

CURTIS CREEK

# Drawbridge Rehabilitation and Resiliency Project

Project Description



**FY2025-FY2026**

Multimodal Project

Discretionary Grant Application



## Project Description

The Maryland Transportation Authority (MDTA), in partnership with the Maryland Department of Transportation (MDOT), requests \$7.5 million in Infrastructure for Rebuilding America (INFRA) funding from the U.S. Department of Transportation’s (USDOT’s) Multimodal Project Discretionary Grant (MPDG) Program for Fiscal Year 2025–2026 in support of the Curtis Creek Drawbridge Rehabilitation and Resiliency Project (Project). The 3,325-foot-long bridge, located along the heavily traveled National Highway System, is a critical link with the Francis Scott Key (Key) Bridge to provide a necessary third crossing of the Patapsco River—one that is not limited by vertical clearances and transport of hazardous materials—and that connects traffic on the Interstate 695 Baltimore Beltway. The recent collapse of the Key Bridge has drawn national attention, and the Project represents an opportunity for USDOT to join MDTA and MDOT in ensuring safety, transportation resilience, connectivity, and a state of good repair across the I-695 corridor as these agencies work together to recover and rebuild.

A fully functioning drawbridge provides an efficient connection from one side of Curtis Creek to the other, avoiding significant detours and delays. The drawbridge also provides critical waterway access that is essential to operations at the U.S. Coast Guard (USCG) Yard, a key partner in responding to the Key Bridge collapse, and to the success of many other local maritime businesses in Hawkins Point and Curtis Bay. The proposed project will eliminate safety concerns posed by the drawbridge’s current condition by implementing critical structural repairs and address state-of-good-repair needs by replacing portions of the aging concrete bridge deck.

The Curtis Creek Drawbridge is made up of two drawbridges that span the width of Curtis Creek (Figure 1). The drawbridge allows for the safe passage of large USCG vessels, ensuring reliable access to the USCG Yard just southeast of the bridge, and supports other maritime traffic serving businesses along Curtis Creek, such as the Baltimore City Composting Facility, United States Gypsum, Fort Armistead Park, and Brandon Shores Power Plant. MDTA is committed to preserving and maintaining aging infrastructure, and the proposed rehabilitation of Curtis Creek Drawbridge will help to extend the nearly 50-year-old bridge’s lifespan and ensure continued connectivity to these critical job centers and recreation sites.

**Figure 1. Aerial View of Curtis Creek Drawbridges (left) and Maryland Route 173 Drawbridge (right) Looking West**



This critical bridge rehabilitation project strongly

aligns with the selection criteria, providing significant safety and quality-of-life benefits to historically underserved communities in Curtis Bay, located in south Baltimore. As the Baltimore region rebuilds and recovers from the tragic Key Bridge collapse, MDTA has a unique opportunity to rehabilitate the Curtis



Creek Drawbridge without causing major traffic congestion and community impacts that would otherwise include increased local road congestion and vehicle emissions from idling. Such impacts would typically be unavoidable with a project of this scale on a busy roadway. The Curtis Creek Drawbridge is poised for repair and has been identified as a crucial bridge in MDTA's planned bridge repair scheme as a result of the noted warping of numerous girder webs and bottom flanges, resulting in loss of structural capacity. If these girders are not repaired in due course, eventual failure of these girders may occur.

### Addressing Transportation Challenges

The Curtis Creek Drawbridge, located on the National Highway System, is a critical connection point along I-695. Two separate bridges make up its structure and carry Inner and Outer Loop traffic over Curtis Creek. The scope of work provides a strategic Maintenance of Traffic (MOT) approach that will allow partial operation of the bridge during construction so as to not to cut off access to businesses on the eastern side of Curtis Creek.

The Curtis Creek Drawbridge is near Major Marine Highway M-95, which is part of the USDOT's Marine Highway Program<sup>1</sup> initiative to increase cargo transportation on waterways, rather than on already congested highways. USCG and several other businesses pass beneath the Curtis Creek Drawbridge to move large ships and transport cargo; over the last year, the drawbridge averaged six openings and six closings per month. If the conditions of this bridge are permitted to further decline, the drawbridge will eventually be rendered nonoperational. This will cause serious issues for freight movement and for the only point of waterway access to the USCG Yard and many businesses off Curtis Creek. Maintaining this access point supports economic growth for the city of Baltimore and the surrounding counties, many of which are Areas of Persistent Poverty and Historically Disadvantaged Communities.

The deficiencies in Curtis Creek Drawbridge's current structure require immediate attention. The steel girders on the east and west approach spans to the double-leaf bascule span (Span 20) have areas of warping to the webs and bottom flanges. The structural repairs to be conducted will strengthen the girders by adding additional structural steel plating. Although safety has always been at the forefront of MDTA's mission, in the aftermath of the tragic collapse of the Key Bridge in March 2024, there is added concern from the public over the safety of their roadways and bridges in general.

Following the Key Bridge collapse, the Curtis Creek Drawbridge has seen a drastic reduction in vehicular traffic, because the majority of surface transportation uses the bridge as a connection point to Key Bridge and I-695. The drawbridge is currently open for local residents and vehicles traveling to and from businesses on and south of Hawkins Point. With the collapse of the Key Bridge, the Curtis Creek Drawbridge has experienced a reduction of more than 60 percent in average daily traffic. MDTA now has a unique opportunity to rehabilitate the Curtis Creek Drawbridge with a focus on ensuring efficient freight movement for years to come without causing major traffic congestion that would typically be unavoidable with a project of this type. The proposed \$12.7 million in structural repairs and deck replacement work to the Curtis Creek Drawbridge will significantly reduce public safety concerns, ensure longevity of the bridge's service life, provide more direct access to job opportunities, and improve freight movement. Table 1 summarizes the key benefits of the Project, grouped by outcome criteria category.

---

<sup>1</sup> <https://www.maritime.dot.gov/grants/marine-highways/marine-highway>

**Table 1. Project Benefits by Outcome Criteria**

Merit Criteria	How This Project Addresses the Merit Criteria
<b>Criterion #1: Safety</b>	<ul style="list-style-type: none"> <li>Provides inherent safety benefits through structural improvements</li> <li>Improves safety through new traffic signals, barriers, and roadway lighting</li> <li>Ensures maritime and emergency response access for USCG to the Port of Baltimore and the surrounding region</li> <li>Protects worker safety and reduces potential for crashes</li> <li>Reduces public health and safety impacts to local communities during construction</li> <li>Reduces need for repetitive, nightly maintenance work, which also avoids putting more construction workers at risk in the long term</li> </ul>
<b>Criterion #2: State of Good Repair</b>	<ul style="list-style-type: none"> <li>Prolonged service life of 46-year-old bridge</li> <li>Improved, modernized, reliable transportation asset; reassurance of mitigated structural failure risk with rehabilitation, repairs, and future maintenance</li> <li>Safeguarding against potential disruptions to the transportation network</li> </ul>
<b>Criterion #3: Economic Impacts, Freight Movement, and Job Creation</b>	<ul style="list-style-type: none"> <li>Improved, efficient multimodal freight movement via surface and waterway transportation for years to come</li> <li>Generation of more than 120 good-paying jobs for workforce in an Area of Persistent Poverty and a Historically Disadvantaged Community</li> <li>Ability to create and sustain employment opportunities at the USCG Yard, the Port of Baltimore, and other businesses in the area</li> <li>Provides access to Fort Armistead Park for recreational activities</li> </ul>
<b>Criterion #4: Climate Change, Resilience, and the Environment</b>	<ul style="list-style-type: none"> <li>Reduction of emissions in surrounding disadvantaged communities with high asthma rates</li> <li>Improved infrastructure, increasing resilience to environmental factors</li> </ul>
<b>Criterion #5: Equity, Multimodal Options, and Quality of Life</b>	<ul style="list-style-type: none"> <li>On-the-job training and apprenticeship program to develop worker skills with goals for hiring minorities and women</li> <li>Continued waterway access, boosting local economy</li> <li>Continued and enhanced multimodal freight access in a historically disadvantaged area</li> <li>Improved mobility on local roads in surrounding communities</li> </ul>
<b>Criterion #6: Innovation Areas: Technology, Project Delivery, and Financing</b>	<ul style="list-style-type: none"> <li>Innovative financing using local toll revenue</li> <li>Upgrading technologies including climate-friendly LED lighting</li> </ul>

### Statement of Work

The Project, currently at 90 percent design, will replace portions of the reinforced concrete deck in the cantilevered sections of the bascule spans on both of the Curtis Creek Drawbridges (Bridge Nos. BCZ001051 and BCZ001061, the Inner and Outer Loops of I-695, respectively) and in Approach Spans 21 and 22 on the Inner Loop bridge, over Curtis Creek in Baltimore, Maryland. The parallel bridges each have two travel lanes and double-leaf bascule spans over the main channel allowing ships with unlimited



vertical clearance to pass through when open. In addition, these drawbridges connect traffic on I-695 to and from the Key Bridge, the recent collapse of which has drawn national attention and concern for the current state of aged infrastructure in the surrounding area. Prioritizing repairs to bridges in the corridor following the tragic collapse of the Key Bridge has been escalated all the way to the White House. It is the ideal time to rehabilitate the Curtis Creek Drawbridge because traffic volumes are at their lowest with the closure of the Key Bridge, meaning there will be much less inconvenience to and congestion from travelers with construction occurring at the Project site.

The deck removal work will disrupt aged electric services to the existing low-level roadway lighting and traffic signals and warning gates used during bridge operations. The electrical service systems will be replaced and/or renovated. Additional bridge repairs will be performed as required and described in this section.

To complete this Project work, MDTA will use contraflow MOT, which utilizes median crossover areas north and south of the bridges to close one bridge at a time and maintain one lane of traffic in each direction on the parallel bridge (that is, the number of travel lanes in each direction will be reduced from two to one for the duration of the Project). This effective method is currently used on the Bear Creek Bridge Rehabilitation project, located on I-695 north of the Key Bridge.

The detailed scope of work for both BCZ001051 (I-695 Inner Loop) and BCZ001061 (I-695 Outer Loop) includes the following:

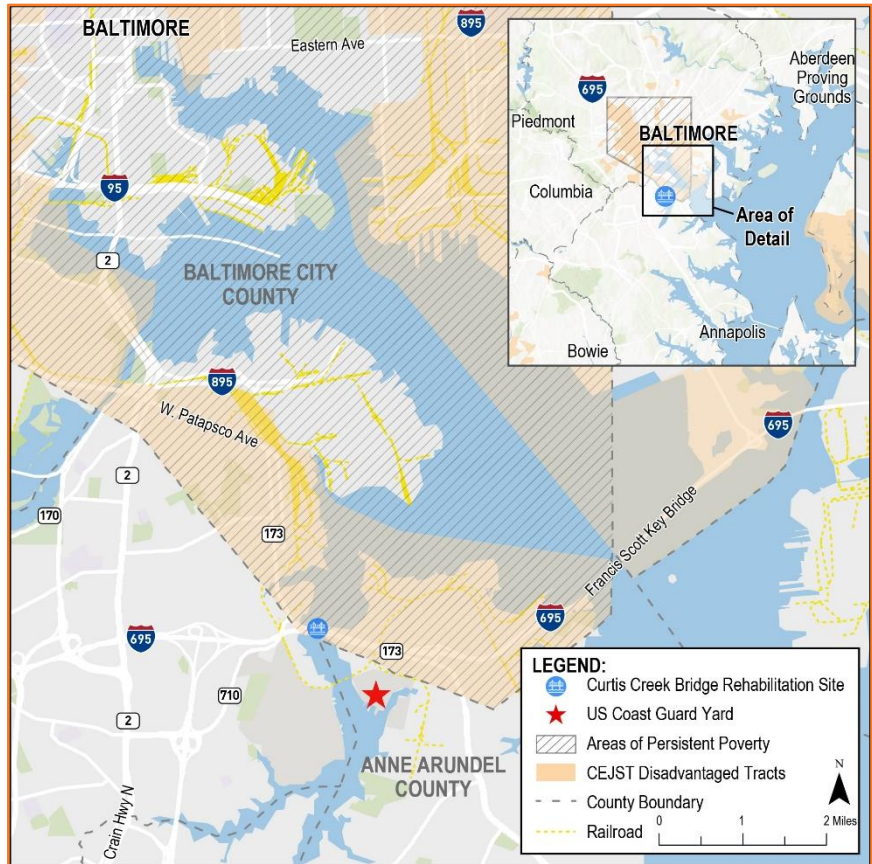
- Use the existing crossover areas to divert traffic from the Inner Loop to the Outer Loop and establish two-way traffic on the Outer Loop. Crossovers will be reversed once repairs are complete on the Inner Loop, establishing two-way traffic on the Inner Loop to allow repairs to the Outer Loop bridge.
- Remove and replace the reinforced concrete deck and parapets on the cantilever spans immediately adjacent to the steel grid deck bascule spans. The new reinforced concrete deck sections will match the existing geometry of the bridge and meet current vehicle load rating requirements.
- Clean and paint the steel members that support the cantilever spans.
- Remove and replace the reinforced concrete deck in Spans 21 and 22 of the Inner Loop bridge and remove and replace approach span expansion joints on Inner Loop bridge. The new reinforced concrete deck will match the existing geometry of the bridge and meet current vehicle load rating requirements.
- Perform repairs to the existing catwalks along the roadway on the east side of the Inner Loop from the bridge tender house to the north abutment, including replacing approximately 25 posts and 5 sections of railing and repairing 8 of the support channels.
- Install new electrical service systems to traffic safety devices and signals; remove, preserve, and reinstall the existing warning gates; remove and replace the existing traffic lights with new upgraded LED signals, and remove and replace existing low-level lights with new upgraded light-emitting diode (LED) lights.
- Remove existing pavement markings and signage and install new pavement markings and signage from the beginning to the end abutments.
- Install new drainage systems in bridge spans with new reinforced concrete decks.
- Upon completion of work, remove all MOT and re-establish normal traffic flow on I-695.

With the complete rebuild of the Key Bridge in the future, now is the ideal time to begin and complete rehabilitation of the Curtis Creek Drawbridge. When the Key Bridge is reconstructed, it will be beneficial to already have the Curtis Creek Drawbridge fully operational to relieve Interstate 95 and Interstate 895—current detours for the Key Bridge—of their increased congestion, especially for freight vehicles and Port of Baltimore operations.

## Project Location

The Project is located along I-695 in the Curtis Bay neighborhood in the southern portion of Baltimore, Maryland (Figure 2). This is a residential, commercial, and industrial area of Baltimore. The Project is in the 7th Congressional District, represented by Representative Kweisi Mfume, and in Census Tract 2505. The Project is adjacent to the 2nd Congressional District, represented by Representative C.A. Dutch Ruppersberger, and the 3rd Congressional District, represented by Representative John Sarbanes. The Project area—a low-income, predominantly minority neighborhood—is within a federally designated Area of Persistent Poverty and is categorized as a Historically Disadvantaged Community.<sup>2</sup>

**Figure 2. Project Location**



Three major north–south throughfares run through the Curtis Bay community: Curtis Avenue, Pennington Avenue (Maryland Route 173), and Fairhaven Avenue/partial Prudence Street. Many of the commercial businesses in the area are located along Pennington Avenue, a designated local truck route. Curtis Bay itself is also an extension of the 39-mile-long Patapsco River, which leads to the Chesapeake Bay and forms the Baltimore Harbor, a popular tourist destination and home to a multitude of restaurants, businesses, recreational activities, and port services. The industrial waterfront area of Curtis Bay is perhaps best known as home to the USCG Yard on Arundel Cove since 1987, as well as a number of port facilities and other waterfront industries, including the Baltimore City Composting Facility, United States Gypsum, Fort Armistead Park, and Brandon Shores Power Plant.

<sup>2</sup> <https://maps.dot.gov/BTS/GrantProjectLocationVerification/>