

NO-BUILD/REPAIR ALTERNATIVE

The FDOT is currently doing a short term repair project, which began in May 2014, to keep Cortez Bridge safe and operable for up to ten years, or until 2025. While no one can precisely predict how long repairs will last, the no build/repair alternative includes continued repairs and routine maintenance of Cortez Bridge to keep it safe and operable for up to an additional ten years following the current ten-year repair project, or until 2035. After the 10-year repair, the bridge would need to be replaced. The no build/repair alternative would not prevent the need to potentially restrict heavy vehicles meaning that heavy trucks such as commercial delivery or moving trucks could be restricted.

Repairs include replacement of the beams and deck on the six spans in the worst condition to address beam deficiencies. The existing piles and pile caps will remain. The no-build/repair project would require closure of the bridge for nine weeks and a detour via Anna Maria Bridge or Ringling Bridge to maintain traffic during construction. The no-build/repair alternative will keep the same functionally obsolete, substandard roadway width. The roadway width is not sufficient to provide any shoulders and the brush curbs do not meet current safety standards. Despite repairs, the existing bridge would continue to deteriorate. Furthermore, the bridge would remain susceptible to damage from ship impact and storm surge due to its substandard foundations and low profile, respectively. The no-build/repair alternative will remain viable throughout the analysis and evaluation process.

REHABILITATION ALTERNATIVE

The rehabilitation alternative includes performing major repairs to the fixed and moveable portions of the bridge. While no one can precisely predict how long these repairs will last, the rehabilitation alternative is intended to extend the service life of the bridge for up to an additional 25 years following the current ten-year repair project, or until 2050. After the 25-year rehabilitation life, the bridge will need to be replaced.

The rehabilitation alternative was evaluated after FDOT conducted an extensive inspection and testing program. Rehabilitation includes the complete replacement of all the beams and deck to address their condition and improve their reliability. The existing piles and pile caps will remain. However, the rehabilitation alternative would keep the same functionally obsolete, substandard roadway width. The original piles and foundation would remain and would continue to be affected by the extremely corrosive saltwater environment. Additional repairs would be required periodically on the piles and other structural components to maintain structural adequacy.

While the rehabilitation alternative would extend the service life of the bridge by up to 25 years, the foundation, piles, and pile caps will have exceeded their design life by over 60% in those 25 years. The bridge piles would continue to deteriorate, and the bridge would continue to be susceptible to damage from ship impact and storm surge, damage that, if severe, could close the bridge for several weeks.

The rehabilitation alternative will keep the same functionally obsolete, sub-standard roadway width and brush curbs since widening to accommodate additional shoulder areas is not viable due to the existing structural capacity and the capacity of the electrical and mechanical systems of the movable span. A temporary bridge is required to maintain traffic during construction, but the potential to restrict heavy vehicles would be avoided. The temporary bridge will also result in additional temporary construction and environmental impacts.

BUILD ALTERNATIVES

The replacement alternatives provide a long-term solution designed to last up to 75 years following the current ten-year repair project, or until 2100. FDOT is studying low-level and mid-level drawbridges and high-level fixed replacement alternatives. Evaluation of all build alternatives included a center alignment, a north alignment, and a south alignment. The project length is not significantly different for the alignments; therefore, construction costs will not be significantly different between the north and south alignments. The north alignment is about 9 feet north of the existing bridge, and the south alignment is about 15 feet south of the existing bridge. Since the center alignment requires a long detour or \$14.9 million temporary bridge, FDOT dropped it from further consideration.

The existing vertical clearance of the Cortez Bridge is 17½ feet at the Intracoastal Waterway. The U.S. Coast Guard establishes minimum navigational guide clearances at this location. They are a 21-foot vertical clearance for a new drawbridge and a 65-foot vertical clearance for a new fixed bridge. The horizontal guide clearance for all bridge replacements is 90 feet perpendicular

between fenders. However, FDOT is considering a 100-foot wide channel, which is a 10-foot increase over the existing condition, to match the clearance at Ringling Bridge and the proposed Anna Maria Bridge.

FDOT developed the following conceptual bridge designs:

- Low-level drawbridge, similar to the existing bridge, with 21-foot vertical clearance when the bridge is closed.
- Mid-level drawbridge with 45-foot vertical clearance when the bridge is closed. This clearance allows 50% of boats that currently require the bridge to open to pass underneath without requiring the bridge to open, reducing delays for vehicles and vessels.
- High-level fixed structure with 65-foot vertical clearance allows 98 percent of all vessels that currently use the channel to pass under the bridge, resulting in no delays.

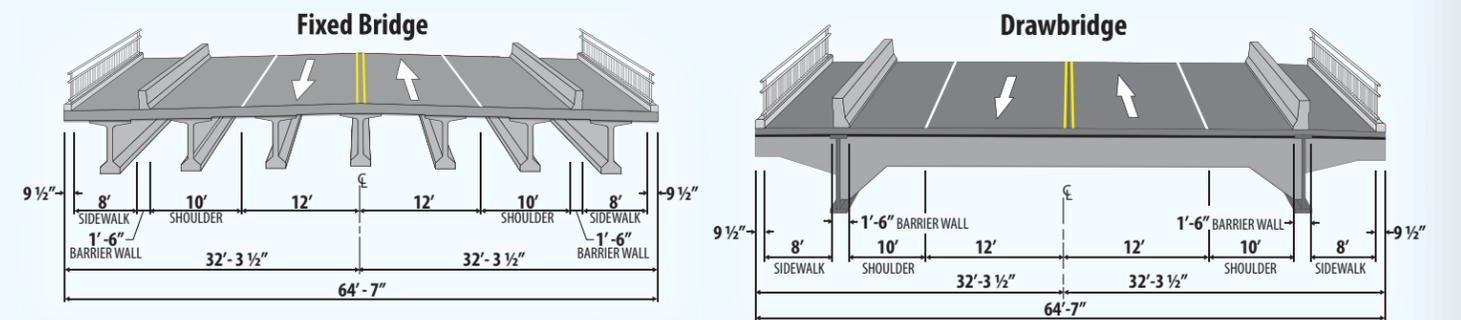
All bridge replacement alternatives use the existing bridge to maintain traffic during construction and include the removal of the existing bridge once traffic shifts to a new bridge. There are currently no plans to leave any portion of the existing bridge intact for recreational or any other use.

VIALE REPLACEMENT ALTERNATIVES

In order to quantify the costs and potential effects associated with the alternatives, FDOT is analyzing the no-build/repair alternative, rehabilitation, and build alternatives that include two alignments and three bridge replacement heights. An alternatives matrix is displayed with results of the analysis, and aerial photographs with the alternatives are displayed for your review. Representations of the bridge heights are also displayed.

HOW THE BRIDGE WILL LOOK

If the bridge replacement option is selected, the new bridge includes two 12-foot lanes and two 10-foot shoulders, which can accommodate bicyclists and disabled vehicles. Eight-foot sidewalks are included on both sides of the bridge. The design speed is 40 miles per hour.



TUNNEL ALTERNATIVE

FDOT considered a tunnel alternative. The estimated construction cost for a tunnel is approximately \$161 million, not including additional costs for right-of-way, or annual operations and maintenance. Based on this estimate, the tunnel alternative cost far exceeds the cost of any of the bridge replacement or rehabilitation alternatives.

The study team also considered environmental effects resulting from the tunnel alternative. Possible effects to the natural environment caused by dredging and the high cost of a tunnel, among other factors, resulted in elimination of the alternative from further consideration.

ENVIRONMENTAL EFFECTS

The study evaluates potential environmental effects associated with the proposed build alternatives. Detailed analyses of wetlands, floodplains, threatened and endangered species, water quality, hazardous materials, recreational sites, noise, air quality, historic structures, and archaeological sites are an important part of this study. Based on our studies to date, we do not expect significant effects associated with the proposed build alternatives.