



Florida Department of Transportation

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SECRETARY

August 19, 2010

Secretary Ray LaHood
U.S. Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave. SE
Washington, D.C. 20590

Subject: TIGER II Discretionary Grant Application for
Pinellas Bayway Drawbridge Structure "C" Replacement

Dear Secretary LaHood:

The Florida Department of Transportation (FDOT) in coordination with the Pinellas County Metropolitan Planning Organization is pleased to submit this application for a TIGER II Discretionary Grant from the National Infrastructure Investment funding under Title I of the FY 2010 Appropriations Act (Pub. L. 111-17).

The proposal, the Pinellas Bayway Drawbridge Structure "C" Replacement project, is to replace a 48 year old, functionally obsolete, 2-lane drawbridge with a 4-lane high-level bridge from S.R. 682 to S.R. 699 in Pinellas County. This drawbridge replacement project is "shovel ready". All right-of-way has been acquired, environmental permits have been issued, and design has been completed. Project construction, currently estimated at \$67 million, can begin in early 2011 with the needed \$27.7 million of TIGER funds.

If you have any questions or need additional information, please contact Donald J. Skelton, P.E. District Seven Secretary, at (813) 975-6039 or e-mail donald.skelton@dot.state.fl.us.

Sincerely,

A handwritten signature in blue ink that reads "SKopelousos".

Stephanie C. Kopelousos
Secretary

Pinellas Bayway Drawbridge Replacement Structure “C” (S.R. 682)

FPN: 256903 1

TIGER II Grant Application



Submitted by
Florida Department of Transportation

August 20, 2010

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Attachment A Application for Federal Assistance SF-424
Attachment B Federal Wage Rate Certification
Attachment C Pinellas Bayway Drawbridge Replacement Structure “C” Economic
 Benefit-Cost Analysis Report
Attachment D FDOT Project Reevaluation
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I. Project Description

The Florida Department of Transportation (Florida DOT) is submitting the replacement of the Pinellas Bayway Drawbridge (S.R. 682) Structure “C” for consideration of a TIGER II Grant award of \$27.7 million. TIGER II funds will allow the Florida DOT to replace a 48 year old, functionally obsolete, 2-lane drawbridge with a 4-lane, fixed span, high-level bridge from S.R. 679 to S.R. 699 in Pinellas County as shown in Figure 1. This drawbridge replacement project is “shovel ready”. All right-of-way has been acquired, environmental permits have been issued, and design has been completed. Project construction is currently estimated at \$67 million. Award of a TIGER II Grant of \$27.7 million, leveraged with Florida DOT funds, and budget approval by the Florida Legislature, will finance all construction costs for this \$67 million drawbridge replacement.

The Florida DOT is providing 59% of the total project cost through a project Construction Reserve Account to match the TIGER II Grant funds. The 1985 Laws of Florida established this Construction Reserve Account for the specific purpose of widening S.R. 682 and replacing the 2-lane Pinellas Bayway Drawbridge as the Phase II Project. The Phase I Project, the widening of S.R. 682 to connect to I-275, has already been completed.

The Pinellas Bayway Drawbridge provides a vital regional and local connection between I-275, the City of St. Petersburg, and the City of St. Pete Beach. With an annual average daily traffic volume of 22,500 vehicles, this is the primary route used by residents, employees, and visitors to access local beaches and I-275 for regional travel. The southern segment of the Pinellas Bayway System serves the island of Tierra Verde and Fort DeSoto Park, a 1,136 acre Pinellas County public park that averages 2.7 million visitors per year. The park is a major beach destination and was named the #1 beach in the nation in 2005¹. The Fort Desoto Park and beach attracts regional, national, and international visitors.

The Pinellas Bayway opened to traffic in 1962 as a 2-lane drawbridge connecting the mainland to the barrier islands and the Gulf of Mexico. Annual revenues from the Pinellas Bayway Toll System are used to finance system operations and annual maintenance. After expenses are paid, remaining revenue is deposited in a Construction Reserve Account that was established in 1985 by the Florida Legislature. In the mid-1980s, the Pinellas Bayway roadway (S.R. 682) was widened from a 2-lane to a 4-lane facility from S.R. 679 to 41st Street to accommodate increased traffic volume to and from I-275. Recognizing the need to replace the bridge due to deterioration, the Florida DOT completed a Project Development and Environment (PD&E)



Figure 1: Project Location

¹ “Dr. Beach” 2005’s Top Beach Offer. Laboratory for Coastal Research and National Healthy Beaches Campaign, Florida International University, Miami, Florida.

Study and the National Environmental Policy Act (NEPA) process for the Pinellas Bayway Drawbridge (Bridge No. 150050) replacement.

The recommended alternative is to replace the existing 2-lane drawbridge with a 4-lane, fixed span, high-level bridge. The design of the fixed span, high-level bridge is complete. The impact of the continuing recession in Florida has stopped the Florida DOT from proceeding with this project. This recession and higher fuel costs have decreased the number of visitors who would use the Pinellas Bayway to access the gulf coast beaches of Pinellas County. Net toll revenue is forecasted to be less than the total operating and maintenance expenses through 2020 due primarily to the increasing cost of periodic maintenance and improvement projects².



Figure 2: Fixed Span, High-Level Bridge

Florida law requires the Florida DOT to have all funds needed to award a construction project on hand prior to advertising the project for bids. The Florida DOT advertised the bridge replacement construction contract in 2004 and received a single bid. Due to the lack of competition, the Florida DOT rejected the single bid and then prevailed in a bid protest action. The Florida DOT has not been able to add this project during the annual budgeting for the Five Year Work Program since 2005. A project cannot be added to the Five Year Work Program unless the funding is available, as the Florida DOT is required by law to have a Five Year Work Program that can be financed with anticipated revenues.

The proposed fixed span, high-level Pinellas Bayway Bridge will increase vehicle and marine traffic capacity, reduce congestion, and provide local and regional mobility between coastal communities and the interstate. Constructing a 4-lane, fixed span, high-level bridge will reduce air emissions and eliminate traffic backups created by the frequent opening and closing of the existing drawbridge for marine traffic. The new fixed span, high-level bridge as depicted in Figure 2 will significantly improve safety and hurricane evacuation for coastal residents and tourists by providing un-interrupted access to and from the Cities of St. Pete Beach and St. Petersburg. Pedestrians and bicyclists will have a new mode choice, a 1.3 mile multi-use path that will comply with all safety and design criteria and connect to existing pedestrian and bicycle facilities. Bridge dimensions for the fixed span bridge are provided in Table 1, and the typical section is shown in Figure 3 on the following page.

The new bridge will bring stimulated economic growth to south Pinellas County by replacing the gateway bridge to numerous beachfront parks, boat ramps, and bicycle trails. Leveraging \$27.7 million of TIGER II funds with Florida DOT matching funds will provide the communities, local businesses, and national and international tourists with a modern, multimodal, 4-lane bridge. The Pinellas Bayway Drawbridge replacement project will provide significant long-term

² 2009 Toll Operations Annual Report, Florida DOR, Enterprise Toll Operations, (page 62). Source: http://www.floridasturnpike.com/downloads/Toll%20Operations%20Annual%20Report/2009/4_Department-owned.pdf

improvements to the Florida economy, user safety, and mobility during the 75 year design service life of the new bridge. Livability and sustainability elements such as signing, lighting, and landscaping are included in the project.

Table 1: Bridge Dimensions Comparison

Bridge Dimensions	Drawbridge	Fixed Span Bridge
Length	2552 feet	2602 feet
Travel Lane Width	2 lanes, 12 feet	4 lanes, 12 feet
Inside Shoulder	n/a	6 feet
Outside Shoulders	1 foot	10 feet
Multi-Use Path	n/a	11 feet (south side)
Sidewalk	3.4 feet	n/a
Minimum Vertical Clearance (fender system of the navigable channel)	21.5 feet	65 feet
Horizontal Clearance (fender system of the navigable channel)	90 feet	100 feet

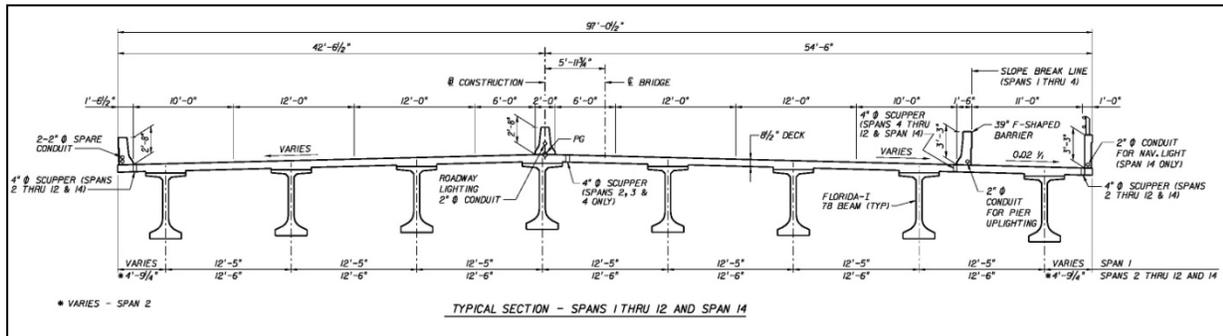


Figure 3: Fixed Span, High Level Typical Section

II. Project Parties

The Pinellas Bayway is the main connector between I-275 and the Cities of St. Pete Beach and St. Petersburg. It is a vital link for residents and tourists because it is the designated hurricane evacuation route from the most popular beaches in Pinellas County. Replacing the existing 48 year old bridge will provide a continuous four-lane roadway on S.R. 682 from the south Pinellas County beaches to I-275. Development of this project has been a collaborative effort between governments and agencies including: Pinellas Bayway Bridge Beautification Committee (neighborhood and civic organizations), City of St. Pete Beach, City of St. Petersburg, Pinellas County MPO, Pinellas County, and the Florida Department of Transportation. Letters of support for this project have been provided by the partnering agencies and are included in Attachment E.

III. Grant Fund and Sources/Uses of Project Funds

As shown in Table 2, the \$27.7 million TIGER II Grant will be added to the \$39.3 million set aside in a Construction Reserve Account established by Florida law for the Pinellas Bayway System to replace the 2-lane Pinellas Bayway Drawbridge. Investing \$27.7 million of TIGER II funds will provide the community with a reliable, safe, and updated transportation structure with a design service life of 75 years.

Table 2: Pinellas Bayway Funding Sources

Funding Source	Amount	Percentage
TIGER II Grant	\$27.7 million	41%
State Construction Reserve Account	\$39.3 million	59%
Total	\$67.0 million	100%

The construction costs to replace the Pinellas Bayway Drawbridge are estimated at \$67 million. This total includes a detailed construction cost estimate that was developed by the Florida DOT team by pricing every pay item that the contractor will be paid for based upon current pay item costs for Pinellas County. The total project cost also includes Construction, Engineering, and Inspection costs that are required to administer the construction contract. Construction can begin in early 2011 as soon as the Florida DOT adds the project to its current Five Year Work Program and obtains the required budget approval authority from the Florida Legislature. Construction of the new bridge can be completed by 2014, and benefits can begin accruing as soon as the new bridge is opened for traffic.

Construction costs were measured in constant 2010 dollars. The construction costs were then made into a stream of costs based on the construction schedule. The cost stream was then discounted to arrive at a present value per the Federal Register guidelines. The discounted construction dollars are shown in the Table 3.

Table 3: Construction Costs

Description (Units)	Constant 2010 \$ (million)	Present Value 3% Discount Rate (million)	Present Value 7% Discount Rate (million)
Capital	67.01	63.18	58.62

IV. Selection Criteria

a. Long-Term Outcome

i. State of Good Repair

The existing drawbridge has operated in a corrosive marine environment for the last 48 years, just short of the 50 year design service life that the bridge was designed for in 1962. A major rehabilitation project is required in three years to repair large areas of the bridge deck, bridge piers, and rehabilitate the bridge structural, mechanical, and electrical systems. The Florida DOT will be required to spend \$27.4 million (present day costs) in order to maintain the bridge structure and drawbridge systems until 2022. Approval of this TIGER II Grant application will allow the Florida DOT to avoid spending \$27.4 million on a ten-year bridge rehabilitation project at a time when financial resources are constrained.

The Pinellas Bayway Drawbridge is classified as functionally obsolete based on bascule (drawbridge) operations, and limited horizontal dimensions that provide no shoulders for vehicle emergencies. The bridge is also functionally obsolete because it does not provide adequate pedestrian and bicycle accommodations. Currently, annual toll revenues pay for a bridge tender to open the drawbridge 24 hours a day, 365 days per year, in addition to other operations and routine maintenance needed to maintain operational reliability. Another factor making the bridge a prime candidate for replacement is the age and reliability of the 48-year old electrical and mechanical components that directly affect the capability to raise and lower the drawbridge efficiently. Replacement electrical and mechanical components are extremely difficult to locate.

Replacing the drawbridge will save operations and maintenance costs that should amount to \$20.1 million including avoided rehabilitation costs. Annual operational costs will be substantially reduced and utility costs will no longer include the cost of electric power to operate the drawbridge machinery as shown in Figure 4, or supply potable water and power to the drawbridge operator facility. Maintenance costs required to maintain the drawbridge hydraulic and electrical systems, and movable structural steel components will be eliminated. Annual and periodic maintenance costs for the new fixed span, high-level, bridge will be a small percentage of current bridge maintenance costs over its 75 year design service life.



Figure 4: Drawbridge Mechanical Equipment

Consistent with state, local and regional efforts to maintain a state of good repair, this Florida DOT owned drawbridge structure has been identified for replacement. Delaying bridge replacement will result in a decrease of the structural adequacy of Structure “C” and result in load capacity reductions that will degrade the mobility of people and goods in a coastal area with limited emergency access and hurricane evacuation routes.

The FHWA Sufficiency Rating (SR) is a tangible indicator of the bridge condition and one of the qualifying factors for federal replacement or rehabilitation funding. In general, bridges that are structurally deficient, functionally obsolete, and exhibit an SR of less than 50 can be proposed for replacement. Bridge SR is determined based on the following:

- Structural adequacy and safety of the load carrying capacity of the bridge accounts for 55% of the SR.
- Serviceability and functionality, or how the bridge compares to current design standards accounts for up to 30%.
- Essentiality for public use or the impact of its operational reliability to the public and national needs account for up to 15%.

The FHWA SR formula also allows for special reductions that will lower the SR up to 13% for other intangible factors. However, FHWA will not allow for these reductions once the SR is below 50, which explains why the SR may change unexpectedly as a bridge ages and deteriorates. At this point in the service life of a bridge the primary cause for SR reduction will be its structural adequacy and safety. The June 2009 Sufficiency Rating for the Pinellas Bayway Bridge Structure “C” was 42.5. Table 4 shows the history of the SR for this bridge since 2000.

Table 4: Pinellas Bayway National Bridge Inventory Ratings

National Bridge Inventory Rating				
BIR Date	Deck	Superstructure	Substructure	SR
06/29/09	6	5	5	42.5
06/26/08	6	5	5	42.5
06/20/07	6	6	6	53.5
06/29/06	6	6	6	42.5
06/29/05	6	5	6	39.3
06/09/04	6	5	6	43.1
06/11/03	7	5	6	43.1
06/06/02	7	5	6	43.1
06/05/01	7	5	6	43.1
06/30/00	7	5	6	43.1

Table 5 is a forecast of the SR for Structure “C” based on the deterioration that is typically expected for a bridge of this type, age, condition, marine environment exposure, and existing routine maintenance plan.

Table 5: Sufficiency Rating Projections

Sufficiency Rating Projection					
Year	Deck	Superstructure	Substructure	Inventory Rating	SR
2009	6	5	5	29.3	42.5
2011	6	5	5	26.3	46.9
2013	6	5	4	26.3	30.9
2014	6	4	4	22.0	24.8

Recent test results of concrete core samples of the concrete foundation piles that support the Pinellas Bayway Drawbridge superstructure indicate that Sufficiency Rating projections noted in the table above for 2011-2014 may be optimistic. The Florida DOT’s Materials Office Corrosion Laboratory is conducting a statewide concrete corrosion study titled, *Characterization of New and Old Concrete Structures Using Surface Resistivity Measurements*. This research study is being conducted by Florida Atlantic University and is scheduled for completion in 2010. The test results to date have revealed concrete with extremely low corrosion resistance. Structure “C” concrete pile samples have a high chloride diffusion coefficient typical of 1960’s concrete technology, and chloride contents that far exceed the onset of corrosion thresholds.

These samples were collected at pile elevations that are in the splash zone as shown in Figure 5. Similar results can be expected of the concrete superstructure because of its low elevation. Once corrosion thresholds are exceeded, corrosion of the embedded reinforcing steel can occur at any time, even when aggressive corrosion control measures are implemented. The Florida DOT’s customized routine maintenance plan does not include aggressive corrosion control measures for Structure “C”. Recent test results indicated an increased probability that corrosion related deterioration will negatively impact the operational reliability and structural capacity of the bridge and lower the Sufficiency Rating.

In September 2004 Hurricane Ivan made landfall near Gulf Shores Alabama with 130 mph winds and a storm surge of 10 to 13 feet. The storm surge and wave forces generated by this Category 4 hurricane damaged a total of 124 bridge spans and required the



Figure 5: Concrete Pile Substructure

complete closure and ultimate replacement of the eastbound and westbound I-10 bridges over Escambia Bay, Florida. As a result of this storm event, the Florida DOT is completing a pilot study to develop guidelines, and new design and retrofit criteria to account for the wave impact vulnerability of bridges. The Pinellas Bayway Structure “C” has been identified as a bridge that is highly susceptible to wave impact given its design. The new bridge design incorporates shear blocks to resist storm wave forces.

ii. Economic Competitiveness

Pinellas County has a land area of 280 square miles and a total population of 944,772. The land area includes 588 miles of coastline and 35 miles of sandy beaches. Pinellas County is home to one of the first urban rails-to-trails, a nationwide conservancy effort to convert former rail lines to trails. This 37 mile trail system attracted almost 700,000 users in 2006. With its natural vistas and trail network, Pinellas County welcomes 13.5 million visitors each year.

The Cities of St. Pete Beach and St. Petersburg are located at the southern end of Pinellas County. They have a combined population of 258,161 with a seasonal and tourist population of 54,274. Primary employment is in retail, guest accommodation, and food service industries due to the large influx of tourists and seasonal residents to the area. Improving access to and creating demand for these goods and services will therefore help to create jobs. The replacement of the Pinellas Bayway Drawbridge will increase economic growth and prosperity by providing easier access to coastal communities, leading to an increase in tourism and seasonal residents.

iii. Livability

Community outreach, collaboration, and cooperation are a significant component for the bridge replacement design. The Florida DOT recognizes that the Pinellas Bayway Drawbridge is an integral part of the community and community identity - that includes traditionally underserved populations and age 65 and older groups as defined by the 2000 Census. The Florida DOT sponsored the Bayway Bridge Beautification Committee (BBBC) for the residents of St. Pete Beach, St. Petersburg, and the adjacent barrier island communities. The first meeting was held on June 26, 2001 to work towards a context sensitive solution. The 17 member committee spent several months with the Florida DOT team and the design consultant sharing information and working collaboratively to create this community landmark.

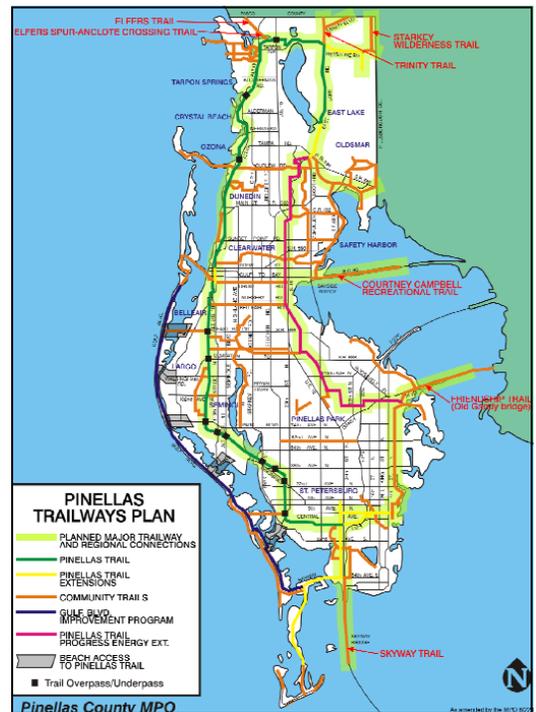


Figure 6: Pinellas Trailways Plan

The committee provided guidance to the Florida DOT team on the aesthetic design features and landscaping for the project. Special community design features include a concrete structural wall system depicting a raised dolphin scene with smooth walls and a sandstone color. Landscaping includes low foliage along the recreational trail with a variety of palms along the Pinellas Bayway. Florida native plants, tolerant to a coastal environment, were selected for this project based upon hardiness, drought resistance, minimal nutrition, and low maintenance. Benches and bicycle racks were added to compliment the 12-foot wide multi-use trail that traverses the Boca Ciega Bay on the south side of the new bridge.

The project provides the essential connection for a network of community and regional trails that link recreational, residential, commercial and institutional land uses. This network of community and regional trails shown in Figure 6 provide the critical linkages that connect neighborhoods throughout Pinellas County to its beaches, parks, natural areas, and downtowns. The City of St. Pete Beach and its many sister island communities are connected to the City of St. Petersburg via the Pinellas Trail Loop facilities on the mainland. The City of St. Petersburg Bicycle – Pedestrian Master Plan and the Pinellas County MPO Trailways Plan are coordinated strategies to improve access by non-motorized modes between the urban center of the City of St. Petersburg and the gulf beaches. Recreational and commuter users will benefit greatly from the new multi-use trail because it will provide a crucial link between the existing and planned regional trail networks, and bicycle and pedestrian trails on both sides of the intercoastal waterway. Expected drawbridge replacement benefits include increased bicyclist use and tourism resulting in \$1.22 million in 2010 dollars.

iv. Environmental Sustainability (Greenhouse Gas Reduction)

The Air Quality Report was developed as a component of the Environmental Assessment (EA)/Finding of No Significant Impact (FONSI). This document assessed the air quality effects generated by highway traffic for the build and no-build alternatives. Primary pollutants generated by motor vehicles are CO₂, HC, and NO_x and these emissions are generally the highest when vehicles are idling - stopped or delayed. Today, when the drawbridge opens to marine traffic, vehicles using the drawbridge are delayed 3 minutes and 40 seconds at a time approximately 5,687 times per year. The expected emissions reductions from this project are as follows:

- NO_x 0.42 tons/yr in 2030
- HC 1.08 tons/yr in 2030
- CO₂ 275 tons/yr in 2030

An additional benefit that will be generated from travel time savings is the reduction of vehicle emissions due to more efficient utilization of vehicles over shorter periods of time.

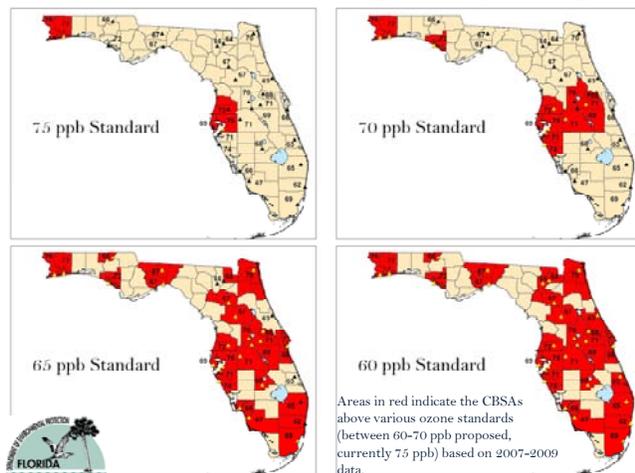


Figure 7: Air Quality

This efficiency would be transferred to users of the facility as well as to residents and visitors of surrounding areas. Results of traffic modeling were used to estimate emissions reduction benefits. The same set of assumptions used to model travel time savings were utilized in this case. Vehicle emissions are a function of, among other factors, type and condition of vehicles, average vehicle speeds and distances traveled.

Benefits were quantified based on average projected pollutant emissions per vehicle from calendar years 2014 to 2053 and the corresponding reductions in travel time from the proposed improvements. Carbon dioxide reductions were estimated based on the gallons of gasoline saved over the life of the drawbridge replacement project and EPA's estimate of carbon dioxide of 8,788 grams per gallon³. The value per gram of each of the pollutants was estimated from values provided by the National Highway Traffic Safety Administration⁴.

In September 2008, Pinellas County was identified as a potential non-attainment area based on the 2008 revised national ambient air quality standard (NAAQS) for ozone in Florida shown in Figure 7. The Environmental Protection Agency Administrator will determine final designations no later than August 2011. Health impacts of ozone include premature death in people with heart and lung disease, increased hospital visits for respiratory diseases, reduced lung function and susceptibility to infection, and aggravation of chronic lung diseases. Increased air emissions and the production of greenhouse gases, have a direct relationship to the low-level drawbridge that delays vehicles and increases the need for vehicular acceleration and deceleration. Recognizing the importance of reducing air emissions and greenhouse gases, construction of the fixed span, high-level bridge has the potential to drastically improve air quality through a reduction in vehicle delays and the provision of free flow traffic.

v. Safety

The Pinellas Bayway Drawbridge is on the western end of Pinellas County and is a designated Hurricane Evacuation Route and an important Emergency Medical Service Route. Replacing the existing 2-lane, drawbridge with a 4-lane, fixed-span, high-level bridge will improve evacuation capability for both residents and tourists by reducing travel time.

The new bridge will also reduce the number of rear end collisions that are the result of intermittent traffic stops due to the opening of the drawbridge. Additionally, the new bridge allows vehicle operations with a greater degree of forgiveness for driver error because the new bridge will comply with current Florida DOT safety design criteria. These criteria include bridge vertical geometry, driver sight distance, and adequate roadway shoulder pavement for vehicle emergencies.



Figure 8: Functionally Obsolete Drawbridge

³ <http://www.epa.gov/otaq/climate/420f05001.pdf>

⁴ http://www1.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/sem_finalrule_appendix15a.pdf

b. Job Creation

The current unemployment rate in Pinellas County is 11.2%⁵ and is above the national average. The 2008 per capita income was \$29,126 qualifying Pinellas County as an Economically Distressed Area (EDA)⁶. Project construction will have a direct job creation of about 728 full-time positions⁷. On average these jobs will come from the construction and professional services industries. In addition, the drawbridge will be constructed consistent with all applicable state and federal requirements. This includes apprenticeship programs, disadvantage business enterprises, and community business networking opportunities. Improving the capability of more traffic to travel in less time to and from the beaches will ensure the continued economic viability of numerous tourist related businesses for these communities. To quantify the benefit of this project further, an evaluation of costs and benefits was conducted.

i. Evaluation of Benefit and Cost

The computed benefit-cost ratio for the project is 2.09 using a three percent discount rate, and 1.13 using a discount rate of seven percent. A formal benefit-cost analysis was prepared based on the U.S. Department of Transportation's (USDOT's) guidance for benefit-cost analysis of TIGER II Discretionary Grants. Results are summarized in Table 7. A detailed description of the methodology used to evaluate benefit-cost can be found in Attachment C.

The benefit-cost ratio is based on the following major assumptions:

- The benefits and costs are measured against a baseline, or no-build scenario, which was defined as foregoing the bridge replacement and the roadway improvements, delaying the entire proposed project indefinitely.
- Construction would occur over a three year period, from 2011 through 2013. Benefits would materialize beginning in 2014.
- Benefits are quantified through 2053, allowing for a total forecasting horizon of 43 years. Benefits and costs associated with the project are computed for a period of 43 years; although lifecycle of the road improvements, and associated benefits, are estimated to extend for more than 40 years, benefits beyond year 2053 are captured in the form of a residual value.
- The discount factors used for the Net Present Value calculation are calculated on the assumption that costs and benefits occur as lump sums at year-ends.

⁵ <http://www.bls.gov/data/#unemployment>

⁶ An Economically Distressed Area (EDA) is defined as a county with average 24 month unemployment 1% higher than the national average or per capita income of less than 80% of the national average. From April 2008 to March 2010, the average national unemployment rate was 8.15%; after adding 1% to the national average, the threshold is still well below Pinellas County unemployment rate over the same time period. The 2008 national per capita income was \$40,166, of which 80% is \$32,133. Source: http://factfinder.census.gov/servlet/ACSSAFFacts?_event=Search&geo_id=01000US&geoContext=01000US&street=&county=pinellas+county&cityTown=pinellas+county&state=04000US12&zip=&lang=en&sse=on&ActiveGeoDiv=geoSelect&useEV=&pctxt=fph&pgsl=010&submenuId=factsheet_1&ds_name=ACS_2008_3YR_SAFF&ci_nbr=null&q_r_name=null®=null%3Anull&keyword=&industry=

⁷ Executive Office of the President, Council of Advisors: Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009, May 2009

Table 6: Benefit Cost Summary

Benefit Description by Category	Total Project Present Value (7% Discount Rate) (Millions \$)	Project Impacts in Year 2030
i. Economic Competitiveness		
Travel time savings from elimination of bridge openings	\$14.77	51,231 hours saved
Reliability benefits	\$13.88	24,081 hours saved
Travel time savings from road widening	\$1.78	6,175 hours saved
Savings in vehicle operating costs	\$0.88	\$23,911 in vehicle user costs saved
ii. State of Good Repair		
Operation and maintenance savings	\$0.96	\$48,389 saved
Rehabilitation cost savings	\$21.83	-
iii. Safety		
Reduction in accidents	\$8.88	Accidents avoided – 3.64 property damage only; 4.25 injury
iv. Sustainability		
Reduction in emissions	\$0.18	Savings of 275 tons of CO ₂ ; 0.42 tons of NO _x ; 1.08 tons of HC
v. Livability		
Increased access for pedestrians and bicycles	\$1.22	7,500 additional bicycle users
Reduction in oil imports	\$0.11	\$2,876 in oil imports saved
Total Project Benefits	\$64.49	
Cost Description by Category	Total Project Present Value (7% Discount Rate) (Millions \$)	
i. Construction	\$58.62	
ii. Residual Value	(1.75)	
Total Cost	\$56.86	
Total Net Present Value	7.63	
Total Benefit-Cost Ratio	1.13	

ii. Travel Time Savings

In order to estimate these savings, traffic was modeled and used to simulate traffic under build and no-build conditions. The results of the traffic modeling indicate that time savings could be substantial if the fixed span bridge is constructed. For example, in the first year of operations in 2014, 42,286 vehicle hours are reduced (including effects from eliminating the drawbridge operations, reliability benefits, and road widening from 2 to 4 lanes). The drawbridge opens over 5,680 times annually with a wait time of 3 minutes and 40 seconds each opening. Most of the vehicles using the drawbridge were modeled as automobiles at 96.7 percent of the traffic volume. The remaining vehicles were modeled as trucks at 3.3 percent of the total traffic volume.

In addition, the new bridge would require less costly operation and maintenance (O&M) and rehabilitation practices. Elimination of the drawbridge will require less operating activities and, in general, less operational resources than the proposed fixed-span bridge. Annual O&M costs for the proposed bridge are significantly less at \$0.019 million and \$0.022 million per year. The O&M cost savings have a present value of \$5.03 million over the life time of the project.

Approximately \$20 million in rehabilitation savings in year 2012 will be realized in addition to other rehabilitation costs in years 2022 in the amount of \$0.94 million, \$16.4 million in 2032, and \$0.20 million assumed every five years starting in year 2037. The yearly rehabilitation cost savings total an estimated \$21.83 million in present value terms.

iii. Savings in Vehicle Operating Costs

Travel time savings resulting from the elimination of bridge openings - Travel time is considered a cost to users, and its value depends on the disutility (cost or dis-benefit) that travelers attribute to time spent traveling. A reduction in travel time would translate into more time available for work, leisure, or other activities, which traveler's value, and would be a project benefit.

The travel time benefits are assumed to come online in year 2014, the first year of operations of the proposed bridge. Growth in travel time savings was estimated out to 2030 based on a 0.93 percent Compound Annual Growth Rate (CAGR) of the AADT between 2009 and 2030. To be conservative, no growth was assumed after 2030 to the last year of the model, 2053. In year 2014, there were 44,213 vehicle hours in time savings calculated with 51,231 in year 2030 through year 2053. On a present value basis, these benefits are estimated to be \$14.77 million over the evaluation period.

Travel time savings resulting from adding capacity (2 lanes to 4 lanes) - The proposed project also provides users with travel time savings benefits resulting from greater capacity on the roadway since it doubles the lanes from 2 to 4. To estimate the amount of benefits, it was assumed that the peak hour conservatively lasted 2 hours each day. The Florida DOT modeling from 2009 traffic data (22,500 vehicles per day, 1,418 vehicles per hour) resulted in 17.7 seconds greater delay per vehicle in the 2-lane scenario than the 4-lane scenario. Time savings in 2014 were estimated to be 5,329 vehicle hours and 6,175 vehicle hours in 2030. The value of this time is estimated for this project to be \$1.78 million over the evaluation period.

Reliability Benefits - When users anticipate travel delays but cannot predict when they will occur or how long they will last, they experience an unreliability “penalty”. In many cases travelers are likely to build buffers into their travel patterns in order to compensate for their expected increase in travel time based on such unexpected events. Alternatively, they may experience this delay, when encountered by more onerous than normal delay. This situation characterizes what drivers face when traveling across the Bayway Drawbridge. The compensating buffer time - which we use here to quantify the reliability penalty - reflects the “expected value” of delay, and reflects rational expectations that people may have. The buffer increases their travel time beyond what is already calculated in travel time savings. This is a penalty the user adds to his or her travel time based on some level of random delay that they might anticipate. In order to calculate this extra random delay penalty, it is necessary to determine the probability of a passenger encountering a bridge opening.

This project eliminates bridge openings, and thus, unexpected delays for the users due to this cause. The value of this time is considered a reliability benefit, which is estimated for this project to be \$13.88 million over the evaluation period.

Vehicle Operation Savings - Travel time savings will also generate additional or secondary benefits. One of these additional benefits is the savings in fuel from less time idling on the bridge from the openings. To estimate the quantity of fuel savings the amount of annual vehicle hours savings is multiplied by an assumed average speed (10 mph) and divided by an assumed fuel economy (18.0 mpg from the Bureau of Transportation Statistics) resulting in annual gallons of fuel saved. It is estimated that 24,562 gallons of fuel in 2014 will be saved and 28,462 gallons of fuel in 2030. The value of the fuel savings benefits is estimated to be \$0.88 million in present dollars over the evaluation period.

iv. Sustainability

Emissions Savings - An additional benefit that will be generated from travel time savings is the reduction of vehicle emissions due to more efficient utilization of vehicles over shorter periods of time. This efficiency would be transferred to users of the facility as well as to residents and visitors of surrounding areas. Results of traffic modeling were used to estimate emissions reduction benefits. The present value of the monetary benefits due to saved emissions over the life time of the project is estimated at \$0.18 million.

Bicycle Access - The proposed high-level bridge will offer improved pedestrian and bicycle access providing a link to a network of community trails. There are approximately 150,000 annual users of these trails. For this analysis, an increase of 5 percent of those total users was thought to be reasonable. A bicycle shop in the area rents bicycles for \$30 per day, so it is assumed conservatively that the economic value is half, and \$15 per new user in benefits was assumed. The present value of increased access benefits accruing from the Bayway Drawbridge Replacement project over the evaluation period are estimated at \$1.23 million.

Reduction in Oil Imports - Fewer vehicle hours resulting from less time idling at bridge openings provides a benefit of fewer oil imports. Based on the quantity of vehicle hours saved,

the quantity of oil savings was estimated. Reducing oil imports is a benefit to the U.S. economy. The estimated benefits from the reduction in oil imports are estimated to be \$0.11⁸ million in present day dollars over the evaluation period.

v. Safety Benefits

Reduction in accidents - The project will significantly improve safety in the corridor. The majority of the accidents are rear-end collisions. A major contributing factor to the accident problem is the drawbridge. It is expected that the elimination of the drawbridge openings will eliminate these rear-end collisions. The benefits resulting from highway accident reduction were converted to monetary values using the cost of fatal and injury highway accidents cited by the USDOT. Under this assumption, benefits are estimated to be \$8.8⁸ million in present value terms.

vi. Project Costs

Initial project investment costs include Construction, Engineering, and Inspection (CEI) costs, and other capital investments and contingency factors. The construction for the Bayway Drawbridge Replacement project is estimated to begin in the first quarter of 2011 and extend through the end of 2013. The real costs in 2010 dollars are \$67.0 million. At a discount rate of 7 percent the present value of the capital costs is \$58.62 million.

c. Innovation

As part of this drawbridge replacement there are three unique design elements. The new bridge design incorporates a new pre-stressed structural beam, the Florida I-Beam. This new beam has been engineered in cooperation with the pre-stressed industry to provide a more efficient structural shape than the older AASHTO beam types. Pinellas Bayway Structure “C” will be one of the first bridge replacement projects in Florida to use this new Florida DOT statewide standard.

Since the low-level drawbridge is being replaced with a fixed span, high-level bridge, a steep roadway grade is required at one end of the bridge to connect to an existing roadway intersection. In order to meet the ADA design criteria for pedestrians, innovative “landings” or horizontal platforms are required every 30 feet for wheelchair users on the multi-use trail. The different grades between the bridge and trail create a unique challenge. This will be resolved by installing a special ramp and barrier to incorporate all the ADA criteria for the multi-use trail users, while providing a seamless constant height barrier for motorists.

In order to offer safe pedestrian and bicycle access to both sides of the corridor, a path underneath the end of the proposed bridge will be provided. Since the vertical clearance at the end of the bridge is not sufficient for pedestrians and bicyclists, the multi-use path will be extended beyond the seawall over the water on a separate structure in order to achieve the necessary clearance.

⁸ Details provided in Attachment C

d. Partnership

The Pinellas Bayway is the main connector between I-275 and the Cities of St. Pete Beach and St. Petersburg. It is a vital link for residents and tourists because it is the designated hurricane evacuation route from the most popular beaches in Pinellas County. Construction of the new bridge will allow the Florida DOT to comply with state law that requires this bascule bridge to be widened to four lanes. Replacing the existing 48 year old bridge will provide a continuous four lane roadway on S.R. 682 from the south Pinellas County beaches to I-275. This drawbridge replacement has been a collaborative effort between numerous governments and agencies including:

- Pinellas Bayway Bridge Beautification Committee (neighborhood and civic associations)
- City of St. Pete Beach
- City of St. Petersburg
- Pinellas County Metropolitan Planning Organization (MPO)
- Pinellas County
- Florida Department of Transportation

Letters of support for this project have been provided by participating partners and are included in Attachment E.

V. Project Readiness and NEPA

The Pinellas County Metropolitan Planning Organization identified the need to improve capacity of the Pinellas Bayway Drawbridge in the 2035 Long Range Transportation Plan. The Pinellas MPO board amended the Federal Stimulus priority list on July 8, 2009, to include the Pinellas Bayway Drawbridge Replacement as the number #2 priority and approved amending it into to the Transportation Improvement Program (TIP) when funding is awarded. The MPO Board approved that the execution of the Federal Stimulus approved TIP amendment will occur by signature of the MPO Chair. Once TIGER II funding is awarded, the MPO Chair will sign the amendment to be processed into the State Transportation Improvement Program (STIP). The MPOs foresight ensures that the TIP/STIP amendment process will not delay the drawbridge replacement project production.

a. Construction Schedule

The Florida DOT project team has completed all the final reviews of the project construction contract documents and has converted them to digital format. These electronic construction contract files will be transferred to compact disks and provided to potential bidders immediately after the project is advertised. After the Florida DOT is notified of the pending award of the TIGER II Grant of \$27.7 million for this drawbridge replacement project, it is assumed that the required Florida legislative budget approval can occur by early 2011. All required project certifications will be provided to the Florida Division of the FHWA by the project team in advance.

The Florida DOT will pay construction contract invoices with TIGER II Grant funds first to ensure that these funds are expended. The estimated construction contract duration for this drawbridge replacement project is 1,130 days. The Florida DOT is continuing to receive very favorable bids for all of our state and local Federal Stimulus and Work Program projects. We are confident that there will be significant competition for this drawbridge replacement.

b. Maintain/Protect Environment – NEPA

The Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) was approved by the United States Coast Guard (USCG) on November 30, 1983. The updated Design Reevaluation was approved on October 24, 1994, and the Design Change Reevaluation was approved on March 21, 2000.

The environmental documentation for the project was reevaluated as required by Title 23 Code Federal Regulation (CFR) 771 (23 CFR 772) and the *Project Development and Environment Manual* of the Florida Department of Transportation. It was determined that no substantial changes have occurred in the social, economic, or environmental effects of the proposed action that would significantly affect the quality of the human environment. Therefore, the original Administrative Action remains valid. The reevaluation awaits FHWA concurrence and adoption as its own document. Adoption is anticipated once TIGER II funding is awarded and the drawbridge replacement project is amended immediately into the current Transportation Improvement Program/State Transportation Improvement Program (TIP/STIP) based on MPO Board action. The drawbridge replacement project remains in the Long Range Transportation Plan and on the Pinellas MPO Federal Stimulus priority list as #2.

VI. Federal Wage Rate Certification

Please see Attachment B.

VII. Pre-application Changes

Construction Engineering and Inspection costs have been included in this submission for an overall increase in drawbridge replacement project cost of \$4.5 million.

Attachment A: Application for Federal Assistance SF-424

Opportunity Title:	Surface Transportation Infrastructure _ Discretionary G
Offering Agency:	U.S. Department of Transportation
CFDA Number:	20.933
CFDA Description:	Surface Transportation Infrastructure _ Discretionary G
Opportunity Number:	DTOS59-10-RA-TIGER2
Competition ID:	TIGER2-12
Opportunity Open Date:	07/30/2010
Opportunity Close Date:	08/23/2010
Agency Contact:	Robert Mariner Senior Policy Analyst E-mail: robert.mariner@dot.gov Phone: 202-366-8914

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

If the Federal funding opportunity listed is not the opportunity for which you want to apply, close this application package by clicking on the "Cancel" button at the top of this screen. You will then need to locate the correct Federal funding opportunity, download its application and then apply.

This opportunity is only open to organizations, applicants who are submitting grant applications on behalf of a company, state, local or tribal government, academia, or other type of organization.

* Application Filing Name:

Mandatory Documents

Attachments

Move Form to Complete

Move Form to Delete

Mandatory Documents for Submission

Application for Federal Assistance (SF-424)

Optional Documents

Move Form to Submission List

Move Form to Delete

Optional Documents for Submission

Instructions

- 1** Enter a name for the application in the Application Filing Name field.

 - This application can be completed in its entirety offline; however, you will need to login to the Grants.gov website during the submission process.
 - You can save your application at any time by clicking the "Save" button at the top of your screen.
 - The "Save & Submit" button will not be functional until all required data fields in the application are completed and you clicked on the "Check Package for Errors" button and confirmed all data required data fields are completed.
- 2** Open and complete all of the documents listed in the "Mandatory Documents" box. Complete the SF-424 form first.

 - It is recommended that the SF-424 form be the first form completed for the application package. Data entered on the SF-424 will populate data fields in other mandatory and optional forms and the user cannot enter data in these fields.
 - The forms listed in the "Mandatory Documents" box and "Optional Documents" may be predefined forms, such as SF-424, forms where a document needs to be attached, such as the Project Narrative or a combination of both. "Mandatory Documents" are required for this application. "Optional Documents" can be used to provide additional support for this application or may be required for specific types of grant activity. Reference the application package instructions for more information regarding "Optional Documents".
 - To open and complete a form, simply click on the form's name to select the item and then click on the => button. This will move the document to the appropriate "Documents for Submission" box and the form will be automatically added to your application package. To view the form, scroll down the screen or select the form name and click on the "Open Form" button to begin completing the required data fields. To remove a form/document from the "Documents for Submission" box, click the document name to select it, and then click the <= button. This will return the form/document to the "Mandatory Documents" or "Optional Documents" box.
 - All documents listed in the "Mandatory Documents" box must be moved to the "Mandatory Documents for Submission" box. When you open a required form, the fields which must be completed are highlighted in yellow with a red border. Optional fields and completed fields are displayed in white. If you enter invalid or incomplete information in a field, you will receive an error message.
- 3** Click the "Save & Submit" button to submit your application to Grants.gov.

 - Once you have properly completed all required documents and attached any required or optional documentation, save the completed application by clicking on the "Save" button.
 - Click on the "Check Package for Errors" button to ensure that you have completed all required data fields. Correct any errors or if none are found, save the application package.
 - The "Save & Submit" button will become active; click on the "Save & Submit" button to begin the application submission process.
 - You will be taken to the applicant login page to enter your Grants.gov username and password. Follow all onscreen instructions for submission.

Application for Federal Assistance SF-424

*** 1. Type of Submission:**

- Preapplication
- Application
- Changed/Corrected Application

*** 2. Type of Application:**

- New
- Continuation
- Revision

*** If Revision, select appropriate letter(s):**

*** Other (Specify):**

*** 3. Date Received:**

Completed by Grants.gov upon submission.

4. Applicant Identifier:

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:**

Florida Department of Transportation

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

59-3024028

*** c. Organizational DUNS:**

8093971020000

d. Address:

*** Street1:**

11201 N. McKinley Drive

Street2:

FDOT, District Seven

*** City:**

Tampa

County/Parish:

Hillsborough County

*** State:**

FL: Florida

Province:

*** Country:**

USA: UNITED STATES

*** Zip / Postal Code:**

33612-6456

e. Organizational Unit:

Department Name:

District Seven

Division Name:

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

Prefix:

Mr.

*** First Name:**

Donald

Middle Name:

J.

*** Last Name:**

Skelton

Suffix:

Title:

District Seven Secretary

Organizational Affiliation:

*** Telephone Number:**

813-975-6039

Fax Number:

813-975-6091

*** Email:**

donald.skelton@dot.state.fl.us

Application for Federal Assistance SF-424

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

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

*** Other (specify):**

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

U.S. Department of Transportation

11. Catalog of Federal Domestic Assistance Number:

20.933

CFDA Title:

Surface Transportation Infrastructure _ Discretionary Grants for Capital Investments II

*** 12. Funding Opportunity Number:**

DTOS59-10-RA-TIGER2

*** Title:**

Surface Transportation Infrastructure _ Discretionary Grants for Capital Investments II

13. Competition Identification Number:

TIGER2-12

Title:

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

Add Attachment

Delete Attachment

View Attachment

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

Pinellas Bayway Drawbridge Replacement Structure "C": replace a 48 year old, functionally obsolete, 2-lane drawbridge with a 4-lane, fixed span, high-level bridge from SR 679 to SR 699 in Pinellas Co.

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

b. Program/Project

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

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="27,656,373.00"/>
* b. Applicant	<input type="text" value="39,352,227.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="67,008,600.00"/>

*** 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

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 218, 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: * First Name:
Middle Name:
* Last Name:
Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative: * Date Signed:

Attachment B: Federal Wage Rate Certification



Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

11201 N. McKinley Drive
Tampa, FL 33612-6456

STEPHANIE C. KOPELOUSOS
SECRETARY

August 16, 2010

Federal Wage Rate Certification

FPID 256903-1-52

Pinellas Bayway Drawbridge Structure "C" Replacement, Pinellas County, Florida

I certify that, if awarded this grant, the Florida Department of Transportation will assure compliance with Federal Prevailing Wage Rate requirements (40 USC Chapter 31, Subchapter IV).

A handwritten signature in cursive script that reads "Donald J. Skelton".

Donald J. Skelton, P. E.
District Secretary
District Seven

Attachment C: Pinellas Bayway Drawbridge
Structure “C” Economic Benefit-Cost Analysis
Report

Pinellas Bayway Drawbridge Replacement Structure “C”

Benefit-Cost Analysis Report

August 2010

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1. Introduction and Report Organization

This report presents the methodology, assumptions, and results for a benefit-cost analysis (BCA) of the Bayway Bridge Replacement project. It is based on the U.S. Department of Transportation's (USDOT's) guidance for benefit-cost analysis of TIGER II Discretionary Grants, and has been performed to support the TIGER II Grant application for the Bayway Bridge Replacement project.

This report is organized as follows:

- Section 2 presents a project summary.
- Section 3 presents the key, overarching assumptions used in the analysis.
- Section 4 describes the estimation of benefits included in the economic evaluation.
- Section 5 presents the costs associated with the project.
- Sections 6 and 7 present the results of the benefit-cost analysis for the Base Case and sensitivity scenarios, respectively.
- Section 8 outlines the equations used for the key benefit-cost evaluation measures.

2. Project Summary

2.1 Baseline and Project Benefits

2.1.1 Infrastructure Baseline

The current infrastructure baseline is as follows:

- The existing 2-lane drawbridge is classified as functionally obsolete based on bascule operations and limited horizontal dimensions that provide no shoulders.
- Vehicular traffic over the existing drawbridge is congested with backups caused by the bridge openings.
 - The Pinellas Bayway opened to traffic in 1962 as a 2-lane drawbridge connecting the main land to the barrier islands located in the Gulf of Mexico.
 - In the mid-1980s, the Pinellas Bayway roadway (S.R. 682) was widened from a 2-lane to a 4-lane facility from S.R. 679 to 41st Street to accommodate the increase in traffic.
 - From 2004 to 2009 the bridge averaged 5,687 openings per year
- With an annual average daily traffic volume of 22,500 vehicles in 2009, this is the primary route for residents, employees and visitors to access local beaches and I-275 for regional travel.
- The bridge openings cause traffic congestion and result in accidents, most notably rear-end collisions that number about 40 from 2004 to 2009.
- The existing drawbridge does not provide appropriate pedestrian and bicycle accommodations.
- Because of the clearance restriction and the need to open the bridge for boats, boaters experience delays waiting for the drawbridge to open.

The future infrastructure baseline (i.e., the No Build scenario in the benefit-cost analysis) includes a projected ADT of 27,300 in year 2030. The increasing traffic is projected to cause increased backups, delays, and accidents exacerbated by the drawbridge openings. The Florida Department of Transportation (FDOT) will be required to spend about \$20 million in 2012 in maintenance costs that can be avoided if the proposed fixed-span bridge is constructed.

2.1.2 Proposed Project, and Impacts on Current Infrastructure Baseline

The proposed Bayway Bridge Replacement project will make the following infrastructure improvements:

- replaces the existing 2-lane drawbridge with a higher fixed-span, 4-lane bridge that improves vehicle and marine traffic capacity.
- reconstructs and resurfaces the roadway portion of S.R. 682 in the projects limits.
- Reduces life-cycle costs since the proposed fixed-span bridge is less costly to operate and maintain.
- significantly improves a hurricane evacuation route for residents and tourists.
- eliminates traffic backups caused by bridge openings.
- reduces accidents resulting from bridge openings.
- provides appropriate bicycle and pedestrian access for tourists and residents.

2.1.3 Project Justification

- The Pinellas Bayway opened to traffic in 1962 as a 2-lane drawbridge connecting the main land to the barrier islands and the Gulf of Mexico. The bridge is now functionally obsolete based on bascule operations and the limited horizontal clearance prohibiting shoulders. Annual revenues from the Pinellas Bayway Toll System are used to finance system operations and annual maintenance. Any available revenue after these expenses are paid is deposited in a Construction Reserve Account that was established in 1985 by the Florida Legislature. The law was revised in 1995 to require the widening of Blind Pass Road, a project that has been completed. The Phase II widening of the Pinellas Bayway from S.R. 679 west to Gulf Boulevard (S.R. 699) including Structure "C" has not yet been completed.
- The Pinellas Bayway Bridge provides a vital regional and local connection between I-275, the City of St. Petersburg and the City of St. Pete Beach. The southern segment of the Pinellas Bayway System serves the island of Tierra Verde and Fort DeSoto Park, a 1,136 acre Pinellas County public park that averages 2.7 million visitors per year. The park is a major beach destination and was named as the #1 beach in the nation in 2005. The beach attracts visitors both regionally and nationally. Currently there is an annual average daily traffic volume of 22,500 vehicles (2009) and a projected volume of 27,300 in year 2030.
- The proposed new high level Pinellas Bayway Bridge increases vehicle and marine traffic capacity, reduces congestion and provides local and regional mobility between the coastal communities and businesses and the interstate. Adding two additional travel lanes eliminates the traffic backups created by the frequent opening of the existing drawbridge for marine traffic. A fixed span, 4-lane bridge significantly improves hurricane evacuation for coastal residents and tourists.
- The replacement of the drawbridge with a fixed span bridge reduces the life cycle costs since the bascule operations are eliminated.
- Without these improvements the vehicular and maritime delays will continue to increase with the expected increase in traffic. The bridge openings will continue to result in traffic accidents that cost residents and tourists both money and injuries.

- The project provides a link connecting a network of community and regional trails that link residential, commercial and institutional land uses. The City of St. Pete Beach and its many sister beach communities connect the City of St. Petersburg via the Pinellas Trail Loop facilities on the mainland. Recreational and commuter users greatly benefit by this crucial link between the existing and planned extensive trail networks, and other bicycle and pedestrian ways on both sides of the waterway.

2.1.4 Impacts on Long-Term Outcomes, Economic Effects, and Project Beneficiaries

The economic benefits derived from the Bayway Bridge Replacement project that were quantified in this analysis can be grouped into the following general categories:

- **Travel time savings.** Travel time savings will be created by eliminating the wait time and queues caused by drawbridge openings. The improvements also include widening the bridge from 2 lanes to 4 lanes increasing the traffic flow across the bridge. The time savings is an economic benefit for residents and tourists traveling between the City of St. Petersburg and the City of St. Pete Beach and contributes to the economic competitiveness of the region.
- **Reduced vehicle operating costs and fuel consumption** - A reduction in travel time due to higher speeds and elimination of idling queues when the drawbridge opens results in reduced vehicle operating costs due mainly to less fuel consumption.
- **Sustainability benefits** from reductions in emissions from idling vehicular and maritime vessels during bridge openings. Reduced fuel consumption also results in a reduction in oil imports, a quantifiable benefit.
- **Bridge life cycle cost savings.** Annual maintenance costs will be less for the proposed fixed span bridge principally due to the elimination of the drawbridge.
- **Accident Cost Savings.** Safety benefits are realized through the elimination of rear-end accidents and the associated injuries recorded at the bridge.
- **Increased Access Benefits.** The Bayway Bridge Replacement project has livability benefits from the bicycle and pedestrian access on the bridge.

2.2 Project Cost

The full project cost is included in the benefit-cost analysis. This project capital cost is \$67.01 million in constant 2010 dollars. More details on the costs included in the BCA are presented in Section 6.

3. Key Analytical Assumptions

Several analytical and procedural assumptions are required to apply BCA methods to the available data and unique conditions regarding the proposed Bayway Bridge Replacement project. The following outlines these assumptions and their basis.

3.1 Real Discount Rate

Benefits and costs are typically valued in constant (e.g., 2010) dollars to avoid having to forecast future inflation and escalate future values for benefits and costs accordingly. Even in cases where costs are expressed in future, year-of-expenditure values, they tend to be built upon estimates in constant dollars, and are easily deflated. The use of constant dollar values requires the use of a real discount rate for present value discounting (as opposed to a nominal discount rate). The U.S. Office of Management and Budget (OMB) currently requires U.S. Federal agencies to use a 7 percent real discount rate to evaluate public investments and regulations.¹ In keeping with this standard, the analysis of benefits and costs assumes a real discount rate of 7 percent. All the amounts reported in this report correspond to the 7 percent real discount rate unless otherwise mentioned. An alternate scenario with a real discount rate of 3 percent is also estimated.

3.2 Evaluation Period

Benefits and costs are typically evaluated for a period that includes the construction period and an operations period ranging from 20-50 years after the initial project investments are completed. The majority of the cost associated with the Bayway Bridge Replacement project is heavy civil works involving the construction of a new bridge with a design life of 75 years. Given the permanence and relatively extended design life of such civil works, longer evaluation periods are appropriate to match the average useful life of the investments. Beyond 40 years, however, the ability to forecast meaningful future benefits and costs is questionable, and any such values contribute increasingly less to the results, given the high degree of present value discounting this far into the future. For this analysis, an evaluation period of 40 years after the completion of the construction (in 2013) was assumed.

4. Benefits Included in the Evaluation

This section identifies the benefits that were included in the quantitative benefit-cost analysis as well as how those benefits were estimated.

Travel Time Savings Considerations and Value of Time Assumptions

Travel time savings includes in-vehicle travel time savings. Travel time is considered a cost to users, and its value depends on the disutility (cost or dis-benefit) that travelers attribute to time spent traveling. A reduction in travel time would translate into more time available for work, leisure, or other activities, which travelers value, and would be a project benefit.

Travel time savings must be converted from hours to dollars in order for benefits to be aggregated and compared against costs in the analysis. This is traditionally performed by assuming that travel time is valued as a percentage of the average wage rate, with different percentages for different trip purposes.

¹ Office of Management and Budget (White House), "Circular No. A-94: Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs" October 1992.

For this analysis, assumptions for value of time (VOT) estimates were derived from USDOT's 2003 Value of Time guidelines.²

Based on USDOT guidance for estimating values of travel times, this analysis values passenger time at \$14.20 (in 2010 dollars) based on USDOT guidance of \$11.20 (in 2000 dollars). This value reflects all trip purposes, both business and personal, as recommended by US DOT³. The hourly value was multiplied by 2.0 based on an average vehicle occupancy of 2.0 people per vehicle based on research conducted for USDOT.⁴ The 2.0 average vehicle occupancy was used because of the high level of tourists and leisure travelers crossing this bridge resulting in a \$28.40 hourly VOT per passenger vehicle.

Similarly, the truck traffic was valued at \$22.90 per hour (in 2010 dollars), based on the USDOT guidance of \$18.10 (in 2000 dollars) with a single occupancy. It was also assumed that the value of time remains constant in real terms, i.e., that there would be no real growth in the wage rates throughout the evaluation period.

The primary benefit of this project for users of the Bayway Bridge was obtained from FDOT traffic modeling of vehicular traffic at the bridge. The Average Annual Daily Traffic (AADT) of 22,500 for year 2009 was input with an average hourly factor of 6.3 percent⁵ resulting in 1,418 vehicles per hour. A queue discharge rate of 1,800 vehicles per lane per hour were assumed in the analysis. In 2009, trucks averaged 3.3 percent of total traffic while the remaining 96.7 percent was passenger vehicles. Bridge openings averaged 3 minutes and 40 seconds each while the number of openings averaged 5,678 per year from 2004 to 2009.

Using the above inputs, the traffic was estimated in both directions on the bridge incorporating peak and off peak traffic delays. The high-traffic direction on the bridge resulted in a total of 5.16 vehicle hours of delay per bridge opening for trucks and passenger vehicles in 2009 while the low-traffic direction resulted in 3.80 vehicle hours of delay per bridge opening for both trucks and passenger vehicles.

To annualize the delays, the vehicle delay hours were multiplied by the number of annual bridge openings. The travel time benefits are assumed to come online in year 2014, the first year of operations of the proposed bridge. Growth in travel time savings were estimated out to 2030 based on a 0.93 percent Compound Annual Growth Rate (CAGR) of the AADT between 2009 and 2030. To be conservative, no growth was assumed after 2030 to the last year of the model, 2053. In year 2014, there were 44,213 vehicle hours in time savings calculated with 51,231 in year 2030 through year 2053. On a present value basis, these benefits are estimated to be \$14.77 million over the evaluation period.

² http://ostpxweb.dot.gov/policy/Data/VOTrevision1_2-11-03.pdf.

³ The specific values of time were obtained from Revised USDOT Guidance: Value of Travel Time in Economic Analysis, 2003, in 2000 dollars, and escalated to 2010 dollars based on a factor of 1.264, based on the change in the national CPI-U index between 2000 and second quarter 2010, rounded to the nearest 10 cents.

⁴ Summary of Travel Trends, 2001 National Household Travel Survey; December 2004:
<http://nhts.ornl.gov/2001/pub/STT.pdf>

⁵ Project Development and Environment (PD&E) Study

Reliability Benefits

When users anticipate travel delays but cannot predict when they will occur or how long they will last, they experience an unreliability “penalty”.⁶ In many cases travelers are likely to build buffers into their travel patterns in order to compensate for their expected increase in travel time based on such unexpected events. Alternatively, they may experience this delay, when encountered, as more onerous than normal delay. This situation characterizes what drivers face when traveling across the Bayway Bridge. The compensating buffer time – which we use here to quantify the reliability penalty -- reflects the “expected value” of delay, and reflects rational expectations that people may have. The buffer increases their travel time beyond what is already calculated in travel time savings. This is a penalty the user adds to his or her travel time based on some level of random delay that they might anticipate. In order to calculate this extra random delay penalty, it is necessary to determine the probability of a passenger encountering a bridge opening.

FDOT reports that Bayway Bridge openings averaged 5,678 times per year. This translates to 15.56 bridge openings per day over 365 days.

$$5,678 \frac{\text{bridge openings}}{\text{year}} \times \frac{1 \text{ year}}{365 \text{ days}} = 15.56 \frac{\text{bridge openings}}{\text{day}}$$

The duration of an average bridge opening was 3 minutes 40 seconds, or 220 seconds of delay per bridge opening. This means that the bridge is open for 3,423 seconds throughout the day.

$$15.56 \frac{\text{bridge openings}}{\text{day}} \times \frac{220 \text{ seconds of delay}}{\text{bridge opening}} = 3,423 \frac{\text{seconds of delay}}{\text{day}}$$

If it is assumed that the bridge opens evenly throughout the 24-hour day (a conservative assumption that does not reflect the greater concentration of traffic and bridge openings during normal travel hours), then the average probability of the bridge opening can be calculated. In any given day there are 86,400 seconds, and 3,423 of those seconds are experienced with the bridge open, or about 4 percent of the day. Thus:

$$P(\text{bridge opening encounter}) = \frac{3,423 \text{ daily delay seconds}}{86,400 \text{ daily seconds}} = 3.9618 \text{ percent}$$

Thus, users would expect that users have a 3.96 percent chance of encountering a bridge opening. The average bridge delay, again, is 220 seconds. Thus, the expected user delay would be the bridge delay times the probability of encountering a bridge opening. In this case, the expected value is 8.7 seconds of delay per trip. It must be recalled that this is a statistical construct related to expected value; when delays are actually incurred, they last the full 3 minutes and 40 seconds. As noted below and as supported by empirical research, delays, when experienced as random and unpredictable events, may be experienced as more onerous than the actual elapsed time.

⁶ Valuing Time and Reliability: Assessing the Evidence from Road Pricing Demonstrations. David Brownstone and Kenneth A. Small. December 2002

$$\begin{aligned}
 E(\text{delay}) &= \text{delay} \times P(\text{bridge opening encounter}) \\
 &= 220 \text{ seconds} \times .039618 \\
 &= 8.7 \text{ seconds}
 \end{aligned}$$

This means that the average user will add an 8.7 second buffer to his or her trip to account for the expected probability of encountering a delay. FDOT indicates there were an average of 22,500 vehicles crossing this bridge per day. This translates to 54.4 vehicle hours of unexpected delay per day, or 19,847 vehicle-hours of delay per year.

$$8.7 \text{ seconds of delay} \times 22,500 \text{ vehicles/day} = 195,750 \text{ vehicle-seconds/day}$$

$$195,750 \text{ vehicle-seconds/day} \times 1 \text{ hour}/3,600 \text{ seconds} = 54.4 \text{ vehicle-hours/day}$$

$$54.4 \text{ vehicle-hours/day} \times 365 \text{ days/year} = 19,847 \text{ vehicle-hours/year}$$

Research has shown that value of time resulting from unexpected delays is valued at twice the average value of time.⁷ This means that the passenger vehicle value of time would be \$56.80 per person-hour, while the truck value of time would be \$45.80 per person-hour.

Benefits were calculated using this method for the first year, and those benefits were grown through the project evaluation period using the same 0.93 percent growth rate as used in the travel time savings.

This project eliminates bridge openings, and thus, unexpected delays for the users due to this cause. The value of this time is considered a reliability benefit, which is estimated for this project to be \$13.88 million over the evaluation period.

Travel Time Savings from Road Widening

The proposed project also provides users with travel time savings benefits resulting from greater capacity on the roadway since it doubles the lanes from 2 to 4. Road widening benefits are estimated using the same VOT assumed above (\$28.40 for passenger vehicles and \$22.90 for trucks).

To estimate the amount of benefits, it was assumed that the peak hour conservatively lasted 2 hours each day. FDOT modeling from 2009 traffic data (22,500 vehicles per day, 1,418 vehicles per hour) resulted in 17.7 seconds greater delay per vehicle in the 2-lane scenario than the 4-lane scenario.

$$17.7 \text{ seconds of delay} \times 1,418 \text{ vehicles} = 25,098.6 \text{ vehicle-seconds/hour}$$

$$25,098.6 \text{ vehicle-seconds/hour} \times 2 \text{ peak hours} = 50,197.2 \text{ vehicle-seconds/day}$$

$$50,197.2 \text{ vehicle-seconds/day} \times 1 \text{ hour}/3,600 \text{ seconds} \times 365 \text{ days/year} = 5,089 \text{ vehicle-hours/year}$$

Benefits were calculated using this method for the first year, and those benefits were grown through the project evaluation period using the same 0.93 percent growth rate as used in the travel time savings.

⁷ Valuing Transit Service Quality Improvements, Considering Comfort and Convenience In Transport Project Evaluation; Todd Litman. Victoria Transport Policy Institute. April 27 2007.

The project widens the road from 2 lanes to 4 lanes, and thus users benefit from these time savings. Time savings in 2014 was estimated to be 5,329 vehicle hours and 6,175 vehicle hours in 2030. The value of this time is estimated for this project to be \$1.78 million over the evaluation period.

Vehicle Operating Cost Savings

Fewer vehicle hours results in less fuel consumption. To estimate the quantity of fuel savings, the amount of annual vehicle hours savings (calculated as detailed above) multiplied by an assumed average speed (10 mph) and divided by an assumed fuel economy (18.0 mpg from the Bureau of Transportation Statistics⁸) results in annual gallons of fuel saved. In 2014 and 2053 the gallons of fuel saved were estimated to be 25,562 and 28,462 respectively. As in the travel time savings calculations, the growth in gallons of fuel saved were estimated out to 2030 based on a 0.93 percent Compound Annual Growth Rate (CAGR) of the AADT between 2009 and 2030. To be conservative, no growth was assumed after 2030 to the last year of the model, 2053. The value of a gallon of fuel was estimated based on the forecast provided by the National Highway Traffic Safety Administration (NHTSA)⁹ and escalated to 2010 dollars using the Consumer Price Index for All Urban Consumers (CPIU). The value of the fuel savings benefits is estimated to be \$0.88 million in present dollars over the evaluation period.

Emissions Reduction Benefits

With fewer vehicles hours, there will be a reduction in such pollutants as Carbon Dioxide (the primary greenhouse gas), Nitrogen Oxides, and Volatile Organic Compounds.

Carbon Dioxide emission quantities are estimated by the United States Environmental Protection Agency (EPA) to be 8,788 grams per gallon of gasoline.¹⁰ The quantity of carbon dioxide reduced on the project was estimated by multiplying the quantity of gasoline savings by the grams per gallon gasoline provided by the EPA. The growth in the quantity of gasoline savings was computed in the same manner as the growth in travel time savings. The value per ton of carbon dioxide saved is estimated by NHSTA to be \$35 per ton.¹¹ This value is consistent with NHTSA's Final Regulatory Impact Analysis for MY2011 Passenger Cars and Light Trucks. The value was grown at a real rate of 2.4 percent per year.

Exhibit 1 shows the quantities of emissions for HC and NO_x estimated by the Pinellas Metropolitan Planning Organization (MPO) for each vehicle hour.

Exhibit 1: Idle Emission Factors from Pinellas MPO

Pollutant	Auto Emissions (grams/hour)
HC	17.1530
NO _x	6.665

⁸ http://www.bts.gov/publications/national_transportation_statistics/html/table_04_23.html

⁹ Corporate Average Fuel Economy for MY 2011 Passenger Cars and Light Trucks. March 2009

¹⁰ <http://www.epa.gov/otaq/climate/420f05001.pdf>

¹¹ http://www1.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/sem_finalrule_appendix15a.pdf

Taken the above values and multiplying them by a conversion factor from grams to short tons and by the vehicle hour savings (bridge openings + road widening or 42,223.21 + 5,089.44 = 47,144.70) will result in the quantity of tons per year reduced. The growth in the quantities was calculated in the same way as the travel time savings with a CAGR of 0.93 percent. The NHSTA values of \$4,310 per ton for NO_x and \$1,840 per ton for HC escalated to 2010 dollars were assumed in this analysis¹².

Using the above assumptions, the present value of the monetary benefits due to saved emissions over the life time of the project is estimated at \$0.18 million.

Reduction in Oil Imports

Oil imports will be reduced from the vehicle hours saved with the proposed bridge. The quantity of gallons saved was estimated as shown above in the fuel consumption savings. The value of the reduction in oil imports was valued at \$0.391 per gallon as provided by the NHSTA¹³. This cost reflects two components: the Monopsony component and a price shock component. The first factor relates an increase in U.S. oil demand leads to higher fuel prices (because of supply/demand relationships). The second factor means that a disruption in the oil supply leads to higher oil prices which reduce the level of economic output that the U.S. economy can produce. Reducing oil imports reduces these costs to the U.S. economy. The estimated benefits from the reduction in oil imports are estimated to be \$0.11 million in present day dollars over the evaluation period.

Bridge Life Cycle Cost Savings

The operation and maintenance cost savings will be realized principally from reduced operations and maintenance costs from the elimination of the drawbridge. In the No Build scenario, the annual O&M costs are estimated to \$0.206 per year in the evaluation period. In the Build scenario, the annual O&M costs for the existing bridge are assumed to continue through 2023 until the bridge is decommissioned. Annual O&M costs for the proposed bridge are significantly less at \$0.019 million and \$0.022 million per year. The O&M cost savings have a present value of \$5.03 million over the life time of the project. Exhibit 2 shows the annual cost savings.

¹² http://www.nhtsa.gov/DOT/NHTSA/Rulemaking/Rules/Associatedpercent20Files/CAFE_Final_Rule_MY2011_FRIA.pdf

¹³ http://www.nhtsa.gov/DOT/NHTSA/Rulemaking/Rules/Associatedpercent20Files/CAFE_Final_Rule_MY2011_FRIA.pdf(pp.VIII-22 through VIII-27 & VIII-60).

Exhibit 2: Operation and Maintenance Cost Savings

	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
No Build	2010 \$	9.06	-	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Build	2010 \$	3.29	-	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Net Benefit	2010 \$	5.03	-	-	-	-	-	-	-	-	-	-	-	-	-
Present Value of Benefits		0.96	-	-	-	-	-	-	-	-	-	-	-	-	-

		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Build	2010 \$	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Build	2010 \$	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Net Benefit	2010 \$	0.19	0.19	0.19	0.19	0.19	0.18	0.19	0.18	0.19	0.18	0.19	0.18	0.19	0.18	0.19
Present Value of Benefits		0.08	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03

		2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
No Build	2010 \$	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Build	2010 \$	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Net Benefit	2010 \$	0.18	0.19	0.19	0.18	0.19	0.18	0.19	0.18	0.19	0.18	0.19	0.18	0.19	0.18	0.19
Present Value of Benefits		0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01

Approximately \$20 million in rehabilitation savings in year 2012 will be realized in addition to other rehabilitation costs in years 2022 in the amount of \$0.94 million, \$16.4 million in 2032, and \$0.20 million assumed every five years starting in year 2037. Exhibit 3 shows the yearly rehabilitation cost savings that total \$21.83 million.

Exhibit 3: Rehabilitation Cost Savings

	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
No Build	2010 \$	45.55	-	-	27.41	-	-	-	-	-	-	-	-	0.94	-
Build	2010 \$	7.24	-	-	7.24	-	-	-	-	-	-	-	-	-	-
Net Benefit	2010 \$	38.32	-	-	20.18	-	-	-	-	-	-	-	-	0.94	-
Present Value of Benefits		21.83	-	-	17.62	-	-	-	-	-	-	-	-	0.42	-

		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Build	2010 \$	-	-	-	-	-	-	-	-	16.40	-	-	-	-	0.20	-
Build	2010 \$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Benefit	2010 \$	-	-	-	-	-	-	-	-	16.40	-	-	-	-	0.20	-
Present Value of Benefits		-	-	-	-	-	-	-	-	3.70	-	-	-	-	0.03	-

		2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
No Build	2010 \$	-	-	-	0.20	-	-	-	-	0.20	-	-	-	-	0.20	-
Build	2010 \$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Benefit	2010 \$	-	-	-	0.20	-	-	-	-	0.20	-	-	-	-	0.20	-
Present Value of Benefits		-	-	-	0.02	-	-	-	-	0.02	-	-	-	-	0.01	-

Accident Cost Savings

The cost savings from reducing the number of accidents include direct savings (e.g., reduced personal medical expenses, lost wages, and lower individual insurance premiums) as well as significant avoided costs to society (e.g., second party medical and litigation fees, emergency response costs, incident congestion costs, and litigation costs). The value of all such benefits – both direct and societal – could also be approximated by the cost of service disruptions to other travelers, emergency response costs to

the region, medical costs, litigation costs, vehicle damages, and economic productivity loss due to workers inactivity.

Accidents were recorded at the bridge from 2004 to 2009 and showed that there were 40 rear-end collisions.¹⁴ For this analysis, rear-end collisions are assumed to be eliminated with the elimination of the drawbridge.

This analysis estimates that, for the first year after the project is completed (2014), the project would result in an annual savings of 3.14 property-damage-only accidents and 3.66 injury accidents. By 2030, the annual savings is estimated to grow to 3.64 property-damage-only accidents and 4.25 injury accidents.

The benefits resulting from highway accident reduction are converted to monetary values using the cost of fatal and injury highway accidents cited by the USDOT. The cost of property-damage only accidents was obtained from Cal-BC.¹⁵ In 2010 dollars, fatal accidents are valued at \$6,490,000, also known as the value of statistical life (VSL).¹⁶ Accordingly, the Maximum Abbreviated Injury Scale (MAIS) prescribes values of other injuries relative to the VSL as shown in Exhibit 4.

Exhibit 4: Accident Savings

Fraction of VSL	Severity	Economic Value of Accident (2010 \$)	Corresponding Accident Rate Category	Bayway (reductions in accidents)
N/A	Property-damage only	\$8,800	Property-damage only	3
MAIS 1	Minor	\$13,000	Injury	2
MAIS 2	Moderate	\$101,000	Injury	1
MAIS 3	Serious	\$373,000	Injury	0
MAIS 4	Severe	\$1,212,000	Injury	0.5
MAIS 5	Critical	\$4,950,000	Injury	0
MAIS 6	Fatal	\$6,490,000	Fatal	0

The per-VMT rates of all accidents were obtained from NHTSA as shown in Exhibit 4.¹⁷ Since the USDOT classifies injuries in five categories – Minor, Moderate, Serious, Severe, Critical, and the NHTSA, the data from the Crash Data Summary Report (CDMS) were matched to the MAIS categories based on the descriptions and number of each. The CDMS provides data on accidents in the following injury categories: None, Possible Injury, Non-incapacitating injury, Incapacitating injury. To obtain monetary values, a Property Damage Only accident was matched to a “None” category in the CDMS for a total of 3 accidents; MAIS 1 was matched to “Possible Injury” in the CDMS for a total of 2 accidents; MAIS 2 was

¹⁴ CDMS Crash Data Summary Report, Pinellas Bayway Structure C, 3/24/2004 to 9/22/2009.

¹⁵ The cost from Cal-BC was inflated to 2010 dollars.

¹⁶ U.S. DOT, *Treatment of the Economic Value of a Statistical Life in Departmental Analysis*, March 18, 2009. VSL was obtained in 2009 dollars as \$6,000,000. This value was escalated using a factor based on the change in national CPI-U index between 2009 and second quarter 2010, rounded to 3 significant figures.

¹⁷ NHTSA’s National Center for Statistics and Analysis, “2008 Traffic Safety Annual Assessment- Highlights”, 2009.

matched to Non-Incapacitating Injury for a total 1; MAIS 4 was matched to Incapacitating Injury for a total of 0.5 accidents.

The present value of highway accident savings benefits accruing from the Bayway Bridge Replacement project over the evaluation period are estimated at \$8.88 million.

Increased Access Benefits

Bicycle Access

The proposed bridge will offer appropriate pedestrian and bicycle access providing a link to a network of community trails. The existing bridge has horizontal limitations and does not currently provide this level of service. In order to estimate the benefits associated with an increase in use of the bicycle and pedestrian access, the number of additional users was estimated from a study commissioned by FDOT (Potential Users of the Pinellas Bayway Trail on Bridge "Structure C"). The study cites 150,000 annual users on the trails. For this analysis, an increase of 5 percent of those total users was thought to be reasonable. A bicycle shop in the area rents bicycles for \$30 per day¹⁸, so it is assumed conservatively that the economic value is half and \$15 per new user in benefits was assumed. The present value of increased access benefits accruing from the Bayway Bridge Replacement project over the evaluation period are estimated at \$1.23 million.

5. Economic Costs Included in the Evaluation

In a benefit-cost analysis, the term 'cost' refers to the additional resource costs or expenditures required to implement, perpetuate, and maintain the investments associated with the proposed Bayway Bridge Replacement project. This BCA includes both upfront capital investment costs as well annual operating and maintenance (O&M) costs

Upfront Capital Costs

Initial project investment costs include Construction, Engineering, and Inspection (CEI) costs and other capital investments, and contingency factors. The construction for the Bayway Bridge Replacement project is estimated to begin in the first quarter of 2011 and extend through end of 2013. The breakdown of costs in 2010 dollars and the construction timeline is presented in Exhibit 5.

Exhibit 5: Capital Cost Breakdown

	2011	2012	2013	Total
2010 \$	22.34	22.34	22.34	67.01

The real costs in 2010 dollars are \$67.01 million. At a discount rate of 7 percent the present value of the capital costs is \$58.62 million.

¹⁸ <http://www.abcbicycles.com>

The residual value of the proposed bridge was modeled as a negative cost (or cost offset) in this analysis and assumed to have a life of 75 years. The value was estimated using straight line depreciation of the value of the asset at the end of the modeling period and brought back to present value using the discount rate. The estimated negative cost from the residual value of the bridge is \$1.75 million.

6. Benefit-Cost Analysis Results for Base Case

The primary results of the economic analysis are summarized in Exhibit 6. At a 7 percent real discount rate the present value of the project's total benefits is \$7.63 million (in 2010 dollars).

Exhibit 6: Summary of Benefits and Costs at 7 Percent Real Discount Rate in the Base Case Scenario

Benefit Description by Category	Total Project Present Value (7% Discount Rate) (Millions 2010 \$)	Project Impacts in Year 2030
i. Economic Competitiveness		
Travel Time Savings From Elimination of Bridge Openings	\$ 14.77	51,231 Hours Saved
Reliability Benefits	\$ 13.88	24,081 Hours Saved
Travel Time Savings From Road Widening	\$ 1.78	6,175 Hours Saved
Savings in Vehicle Operating Costs	\$ 0.88	\$23,911 in Vehicle User Costs Saved
ii. State of Good Repair		
Operation and Maintenance Savings	\$ 0.96	\$48,389 Saved
Rehabilitaion Cost Savings	\$ 21.83	-
iii. Safety		
Reduction in Accidents	\$ 8.88	Accidents Avoided: 3.64 PDO, 4.25 Injuries
iv. Sustainability		
Reduction in Emissions	\$ 0.18	Savings of: 275 tons of CO ₂ ; 0.42 tons of No _x ; 1.08 tons of HC
iv. Livability		
Increased Access for Pedestrians and Bicycles	\$ 1.22	7,500 Additional Bicycle Users
Reduction in Oil Imports	\$ 0.11	\$2,876 in Oil Imports Saved
Total Project Benefits	\$ 64.49	-
Cost Description by Category	Total Project Present Value (7% Discount Rate) Millions 2010\$	Present Value (7% Discount Rate) Millions 2010\$
Construction	\$ 58.62	
Residual Value	\$ (1.75)	
Total Cost	\$ 56.86	
Total Net Present Value	\$ 7.63	
Total Benefit-Cost Ratio	\$ 1.13	

This base case scenario results in a benefit-cost ratio of 1.13.

7. Sensitivity Scenarios

Exhibit 7 summarizes the BCA results for alternative scenarios to test the robustness of the project's benefit-cost analysis results under varying assumptions and evaluation parameters. Exhibit 7 summarizes the benefits and costs under Scenario 2 which uses a 3 percent discount rate.

Exhibit 7: Summary of Benefits for all the Scenarios

Scenario	B/C Ratio	Net Present Value (2010 \$M)
1. Base Case (7% Discount Rate)	1.13	7.63
2. 3% Discount Rate	2.09	58.96
3. 5% Increase in Costs and 5% Decrease in Benefits (7% Discount Rate)	1.03	1.56
4. 5% Increase in Costs and 5% Decrease in Benefits (3% Discount Rate)	1.89	50.60

Exhibit 7: Summary of Benefits and Costs for Scenario 2 (3 percent Real Discount Rate)

Benefit Description by Category	Total Project Present Value (3% Discount Rate) (Millions 2010 \$)
i. Economic Competitiveness	
Travel Time Savings From Elimination of Bridge Openings	\$ 29.25
Reliability Benefits	\$ 27.50
Travel Time Savings From Road Widening	\$ 3.53
Savings in Vehicle Operating Costs	\$ 1.72
ii. State of Good Repair	
Operation and Maintenance Savings	\$ 2.49
Rehabilitaion Cost Savings	\$ 28.53
iii. Safety	
Reduction in Accidents	\$ 17.12
iv. Sustainability	
Reduction in Emissions	\$ 0.38
iv. Livability	
Increased Access for Pedestrians and Bicycles	\$ 2.38
Reduction in Oil Imports	\$ 0.22
Total Project Benefits	\$ 113.12
Cost Description by Category	Total Project Present Value (3% Discount Rate) Millions 2010\$
Construction	\$ 63.18
Residual Value	\$ (9.02)
Total Cost	\$ 54.16
Total Net Present Value	\$ 58.96
Total Benefit-Cost Ratio	\$ 2.09

Section 8: Key Benefit-Cost Evaluation Measures

There are several common benefit-cost evaluation measures, each tailored to compare benefits and costs from different perspectives. The two that are discussed here were used in the Bayway Bridge Replacement analysis.

Net Present Value

The benefit-cost analysis converts potential gains and losses from the proposed investment into monetary units and compares them on the basis of economic efficiency, i.e., net present value (NPV). For example, $NPV = PVB$ (present value of benefits) - PVC (present value of costs); where:

$$PVB = \sum_{t=0}^T B_t / (1+r)^t; \text{ and } PVC = \sum_{t=0}^T C_t / (1+r)^t$$

and the NPV of a project can be represented as:

$$NPV = \sum_{t=0}^T (B_t - C_t) / (1+r)^t,$$

where B_t and C_t are the benefits and costs, respectively, of a project in year t ; r is the real discount rate; and T is the time horizon (evaluation period). In essence, NPV gives the magnitude of the project's economic feasibility in terms of net benefits (benefits minus costs) discounted to present values using the real discount rate assumption. Under this criterion, a scenario with an NPV greater than zero may be considered "economically feasible". The NPV provides some perspective on the overall dollar magnitude of benefits not reflected by the other two measures.

Benefit/Cost Ratio

The evaluation also estimates the benefit-cost ratio; where the present value of incremental benefits divided by the present value of incremental costs yields the benefit-cost ratio (B/C Ratio), i.e., $B/C \text{ Ratio} = PVB / PVC$. In essence, the B/C Ratio expresses the relation of discounted benefits to discounted costs as a measure of the extent by which a project's benefits either exceed or fall short of their associated costs. For example, a B/C ratio of 1.5 indicates that the project generates \$1.5 of benefits per \$1 of cost. As such, a ratio greater than 1 is necessary for the project to be economically worthwhile (feasible). The B/C Ratio can be useful when the objective is to prioritize or rank projects or portfolios of projects with the intent to decide how to best allocate an established capital budget, assuming equivalent classification of benefits and costs.

Attachment D: FDOT Project Reevaluation

FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
Florida Division Office

FOR

Proposed Improvements to SR 682 (Pinellas Bayway Structure C) for replacing the existing two-lane bascule bridge facility with a four-lane high level fixed bridge facility and roadway approach improvements.

The Federal Highway Administration (FHWA) has determined that the high-level fixed bridge alternative on a centered alignment providing 65 feet (ft) of vertical navigation clearance and 100 ft of horizontal navigational clearance at the Gulf Intracoastal Waterway will have no significant impact on the human environment. This Finding of No Significant Impact (FONSI) is based on the attached 1983 Environmental Assessment (EA), The United States Coast Guard FONSI dated November 30, 1983; 1994 and 2000 Design Change Reevaluations approved by the United States Coast Guard on October 24, 1994 and March 21, 2000; and the December 2008 (Updated March 2010) Reevaluation submitted to FHWA for approval. FHWA is issuing this FONSI under provisions of 23 CFR 771.121(c) and hereby incorporate the United States Coast Guard FONSI and the reevaluations approved by the United States Coast Guard. This FONSI also constitutes FHWA approval of the December 2008 (Updated March 2010) Reevaluation.

The project is currently in the design phase and was originally adopted and begun in a previously adopted Department Work Program in the year 1992, which was before the requirement that the project be in the Transportation Improvement Plan and State Transportation Improvement Program (TIP/STIP). However, the project has continued to be supplemented to revise and update the design until the present time. The project is currently identified for construction in the year 2015 of the Pinellas County Metropolitan Planning Organization's (MPO's) 2035 Long Range Transportation Plan (LRTP) updated on December 9, 2010 (Page 98, Table 55) and the STIP Fiscal Year 2010 (Page 2334).

The United States Coast Guard approved EA, FONSI, and reevaluations have been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. The environmental assessment, reevaluations, public hearing transcript and comments provide sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA takes full responsibility for the accuracy, scope, and content of the EA and other pertinent documents including the reevaluations.

Date

**Florida Division Office
FHWA**

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Project Reevaluation December 2008
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CORRIDOR PROJECTS STATUS UPDATE

The approved EA/FONSI consisted of the following projects. The current design segment information is presented below:

- | | | |
|----|-----------------------------------|---|
| A. | Work Program Item Segment Number: | 256903 1 |
| | Federal Aid Project Number: | Not assigned yet |
| | Project Limits: | S.R. 682 (Pinellas Bayway) from West Toll Booth to west of S.R.679 |
| | Current Status: | This project is the subject of this Project Reevaluation |
| | | |
| B. | Work Program Item Segment Number: | 257098 1 |
| | Federal Aid Project Number: | Not assigned yet |
| | Project Limits: | S.R. 682 (Pinellas Bayway) from east of S.R. 679 to 41 st Street |
| | Current Status: | Construction complete |

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V. EVALUATION OF MAJOR DESIGN CHANGES

Introduction

This section has been prepared to provide a brief synopsis to the Federal Highway Administration (FHWA) of the project from the time the USCG EA/FONSI was approved in 1983 until the present.

History

The EA/FONSI was approved by the USCG on November 30, 1983. The preferred alternative recommended the construction of a new two-lane structure south of the existing bridge (Structure C over the Gulf Intracoastal Waterway) and the widening of the existing bridge to meet 1983 design standards. The EA/FONSI did not recommend a bridge type at Structure C, but concluded that the bridge type should be analyzed during final design to determine which best meets the criteria at the time. A Public Workshop was held on August 26, 1982 and a Public Hearing was held on August 4, 1983 as part of this PD&E process.

To address this recommendation, a Design Reevaluation was prepared in 1994 which updated the 1983 EA/FONSI. The reevaluation studied the feasibility of replacing Structure C with either a low-level bascule, mid-level bascule, or a high-level (65 feet [ft] vertical clearance) fixed-span bridge. Six alternatives were developed and evaluated as part of this reevaluation. These included two low-level drawbridges, two mid-level drawbridges, and two high-level fixed span bridges. The low, mid, and high-level configurations considered alignments to the north and south of the existing Structure C. A Public Hearing was held on November 9, 1993. Approximately 158 persons attended and 78 persons commented on the project. Based on analysis and evaluation of social, economic, and environmental concerns, a high-level fixed-span bridge on the south alignment was chosen as the preferred alternative to replace Structure C. The FDOT received USCG approval of the reevaluation on October 24, 1994. However, because some public controversy arose after the approval of this reevaluation concerning the preferred alternative, FDOT committed to conducting additional public involvement prior to the beginning of the design phase.

In 1997, FDOT initiated a Design Change Reevaluation to conduct additional analysis on the bridge alternatives and obtain additional input from the local community. As a result of this, the FDOT assembled a Design Review Committee consisting of local residents and interested parties to develop context sensitive solutions that minimize the community's visual and aesthetic concerns. FDOT also made several presentations to the City of St. Petersburg, City of St. Pete Beach, and the Pinellas County Metropolitan Planning Organization (MPO). A Public Hearing was held on March 19, 1998. Approximately 774 persons attended the hearing and 6,785 persons commented on the project. Seventy-three percent of those submitting comments indicated a preference for the low-level drawbridge. As a result of the information received, both the low-level drawbridge south and the high-level fixed bridge south alternatives were found feasible. The mid-level drawbridge alternatives had been eliminated as viable alternatives in the

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1994 Design Reevaluation due to cost. A number of factors, however, favored the implementation of the high-level alternative. These include better operation in terms of level of service provided to motorists using the structure, reduction in air quality emissions, no delay to boaters, and uninterrupted access to and from the City of St. Pete Beach.

Based on the results of the hearing, preliminary consideration by FDOT was given to a low-level twin drawbridge alternative. However, based on further engineering analysis of the bridge alternatives, the high-level fixed span bridge alternative south alignment was reconfirmed as the preferred alternative. The Design Change Reevaluation preferred alternative recommended the construction of a four-lane fixed bridge with 65 ft of vertical clearance. Widening the bridge approaches to a four lane divided roadway from the West Toll Booth to west of S.R. 679 is also to be undertaken. To help mitigate this FDOT recommendation, the USCG approved the Design Change Reevaluation on March 21, 2000.

Current Project Reevaluation

This Project Reevaluation will address any changes since the approval of the Design Change Reevaluation in 2000. Based on a review of the final plans (June 2008), there have been some minor changes. The current plans show that a multi-use path has been provided on the south side of the roadway/bridge in place of a sidewalk. The design plans provide for a 12 ft path on the roadway portion and an 11 ft path on the bridge portion that will connect back to the existing sidewalk. Also, the shoulders for the roadway typical section have been revised and are now 8 ft outside shoulders and 6 ft inside shoulders instead of 12 ft outside and 8 ft inside shoulders that were shown in the approved reevaluation. The shoulders for the bridge typical section have not changed. Based on input from the Design Review Committee, FDOT has incorporated landscape and hardscape elements into the design to minimize visual concerns and enhance views through the structure.

There is one Stormwater Management Facility (SMF Pond 2) located within the existing right-of-way (ROW) and underneath the proposed bridge structure.

VI. MITIGATION STATUS AND COMMITMENT COMPLIANCE

Mitigation Status

The project segment being advanced by this reevaluation will impact approximately 0.35 acres (ac) of wetlands (seagrass habitat). Mitigation of these impacts has been completed at Fort DeSoto State Park. All environmental permits have been issued for this project.

Commitment Compliance

Both the 1994 Design Reevaluation and the 2000 Design Change Reevaluation reviewed commitments described within the approved EA/FONSI (1983). These commitments have been reviewed as part of this reevaluation to determine their current status.

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Bridge Reevaluation

The 1994 Design Reevaluation reviewed the 1983 EA/FONSI recommendations for replacement of Structure C to determine which bridge type (high-level fixed span or low-level drawbridge) meets the criteria at the time. An analysis to determine which bridge type best meets the existing traffic and boat traffic conditions was completed as part of the 1994 reevaluation and then updated in subsequent reevaluations.

Status: The original recommendation was addressed in the 1994 Design Reevaluation and then reconfirmed in the approved 2000 Design Change Reevaluation. The design plans (June 2008) being advanced with this reevaluation are consistent with the design plans from the 2000 Design Change Reevaluation.

Maintenance of Traffic Flow During Construction

The 1983 EA/FONSI indicated that “the contractor shall maintain relatively smooth traffic flow at all times in accordance with procedures set forth in the *Manual of Traffic Control and Safe Practices*.” FDOT is committed to maintaining traffic flow during the construction of the new bridge. In addition, a Maintenance of Traffic plan (MOT) will be prepared during the project’s design. The traffic plan was based on the latest addition of FDOT’s *Roadway and Traffic Design and Standards* and *Manual of Uniform Traffic Control Devices*.

Status: A MOT plan is included in the June 2008 design plans and is consistent with FDOT’s Roadway and Traffic Design and Standards and Manual of Uniform Traffic Control Devices. Therefore, there is no change in status.

Utilities Relocation

The 1983 EA/FONSI indicated that “All affected public utilities shall be given the opportunity to relocate/renovate facilities during construction.” FDOT is committed to providing public utilities an opportunity to relocate or renovate their facilities either before or during construction.

Status: Utility coordination is underway and will be complete before construction begins.

Water Quality

The 1983 EA/FONSI indicated that “...the appropriate Best Management Practices will be used during the construction phase for erosion control and water quality consideration. If practicable, hay bales, temporary slope drains, and silt curtains will be used during construction to avoid siltation of area wetlands. All cleared areas will be revegetated as quickly as possible in an effort to minimize water quality degradations.” FDOT is committed to using Best Management Practices during the construction phase for erosion control and water quality considerations.

Status: FDOT remains committed to using Best Management Practices during the construction phase based on the current version of FDOT’s Standard Specifications for Road and Bridge Construction. Provisions for monitoring water quality are included in the latest plans; therefore there is no change in status.

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Endangered and Threatened Species

The 1983 EA/FONSI indicated that precautions to protect the manatee and sea turtles will be adhered to during the construction of this project. The latest protection measures developed by FDOT through coordination with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) for manatees and sea turtles will be followed by the contractor chosen to work on the project.

Status: The Manatee Provisions have been incorporated as conditions to the Southwest Florida Water Management District (SWFWMD) Environmental Resource Permit. Discussions with District staff have indicated that precautions similar to the Manatee Provisions are also applicable for the protection sea turtles. There is no change in status.

Wetlands

The 1983 EA/FONSI indicated that to minimize impacts to seagrasses located at the western end of Bridge Structure C, "...one of the following alternate construction methods will be employed: (1) The new bridge will be built from east to west up to the edge of the grass bed. Then construction equipment will reach from both the completed portion of the bridge and the existing touchdown point in the City of St. Pete Beach or (2) the contractor will use shallow-draft barges which can navigate over the grass bed without a dredged channel."

Status: FDOT remains committed to minimizing impacts to seagrasses in the study area by using all reasonable measures, including Best Management Practices, to reduce any impacts to these wetlands. In addition, FDOT is committed to considering all reasonable levels of wetland compensation to minimize the impacts of the proposed project. The project segment being advanced by this reevaluation will impact approximately 0.35 (ac) of wetlands (seagrass habitat). Mitigation of these impacts has been completed at Fort DeSoto State Park. All environmental permits have been issued for this project. Therefore, there is no change in status.

Construction Noise

The 1983 EA/FONSI indicated that "there is the potential for noise impacts significantly greater than those resulting from normal traffic operation." To minimize this potential, the requirements contained in the FDOT's *Standard Specifications for Road and Bridge Construction* will be adhered to during construction of the project.

Status: FDOT remains committed to reducing construction noise impacts to the extent practical. FDOT shall incorporate Standard Specifications for Road and Bridge Construction throughout the construction phase.

Construction Staging on City Property

As part of the 2000 Design Change Reevaluation, this new commitment was added based on the additional public involvement efforts conducted to this point. FDOT does not anticipate the staging of any equipment on any City of St. Pete Beach or City of St. Petersburg maintained property as part of this project. The construction documents will specify that the contractor use project ROW owned by FDOT unless other arrangements

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have been made. If the need arises to use City-owned property, FDOT will contact the City prior to construction activities.

Status: Based upon a review of the Final plans and a recent discussion with the design project manager, it has been determined that all construction activities will be performed within the existing ROW. Additionally, the design project manager, has emphasized that this project will not require the use of city owned property for construction staging activities. A provision stating this has been added to the General Notes in the final plan set. Therefore, there is no change in status.

Construction Staging on Private Property

As part of the 2000 Design Change Reevaluation, this new commitment was added based on the additional public involvement efforts conducted to this point. FDOT does not anticipate staging any construction equipment on private property for this project. Private property can be utilized only when the contractor makes prior arrangements with the property owner in question.

Status: Based upon a review of the Final plans and a recent discussion with the design project manager, it has been determined that all construction activities will be performed within the existing ROW. Additionally, the design project manager, has emphasized that this project will not require the use of privately owned property for construction staging activities. A provision stating this has been added to the General Notes in the final plan set. Therefore, there is no change in status.

Minimization of Construction Impacts

As part of the 2000 Design Change Reevaluation, this new commitment and was added based on the additional public involvement efforts conducted to this point. FDOT's mission is to minimize potential adverse impacts to the traveling public and adjacent property owners during any construction activity. The FDOT will contact local governments during the Maintenance of Traffic plan development to incorporate construction enhancements to minimize traffic interference and construction impacts.

Status: Throughout the design of this project, the Department conducted extensive coordination with the local governments to ensure that the design plans met their expectations. Therefore, there is no change in status.

Minimization of Visual and Aesthetic Concerns

As part of the 2000 Design Change Reevaluation, the public expressed concern with visual and aesthetic impacts of the new bridge. Based on this, FDOT committed to provide landscaping and architectural design features to minimize visual concerns and enhance views through the structure.

Status: A Design Review Committee was established that met periodically during design to develop context sensitive solutions that minimize the community's visual and aesthetic concerns. Based on a review of the updated plans and discussions with the FDOT project

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manager, hardscape and landscape plans are included in the final design plans (June 2008).

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VII. PERMIT STATUS

The following provides for the status of environmental permits by each regulatory agency for the segment being advanced by this reevaluation:

<u>Agency</u>	<u>Type</u>	<u>Status</u>
United States Coast Guard (USCG)	Bridge Permit Amendment No. 12B-84-7	Issued: 3/28/07 Expires 3/2/11 Time Extension Requested
Southwest Florida Water Management District (SWFWMD)	Environmental Resource Permit No. 43023532.002	Issued 12/16/08 Expires 12/16/13
Florida Department of Environmental Protection (FDEP)	National Pollution Discharge Elimination System (NPDES)	Issued 48 hours Prior to construction

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ATTACHMENT A**

A. NATURAL ENVIRONMENT

Air Quality Impacts

This project is in an area which has been designated as maintenance for the ozone standards under the criteria provided in the Clean Air Act Amendments (CAAA) of 1990. Since that time, air quality provisions have changed. Currently, the entire state of Florida has been designated as attainment for all the air quality standards under the criteria provided in the CAAA; therefore, conformity does not apply.

Status: There is no change in status.

Coastal and Marine Impacts

The State Clearinghouse, Office of the Governor, determined that the proposed project is consistent with the Florida Coastal Management Program (FCMP) in a letter dated November 2, 1992 as provided for in 15 CFR 930.95.

The proposed improvements do not impact any of the coastal barrier resource units protected under Governor's Executive Order 81-105, Federal Coastal Barrier Resources Act of 1982 (CBRA), the Coastal Improvement Act of 1990, the Florida Coastal Zone Management Act (FCZMA), Part II, Chapter 380 Florida Statutes (F.S.), and revisions to the Local Coastal Comprehensive Plan under Part II, Chapter 163, F.S.

Status: This project remains consistent with the FCMP and FCZMA; therefore, there is no change in status.

Contamination Impacts

In association with the 2000 Design Change Reevaluation and in accordance with Part 2, Chapter 22, of the FDOT *Project Development and Environment Manual*, a Contamination Screening Evaluation Report (CSER) was prepared in December 1999. The methodology consisted of historic aerial photo-interpretation, review of government files regarding petroleum and chemical storage tanks and hazardous waste sites, conducting a risk evaluation of facilities identified as potential concern sites, and conducting field surveys of potential contamination sites within the project study area. Based on this report, no sites located within or adjacent to the proposed ROW were identified as a potential concern or requiring a more detailed risk evaluation.

Status: The project was reevaluated by FDOT staff and found no adverse contamination effects associated with the project or the SMF Pond 2. The area where this SMF is constructed was cleared as part of the corridor CSER. Therefore, there is no change in status.

Farmland Impacts in the Approved Design Change Reevaluation

There are no prime or unique farmlands located in our near the project corridor.

Status: There is no change in status.

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Floodplain Impacts

The FDOT addressed floodplain impacts in accordance with Executive Order 11988, “Floodplain Management.” The project is located within the 100-year flood boundary Zone A. It was determined that there are no significant encroachments into the floodplain.

Status: A recent discussion with the Design Project Manager reconfirmed that there are no significant encroachments to the floodplain. Therefore, there is no change in status.

Infrastructure Impacts

FDOT is committed to providing public utilities an opportunity to relocate or renovate their facilities during construction. Additionally, there are no railroad crossings within the corridor.

Status: Utility coordination is underway and will be complete before construction begins. Therefore, there is no change in status.

Navigation Impacts

The Approved USCG EA/FONSI proposed a low-level bascule bridge. The 1994 Reevaluation addressed the effects to navigation by the replacement of the existing low level drawbridge with a high-level (65 ft vertical clearance) fixed-span bridge. Additionally, the 2000 Reevaluation indicated new USCG requirements for the width of the channel through the bridge fenders that would improve navigation and would not restrict boat traffic. These improvements call for an increase from 27.4 m (90 ft) to 30 m (100 ft) while allowing for the additional vertical clearance.

Status: A review of the current design plans verified their consistency with USCG guidelines and a USCG permit has been issued. Therefore, there is no change in status.

Special Designation Impacts

None of the previous documents addressed, Wild and Scenic Rivers, or Scenic Highways. However, the 1983 EA/FONSI identified the Boca Ciega Bay, which the project traverses, as an Outstanding Florida Water (OFW). The 1994 Design Reevaluation identified Boca Ciega Bay as an Aquatic Preserve.

Status: Currently, all of Pinellas County is designated as a State Aquatic Preserve and as such is designated as OFW. The current design has been reviewed and permitted by SWFWMD. Also, a review of the National Wild and Scenic Rivers System website indicates that there are no Wild and Scenic Rivers located in the project corridor. Additionally, a review of the FDOT Scenic Highway website indicates that there are no Scenic Highways in the vicinity of the segment being advanced by this reevaluation. Therefore, there is no change in status.

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Water Quality Impacts

The 1983 EA/FONSI indicated that “the appropriate Best Management Practices will be used during the construction phase for erosion control and water quality consideration. If practicable, hay bales, temporary slope drains and silt curtains will be used during construction to avoid siltation of area wetlands. All cleared areas will be revegetated as quickly as possible in an effort to minimize water quality degradations.” FDOT is committed to using Best Management Practices during the construction phase for erosion control and water quality considerations.

Status: FDOT remains committed to using Best Management Practices during the construction phase based on the current version of FDOT’s Standard Specifications for Road and Bridge Construction. Provisions for monitoring water quality are included in the latest plans; therefore there is no change in status.

Wetlands Impacts

The 1983 EA/FONSI indicated that to minimize impacts to seagrasses located at the western end of Bridge Structure C, “one of the following alternate construction methods will be employed: (1) The new bridge will be built from east to west up to the edge of the grass bed. Then construction equipment will reach from both the completed portion of the bridge and the existing touchdown point in the City of St. Pete Beach or (2) the contractor will use shallow-draft barges which can navigate over the grass bed without a dredged channel.” The 1994 Reevaluation emphasized that FDOT remains committed to minimizing impacts to seagrasses in the study area by using all reasonable measures, including Best Management Practices, to reduce any impacts to these wetlands. In addition, FDOT is committed to considering all reasonable levels of wetland compensation to ameliorate the impacts of the proposed project and to obtain the necessary regulatory permits during the design phase of the project.

Status: FDOT remains committed to minimizing impacts to seagrasses in the study area by using all reasonable measures, including Best Management Practices, to reduce any impacts to these wetlands. In addition, FDOT is committed to considering all reasonable levels of wetland compensation to minimize the impacts of the proposed project. The project segment being advanced by this reevaluation will impact approximately 0.35 ac of wetlands (seagrass habitat). Mitigation of these impacts has been completed at Fort DeSoto State Park. All environmental permits have been issued for this project. Therefore, there is no change in status.

Wildlife and Habitat Impacts

The 1983 EA/FONSI indicated that precautions to protect the manatee and sea turtles will be adhered to during the construction of this project. The latest protection measures developed by FDOT through coordination with the USFWS and NMFS for manatees and sea turtles will be followed by the contractor chosen to work on the project.

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Status: Manatee Provisions have been incorporated as conditions to the SWFWMD Environmental Resource Permit. Discussions with District staff have indicated that precautions similar to the Manatee Provisions are also applicable for the protection sea turtles. There is no change in status.

B. CULTURAL IMPACTS

Historic and Archaeological Impacts

There are National Register of Historic Places (NRHP) sites in the surrounding area, but they are well outside the project limits. One is the Don CeSar Hotel (intersection of S.R. 682 and S.R. 699) and the others are archaeological sites located at Maximo Park (half-mile south of S.R. 682/US 19 intersection).

During the design reevaluation (1994), a desktop cultural resource assessment was conducted by FDOT to assess the potential impact to any archaeological sites or historic resources within the project area, in accordance with the National Historic Preservation Act of 1966 as amended, and Chapters 253 and 267, F.S. A meeting was held with the FDOT and the State Historic Preservation Officer (SHPO) in the fall of 1993 to review the high-level fixed bridge concept plans. It was decided at that meeting that no on-site survey would be necessary since the entire project will be conducted within FDOT ROW and there are no structures old enough to be considered for the NRHP (FDOT letter to SHPO dated October 20, 1993). In a letter dated October 27, 1993, the SHPO determined that the project would have no effect on any archaeological sites or historic properties listed or eligible for listing in the NRHP. The SMF (Pond 2) for this project is located in an area of fill land and does not need to be surveyed for archaeological sites.

In May, 2001, the SHPO requested a cultural resources reevaluation be conducted for historic structures and potential historic districts within the Area of Potential Effect (APE) since the previous cultural resource assessment was conducted eight years prior and some structures may have become historic since then. In response, a site visit was conducted on May 11, 2001 and the results were sent to the SHPO on June 26, 2001. Although several historic structures (built pre-1951) were located within the APE, but outside of the ROW, none were listed or considered eligible for listing in the NRHP. The Don CeSar Hotel, listed in the NRHP in 1975, remains eligible, but is located west of the project area. The FDOT determined that the planned high-level fixed-span bridge would still have no effect on any historic structures that are listed, or eligible for listing in the NRHP.

A review of the 2001 cultural resources reevaluation indicated that even though several structures were built prior to 1951 and were scattered throughout the APE, the majority of the structures were built after the 1950s and will not constitute a historic district.

Status: There is no change in status.

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Recreation Area Impacts

None of the previous documents addressed Recreation Areas.

Status: The only recreational facility located within the project limits consists of a private golf course, Isla Del Sol Golf Course that serves the Isla Del Sol community. Based on a recent field review, no new recreational areas or parks exist or are currently proposed within the study area. Therefore, there is no change in status.

Section 4(f) Lands Impacts

There are no sites defined by Section 4(f) of the United States Department of Transportation Act of 1966 within the project corridor. There will be no Section 4(f) involvement.

Status: There is no change in status.

C. COMMUNITY IMPACTS

Aesthetic Impacts

As part of the 2000 Reevaluation process, the public expressed concern with visual and aesthetic impacts of the new bridge. As a result, a Design Review Committee was established to develop context sensitive solutions that minimize the community's visual and aesthetic concerns. Based on this, FDOT committed to provide landscaping and architectural design features to minimize visual concerns and enhance views through the structure.

Status: Based on a review of the updated plans, coordination the Design Review Committee, and discussions with the FDOT project manager, hardscape and landscape plans are included in the final design plans (June 2008). Therefore, there is no change in status.

Economic Impacts

None of the previous documents addressed Economic issues.

Status: This project will not change accessibility or character of the local environment and therefore does not anticipate changes in growth rates, business activity, property values, or tax revenues.

Land Use Impacts

The EA/FONSI (1983) stated that the Pinellas County Comprehensive Land Use Plan had designated the project area as low-density residential. There were several areas described as vacant at that time; however, most of these areas had proposed development plans. The proposed project is not anticipated to have a substantial effect on land uses within the project area.

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Status: Based on a recent field review, the existing land uses along the project area consist of residential, recreational, commercial and utilities. The project lies within the cities of St. Petersburg and St. Pete Beach and unincorporated Pinellas County. According to the future land use element of the Pinellas County Comprehensive Plan and land use map, no new development is planned in or adjacent to the project limits. The City of St. Petersburg Comprehensive Plan future land use element shows no future development for the project area due to lack of undeveloped land. According to the future land use element of the St. Pete Beach Comprehensive Plan, the city of St. Pete Beach can be classified as a built-out community. Because the project area has essentially reached build out, future land use is expected to continue in the same pattern as existing land uses.

Mobility Impacts

The EA/FONSI (1983) indicated that for the proposed roadway improvements, a 6 ft paved shoulder will be provided for use as a refuge land for disabled vehicles adjacent to the outside of the proposed roadway. This paved shoulder could also provide an area for biking enthusiasts, separate from the vehicular traffic. Subsequent reevaluations did not address Mobility impacts.

The Pinellas County MPO has proposed two planned community trails as part of their Gulf Boulevard Improvement Program. The proposed North and South Bayway Trails will carry bicycle and pedestrian traffic along the entire length of the corridor, which would include facilities on the new fixed-span Bayway Bridge.

Status: The current bridge and roadway typical sections are consistent with the Pinellas MPO requirements. The latest design plans show a multi-use path on the south side only of both the roadway and bridge structure instead of a sidewalk. The multi-use path is 12 ft wide on the roadway portion and 11 ft wide on the bridge portion. This multi-use path will connect back to the existing sidewalk.

The Pinellas Suncoast Transit Authority (PSTA) operates one bus route that services the Pinellas Bayway and the City of St. Pete Beach. Impacts to the service route are not expected as the result of the proposed project.

Relocation Impacts

The EA/FONSI (1983) stated since the proposed improvements were to take place entirely within the existing ROW; there would be no relocation impacts.

Status: Based on recent discussions with the Design Project Manager, there are no relocation impacts. Therefore, there is no change in status.

Social Impacts

The EA/FONSI (1983) identified no churches and one school (Eckerd College) within the project area. The document went on to note that the proposed project will not affect the school facility. Additionally, the EA/FONSI noted that the project would have no impact

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on the community relative to neighborhood values, quality of life, socio economic, and demographic factors.

Controversy potential was addressed in the EA/FONSI and during subsequent reevaluations. During the original Project Development and Environment (PD&E) Study, a Public Workshop was held on August 26, 1982 and a Public Hearing was held on August 4, 1983. During the 1994 Design Reevaluation, a Public Hearing was held on November 9, 1993. Another Public Hearing was held on March 19, 1998 as part of the 2000 Design Change Reevaluation. The public expressed concern with visual and aesthetic impacts of the new bridge. As a result, a Design Review Committee was established to develop context sensitive solutions that minimize the community's visual and aesthetic concerns. Therefore, FDOT committed to provide landscaping and architectural design features to minimize visual concerns and enhance views through the structure.

Status: Based on a review of the updated plans and a conversation with the Design Review Committee, hardscape and landscape plans are included in the latest design plans.

There are no medical facilities, fire or police stations, churches or cemeteries located within the project area. There are no ROW takings required for this project. A review of land use, and community and emergency services along the corridor has found that the proposed project will not impact community cohesion or community services. Therefore, there is no change in status.

D. OTHER IMPACTS

Noise Impacts

The EA/FONSI (1983) reviewed noise impacts associated with the project as visualized at that time. A noise re-analysis was prepared as part of the 2000 Design Change Reevaluation. This re-analysis stated that the project is not anticipated to affect any noise sensitive sites.

Status: A review of the current plans shows no significant engineering changes from the project plans that were used in the 2000 Design Change Reevaluation. A recent field review confirms there have been no Land Use changes since the approval of the 2000 Design Change Reevaluation. FDOT remains committed to reducing construction noise impacts to the extent practical. FDOT shall incorporate Standard Specifications for Road and Bridge Construction throughout the construction phase. Therefore, there is no change in status.

Florida Department of Transportation
PROJECT REEVALUATION
ATTACHMENT A

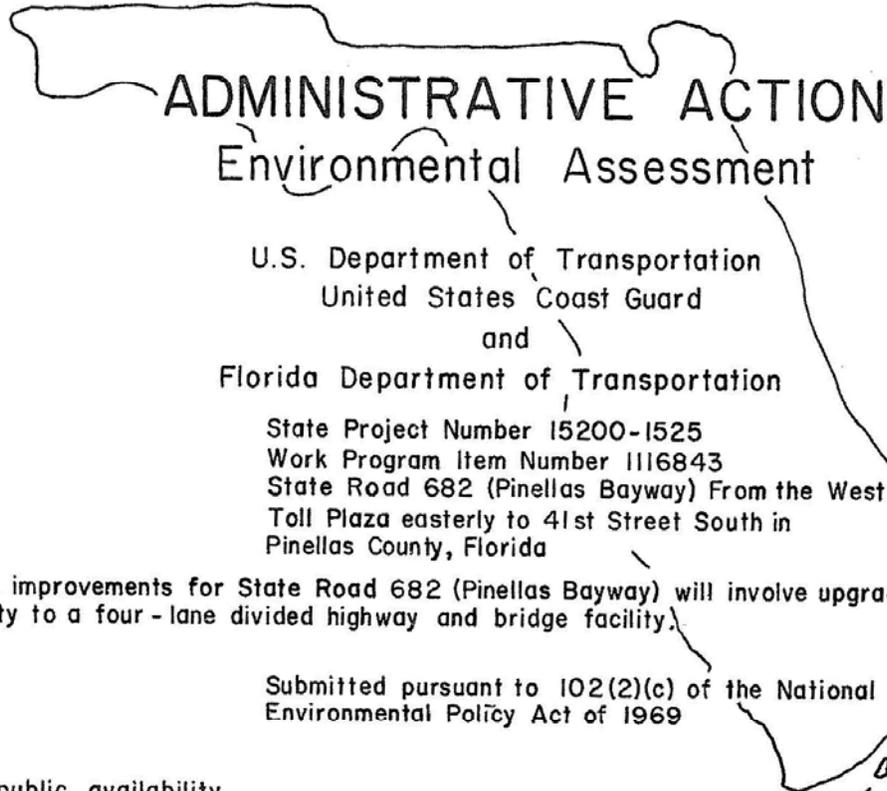
Construction Impacts

The 1983 EA/FONSI committed to minimize construction impacts to the greatest extent possible. To minimize construction impacts, the requirements contained in the FDOT's *Standard Provision for Road and Bridge Construction* will be adhered to during construction of the project.

Status: There is no change in status.

Florida Department of Transportation
PROJECT REEVALUATION
ATTACHMENT A

Seventh Coast Guard District



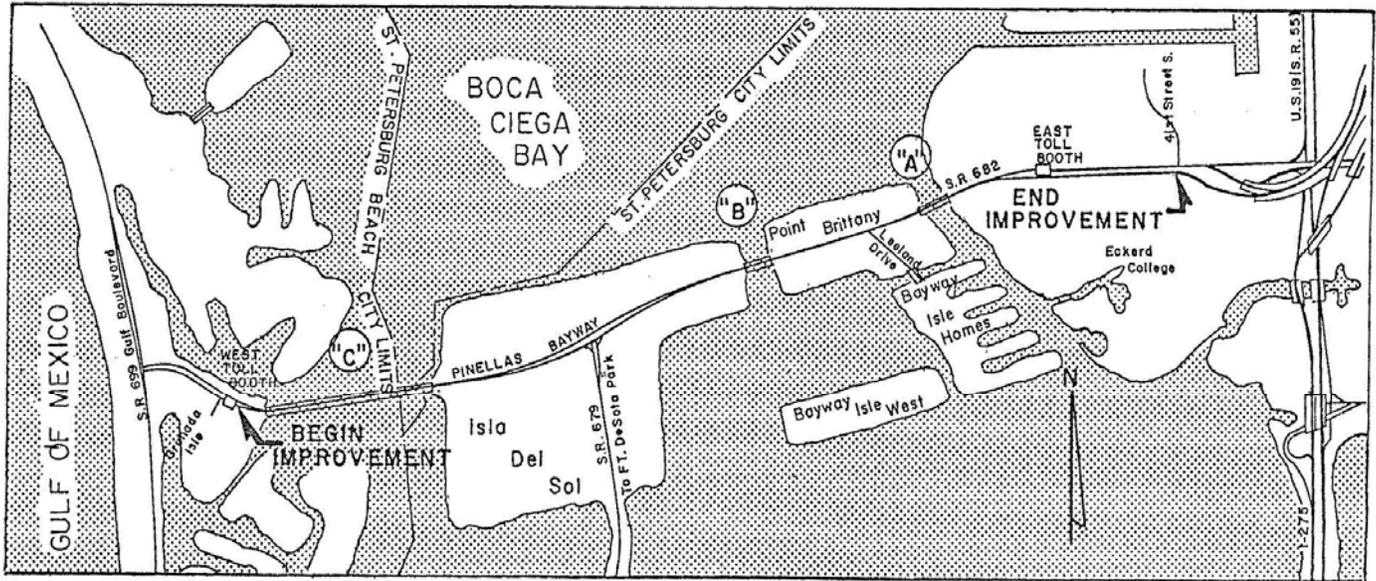
Approved for public availability

May 16 1983
Date

L. B. Monte De Oca

Florida Department of Transportation
PROJECT REEVALUATION
ATTACHMENT A

STATE ROAD 682
PROJECT LOCATION MAP
PINELLAS COUNTY, FLORIDA



**Florida Department of Transportation
PROJECT REEVALUATION
ATTACHMENT A**



	<p align="center">PROJECT LOCATION MAP</p>	<p align="center">Project Reevaluation SR 682 (Pinellas Bayway) From West Toll Booth to SR 679 (FPN: 256903 1) Pinellas County, Florida</p>	
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Attachment E: Letters of Support



CITY OF ST. PETERSBURG

POST OFFICE BOX 2842, ST. PETERSBURG, FLORIDA 33731-2842

WEB SITE: www.stpete.org Channel 35 WSPF • TV

TELEPHONE: 727 893-7171

August 17, 2010

Mr. Donald J. Skelton, P.E.
Secretary
FDOT, District Seven
11201 N. McKinley Drive, M.S. 7-1300
Tampa, FL 33612-6456

Dear Mr. Skelton,

The City of St. Petersburg and FDOT have worked tirelessly over the last ten years in the hope of realizing the construction of the new bridge connecting the City with St. Pete Beach. We are in strong support of the Pinellas Bayway Structure "C" TIGER II Grant application being submitted by the Florida Department of Transportation to the U.S. Department of Transportation. The Pinellas Bayway Structure "C" Bridge provides a vital regional and local connection and hurricane evacuation route between I-275, the City of St. Petersburg and the City of St. Pete Beach. This is also the primary route for residents, employees and visitors to access local beaches and I-275 for regional travel. The southern segment of the Pinellas Bayway System serves the island of Tierra Verde and Fort DeSoto Park, a 1,136 acre Pinellas County public park that averages 2.7 million visitors per year. The park is a major beach destination and was named as the #1 beach in the nation in 2005.

Funding from the requested TIGER Grant would complete the funds needed to replace the 2-lane drawbridge with a 4-lane, high-level fixed span bridge (including a 1.3 mile 12-foot multi-use path, signing, lighting, and landscaping) connecting the main land to the barrier islands and the Gulf of Mexico in Pinellas County, Florida.

Working with FDOT and the Metropolitan Planning Organization we agree that a cooperative approach to critical transportation provides the best opportunity to implement a safe, sustainable regional connection that will spur both short and long term economic growth in the area. With the support of the U.S. Department of Transportation and TIGER Grant funding, along with user funds through tolls, this vitally needed project could become a reality.

Sincerely,

Bill Foster
Mayor
City of St. Petersburg

cc: Pinellas County Congressional Delegation
Pinellas County Board of County Commissioners



CITY OF ST. PETERSBURG

POST OFFICE BOX 2842, ST. PETERSBURG, FLORIDA 33731-2842

WEB SITE: www.stpete.org Channel 35 WSPF • TV

TELEPHONE: 727 893-7171

August 17, 2010

Mr. Donald J. Skelton, P.E.
Secretary
FDOT, District Seven
11201 N. McKinley Drive, M.S. 7-1300
Tampa, FL 33612-6456

Dear Mr. Skelton,

The City of St Petersburg is in strong support of the Pinellas Bayway Structure "C" TIGER II Grant application being submitted by the Florida Department of Transportation to the U.S. Department of Transportation. The Pinellas Bayway Structure "C" Bridge provides a vital regional and local connection between I-275, the City of St. Petersburg and the City of St. Pete Beach and represents the primary evacuation route from the beaches in the case of a natural disaster. This is also the primary route for residents, employees and visitors to access local beaches and I-275 for regional travel. The southern segment of the Pinellas Bayway System serves the island of Tierra Verde and Fort DeSoto Park, a 1,136 acre Pinellas County public park that averages 2.7 million visitors per year. The park is a major beach destination and was named as the #1 beach in the nation in 2005.

Funding from the requested TIGER Grant would complete the revenue needed to replace the 2-lane drawbridge with a 4-lane, high-level fixed span bridge (including a 1.3 mile 12-foot multi-use path, signing, lighting, and landscaping) connecting the main land to the barrier islands and the Gulf of Mexico in Pinellas County, Florida.

Through our cooperative, comprehensive and continuous multi-jurisdictional approach to critical transportation connections, we can provide a regional connection that would be sustainable, safe and would spur short and long term economic growth in the area. With the support of the U.S. Department of Transportation and TIGER Grant funding, along with user funds through tolls, this vitally needed project could become a reality.

Sincerely,

Leslie Curran
Chair
St. Petersburg City Council

cc: Pinellas County Congressional Delegation
Pinellas County Board of County Commissioners



City of St. Pete Beach
155 Corey Avenue
St. Pete Beach, Florida 33706-1839
727-367-2735
www.stpetebeach.org

August 11, 2010

Donald J. Skelton, P.E.
Florida Department of Transportation, District Seven Secretary
11201 N. McKinley Drive
Tampa, Florida 33612

Dear Secretary Skelton,

This letter is in support of the Pinellas Bayway Structure "C" TIGER II Grant application being submitted by the Florida Department of Transportation to the U.S. Department of Transportation. The Pinellas Bayway Structure "C" Bridge provides a vital regional and local connection between I-275, the City of St. Petersburg and the City of St. Pete Beach. This is the primary route for residents, employees and visitors to access local beaches and I-275 for regional travel. The southern segment of the Pinellas Bayway System serves the island of Tierra Verde and Fort DeSoto Park, a 1,136 acre Pinellas County public park that averages 2.7 million visitors per year. The park is a major beach destination and was named as the #1 beach in the nation in 2005.

Funding from the requested TIGER II Grant would complete the revenue needed to replace the 2-lane drawbridge with a 4-lane, high-level fixed span bridge (including a 1.3 mile 12-foot multi-use path, signing, lighting, and landscaping) connecting the main land to the City of St. Pete Beach and the Gulf of Mexico in Pinellas County, Florida.

Through the cooperative, comprehensive and continuous multi-jurisdictional approach to critical transportation connections we can provide a regional connection that is sustainable, safe and will spur short and long term economic growth with the support of the U.S. Department of Transportation and TIGER II Grant funding.

Sincerely,

Mike Finnerty
Mayor





PINELLAS COUNTY BOARD OF COUNTY COMMISSIONERS

PHONE (727) 464-3278 • FAX (727) 464-3022 • 315 COURT STREET • CLEARWATER, FLORIDA 33756
www.pinellascounty.org

KAREN WILLIAMS SEEL
COMMISSIONER

August 17, 2010

Don Skelton
District VII Secretary FDOT
11201 N. McKinley Drive
Mail Station 7-340
Tampa, FL 33612-6456

Dear Secretary Skelton:

The Pinellas County Board of County Commissioners has had a long-standing interest in improvements to the Bayway Bridge Structure C. When the MPO recently reviewed this matter through the establishment of a special task force, Pinellas County participated in that review.

The result of that review was the conclusion that a fixed plan design improvement was critically needed but, there was not adequate funding to accomplish it. It was therefore concluded that federal funding should be sought for this much needed improvement. Our County Commission agreed with that conclusion and took action to endorse the seeking of federal funding for the project.

Based upon this background, Pinellas County fully endorses the FDOT grant application for Tiger II funds to replace the Bayway Bridge Structure C.

Most sincerely,

A handwritten signature in blue ink that reads "Karen".

KAREN WILLIAMS SEEL, Chair
Pinellas County Commission

cc: Lee Royal, AICP, FDOT Community Liaison Administrator



**PINELLAS COUNTY
METROPOLITAN PLANNING ORGANIZATION**

600 Cleveland Street Suite 750 Clearwater, Florida 33755

(727) 464-8200 Phone

(727) 464-8201 Fax

August 13, 2010

Mr. Donald Skelton, District Secretary
FDOT District 7
11201 N. McKinley Drive – MS 7-100
Tampa, FL 33612

Dear Secretary Skelton:

The Pinellas County MPO is aware of the fact that FDOT is submitting an application for Tiger II funds to replace the Bayway Bridge Structure C. The proposal is to replace the existing two-lane bascule bridge with a four-lane fixed span facility.

The MPO is in full support of this proposal and endorses the grant submission. The improvement of this facility has been a MPO priority for many years. Recently, the MPO commissioned a special task force to reevaluate the needed improvements for this facility and other related facilities in the Bayway network. That task force concluded that the most appropriate design for this bridge was a fixed span facility. It should also be noted that the task force could not identify available adequate funding for this improvement. Therefore, the task force recommended that the MPO seek and endorse federal funding for this critically needed improvement.

Based upon that background, the MPO took action at its May 12, 2010 meeting to declare that the Bayway Bridge Structure C would be the number one priority for Tiger Grant funding. It is, therefore, the purpose of this letter to indicate that the Pinellas County MPO fully endorses the Tiger II Grant application for the replacement of the Bayway Bridge Structure C.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chris Arbutine', written over a horizontal line.

Chris Arbutine, Chairman
Pinellas County
Metropolitan Planning Organization

CA:af

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