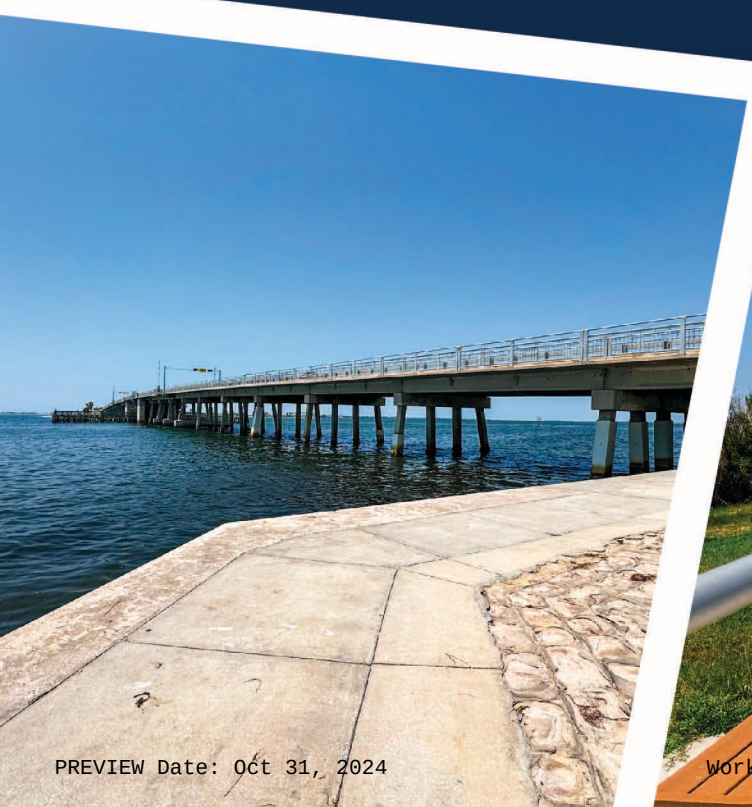
PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix D: BCA Narrative



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

Appendix D: Benefit-Cost Analysis Narrative

FY 2025 BIP Grant Program

Dunedin Bridge Replacement

Pinellas County, FL

October 28, 2024

Benefit-Cost Analysis Narrative

Table of Contents

1. Introduction 1
2. Methodological Framework 1
3. Project Overview 2
4. General Assumptions 9
5. Benefits Measurement, Data, and Assumptions 9
6. Summary of BCA Findings 19

1. Introduction

This document provides technical information on the economic analysis conducted in support of the grant application for the Dunedin Causeway Main Bridge Replacement project in Pinellas County, Florida.

Section 2 – Methodological Framework – introduces the conceptual framework used in the Benefit-Cost Analysis (BCA). Section 3 – Project Overview – provides a summary of the project, including a summary of cost estimates and schedule, and a description of the types of effects that the proposed Dunedin Main Bridge Replacement project is expected to generate. Section 4 – General Assumptions – discusses the key assumptions used in the forecasts of project costs and benefits. Specific data elements and assumptions pertaining to the merit selection criteria are presented in Section 5 – Benefits Measurement, Data, and Assumptions – along with the associated benefit projections. The forecast of the project's Net Present Value (NPV), its Benefit-Cost Ratio (B-CR) and other project evaluation metrics are summarized in Section 6.

2. Methodological Framework

The BCA conducted for this project focuses on monetized benefits and costs measured consistent with the pertinent US DOT guidance.[1] Some of the merits of the project could not be quantified. They are outlined qualitatively where applicable.

A BCA provides projections of the benefits that are expected to accrue from a project over a specified period, and compares them to the anticipated costs of the project. Benefits are based on the forecasted effects of the project on both users and non-users of the facility, valued in monetary terms. Costs include both the resources required to develop the project and the costs of maintaining the new or improved asset over time.

The specific methodology used for this application was developed in alignment with the BCA guidance prepared by the US DOT, and is consistent with the Bridge Investment Program (BIP) program guidelines including a deployment of the BIP BCA Tool. In particular, the methodology comprises:

- Establishing existing and future conditions under the Build (with the project) and No-Build (without the project) scenarios;
- Assessing benefits with respect to each of the key merit criteria identified in the Notice of Funding Opportunity (NOFO);

[1] US DOT, Benefit-Cost Analysis Guidance for Discretionary Grant Programs, December 2023.

- Measuring benefits in dollar terms, whenever possible, and expressing benefits and costs in a common unit of measurement;
- Using US DOT guidance for the valuation of travel time savings, vehicle operating costs savings, safety benefits, amenity/health benefits, residual value, and reductions in air emissions, while relying on industry best practice for the valuation of other effects; and
- Discounting future benefits and costs to present value terms with the real discount rate as instructed by US DOT BCA Guidance (3.1 percent)[2]; and
- All monetary values in this Appendix are expressed in 2022 dollars, unless stated otherwise.

3. Project Overview

This project will result in a replacement of an existing bridge located in the City of Dunedin, Pinellas County, Florida. The existing Dunedin Causeway Main Bridge, which was originally built in 1963, is a is a two-lane, undivided low-level bascule bridge that spans the Gulf Intracoastal Waterway (GIWW) connecting Dunedin/Pinellas County mainland with Honeymoon Island on the Gulf of Mexico. Honeymoon Island is home to about 800 residents and Honeymoon Island State Park, and the Causeway (Causeway Blvd.) of which the Main Bridge is a critical part, is the sole link and the designated evacuation route between the Island and the mainland (please see Figure 1 below). The bridge has 9,021 AADT as of 2022, as per the NBI.[3] The crossing volumes are projected to increase at 1.12 percent per year through 2042, according to the NBI.

The existing bridge (No-Build scenario) has a number of identified deficiencies, such as:

- Deteriorating Structural Conditions - Structural elements of the bridge are in Fair condition, and scour on the bridge is critical.
- Inadequate Functional Design Elements - The bridge is “Functionally Obsolete” as it does not meet 2024 Florida DOT design standards.
- Substandard Clearance at the Navigable Waterway Channel - The vertical clearance of the Main Bridge does not meet current United States Coast Guard (USCG) clearance guidelines over the navigable GIWW.

As the bridge has no detour alternative, it requires replacement in order to safely remain open to traffic in a state of good repair without functional obsoletion. Pinellas County is proposing to replace the existing two-lane low-level bascule bridge with a two-lane mid-level bascule bridge. The new Main Bridge is to be constructed within the existing right-of-way, using approximately

[2] CO_2 emissions are discounted at the annual rate of 2 percent.

[3] 14,900 AADT in 2023, per Florida Traffic Online, 2024.

the same alignment as the existing bridge. The width of the new Main Bridge is expected to increase by 22.5 feet (for a total width of approximately 63 feet) to accommodate two 11-foot-wide travel lanes with 8-foot-wide shoulders that can also function as undesignated bicycle lanes (please see Figure 2 below).

A barrier-separated 5-foot-wide sidewalk is proposed on the north side of the bridge and extending into its approaches. A barrier-separated 15-foot-wide multi-use trail (to serve as a spur of the Fred Marquis Pinellas Trail) is also proposed on the south side of the bridge and its approaches as part of the Build scenario.

The bridge approaches are to be lengthened to allow for a higher vertical clearance at the GIWW navigation channel, ultimately reducing the number/daily frequency of bridge openings. The proposed mid-level bridge will provide 35 feet of vertical clearance over the GIWW navigation channel at the fenders in the closed position, relative to 21 feet under the existing conditions. Unlimited vertical clearance is to be provided in the open position for the width of the channel between the fenders. The new bridge is to be constructed to accommodate full vehicular loads, including all emergency service vehicle types, while improving safety and access for pedestrians and cyclists.

A more detailed description of the project is provided in the main body/narrative of this application.

Figure 1: Project Location Map in Dunedin

Figure 2: Bridge Existing and Proposed Typical Sections

a) No-Build

b) Build

3.1 Types of Benefits

The proposed Dunedin Main Bridge Replacement is expected to result in a variety of benefits to the regional population. These are broadly summarized in Table 1.

Table 1: Summary of the Transportation Improvements and Associated Key Impacts and Benefits

Current Status or Baseline & Problems to Be Addressed	Changes to Baseline / Alternatives	Type of Impacts	Population Affected by Impacts	Benefits
Functional obsolescence of the bridge, and growing traffic volumes across the area road network generate accidents on the bridge every year.	Enhanced safety features of the bridge replacement result in safer travel.	Fewer vehicle crashes in the area.	Area residents and businesses, and visitors to the area.	Reduced accident costs (saved lives, injuries, and property damage).
Low level vertical clearance for vessels passing under the bridge requires multiple openings per day, causing some travel delays for the vehicles crossing the bridge.	The replacement bridge will offer higher vertical clearance, reducing the need for vertical openings.	Travel time delay reduction in the area.	Area residents and businesses, freight carriers, and visitors to the area.	Travel time delay and reliability savings.
Due to functional obsolescence (narrow shoulders*)* emergency response vehicles may may be unable to cross over the bridge to timely respond to calls.	Replacement bridge will provide improved access (widened shoulders) to emergency vehicle, expediting response times to time-sensitive patient needs.	Reduction in mortality in cardiac arrest cases thanks to faster response times.	Honeymoon Island residents and visiting patients.	Health – mortality savings – other benefits.
The existing bridge requires maintenance that results in higher annual maintenance costs.	Replacement bridge will have a useful service life of 75 years, and lower annual maintenance cost.	Residual value, and lower O&M costs.	Pinellas County	Residual value, and O&M costs, savings.
No-build scenario will eliminate accessibility to	New bridges will ensure continued	Avoided loss of accessibility to the	Owners/resident of the	Avoided costs from

Honeymoon Island for vehicles and walkers/cyclists by 2052 due to bridge closure, indefinitely affecting owners of the condominium units leading to a buyout program.	access to the Island through the analysis operation years.	Island, including the condominium complex, with the replacement bridge.	condominium units on Honeymoon Island.	buyout program to property owners triggered from due to inaccessibility to Honeymoon Island.
Limited sidewalk and cycling access over the current bridge.	Widened and longer sidewalk and path for pedestrians, and widened and longer path for cyclists to use.	Increased mobility accessibility of active transportation.	Area residents, and visitors to the area.	Improved facility amenity/health, safety, mobility, and community quality of life options.

3.2 Project Cost[4] and Schedule

The proposed Bridge Replacement project is forecasted to cost $98.6 million (in 2022 dollars, or around $110.1 million in mixed year-of-expenditure and 2028-dollar terms) in total upfront investment. This amount is scheduled to be expended over a 17-year timeframe from 2014 to 2030, with construction-related expenditures scheduled from 2028 through 2030 totaling $87.8 million in 2022 dollars (or $98.9 million in 2028 dollars). Table 2 below shows the projected costs and annual schedule related to the project. The discounted value of the capital costs is $80.7 million.

Table 2: Summary of the Project's Forecasted Investment Costs (in millions of 2022$) *

	2014-2024	2025	2026	2027	2028	2028	2030	17-year Total
Annual Cost	$1.8	$3.0	$3.0	$3.0	$29.3	$29.3	$29.3	**$98.6**

* Values are rounded.

Starting from the first full year of the replaced bridge operations in 2031, there will also be a decrease in the operating and maintenance (O&M) costs of the bridge relative to the No-Build scenario. The change in O&M costs was computed by Pinellas County Public Works, and accounts for additional maintenance/repair and bridge operating (openings) costs of under the No-Build scenario relative to the Build case. This incremental O&M cost is projected to be a saving of $75

[4] All cost estimates in this section are in expressed in 2022 constant dollar terms, unless otherwise noted.

thousand per year (in 2022-dollar terms), for a 21-year (through the forecasted closure of the existing bridge by 2052) discounted total of $0.9 million in maintenance savings.

3.3 Disruptions Due to Construction

The proposed replacement is not expected to cause any significant disruption to existing traffic during the construction period. A temporary bridge will be made available immediately to the south of the existing one, with the same speed, adding no additional noteworthy time or mileage to the bridge route during the entire construction period. Maintenance of traffic (MOT) standard plans will be followed, including with various mitigating measures (such as appropriate safety signage), leading to minimal impact on traffic flow. Hence, the monetizable safety and travel time construction disbenefits are assumed to be $0 in the BCA.

3.4 Effects on Key Selection Criteria

The main benefit categories associated with the project are mapped into the key selection criteria set forth by US DOT in Table 3.

Table 3: Benefit Categories and Expected Effects on US DOT Merit Criteria

Merit Criteria	Benefit or Impact Categories	Description	Monetized	Quantified	Qualitative
State of Good Repair	Maintenance costs, and residual value of investment in a new bridge.	Residual value of the project at the end of the analysis period, and reduction in annual O&M costs.	Yes	Yes	No
Safety and Mobility	Safety benefits.	Reduction in the number of accidents, resulting in fatality, injury, and property damage savings.	Yes	Yes	No
	Travel time savings.	Lower travel time in the area stemming from reduced number of required bridge vertical openings.	Yes	Yes	No
Economic Competitiveness and Opportunity	Jobs/income/GRP creation.	Tourism/recreation, construction and other jobs.	Yes	Yes	Yes
	Improved supply chain.	Lower travel time for freight traffic in the area stemming from reduced number of required bridge vertical openings.	Yes	Yes	Yes
	Improved access to more productive land use.	Improved access to various residential, recreational, and commercial properties/land uses around the replaced bridge.	No	No	Yes
Climate Change, Sustainability, Resiliency, and the Environment	Improved resiliency.	Improved resiliency of the bridge against damage from high waves during significant storms.	No	No	Yes
Quality of Life	Reduced vehicle dependence, and lower morbidity.	Improved active/nonvehicular transportation, and access to daily destinations in locations around the area. Lower morbidity due to faster emergency vehicle response times.	Yes	Yes	No
Innovation	Innovative techniques yielding enhanced resiliency.	Living shorelines, and composite reinforcing bars to boost the bridge's structural resiliency and extend useful lifespan.	No	No	Yes

4. General Assumptions

The BCA measures, on a discounted basis, benefits against costs throughout the 47-year period of analysis beginning at the start of the investment in year 2014, and including 30 full years of operations from 2031 through 2060.

The monetized benefits and costs are shown in constant dollars of 2022 with future dollars discounted in compliance with the BIP requirements using a 3.1 percent real rate, consistent with the US DOT BCA Guidance. The methodology makes several important assumptions, and seeks to avoid overestimation of benefits and underestimation of costs. Specifically:

- Input prices are expressed in 2022 dollars;
- The period of analysis begins in 2014 and ends in 2060. It includes project development and construction years (2014 - 2030), and 30 full years of operations (2031 - 2060);
- A constant 3.1 percent real discount rate is assumed throughout the period of analysis;[5] and
- Opening year demand is an input to the BCA, and is assumed to be fully realized in Year 1 (no ramp-up).
- The existing bridge permanent closure year is projected to be in 2052, per the BIP BCA Tool. Hence, the replacement would avoid forcing such a closure from 2052 onwards.

5. Benefits Measurement, Data, and Assumptions

The proposed Bridge Replacement project will yield various benefits for the traveling public and the larger economy. The following subsections describe the measurement approach used for each benefit or impact category identified in Table 3 above, and provide an overview of the related methodology, assumptions, and projections.

5.1 State of Good Repair

The 61-year-old Dunedin Main Bridge is presently classified as functionally obsolete, structurally fair, and with a Sufficiency Rating of 49.5. Moreover, the scour on the bridge is in critical condition.

To quantify the benefits associated with maintaining the Bridge in a state of good repair, both the maintenance savings, and the residual value of the project's initial investment in the replacement bridge were projected.

[5] Two percent real discount rate is applied to CO_2 emission changes.

5.1.1 Maintenance Cost Savings

Under the No-Build scenario, the annual O&M of the Bridge is estimated to amount to $300 thousand, according to the Pinellas County Public Works. The projected annual O&M cost of the Replacement Bridge is $225 thousand (in 2022 dollars), per the Pinellas County Public Works. The annual difference of about $75 thousand amounts to the total 21-year (through the existing bridge closure by year 2052) discounted maintenance savings of almost $0.9 million.

5.1.2 Residual Value

The proposed Bridge Replacement is expected to retain some value beyond the 2060-time horizon for which the various benefits described in this document are computed.

The residual value of the proposed project was estimated based on the useful life of the bridge construction assets of 75 years. Such construction assets amount to about $76.4 million in upfront investment (87 percent of the total $98.6 million up front capital costs total), resulting in their residual value is $16.1 million in discounted present value terms.

Benefits Subtotal

As summarized in Table 3, the total state of good repair benefits, based on the combined maintenance cost savings and residual value, are projected to amount to $17.0 million in discounted terms.

Table 3: Projected State of Good Repair Benefits (in millions of 2022$)*

Benefits Category	Total Discounted State of Good Repair Benefits
Maintenance	$0.9
Residual Value	$16.1
Total	**$17.0**

* Values are discounted at an annual rate of 3.1%, and are rounded.

5.2 Safety and Mobility

The condition, as summarized in the previous subsection and in the main narrative, of the current bridge leads to a number of safety and mobility issues, which the Replacement Bridge project will alleviate. The related benefits are summarized below.

5.2.1 Safety

One of the primary benefits of focus in this analysis pertains to enhanced safety associated with reductions in future accidents stemming from the proposed bridge replacement.

The monetized safety benefits of the project were derived based on a projection of future crash savings, and unit values of crashes by type. A crash savings analysis of the proposed Dunedin

Main Bridge Replacement was conducted through the application of known Crash Modification Factors (CMFs) to the most recent five years of crash data in the bridge area.

Historically, the crash data over the most recent five-year period (2019 – 2023) for the bridge project area, as extracted for this analysis from the University of Florida's Signal Four Analytics database, showed a total of 32 crashes within the project limits, of which 15 were Property Damage Only (PDO), and the others resulted in 26 injuries.[6] Figure 3 shows the heat map of the recent crashes within the project limits.

Figure 3: Bridge Area Crashes Heat Map

Multiple improvements were proposed along the bridge area, but only the benefits for the following improvements/countermeasures were quantifiable with appropriate CMFs.

New Shoulders

New shoulders will allow emergency vehicles to pass during emergency situations. This proposed improvement relates to CMF 5285 from the CMF Clearinghouse, which is for widening paved shoulder for all crash types, severity, and roadway types.

[6] Signal Four Analytics, August 2024.

Lighting

New bridge lighting installed will provide illumination for the roadway with shoulders, as well as the bike/ped path, and sidewalk, improving safety and security for all travel along the bridge and its approaches.

This proposed improvement relates to two CMFs for illumination/lighting from the CMF Clearinghouse: 1) CMF 579 – applicable to PDO crashes; and 2) CMF 578 – applicable to injury crashes, both on urban roadways of all types.

Products of the two CMFs for each countermeasure and crash type were used in the BCA Tool to derive avoided crash costs from these improvements for the applicable crash types.

For both the countermeasures and the detour-related components of the analysis, the unit costs of injuries and PDO crashes were based on the dollar values from the latest USDOT BCA Guidance for Discretionary Grants, matching the BIP Tool.

Overall, the findings from the safety analysis show projected future benefits through 2060 from the Bridge Replacement project to total about $7.8 million in discounted terms.

5.2.2 Mobility

The mobility benefits are captured here through travel time delay savings related to the reduction in vertical lifts of the bascule bridge necessitating stoppage of vehicular traffic on the bridge/Causeway approaches. The existing low-level bascule bridge (No-Build) is limited to vertical clearance of under 21 feet over the GIWW navigation channel at the fenders in the closed position, which allows only about 4.5 percent of all the vessel traffic to pass under the bridge without requiring its vertical opening and vehicular traffic stoppage.[7] The proposed mid-level replacement bridge will provide 35 feet of vertical clearance over the navigation channel in the closed position. Unlimited vertical clearance is to be provided in the open position for the width of the channel between the fenders. The estimated 49 percent more vessels using the channel will be able to pass under the higher replacement bridge (Build) in the closed position, without requiring the bridge to open and stop vehicular traffic.[8]

Based on the recent vessels volumes (averaging 2.8 vessels per day) and average opening duration of five minutes,[9] combined with the average hourly volumes of passenger vehicles and trucks over the bridge (based on the NBI projections from the BIP Tool) as well as the appropriate VOTT (using the latest BCA Guidance for Discretionary Grants, matching the Tool values), the annualized travel time delay savings with the replacement is projected at $584,100 in the first year of new bridge operations (2031). The resulting aggregated travel time delay savings are expected

[7] Source: Bridge Vessel Height Survey, PD&E Study PER, 2020

[8] Ibid.

[9] Source: Pinellas Co., Monthly Reports of Drawbridge Openings for 2023, September 2024

to amount to $10.4 million through 2060 in discounted terms, and are captured as one of the categories of Other Benefits in the BIP Tool.

Benefits Subtotal

As summarized in Table 4, the total safety and mobility benefits, based on the combined crash savings, travel time savings, and vehicle operating cost savings are forecasted to amount to about $18.2 million in discounted terms.

Table 4: Projected Safety and Mobility Benefits (in millions of 2022$)*

Benefits Category	Total Discounted Safety and Mobility Benefits
Safety	$7.8
Travel Time Delay	$10.4
Total	**$18.2**

* Values are discounted at an annual rate of 3.1%, and are rounded.

5.3 Economic Competitiveness and Opportunity

The proposed project will contribute to enhancing the economic competitiveness of the area and potentially beyond through improvements in the mobility of people and goods within and across the region. This section summarizes the effects of the project on the job creation and regional impact, as well as supply chain, and land use.

5.3.1 Job Creation and Regional Impact

The replacement bridge will continue to contribute to the growing local tourism-based economy of Pinellas County. The bridge links the mainland of Pinellas County with Honeymoon Island, which contains the 385-acre Honeymoon Island State Park, and offers access to the heavily used public beaches, water sports, park, and multi-use trail along the Dunedin Causeway itself.[10] The Honeymoon Island State Park is visited by 1.5 million guests annually, supporting approximately 2,590 jobs and contributing $185 million in total direct economic impact.[11] Statewide, Florida state parks contribute about $3.6 billion in direct economic impact to local communities annually, generating approximately 50,400 jobs while welcoming more than 28.7 million visitors.[12]

[10] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

[11] Florida Department of Environmental Protection. (2023). *Economic Impact Assessment Report Florida State Park System*.

[12] Ibid.

Continued access for residents and millions of tourists (both local and non-local) to the noted amenities, jobs, and essential services of the area is contingent upon the replacement of the Main Bridge.

Overall, a sizable injection of capital infrastructure spending, such as that related to the proposed Bridge Replacement project, into the area economy will lead to direct construction and related professional services jobs, as well as indirect jobs supporting the suppliers of materials and equipment, and the induced jobs and earnings impacts to the larger economy in the region and beyond.

Additionally, the project improvements can be expected to aid further business attraction and retention (with the related jobs) that would not otherwise occur. However, these impacts were not quantified as part of this application.

5.3.2 Supply Chain

The proposed Bridge Replacement project is expected to improve the supply chain in the area by providing a structurally sound connection to existing freight routes. The replacement bridge will offer 35 feet of vertical clearance, thereby reducing the number of required openings by 49 percent, thereby improving travel time reliability and access to surrounding areas, enhancing the supply chain. This benefit monetization is already included in the Mobility Criterion and captured under the Other Benefits in the BIP Tool.

5.3.3 Land Use

The Bridge Replacement will also improve access to the surrounding land uses. The Main Bridge and adjoining Dunedin Causeway connect to various residential, commercial, and recreational establishments and activities. The improved bridge vertical clearance and the enhanced connections to the area transportation network for vehicles, pedestrians, and cyclists (particularly through the provision of upgraded, wider shoulders and multimodal facilities) are to improve access for residents on the barrier islands to jobs, essential services, and recreational facilities, better positioning these amenities and services of the area to realize their full potential.

This land use productivity benefit was not quantified, and hence, is not incorporated in the BCA results.

5.4 Climate Change, Sustainability, Resiliency, and the Environment

This project is of relatively unique nature as the Causeway bridge is the sole link to Honeymoon Island, and has no ground transportation detour, and hence no detour-related emission savings.

Nonetheless, the project will improve the resiliency of the Dunedin Causeway Main Bridge against damage from high waves during significant storms and vessel impacts, as well as mitigate impacts to sensitive populations and natural resources. However, these impacts were not quantified.

5.5 Equity and Quality of Life

The project would contribute to enhancing the quality of life and equity in the study area through improved access to daily destinations such as job and recreational opportunities via active/nonvehicular transportation, as well as health and lower mortality through faster emergency response times for area residents.

5.5.1 Nonvehicular Transportation

The lack of adequate pedestrian and bicycle facilities limits multimodal access and creates safety concerns. There are concerns about the existing substandard (narrow, and disjointed) multimodal facilities on the bridge and the need to provide improved, safer facilities for non-vehicular active transportation modes across the bridge. Also, the area is vehicular-dependent and access to recreational facilities such as the Honeymoon Island Park/beaches and Pinellas Trail by safe, multimodal options over the bridge is limited. The enhanced pedestrian and bicycle facilities on the new bridge will provide an important connection to the larger regional Pinellas Trail.

The improved access to nonvehicular transportation on the Causeway Main Bridge under the Build scenario was captured in terms of the improved facility amenities/health for pedestrians and cyclists. [13]

5.5.1.1 Pedestrian

Enhanced pedestrian comfort, convenience, and safety is a function of sidewalk/path width. The Bridge Replacement project includes widening and extension of the existing sidewalk and path (9.5-foot on average) wide to 20-foot-wide sidewalk and path combination over about 0.2 miles of the bridge project.

The pedestrian amenity benefits for the project corridor were derived by combining the incremental sidewalk/path width (10.5 feet in total) with annualized volumes of pedestrians, length of the sidewalk, and the unit value per foot of added sidewalk width.

The annual volumes and average trip length were based on year 2024 daily pedestrian counts data for the bridge area from Adams Traffic, annualized (based on a 365.25 days/year factor), and grown over time based on the County's population growth rate between 2024 and 2045 from the Florida Bureau of Economic and Business Research (BEBR).[14] The unit value of the expanded sidewalk/path, per foot of added width, was based on the US DOT BCA Guidance, as in the BIP Tool.

[13] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

[14] Sources: Adams Traffic, September 2023; and BEBR, January 2024. 0% growth rate is conservatively assumed after 2045. 11% for additional trips assumption is applied to the Build scenario with wider the sidewalk and path.

5.5.1.2 Cycling

The widening of the shared-use path as part of the Causeway Main Bridge Replacement will also enhance the quality and comfort of the cyclists on the facility. The cycling amenity benefits for the project corridor were quantified by combining the annualized volumes of cyclists, and the unit value of a cycling path per cycling mile.

The annual cycling trip volumes in the project were based on year 2024 daily cyclist counts data for the bridge from Adams Traffic, annualized (based on a 365.25 days/year factor), and grown over time based on the County's population average growth rate between 2024 and 2045 from the BEBR.[15] The unit value of the cycling path (with at-grade crossings), per cycling mile, was based on the BIP Tool/US DOT BCA Guidance.

5.5.1.3 Pedestrian and Cycling Facility Amenity Benefits

The findings from the pedestrian health and amenity analysis show projected future benefits from the bridge improvements to total about $3.3 million after discounting.

It should also be noted that cyclists would also be expected to experience improved riding conditions from being able to traverse the bridge on the undesignated widened shoulders, but this benefit was not monetized in this analysis.

5.5.2 Emergency Response Improvement

The narrow shoulders on the bridge limit emergency service vehicle access. The City of Dunedin Fire Rescue Department has six stations within approximately seven miles of Honeymoon Island; as such, all emergency service vehicle types (e.g., fire trucks, ambulances, etc.) must be able to be accommodated and cross the bridge to respond to emergency calls. The need for any of these stations to respond quickly is critical when seconds matter in life-saving situations. The City of Dunedin Fire Rescue Department was dispatched almost 400 times between January 2022 and June 2024 to areas along the Dunedin Causeway west of the Main Bridge; of the close to 400 incidents, 32 involved cardiac related events. The average response time for the cardiac arrest-related calls was 8.5 minutes.[16]

Emergency response improvement for the project was monetized based on the value of avoided out-of-hospital cardiac arrest (OHCA) deaths only. Among the hundreds of emergency calls placed to the Dunedin Fire Rescue stations since the beginning of 2022 through mid-2024 (2.5 years), 13 per year on average pertained to urgent need to assist patients with cardiac related problems. Based on the recent history of cardiac-related responses on the route requiring the passage over the bridge,

[15] Sources: Adams Traffic, September 2024; and BEBR, January 2024. 0% growth rate is conservatively assumed after 2045. 11% for additional trips assumption is applied to the Build scenario with the wider path.

[16] Source**:** Pinellas County Emergency Response Times Analysis, September 2024.

[17] the emergency response time differential between the No-Build (bridge with narrow shoulders averaging at 8 min and 29 sec) vs. Build (wider shoulders and fewer vertical bridge openings, assumed to average 7 min and 29 sec) scenarios is 1 min.

The FEMA BCAR methodology[18] provides guidance on estimating numbers of OHCA-related fatalities saved due to removal of bridge closures. This included formulas for deriving cardiac arrest-related survival rates given specific response times. Applying the survival rates to the annual number of relevant cardiac related responses yielded the annual fatalities for the No-Build and Build scenarios. The difference between those two is equal to 0.31 fatalities per annum, resulting in annual saving of close to $3.9 million, applying the value per fatality as per the USDOT BCA Guidance and in the BIP Tool. That saving is grown over time based on the County's population average future growth rate, as per BEBR[19], resulting in the total saving through 2060 of about $60.4 million, in discounted terms.

It should be noted that a conservative approach of only quantifying health benefits associated with cardiac arrest was undertaken in this analysis. Numerous other emergency calls, including those related to other medical matters, fires, and car crashes, also require critical emergency response, but are not quantified nor incorporated in the BCA results.

The emergency response improvements are captured under Other Benefits in the BIP Tool and BCA summary tables.

5.5.3 Avoided Displacement/Buyout Costs

This section provides an estimate of the avoided costs from buyout to the residential units located in Honeymoon Island, which would be potentially incurred in the No-Build case. According to the Preliminary Engineering Report (FDOT, 2020), the bridge is past its original designed service life of 50 years and its structural components were found to be in fair to satisfactory condition, which is expected to continue worsening in the upcoming years.[20]

It is forecasted, as per the BIP Tool, that the bridge will be closed by 2060 if the project is not implemented, eliminating accessibility to the island by car/bike/ped, and indefinitely affecting

[17] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

[18] Federal Emergency Management Agency. 2011. Benefit-Cost Analysis Re-engineering (BCAR) – attached with Appendix A.

[19] BEBR, January 2024.

[20] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

owners from an estimated 484 condominium units. Such a displacement will trigger a need for a buyout program aimed to alleviate the impact to Island property owners.

Assuming that the bridge remain fully functional until the closure year (2052), the buyout costs are estimated from market value of the condominium units located in the island as based on the latest estimates from the Pinellas County Property Appraiser.[21] Typically, buyout programs consider demolition and site restoration after acquisition; however, considering that the accessibility to the island would be lost, these additional costs were not included in the analysis.

The year 2024 total market value for the condominium complex on Honeymoon Island is estimated to total $135.4 million in 2022 dollars (or $140.8 million) in undiscounted terms. Under the assumption that the costs associated with the buyout would be incurred in 2052, the avoided costs are projected at $54.2 million in present value terms. This displacement/buyout avoidance benefit is captured under Other Benefits in the BIP Tool and BCA summary tables.

Benefits Subtotal

As summarized in Table 6, the total quality of life and equity benefits; based on the combined nonvehicular health and amenity benefits, the improved emergency response times for OHCA, and the avoided displacement/buyout costs, are projected to amount to $117.9 million in discounted terms.

[21] Pinellas County Property Appraiser, October 2024 https://www.pcpao.gov/

Table 6: Projected Quality of Life and Equity Benefits (in millions of 2022$)*

Benefits Category	Total Discounted Quality of Life Benefits
Health and Amenity	$3.3
Emergency Response	$60.4
Displacement/Buyout Avoidance	$54.2
Total	**$117.9**

* Values are discounted at an annual rate of 3.1%, and are rounded.

5.6 Innovation

The proposed replacement bridge offers multiple innovative design technology improvements, including sustainable elements, to create a consistent, long-term service life. However, due to limited data, the benefits of these elements were not quantified for this application.

6. Summary of BCA Findings

The tables below summarize the BCA findings. Annual costs and benefits are computed over the full period of analysis (47 years). As stated earlier, the initial 17-year investment is expected to be completed in 2030, with the benefits accruing during the 30-year period of operations, from 2031 through the end of 2060.

Total benefits and costs, expressed in 2022 dollars, for the analysis period are shown in Table 7. This table reflects a summation of the annualized benefits and costs for each year between 2014 and 2060. In accordance with the US DOT guidance for benefit-cost analysis, the annualized benefits and costs were discounted to reflect the time value of money using the real discount rate of 3.1 percent.[22]

[22] Except for CO_2 emissions, for which a real discount rate of 2 percent was applied.

Table 7: Benefit-Cost Analysis Results (in millions of 2022$) *

Benefit and Cost Metrics	2014-2060 Totals Discounted at 3.1%[23]
Project Benefits	
Safety	$7.8
Health and Amenity	$3.3
Maintenance	$0.9
Residual Value	$16.1
Other Benefits	$125.0
Total Discounted Benefits	**$153.1**
Total Discounted Costs	**$80.7**
Key Metrics	
Benefit-Cost Ratio	**1.9**
Net Present Value (NPV)	**$72.4**

* Unless specified otherwise. The numbers are rounded.

The total monetized benefits of the proposed Main Bridge Replacement project are forecasted at $153.1 million (in present discounted value terms) while the total discounted costs of the project are forecasted at $80.7 million. Considering all monetized benefits and costs, the investment in the proposed Bridge Replacement can be expected to yield a **net present value of $72.4 million**, and a **Benefit-Cost ratio of 1.9**, indicating that the project returns about $1.9 in benefits for every dollar of capital costs.

Among the project benefits, other benefits (consisting of combined property buyout, improved emergency response times, and reduced bridge openings at $125 million, in present value terms over 30 years) are projected to be the largest category, followed by residual value ($16.1 million), safety ($7.8 million), facility amenity benefits ($3.3 million), and maintenance benefits ($0.9 million).

6.1 Aggregate Annual Benefits and Costs

This section reports the aggregate benefits and costs associated with the proposed Bridge Replacement project in annual discounted terms, as shown in Table 8. As can be seen in the table, the total discounted benefits of the project start $4 million in the first year of operations/benefits, gradually decrease to $2.3 million in 2051, then jump to $56.1 million in 2052 (due to the island properties buyout avoidance in the year of existing bridge closure), then continuing to gradually go down (due to discounting) to $1.9 million by 2059, followed by a jump to $18 million (due to the residual value addition) in the last year of the analysis horizon, totaling $153.1 million for the entire 30-year period through 2060.

[23] This discount rate (including the 2% for CO_2 emissions) is in accordance with the US DOT BCA Guidance, December 2023.

When the total discounted capital costs ($80.7 million) are accounted for, the net discounted benefits (NPV) total $72.4 million over the entire project analysis period through 2060.

6.2 Conclusion

Overall, the BCA results indicate that this Bridge Replacement project looks strong from an economic feasibility standpoint as the projected benefits outweigh the projected costs by about 1.9 to 1, yielding about $72.4 million in discounted net benefits.

Table 8: Annual Projections of Total Project Benefits and Costs (in millions of 2022$) *

Calendar Year	Project Analysis Year	Total Discounted Benefits	Total Discounted Costs	Total Net Discounted Benefits
Pre-Benefits Period	0	$0.0	($80.7)	($80.7)
2031	1	$4.0	$0.0	$4.0
2032	2	$3.8	$0.0	$3.8
2033	3	$3.7	$0.0	$3.7
2034	4	$3.7	$0.0	$3.7
2035	5	$3.6	$0.0	$3.6
2036	6	$3.5	$0.0	$3.5
2037	7	$3.4	$0.0	$3.4
2038	8	$3.3	$0.0	$3.3
2039	9	$3.2	$0.0	$3.2
2040	10	$3.1	$0.0	$3.1
2041	11	$3.0	$0.0	$3.0
2042	12	$3.0	$0.0	$3.0
2043	13	$2.9	$0.0	$2.9
2044	14	$2.8	$0.0	$2.8
2045	15	$2.7	$0.0	$2.7
2046	16	$2.7	$0.0	$2.7
2047	17	$2.6	$0.0	$2.6
2048	18	$2.5	$0.0	$2.5
2049	19	$2.5	$0.0	$2.5
2050	20	$2.4	$0.0	$2.4
2051	21	$2.3	$0.0	$2.3
2052	22	$56.4	$0.0	$56.4
2053	23	$2.2	$0.0	$2.2
2054	24	$2.1	$0.0	$2.1
2055	25	$2.1	$0.0	$2.1
2056	26	$2.0	$0.0	$2.0
2057	27	$2.0	$0.0	$2.0
2058	28	$1.9	$0.0	$1.9
2059	29	$1.9	$0.0	$1.9
2060	30	$18.0	$0.0	$18.0
Totals (2014-2060)		**$153.1**	**($80.7)**	**$72.4**

* Values are discounted at an annual rate of 3.1%, except for CO_2 emission savings that are discounted at the annual rate of 2%. The values are rounded.

The following attachment is not included in the view since it is not a read-only PDF file.

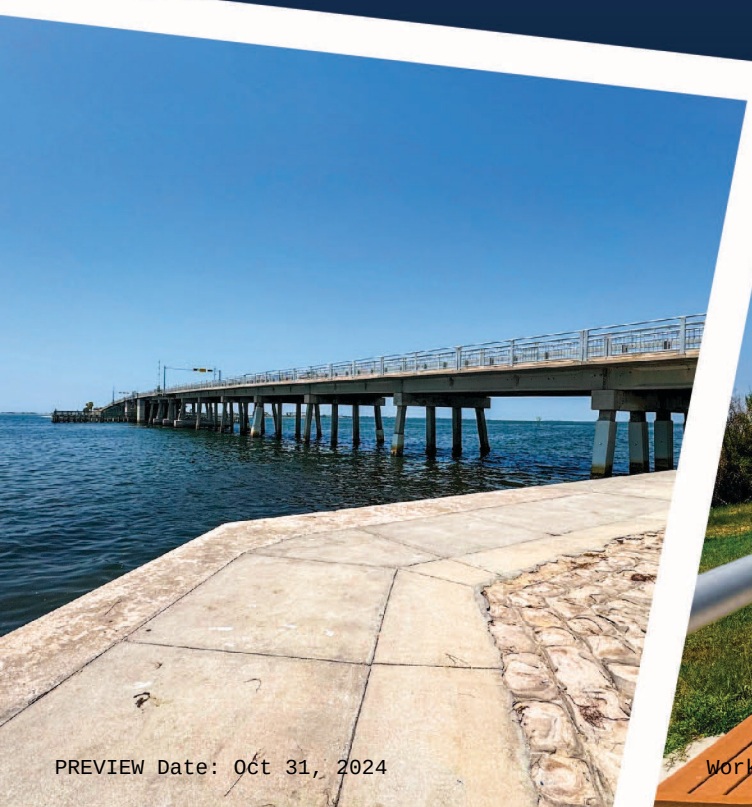
Upon submission, this file will be transmitted to the Grantor without any data loss.

AppendixE_BCA_Tool.xlsb

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix F: Letters of Support



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

FORWARD PINELLAS
P: (727) 464.8250
F: (727) 464.8212
forwardpinellas.org
310 Court Street
Clearwater, FL 33756

October 22, 2024

Secretary Pete Buttigieg
United States Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

RE: Dunedin Causeway Main Bridge Replacement Funding – 2025 Bridge Investment Program

Dear Secretary Buttigieg:

On behalf of Forward Pinellas, the metropolitan planning organization (MPO) for Pinellas County, I am requesting U.S. Department of Transportation funding for Pinellas County Government's application for construction costs for the Dunedin Causeway Main Bridge replacement project through the 2025 Bridge Investment Program. The project consists of replacing the aging, low-level bascule Main Bridge with a mid-level movable bridge. The Main Bridge is on the Dunedin Causeway that provides the sole connection from mainland to Honeymoon Island State Park and residential developments. The grant funding request is for construction of the Main Bridge only, as design is set to commence in early 2025.

The Dunedin Causeway Main Bridge provides access to Honeymoon Island, which has the second biggest economic impact of state parks in Florida with 1.6 million annual visitors, more than $140 million in direct economic impact, and nearly 2,000 jobs supported. Honeymoon Island is also the ferry terminal for access to another unspoiled state park, Caladesi Island. The Dunedin Causeway is a popular area for residents and visitors to enjoy recreational activities such as walking, jogging and biking on the designated trail, and swimming, kayaking, paddle boarding, and fishing in the Intracoastal Waterway. The importance of maintaining the Causeway is well documented and understood by the citizens and local governments. The proposed new bridge will meet all current safety standards and provide enhanced bicycle and pedestrian facilities that link to the 75-mile Pinellas Trail Loop around the entire county.

Located on the Gulf Coast of Florida, Pinellas County is home to nearly one million residents, with an additional 15.5 million visitors each year. Forward Pinellas has been working closely with the Florida Department of Transportation, Pinellas County Government, the City of Dunedin, and the Florida Division of State Parks to advance funding for safety and congestion relief along the Dunedin Causeway, including an expanded entrance to Honeymoon Island State Park. The bridge's replacement design and construction will complement those improvements.

Forward Pinellas clearly recognizes the need for improvements to the Dunedin Causeway bridges for reasons of economic vitality, resilience, and quality of life. The project is consistent with our policy emphasis of Enhancing Beach Community Access, which is one of three major emphasis areas adopted by the Forward Pinellas Board in 2015 and reaffirmed in 2021 and is a pillar of the adopted 2045 Long Range Transportation Plan. Thank you for your consideration of this letter of support.

Sincerely,

Whit Blanton, FAICP
Executive Director

Project Narrative File(s)

*** Mandatory Project Narrative File Filename:** Dunedin_Cswy_BIP_Supl_Narrative_103024 v2.pdf

Add Mandatory Project Narrative File | Delete Mandatory Project Narrative File | View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File | Delete Optional Project Narrative File | View Optional Project Narrative File

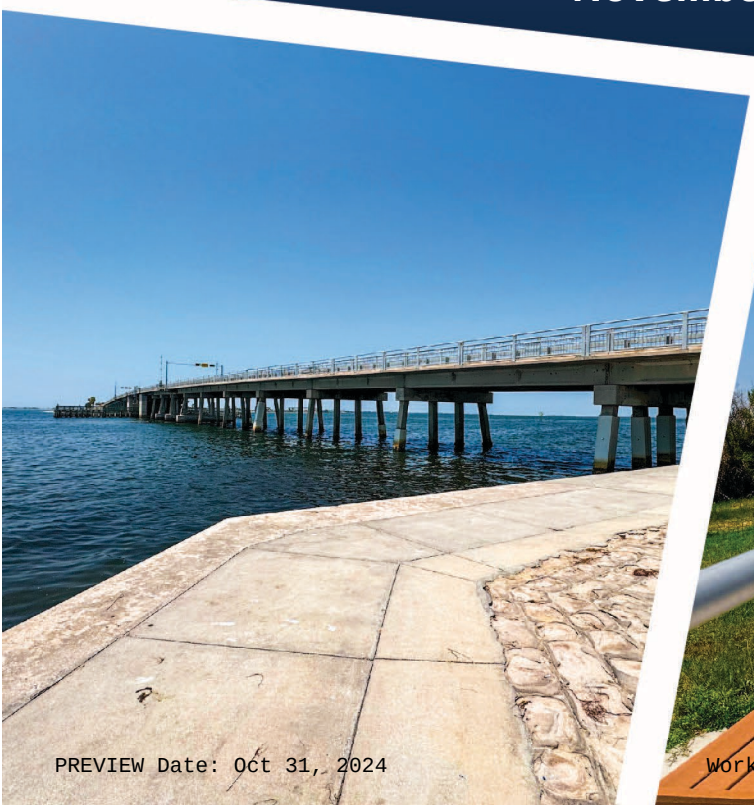
USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Supplemental Narrative

Dunedin, FL

November 1, 2024



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

USDOT - FHWA BRIDGE INVESTMENT PROGRAM FY 2025
Dunedin Causeway Main Bridge Replacement Project
Dunedin, FL

Contents

Dunedin Causeway Main Bridge Replacement Project 1
Contents i
I. Basic Project Information 1
Project Description 1
Proposed Improvements 2
Project Location 4
Lead Applicant 6
Other Public & Private Parties 6
Additional Eligibility Requirements 6
II. National Bridge Inventory Data 6
III. Project Budget – Grant Funds, Sources & Uses 6
IV. Merit Criteria 7
Criterion #1: State of Good Repair 7
Criterion #2: Safety and Mobility 10
Criterion #3: Economic Competitiveness and Opportunity 13
Criterion #4: Climate Change, Sustainability, Resiliency, and the Environment 14
Criterion #5: Equity and Quality of Life 15
Criterion #6: Innovation 19
V. Benefit-Cost Analysis Summary 20
VI. Project Readiness & Environmental Risk 21
Technical Feasibility & Technical Competency 21
Project Schedule 22
Required Approvals 22
Environmental Permits & Reviews 22
State & Local Approvals 24
Federal Transportation Requirements Affecting State and Local Planning 24
Assessment of Project Risks and Mitigation Strategies 24

VII. Administration Priorities & Departmental Strategic Plan Goals..... 24

Figures

Figure 2. Proposed Typical Section....4
Figure 1. Existing Typical Section....4
Figure 3. Project Location Map....5
Figure 4. Replacement Bridge Design Enhancements....12
Figure 5. Historically Disadvantaged Communities and Urbanized Areas: Areas of Persistent Poverty....16
Figure 6. Project Schedule & Approvals....22

Tables

Table 1. Existing and Proposed Main Bridge Characteristics....3
Table 2. Recent Pinellas County Transportation Projects with Federal Funding....6
Table 3. Project Funding by Source and Timeline....7
Table 4. Benefit-Cost Analysis Results (in millions of 2022$)....21
Table 5. Project Permits....23

Appendices

A. Technical Documents
- A.1 Pinellas County Asset Management Plan
- A.2 Dunedin Causeway Bridges PD&E Study: Type 2 Categorical Exclusion
- A.3 Dunedin Causeway Bridge PD&E Study: Preliminary Engineering Report
- A.4 Federal Emergency Management Agency. 2011. Benefit-Cost Analysis Re-engineering

B. Funding Documentation
C. Schedule
D. BCA Narrative
E. BCA Tool Outputs
F. Letters of Support

I. Basic Project Information

Project Description

Constructed in 1963, the Dunedin Causeway Main Bridge (National Bridge Inventory [NBI] Identification Number 150068) is a two-lane, undivided low-level bascule bridge that spans the Gulf Intracoastal Waterway (GIWW) and connects Ward Island to the Dunedin Causeway within the City of Dunedin, Pinellas County, Florida. Dunedin Causeway, also known as Causeway Boulevard and County Road 586, includes both the Main Bridge and West Tide Relief Bridge as well as a smaller 145-foot structure (NBI Identification Number 154005) that connects directly to the Pinellas County mainland. This roadway serves as the sole link between the mainland of Pinellas County and barrier islands located to the west (including Ward Island and Honeymoon Island). Honeymoon Island is home to nearly 800 residents and Honeymoon Island State Park, one of the most economically significant state parks of the Florida parks system. Ward Island includes approximately 410 residences, a marina, and multiple commercial establishments. The Dunedin Causeway itself is a significant regional destination, offering access to several adjacent public beaches.

The Dunedin Causeway Main Replacement Bridge will: :

- **Address the structural and functional deficiencies of the existing bridge.**
- **Meet USCG navigation clearance guidelines.**
- **Maintain access to Honeymoon Island, home to 794 residents and 1.5 million visitors annually.**
- **Enhance emergency evacuation capabilities and incident management response times through improved shoulders.**
- **Reduce mechanical failures and vessel collisions with the bridge.**
- **Decrease bridge maintenance costs by 25%.**

On the mainland of Pinellas County, Dunedin Causeway transitions to State Road 586 (east of US 19A) and facilitates important east-west traffic within the northern portion of the county. Dunedin Causeway is a designated Florida Division of Emergency Management (FDEM) and Pinellas County evacuation route, providing critical access to the Pinellas County mainland for residents, as well as visitors located on both Honeymoon Island and Ward Island.

Pinellas County proposes replacement of the Dunedin Causeway Main Bridge due to increasing deficiencies associated with the bridge. At 61 years old, it has exceeded its original life expectancy of 50 years. As documented through the 2024 NBI and Florida Department of Transportation (FDOT) information, the identified deficiencies include:

- **Deteriorating structural conditions.** Structural elements of the bridge are in Fair condition, and scour on the bridge is critical.
- **Inadequate functional design elements.** The bridge is "Functionally Obsolete" as it does not meet 2024 FDOT design standards (adopted by Pinellas County).
- **Substandard clearance at the navigable waterway channel.** The vertical clearance of the Main Bridge does not meet current United States Coast Guard (USCG) clearance guidelines over the navigable GIWW.

To date, Pinellas County has invested or committed approximately $11.3 million for the planning and design phases of the Dunedin Main Bridge Replacement project. The anticipated remaining project cost for the construction phase totals $98.86 million (2028 dollars). **As the bridge owner and project sponsor, Pinellas County is requesting $79.088 million (2028 dollars) in United States Department of Transportation (USDOT)-Federal Highway Administration (FHWA) Bridge Investment Program (BIP) grant funding to maximize its local dollars and advance the project.** Roadway construction associated with the project will be limited to the Main Bridge approaches. In addition to this project, $13.1 million is programmed to replace the West Tide Relief Bridge to ensure that the entire Dunedin Causeway meets current engineering standards and provides safe and reliable access to Honeymoon Island. The Pinellas County Capital Improvement Program FY 2025 includes a total of $118.7 million for both bridge projects.

Proposed Improvements

Pinellas County is proposing to replace the existing two-lane low-level bascule Main Bridge with a two-lane mid-level bascule bridge. The new Main Bridge will be constructed within existing right-of-way, using approximately the same alignment as the existing bridge. The width of the new Main Bridge is expected to increase by 22.5 feet (for a total width of approximately 63 feet) to accommodate two 11-foot-wide travel lanes with 8-foot-wide shoulders that can function as undesignated bicycle lanes.

A barrier-separated 5-foot-wide sidewalk is proposed on the north side of the bridge. A barrier-separated 15-foot-wide multi-use trail (to continue to serve as a spur of the Fred Marquis Pinellas Trail) is proposed on the south side of the bridge. New access to parking along the Dunedin Causeway is also proposed at each approach to the bridge along with a vehicle turn around underneath each end of the bridge.

The bridge approaches will be lengthened to allow for a higher vertical clearance at the GIWW navigation channel, ultimately reducing the need for bridge openings. The proposed mid-level bridge will provide 35 feet of vertical clearance over the GIWW navigation channel at the fenders in the closed position. Unlimited vertical clearance will be provided in the open position for the width of the channel between the fenders. The new bridge will accommodate full vehicular loads, including all emergency service vehicle types, while improving safety and access for pedestrians and cyclists.

The maximum proposed grade is 3%, which is the same as the existing bridge and meets requirements of the Americans with Disabilities Act (ADA). Reconstruction of the Dunedin Causeway itself will be limited to the bridge approaches. The approach roadway is proposed to return to existing grade approximately 566 feet from the eastern end and approximately 575 feet from the western end of the proposed bridge.

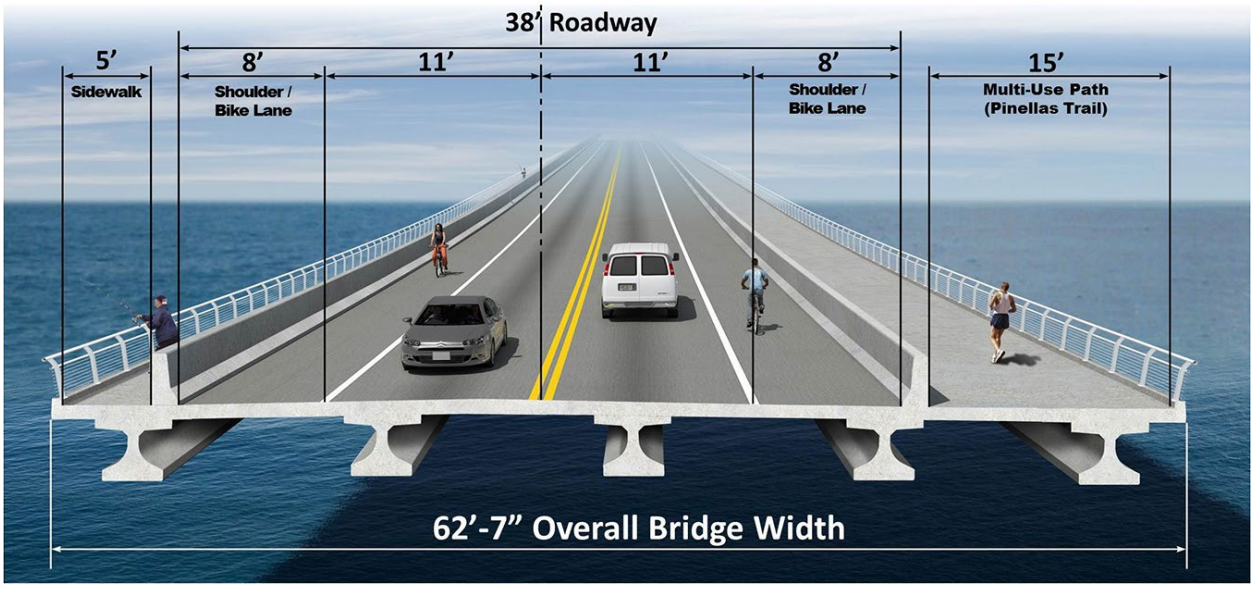
Table 1 provides a comparison of the existing and proposed Main Bridge typical sections and physical characteristics. **Figures 1** and **2** show the differences between the existing and proposed bridge typical sections.

Table 1. Existing and Proposed Main Bridge Characteristics

	Existing Bridge	Proposed Bridge
Movable Bridge Type	Low-level bascule bridge	Mid-level bascule bridge
Bridge Width	40'1"	62'7"
Bridge Length	1,190'5.5" (133'0.5" movable span)	1,741'2" (196' 8' movable span)
Vehicular Lanes	Two 11' lanes; Two 2' shoulders	Two 11' lanes; Two 8' shoulders (that can serve as undesignated bicycle lanes)
Bicycle/Pedestrian Facilities	3' 6" sidewalk (not ADA accessible) on the north side; 6' sidewalk (functioning as multi-use trail) on the south side	5' sidewalk (ADA accessible) on the north side; 15' multi-use trail on the south side
Maximum Vertical Grade	3%	3% (same as existing bridge)
Vertical Clearance at Navigation Channel (Bridge Closed)	20'	35'
Vertical Clearance (Bridge Open)	Unlimited	Unlimited
Horizontal Clearance (Bridge Closed)	90'	90'
Horizontal Clearance (Bridge Open)	90'	90'
Lighting	Limited (associated with control house & drawbridge signals)	Additional to be provided (sea turtle-friendly)
Bridge Railings	Do not meet crash rating standards	Meet crash rating standards

Figure 2. Existing Typical Section

Figure 1. Proposed Typical Section



Project Location

As depicted in **Figure 3**, the Main Bridge (NBI Identification Number 150068) of the Dunedin Causeway within the City of Dunedin, Pinellas County, Florida (28°03'03.9"N, 82°47'43.5"W). Pinellas County is part of the Tampa–St. Petersburg–Clearwater Metropolitan Statistical Area situated in central Florida along the Gulf of Mexico. Pinellas County is 38 miles long and 15 miles wide at its broadest point, consisting of 280 square miles in total. The County is comprised of a series of barrier islands and a land peninsula that runs the length of Tampa Bay to the east and

the Gulf of Mexico to the west. It includes 588 miles of coastline. The intermingling of the County's land area with multiple waterways, connecting the barrier islands to the mainland, creates a heavy reliance on the area's many bridges for all modes of transportation. The Dunedin Causeway Main Bridge is a movable bridge over the GIWW that connects Ward Island and a narrower barrier island of the Dunedin Causeway. It links the mainland of Pinellas County and Honeymoon Island, a barrier island containing the 385-acre Honeymoon Island State Park with 4 miles of beach as well as private residences. The structure provides access for an estimated 1.5 million visitors annually to the state park[1] and offers access to the heavily used public beaches, water sports, park, and multi-use trail along the Dunedin Causeway itself.

Figure 3. Project Location Map

[1] Florida Department of Environmental Protection, Economic Impact Assessment Report Florida State Park System, 2023.

Lead Applicant

Pinellas County, the lead applicant and project sponsor for the Dunedin Causeway Main Bridge Replacement project, has invested or committed funding for the planning and design phases. The County has extensive experience managing federal grants as a previous recipient of federal funds for numerous transportation projects, such as those listed in **Table 2**. Covering a wide range of responsibilities, including airports, solid waste, animal services, emergency medical services, parks, planning, and public works, Pinellas County managed a Fiscal Year 2024 operations and capital budget of $3.9 billion. The County also has transparent processes and standards for implementation of a fiscally responsible budget that meets the needs of community programs and services.

Table 2. Recent Pinellas County Transportation Projects with Federal Funding

Project Name	Project Cost	Federal Participation
Fort DeSoto Bay Pier Replacement	$4.46M	$1M
Belleair Causeway Bridge Replacement	$72.6M	$33.7M
Starkey Road Sidewalk Improvements	$2.49M	$1.89M
Bryan Dairy Road Widening	$10.6M	$2.82M

Other Public & Private Parties

Pinellas County is the lead applicant on the project, but will work in partnership with the City of Dunedin and Florida Department of Transportation, as needed.

Additional Eligibility Requirements

Following replacement of the Dunedin Causeway Main Bridge, the annual budgeted need for operation, maintenance, and repairs is estimated to be reduced from $300,000 to $225,000 (in 2022 dollars), a 25% decrease. Pinellas County has implemented a countywide asset management plan to improve bridge maintenance, operation, and monitoring (see **Appendix A.1**). The County will use this plan to organize historical documentation, maintenance records, and plans related to the bridge in one central location, which will result in more effective tracking of inspections, repairs, and monitoring. The County will fund the maintenance costs associated with the Main Bridge, which are estimated to be $16.9 million over the 75-year life expectancy of the new bridge.

II. National Bridge Inventory Data

Information from the August 2024 NBI database pertaining to the Dunedin Causeway Main Bridge is included in the recommended application template.

III. Project Budget – Grant Funds, Sources & Uses

To date, Pinellas County has invested or committed $11.3 million for the planning and design phases of the Dunedin Causeway Main Bridge Replacement project. The anticipated remaining project cost for the construction phase is $98.86 million (2028 dollars). **As the bridge owner and**

project sponsor, Pinellas County is seeking to obtain $79.088 million (2028 dollars) or 80% of the total project eligible costs through a USDOT-FHWA BIP grant. As shown in **Table 3**, the **local match provided by Pinellas County is $19.772 million (2028 dollars). Appendix B** depicts the funding amounts allocated in the Pinellas County Capital Improvement Program FY 2025 for the Main Bridge Replacement project and West Tide Relief Bridge Replacement project.

Table 3. Project Funding by Source and Timeline

Project Phase	Funding Source		Total Project Eligible Costs	Timeline
	BIP Request Amount	Pinellas County		
Bridge Construction*	$79,088,000 (80%)	$19,772,000 (20%)	**$98,860,000 (100%)**	Begin 2028; End 2030

(*) Construction cost includes Construction Engineering and Inspection (CEI)/post-design and contingency. Figures are in 2028 dollars.

IV. Merit Criteria

Criterion #1: State of Good Repair

The Dunedin Causeway Main Bridge is a 61-year-old movable bridge that is structurally deficient, functionally obsolete, and does not meet current USCG navigation clearance guidelines.

Deteriorating Structural Conditions. Based on the FDOT June 2024 Florida Bridge Information Report, **a Sufficiency Rating of 49.5 and a Health Index of 73.32 were assigned to the Main Bridge.** The Sufficiency Rating and Health Index values range from 0 (poor) to 100 (excellent). A bridge Sufficiency Rating is an overall rating of a bridge's fitness to remain in service. **A Sufficiency Rating below 50.0 qualifies a bridge for replacement funds.** A bridge's Health Index is a performance measure that assesses the overall condition of a bridge structure. **Per FDOT policy, bridges with a Health Index of less than 85 require repairs or replacement.**

In addition, August 2024 NBI data reported ranks or conditions for several elements pertaining to the Main Bridge, including structural components. The ranks/conditions were based on a scale of 0 (the bridge is out of service, beyond corrective action, and in need of replacement) to 9 (the bridge is in excellent condition and no deficiencies have been identified). The ranks/conditions for the elements that were examined are as follows:

Bridge Element	Rank/Condition
Deck	5 (Fair)
Superstructure	5 (Fair)
Substructure	5 (Fair)
Scour	Critical
Overall	5 (Fair)

Notes:
5 = Fair Condition: Structural elements are sound but may have minor section loss, cracking, spalling, or scour.
Scour Critical: Bridge foundations are unstable for calculated scour conditions.

The overall condition of the bridge is consistent with its age, severe environmental exposure conditions, and heavy use.

As a result of continuous exposure to the saltwater environment, the concrete of both the superstructure and substructure are likely contaminated with chlorides, creating a condition conducive to continuing corrosion of the reinforcing steel. Elements in or closer to water (e.g., piles) and elements subject to repeated splashing from waves (e.g., pile caps, beam ends and diaphragms), exhibit higher concentrations of chlorides and ultimately exhibit more advanced corrosive deterioration. For most of the bridge elements, chlorides have reached a critical threshold where corrosion is anticipated to continue even after repairs are performed. A Phase 4 Countermeasure Design and Plan of Action analysis was conducted as part of previous bridge inspections, providing a conceptual plan of scour countermeasure alternatives for protecting the structural elements considered at risk of failure due to scour, i.e., the substructure units. Given current conditions, the bridge elements are at risk of further damage from storm waves and vessel collisions. **Overall, the bridge is at an advanced stage of corrosive deterioration.**

Inadequate Functional Design Elements. The FDOT June 2024 Florida Bridge Information Report and August 2024 NBI data indicate that **the bridge is "Functionally Obsolete"** as it is approximately 40 feet wide and does not meet 2024 FDOT design standards (adopted by Pinellas County). The existing typical section of the bridge consists of one 11-foot-wide travel lane with a 2-foot-wide outside shoulder in each direction, a 3.5-foot-wide sidewalk on the north side, and a 6-foot-wide sidewalk on the south side that functions as a multi-use trail (specifically, a spur of the countywide Fred Marquis Pinellas Trail). Currently, dedicated bicycle lanes are not provided. Lighting on the bridge is limited to the control house and drawbridge signals. The curb mounted traffic railings located on each side of the bridge as well as the approach guardrails, guardrail end treatments, and transitions do not meet current standards for roadside safety in terms of both geometry and impact resistance. Given the inadequate shoulder widths, one lane (or both lanes) may be blocked temporarily during periods of maintenance or if a traffic incident occurs. **The inadequate facilities of the bridge create concerns related to safety conditions such as efficient evacuation and emergency service response times, efficient incident management and maintenance, and potential increased collisions between pedestrians and cyclists or cyclists and vehicles due to the sharing of existing limited infrastructure.**

Substandard Navigation Clearance. The Main Bridge crosses the GIWW, a designated USCG navigable waterway. The existing vertical clearances for the Main Bridge are 20 feet above the mean high water elevation at the face of the fenders in the closed position and unlimited navigation clearance in the open position. Current USCG vertical navigation clearance guidelines for movable bridges at this location on the GIWW are 21 feet of vertical clearance in the closed position and unlimited clearance in the open position. As per the County's monthly reports of bridge openings in 2023, the Dunedin Causeway Main Bridge requires approximately 2.8 openings per day to accommodate vessels using the GIWW given its limited height. Based on the survey of vessels height completed during the PD&E study, it is estimated that with an increase to 35 feet of vertical clearance, **the proposed replacement bridge will reduce the need to open by 50%**.

Outdated Equipment. The condition of the operating machinery and electrical and control system associated with the bascule (or movable) Main Bridge is consistent with the age of the bridge and the frequency of operation. In general, the equipment exhibits moderate wear and deterioration. Incidents of mechanical failure of the bridge have affected both vehicular and boat traffic; there have been cases of vessel collisions with the bridge structure caused by such failures. **The costs required for safe and reliable operation, maintenance, and monitoring of the Main Bridge continue to increase annually.** The bridge replacement is anticipated to reduce the annual operation, maintenance, and repairs budget from $300,000 to $225,000, a 25% decrease. This equates to an annual savings of $75,000, and a 30-year total discounted value of $897,000 (both amounts in 2022 dollars). **Major rehabilitation or replacement of the Main Bridge is needed to keep the bridge open and operating efficiently. Ongoing maintenance and repair of the Main Bridge machinery affects its reliability, often resulting in increased travel times for both vehicles and vessels as well as longer emergency service response times.**

Summary. The project contributes to the State of Good Repair criterion by replacing the bridge structure completely to raise all NBI ratings to Excellent and meet all current engineering standards. Addressing these elements, in turn, mitigates current safety deficiencies and creates reliable multimodal infrastructure to serve the community needs while preserving the environment. The replacement bridge is expected to be more reliable, have lower operation and maintenance costs (these costs are anticipated to decrease by 25% with the replacement), reduce impacts from bridge closures, and preserve critical access between Honeymoon Island and the Pinellas County mainland. The new structure will be designed with a 75-year service life. The replacement bridge will be designed with adequate capacity to provide long-term resiliency for extreme weather events. The proposed bridge replacement is expected to retain some value beyond the 2060 time horizon, based on its 75-year useful lifespan, for which the project residual value was computed. **The monetized state of good repair benefits, based on the combined operations and maintenance cost savings and residual value, are projected to total $17.0 million (in 2022 dollars) in discounted terms.**

Criterion #2: Safety and Mobility

The proposed replacement bridge will meet 2024 FDOT design standards (adopted by Pinellas County). As the designated state and county evacuation route that provides the only connection to the Pinellas County mainland from Honeymoon Island, the proposed replacement bridge will enhance safety and mobility of both vehicular and boat traffic.

The Dunedin Causeway Main Bridge does not currently meet the USCG vertical navigation clearance guidelines established for the GIWW. In addition, the facilities provided on the bridge do not meet current design standards. The existing typical section of the bridge consists of one 11-foot-wide travel lane with a 2-foot-wide outside shoulder in each direction, a 3.5-foot-wide sidewalk on the north side, and a 6-foot-wide sidewalk on the south side that functions as a multi-use trail (specifically, a spur of the countywide Fred Marquis Pinellas Trail). Dedicated bicycle lanes are not provided. Lighting on the bridge is limited to the control house and drawbridge signals. The curb mounted traffic railings located on each side of the bridge as well as the approach guardrails, guardrail end treatments, and transitions do not meet current engineering standards for roadside safety in terms of both geometry and impact resistance. **The bridge and its substandard facilities affect efficiency and access as well as safety conditions for all travel modes crossing over or under the bridge – pedestrians, cyclists, vehicles/emergency services, and vessels.**

Due to the narrow sidewalk and trail widths and lack of dedicated bicycle lanes across the bridge, pedestrians and cyclists are forced to intermingle. Cyclists must dismount if they use the sidewalk or trail because the facilities are too narrow and collisions with pedestrians (including injuries) often occur. Accordingly, Pinellas County recently posted a sign prohibiting cyclists on the multi-use trail. The existing shoulders on the bridge are also too narrow to accommodate cyclists. As a result, many cyclists opt to ride in vehicular traffic. This situation consequently increases their vulnerability in potentially sustaining injuries due to possible collisions with vehicles. **The addition of 8-foot-wide shoulders (which may be used as undesignated bicycle lanes), a barrier-separated 5-foot-wide sidewalk on the north side, and a barrier-separated 15-foot-wide multi-use trail on the south side proposed as part of the project are intended to enhance mobility and safety for non-motorized traffic, including pedestrians and cyclists, by better dispersing, separating, and protecting the various modes.**

The narrow shoulders also prevent incapacitated vehicles from moving out of oncoming traffic, consequently obstructing traffic flow. This circumstance increases the vulnerability of the disabled vehicle occupant(s) in sustaining injuries while waiting for assistance due to possible collisions with free-flowing vehicles. The limited shoulders on the bridge additionally restrict the ability of motorists to avoid hazards within each directional travel lane without veering from the lane and causing direct impacts. The five-year (2019-2023) crash analysis revealed that there were 32 crashes within the project limits, of which 15 were Property Damage Only (PDO), and the others resulted in 26 injuries.[2]

Furthermore, in periods of congestion, the narrow shoulders hinder the passage of emergency service vehicles when responding to an emergency event/accessing a crash site. It is important to note that Dunedin Causeway is a designated FDEM and Pinellas County evacuation route as the sole roadway connecting the mainland of Pinellas County and the barrier islands located to the west (including Ward Island and Honeymoon Island). As part of the Dunedin Causeway, the Main Bridge is a critical facility in evacuating the 800 residents of Honeymoon Island as well as the visitors and resident staff of Honeymoon Island State Park. During peak hours and/or peak seasons (such as spring break), vehicle queuing can occur on the Dunedin Causeway from Honeymoon Island to US 19A as vehicles attempt to access the recreational assets located on Honeymoon Island and along the causeway itself. Given that the Dunedin Causeway is the only facility providing access between Honeymoon Island and the mainland of Pinellas County, emergency responders are forced in the same traffic congestion as the general travelling public.

The replacement bridge design incorporates a variety of features that may mitigate flaws and improve safety conditions as well as enhance mobility options across the bridge for the surrounding communities. As shown in **Figure 4**, these features include:

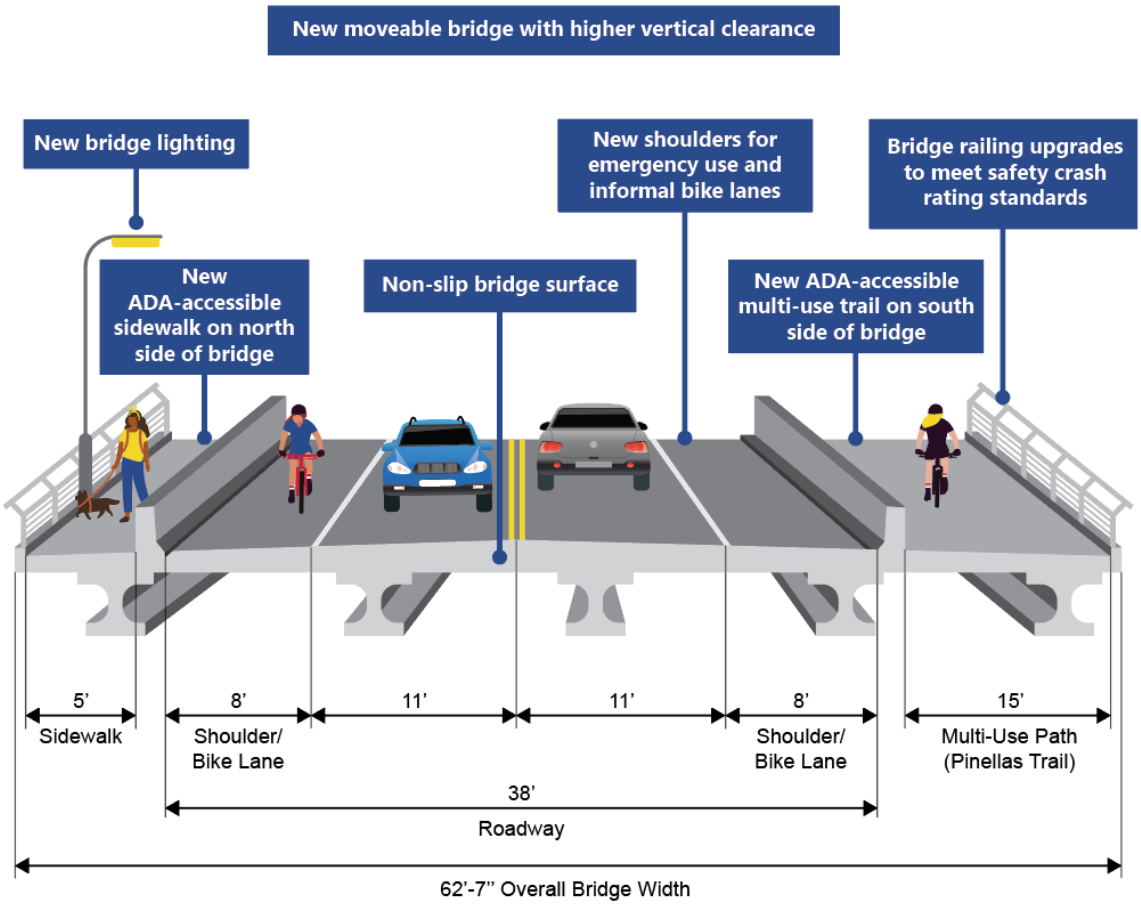
- **Wider shoulders.** New 8-foot-wide shoulders are intended to accommodate disabled vehicles and maintenance vehicles, allow emergency service vehicles to pass and respond during emergency situations, and serve as undesignated bicycle lanes for cyclists.
- **Enhanced multimodal facilities and ADA accommodations.** The proposed bridge includes a barrier-separated 5-foot-wide sidewalk on the north side and a barrier-separated 15-foot-wide multi-use trail on the south side, providing dedicated space for non-motorized traffic.

[2] Signal Four Analytics, August 2024.

- **Increased vertical clearance.** Increasing the vertical clearance of the bridge from 20 feet to 35 feet allows for more vessels to navigate the bridge in the closed position, reducing the number of bridge openings and queuing of both vehicles and vessels.
- **Bridge railing and roadway guardrail upgrades.** Standard crash rated safety bridge railings and roadway guardrails will be installed to improve crash survivability and safety for any vehicle lane departures.
- **Lighting.** New sea turtle-friendly bridge and roadway lighting will be installed to provide illumination of the facility itself, shoulders, sidewalk, and multi-use trail, thereby improving safety and security for travelers on the bridge and approaches.
- **Non-slip bridge surface.** The deck of the replacement bridge includes a solid concrete riding surface, which replaces the existing open-steel grating that is undesirable for cyclists and can be slippery in wet weather conditions.

The improved design elements of the new bridge are expected to result in crash savings totaling $7.8 million (2022 dollars) in discounted terms.

Figure 4. Replacement Bridge Design Enhancements



As part of the project PD&E Study, a vessel height survey was performed for the bridge over a nine-month period. The survey revealed that only 4.5% of vessels using the channel could pass under the existing bridge that has 20 feet of vertical clearance in the closed position. During that survey, it was estimated that 49% of vessels that used the channel would be able to pass under aa mid-level bridge that has 35 feet of vertical clearance in the closed position. **With the higher vertical clearance that is proposed, the replacement bridge will enhance the efficiency of vessel traffic and result in fewer bridge openings.**

The total safety and mobility benefits of the new bridge through 2060, based on the combined crash savings and travel time savings from reduced bridge openings, are forecasted to amount to $18.2 million (2022 dollars) in discounted terms.

Criterion #3: Economic Competitiveness and Opportunity

Upon completion, the replacement bridge will contribute to the economic vitality of the local and regional economies by maintaining access across the bridge for a range of users. The increase in vertical clearance from 20 to 35 feet provided by the replacement bridge's elevated design is anticipated to reduce the number of required openings by 49%, thereby improving travel time reliability and access to surrounding area jobs and essential services. The enhanced multimodal facilities improve access for residents on the barrier islands to jobs, essential services, and recreational facilities. In addition, the new bridge is anticipated to enhance connections to the area transportation network for vehicles, pedestrians, and cyclists, better positioning amenities and services of the area to realize their full potential. The proposed project is anticipated to generate several economic related benefits, described below.

<u>Growing local/regional tourism.</u> The replacement bridge will continue to contribute to the growing local tourism-based economy of Pinellas County. The bridge links the mainland of Pinellas County with Honeymoon Island, which contains the 385-acre Honeymoon Island State Park, and offers access to the heavily used public beaches, water sports, park, and multi-use trail along the Dunedin Causeway itself. The Honeymoon Island State Park is visited by 1.5 million guests annually, supporting approximately 2,590 jobs and contributing $185 million in total direct economic impact. Statewide, Florida state parks contribute about $3.6 billion in direct economic impact to local communities annually, generating approximately 50,400 jobs while welcoming more than 28.7 million visitors.[3] Continued access for residents and millions of tourists (both local and non-local) to the noted amenities, jobs, and essential services of the area is contingent upon the replacement of the Main Bridge. The Main Bridge (along with the West Tide Relief Bridge, the smaller 145-foot structure [NBI Identification Number 154005] on the causeway) service gaps that are otherwise unfilled as they provide the sole connection between the barrier islands and the mainland of Pinellas County.

[3] Florida Department of Environmental Protection. (2023). *Economic Impact Assessment Report Florida State Park System*.

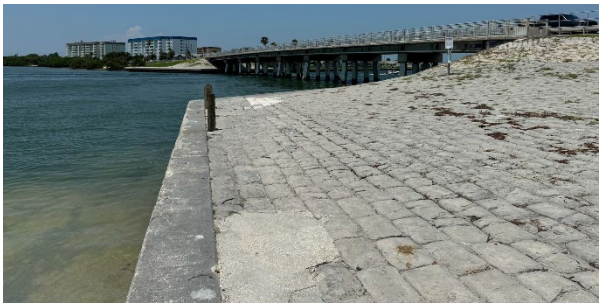
Job creation and regional impact. Injection of capital infrastructure spending into the area economy, such as that related to the proposed bridge replacement project, is expected to lead to direct construction and related professional services jobs, supporting indirect jobs (such as suppliers of materials and equipment), and induced jobs and earnings associated with the larger regional economy and beyond. The project is also expected to further attract businesses and related jobs.

Land use. The replacement Main Bridge will improve access to the surrounding land uses by creating better multimodal access for residents, visitors, recreational users, business owners, boaters, and others who are trying to connect to the residential, commercial, and recreational uses along the causeway. The improved bridge vertical clearance and the enhanced connections to the area transportation network for vehicles, pedestrians, and cyclists (particularly through the provision of upgraded, wider shoulders and multimodal facilities) improve access for residents on the barrier islands to jobs, essential services, and recreational facilities, better positioning these amenities and services of the area to realize their full potential.

Criterion #4: Climate Change, Sustainability, Resiliency, and the Environment

The replacement bridge will improve resiliency by reducing damage from high waves during significant storms and vessel impacts, and help mitigate impacts created by closures to residents and visitors to Honeymoon Island.

Improve resiliency of at-risk infrastructure. The replacement bridge structure will be strengthened against the weathering effects and stresses of storm events that could increase in frequency and intensity in the future. Storm surge and wave action (including wave crest elevation or height and force) associated with a storm event may affect the reliability of the bridge for evacuation. Based on a 2015 hydraulic modeling report prepared for the Dunedin Causeway bridges, the 100-year storm surge elevation at the bridge is anticipated to be approximately 9 feet. Large waves are also predicted to impact the bridge during the 100-year storm event given its exposure to the Gulf of Mexico; waves could reach a maximum crest elevation of 17 feet. As such, structural components of the existing bridge are susceptible to wave damage. The replacement bridge will be designed to survive a 100-year storm event and resist wave forces at the Extreme Event Limit State with a performance level of "Repairable Damage." This means that the bridge would be designed to survive a 100-year storm event but could experience some damage that would require minimal repair before the bridge is returned to service.



Incorporate living shorelines. The bridge replacement project provides opportunities to incorporate resilient shorelines, innovative stormwater technologies, and active recreation enhancements, creating ancillary community assets. Natural features in the area can be enhanced to provide ecosystem services, such as improved water quality, with the shoreline and stormwater design. These features can also be designed to add resilient coastal habitat for native, intertidal, and salt-tolerant plant species, as well as serve as enhanced recreational spaces.

Environment. Honeymoon Island State Park is a refuge for several species of plants and animals, including south Florida slash pines, estuarine wetlands/mangroves, and numerous threatened and endangered species. Natural shoreline design features along the causeway included as part of the replacement bridge project can support fisheries and provide foraging habitat for birds, while also improving recreational access for boaters, kayakers, and others who use the causeway beaches.

Criterion #5: Equity and Quality of Life

Extensive community engagement has been conducted for this project since the initiation of the PD&E Study in 2014. As documented in **Appendices A.1 and A.2**, the engagement activities offered opportunities for all affected communities, including nearby Historically Disadvantaged Communities (HDCs), to provide input on the project and be involved in the decision-making process. Specific engagement activities that were performed are summarized below:

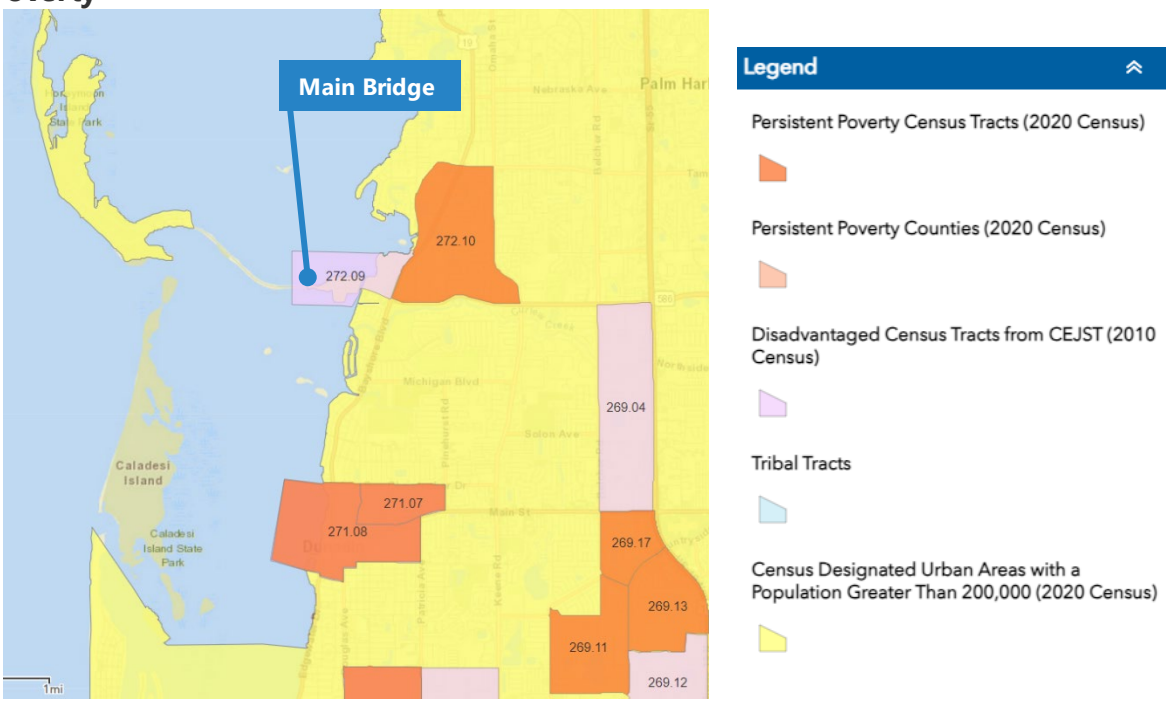
- A comprehensive mailing list and project-specific web page hosted on the Pinellas County website were developed to inform property owners, local government staff and officials, agency representatives, special interest groups, stakeholders, and other interested parties about project activities. Opportunities for input were provided throughout the study.
- Three large-scale public meetings were hosted by Pinellas County, in coordination with FDOT: the Kick-Off Open House (March 31, 2015), the Alternatives Public Workshop (March 29, 2016), and the Public Hearing (March 11, 2020). Public comments were considered during the development of project alternatives.
- Numerous meetings and presentations were given to local governments and community organizations, including the Pinellas County Board of County Commissioners, the City of Dunedin Commission, and the Pinellas County Metropolitan Planning Organization (now Forward Pinellas). Additionally, a Dunedin Causeway Bridge Ad Hoc Advisory Committee, consisting of six staff members and seven public representatives, was established for the project by the City of Dunedin on June 19, 2014.

The proposed replacement bridge will benefit surrounding communities, including nearby transportation disadvantaged populations, by providing enhanced mobility options through the

addition of non-vehicular transportation infrastructure and improving emergency response times/preserving a critical evacuation route with the inclusion of wider shoulders. These improvements are anticipated to increase overall corridor reliability.

Historically Disadvantaged Communities (HDC). As shown in **Figure 5**, a portion of the Dunedin Causeway, including the Main Bridge, is located within a disadvantaged Census Tract (12103027209 or 272.09) as identified through the Federal Council on Environmental Quality Climate and Economic Justice Screening Tool (CEJST). This tract is considered disadvantaged because it meets more than one burden threshold and the associated socioeconomic threshold. Indicators contributing to this determination pertain to the presence of low median income/poverty level and education level populations in the area and disparities and/or exposure related to factors of climate change, water and wastewater, public health, and housing. A second Census Tract (12103027210 or 272.10), located immediately east to the one identified above, is designated as an Area of Persistent Poverty by the United States Census Bureau. This designation indicates that the area has maintained a poverty rate of 20% or more for the past 30 years (1990-2019). With the inclusion of multimodal infrastructure, the bridge replacement is anticipated to benefit these communities by preserving access and enhancing mobility options to the public waterfront/recreational areas served by the bridge. The project will also preserve and enhance access to Honeymoon Island, which can only be reached by the Dunedin Causeway or by boat.

Figure 5. Historically Disadvantaged Communities and Urbanized Areas: Areas of Persistent Poverty[4]

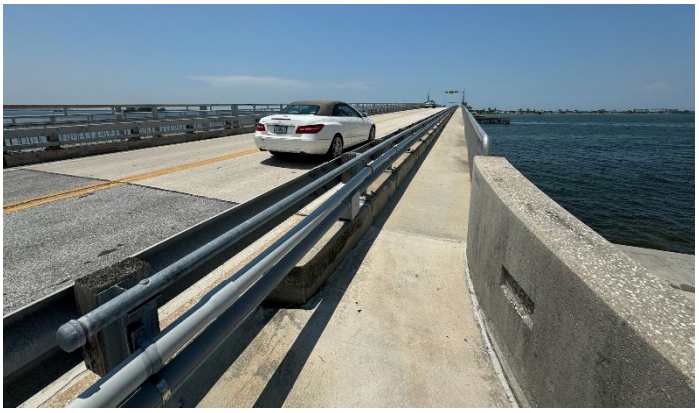


[4] DOT Grant Project Location Verification Map Viewer, https://maps.dot.gov/BTS/GrantProjectLocationVerification/

Addition of non-vehicular facilities. Feedback received from the community during the planning phase included concerns about the existing substandard multimodal facilities on the bridge and the need to provide improved, safer facilities for non-vehicular active transportation modes across the bridge.

The existing typical section of the bridge consists of one 11-foot-wide travel lane with a 2-foot-wide outside shoulder in each direction, a 3.5-foot-wide sidewalk on the north side, and a 6-foot-wide sidewalk on the south side that functions as a multi-use trail (specifically, a spur of the countywide Fred Marquis Pinellas Trail). Dedicated bicycle lanes are not provided. Lighting on the bridge is limited to the control house and drawbridge signals. The curb mounted traffic railings located on each side of the bridge as well as the approach guardrails, guardrail end treatments, and transitions do not meet current engineering standards for roadside safety in terms of both geometry and impact resistance. Due to the narrow sidewalk and trail widths and lack of dedicated bicycle lanes across the bridge, pedestrians and cyclists are forced to intermingle. Cyclists must dismount if they use the sidewalk (as they are prohibited on the trail to date) or ride with vehicular traffic since the shoulders are not wide enough for their use, consequently increasing their vulnerability.

Transportation infrastructure that accommodates active travel modes is proposed as part of the project, including 8-foot-wide shoulders (that may be used as undesignated bicycle lanes), a barrier-separated 5-foot-wide sidewalk on the north side, and a barrier-separated 15-foot-wide multi-use trail (to continue to serve as a spur of the Fred Marquis Pinellas Trail) on the south side.



These facilities are intended to boost quality of life for surrounding residents (including nearby disadvantaged communities) by providing a dedicated space for pedestrians and cyclists, thereby enhancing the appeal and physical use of the bridge/corridor. The bridge also provides access to other recreational assets/destinations in the area [e.g., Honeymoon Island State Park, beaches and water sports along the Dunedin Causeway, the Fred Marquis Pinellas Trail, etc.] that create latent demand for pedestrian and bicycle activity. Given that populations of disadvantaged communities have a higher propensity to walk or bike to access essential services or other accommodations, these communities are expected to directly benefit from the project. **The projected benefits of the improved active transportation accommodations with the new bridge amount to $3.3 million (2022 dollars) in discounted terms.**

Improved emergency response. The narrow shoulders on the bridge limit emergency service vehicle access. The City of Dunedin Fire Rescue Department has six stations within approximately seven miles of Honeymoon Island; as such, all emergency service vehicle types (e.g., fire trucks, ambulances, etc.) must be able to be accommodated and cross the bridge to respond to emergency calls. The need for any of these stations to respond quickly is critical when seconds matter in life-saving situations. The City of Dunedin Fire Rescue Department was dispatched almost 400 times between January 2022 and June 2024 to areas along the Dunedin Causeway west of the Main Bridge; of the close to 400 incidents, 32 involved cardiac related events.[5] The average response time for the cardiac arrest-related calls was 8.5 minutes.

It is also important to note that Dunedin Causeway is a designated FDEM and Pinellas County evacuation route as the sole roadway connecting the mainland of Pinellas County and the barrier islands located to the west (including Ward Island and Honeymoon Island). As part of the Dunedin Causeway, the Main Bridge is a critical facility for evacuation of the 800 residents of Honeymoon Island as well as the visitors and resident staff of Honeymoon Island State Park. During peak hours and/or peak seasons (such as spring break), vehicle queuing can occur on the Dunedin Causeway from Honeymoon Island to US 19A as vehicles attempt to access the recreational assets located on Honeymoon Island and along the causeway itself. Given that the Dunedin Causeway is the only facility providing access between Honeymoon Island and the mainland of Pinellas County, emergency responders are forced in the same traffic congestion as the general travelling public. The wider shoulders, to be included with the new bridge, are intended to accommodate emergency vehicles, reducing travel and response times. **The emergency response improvements are forecasted to total about $60.4 million (2022 dollars) in discounted benefit terms.**

Avoided Displacement/Buyout Costs. This section provides an estimate of the avoided costs of displacement and buyout of the residential units located in Honeymoon Island, which would be potentially incurred in the No-Build case. The year 2024 total market value for the 484 condominium units on Honeymoon Island is estimated to total $135.4 million in 2022 dollars (or $140.8 million) in undiscounted terms. Under the assumption that the costs associated with avoidance of the buyout would be incurred in 2060, **the avoided costs are projected at $54.2 million in discounted terms.**

The total monetized quality of life and equity benefits; based on the combined non-vehicular health and amenity benefits, the improved emergency response times for out-of-

[5] Source: Pinellas County Emergency Response Times Analysis, September 2024.

hospital cardiac arrest cases, and the avoided displacement/buyout costs; are projected to amount to $117.9 million (2022 dollars) in discounted terms.

Criterion #6: Innovation

The proposed replacement bridge offers multiple innovative design technology improvements, including sustainable elements, to create a consistent, long-term service life. These innovative improvements include:

Living shorelines. The new bridge will incorporate bio-engineered solutions, such as living shoreline features, to boost structural resiliency, especially as the bridge exists in a coastal area. The natural mimicking features of a living shoreline can offer better and longer-lasting protection to infrastructure and interior areas than traditional hardened structures.

Composite reinforcing bars. The replacement bridge will use composite reinforcing bars on the susceptible concrete elements to extend the life of the bridge. While the initial cost of composite reinforcing bars is higher than mild steel, the reduced maintenance cost and extended life span justify the additional cost. In addition to the wind and wave forces that the Main Bridge is subjected to during extreme weather events, the coastal location subjects the bridge to an aggressive saltwater environment. This environment is particularly corrosive for the reinforced concrete portions of the bridge because the embedded mild reinforcing steel corrodes and causes cracking in the concrete. The composite reinforcing bars are intended to reduce the amount of steel needed in the structure, as the bars are rust resistant and non-corrosive, making them ideal for uses in marine environments.

Reliability and redundancy in operating machinery. Mechanical equipment supporting the bascule bridge may include redundant elements so backup systems reduce bridge closures/maintenance. A double-leaf bascule bridge is inherently redundant as it allows one of the two leaves to remain in the lowered position to perform maintenance and repairs while the other leaf remains operable, with half of the channel available for navigation traffic. In addition, the operating machinery for the bridge may be designed for redundant operation with twin independent drive trains, each with the capability to operate the bridge by itself, while the other is temporarily removed from service for repair or replacement. The electrical power and control systems may be designed with back-up systems so that failure of a component does not render the bridge inoperable. This includes stand-by generator(s), bypass switches and redundant limit switches. For those components with long lead time to acquire replacement parts, spare parts may be procured in advance and stored on-site or at the County's maintenance facility for rapid deployment. Equipment may also be designed with heightened durability for a lower probability of premature failure and a prolonged service life.

Innovative financing. On November 7, 2017, voters renewed the one cent sales tax that funds long-term capital infrastructure projects that support the local community. Dubbed "Penny for Pinellas," this sales tax was first approved by Pinellas County voters in 1989. This tax remains popular as nearly 83% of voters countywide supported its renewal. This tax is collected by the county and is shared with the 24 municipalities within the county. This innovative infrastructure funding source combines with sales tax revenue to fund much of the County's Capital Improvement Program.

V. Benefit-Cost Analysis Summary

This section summarizes the findings of the Benefit-Cost Analysis (BCA) performed for the Dunedin Causeway Main Bridge Replacement project in accordance with the latest USDOT Guidance for Discretionary Grant Programs[6] and using the BIP BCA Tool.

Table 4 below presents the project's BCA findings. **All monetary values are expressed in 2022 constant dollars**. The period from 2014 to 2060 (47 years overall) was used to estimate benefits and costs related to the two Bridge Replacement scenarios (With [Build] and Without [No-Build]). This evaluation timeframe includes the initial capital deployment (2014 through 2030), and 30 full years of operations (2031 through 2060) during which benefits will accrue.

As shown in **Table 4**, with a 3.1 percent real discount rate, the total monetized benefits of the proposed Main Bridge Replacement project are forecasted at $153.1 million (in present discounted value terms) while the total discounted costs of the project are forecasted at $80.7 million. This results in a **Benefit-Cost Ratio of about 1.9** and a **net present value (NPV) of about $72.4 million**.

Among the project benefits, other benefits (consisting of combined property buyout, improved emergency response times, and reduced bridge openings at $125 million, in present value terms over 30 years) are projected to be the largest category, followed by residual value ($16.1 million), safety ($7.8 million), facility amenity benefits ($3.3 million), and maintenance benefits ($0.9 million).

Overall, these results indicate that this project looks strong from an economic feasibility standpoint as the projected benefits outweigh the projected costs by about 1.9 to 1, yielding about $72.4 million in discounted net benefits.

[6] USDOT, Benefit-Cost Analysis Guidance for Discretionary Grant Programs, December 2023.

Details pertaining to the methodology, assumptions, and additional results presentation related to the BCA of this project are presented in the BCA Narrative (see **Appendix D**). **Appendix A.4** provides information pertaining to the Federal Emergency Management Agency BCAR.

Table 4. Benefit-Cost Analysis Results (in millions of 2022$)

Benefit and Cost Metrics	2014-2060 Totals* Discounted at 3.1%[7]
Project Benefits	
Safety	$7.8
Health and Amenity	$3.3
Maintenance	$0.9
Residual Value	$16.1
Other Benefits	$125.0
Total Discounted Benefits	**$153.1**
Total Discounted Costs	**$80.7**
Key Metrics	
Benefit-Cost Ratio	**1.9**
Net Present Value (NPV)	**$72.4**

* Unless specified otherwise, the numbers are rounded.

VI. Project Readiness & Environmental Risk

Technical Feasibility & Technical Competency

Pinellas County is the owner of the Dunedin Causeway Main Bridge and will serve as the direct recipient of funds for the proposed bridge replacement project. The County's leadership has a proven track record of delivering major studies and projects, including roadway, bridge, and stormwater improvements. Some specific examples include the following:

Studies:

- Beckett Bridge Project Development & Environment Study
- Dunedin Causeway Bridge Project Development & Environment Study
- 126th Avenue Project Development & Environment Study
- San Martin Boulevard Bridge Project Development & Environment Study

Construction Projects:

- Belleair Causeway Bridge Replacement ($72.6M)
- Bryan Dairy Road Widening ($10.6M)
- Keystone Road Widening ($31.6M)
- Fort DeSoto Bay Pier Replacement ($4.46M)
- Old Coachman Road Bridge Replacement ($6.87M)

[7] This discount rate is in accordance with the US DOT BCA Guidance, December 2023.

The Preliminary Engineering Report prepared as part of the PD&E Study provided a cost estimate for the project of $77,221,000 (2020 dollars) (see **Appendix A.3**). The final estimate for bridge construction, inspections, and post-design services was increased to $98,860,000 (2028 dollars) based on an approximate 28% cumulative escalation factor and a later date for construction completion.

The project design phase is anticipated to begin in 2025 and end in 2027. The County anticipates advertising the construction phase for project in Fall 2027. The construction phase is anticipated to begin in early 2028 and will take approximately 36 months.

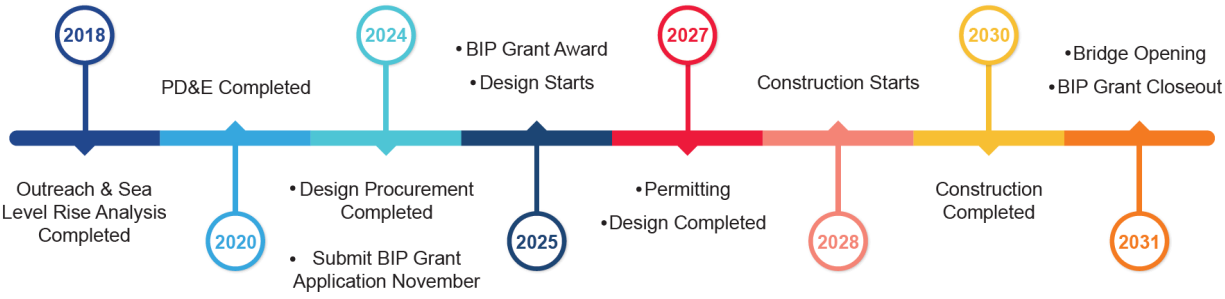
Pinellas County will successfully deliver the project in compliance with all applicable federal, state, and local requirements.

Project Schedule

Pinellas County understands how to deliver this project on budget and on time, meeting the requirements of the grant and the expectations of the community. All pre-construction planning has been completed. The design phase, including environmental permitting and associated approvals, will begin in 2025. The County anticipates advertising the construction phase for the project in Fall 2027. The construction phase is anticipated to begin in early 2028 and will take approximately 36 months (see **Appendix C**).

Figure 6 outlines the schedule milestones of the Dunedin Main Bridge Replacement project. All pre-construction activities will be completed to allow grant funds to be obligated sufficiently in advance of the statutory deadline (September 2028) for FY 2025 BIP funds.

Figure 6. Project Schedule & Approvals



Required Approvals

Environmental Permits & Reviews

A PD&E Study was conducted between 2014 and 2020. The study resulted in a Type 2 Categorical Exclusion, prepared in accordance with the National Environmental Policy Act (NEPA) and

approved by FDOT Office of Environmental Management on August 24, 2020.[8] No right-of-way is needed as the new bridge will be constructed approximately along the same alignment.

The Dunedin Causeway Main Bridge Project's environmental risk is low. A summary of technical findings from the Type 2 Categorical Exclusion is provided below:

- The proposed improvements are anticipated to enhance access to tourist attractions between coastal communities and the mainland of Pinellas County, as well as improve pedestrian/bicycle safety and mobility through the provision of sidewalks and bicycle lanes. In addition, the project will enhance mobility and reduce delay to and from Honeymoon Island since the higher clearance of the replacement bridge will result in fewer openings per day. Access to the causeway's recreational areas will be maintained to the extent feasible during construction to minimize disruption to the enjoyment of these activities by the surrounding community. Further, the Main Bridge crosses the GIWW, which is a navigable waterway that supports interstate commerce and is listed as part of Florida's Strategic Intermodal System (SIS).
- The project will not have significant impacts to cultural resources.
- The project may, but is not likely to adversely affect, federally listed or state listed species.
- The project will temporarily occupy approximately 0.92 acre of the County-owned beach area of the Dunedin Causeway due to the need for a temporary movable bridge and temporary road during construction.
- A commitment to prohibit staging of equipment and/or vehicles in the City of Dunedin-owned beach area during construction is included in the environmental document. Based on these considerations, there will be no Section 4(f) use of this resource.

The approved Type 2 Categorical Exclusion may be found in **Appendix A.2**, which includes the list of the project commitments.

It is anticipated that the permits listed in **Table 5** will be required.

Table 5. Project Permits

Federal Permit Name	Federal Agency	Permit Status
Section 10 Permit or Section 404 Permit	United States Army Corps of Engineers	To be acquired.
Bridge Permit	United States Coast Guard	To be acquired.
State Permit Name	**State Agency**	**Permit Status**
National Pollutant Discharge Elimination System Permit	Florida Department of Environmental Protection	To be acquired.
Environmental Resource Permit	Southwest Florida Water Management District	To be acquired.

[8] **Appendix A.2:** Dunedin Causeway Bridges PD&E Study: Type 2 Categorical Exclusion (August 24, 2020)

State & Local Approvals

The Dunedin Causeway Bridge Replacement project has high levels of local and regional support. The community expressed support for the project during the planning phase. Forward Pinellas has provided letters of support for BIP grant funding (see **Appendix F**). No other approvals from Tribal governments, state agencies, or additional local agencies are required prior to the design phase to advance the project.

The Dunedin Causeway Main Bridge Replacement project is included in the Forward Pinellas Transportation Improvement Program FYs 2024/25-2028/29 (adopted June 10, 2024) by reference to the Pinellas County Capital Improvement Program FY 2025. It should be noted that the Pinellas County Capital Improvement Program FY 2025 includes a total of $118.7 million for this project and the accompanying West Tide Relief Bridge Replacement project (see **Appendix B**).

Federal Transportation Requirements Affecting State and Local Planning

Forward Pinellas is the land use and transportation planning agency for Pinellas County and is responsible for developing the Long Range Transportation Plan (LRTP) for Pinellas County, referred to as Advantage Pinellas. The replacement of the Dunedin Causeway Main Bridge is identified in the 2045 LRTP or Advantage Pinellas, adopted November 13, 2019 (see **Appendix B**).

Assessment of Project Risks and Mitigation Strategies

Pinellas County recognizes that all projects come with potential risks. Due to ongoing supply issues, the County understands that project costs may increase, and that additional funding may be needed to complete the project. During the contracting period, Pinellas County is committed to increasing its funding using local tax revenues to cover any shortfalls that may emerge during contract negotiations or construction.

VII. Administration Priorities & Departmental Strategic Plan Goals

The Dunedin Main Bridge Replacement project addresses the administration priorities and Departmental Strategic Plan Goals as follows:

- **Safety.** As demonstrated in Criterion #2, replacement will provide increased safety for travelers crossing the bridge by replacing the narrow, deficient structure with 8-foot-wide shoulders, a 5-foot-wide sidewalk on the north side and 15-foot-wide multi-use path on the south side of the bridge, roadway and bridge lighting, Americans with Disabilities Act (ADA) accommodations, safety bridge barriers/railings, and a non-slip movable bridge surface.

- **Climate Change & Sustainability.** Detailed in Criterion #4, the bridge resiliency will be strengthened against the weathering effects and stresses of storm events of increased frequency and intensity and other probable future extreme weather events.
- **Equity.** Public outreach was a critical component of the planning phase, as shown in Criterion #5. The proposed improvements incorporate non-vehicular transportation and are intended to increase corridor reliability. Furthermore, the addition of a sidewalk, multi-use path and wider shoulders will improve access and conditions on the bridge that will boost quality of life for nearby communities. The increased vertical clearance will reduce the number of required openings by 50% and result in less vehicular and fewer boat traffic delays.
- **Workforce Development, Job Quality and Wealth Creation.** Pinellas County has instituted a Small Business Enterprise (SBE) participation requirement policy to maximize opportunities for qualifying firms to participate in County contracts, including construction contracts. An SBE is defined as a local business that is independently owned and which is not dominant in its field of operation. As part of the bridge contractor procurement, the County will ensure that the selected contractor will include SBE qualified firm participation to support the County's annual hiring goal.

The following attachment is not included in the view since it is not a read-only PDF file.

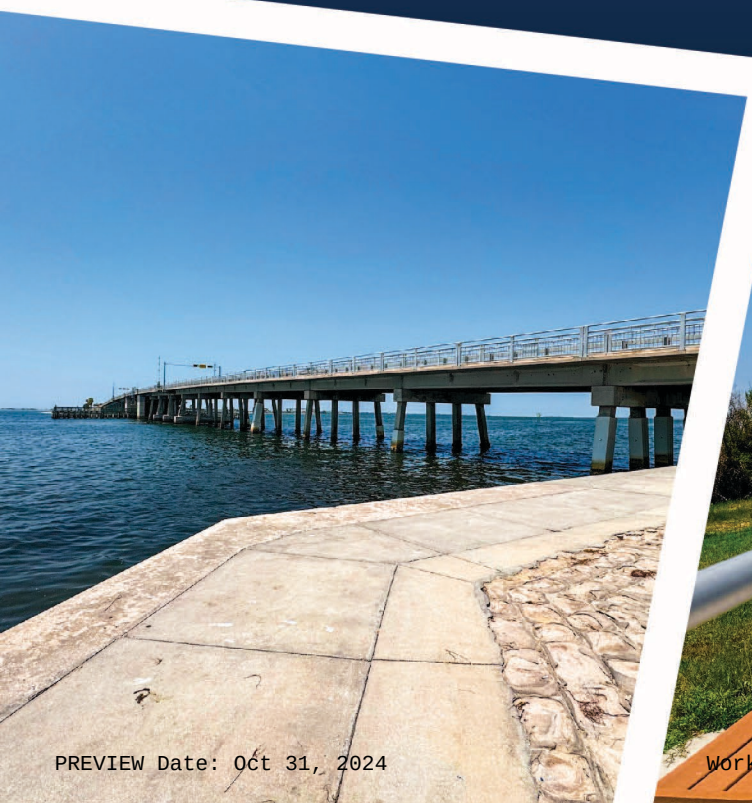
Upon submission, this file will be transmitted to the Grantor without any data loss.

AppendixA_Technical_Documents.pdf

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix B: Funding Documentation



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

Pinellas County Capital Improvement Program FY2025

Dunedin Causeway Bridge Project

Project Category/Function: Transportation

Fund Type: GOVERNMENTAL FUND

Project Number:000423A

Project Status/Phase: Active

Project Description: Design and construction of the Dunedin Causeway Bascule Bridge and Tide Relief Bridge, and associated roadway design for Causeway Boulevard

Revisions from Previous Year: The project has been advertised for design and negotiations with the consultant are underway.

Location: Dunedin

Program

	FY24 Estimate	FY25	FY26	FY27	FY28	FY29	FY30
3031-Bridges-Repair and Improvement	**$1,478,000**	**$3,547,000**	**$3,547,000**	**$2,217,000**	**$30,000,000**	**$46,000,000**	**$36,000,000**
Construction	*$0*	*$0*	*$0*	*$0*	*$30,000,000*	*$46,000,000*	*$36,000,000*
Design	*$1,478,000*	*$3,547,000*	*$3,547,000*	*$2,217,000*	*$0*	*$0*	*$0*
Grand Total	**$1,478,000**	**$3,547,000**	**$3,547,000**	**$2,217,000**	**$30,000,000**	**$46,000,000**	**$36,000,000**

Funding Source

	FY24 Estimate	FY25	FY26	FY27	FY28	FY29	FY30
Penny for Pinellas	$1,478,000	$3,547,000	$3,547,000	$2,217,000	$10,000,000	$21,000,000	$11,000,000
To Be Determined	$0	$0	$0	$0	$20,000,000	$25,000,000	$25,000,000
Grand Total	**$1,478,000**	**$3,547,000**	**$3,547,000**	**$2,217,000**	**$30,000,000**	**$46,000,000**	**$36,000,000**

2017 Penny List of Projects and Statuses as of May 21st, 2024

Penny Category	Status	Request ID or Project #	Project Name	Original 2017 Project Name	CIP PHASE from PA	Construction Start
Water Quality, Flood and Sewer Spill Prevention	**Completed**	000164A	Lealman Area Drainage Improvements	Lealman Area	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	000700A	Westwinds Drive Bridge Replacement over Westwind Canal	Westwinds Drive and Crosswinds Drive bridges	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	002686A	Sidewalk Hercules Avenue Phase II from Sherwood Street to Sunset Point Road	Hercules Avenue from Sunset Point to Sherwood Street	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	002702A	67th Street N. Roadway Improvements from 48th Ave. N. to 50th Avenue N and 67th Street N. from 54th Avenue N. to south Dead End	Paving of unpaved roads (MSTU Program)	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	002932A	Crystal Beach Paving & Drainage Improvements	Paving of unpaved roads (MSTU Program)	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	003885A	Virginia Ave. Sidewalk Improvements from CR 1 to N. Hercules Ave.	Virginia Avenue from Keene Road to Hercules Avenue	**Completed**	**Complete**
Water Quality, Flood and Sewer Spill Prevention	**Completed**	002931A (sub of 000969A)	Wexford Leas Boulevard Drainage Improvements	Wexford Leas Roadway	**Completed**	**Complete**
Water Quality, Flood and Sewer Spill Prevention	**Completed**	003130A	Roosevelt Creek Stormwater Facility Improvements	Roosevelt Creek Pond Improvements	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	003315B (sub of 004144A)	Belleair Road ADA & Sidewalk Upgrade from S Ft Harrison Avenue to US Hwy 19	Belleair Road from Fort Harrison to Lake Avenue	**Completed**	**Complete**
Community Vitality	**Completed**	003505A	Windsor School Property Acquisition and Improvements	Lealman Community Recreational Center	**Completed**	**Complete**
Water Quality, Flood and Sewer Spill Prevention	**Completed**	N/A	N/A	Drainage improvements along 62nd Street North and side streets	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	000958A	49th St N @ 38th Ave N and 30th Ave N, 58th St N @ 38th Ave N ADA Ramps Upgrade, Sidewalk, and Intersection Improvements	49th Street/58th Avenue N	**Completed**	**Complete**
Preserving Parks & Our Environment	**Completed**	002033A	Turner Bungalow	Turner Bungalow renovation	**Completed**	**Complete**
Safe, Secure Community	**Completed**	004186A	Lealman Fire Station 19	Fire and EMS facilities, vehicles, vessels and other equipment to support personnel and maintain fast emergency response standards throughout our dependent, independent and municipal agency partners.	**Completed**	**Complete**

Infrastructure supporting Economic Development (Countywide Investment)	**Completed**	004251A	Tampa Bay Innovation Center Incubator	Infrastructure supporting Economic Development (Countywide Investment)	**Completed**	**Complete**
Roads, Bridges & Trails	**Completed**	000702A	Crosswinds Drive Bridge Replacement over Crosswinds Canal	Westwinds Drive and Crosswinds Drive bridges	**Completed**	**Substantially complete**
Safe, Secure Community	**Completed**	003901A	Radio Equipment Shelter Replacement at multiple sites	Emergency Communication Radio Towers	**Completed**	**Substantially complete**
Safe, Secure Community	**Completed**	004968A	Public Safety Radio Compliance Mutual Aid	Emergency Communication Radio Towers	**Completed**	**Substantially complete**
Safe, Secure Community	**Completed**	004969A	Public Safety Radio Sustainment-Hospital Microwave	Emergency Communication Radio Towers	**Completed**	**Substantially complete**
Preserving Parks & Our Environment	**Fully Programmed**	000064A	Wall Springs Coastal Add III, IV Development	Create public access to north and central tracts of Wall Springs Park including trails, boardwalks, shelters, canoe/kayak launch, primitive camping, and interpretive signage.	**Planning**	**2026**
Roads, Bridges & Trails	**Fully Programmed**	000087A, 002508A	22nd Ave S - 51st St S to 34th St S Roadway Improvement / 22nd Av S Drain Imp-51st/55th	22nd Avenue S. from 58th Street to 34th Street	**000087A in Construction; 002508A complete**	**Under Construction**
Roads, Bridges & Trails	**Fully Programmed**	000097A	62nd Avenue N Roadway Improvement from 34th Street N to 49th Street N	62nd Avenue N. from 34th Street to 49th Street	**Preliminary Design**	**2028**
Preserving Parks & Our Environment	**Fully Programmed**	000341A	CW Park Utility Infrastructure	Replace aging utility infrastructure within parks and preserves to prevent sewer spills	**Recurring Program Project**	**NA**
Roads, Bridges & Trails	**Fully Programmed**	000423A	Dunedin Causeway Bridge Project	Dunedin Causeway Bridge	**Planning**	**2028**
Roads, Bridges & Trails	**Fully Programmed**	001035A	Oakwood Drive over Stephanie's Channel Bridge Replacement	Oakwood Drive Bridge	**Bidding**	**2024**
Roads, Bridges & Trails	**Fully Programmed**	001036A	San Martin Blvd. over Riviera Bay Bridge Replacement	San Martin Boulevard Bridge and Road	**Design**	**2026**
Roads, Bridges & Trails	**Fully Programmed**	001037A	Beckett Bridge Replacement	Beckett Bridge	**Design**	**2025**
Water Quality, Flood and Sewer Spill Prevention	**Fully Programmed**	001328A	Cross Bayou Estates Drainage Phase 1	Cross Bayou Estates	**Preliminary Design**	**2028**
Water Quality, Flood and Sewer Spill Prevention	**Fully Programmed**	001328B	Cross Bayou Estates Drainage Phase 2	Cross Bayou Estates	**Preliminary Design**	**2029**
Roads, Bridges & Trails	**Fully Programmed**	002063A	Starkey Road road reconstruction & widening from Flamevine to Bryan Dairy Road	Starkey Road from East Bay Drive to Flamevine	**Design**	**2025**
Roads, Bridges & Trails	**Fully Programmed**	002105A	Starkey Road roadway improvement from Bryan Dairy Road to Ulmerton Road	Starkey Road from East Bay Drive to Flamevine	**Planning**	**2029**
Roads, Bridges & Trails	**Fully Programmed**	004229A	Starkey Rd. Sidewalk from Ulmerton Rd to East Bay Drive	Starkey Road from East Bay Drive to Flamevine	**Construction**	**Under Construction**
Water Quality, Flood and Sewer Spill Prevention	**Fully Programmed**	002064A	Storm Sewer Pipeline Rehabilitation and CIPP	Stormwater/Sanitary Sewer System Projects - Reduce Sanitary Sewer Overflows	**Recurring Program Project**	**NA**

Transportation Improvement Program

Fiscal Years 2024/25-2028/29

FORWARD PINELLAS

Integrating Land Use & Transportation

Table 12- Summary Table of Bridges, Sidewalk, and Trail Projects in the 2023-2028 Pinellas County Capital Improvement Program

Project Number	Location	Project Description	Status
4116A **Map 3: Bike Lane and Trail Projects**	Joe's Creek Trail and Stormwater Management	Trail and Drainage Improvements	Design Underway, Construction 2026
5752A **Map 3: Bike Lane and Trail Projects**	Pinellas Trail Loop Phase 5 – San Martin Blvd – Macoma Dr to Gandy Blvd	Design a Trail, including determining the best location and connections to existing trails.	Design 2024
6030A **Map 2: Sidewalk Projects**	Highpoint: Russell Ave Connection	Sidewalk Improvement	Construction 2024
5749A **Map 1: Bridge Projects**	Ridgemoor Blvd Bridge	Bridge Replacement	Construction 2025
2232A **Map 2: Sidewalk Projects**	Indian Rocks Rd (Phase 2B) from Kent Dr to 8th Ave SW	Sidewalk and Drainage Improvements	Construction 2024
087A*	22nd Ave S from 58th St S to 34 St S	Sidewalk and Roadway Improvement	Construction Underway
2128A **Map 2: Sidewalk Projects**	42nd Avenue from 35th Street N to 46th Street N	Drainage and Sidewalk Improvements	Construction Underway
2927A*	46th Ave. N. from 49th St. N. to 55th St. N.	Sidewalk Improvements and include driveways and ADA ramps on both sides of the street.	Construction 2024
3883A **Map 3: Bike Lane and Trail Projects**	Pinellas Trail Loop (Duke Energy) South Gap from 126th Ave to Ulmerton	Shared Use Bike Path/Trail	Design Underway, Construction 2024
4539A **Map 2: Sidewalk Projects**	71st St N Sidewalk Improvement from 38th Ave. N. to 54th Ave. N.	Sidewalk Improvements	Design Underway, Construction 2025
702A **Map 1: Bridge Projects**	Crosswinds Dr Bridge over Crosswinds Canal	Bridge Replacement	Construction Underway
1034A **Map 1: Bridge Projects**	Old Coachman Rd over Alligator Creek	Bridge Replacement	Construction 2024
1035A **Map 1: Bridge Projects**	Oakwood Dr over Stephanie's Channel	Bridge Replacement	Construction Underway
1036A **Map 1: Bridge Projects**	San Martin Blvd over Riviera Bay	Bridge Replacement	Design Underway, Construction 2026

1037A **Map 1: Bridge Projects**	Beckett Bridge	Design and Construction of Bridge Replacement after project development and environment study is completed.	Construction 2024
423A **Map 1: Bridge Projects**	Dunedin Causeway Bridge Project	Bridge Construction	Design Underway, Construction 2026

Appendix D: Pinellas County FY2023/24-FY2027/28 Capital Improvement Program

Function: Transportation **Activity: Road & Street Facilities**

Project: 000423A **Dunedin Causeway Bridge Project**

Description: Design and construction of the Dunedin Causeway Bascule Bridge and Tide Relief Bridge, and associated roadway design for Causeway Boulevard

Start : 01-OCT-11 Finish : 30-SEP-28

Project Classifications:

2017 Penny List Project	This project was identified on the 2017 Penny Projects and Categories list published during the 2017 Penny IV Education Campaign
CIE Elements	Transportation/Transportation Systems
CIP Phase	Design
Location	Dunedin
Penny Program	Roads, Bridges & Trails

Budget		Current Year Estimate 2022	2023	2024	2025	2026	2027	2028	Total
Fund: 3001	Capital Projects	Center: 414100	CIP-Transportation	Program: 3031	Bridges-Repair & Improvement				
020.1	Design-Penny	0	250,000	2,600,000	2,600,000	326,000	135,000	200,000	6,111,000
030.1	Construct-Prelim Est	0	0	0	13,300,000	16,900,000	13,900,000	1,433,000	45,533,000
Project Total for : Fund: 3001	Capital Projects	Center: 414100	CIP-Transportation	Program: 3031	Bridges-Repair & Improvement				
		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000
Total for Project: 000423A		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000
Funding Source									
Penny for Pinellas		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000
Funding Total:		0	250,000	2,600,000	15,900,000	17,226,000	14,035,000	1,633,000	51,644,000

Advantage PINELLAS

ENGAGE. ADAPT. CONNECT.

FORWARDPINELLAS

2045LONGRANGETRANSPORTATIONPLAN

PLAN ADOPTION: NOVEMBER 13, 2019

COST FEASIBLE ACTIVE TRANSPORTATION PLAN PROJECTS 2025-2045

	Active Transportation Project	Total Project Cost
1	Oldsmar Canal Park Connection	$1,591,400
2	Nebraska Avenue Loop	$9,212,100
3	Sunsent Point Corridor	$2,986,800
4	142nd Avenue Corridor	$9,883,800
5	70th Avenue Corridor	$6,501,500
6	28th Street Corridor	$8,857,400
7	San Martin Boulevard	$920,100
8	Joe's Creek Greenway Trail	$10,029,000
9	9th Avenue N. Corridor	$6,334,100
10	18th Avenue South Corridor & Salt Creek Trail Extension	$4,942,800
	Total Active Transportation Plan Projects:	$61,259,000

Note: For more detailed phasing information, see Appendix C.

Table 8.4: Cost Feasible Active Transportation Projects.

maintenance projects, Forward Pinellas has committed to setting aside $1 to $5 million annually to fund management and operational improvements. These management and operations projects could include intersection or turn-lane projects as well as future technology projects that will ease congestion.

As a coastal community, bridges provide a critical connection for residents and visitors between the beach communities and the mainland of Pinellas County. As part of Advantage Pinellas, Forward Pinellas has identified replacement for the following major bridges by 2045:

- Beckett Bridge
- Dunedin Causeway Bridge
- San Martin Bridge

Ultimately, the timing for replacing these bridges will be based on the safety and replacement need.

Advance Congestion Management Process

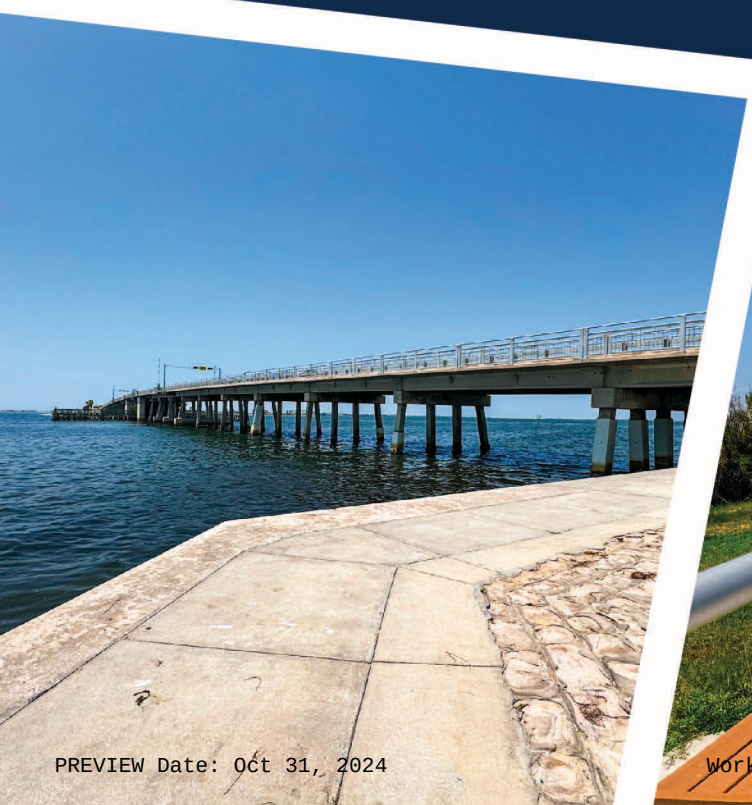
Congestion management is the use of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. The congestion management process (CMP) is a systematic approach for providing safe and effective integrated management and operation of the multimodal transportation system.

The overall CMP goal is to ensure the safe and efficient movement of people and goods by successfully addressing areas of recurring and non-recurring congestion with low cost and cost effective operational and multi-modal improvements before considering any capital-intensive capacity improvements.

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix C: Schedule

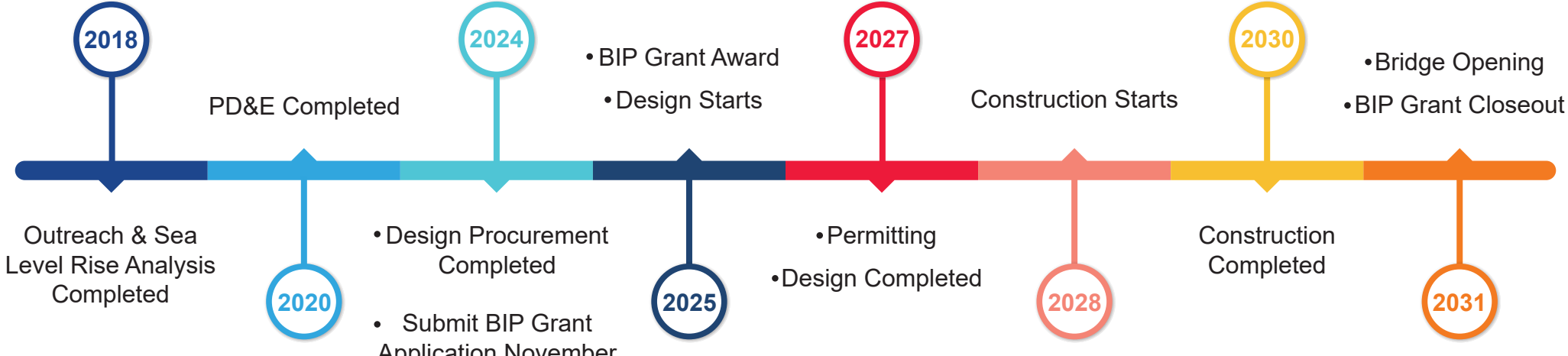


Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

Dunedin Causeway Main Bridge Project Schedule



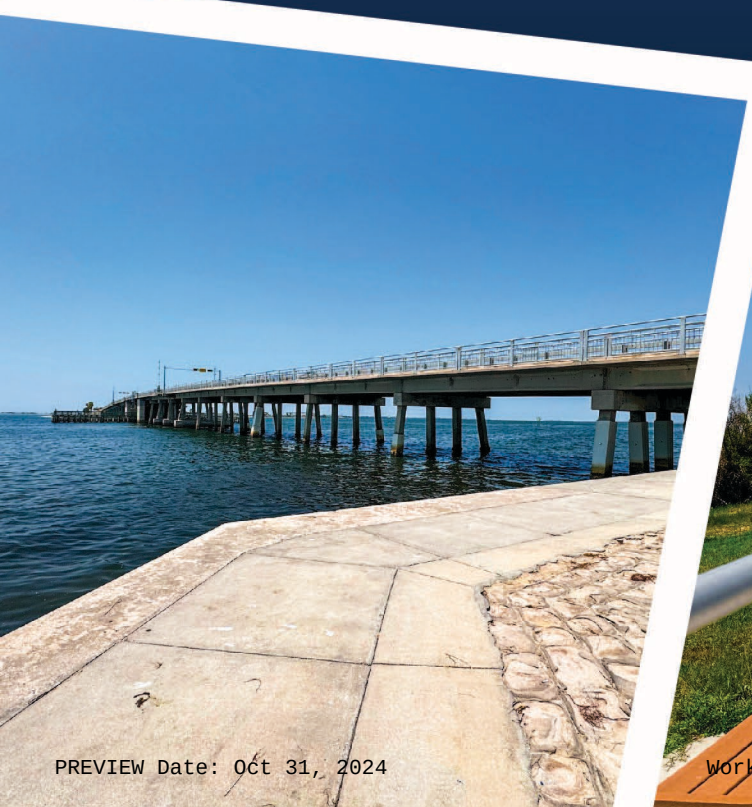
PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix D: BCA Narrative



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

Appendix D: Benefit-Cost Analysis Narrative

FY 2025 BIP Grant Program

Dunedin Bridge Replacement

Pinellas County, FL

October 28, 2024

Benefit-Cost Analysis Narrative

Table of Contents

1. Introduction 1
2. Methodological Framework 1
3. Project Overview 2
4. General Assumptions 9
5. Benefits Measurement, Data, and Assumptions 9
6. Summary of BCA Findings 19

1. Introduction

This document provides technical information on the economic analysis conducted in support of the grant application for the Dunedin Causeway Main Bridge Replacement project in Pinellas County, Florida.

Section 2 – Methodological Framework – introduces the conceptual framework used in the Benefit-Cost Analysis (BCA). Section 3 – Project Overview – provides a summary of the project, including a summary of cost estimates and schedule, and a description of the types of effects that the proposed Dunedin Main Bridge Replacement project is expected to generate. Section 4 – General Assumptions – discusses the key assumptions used in the forecasts of project costs and benefits. Specific data elements and assumptions pertaining to the merit selection criteria are presented in Section 5 – Benefits Measurement, Data, and Assumptions – along with the associated benefit projections. The forecast of the project's Net Present Value (NPV), its Benefit-Cost Ratio (B-CR) and other project evaluation metrics are summarized in Section 6.

2. Methodological Framework

The BCA conducted for this project focuses on monetized benefits and costs measured consistent with the pertinent US DOT guidance.[1] Some of the merits of the project could not be quantified. They are outlined qualitatively where applicable.

A BCA provides projections of the benefits that are expected to accrue from a project over a specified period, and compares them to the anticipated costs of the project. Benefits are based on the forecasted effects of the project on both users and non-users of the facility, valued in monetary terms. Costs include both the resources required to develop the project and the costs of maintaining the new or improved asset over time.

The specific methodology used for this application was developed in alignment with the BCA guidance prepared by the US DOT, and is consistent with the Bridge Investment Program (BIP) program guidelines including a deployment of the BIP BCA Tool. In particular, the methodology comprises:

- Establishing existing and future conditions under the Build (with the project) and No-Build (without the project) scenarios;
- Assessing benefits with respect to each of the key merit criteria identified in the Notice of Funding Opportunity (NOFO);

[1] US DOT, Benefit-Cost Analysis Guidance for Discretionary Grant Programs, December 2023.

- Measuring benefits in dollar terms, whenever possible, and expressing benefits and costs in a common unit of measurement;
- Using US DOT guidance for the valuation of travel time savings, vehicle operating costs savings, safety benefits, amenity/health benefits, residual value, and reductions in air emissions, while relying on industry best practice for the valuation of other effects; and
- Discounting future benefits and costs to present value terms with the real discount rate as instructed by US DOT BCA Guidance (3.1 percent)[2]; and
- All monetary values in this Appendix are expressed in 2022 dollars, unless stated otherwise.

3. Project Overview

This project will result in a replacement of an existing bridge located in the City of Dunedin, Pinellas County, Florida. The existing Dunedin Causeway Main Bridge, which was originally built in 1963, is a is a two-lane, undivided low-level bascule bridge that spans the Gulf Intracoastal Waterway (GIWW) connecting Dunedin/Pinellas County mainland with Honeymoon Island on the Gulf of Mexico. Honeymoon Island is home to about 800 residents and Honeymoon Island State Park, and the Causeway (Causeway Blvd.) of which the Main Bridge is a critical part, is the sole link and the designated evacuation route between the Island and the mainland (please see Figure 1 below). The bridge has 9,021 AADT as of 2022, as per the NBI.[3] The crossing volumes are projected to increase at 1.12 percent per year through 2042, according to the NBI.

The existing bridge (No-Build scenario) has a number of identified deficiencies, such as:

- Deteriorating Structural Conditions - Structural elements of the bridge are in Fair condition, and scour on the bridge is critical.
- Inadequate Functional Design Elements - The bridge is “Functionally Obsolete” as it does not meet 2024 Florida DOT design standards.
- Substandard Clearance at the Navigable Waterway Channel - The vertical clearance of the Main Bridge does not meet current United States Coast Guard (USCG) clearance guidelines over the navigable GIWW.

As the bridge has no detour alternative, it requires replacement in order to safely remain open to traffic in a state of good repair without functional obsoletion. Pinellas County is proposing to replace the existing two-lane low-level bascule bridge with a two-lane mid-level bascule bridge. The new Main Bridge is to be constructed within the existing right-of-way, using approximately

[2] CO_2 emissions are discounted at the annual rate of 2 percent.

[3] 14,900 AADT in 2023, per Florida Traffic Online, 2024.

the same alignment as the existing bridge. The width of the new Main Bridge is expected to increase by 22.5 feet (for a total width of approximately 63 feet) to accommodate two 11-foot-wide travel lanes with 8-foot-wide shoulders that can also function as undesignated bicycle lanes (please see Figure 2 below).

A barrier-separated 5-foot-wide sidewalk is proposed on the north side of the bridge and extending into its approaches. A barrier-separated 15-foot-wide multi-use trail (to serve as a spur of the Fred Marquis Pinellas Trail) is also proposed on the south side of the bridge and its approaches as part of the Build scenario.

The bridge approaches are to be lengthened to allow for a higher vertical clearance at the GIWW navigation channel, ultimately reducing the number/daily frequency of bridge openings. The proposed mid-level bridge will provide 35 feet of vertical clearance over the GIWW navigation channel at the fenders in the closed position, relative to 21 feet under the existing conditions. Unlimited vertical clearance is to be provided in the open position for the width of the channel between the fenders. The new bridge is to be constructed to accommodate full vehicular loads, including all emergency service vehicle types, while improving safety and access for pedestrians and cyclists.

A more detailed description of the project is provided in the main body/narrative of this application.

Figure 1: Project Location Map in Dunedin

Figure 2: Bridge Existing and Proposed Typical Sections

a) No-Build

b) Build

3.1 Types of Benefits

The proposed Dunedin Main Bridge Replacement is expected to result in a variety of benefits to the regional population. These are broadly summarized in Table 1.

Table 1: Summary of the Transportation Improvements and Associated Key Impacts and Benefits

Current Status or Baseline & Problems to Be Addressed	Changes to Baseline / Alternatives	Type of Impacts	Population Affected by Impacts	Benefits
Functional obsolescence of the bridge, and growing traffic volumes across the area road network generate accidents on the bridge every year.	Enhanced safety features of the bridge replacement result in safer travel.	Fewer vehicle crashes in the area.	Area residents and businesses, and visitors to the area.	Reduced accident costs (saved lives, injuries, and property damage).
Low level vertical clearance for vessels passing under the bridge requires multiple openings per day, causing some travel delays for the vehicles crossing the bridge.	The replacement bridge will offer higher vertical clearance, reducing the need for vertical openings.	Travel time delay reduction in the area.	Area residents and businesses, freight carriers, and visitors to the area.	Travel time delay and reliability savings.
Due to functional obsolescence (narrow shoulders*)* emergency response vehicles may may be unable to cross over the bridge to timely respond to calls.	Replacement bridge will provide improved access (widened shoulders) to emergency vehicle, expediting response times to time-sensitive patient needs.	Reduction in mortality in cardiac arrest cases thanks to faster response times.	Honeymoon Island residents and visiting patients.	Health – mortality savings – other benefits.
The existing bridge requires maintenance that results in higher annual maintenance costs.	Replacement bridge will have a useful service life of 75 years, and lower annual maintenance cost.	Residual value, and lower O&M costs.	Pinellas County	Residual value, and O&M costs, savings.
No-build scenario will eliminate accessibility to	New bridges will ensure continued	Avoided loss of accessibility to the	Owners/resident of the	Avoided costs from

Honeymoon Island for vehicles and walkers/cyclists by 2052 due to bridge closure, indefinitely affecting owners of the condominium units leading to a buyout program.	access to the Island through the analysis operation years.	Island, including the condominium complex, with the replacement bridge.	condominium units on Honeymoon Island.	buyout program to property owners triggered from due to inaccessibility to Honeymoon Island.
Limited sidewalk and cycling access over the current bridge.	Widened and longer sidewalk and path for pedestrians, and widened and longer path for cyclists to use.	Increased mobility accessibility of active transportation.	Area residents, and visitors to the area.	Improved facility amenity/health, safety, mobility, and community quality of life options.

3.2 Project Cost[4] and Schedule

The proposed Bridge Replacement project is forecasted to cost $98.6 million (in 2022 dollars, or around $110.1 million in mixed year-of-expenditure and 2028-dollar terms) in total upfront investment. This amount is scheduled to be expended over a 17-year timeframe from 2014 to 2030, with construction-related expenditures scheduled from 2028 through 2030 totaling $87.8 million in 2022 dollars (or $98.9 million in 2028 dollars). Table 2 below shows the projected costs and annual schedule related to the project. The discounted value of the capital costs is $80.7 million.

Table 2: Summary of the Project's Forecasted Investment Costs (in millions of 2022$) *

	2014-2024	2025	2026	2027	2028	2028	2030	17-year Total
Annual Cost	$1.8	$3.0	$3.0	$3.0	$29.3	$29.3	$29.3	**$98.6**

* Values are rounded.

Starting from the first full year of the replaced bridge operations in 2031, there will also be a decrease in the operating and maintenance (O&M) costs of the bridge relative to the No-Build scenario. The change in O&M costs was computed by Pinellas County Public Works, and accounts for additional maintenance/repair and bridge operating (openings) costs of under the No-Build scenario relative to the Build case. This incremental O&M cost is projected to be a saving of $75

[4] All cost estimates in this section are in expressed in 2022 constant dollar terms, unless otherwise noted.

thousand per year (in 2022-dollar terms), for a 21-year (through the forecasted closure of the existing bridge by 2052) discounted total of $0.9 million in maintenance savings.

3.3 Disruptions Due to Construction

The proposed replacement is not expected to cause any significant disruption to existing traffic during the construction period. A temporary bridge will be made available immediately to the south of the existing one, with the same speed, adding no additional noteworthy time or mileage to the bridge route during the entire construction period. Maintenance of traffic (MOT) standard plans will be followed, including with various mitigating measures (such as appropriate safety signage), leading to minimal impact on traffic flow. Hence, the monetizable safety and travel time construction disbenefits are assumed to be $0 in the BCA.

3.4 Effects on Key Selection Criteria

The main benefit categories associated with the project are mapped into the key selection criteria set forth by US DOT in Table 3.

Table 3: Benefit Categories and Expected Effects on US DOT Merit Criteria

Merit Criteria	Benefit or Impact Categories	Description	Monetized	Quantified	Qualitative
State of Good Repair	Maintenance costs, and residual value of investment in a new bridge.	Residual value of the project at the end of the analysis period, and reduction in annual O&M costs.	Yes	Yes	No
Safety and Mobility	Safety benefits.	Reduction in the number of accidents, resulting in fatality, injury, and property damage savings.	Yes	Yes	No
	Travel time savings.	Lower travel time in the area stemming from reduced number of required bridge vertical openings.	Yes	Yes	No
Economic Competitiveness and Opportunity	Jobs/income/GRP creation.	Tourism/recreation, construction and other jobs.	Yes	Yes	Yes
	Improved supply chain.	Lower travel time for freight traffic in the area stemming from reduced number of required bridge vertical openings.	Yes	Yes	Yes
	Improved access to more productive land use.	Improved access to various residential, recreational, and commercial properties/land uses around the replaced bridge.	No	No	Yes
Climate Change, Sustainability, Resiliency, and the Environment	Improved resiliency.	Improved resiliency of the bridge against damage from high waves during significant storms.	No	No	Yes
Quality of Life	Reduced vehicle dependence, and lower morbidity.	Improved active/nonvehicular transportation, and access to daily destinations in locations around the area. Lower morbidity due to faster emergency vehicle response times.	Yes	Yes	No
Innovation	Innovative techniques yielding enhanced resiliency.	Living shorelines, and composite reinforcing bars to boost the bridge's structural resiliency and extend useful lifespan.	No	No	Yes

4. General Assumptions

The BCA measures, on a discounted basis, benefits against costs throughout the 47-year period of analysis beginning at the start of the investment in year 2014, and including 30 full years of operations from 2031 through 2060.

The monetized benefits and costs are shown in constant dollars of 2022 with future dollars discounted in compliance with the BIP requirements using a 3.1 percent real rate, consistent with the US DOT BCA Guidance. The methodology makes several important assumptions, and seeks to avoid overestimation of benefits and underestimation of costs. Specifically:

- Input prices are expressed in 2022 dollars;
- The period of analysis begins in 2014 and ends in 2060. It includes project development and construction years (2014 - 2030), and 30 full years of operations (2031 - 2060);
- A constant 3.1 percent real discount rate is assumed throughout the period of analysis;[5] and
- Opening year demand is an input to the BCA, and is assumed to be fully realized in Year 1 (no ramp-up).
- The existing bridge permanent closure year is projected to be in 2052, per the BIP BCA Tool. Hence, the replacement would avoid forcing such a closure from 2052 onwards.

5. Benefits Measurement, Data, and Assumptions

The proposed Bridge Replacement project will yield various benefits for the traveling public and the larger economy. The following subsections describe the measurement approach used for each benefit or impact category identified in Table 3 above, and provide an overview of the related methodology, assumptions, and projections.

5.1 State of Good Repair

The 61-year-old Dunedin Main Bridge is presently classified as functionally obsolete, structurally fair, and with a Sufficiency Rating of 49.5. Moreover, the scour on the bridge is in critical condition.

To quantify the benefits associated with maintaining the Bridge in a state of good repair, both the maintenance savings, and the residual value of the project's initial investment in the replacement bridge were projected.

[5] Two percent real discount rate is applied to CO_2 emission changes.

5.1.1 Maintenance Cost Savings

Under the No-Build scenario, the annual O&M of the Bridge is estimated to amount to $300 thousand, according to the Pinellas County Public Works. The projected annual O&M cost of the Replacement Bridge is $225 thousand (in 2022 dollars), per the Pinellas County Public Works. The annual difference of about $75 thousand amounts to the total 21-year (through the existing bridge closure by year 2052) discounted maintenance savings of almost $0.9 million.

5.1.2 Residual Value

The proposed Bridge Replacement is expected to retain some value beyond the 2060-time horizon for which the various benefits described in this document are computed.

The residual value of the proposed project was estimated based on the useful life of the bridge construction assets of 75 years. Such construction assets amount to about $76.4 million in upfront investment (87 percent of the total $98.6 million up front capital costs total), resulting in their residual value is $16.1 million in discounted present value terms.

Benefits Subtotal

As summarized in Table 3, the total state of good repair benefits, based on the combined maintenance cost savings and residual value, are projected to amount to $17.0 million in discounted terms.

Table 3: Projected State of Good Repair Benefits (in millions of 2022$)*

Benefits Category	Total Discounted State of Good Repair Benefits
Maintenance	$0.9
Residual Value	$16.1
Total	**$17.0**

* Values are discounted at an annual rate of 3.1%, and are rounded.

5.2 Safety and Mobility

The condition, as summarized in the previous subsection and in the main narrative, of the current bridge leads to a number of safety and mobility issues, which the Replacement Bridge project will alleviate. The related benefits are summarized below.

5.2.1 Safety

One of the primary benefits of focus in this analysis pertains to enhanced safety associated with reductions in future accidents stemming from the proposed bridge replacement.

The monetized safety benefits of the project were derived based on a projection of future crash savings, and unit values of crashes by type. A crash savings analysis of the proposed Dunedin

Main Bridge Replacement was conducted through the application of known Crash Modification Factors (CMFs) to the most recent five years of crash data in the bridge area.

Historically, the crash data over the most recent five-year period (2019 – 2023) for the bridge project area, as extracted for this analysis from the University of Florida's Signal Four Analytics database, showed a total of 32 crashes within the project limits, of which 15 were Property Damage Only (PDO), and the others resulted in 26 injuries.[6] Figure 3 shows the heat map of the recent crashes within the project limits.

Figure 3: Bridge Area Crashes Heat Map

Multiple improvements were proposed along the bridge area, but only the benefits for the following improvements/countermeasures were quantifiable with appropriate CMFs.

New Shoulders

New shoulders will allow emergency vehicles to pass during emergency situations. This proposed improvement relates to CMF 5285 from the CMF Clearinghouse, which is for widening paved shoulder for all crash types, severity, and roadway types.

[6] Signal Four Analytics, August 2024.

Lighting

New bridge lighting installed will provide illumination for the roadway with shoulders, as well as the bike/ped path, and sidewalk, improving safety and security for all travel along the bridge and its approaches.

This proposed improvement relates to two CMFs for illumination/lighting from the CMF Clearinghouse: 1) CMF 579 – applicable to PDO crashes; and 2) CMF 578 – applicable to injury crashes, both on urban roadways of all types.

Products of the two CMFs for each countermeasure and crash type were used in the BCA Tool to derive avoided crash costs from these improvements for the applicable crash types.

For both the countermeasures and the detour-related components of the analysis, the unit costs of injuries and PDO crashes were based on the dollar values from the latest USDOT BCA Guidance for Discretionary Grants, matching the BIP Tool.

Overall, the findings from the safety analysis show projected future benefits through 2060 from the Bridge Replacement project to total about $7.8 million in discounted terms.

5.2.2 Mobility

The mobility benefits are captured here through travel time delay savings related to the reduction in vertical lifts of the bascule bridge necessitating stoppage of vehicular traffic on the bridge/Causeway approaches. The existing low-level bascule bridge (No-Build) is limited to vertical clearance of under 21 feet over the GIWW navigation channel at the fenders in the closed position, which allows only about 4.5 percent of all the vessel traffic to pass under the bridge without requiring its vertical opening and vehicular traffic stoppage.[7] The proposed mid-level replacement bridge will provide 35 feet of vertical clearance over the navigation channel in the closed position. Unlimited vertical clearance is to be provided in the open position for the width of the channel between the fenders. The estimated 49 percent more vessels using the channel will be able to pass under the higher replacement bridge (Build) in the closed position, without requiring the bridge to open and stop vehicular traffic.[8]

Based on the recent vessels volumes (averaging 2.8 vessels per day) and average opening duration of five minutes,[9] combined with the average hourly volumes of passenger vehicles and trucks over the bridge (based on the NBI projections from the BIP Tool) as well as the appropriate VOTT (using the latest BCA Guidance for Discretionary Grants, matching the Tool values), the annualized travel time delay savings with the replacement is projected at $584,100 in the first year of new bridge operations (2031). The resulting aggregated travel time delay savings are expected

[7] Source: Bridge Vessel Height Survey, PD&E Study PER, 2020

[8] Ibid.

[9] Source: Pinellas Co., Monthly Reports of Drawbridge Openings for 2023, September 2024

to amount to $10.4 million through 2060 in discounted terms, and are captured as one of the categories of Other Benefits in the BIP Tool.

Benefits Subtotal

As summarized in Table 4, the total safety and mobility benefits, based on the combined crash savings, travel time savings, and vehicle operating cost savings are forecasted to amount to about $18.2 million in discounted terms.

Table 4: Projected Safety and Mobility Benefits (in millions of 2022$)*

Benefits Category	Total Discounted Safety and Mobility Benefits
Safety	$7.8
Travel Time Delay	$10.4
Total	**$18.2**

* Values are discounted at an annual rate of 3.1%, and are rounded.

5.3 Economic Competitiveness and Opportunity

The proposed project will contribute to enhancing the economic competitiveness of the area and potentially beyond through improvements in the mobility of people and goods within and across the region. This section summarizes the effects of the project on the job creation and regional impact, as well as supply chain, and land use.

5.3.1 Job Creation and Regional Impact

The replacement bridge will continue to contribute to the growing local tourism-based economy of Pinellas County. The bridge links the mainland of Pinellas County with Honeymoon Island, which contains the 385-acre Honeymoon Island State Park, and offers access to the heavily used public beaches, water sports, park, and multi-use trail along the Dunedin Causeway itself.[10] The Honeymoon Island State Park is visited by 1.5 million guests annually, supporting approximately 2,590 jobs and contributing $185 million in total direct economic impact.[11] Statewide, Florida state parks contribute about $3.6 billion in direct economic impact to local communities annually, generating approximately 50,400 jobs while welcoming more than 28.7 million visitors.[12]

[10] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

[11] Florida Department of Environmental Protection. (2023). *Economic Impact Assessment Report Florida State Park System*.

[12] Ibid.

Continued access for residents and millions of tourists (both local and non-local) to the noted amenities, jobs, and essential services of the area is contingent upon the replacement of the Main Bridge.

Overall, a sizable injection of capital infrastructure spending, such as that related to the proposed Bridge Replacement project, into the area economy will lead to direct construction and related professional services jobs, as well as indirect jobs supporting the suppliers of materials and equipment, and the induced jobs and earnings impacts to the larger economy in the region and beyond.

Additionally, the project improvements can be expected to aid further business attraction and retention (with the related jobs) that would not otherwise occur. However, these impacts were not quantified as part of this application.

5.3.2 Supply Chain

The proposed Bridge Replacement project is expected to improve the supply chain in the area by providing a structurally sound connection to existing freight routes. The replacement bridge will offer 35 feet of vertical clearance, thereby reducing the number of required openings by 49 percent, thereby improving travel time reliability and access to surrounding areas, enhancing the supply chain. This benefit monetization is already included in the Mobility Criterion and captured under the Other Benefits in the BIP Tool.

5.3.3 Land Use

The Bridge Replacement will also improve access to the surrounding land uses. The Main Bridge and adjoining Dunedin Causeway connect to various residential, commercial, and recreational establishments and activities. The improved bridge vertical clearance and the enhanced connections to the area transportation network for vehicles, pedestrians, and cyclists (particularly through the provision of upgraded, wider shoulders and multimodal facilities) are to improve access for residents on the barrier islands to jobs, essential services, and recreational facilities, better positioning these amenities and services of the area to realize their full potential.

This land use productivity benefit was not quantified, and hence, is not incorporated in the BCA results.

5.4 Climate Change, Sustainability, Resiliency, and the Environment

This project is of relatively unique nature as the Causeway bridge is the sole link to Honeymoon Island, and has no ground transportation detour, and hence no detour-related emission savings.

Nonetheless, the project will improve the resiliency of the Dunedin Causeway Main Bridge against damage from high waves during significant storms and vessel impacts, as well as mitigate impacts to sensitive populations and natural resources. However, these impacts were not quantified.

5.5 Equity and Quality of Life

The project would contribute to enhancing the quality of life and equity in the study area through improved access to daily destinations such as job and recreational opportunities via active/nonvehicular transportation, as well as health and lower mortality through faster emergency response times for area residents.

5.5.1 Nonvehicular Transportation

The lack of adequate pedestrian and bicycle facilities limits multimodal access and creates safety concerns. There are concerns about the existing substandard (narrow, and disjointed) multimodal facilities on the bridge and the need to provide improved, safer facilities for non-vehicular active transportation modes across the bridge. Also, the area is vehicular-dependent and access to recreational facilities such as the Honeymoon Island Park/beaches and Pinellas Trail by safe, multimodal options over the bridge is limited. The enhanced pedestrian and bicycle facilities on the new bridge will provide an important connection to the larger regional Pinellas Trail.

The improved access to nonvehicular transportation on the Causeway Main Bridge under the Build scenario was captured in terms of the improved facility amenities/health for pedestrians and cyclists. [13]

5.5.1.1 Pedestrian

Enhanced pedestrian comfort, convenience, and safety is a function of sidewalk/path width. The Bridge Replacement project includes widening and extension of the existing sidewalk and path (9.5-foot on average) wide to 20-foot-wide sidewalk and path combination over about 0.2 miles of the bridge project.

The pedestrian amenity benefits for the project corridor were derived by combining the incremental sidewalk/path width (10.5 feet in total) with annualized volumes of pedestrians, length of the sidewalk, and the unit value per foot of added sidewalk width.

The annual volumes and average trip length were based on year 2024 daily pedestrian counts data for the bridge area from Adams Traffic, annualized (based on a 365.25 days/year factor), and grown over time based on the County's population growth rate between 2024 and 2045 from the Florida Bureau of Economic and Business Research (BEBR).[14] The unit value of the expanded sidewalk/path, per foot of added width, was based on the US DOT BCA Guidance, as in the BIP Tool.

[13] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

[14] Sources: Adams Traffic, September 2023; and BEBR, January 2024. 0% growth rate is conservatively assumed after 2045. 11% for additional trips assumption is applied to the Build scenario with wider the sidewalk and path.

5.5.1.2 Cycling

The widening of the shared-use path as part of the Causeway Main Bridge Replacement will also enhance the quality and comfort of the cyclists on the facility. The cycling amenity benefits for the project corridor were quantified by combining the annualized volumes of cyclists, and the unit value of a cycling path per cycling mile.

The annual cycling trip volumes in the project were based on year 2024 daily cyclist counts data for the bridge from Adams Traffic, annualized (based on a 365.25 days/year factor), and grown over time based on the County's population average growth rate between 2024 and 2045 from the BEBR.[15] The unit value of the cycling path (with at-grade crossings), per cycling mile, was based on the BIP Tool/US DOT BCA Guidance.

5.5.1.3 Pedestrian and Cycling Facility Amenity Benefits

The findings from the pedestrian health and amenity analysis show projected future benefits from the bridge improvements to total about $3.3 million after discounting.

It should also be noted that cyclists would also be expected to experience improved riding conditions from being able to traverse the bridge on the undesignated widened shoulders, but this benefit was not monetized in this analysis.

5.5.2 Emergency Response Improvement

The narrow shoulders on the bridge limit emergency service vehicle access. The City of Dunedin Fire Rescue Department has six stations within approximately seven miles of Honeymoon Island; as such, all emergency service vehicle types (e.g., fire trucks, ambulances, etc.) must be able to be accommodated and cross the bridge to respond to emergency calls. The need for any of these stations to respond quickly is critical when seconds matter in life-saving situations. The City of Dunedin Fire Rescue Department was dispatched almost 400 times between January 2022 and June 2024 to areas along the Dunedin Causeway west of the Main Bridge; of the close to 400 incidents, 32 involved cardiac related events. The average response time for the cardiac arrest-related calls was 8.5 minutes.[16]

Emergency response improvement for the project was monetized based on the value of avoided out-of-hospital cardiac arrest (OHCA) deaths only. Among the hundreds of emergency calls placed to the Dunedin Fire Rescue stations since the beginning of 2022 through mid-2024 (2.5 years), 13 per year on average pertained to urgent need to assist patients with cardiac related problems. Based on the recent history of cardiac-related responses on the route requiring the passage over the bridge,

[15] Sources: Adams Traffic, September 2024; and BEBR, January 2024. 0% growth rate is conservatively assumed after 2045. 11% for additional trips assumption is applied to the Build scenario with the wider path.

[16] Source**:** Pinellas County Emergency Response Times Analysis, September 2024.

[17] the emergency response time differential between the No-Build (bridge with narrow shoulders averaging at 8 min and 29 sec) vs. Build (wider shoulders and fewer vertical bridge openings, assumed to average 7 min and 29 sec) scenarios is 1 min.

The FEMA BCAR methodology[18] provides guidance on estimating numbers of OHCA-related fatalities saved due to removal of bridge closures. This included formulas for deriving cardiac arrest-related survival rates given specific response times. Applying the survival rates to the annual number of relevant cardiac related responses yielded the annual fatalities for the No-Build and Build scenarios. The difference between those two is equal to 0.31 fatalities per annum, resulting in annual saving of close to $3.9 million, applying the value per fatality as per the USDOT BCA Guidance and in the BIP Tool. That saving is grown over time based on the County's population average future growth rate, as per BEBR[19], resulting in the total saving through 2060 of about $60.4 million, in discounted terms.

It should be noted that a conservative approach of only quantifying health benefits associated with cardiac arrest was undertaken in this analysis. Numerous other emergency calls, including those related to other medical matters, fires, and car crashes, also require critical emergency response, but are not quantified nor incorporated in the BCA results.

The emergency response improvements are captured under Other Benefits in the BIP Tool and BCA summary tables.

5.5.3 Avoided Displacement/Buyout Costs

This section provides an estimate of the avoided costs from buyout to the residential units located in Honeymoon Island, which would be potentially incurred in the No-Build case. According to the Preliminary Engineering Report (FDOT, 2020), the bridge is past its original designed service life of 50 years and its structural components were found to be in fair to satisfactory condition, which is expected to continue worsening in the upcoming years.[20]

It is forecasted, as per the BIP Tool, that the bridge will be closed by 2060 if the project is not implemented, eliminating accessibility to the island by car/bike/ped, and indefinitely affecting

[17] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

[18] Federal Emergency Management Agency. 2011. Benefit-Cost Analysis Re-engineering (BCAR) – attached with Appendix A.

[19] BEBR, January 2024.

[20] The other bridge on the Causeway (the West Tide Relief Bridge) is also in need of replacement, which the County will undertake separately from the Main Bridge project in time for the benefits to be realized from the Main Bridge Replacement.

owners from an estimated 484 condominium units. Such a displacement will trigger a need for a buyout program aimed to alleviate the impact to Island property owners.

Assuming that the bridge remain fully functional until the closure year (2052), the buyout costs are estimated from market value of the condominium units located in the island as based on the latest estimates from the Pinellas County Property Appraiser.[21] Typically, buyout programs consider demolition and site restoration after acquisition; however, considering that the accessibility to the island would be lost, these additional costs were not included in the analysis.

The year 2024 total market value for the condominium complex on Honeymoon Island is estimated to total $135.4 million in 2022 dollars (or $140.8 million) in undiscounted terms. Under the assumption that the costs associated with the buyout would be incurred in 2052, the avoided costs are projected at $54.2 million in present value terms. This displacement/buyout avoidance benefit is captured under Other Benefits in the BIP Tool and BCA summary tables.

Benefits Subtotal

As summarized in Table 6, the total quality of life and equity benefits; based on the combined nonvehicular health and amenity benefits, the improved emergency response times for OHCA, and the avoided displacement/buyout costs, are projected to amount to $117.9 million in discounted terms.

[21] Pinellas County Property Appraiser, October 2024 https://www.pcpao.gov/

Table 6: Projected Quality of Life and Equity Benefits (in millions of 2022$)*

Benefits Category	Total Discounted Quality of Life Benefits
Health and Amenity	$3.3
Emergency Response	$60.4
Displacement/Buyout Avoidance	$54.2
Total	**$117.9**

* Values are discounted at an annual rate of 3.1%, and are rounded.

5.6 Innovation

The proposed replacement bridge offers multiple innovative design technology improvements, including sustainable elements, to create a consistent, long-term service life. However, due to limited data, the benefits of these elements were not quantified for this application.

6. Summary of BCA Findings

The tables below summarize the BCA findings. Annual costs and benefits are computed over the full period of analysis (47 years). As stated earlier, the initial 17-year investment is expected to be completed in 2030, with the benefits accruing during the 30-year period of operations, from 2031 through the end of 2060.

Total benefits and costs, expressed in 2022 dollars, for the analysis period are shown in Table 7. This table reflects a summation of the annualized benefits and costs for each year between 2014 and 2060. In accordance with the US DOT guidance for benefit-cost analysis, the annualized benefits and costs were discounted to reflect the time value of money using the real discount rate of 3.1 percent.[22]

[22] Except for CO_2 emissions, for which a real discount rate of 2 percent was applied.

Table 7: Benefit-Cost Analysis Results (in millions of 2022$) *

Benefit and Cost Metrics	2014-2060 Totals Discounted at 3.1%[23]
Project Benefits	
Safety	$7.8
Health and Amenity	$3.3
Maintenance	$0.9
Residual Value	$16.1
Other Benefits	$125.0
Total Discounted Benefits	**$153.1**
Total Discounted Costs	**$80.7**
Key Metrics	
Benefit-Cost Ratio	**1.9**
Net Present Value (NPV)	**$72.4**

* Unless specified otherwise. The numbers are rounded.

The total monetized benefits of the proposed Main Bridge Replacement project are forecasted at $153.1 million (in present discounted value terms) while the total discounted costs of the project are forecasted at $80.7 million. Considering all monetized benefits and costs, the investment in the proposed Bridge Replacement can be expected to yield a **net present value of $72.4 million**, and a **Benefit-Cost ratio of 1.9**, indicating that the project returns about $1.9 in benefits for every dollar of capital costs.

Among the project benefits, other benefits (consisting of combined property buyout, improved emergency response times, and reduced bridge openings at $125 million, in present value terms over 30 years) are projected to be the largest category, followed by residual value ($16.1 million), safety ($7.8 million), facility amenity benefits ($3.3 million), and maintenance benefits ($0.9 million).

6.1 Aggregate Annual Benefits and Costs

This section reports the aggregate benefits and costs associated with the proposed Bridge Replacement project in annual discounted terms, as shown in Table 8. As can be seen in the table, the total discounted benefits of the project start $4 million in the first year of operations/benefits, gradually decrease to $2.3 million in 2051, then jump to $56.1 million in 2052 (due to the island properties buyout avoidance in the year of existing bridge closure), then continuing to gradually go down (due to discounting) to $1.9 million by 2059, followed by a jump to $18 million (due to the residual value addition) in the last year of the analysis horizon, totaling $153.1 million for the entire 30-year period through 2060.

[23] This discount rate (including the 2% for CO_2 emissions) is in accordance with the US DOT BCA Guidance, December 2023.

When the total discounted capital costs ($80.7 million) are accounted for, the net discounted benefits (NPV) total $72.4 million over the entire project analysis period through 2060.

6.2 Conclusion

Overall, the BCA results indicate that this Bridge Replacement project looks strong from an economic feasibility standpoint as the projected benefits outweigh the projected costs by about 1.9 to 1, yielding about $72.4 million in discounted net benefits.

Table 8: Annual Projections of Total Project Benefits and Costs (in millions of 2022$) *

Calendar Year	Project Analysis Year	Total Discounted Benefits	Total Discounted Costs	Total Net Discounted Benefits
Pre-Benefits Period	0	$0.0	($80.7)	($80.7)
2031	1	$4.0	$0.0	$4.0
2032	2	$3.8	$0.0	$3.8
2033	3	$3.7	$0.0	$3.7
2034	4	$3.7	$0.0	$3.7
2035	5	$3.6	$0.0	$3.6
2036	6	$3.5	$0.0	$3.5
2037	7	$3.4	$0.0	$3.4
2038	8	$3.3	$0.0	$3.3
2039	9	$3.2	$0.0	$3.2
2040	10	$3.1	$0.0	$3.1
2041	11	$3.0	$0.0	$3.0
2042	12	$3.0	$0.0	$3.0
2043	13	$2.9	$0.0	$2.9
2044	14	$2.8	$0.0	$2.8
2045	15	$2.7	$0.0	$2.7
2046	16	$2.7	$0.0	$2.7
2047	17	$2.6	$0.0	$2.6
2048	18	$2.5	$0.0	$2.5
2049	19	$2.5	$0.0	$2.5
2050	20	$2.4	$0.0	$2.4
2051	21	$2.3	$0.0	$2.3
2052	22	$56.4	$0.0	$56.4
2053	23	$2.2	$0.0	$2.2
2054	24	$2.1	$0.0	$2.1
2055	25	$2.1	$0.0	$2.1
2056	26	$2.0	$0.0	$2.0
2057	27	$2.0	$0.0	$2.0
2058	28	$1.9	$0.0	$1.9
2059	29	$1.9	$0.0	$1.9
2060	30	$18.0	$0.0	$18.0
Totals (2014-2060)		**$153.1**	**($80.7)**	**$72.4**

* Values are discounted at an annual rate of 3.1%, except for CO_2 emission savings that are discounted at the annual rate of 2%. The values are rounded.

The following attachment is not included in the view since it is not a read-only PDF file.

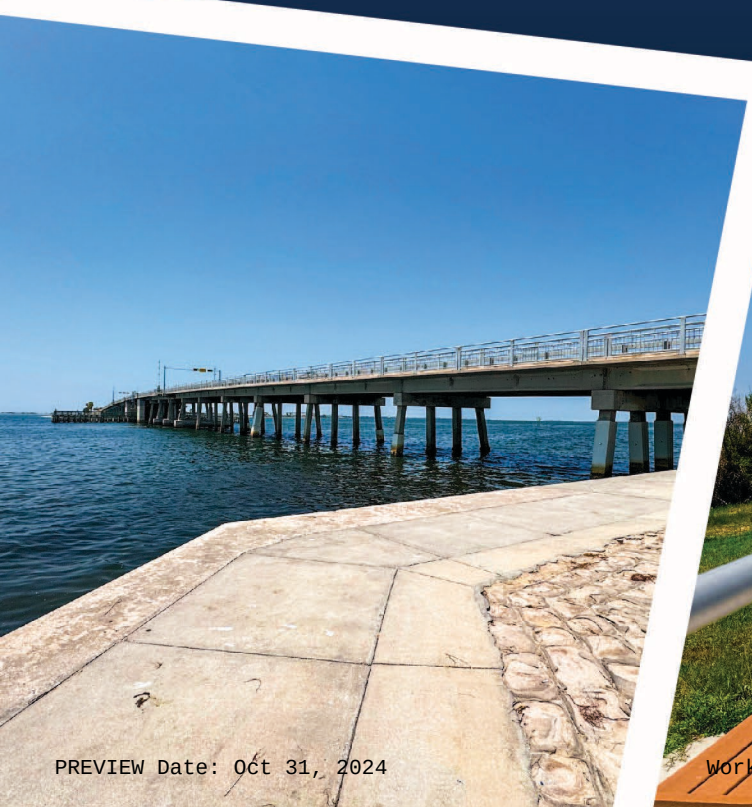
Upon submission, this file will be transmitted to the Grantor without any data loss.

AppendixE_BCA_Tool.xlsb

USDOT-FHWA Bridge Investment Program | FY 2025

Dunedin Causeway Main Bridge Replacement Project

Appendix F: Letters of Support



Pinellas County

PREVIEW Date: Oct 31, 2024

Workspace ID: WS01414416 Funding Opportunity Number: 693JJ324NF00006

FORWARD PINELLAS
P: (727) 464.8250
F: (727) 464.8212
forwardpinellas.org
310 Court Street
Clearwater, FL 33756

October 22, 2024

Secretary Pete Buttigieg
United States Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

RE: Dunedin Causeway Main Bridge Replacement Funding – 2025 Bridge Investment Program

Dear Secretary Buttigieg:

On behalf of Forward Pinellas, the metropolitan planning organization (MPO) for Pinellas County, I am requesting U.S. Department of Transportation funding for Pinellas County Government's application for construction costs for the Dunedin Causeway Main Bridge replacement project through the 2025 Bridge Investment Program. The project consists of replacing the aging, low-level bascule Main Bridge with a mid-level movable bridge. The Main Bridge is on the Dunedin Causeway that provides the sole connection from mainland to Honeymoon Island State Park and residential developments. The grant funding request is for construction of the Main Bridge only, as design is set to commence in early 2025.

The Dunedin Causeway Main Bridge provides access to Honeymoon Island, which has the second biggest economic impact of state parks in Florida with 1.6 million annual visitors, more than $140 million in direct economic impact, and nearly 2,000 jobs supported. Honeymoon Island is also the ferry terminal for access to another unspoiled state park, Caladesi Island. The Dunedin Causeway is a popular area for residents and visitors to enjoy recreational activities such as walking, jogging and biking on the designated trail, and swimming, kayaking, paddle boarding, and fishing in the Intracoastal Waterway. The importance of maintaining the Causeway is well documented and understood by the citizens and local governments. The proposed new bridge will meet all current safety standards and provide enhanced bicycle and pedestrian facilities that link to the 75-mile Pinellas Trail Loop around the entire county.

Located on the Gulf Coast of Florida, Pinellas County is home to nearly one million residents, with an additional 15.5 million visitors each year. Forward Pinellas has been working closely with the Florida Department of Transportation, Pinellas County Government, the City of Dunedin, and the Florida Division of State Parks to advance funding for safety and congestion relief along the Dunedin Causeway, including an expanded entrance to Honeymoon Island State Park. The bridge's replacement design and construction will complement those improvements.

Forward Pinellas clearly recognizes the need for improvements to the Dunedin Causeway bridges for reasons of economic vitality, resilience, and quality of life. The project is consistent with our policy emphasis of Enhancing Beach Community Access, which is one of three major emphasis areas adopted by the Forward Pinellas Board in 2015 and reaffirmed in 2021 and is a pillar of the adopted 2045 Long Range Transportation Plan. Thank you for your consideration of this letter of support.

Sincerely,

Whit Blanton, FAICP
Executive Director

Budget Narrative File(s)

*** Mandatory Budget Narrative Filename:** Dunedin Causeway Bridge_Replacement_Project_Applica

Add Mandatory Budget Narrative | Delete Mandatory Budget Narrative | View Mandatory Budget Narrative

To add more Budget Narrative attachments, please use the attachment buttons below.

Add Optional Budget Narrative | Delete Optional Budget Narrative | View Optional Budget Narrative

The following attachment is not included in the view since it is not a read-only PDF file.

Upon submission, this file will be transmitted to the Grantor without any data loss.

Dunedin Causeway Bridge_Replacement_Project_Application.xlsb

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

OMB Number: 4040-0013
Expiration Date: 02/28/2025

1. * Type of Federal Action:

- [ ] a. contract
- [x] b. grant
- [ ] c. cooperative agreement
- [ ] d. loan
- [ ] e. loan guarantee
- [ ] f. loan insurance

2. * Status of Federal Action:

- [ ] a. bid/offer/application
- [x] b. initial award
- [ ] c. post-award

3. * Report Type:

- [x] a. initial filing
- [ ] b. material change

4. Name and Address of Reporting Entity:

- [x] Prime
- [ ] SubAwardee

** Name:* County of Pinellas

** Street 1:* 400 S. Ft. Harrison Ave - 3rd FL

Street 2:

** City:* Clearwater

State:

Zip: 33756-5338

Congressional District, if known: FL-013

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency:

DOT Federal Highway Administration

7. * Federal Program Name/Description:

Highway Planning and Construction

CFDA Number, *if applicable:* 20.205

8. Federal Action Number, *if known:*

693JJ324NF00005

9. Award Amount, *if known:*

$ 79,088,000.00

10. a. Name and Address of Lobbying Registrant:

Prefix:

** First Name:* N/A

Middle Name:

** Last Name:* Van Scoyoc Associates, Inc.

Suffix:

** Street 1:* 800 Maine Avenue SW, Ste 800

Street 2:

** City:* Washington

State:

Zip: 20024

b. Individual Performing Services (including address if different from No. 10a)

Prefix: Mr.

** First Name:* Harry

Middle Name:

** Last Name:* Glenn

Suffix:

** Street 1:* 800 Maine Avenue SW, Ste 800

Street 2:

** City:* Washington

State:

Zip: 20024

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

*** Signature:** Completed on submission to Grants.gov

***Name:** *Prefix:* Mr. ** First Name:* Barry *Middle Name:* A. ** Last Name:* Burton *Suffix:*

Title: County Administrator **Telephone No.:** (727) 464-3485 **Date:** Completed on submission to Grants.gov

Federal Use Only:

Authorized for Local Reproduction
Standard Form - LLL (Rev. 7-97)

OMB Number: 4040-0013
Expiration Date: 02/28/2025

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

* APPLICANT'S ORGANIZATION	County of Pinellas
* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Prefix:	Mr.
* First Name:	Barry
Middle Name:	A.
* Last Name:	Burton
Suffix:	
* Title:	County Administrator
* SIGNATURE:	Completed on submission to Grants.gov
* DATE:	Completed on submission to Grants.gov

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$	$	$
2. Land, structures, rights-of-way, appraisals, etc.	$	$	$
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$	$	$
5. Other architectural and engineering fees	$	$	$
6. Project inspection fees	$	$	$
7. Site work	$	$	$
8. Demolition and removal	$	$	$
9. Construction	$ 98,860,000.00	$	$ 98,860,000.00
10. Equipment	$	$	$
11. Miscellaneous	$	$	$
12. SUBTOTAL *(sum of lines 1-11)*	$ 98,860,000.00	$	$ 98,860,000.00
13. Contingencies	$	$	$
14. SUBTOTAL	$ 98,860,000.00	$	$ 98,860,000.00
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 98,860,000.00	$	$ 98,860,000.00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 80 %	$ 79,088,000.00

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 02/28/2025

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29) U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Completed on submission to Grants.gov	County Administrator
APPLICANT ORGANIZATION	DATE SUBMITTED
County of Pinellas	Completed on submission to Grants.gov

SF-424D (Rev. 7-97) Back