

CURTIS CREEK

Drawbridge Rehabilitation and Resiliency Project

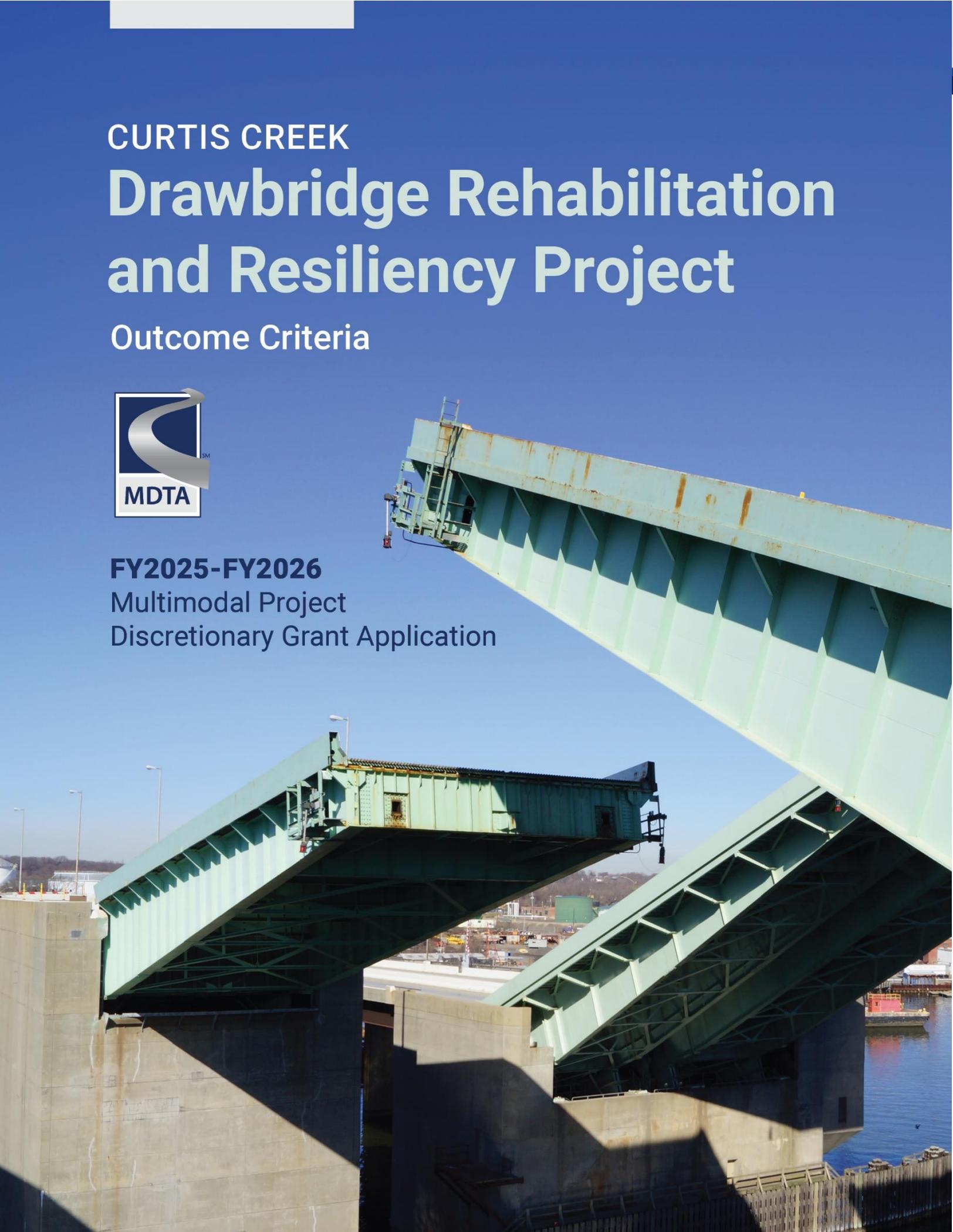
Outcome Criteria



FY2025-FY2026

Multimodal Project

Discretionary Grant Application





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Project Outcome Criteria

1. Safety

Protects Vulnerable or Non-motorized Users from Health and Safety Risks

Maintaining Access to U.S. Coast Guard Yard

The Curtis Creek Drawbridge provides the only maritime access to the U.S. Coast Guard (USCG) Yard in Baltimore. The USCG Yard is the Service’s sole shipbuilding and major repair facility, and an essential part of the USCG’s core industrial base and fleet support operations. According to a [2021 economic impact analysis by the Maryland Department of Commerce](#), the Yard supported over 6,500 jobs and generated over \$900 million in economic output. Maintaining maritime access to this facility, which averages six openings and six closings monthly, for ships of all sizes is paramount to regional and national safety and security as has been recently emphasized by the USCG’s vital role in the emergency response to the Francis Scott Key (Key) Bridge collapse. If the drawbridge is not rehabilitated and made more resilient for the future, bridge functionality could be impaired within 10 to 15 years. Delayed bridge openings, emergency maintenance closures, or a nonfunctional bridge would have dire repercussions on the USCG Yard’s ability to serve the needs of the USCG fleet.

Collision Risk on Alternate Routes

Given that USCG access is essential, if the bridge were to stay in an open position on a permanent or long-term basis, drivers accessing major destinations along the Baltimore Beltway would have to follow a long and inefficient detour route which is approximately 2.4 miles longer than the end-to-end journey using the bridge and adds up to 14 minutes additional journey time, increasing the chances of crashes during travel. Additionally, the Curtis Creek Drawbridge Rehabilitation and Resiliency Project (Project) includes new and upgraded traffic signals and roadway lighting, and improved pavement markings, which will reduce safety risks for travelers on the bridge.

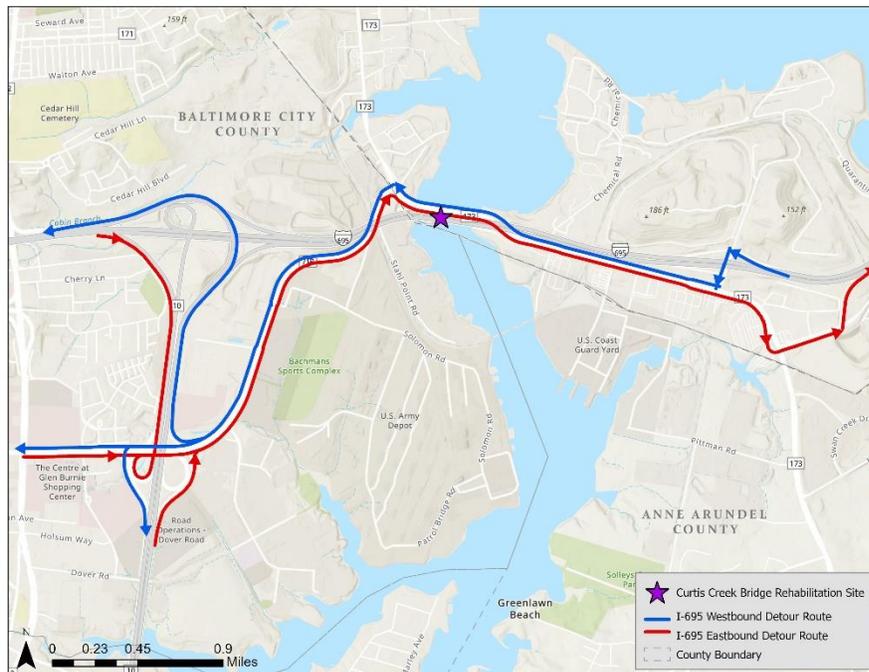


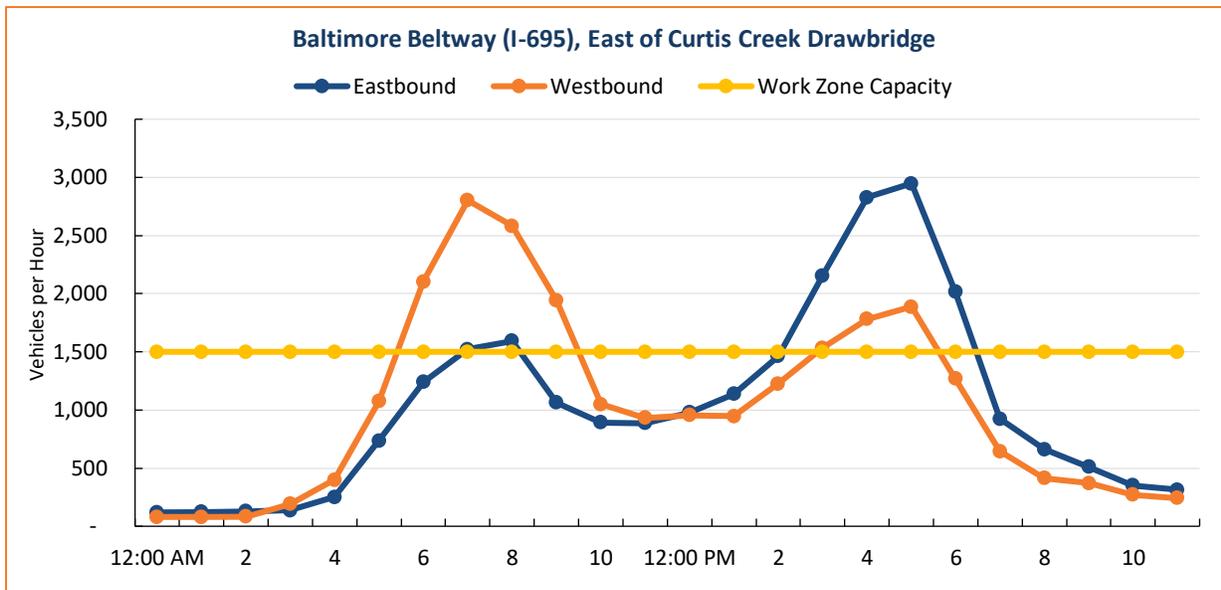
Figure 1 Detour Route if Curtis Creek Drawbridge Closed

Improved Work Zone Safety and National Roadway Safety Strategy Improvements

As a National Roadway Safety Strategy (NRSS) Ally in Action, the Maryland Department of Transportation (MDOT) and Maryland Transportation Authority (MDTA) are deeply committed to U.S. Department of Transportation (USDOT) NRSS goals and have expertise in implementing the improvements identified in the NRSS, which includes making roadways safer for vulnerable construction and repair workers. As part of Interstate 695 (I-695), a limited-access highway, the Curtis Creek Drawbridge does not allow pedestrian or bicycle traffic. However, the current opportunity to perform rehabilitation work on the bridge while traffic is much lower than normal presents an opportunity to create a safer work zone and protect the construction crews that will perform the rehabilitation work. Performing the work as a comprehensive rehabilitation reduces the need for repetitive nighttime closures, which are more dangerous for construction workers than a single longer-term closure.

During the rehabilitation work, traffic on the Curtis Creek Drawbridge will be reduced to one lane in each direction. The work zone would have a traffic capacity of approximately 1,500 vehicles per hour. A work zone traffic capacity analysis performed on historical bridge traffic levels (Figure 2) shows that with the Key Bridge in place, in this configuration, traffic would be over capacity going eastbound during the evening peak hours and going westbound during the morning peak hours.

Figure 22. Average Weekday Hourly Traffic Volumes (2020)¹



Traffic has reduced significantly resulting from the Key Bridge collapse, which was caused by vessel impact. Average daily traffic (ADT) is expected to normalize to just 9,225 vehicles westbound and 9,525 vehicles eastbound, as fewer vehicles will be traveling across the bridge and through the work zone. This will reduce the risk of rear-end crashes since the work zone will not be overloaded and congested. It is also expected that fewer commercial vehicles and semi-trucks will be traveling through the work zone due to decreased access to the Port of Baltimore and other logistic sites on the opposite side of the Patapsco River. Fewer large trucks will improve visibility for smaller vehicles and improve overall safety for workers.

¹ Maryland Department of Transportation, State Highway Administration. 2020. https://maps.roads.maryland.gov/itms_public/

2. State of Good Repair

Restores and Modernizes Existing Core Infrastructure to Save Costs

This Project is a major step forward toward improving and modernizing Baltimore’s transportation assets. To fix the observed warping of the girder webs and bottom flanges in the cantilever approach spans (observations shown on photographs on Figure 3), the reinforced concrete decks and parapets on the cantilever portions of the approach spans immediately adjacent to the steel grid deck bascule spans will be removed and replaced. Two approach spans on the Inner Loop Bridge (east of the bascule span) will also be replaced. These new deck sections will match existing geometry of the bridge and will meet an HS20 load rating. Bridge engineering requirements, per the American Association of State Highway and Transportation Officials, and construction materials have significantly advanced in resiliency since the drawbridges were originally constructed nearly 50 years ago. In addition to the warping of the girders, there are numerous areas of pack rust between the bottom flanges and splice plates with some section loss, as shown on Figure 444. During this repair, these areas will be cleaned to inhibit further rust from progressing to advanced stages. Making repairs now, while the Key Bridge is still inoperable and Curtis Creek Drawbridge has a much lower ADT, allows the numerous steel girders, which have up to 1-inch out-of-plane warping primarily occurring at the webs and bottom flanges, to be strengthened and the bridge to be made more resilient when the Key Bridge is reopened and normal traffic resumes.

If deterioration continues, the warping of the webs will reach a level of insufficient structural capacity that would require closure of portions of the span or, in the worst case, complete closure of the bridge to vehicular traffic and an increase in repair costs.

Figure 33. Out-of-Plane Warping of the Web and Bottom Flange, South (left) and North (right) Approach Cantilevers, Inner Loop



Figure 44. Pack Rust between Bottom Flanges and Splice Plates



The Curtis Creek Drawbridge’s traffic electrical systems that comprise roadway lighting, traffic signals, and warning gates will also be upgraded in concert with the structural repairs. The existing wiring for the bridge lighting and traffic signals is over 50 years old and non-compliant with today’s codes. New electrical conduit and wiring and high-efficiency bridge roadway lighting and traffic signals will modernize the Curtis Creek Drawbridge and increase passenger safety. The lighting and traffic signals will be upgraded to be more efficient and effective at night, and the warning gates will be removed, stored, and reinstalled during this process.

In the absence of the investment in this project, the warped cantilever span girders would continue to warp to a degree of localized to the span and unpredictable failure eventually leading to the complete closure of these spans, as they would no longer be structurally sound to support traffic loads. During closure, the bascule spans would need to be in the open position to allow for USCG access, and this would result in the prevention of any vehicular traffic along I-695. If one bridge is closed, traffic would need to be detoured to local roads, increasing traffic congestion on the local transportation network throughout surrounding disadvantaged communities, and causing delays for both local and diverted traffic. Furthermore, if both bridges must close as a result of deterioration, all traffic would be detoured to Interstate 95 (I-95), Interstate 895 (I-895), and some local roads, as is currently the case with the Key Bridge being out of service. If deterioration progresses to a serious condition, intervention will be required to ensure the safety of the public who use this bridge as passage. In addition, if the condition of the bridge prevents the bascule spans from operating and opening when commanded, this would cause significant delays to the myriad vessels (average of six per month) that pass beneath this bridge and heavily rely on this bridge to open, including USCG traffic.

Addresses Vulnerabilities

The Project will repair this critical infrastructure asset to help safeguard against potential disruptions to the transportation network of the City of Baltimore. If the Curtis Creek Drawbridge does not undergo rehabilitation, the future transportation network efficiency, mobility of goods, accessibility and mobility of people, and economic growth of the area would be threatened and negatively impacted by its eventual closure. Located along the National Highway System, the Curtis Creek Drawbridge typically yields a high ADT as it is a critical connection on I-695 for Inner and Outer Loop traffic. Although most traffic is currently detoured to I-95 and I-895 due to the Key Bridge currently being out of service, the Curtis Creek Drawbridge needs to be ready to resume accommodations for surface transportation once



the Key Bridge is rebuilt. If rehabilitation of Curtis Creek Drawbridge is put on hold until closer to or after construction of the Key Bridge, this means the detours will need to remain in place, prolonging the increased congestion, risk of crashes, and noise pollution on I-95, I-895, and local roadways. The Key Bridge and Curtis Creek Drawbridge experience a typical ADT of 38,000 vehicles each day, and there would be significant delays and congestion, which can lead to crashes, as a result of partial or complete closures on the Curtis Creek Drawbridge while construction is occurring. Having the Curtis Creek Drawbridge in a state of good repair at the same time that the Key Bridge is reopened will be vital to smooth, efficient traffic flow, which will, in turn, reduce congestion, frequency of crashes, and noise pollution, and will provide an easier, more direct route for commuters and travelers alike.

The proposed Project and future maintenance will prolong the 46-year-old bridge's lifespan, ensuring a reliable transportation asset for years to come for the Curtis Bay and overall Baltimore community, which aligns with MDOT's Asset Management Goals as outlined in the [MDOT Asset Management Plan](#). The improvements listed in the Statement of Work will extend the bridge's service life by mitigating the risk of structural failure, enhancing the bridge's resilience to environmental factors (for example, corrosion and seismic conditions), and strengthening the bridge's integrity. This will create a better transportation network that ensures continued functionality and safety for all users, achieving a state of good repair.

3. Economic Impacts, Freight Movement, and Job Creation

Economic Impact

The Project is along the I-695 corridor along the National Highway System on an important route for freight that passes through the Curtis Bay neighborhood, designated as an Area of Persistent Poverty and a Historically Disadvantaged Community. The Curtis Creek Drawbridge provides the community, including residents, commuters, and local businesses, with a direct link between the residential areas west of Curtis Bay and job opportunities at the commercial and industrial areas on the eastern side of the bay. Maintaining functionality of the Curtis Creek Drawbridge is imperative for access to opportunities for these disadvantaged communities as well as future regional and national economic growth. Surface transportation connections provided by the Curtis Creek Drawbridge simultaneously enable access to workplaces, residences, daily destinations, and essential services for this disadvantaged community while supporting nationally significant economic centers such as the Port of Baltimore, which experienced \$80.8 billion in trade in 2023. Through this connection, local residents can access medium skill career opportunities around the Port of Baltimore, including the 15,000 jobs directly related to the Port of Baltimore, and, when the Key Bridge is rebuilt, the growing industrial hub of Sparrows Point. Maintaining access and mobility of people and goods across and beneath the Curtis Creek Drawbridge fosters local economic growth.

The Curtis Creek Drawbridge also provides a critical connection on I-695 for Inner and Outer Loop traffic. Prior to the Key Bridge collapse, the Curtis Creek Drawbridge carried approximately 75 percent of Key Bridge's ADT. Once the Key Bridge is rebuilt, the Curtis Creek Drawbridge will need to be able to resume accommodating heavy traffic volumes in order to maintain mobility of people and goods both across and beneath the bridge. The Project will ensure that commuter mobility and travel times are improved for traffic crossing the Curtis Creek Drawbridge to and from Key Bridge once rebuilt.

The Curtis Creek Drawbridge not only provides crucial surface transportation connections, but also provides waterway access to the USCG Yard, Solleys Cove Park and other businesses such as Bay Ready Mix Concrete and several general and specialty contractors. Residents who use maritime routes for their livelihoods rely on the Curtis Creek Drawbridge to provide essential waterway transportation



access. Maintaining this access point to Curtis Creek is essential to the functions of the USCG Yard, which supports over 6500 jobs, and businesses, and directly supports economic growth for these waterfront industries and for the City of Baltimore. Additionally, 695 serves as a travel route to the popular tourist destination of the Baltimore Inner Harbor and the Curtis Creek Drawbridge provides direct recreational access to waterways. The Project would enable access to these recreational opportunities to be maintained, benefitting residents, commuters, and local businesses, and fostering local economic growth.

Freight Movement

The Curtis Creek Drawbridge passes over Curtis Creek on two drawbridges that allow oversized maritime vessels to safely pass beneath the drawbridges to access businesses and the USCG Yard just southeast of the bridge on a daily basis. The Project would repair and rehabilitate the Curtis Creek Drawbridge, ensuring its functionality and extending its lifespan. Without completion of the Project, the Curtis Creek Drawbridge could be rendered nonfunctional in the future. Typically, the Curtis Creek Drawbridge carries a large volume of freight.

Freight movement currently occurs via surface transportation across the bridge and waterway transportation underneath the bridge. The Curtis Creek Drawbridge, part of I-695, falls along a major freight route identified in the [Maryland State Freight Plan](#). The overall ADT at this location is 18,300 in westbound lanes and 13.5% of those vehicles (2,470) are commercial trucks. The freight volume in eastbound lanes is even higher, with 19,400 vehicles traveling in that direction, of which 24.5%, or 4,753, are commercial trucks. With a CSX rail yard in Curtis Bay and trucking and maritime connections on Hawkins Point and eventually across a rebuilt Key Bridge, the Curtis Creek Drawbridge provides an important connection in the economic movement in this area. With the Key Bridge collapse, the Curtis Creek Drawbridge has seen a drastic reduction in vehicular traffic which creates a unique opportunity to complete repairs without causing the major traffic congestion typically unavoidable with this type of project. Rehabilitation and repair of the Curtis Creek Drawbridge is necessary to ensure the drawbridge remains functional, allowing continued freight movement both via surface transportation and waterway transportation.

Job Creation

The Project will both generate good-paying jobs—the Project will support 120 to 130 job-years of employment—and support workforce development programs through on-the-job training (OJT) to help the regional workforce develop technical and trade skills, particularly among individuals from marginalized communities. OJT will be provided as part of the contract's Equal Employment Opportunity Affirmative Action Program. The contractor will be responsible for including the training provision in each subcontract so that subcontractors are aware of and are meeting these goals. Altogether, OJT goals and state-imposed OJT hiring requirements will lead to a more robust, skilled construction workforce, while simultaneously helping to alleviate regional inequality.

In May 2023, the Biden Administration chose Baltimore, among five U.S. cities, to launch a new workforce hub to train workers to step into good-paying jobs in the growing clean energy and infrastructure industries. This new workforce hub will provide high-quality training, apprenticeship programs, technical education programs, and supportive services to Baltimore-area workers—particularly students and people from underrepresented groups—and will help to support this critical infrastructure project.

The Maryland Governor's Office has signed an Executive Order committing the state to fair practices and project labor agreements on large construction projects.



4. Climate Change, Resilience, and the Environment

Emissions Reduction

The Curtis Creek Drawbridge is located along the heavily trafficked I-695; however, with the collapse of Key Bridge in March 2024 due to a container ship strike, the Curtis Creek Drawbridge has seen a temporary substantial reduction in vehicular traffic as one of its main functions is to connect I-695 to the Key Bridge. With the Key Bridge collapse, the MDTA has a unique opportunity to rehabilitate the Curtis Creek Drawbridge without causing major traffic congestion that would typically be unavoidable with a project of this type. Completing the rehabilitation and repair of the Curtis Creek Drawbridge prior to the reopening of Key Bridge will result in reduced transportation-related pollution caused by congestion, low speeds, and idling compared to completion of these repairs after Key Bridge is reopened. Air emissions related to vehicle traffic include greenhouse gas (GHG) emissions and other pollution, such as particulate matter (PM_{2.5}), will be reduced. If the Curtis Creek Drawbridge is repaired after Key Bridge is reopened, there would be significant delays and congestion as a result of partial or complete closures on the Curtis Creek Drawbridge while construction is occurring. If rehabilitation of the Curtis Creek Drawbridge is not completed, the bridge would eventually be nonfunctional for future use. Without completion of the Project, congestion would increase on the surrounding arterials and surface streets.

The Curtis Creek Drawbridge also provides access for maritime vessels to Curtis Creek and surrounding waterways. If the Project is not completed and the drawbridge becomes nonfunctional, this access could be cut off. USDOT's Marine Highway Program encourages the use of maritime transportation as in addition to and as an extension of the existing surface transportation system. While Curtis Creek is not officially a designated Marine Highway Route, operations on Curtis Creek support the goals of USDOT's Marine Highway Program by offering "relief to landside corridors suffering from traffic congestion, excessive air emissions or other environmental challenges."² Loss of the drawbridge as an access point for maritime vessels will negatively impact the relief that use of these waterways provides for landside traffic congestion and traffic-related air emissions.

Traffic volumes passing over the Curtis Creek Drawbridge are expected to increase, from 6,886,397 vehicles daily in 2025 to 15,125,053 vehicles daily by 2057 representing a 121% growth rate in vehicular traffic³. If the Project is not implemented and the drawbridge becomes nonfunctional in the future, this projected growth will further contribute to congestion and an increase in associated resulting emissions.

Curtis Bay and adjacent communities suffer from disproportionately high asthma rates and diesel particulate matter exposure, as shown by census tract in Table 1, with data drawn from the Climate and Economic Justice Screening Tool (CEJST). Additionally, these communities experience low average incomes and low life expectancy (as demonstrated by the high percentiles shown in Table 1). The Curtis Bay and adjacent census tracts stands to benefit greatly from a long-term reduction in pollution and are at risk for further disadvantages if pollution in the area increases.

² <https://www.maritime.dot.gov/grants/marine-highways/marine-highway>

³ Note that the FSK bridge is a critical connection point and has had a significant impact on traffic count as a result of its closure. Within this context, the Curtis Creek Drawbridge traffic count volumes up to and including 2027 assume that FSK bridge remains closed. From 2028 onwards revised traffic count figures are used on the basis that FSK bridge will reopen.



Table 1. Characteristics of Curtis Bay and Adjacent Disadvantaged Census Tracts, in Percentiles (CEJST)

	Curtis Bay	Brooklyn	Brooklyn
Census Tract	2505.0	2504.01	2504.02
Population (total)	4,252	3,959	4,614
Asthma Rate	97th	91st	96th
Low Life Expectancy	Not Available	98th	97th
Low Income	82nd	86th	91st
Traffic Proximity/Volume	70th	91st	42nd
Diesel Particulate Matter Exposure	88th	85th	84th
Poverty	81st	89th	92nd

At the state level, MDOT’s 2023 Climate Pollution Reduction Plan outlines the state’s commitments to support the statewide goal of reducing GHG emissions 60 percent by 2031 compared to a 2006 baseline. The Climate Pollution Reduction Plan prioritizes equity in transportation, focusing on reducing vehicle emissions that disproportionately negatively impact underserved communities and vulnerable populations. By completing the rehabilitation and repair of the Curtis Creek Drawbridge, and particularly by doing so prior to the reopening of Key Bridge, the Project would prevent a potential future increase in traffic-related air emissions in Curtis Bay and adjacent disadvantaged areas.

Resilience and the Environment

Rehabilitation of the Curtis Creek Drawbridge is necessary to ensure the structure is resilient and sound for daily use and in the face of extreme climate events. The deficiencies in the existing structure require immediate attention. Repairing these structural deficiencies will significantly reduce public safety concerns in the aftermath of Key Bridge collapse and will ensure resiliency and longevity of the bridge service life.

The Project is not located within a FEMA-designated Community Disaster Resilience Zone; however, it is located in a census tract designated as having a Relatively Moderate overall National Risk Index rating for hazards such as heat wave, hurricane, strong wind, and tornado. While the Project is not located within a FEMA-designated Community Disaster Resilience Zone, its location on Curtis Creek and the Patapsco River at the northern end of the Chesapeake Bay is vulnerable to climate change-related impacts, particularly those that affect waterway transportation and freight movement by maritime vessel. The Curtis Creek Drawbridge is a critical access point for the USCG Yard and other local businesses that rely on access to Curtis Creek and local waterways. The Project would ensure that access for maritime vessels at the Curtis Creek Drawbridge is maintained, which would enable the USCG Yard to continue and expand disaster response activities and would enable the USCG Yard and other local businesses to continue and expand freight movement in and out of the Curtis Creek area.

As discussed in the [Emissions Reduction](#) section, without implementation of the Project the future loss of the Curtis Creek Drawbridge as a surface transportation connection and waterway access point would negatively impact traffic congestion and traffic-related air emissions. If the Project is not completed, or delayed until after the Key Bridge is reopened, the Curtis Bay community and adjacent disadvantaged communities would experience worsening unequal environmental burdens. A guiding principle of Baltimore’s Climate Action Plan is a focus on equity by “addressing, mitigating, or alleviating unequal



environmental burdens placed on environmental justice communities.”⁴ Additionally, Objective 6 of the National Climate Resilience Framework is to “help communities become not only more resilient, but also more safe, healthy, equitable, and economically strong.”⁵ Rehabilitation of the Curtis Creek Drawbridge is imperative to ensure future functionality of the bridge as a surface transportation connection and waterway access point. This would advance the National Climate Resilience Framework objectives and Baltimore Climate Action Plan by supporting economic growth, alleviating traffic congestion and traffic-related air emissions, and enabling waterway transportation for the Curtis Bay community, an Area of Persistent Poverty and a Historically Disadvantaged Community.

5. Equity, Multimodal Options, and Quality of Life

Benefits Disadvantaged Communities

The Curtis Creek Drawbridge’s roadway is a crucial link for commuters, residents, and local businesses. The benefits of surface transportation are particularly important to this area—categorized as both an Area of Persistent Poverty and a Historically Disadvantaged Community⁶—because it grants the community faster, more direct access to, job centers, essential services, and educational opportunities that can uplift and support the community by helping to connect them to economic resources. The bridge provides essential waterway transportation access for residents who rely on maritime routes for their jobs (for example, fishers, boat operators, waterfront industry workers). The bridge also allows the community to access recreational activities via waterways, which can boost their overall health and well-being, happiness, and quality of life.

The Project will positively impact adjacent communities by streamlining this facility’s operational efficiency. The community of Curtis Bay suffers from disproportionately high pollution (97th percentile for asthma rates and 88th percentile for diesel particulate matter exposure) and inequity in life outcomes (low average income and life expectancy) compared to other parts of the city and the U.S. (refer to [Section 4](#)). The Project will help to reduce air pollution as a result of traffic moving at continuous speeds across the bridge, rather than slowing down during backups or driving farther as a result of being rerouted to more congested roadways. This will help improve public health and life expectancy in nearby neighborhoods.

Equity

Equitable Outreach

Community engagement is a critical component of the Project and will be integrated into project delivery throughout each project phase. In summer 2024, the MDTA will begin coordination meetings with the USCG, Maryland Motor Trucking Association (MMTA), Baltimore City Department of Public Works Sanitation Yard, and emergency service providers to develop the best outreach strategy. Communications about the Project will include a combination of paid media, social media, public relations, and community engagement/grassroots efforts. Briefings will be held with elected officials from Anne Arundel County, Baltimore County, and Baltimore City, as well as members of the impacted communities and the Maryland Port Authority.

In September 2024, outreach efforts for Project updates with stakeholder engagements will be launched, beginning with the elected officials during the Consolidated Transportation Program tour

⁴ <https://www.baltimoresustainability.org/wp-content/uploads/2024/04/2024-Climate-Action-Plan-Update.pdf>

⁵ <https://www.whitehouse.gov/wp-content/uploads/2023/09/National-Climate-Resilience-Framework-FINAL.pdf>

⁶ <https://maps.dot.gov/BTS/GrantProjectLocationVerification/>



meetings. There will be additional meetings with Anne Arundel County Public Schools Transportation to plan bus schedules. There will also be a minority-owned business enterprise (MBE)/disadvantaged business enterprise (DBE) outreach event held at the MDOT Office of Diversity and Equity, The Secretary's Office.

A paid media campaign will begin in fall 2025. Upon Notice to Proceed in November 2025 all the way through May 2027 (Project completion date), traffic advisory announcements for the will continue for both Phase 1 (I-695 Inner Loop closure) and Phase 2 (I-695 Outer Loop closure) of construction.

Outreach efforts are anticipated to include:

- News release and traffic advisory, and radio, digital (Facebook targeted area), and digital banner advertisements
- Ongoing public and education outreach through the website, high-level fact sheet containing an infographic, social media, and traffic advisories
- Email notifications to the following: USCG, MMTA, State Highway Administration (SHA) (for their distribution), Baltimore City PA, AAA, MVA for Glen Burnie employees, Anne Arundel County School District, the Maryland Transit Administration (for bus routes), Old Dominion Trucking, Brandon Shores Power Plant, elected officials, SHA Motor Carrier Division, and Tradepoint Atlantic
- Prismatic variable messaging signs and overhead dynamic messaging signs
- Traffic alerts posted to Maryland 511 and Coordinated Highways Action Response Team (CHART) Web⁷
- Encouragement for email sign-ups and website visits for Project updates

Hiring of Underrepresented Populations

Based on the investment, it is estimated that the Project will create 27 professional services direct jobs and 101 construction jobs, for a total of 128 good-paying jobs, requiring skilled labor, during the construction phase of the bridge rehabilitation. In addition, there will be continued maintenance of the bridge upon completion of construction, which will be performed by MDTA staff and contractors.

Hiring and training requirements set by MDTA procurement will help ensure greater access to good-paying jobs that will also strengthen the presence of underrepresented groups in the Baltimore region's economy.

MDOT partners with DBEs/MBEs to deliver projects like the Curtis Creek Drawbridge Rehabilitation and Resiliency Project. The Project will incorporate a DBE goal for subcontractor participation at a to-be-determined percentage of total work. The DBE goal for this project is anticipated to be close to the Statewide MBE goal of 29 percent. Although specific goals have not yet been established, the MDTA utilizes a robust process with its Procurement Review Group in the Division of Civil Rights and Fair Practices to assess the types of work performed and the working capacity of DBE firms in the market.

The MDTA's Division of Civil Rights and Fair Practices hosts three outreach events—Free Development Workshops—each year; the first was held on March 21, and the remaining two will take place on June 20 and September 19. These events provide an opportunity for DBE/MBE firms to find work on MDTA projects. The outreach events are available for both in-person and virtual attendance to meet all needs, and accommodations under the *Americans with Disabilities Act* and translation services are available, free of charge.

In addition, the project will be evaluated for OJT opportunities as part of the contract's Equal Employment Opportunity Affirmative Action Program, as described in the [Economic Impacts, Freight](#)

⁷ <https://chart.maryland.gov/>



[Movement, and Job Creation](#) section. The contractor is responsible for including the training provision in each subcontract so that subcontractors are aware of and are meeting these goals. The training provision's primary objective is to train and advance minorities and women toward journeyperson status; as a result, minorities and women can begin replacing other journeypersons as they leave the workforce.

Connecting Communities

The Curtis Creek Drawbridge provides Curtis Bay residents and workers with safe access to opportunities on either side of Curtis Creek, removing the barrier to access for the community's needs. The I-695 corridor is the most direct and efficient route between many of the residential areas west of Curtis Bay and commercial, industrial, and other essential opportunities on the eastern side of the bay. A fully operational Curtis Creek Drawbridge helps to stimulate economic activity in the Curtis Bay and larger Baltimore area. This is essential to lead to job creation and opportunities for members of the disadvantaged community in industries like transportation and logistics, as well as hospitality (restaurants, bars, and hotels) and retail as the economy continues to grow.

Faster, more direct surface transportation across the bridges is particularly important to the Area of Persistent Poverty and Historically Disadvantaged Community as residents and workers travel to workplaces, job centers, essential services, and educational opportunities that can boost the disadvantaged community by helping to connect them to economic resources. Maritime transportation is also important to the disadvantaged community because it connects workers who rely on maritime routes to arrive at, depart from, and conduct their jobs.

Under normal operations, the Curtis Creek Drawbridge improves access to daily destinations and provides a convenient way to travel as to encourage the exchange of goods, services, and ideas across neighborhoods, towns, and cities. This exchange breaks down demographic divides to improve social ties, encourage collaboration, and promote cultural exchange between diverse communities.

The Curtis Creek Drawbridge is also a helpful link for community members seeking recreational activity. For example, many residents looking to boat, kayak, fish, or even play paintball at Pasadena Paintball Park need to cross Curtis Creek to access Hawkins Point, Tanyard Cove, and beyond (beaches on the Patapsco River) to access these opportunities, which can improve their overall well-being.

695 also serves as a route to travel to the popular tourist destination of the Baltimore Inner Harbor—home to restaurants, museums, shopping, and recreational activities—as well as transportation modes such as the Baltimore/Washington International Thurgood Marshall (BWI) Airport for air travel and Amtrak's BWI and Penn Station locations for rail travel. The operation and sustainability of the Curtis Creek Drawbridge reduces barriers to opportunities, promotes a sense of inclusivity, and grants the entire community, regardless of socioeconomic status or background, access to essential transportation routes to engage in economic, social, and recreational activities.

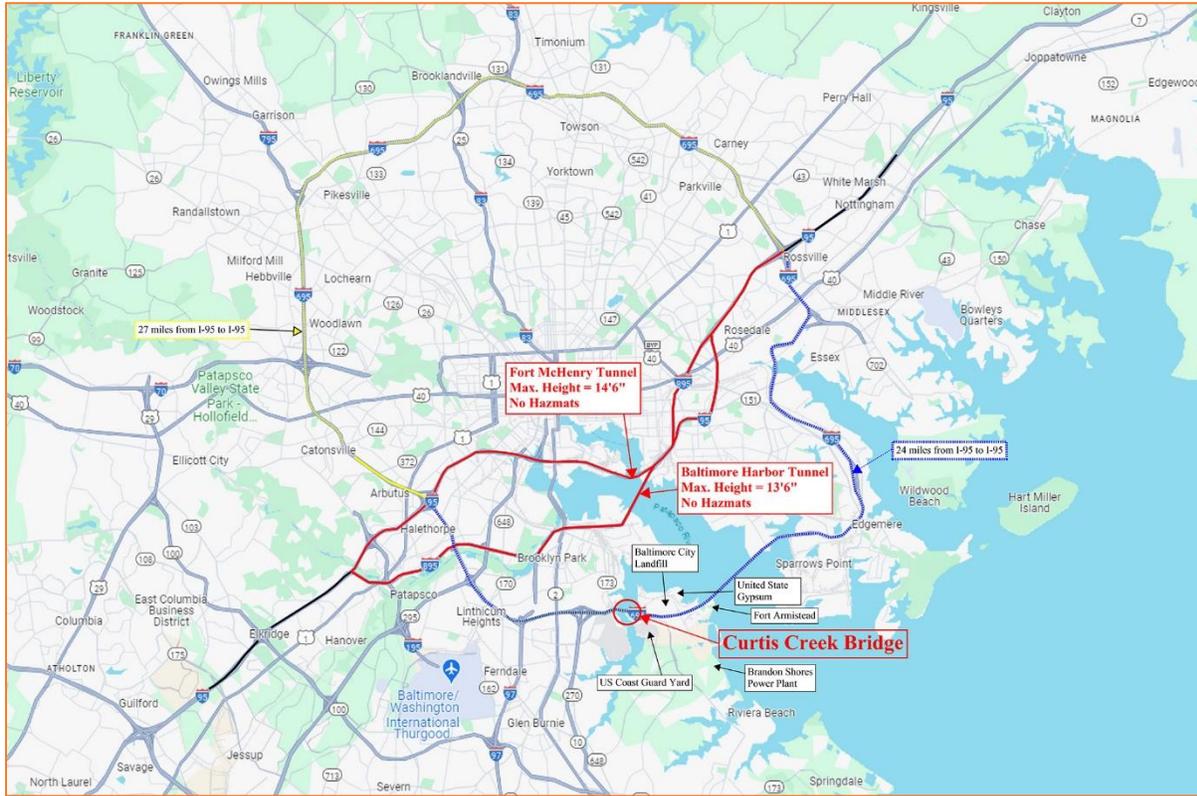
Improving Mobility

Mobility of people and goods across and beneath the Curtis Creek Drawbridge is imperative for economic growth in the Curtis Bay area, a disadvantaged community. Not only is the bridge heavily traveled by road transportation, but it also provides waterway access to the USCG Yard and several other businesses along Curtis Creek (Figure 55).

The bridge has already improved mobility in the region by providing passage for both maritime vessels on Curtis Creek and cars, trucks, etc. on I-695, which allows people and goods to move more freely and reduces travel times, congestion, and logistical challenges in the area. The Project also supports USDOT's

Marine Highway Program by ensuring future waterway access for transport of goods and materials for the USCG and other businesses on Hawkins Point. These enhancements contribute to a more accessible and efficient transportation network for the region.

Figure 55. Major Destinations Accessed via the Curtis Creek Drawbridge



The fully operating drawbridges provide continuous connectivity surrounding disadvantaged communities. The mobility that the bridge offers is especially important in an Area of Persistent Poverty and Historically Disadvantaged Community because it provides a crucial link to employment opportunities, essential services, and other amenities with significantly reduced travel times.

Improving Freight Access

Funding this Project to prevent future closure of the entire Curtis Creek Drawbridge guarantees waterway access that is essential to the functions and economic prosperity of the highly industrialized area along Curtis Creek. Maritime vessels pass beneath the drawbridges on a daily basis carrying goods and materials to the USCG Yard or other businesses (Figure 6).

As commercial ships navigate through the creek, they are connected to different ports, terminals, and distribution centers. Curtis Creek has an array of industries that the drawbridges provide freight access to, connecting them to markets on a regional and international level, including the following:

- Shipping and logistics companies that use waterways to transport goods and materials
- Manufacturing companies that need waterway access to receive materials and to send out their products
- Agriculture sector that moves large quantities of crops or inputs (fertilizers, pesticides)
- Construction companies that move building materials across waterways
- Energy businesses that transport fuels across waterways, rather than on roadways

Figure 66. Maritime Vessel on Curtis Creek



In order to continue to support economic growth, trade, and commerce, it is imperative to rehabilitate the Curtis Creek Drawbridge—a piece of infrastructure that has done so much to reduce transportation barriers and improve connectivity.

6. Innovation Areas: Technology, Project Delivery, and Financing

Innovative Technology

The Project will replace and upgrade the existing movable bridge traffic control signals that stop drivers prior to a bridge opening. The signals will be upgraded to highly energy-efficient LED traffic signals in a diameter that is compliant with the latest version of MUTCD. LED traffic signals consume approximately 10 percent of the power consumed by incandescent traffic signals. LED lamps use 8-25 Watts (depending on size and color), compared to a range of roughly 67-150 Watts for incandescent lamps. For the eight traffic control signals on the Curtis Creek Drawbridge, this equates to an annual savings of approximately 4,100 to 8,800 kWh in energy usage. LED traffic signals also have a service life about five times longer than an incandescent traffic signal, which makes them particularly well suited to hard-to-access applications such as on a drawbridge.

The Curtis Creek Drawbridge’s roadway lighting will also be upgraded to energy-efficient LED lighting as part of the rehabilitation and resiliency work. This improvement has similar energy-saving and maintenance benefits as the traffic signal upgrades. The drawbridge’s electrical service, electrical conduit, and wiring system that serves the traffic signals, roadway lighting, and warning gates will also be replaced and upgraded in line with the other upgrades. Most of the existing wiring is nearly 50 years



old and has reached the end of its useful life. New wiring will help to ensure that the equipment operates safely and reliably.

Innovative Project Delivery

Streamlined NEPA Review

Practices that facilitate accelerated project delivery in use for this project include pursuit of a Categorical Exclusion (CE) to facilitate the National Environmental Policy Act (NEPA) review process. This agreement establishes streamlined processes for environmental consultations and permits for commonly encountered project types. MDTA has already started the process for obtaining a CE so that if a grant is awarded, the CE can be submitted right away and the Project schedule can move forward unimpeded.

SHA also has a programmatic agreement with the Federal Highway Administration to facilitate the NEPA review process. This allows SHA to finalize and sign Programmatic Categorical Exclusions. MDTA and SHA have a strong working relationship, meaning SHA's support and institutional knowledge will further facilitate the CE application and submission.

Operations and Maintenance Planning

To ensure that the rehabilitated Curtis Creek Drawbridge is well maintained in the present and into the future, routine maintenance is facilitated via a separate Operation and Maintenance contract that is routinely procured every three to four years by MDTA. The scope of this contract includes providing electrical and mechanical maintenance, small as-needed repairs, and general housekeeping for both spans of the Curtis Creek Drawbridge. This contract is funded through toll revenue collected by MDTA. Funding sources to support this contract are expected to be stable into the foreseeable future.

Innovative Financing

MDTA is in a unique position to finance 40 percent of this project's costs (\$5.20 million) via toll revenue collected at its facilities statewide. MDTA as an agency is financially self-sufficient and receives no gas tax, motor vehicle fees, or other revenue from Maryland's Transportation Trust Fund, a legacy source of public funding for statewide transportation infrastructure projects. MDTA facilities are fully financed, operated, maintained, improved, and protected with toll revenues paid by customers using those facilities.

By combining federal grant funding received through the Infrastructure for Rebuilding America (INFRA) Grant opportunity with existing toll revenues to complete the Project, MDTA envisions these improvements as an extension of the agency's self-sustaining operational model.