

Marine Corps Support Facility Blount Island

Adaptation Package #5: Adaptation for Mobility Corridor Heckscher Drive

This package includes three strategic projects that in combination improve roadway resilience on this mission-critical corridor. It encompasses grey and green infrastructure improvement recommendations that can be led by state, regional, and local authorities and agencies as well as utility service providers.



This study was prepared under contract with the Northeast Florida Regional Council with financial support from the Office of Local Defense Community Cooperation, Department of Defense.

The content herein reflects the views of the Northeast Florida Regional Council and does not necessarily reflect the views of the Office of Local Defense Community Cooperation or the Department of Defense.

How to Read this Document

Project Summary Packages provide details on recommendations, background, and context to facilitate and accelerate implementation. The summaries are presented by mission-critical priority assets in the study area. The recommendations may include physical projects, new partnerships, and modernized policies identified over the course of the project. Presented in three sections, **Background and Context, Recommendations, and Implementation Tools**, each summary package can be used to brief decision makers and to complete funding requests and/or grant applications.

The first section, **Background and Context**, situates the reader to the Military Installation Readiness Review (MIRR) project, the study area location, and the military installations. It includes the following subsections:

- **Mission of the Installation of the Package**, which reminds the reader of the installations' purpose and importance of readiness
- **Mission-Critical Priority Assets** for the installation as identified through stakeholder engagement and vulnerability assessment
- **Current Conditions** of the mission-critical asset of the package, which illustrate the issues in local context
- **MIRR Adaptation Strategy Framework**, which is aligned to the region's vision for a Resilient First Coast and is the foundation of this body of work

The second section, **Recommendations**, dives into the issues challenging the region and study area and presents recommendations in the form of investments through projects, policy modernization, and/or by forging new partnerships among diverse stakeholder groups. This section is informed by the vulnerability assessment findings, stakeholder insight on ongoing projects and priorities, and best practices research. Information on the following topics is included in this section:

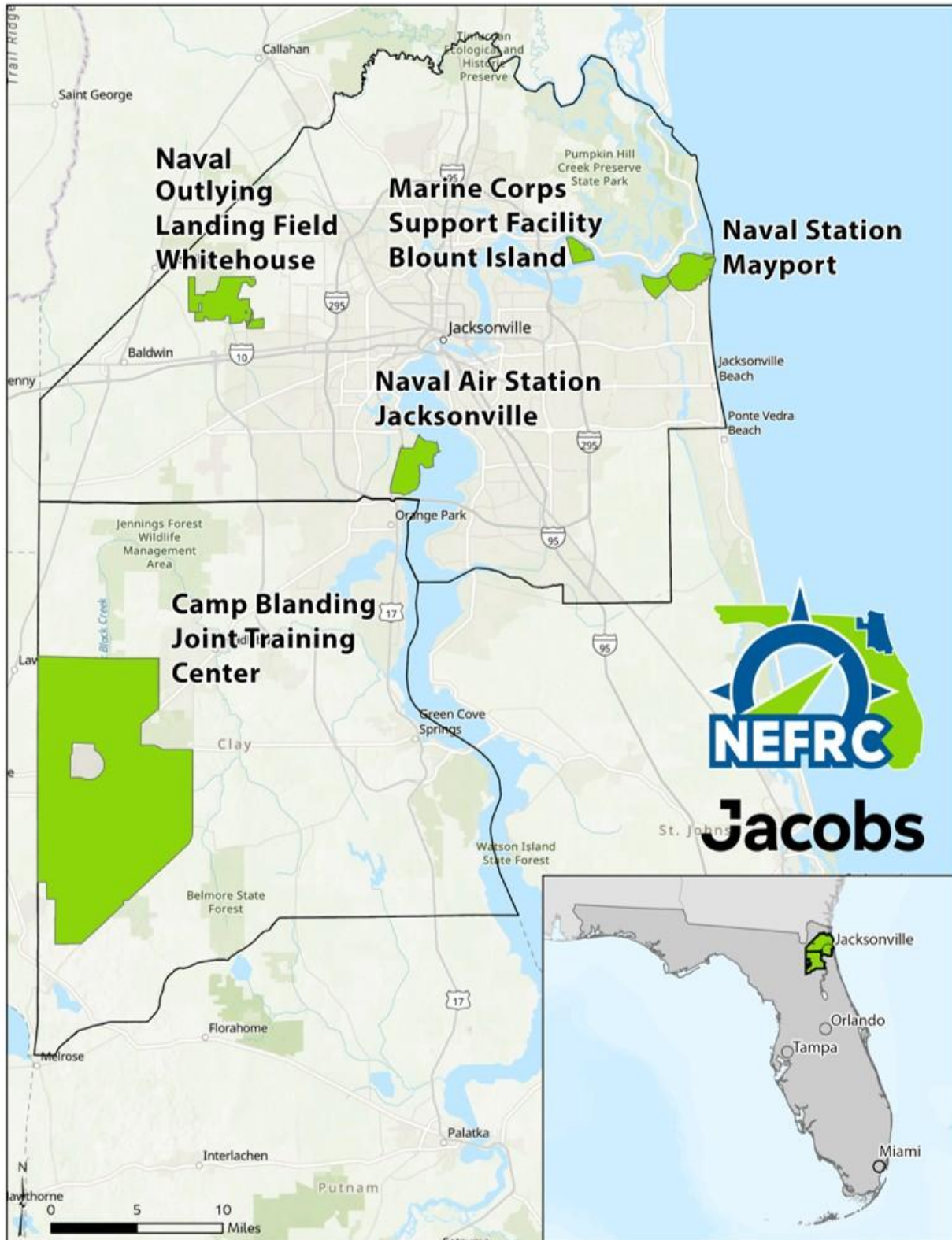
- **Shocks and Stresses** affecting the mission-critical asset
- **Project Objective**, which captures the adaptation goal for the following recommendations to support mission readiness through community resilience
- **Stakeholders and Current Efforts** highlighting successful foundational work upon which to build
- **Recommended Strategic Projects, Policies, and Partnerships**, including the owners and partners, vulnerability being addressed, co-benefits, foundational existing projects (as applicable), and timeline to comment implementation
- The **Metrics and Cost-Benefit Analysis** section, which illustrates how the recommendations were evaluated to determine appropriateness, viability, and achievement of project goals; this tool is available as new projects are identified by implementation partners

The final section, **Implementation Tools**, is provided as a resource to move from planning to action:

- **Financial Strategy Toolkit with Funding Opportunities**, which presents a matrix of opportunities and tools to finance and fund recommendations. Some recent grant opportunities are highlighted; however, given the changing conditions of federal sources and requirements, these should be viewed as initial suggestions for further review and applicability at the appropriate time.
- **References** are presented for user convenience.

Background and Content

Figure 1. Northeast Florida MIRR Study Area Map



In 2024, the Northeast Florida Regional Council (NEFRC) obtained a MIRR grant from the Department of Defense's Office of Local Defense Community Cooperation to identify and analyze the assets, hazards, and corresponding vulnerabilities and risks that affect the military installations in Duval and Clay counties. This study includes Camp Blanding Joint Training Facility, Marine Corps Support Facility (MCSF) Blount Island, Naval Station Mayport, and Naval Air Station Jacksonville (Figure 1). The goal is to increase the resilience and readiness of these installations from the impacts of extreme weather events, infrastructure challenges, and other vulnerabilities, thereby promoting mission assurance. The adaptation projects are structured into comprehensive summary packages, with each focused on a specific mission-critical asset or system.

MCSF Blount Island

MCSF Blount Island occupies more than 1,100 acres on Blount Island along the St. Johns River in Jacksonville, Florida, near the Atlantic Ocean. The installation is adjacent to the Jacksonville Port Authority's Blount Island Marine Terminal. The federal installation and port terminal are separate facilities, but they share regional dependencies, including roadway access, utilities, dredging, shoreline protection, emergency response and maritime transportation. Coordination among the Marine Corps, JAXPORT and regional partners helps preserve continuity for defense and commercial port operations. The installation combines deepwater maritime access with road and rail connections, waterfront infrastructure, maintenance and staging areas, and a specialized slipway supporting Maritime Prepositioning Force ship operations. These capabilities support equipment maintenance and staging, strategic mobility and distribution, connecting Northeast Florida's maritime and transportation network to a Marine Corps mission with global reach.

Mission

MCSF Blount Island and Blount Island Command are distinct organizations with complementary responsibilities.

MCSF Blount Island is the host installation under Marine Corps Installations East. It provides and sustains the facilities, utilities, security, installation services, workforce support and maritime access required for mission continuity. The installation is home to Blount Island Command.

Blount Island Command is an operational logistics command subordinate to Marine Corps Logistics Command. It generates, sustains, modernizes and distributes ready-for-issue, service-managed equipment and supplies across the Marine Corps' global positioning network. The network integrates prepositioning programs, sustainment nodes and distribution pathways, including equipment and supplies positioned afloat and ashore and contracted capabilities, so Marine, joint and combined forces can rapidly receive, integrate and employ combat capability.

At MCSF Blount Island, teams manage equipment throughout its lifecycle. They plan production, maintain accountability and asset visibility, coordinate maintenance and modernization, support ship offload and backload operations, and prepare equipment for distribution. During scheduled ship maintenance cycles and other production periods, equipment may be inspected, repaired, modernized, reconfigured and regenerated according to Marine Corps requirements. Together, the installation and command are more than a ship-loading point.

They form an integrated sustainment and industrial hub that converts infrastructure, technical expertise and strategic access into positioned combat capability.

The work is carried out by an integrated workforce of Marines, Sailors, federal civilians and defense contractors. Marine Corps Support Facility Blount Island has a reported population of approximately 1,600 people across the host installation, Blount Island Command and tenant organizations. That population includes nearly 700 service members, about 200 federal civilian employees and about 700 on-site contractors. Because the total includes hundreds of reservists, it does not represent a typical daily on-site count. The number of people present varies with reserve activity, ship offload and backload operations and other mission surges. Together, this workforce sustains the installation and enables Blount Island Command to generate, modernize, maintain accountability for and distribute ready-for-issue equipment and supplies across the global positioning network.

Blount Island is not merely a port facility; it is a production, sustainment, positioning, and strategic-distribution node. Loss of regional supporting infrastructure can therefore translate into delayed regeneration or movement of ready-for-issue equipment and reduced responsiveness of the Marine Corps' global positioning network.

Installation Interconnections

Marine Corps Support Facility Blount Island's most immediate interconnections are regional. Mission continuity depends on reliable access to the Atlantic Ocean through the St. Johns River; maintained shipping channels and waterfront infrastructure; road and rail transportation; utilities and communications; emergency response; and a skilled military, civilian and contractor workforce. The installation routinely coordinates with the city of Jacksonville, JAXPORT, state and local emergency management and public safety agencies, maritime and defense industries, educational institutions and other regional partners.

Naval Air Station Jacksonville, Naval Station Mayport and Camp Blanding are part of Northeast Florida's broader military and resilience network. These installations and organizations support regional planning, training, emergency preparedness, workforce development and a shared understanding of infrastructure risks. They are regional partners, not elements of Blount Island's command structure.

Blount Island also depends on upstream logistics nodes beyond Northeast Florida. Marine Corps Logistics Command, headquartered at Marine Corps Logistics Base Albany, Georgia, includes depot-level maintenance capabilities that rebuild, repair, modify and restore Marine Corps ground equipment. The Charleston, South Carolina, defense complex provides access to a broader joint transportation and munitions network supported by extensive roadway, rail and deepwater-port infrastructure. New equipment and supplies also enter the sustainment enterprise through Marine Corps acquisition and fielding processes, including Marine Corps Systems Command. Blount Island's mission depends on the movement of equipment and supplies over highways and rail lines and through upstream production, maintenance, storage and distribution nodes as well as through its maritime approaches. A disruption to an inland transportation corridor or an upstream logistics node can affect Blount Island operations even when the installation, St. Johns River and Atlantic approaches remain accessible.

These functional dependencies should not be confused with command relationships. Marine Corps Support Facility Blount Island operates under Marine Corps Installations East, while

Blount Island Command operates under Marine Corps Logistics Command. Their missions also require coordination with Headquarters Marine Corps, Military Sealift Command, Marine Corps Systems Command, supported Marine components and operating forces, the joint distribution enterprise, industry partners and allied or partner-nation organizations as directed. Those organizations may serve as logistics providers, lifecycle partners, customers or mission partners without falling within the installation's command structure.

Globally, Blount Island's strategic value is best understood through the Marine Corps' global positioning network rather than through a fixed list of overseas sites. The network combines Maritime Prepositioning Force ships, approved ashore programs such as the Marine Corps Prepositioning Program-Norway, contracted capabilities, sustainment nodes and distribution pathways across multiple theaters. Blount Island Command supports, but does not command, the ships, Marine expeditionary forces or overseas operating forces that receive and employ the equipment.

Marine Corps Support Facility Blount Island is therefore a strategic sustainment and mobility node within a much larger logistics network. It links Northeast Florida's maritime access, infrastructure, workforce and industrial capacity with inland maintenance, munitions and distribution networks and with global maritime and ashore positioning. Its resilience depends not only on the facility and its access to the St. Johns River, but also on the roads, railways, utilities, ports, production capacity and partner organizations that allow equipment and supplies to reach, move through and depart the installation. Together, those connections enable the Marine Corps to accelerate force closure, extend operational reach, respond to crises and sustain combat capability worldwide.

Identification of Priority Assets for MCSF Blount Island

Priorities for the installation were based on the direct assets and local services required to support the missions (Figure 2). Priority assets include the shorelines around the installation that protect it from wave action, the electrical and communication systems that support the installation's logistics activities, the roadways and railways that connect the installation to the broader region (including Heckscher Drive, I-295, Dave Rawls Boulevard, and Blount Island Boulevard), and JAXPORT.

Primary Mission Critical asset types for Maritime Prepositioning Force, Logistics & Sustainment, and Sealift Integration

- Location-Specific Positioning
 - Rivers (St. John's River)
 - Shorelines
- Assets Providing Direct Support
 - Electric Production and Supply Facilities
 - Roads and Bridges
 - Railway systems
 - Communications systems
 - Ports (JAXPORT)
 - Fire Stations
 - Tugboats and harbor pilots
 - Fuel Depot
 - Offsite dry dock facilities - The local dry dock facilities are private contracting companies
 - Natural Gas system

Secondary Mission Critical asset types for Joint Logistics Hub, Exercise & Deployment Support, and Vessel Maintenance

- Assets Providing Direct Support
 - Water systems
 - Wastewater systems

Mission Supportive for the livelihood and health of installation personnel, indirect support to primary and secondary missions.

- Personnel Support
 - Affordable Housing
 - Childcare Facilities
- Assets Providing Indirect Support
 - Solid and Hazardous Waste Facilities

Figure 2. Primary and Secondary Mission Critical Assets for MCSF Blount Island



This package addresses the specific shocks and stresses of the mission critical asset Heckscher Drive for MCSF Blount Island.

Current Conditions That Affect the Heckscher Drive Corridor

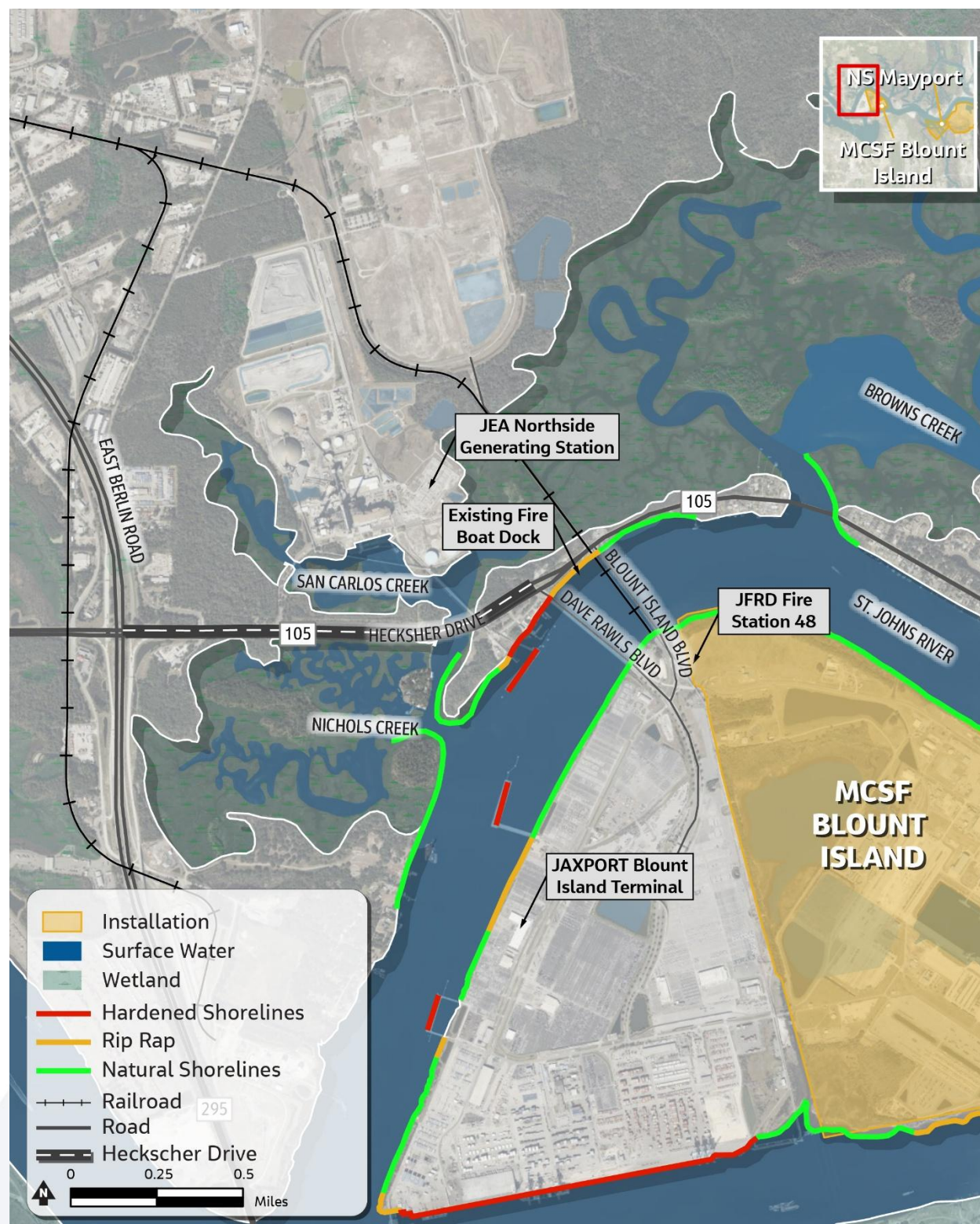
Heckscher Drive is a four-lane divided urban minor arterial from New Berlin Road East to Dave Rawls Boulevard; east of Dave Rawls Boulevard, it is a two-lane undivided minor arterial. It is identified as a State of Florida Strategic Infrastructure System (SIS) roadway because it is a vital freight and military access corridor (Figure 3). The roadway carries substantial heavy truck traffic associated with containerized cargo, vehicle imports, and military logistics entering and exiting Blount Island, making it indispensable to regional and national supply chains. The portions of the roadway that are two lanes create operational and safety challenges as freight demand grows and infrastructure ages, reflected in ongoing bridge rehabilitation and corridor studies aimed at improving capacity, safety, and resilience. The roadway plays a pivotal role in connecting the military (MCSF Blount Island), communities, economy (JAXPORT Blount Island Marine Terminal), and environment (Timucuan Preserve) - approximately 21,000 vehicles make the trip daily on Heckscher Drive between I-295 and Dave Rawls Boulevard (FDOT, 2025).

Heckscher Drive is a lifeline for nearby residential communities, recreational users, and environmentally sensitive areas within the Timucuan Preserve, balancing its dual identity as both a scenic coastal route and a critical industrial artery that underpins Jacksonville's economy and military readiness. It is experiencing the stress of aging infrastructure, transportation congestion, and pedestrian safety challenges.

The roadway also directly influences the surrounding tidal marsh systems that characterize the corridor, particularly near Blount Island and along the edges of the Timucuan Ecological and Historic Preserve. As a linear embankment through low-lying coastal wetlands, Heckscher Drive alters natural hydrology by constraining tidal exchange and modifying surface water flow between marsh areas. Drainage structures such as culverts and ditches attempt to maintain connectivity, but can create localized changes in salinity, sediment transport, and water circulation patterns. In addition, roadway runoff introduces pollutants, including oils, heavy metals, and roadway debris into adjacent marshes, which can affect water quality and sensitive habitats. The presence of the roadway and associated infrastructure fragments wildlife habitat and can impede movement of estuarine and terrestrial species between marsh areas.

The corridor is also highly influenced by rainfall events and coastal flooding because of its low elevation and proximity to tidal waters. Heavy rainfall can overwhelm roadside drainage systems, leading to ponding on the roadway and increased discharge of untreated stormwater into adjacent marshes. During high tides, storm surge events, and king tides, portions of the corridor are vulnerable to inundation, particularly in areas where the roadway is closely bordered by tidal creeks and marsh flats. These combined freshwater and coastal flooding dynamics can worsen erosion along roadway embankments and marsh edges, destabilizing soils and contributing to the gradual loss of wetland vegetation. Erosion not only threatens long-term roadway integrity but also alters marsh morphology and reduces the natural buffering capacity of the wetlands. As sea levels rise and extreme weather events become more frequent, these processes are expected to intensify, reinforcing the need for resilient infrastructure design, improved stormwater management, and strategies that protect both transportation function and the surrounding coastal ecosystem.

Figure 3. Heckscher Drive Current Conditions Map



MIRR Adaptation Strategy Framework

The NEFRC envisions a resilient, prosperous, and inclusive region where communities work collaboratively across jurisdictional boundaries to strengthen economic vitality, safeguard natural and built systems, and enhance quality of life for current and future generations. In 2022, the Council launched **Resilient First Coast** to collaboratively address climate-related challenges across its seven member counties—Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns. This regional effort received strong support to develop a plan focused on addressing climate impacts and related threats to the region. Guided by this vision, the Regional Resilience Action Plan (RRAP) was published in 2025, providing a unifying framework that translates shared regional goals into coordinated action (NEFRC 2025).

The RRAP establishes a durable foundation for implementing this vision—enabling member governments and partners to prioritize investments, leverage funding opportunities, and advance solutions that build long-term resilience to environmental, economic, and social challenges across Northeast Florida. As such, the MIRR adaptation projects are built upon this framework to ensure alignment and promote successful implementation of the recommended strategies.

RRAP Goals and Objectives

Figure 4. Regional Resilience Action Plan Vision (NEFRC 2025)



Figure 5. Regional Structure for Resilience as Framework for the MIRR

Create a Durable and Adaptive Built Environment

- Minimize magnitude and cost of damage to infrastructure
- Improve development practices and policies
- Decrease utility service disruptions and recovery time
- Improve transportation and mobility

Develop a Thriving Regional Economy

- Improve education and employment opportunities
- Increase housing stability
- Enhance tourism and historic preservation
- Increase smart growth and development

Ensure a Vibrant Quality of Life

- Improve public health and wellness
- Enhance supply of food, energy, and other critical resources
- Increase public participation and engagement
- Minimize disparity

Promote a Healthy Natural Environment

- Reduce heat stress
- Increase biodiversity and ecological services
- Maximize quality of soil, air, and water
- Minimize erosion, flooding, and storm impacts

Connecting this Built Environment Asset to the Regional Economy, Natural Environment, and a Vibrant Quality of Life

This framework provides the structure for how assets were organized and evaluated. This resilience project is centered on assets in the Built Environment pillar, so the acknowledgments below indicate how it is connected to the Regional Economy, Natural Environment, and Quality of Life.

Figure 6. Connection of This Asset to the Community





Recommendations



Documenting Shocks and Stresses with a Vulnerability Assessment

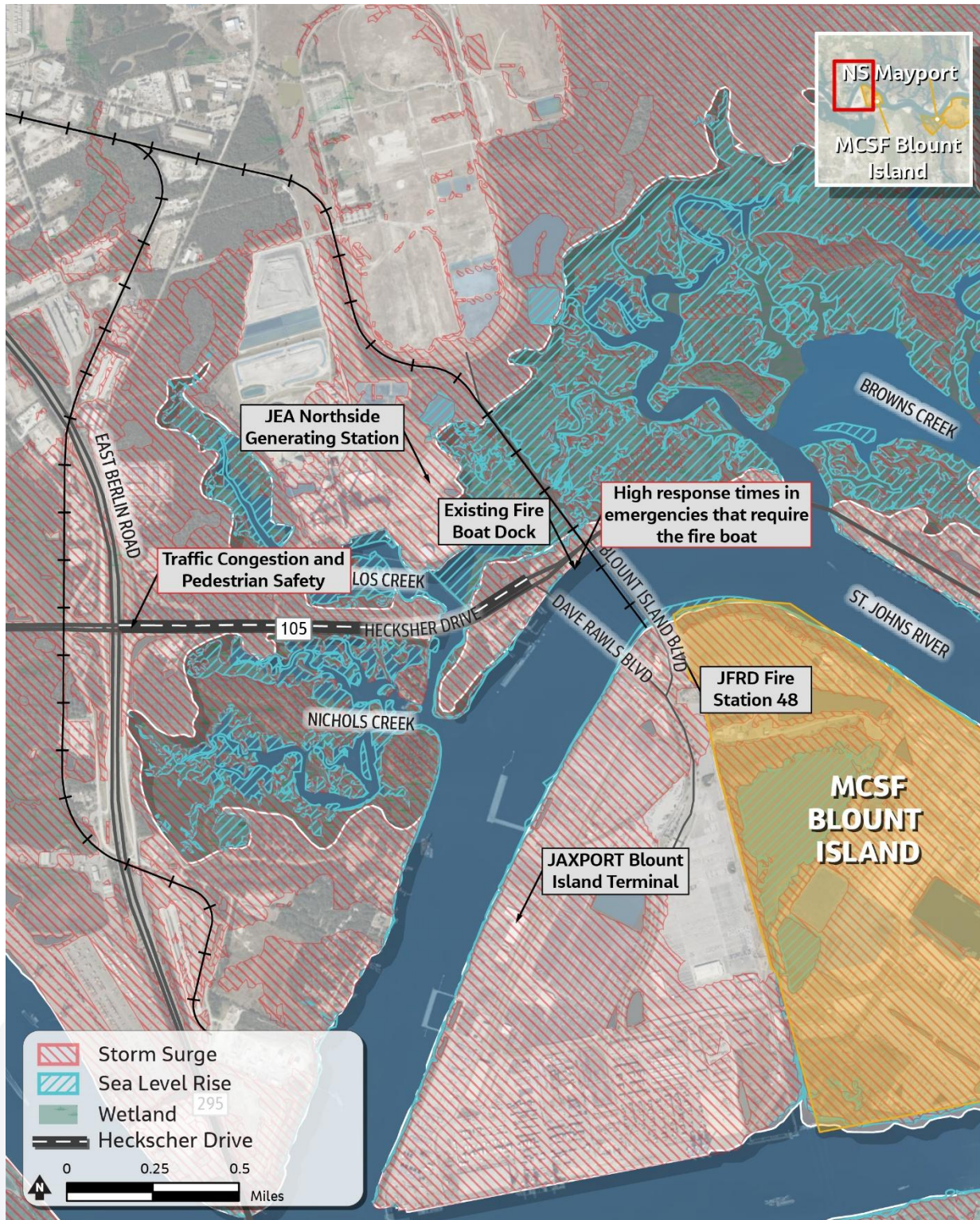
Shocks and stresses to the mission-critical assets supporting Blount Island include rainfall-induced flooding, coastal flooding from sea level rise (SLR) and storm surge, traffic congestion, lack of redundancy in transportation and utility system connection points, aging infrastructure of transportation assets, and erosion of shorelines of the island.

1. Installation electric and potable water systems lack redundancy and are exposed to coastal flooding.
2. **Heckscher Drive is a single point of access to the installation and experiences transportation congestion, pedestrian safety challenges, and exposure to SLR. Transportation congestion (traffic) is a significant issue on Heckscher Drive and Dave Rawls Boulevard, causing delays getting on and off base. They are the primary access roads for the installation.**
3. **JFRD Fire Station 48 provides emergency response services to MCSF Blount Island and the surrounding area. Marine-based response is significantly delayed due to the location of the fire boat dock on Heckscher Drive.**
4. Aging infrastructure is a concern for the access bridges of Dave Rawls Boulevard and the railroad.
5. Shoreline erosion is occurring along the installation's perimeter, particularly in the Navy Point area.
6. Communications infrastructure lacks redundancy and has experienced outages due to construction activities in the area.
7. Freight transportation and logistics is supported primarily by rail, with opportunity for diversification in backup delivery logistics and options.

This project package addresses redundancy, congestion, and flood mitigation for Heckscher Drive (Item 2) and emergency response times (Item 3). Figure 7 shows the location of mission critical Heckscher Drive and its potential exposure to storm surge flooding, congestion, and lack of redundancy, as well as the location of the JFRD fire boat dock. SLR Risk to Heckscher Drive - SLR Under the National Oceanic and Atmospheric Administration (NOAA) Intermediate Scenario is Projected to be Approximately 1.2 Feet in 2050 and 2.4 Feet in 2080 (NOAA 2022).

Project Need: Reduce Flood Risk and Improve Infrastructure Capacity for Future Demand and Emergency Response

Figure 7. Risk to Mission Map



Heckscher Drive Asset Vulnerabilities Creating Risk to Mission

Heckscher Drive runs east–west inland from Blount Island, with the right-of-way owned by FDOT. This roadway is considered a primary mission-critical asset, as it serves as the principal access route connecting Blount Island to the mainland. In addition to its importance for installation access, it functions as a major east–west arterial for the Jacksonville region, transitioning into the Jimmy Buffett Memorial Highway at the coastline.

The road is low-lying and generally at grade with sea level, increasing its exposure to coastal flooding and storm-related impacts. In many locations, the roadway embankment acts as a physical barrier between the marsh systems of Nichols and Brown Creeks and the open waters of the St. Johns River, highlighting its role in both transportation connectivity and the surrounding coastal landscape (Table 1).

Table 1. Heckscher Drive Asset Summary

Asset Name	Owner	Location	Mission Criticality	Relevant Shocks & Stresses	Level of Urgency
Heckscher Drive	FDOT	I-295 to Blount Island Boulevard	Primary	Sea Level Rise, Storm Surge, Traffic Congestion, Pedestrian Safety	Near-term

Stakeholders and Current Efforts

Stakeholders are actively involved in advancing improvements along the Heckscher Drive corridor. These partners collaborate to enhance roadway resilience, improve safety, support military operations at MCSF Blount Island, and maintain public access to surrounding natural resources. Their coordinated roles reflect the corridor’s importance as both a mission-critical access route and a regional transportation link. Key stakeholders include:

- MCSF Blount Island
- Florida Department of Transportation (FDOT)
- City of Jacksonville
- North Florida Transportation Planning Organization (TPO)

MCSF Blount, the City of Jacksonville, and FDOT are advancing efforts to improve the resilience, safety, and functionality of Heckscher Drive. These efforts include corridor studies, public enhancements, roadway elevation and stabilization, and shoreline protection initiatives. Specifically, the City of Jacksonville has adopted the Vision Zero Action Plan as its guiding transportation safety policy, incorporating Safe System principles. The SSA recognizes that human error is inevitable and focuses on designing transportation systems that reduce the likelihood of fatal and serious injury crashes through safer roadway design, improved operations, safer speeds, safer vehicles, and effective post-crash care. Transportation recommendations within the MIRR should be implemented consistent with the City’s Vision Zero principles and the Safe System Approach, recognizing that roadway users are vulnerable to human error and that resilient transportation systems should support reducing fatal and serious injury crashes through safer infrastructure, safer operations, safer speeds, multimodal connectivity, and

effective post-crash care. This approach aligns with the City of Jacksonville's adopted Vision Zero Action Plan while supporting military readiness, workforce mobility, and long-term transportation resilience.

Table 2 gives details on projects and efforts that are currently ongoing or have been identified as a need within the region as it relates to Heckscher Drive.

Table 2. Current Projects Related to Heckscher Drive

Existing Project	Entity	Location	Purpose	Timeline
Heckscher Drive Corridor Study	North Florida TPO	I-295 to Blount Island Boulevard	Identify long-term transportation needs and infrastructure improvements	Complete
Passive Park	City of Jacksonville	Southside of Heckscher Drive	Provide additional public access to Nichols Creek	In Design
SR 105 (Heckscher Drive) Bridge over Browns Creek Project Development and Environment Study	FDOT	Heckscher Drive Bridge	Evaluate alternatives for bridge replacement	Starting October 2026
City of Jacksonville's Vision Zero Action Plan	City of Jacksonville Transportation Planning Division	City-wide/ Countywide	Guide transportation safety policy, specifically following the Safe System Approach (SSA)	Plan adopted, safety policies ongoing integration into transportation projects (current and future)

Figure 8. Current Projects and Efforts



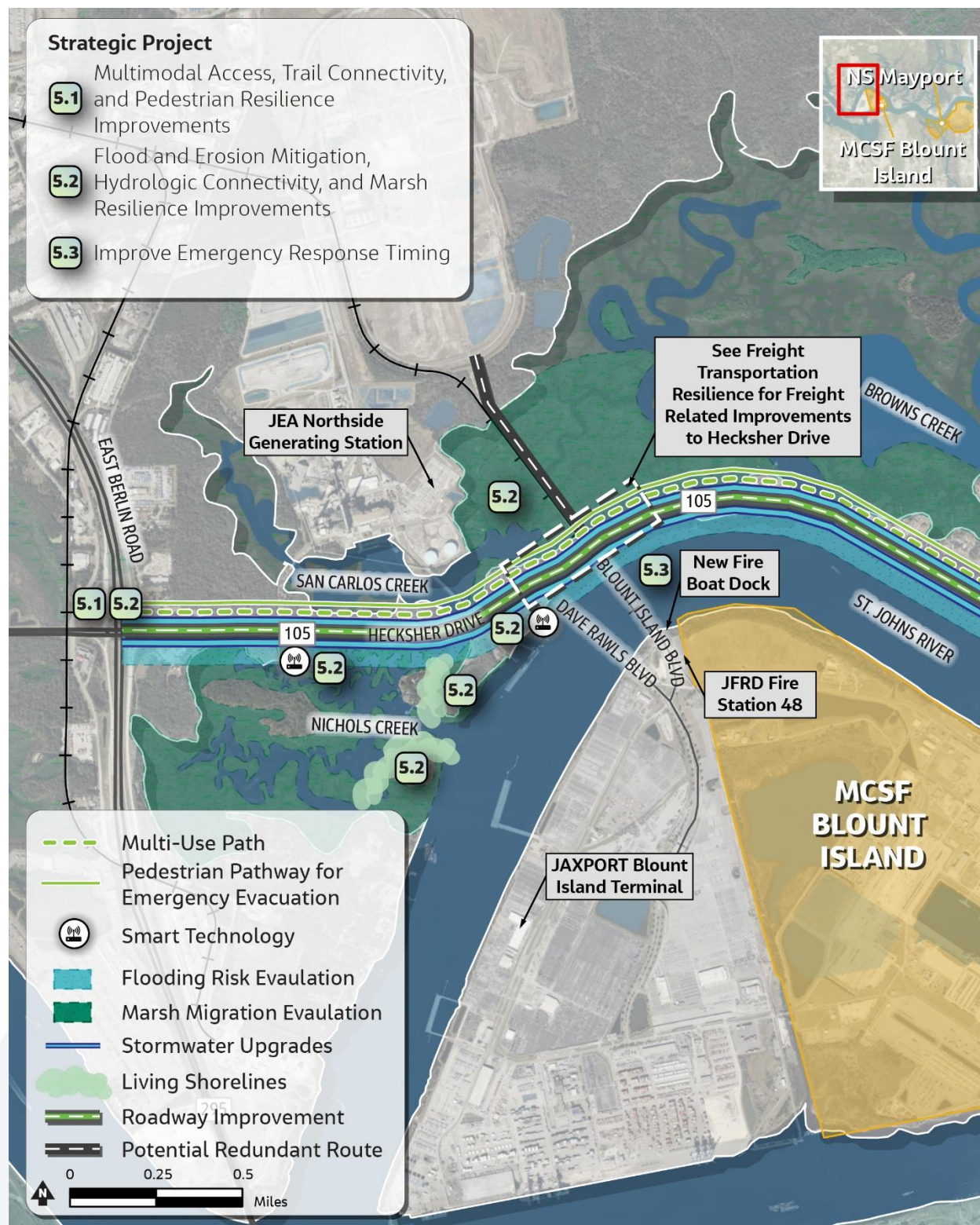
Review of Strategic Partnerships and Policies

MCSF Blount Island's transportation challenges, particularly along Heckscher Drive are addressed primarily through regional planning partnerships. Current engagement leaves some gaps in directly advancing installation-specific priorities. The North Florida Transportation Planning Organization (TPO) serves as the central forum for coordination among the Florida Department of Transportation (FDOT), local governments, and other regional stakeholders responsible for roadway planning and investment. While the Marine Corps maintains an ex officio role within the TPO, this level of participation may limit the ability to fully elevate MCSF Blount Island's concerns related to congestion, lack of redundancy, and increasing flood risk along critical access routes such as Heckscher Drive.

The TPO framework is effective in that it provides a formal, durable structure for incorporating resilience considerations, such as sea level rise, storm surge, and rainfall flooding into long-term transportation planning. However, in the absence of direct and consistent installation-level engagement, it is unclear whether the unique operational impacts associated with MCSF Blount Island's single-point-of-failure access and recurring congestion are fully reflected in project prioritization and funding decisions. This is particularly significant given the installation's reliance on Heckscher Drive as a primary access corridor and the increasing vulnerability of that corridor to flooding and disruption.

Adaptable Built Infrastructure Projects

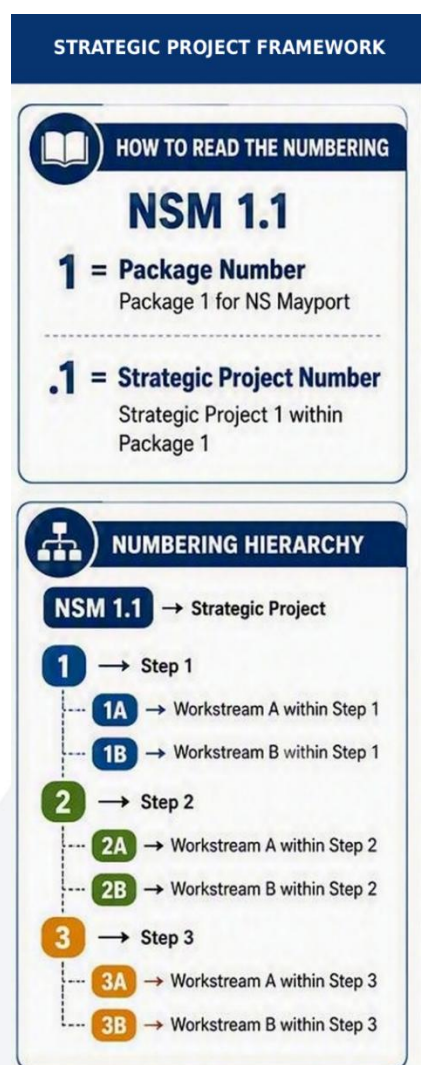
Figure 9. Adaptation Strategies Map



Strategies included in the adaptation plan have been organized by short, mid, and long-term timeframes for implementation. The strategy numbers in the maps correspond to the details provided in their respective sections, which outline a comprehensive approach to strengthening energy resilience and support long-term mission continuity. These strategies focus on enhancing existing system performance, reducing vulnerabilities, and advancing modern, flexible infrastructure solutions that can adapt to future demands and environmental conditions. Order-of-magnitude cost estimates will be provided in 2026 dollars to the extent possible, with up to 50% contingency unless otherwise noted.

Potential Project Leads and Partners are mentioned by organization in the following narratives. The intent is to identify the correct stakeholders that have agency, authority, and interest in the work that is being proposed. Being listed as a lead or partner provides the opportunity to collaborate, advise, and be involved in the adaptation efforts, but does not mandate participation. Funding and financing of projects are not indicated as the responsibility of the project lead or partners, and the monetary tools for obtaining such are in the Implementation section of this package.

Figure 10. Strategic Project Framework



The strategic projects are organized by installation, package, project, step, and actions. The two to three letter code indicates the installation. The first number indicates which package this project is in. The second number indicates the project number in the package.

Within each project, the timeline of activities is indicated through the steps (Step 1, Short-term, etc.), and the order of activities is narrated in the sub-steps (1A, 1B, etc.). Through this organization, each strategic project illustrates its project number, timeline, and actions in the narrative.

Strategic Project BI 5.1. Heckscher Drive Multimodal Access, Trail Connectivity, and Pedestrian Resilience Improvements

This project enhances multimodal connectivity, pedestrian safety, and transportation system resilience along a 1.6-mile-long segment of Heckscher Drive between Blount Island Boulevard and New Berlin Road at Blount Island. As a critical freight, military, and commuter corridor within the SIS, Heckscher Drive experiences heavy truck volumes, limited multimodal options, and vulnerability to congestion and coastal flooding.

The corridor's multimodal character is uniquely shaped by the coexistence of high-intensity freight operations, the JAXPORT Blount Island Marine Terminal, and MCSF Blount Island. This usage generates substantial heavy truck traffic, imposes security and access constraints, and prioritizes efficient goods movement and military readiness, often limiting space and flexibility for pedestrian, bicycle, and trail facilities. As a result, multimodal infrastructure must be carefully designed to operate safely alongside frequent, large truck movements, constrained right-of-way, and controlled access points.

This effort focuses on coordinated pedestrian and shared-use trail infrastructure improvements, integration of emerging mobility solutions, and deployment of smart technologies to improve corridor operations, safety, and emergency mobility during disruption events. The project also advances regional trail connectivity by positioning Heckscher Drive as a critical linking segment between the Core-to-Coast Trail, the Timucuan Trail, and the East Coast Greenway. By leveraging ongoing shared-use path investments along Heckscher Drive, the project supports development of a continuous multimodal and recreational network connecting Jacksonville's urban core, coastal destinations, industrial employment centers, and nationally significant conservation lands within the Timucuan Preserve. Transportation improvements should emphasize continuous multimodal network development by connecting individual corridor improvements into an integrated regional system serving military installations, surrounding neighborhoods, transit facilities, employment centers, parks, schools, and regional trail systems.

Connected multimodal networks improve transportation resilience by expanding routing options during emergencies while encouraging walking, bicycling, transit use, and other transportation alternatives. These multimodal transportation improvements should consider nationally recognized guidance, including the *Don't Give Up at the Intersection* principles developed by the National Association of City Transportation Officials (NACTO), the 2024 *Guide for the Development of Bicycle Facilities* published by the American Association of State Highway and Transportation Officials (AASHTO), the Manual on Uniform Traffic Control Devices (MUTCD), and other applicable federal and state design guidance, as appropriate. Future transportation improvements identified within this report should be coordinated with implementation of the City of Jacksonville's *Vision Zero Action Plan*, including consideration of High Injury Network (HIN) corridors, crash history, Safe System principles, and other adopted transportation safety priorities to maximize public safety benefits while supporting military installation access and regional mobility.

The project supports improved workforce access to JAXPORT and MCSF Blount Island while enhancing resilience in a low-lying, surge-exposed coastal environment with limited network redundancy. Planning and implementation should be coordinated with Strategic Project BI 5.2 and the related freight-access package. The entire connection from I-295 to Heckscher Drive to Dave Rawls Boulevard, across the bridge and rail crossing, and into MCSF Blount Island and

JAXPORT access points should be evaluated as one end-to-end mission logistics chain. Potential improvements at the Dave Rawls Boulevard/Heckscher Drive intersection, including the proposed flyover, could materially improve access at a critical node in this chain.

Current Stakeholder Projects

- Heckscher Drive Corridor Study
- City of Jacksonville's Vision Zero Action Plan

Potential Project Leads and Partners

- Florida Department of Transportation (FDOT)
- City of Jacksonville
- Jacksonville Transportation Authority (JTA)
- Jacksonville Port Authority (JAXPORT)
- Naval Facilities Engineering Systems Command (NAVFAC)
- North Florida Transportation Planning Organization (NFTPO)
- MCSF Blount Island – Public Works Department (PWD)

Estimated Cost

\$84,000,000

Step 1: Pedestrian Infrastructure, Multimodal Connectivity, and Predictive Mobility (Short-term)

1A. Evaluate Pedestrian, Multimodal, Safety, and Trail Connectivity Needs

- FDOT, in coordination with partners, can conduct a comprehensive corridor assessment to evaluate pedestrian conditions, multimodal access gaps, and safety risks associated with heavy truck volumes, port operations, and military access requirements. The evaluation can identify conflict points between freight vehicles and pedestrians/cyclists, constrained crossing opportunities, limited shoulders, and risks associated with integrating regional trail users into a high-volume industrial corridor. It can also assess opportunities to safely connect the corridor to the Core-to-Coast Trail, Timucuan Trail, and East Coast Greenway.
- The assessment should include explicit antiterrorism/force protection (AT/FP), security, standoff, surveillance, gate-approach, truck-conflict, parking, and public-access review, particularly near MCSF Blount Island and other controlled access points. Findings can inform improvements that reduce crash risk, enhance separation from freight traffic, and support safe and continuous trail integration.

1B. Construct and Upgrade Pedestrian and Shared-Use Trail Facilities

- FDOT and partners can design and construct continuous pedestrian and shared-use paths along Heckscher Drive, building off ongoing Timucuan Trail improvements to provide safe, separated facilities for both commuters and recreational users. Enhancements can include buffered or grade-separate multi-use paths, protected crossings at key freight and port access points, wayfinding signage for regional trail connections, Americans-with-Disabilities-Act-compliant design, and lighting for early morning and evening port workforce shifts. These

improvements can significantly improve safety by reducing direct exposure to heavy truck traffic, organizing crossings, and accommodating both local and regional trail users. Facility siting and design should include AT/FP, security, standoff, surveillance, gate-approach, truck-conflict, parking, and public-access review.

- Where bridge geometry and available roadway width permit, evaluate opportunities to improve multimodal comfort by widening paved shoulders through pavement markings, buffered separation, and strategically placed noncontinuous vertical elements where appropriate. Improvements should maintain sufficient operational flexibility for emergency stopping, incident response, roadway maintenance, and freight operations while improving perceived comfort for bicyclists and pedestrians traveling along the corridor.
- Shared-use paths (SUPs, aka trails), sidewalks, bicycle facilities, and regional trail systems should be recognized as essential components of the regional transportation network that support daily commuting, military workforce mobility, emergency access, transportation redundancy, and recreational opportunities. Facilities such as the Core-2-Coast trail corridor provide transportation benefits that extend beyond recreation by expanding resilient multimodal connectivity between neighborhoods, employment centers, military installations, parks, and transit services. Shared-use paths and transit improvements may reduce routine demand on the roadway, but they do not replace the vehicular and freight capacity required for Blount Island's strategic logistics mission, including movement of heavy tactical equipment, trucks, emergency apparatus, industrial supplies, secure cargo, deployment traffic, and other mission-essential logistics. NAVFAC and MCSF Blount Island PWD can coordinate secure and safe connections near installation access points. NAVFAC and MCSF Blount Island PWD can coordinate secure and safe connections near installation access points.
- Develop coordinated multimodal wayfinding connecting the Core-2-Coast corridor, Timucuan Trail, East Coast Greenway, nearby employment centers, MCSF Blount Island, JAXPORT facilities, and surrounding regional transportation facilities to improve navigation, strengthen network continuity, and encourage multimodal travel. Wayfinding should not direct recreational users toward MCSF Blount Island or other military access-control areas and should be developed through coordination with installation security and AT/FP personnel.

1C. Improve First/Last-Mile Connectivity and Reduce Vehicle Dependency

- JTA, in coordination with FDOT and JAXPORT, can expand microtransit, shuttle services, and potential park-and-ride facilities that connect workers and visitors to the corridor and regional trail network. These services can reduce single-occupancy vehicle trips and minimize unsafe conditions associated with informal parking, pedestrian crossings, and roadside drop-offs in freight-dominated areas. Improved connections to trail access points can also support safe multimodal commuting and recreational use, reducing conflicts between vehicles, pedestrians, and cyclists. NAVFAC and MCSF Blount Island PWD can ensure compatibility with installation security and access needs.
- Evaluate opportunities to provide bicycle parking and other end-of-trip accommodations at buildings or activity areas where anticipated commuter demand warrants such facilities. Facility types should remain compatible with installation operations, security requirements, and expected levels of bicycle commuting.

1D. Flood-Aware Routing, Trail Access, and Predictive Mobility Analytics

- FDOT can deploy predictive analytics tools that incorporate rainfall, tidal flooding, and storm surge data to identify unsafe conditions affecting both transportation and trail infrastructure along the corridor. Flooding can reduce usable roadway width, obscure shoulders and paths, and force pedestrians and cyclists closer to freight traffic. These tools can provide real-time routing guidance that directs users to safe, passable segments of both the roadway and connected trail systems. Stormwater and flood monitoring systems should be incorporated to improve situational awareness and reduce safety risks during extreme weather events.

Step 2: Resilient Mobility and Smart Corridor Systems (Mid-term)

2A. Real-Time Traveler and Trail User Information Systems

- FDOT can deploy real-time traveler information systems that provide alerts on congestion, freight surges, incidents, flooding, and trail conditions. These systems can enhance safety by notifying transportation and trail users of hazards and guiding them to safe crossings and alternative routes while avoiding military access-control areas.
- Transportation technology investments should support not only congestion management and operational efficiency, but also post-crash care by improving incident detection, emergency vehicle routing, signal preemption/prioritization, interoperable communications, and coordinated emergency response. These technologies can improve survivability, reduce secondary crashes, and strengthen transportation system resilience during both routine incidents and large-scale emergencies. JTA can integrate transit information to ensure coordinated and safe intermodal connections.

2B. Artificial Intelligence (AI)-Powered Traffic and Multimodal/Trail Interaction Management

- FDOT can implement AI-driven tools to monitor interactions between freight vehicles, commuters, pedestrians, cyclists, and trail users. These systems can optimize signal timing, crossings, and access points near port entrances and trail connections to reduce conflict points. By actively managing these interactions, the system can improve safety in one of the region's most complex shared-use and industrial corridors.

2C. Connected Infrastructure and Integrated Corridor + Trail Data Platform

- FDOT can develop a connected data platform integrating traffic, freight, trail usage, environmental, and safety data. MCSF Blount Island PWD may provide approved aggregate or status information necessary for corridor management; military operational schedules, secure-movement information, and gate-control data remain within Marine Corps systems. This platform can improve safety by enabling coordinated responses to incidents, managing peak freight periods, monitoring trail conditions, and improving visibility into risks affecting both roadway and trail users.

Step 3: Supplemental Emergency and Workforce Mobility and Long-Term Resilience Enhancements (Long-term)

3.1 Enhance Supplemental Emergency Evacuation and Workforce Mobility through Multimodal and Trail Networks

- FDOT and JTA can incorporate pedestrian infrastructure and shared-use trails into emergency evacuation and continuity-of-operations planning as supplemental mobility options during roadway incidents, flooding, storm surge, emergency evacuations, and other disruptive events affecting the Heckscher Drive corridor. During storm surge, flooding, or major incidents, heavy truck traffic and limited roadway redundancy can create unsafe conditions and restrict access. Safe, separated multimodal and trail-based routes may support evacuation or workforce movement for personnel able to use those modes and may reduce routine roadway demand. They do not provide redundancy for heavy tactical equipment, trucks, emergency apparatus, industrial supplies, secure cargo, deployment movements, or most mission-essential logistics. MCSF Blount Island PWD can coordinate these strategies with emergency-response, installation-security, and access-control plans.
- Develop long-term operations and maintenance strategies for shared-use paths, sidewalks, and associated multimodal infrastructure addressing routine inspections, vegetation management, debris removal, pavement maintenance, post-storm assessments, and restoration of facilities following emergency events. Maintaining these facilities supports reliable workforce mobility, regional trail connectivity, and transportation system resilience.

Key Outcomes

- This project positions Heckscher Drive as a multimodal spine and regional connector supporting workforce mobility, public safety, environmental stewardship, and regional trail connectivity while creating a continuous connection between the Core to Coast Trail, Timucuan Trail, and East Coast Greenway. Its military value is supporting rather than direct, providing supplemental workforce-mobility and evacuation options without replacing the roadway capacity required for strategic freight and military logistics.
- By safely integrating industrial freight movement with pedestrian, bicycle, and trail infrastructure, the corridor becomes a multifunctional asset within the local transportation system. It demonstrates how a high-volume freight and military corridor can also provide a link in a regional and national trail network while maintaining the security, access, and roadway capacity required for port and military operations. This integration, combined with resilience strategies addressed more directly through Strategic Project BI 5.2, makes Heckscher Drive a complex but high-value model for balancing economic activity, public safety, multimodal access, military requirements, and environmental preservation in coastal transportation systems.

Strategic Project BI 5.2. Heckscher Drive Flood and Erosion Mitigation, Hydrologic Connectivity, and Marsh Resilience Improvements

This project improves the long-term resilience of Heckscher Drive from I-295 to Little Talbot Island by addressing recurrent flooding, roadway erosion, and constraints to natural marsh migration. As a low-lying coastal corridor that functions as the sole land-access corridor serving critical freight, military, and commuter movements at Blount Island, Heckscher Drive is highly vulnerable to SLR, storm surge, and heavy rainfall. Its existing embankment condition also restricts tidal exchange and sediment transport, limiting the ability of adjacent marsh systems to naturally adapt and migrate inland.

The effort focuses on evaluating and implementing roadway elevation strategies, restoring hydrologic connectivity, deploying smart flood monitoring systems, stabilizing vulnerable shorelines, enabling future marsh migration through nature-based solutions, and evaluating alternate land-access and contingency-routing options. Together, these actions provide a direct and high-value military resilience benefit by supporting reliable land access for essential personnel, emergency response, secure freight, and mission logistics while enhancing the ecological resilience of the surrounding Timucuan Preserve and coastal marsh systems.

To achieve success through the military lens, this project must maintain or rapidly restore sufficient land-access capability to support essential personnel, emergency response, secure freight, and mission logistics during selected design conditions. Planning and implementation should be coordinated with Strategic Project BI 5.1 and the related freight-access package. The entire connection from I-295 to Heckscher Drive to Dave Rawls Boulevard, across the bridge and rail crossing, and into MCSF Blount Island and JAXPORT access points should be treated as one end-to-end mission logistics chain. Potential improvements at the Dave Rawls Boulevard/Heckscher Drive intersection, including the proposed flyover, could materially improve access at one of the most important nodes in this chain.

Current Stakeholder Projects

SR 105 (Heckscher Drive) Bridge over Browns Creek Project Development and Environment Study

Potential Project Leads and Partners

- Florida Department of Transportation (FDOT)
- North Florida Transportation Planning Organization (NFTPO)
- City of Jacksonville
- Jacksonville Transportation Authority (JTA)
- Jacksonville Port Authority (JAXPORT)
- Naval Facilities Engineering Systems Command (NAVFAC)
- MCSF Blount Island PWD
- Environmental Resource Agencies (FDEP, NOAA, U.S. Army Corps of Engineers, SASMI)
- The Nature Conservancy (TNC)

Estimated Cost

\$191,000,000

Step 1: Corridor Assessment, Modeling, and Adaptive Planning (Short-term)

1A. Evaluate Roadway Elevation, Flooding Risk, and Hydrologic Constraints

- FDOT, in coordination with partners, can conduct a comprehensive feasibility study to assess roadway flooding risks, erosion patterns, and hydrologic constraints along the full segment from I-295 to Little Talbot Island. The study can evaluate the corridor's role as both a transportation asset and a physical barrier to tidal flow and marsh migration. Scenario-based analysis can compare alternatives such as raising the roadway on fill with expanded culverts versus elevating the roadway on columns to restore natural water movement and sediment transport. The assessment can also model safety and operational risks associated with flooding, including reduced traction, limited visibility, lane narrowing, loss of safe refuge areas, and interruption of access for essential personnel, emergency response, secure freight, and mission logistics.

1B. Evaluate Marsh Migration and Future Habitat Transition Needs

- Partners including FDEP and SASMI can assess opportunities to facilitate inland marsh migration in response to SLR by identifying suitable transition zones and areas for future marsh establishment. This can include evaluating where the roadway currently constrains natural migration and identifying opportunities to use nature-based solutions, such as thin layer placement, to build elevation in adjacent uplands and support long-term wetland resilience.
- Facilitating marsh migration can directly relieve flood pressures on Heckscher Drive by restoring the natural capacity of coastal wetlands to absorb, store, and slow floodwaters. Tidal marshes serve as natural buffers that dissipate wave energy and reduce storm surge before it reaches infrastructure, while also storing excess water and lowering flood peaks. By enabling marsh systems to migrate inland rather than being constrained against the roadway, floodwaters can spread across a broader landscape, reducing overtopping risk, erosive forces, and roadway inundation while improving overall corridor resilience.

Step 2: Roadway Elevation, Hydrologic Restoration, and Nature-Based Infrastructure (Mid-term)

2A. Elevate Heckscher Drive to Reduce Flooding and Restore Hydrology

- FDOT can implement roadway elevation improvements along vulnerable segments, evaluating both lower-cost options (raised embankments with expanded culverts) and more resilient solutions (elevated structures on columns). Elevating the roadway on columns can allow tidal flow, sediment movement, and marsh migration beneath the roadway, restoring natural hydrologic processes. These improvements can reduce roadway overtopping, minimize erosion of embankments, and improve long-term safety by maintaining consistent travel conditions during storm events. Reduced flooding exposure can also limit hazardous interactions between vehicles, particularly heavy trucks and standing water while improving

the ability to maintain or rapidly restore sufficient land access for essential personnel, emergency response, secure freight, and mission logistics.

2B. Expand Culverts and Improve Drainage Connectivity

- Where full elevation is not feasible, FDOT can expand culvert capacity and improve drainage systems to enhance tidal exchange and stormwater conveyance. Improved hydrology can reduce standing water on the roadway, decrease erosion pressures, and minimize unsafe conditions caused by ponding and shoulder washouts.

2C. Implement Living Shorelines and Coastal Stabilization

- FDOT can advance the design and implementation of living shoreline systems along vulnerable segments such as Nichols Creek. These hybrid systems, combining vegetation and engineered elements, can reduce erosion, attenuate storm surge, and stabilize sediments before they impact the roadway. By reducing shoreline retreat and embankment undermining, these solutions can improve roadway safety and structural integrity while supporting habitat health.

2D. Implement Marsh Migration and Thin Layer Placement

- Environmental partners can implement nature-based solutions such as thin layer placement with the suitable characteristics for this marsh to build marsh elevation in areas identified for inland migration destinations. This approach can sustain marsh systems under rising sea levels, reduce wave energy reaching the roadway, and enhance the natural buffering capacity of the landscape. Supporting marsh health can directly improve roadway resilience by reducing erosion and flood intensity.
- Thin layer placement represents a form of beneficial dredged material reuse, where suitable sediments from navigation or channel maintenance activities are strategically placed within marsh systems to increase elevation and support vegetation growth. This approach provides productive use for dredged materials generated from nearby port and navigation activities.
- The specific material characteristics (for example, grain size, organic content, salinity compatibility) and placement methodology must be carefully aligned with the ecological and hydrologic conditions of this unique marsh system. Improper material selection or application can disrupt vegetation, alter hydrology, or negatively affect habitat quality. Coordination with environmental agencies and site-specific design guidance is critical to ensure compatibility with existing marsh conditions and long-term success.

Step 3: Smart Monitoring, Flood Detection, and Adaptive Operations (Mid-term)

3.1 Deploy Flood Sensors and Real-Time Monitoring Systems

- FDOT can collaborate with City of Jacksonville to leverage their cutting edge compound flood model to monitor water levels, roadway conditions, and tidal influences in real time. This can improve safety by providing early warning of hazardous conditions, including overtopping, pooling water, and reduced lane availability. Model data can support proactive roadway closures, reduce accident risk, and help maintain or rapidly restore sufficient land-access capability for essential personnel, emergency response, secure freight, and mission logistics.

3.2 Integrate Smart Alerts and Adaptive Response Systems

- Model data can be integrated into smart transportation systems, enabling automated alerts, dynamic signage, and real-time traveler information. These tools can guide drivers away from flooded segments, reduce sudden braking and collisions, and improve coordinated emergency response. Integration with weather and tidal data can further enhance predictive capabilities and operational reliability.

Step 4: Long-Term Resilience and Network Redundancy Planning (Long-term)

4.1 Evaluate Alternate Land-Access and Contingency-Routing Options

- FDOT and regional partners can evaluate alternate land-access and contingency-routing options, including but not limited to a new northern corridor, to reduce reliance on Heckscher Drive as a single point of failure. The evaluation can determine whether existing roads, easements, emergency-only connections, limited-access alternatives, or new roadway segments could provide useful redundancy before identifying a new-build roadway through environmentally constrained lands as the preferred alternative. Analysis can include traffic diversion, emergency access, secure freight movement, constructability, environmental effects, security requirements, and resilience benefits under selected flood and surge scenarios. Viable alternatives can improve continuity of access for essential personnel, emergency response, secure freight, and mission logistics during hazardous conditions.

4.2 Implement Climate-Informed Roadway Elevation Strategy

- Using results from predictive modeling and SLR projections, FDOT can advance long-term elevation strategies for Heckscher Drive. These strategies can ensure that roadway improvements are durable under future conditions, reducing repeated damage, minimizing emergency closures, and maintaining or rapidly restoring sufficient land-access capability for essential personnel, emergency response, secure freight, mission logistics, and other corridor users.

Key Outcomes

- This project transforms Heckscher Drive from a flood-prone, hydrologically constrained, single-access corridor into a more resilient coastal transportation system that supports both mission-critical mobility and ecosystem function. By elevating the roadway, restoring tidal flow, stabilizing shorelines, enabling marsh migration, and evaluating alternate land-access and contingency-routing options, the project reduces flooding, limits erosion, and improves the reliability of access for essential personnel, emergency response, secure freight, mission logistics, and other corridor users.
- The integration of smart monitoring systems with nature-based and structural solutions creates a balanced approach to infrastructure and environmental resilience. Coordination with Strategic Project BI 5.1 and the related freight-access package will allow the full connection from I-295 to Heckscher Drive to Dave Rawls Boulevard, across the bridge and rail crossing, and into MCSF Blount Island and JAXPORT access points to be managed as one end-to-end mission logistics chain. This project provides a direct, high-value military benefit by supporting continued or rapidly restored land access while enhancing the long-term health of

adjacent marsh systems. It also serves as a model for how coastal roadways can be redesigned to work with natural systems rather than against them, improving transportation performance, military readiness, and ecological sustainability.

Strategic Project BI 5.3. Improve Emergency Response Timing

The project would fund the design and construction of a new Jacksonville Fire and Rescue Department marine fire boat dock at Fire Station 48, located near the entrance to MCSF Blount Island. The recently constructed station, which was partially funded through the Defense Community Infrastructure Program (DCIP), significantly improves land-based fire protection and emergency medical response for the installation and surrounding defense community. However, the marine fire boat remains housed at an off-site dock. During a waterfront emergency, the Station 48 crew must first travel by pumper apparatus to the existing dock before boarding and deploying the vessel. This operational gap delays response to vessel fires, pier incidents, hazardous-material releases, and other time-sensitive emergencies that could affect installation personnel, critical infrastructure, and military operations.

Constructing the dock at Station 48 would address this gap while maximizing the value of the prior DCIP investment by creating a more complete and integrated land-and-water emergency-response facility. Co-locating the marine fire boat with its assigned personnel and equipment would shorten deployment times, improve coordination between land-based and marine firefighting operations, and provide a more reliable response capability for MCSF Blount Island and the surrounding waterfront. The project is consistent with DCIP's focus on correcting community infrastructure deficiencies that enhance military readiness, installation resilience, and mission assurance.

With the supporting dock in place, the JFRD marine firefighting boat would provide a specialized, rapid-response capability that complements the land-based fire and emergency medical services already operating from Fire Station 48. Crews could respond more quickly to fires, accidents, and hazardous-material incidents involving military and commercial vessels, piers, docks, fuel facilities, warehouses, maintenance areas, and other critical waterfront infrastructure that may be difficult or unsafe to access from land. The boat would also provide additional firefighting capacity during major emergencies, including the ability to pump up to 2,000 gallons per minute from the water through a five-inch supply hose to supplement water supplies for waterfront or land-based operations. By enabling faster fire suppression and incident containment, the dock and marine fire boat would enhance personnel safety, reduce potential damage to critical assets, strengthen emergency preparedness, and minimize disruptions to transportation, maintenance, training, and other mission-essential military and port activities.

Current Stakeholder Projects

N/A

Potential Project Leads and Partners

- Jacksonville Fire & Rescue Department (JFRD)
- MCSF Blount Island

Estimated Cost

\$5,500,000

Step 1: Step 1: Fund and Construct JFRD Marine Fire Boat Dock at Fire Station 48 (Short-term)

1A: Fund the JFRD Marine Fire Boat Dock at Fire Station 48

- JFRD and MCSF Blount Island can pursue funding for the planning, design, permitting, and construction of a new marine fire boat dock at Jacksonville Fire and Rescue Department Fire Station 48, located near the entrance to MCSF Blount Island. Funding should be pursued through the DCIP and other appropriate federal, state, and local sources. As a fire and emergency-response infrastructure project that supports installation readiness, resilience, and mission assurance, the dock would build upon and maximize the value of the prior DCIP investment in Fire Station 48. Funding would address a remaining operational deficiency by enabling the JFRD marine fire boat to be co-located with its assigned personnel and land-based emergency-response equipment.

1B: Construct the JFRD Marine Fire Boat Dock at Fire Station 48

- JFRD can construct a new marine fire boat dock at JFRD Fire Station 48 to provide direct and immediate water access for marine emergency-response operations serving MCSF Blount Island and the surrounding waterfront.
- Co-locating the boat at Station 48 would accelerate response to fires, vessel accidents, hazardous-material incidents, and other military and civilian waterfront emergencies. The project would strengthen protection for personnel, military and commercial vessels, piers, fuel facilities, warehouses, and other critical infrastructure; improve continuity of military and port operations; and provide additional firefighting capacity during major emergencies.

Alignment and Support of the Regional Resilience Action Plan

Figure 11. Alignment with the RRAP

SCALE	ACTION	DESCRIPTION
	5	Promote the conservation and restoration of ecologically significant natural ecosystems
	8	Support regional transportation networks
	14	Encourage smart growth and building practices
	16	Identify adaptation options for critical infrastructure to enhance resilience
	17	Support shoreline stabilization of natural and modified shorelines
	19	Promote diverse transportation options and support safe multimodal transportation
	22	Promote deployment of green infrastructure and nature-based solutions
	23	Recommend innovative emergency preparedness practices and processes
	27	Create an inventory of projects utilizing nature-based solutions



Facilitate



Guide



Analyze

This project advances RRAP Actions 5, 8, 14, 16, 17, 19, 22, 23 and 27 represents one of the clearest opportunities in the MIRR portfolio to deliver built environment and natural environment outcomes through a single corridor investment. Heckscher Drive is a Strategic Intermodal System roadway and the sole land access route to MCSF Blount Island, carrying approximately 21,000 vehicles daily between I-295 and Dave Rawls Boulevard. Strategic Project BI 2.2 addresses its exposure through roadway elevation, expanded culvert capacity, flood sensor deployment, and evaluation of a northern alternative corridor. These measures implement Action 8 (Support Regional Transportation Networks), specifically, Subaction 8.1 on ensuring safe and sufficient evacuation routes and Subaction 8.2 on improvements to regionally significant transportation assets designed for future conditions rather than today's needs, the subaction that directs local governments to incorporate sea level rise and flood zone data into transportation improvement

projects. Elevation and hardening of the corridor likewise implement Subaction 16.1 on protecting critical assets where relocation is impractical.

The project's nature-based components deliver direct alignment with the RRAP's Healthy Natural Environment goal. Implementation of living shoreline systems along Nichols Creek advances Subaction 17.2, which directs the Collaborative to promote nature-based solutions where site conditions support them and to evaluate where wave energy and bathymetry permit successful installation. Marsh migration assessment and thin-layer placement using beneficial reuse of dredged material advance Subaction 5.1 on conserving and restoring estuarine wetlands and, significantly, Subaction 5.4, under which the Collaborative commits to continue working with the South Atlantic Salt Marsh Initiative to identify coastal areas critical for the landward migration of salt marshes and to work with local governments to preserve and protect them. Heckscher Drive's function as a linear embankment constraining tidal exchange makes this corridor a priority location for that commitment. Restoring hydrologic connectivity beneath the roadway and building marsh elevation in adjacent transition zones simultaneously reduces flood pressure on the roadway and sustains the marsh systems of the Timucuan Ecological and Historic Preserve, advancing Subaction 22.2 on compiling and applying regional best practices for green infrastructure and nature-based solutions.

Strategic Project BI 2.1 advances Action 19 (Promote Diverse Transportation Options and Support Safe Multimodal Transportation) through continuous shared-use path construction, protected crossings at freight and port access points, Americans with Disabilities Act-compliant design, and lighting for early and late workforce shifts. These elements implement Subaction 19.1 on complete streets and Subaction 19.3 on safe and walkable streetscapes, which specifically cites

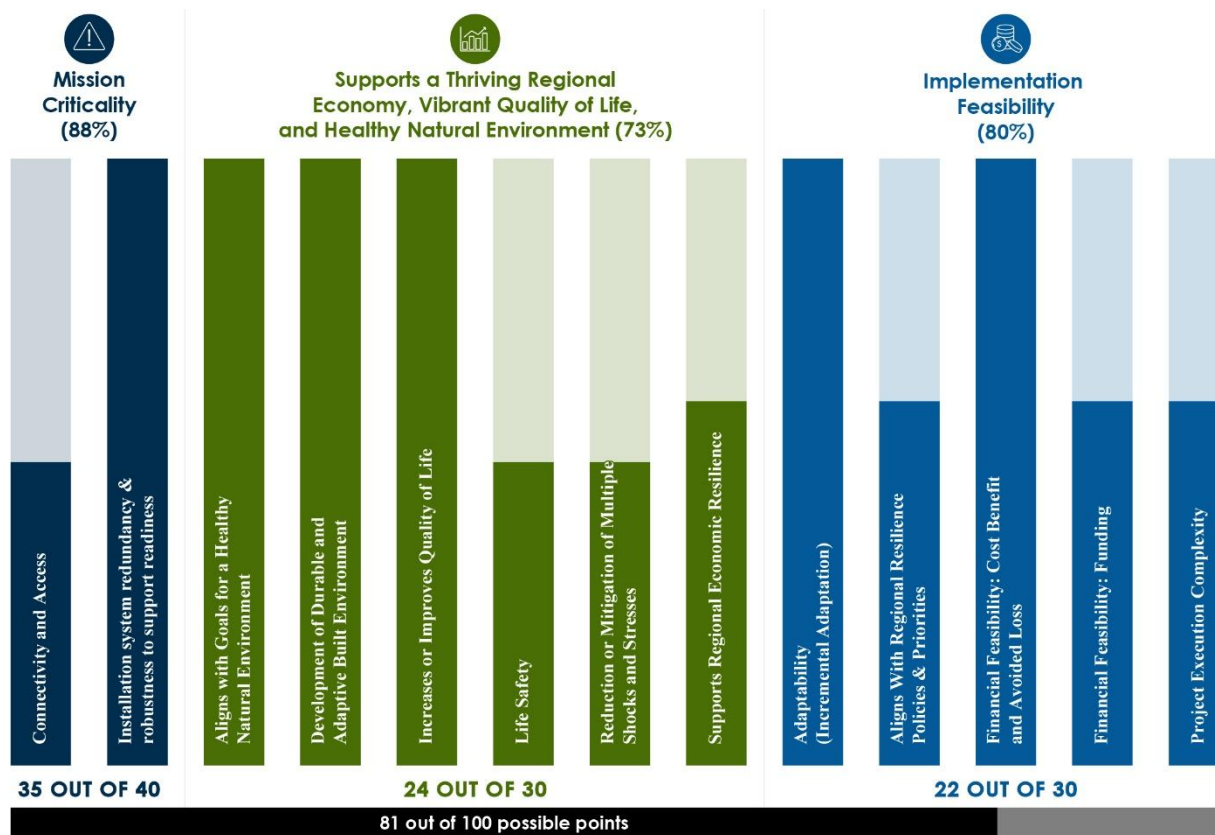
Jacksonville's pedestrian safety ranking and calls for continuous sidewalks and multi-use paths connecting neighborhoods to transit. Positioning Heckscher Drive as a linking segment between the Core-2-Coast Trail, Timucuan Trail, and East Coast Greenway extends these benefits to the regional trail network the Council has supported through the Ecotourism and Trails Steering Committee and the National Park Service Rivers, Trails, and Conservation Assistance Program under Subaction 5.3. Flood sensors, dynamic signage, and real-time traveler information support Subaction 23.1 on distributing locally relevant hazard information, while drainage and stormwater improvements advance Subaction 14.6.

The nature-based elements of this project should be entered into the regional inventory maintained under Action 27 (Create an Inventory of Projects Utilizing Nature Based Solutions), including location, technique, permit numbers, and water storage and quality metrics, so that quantitative outcomes are available to support future grant applications across the region.

Metrics Score

The MCSF Blount Island Heckscher Drive project was evaluated against a robust series of metrics to determine the appropriateness, viability, and achievement of goals (Figure 10). The metric categories are given a percentage weight to indicate the comparative importance for the MIRR, with Mission Criticality being the highest. High and mid-range scores across all metric categories indicate that implementing the strategies and policy recommendations within this project will promote mission assurance for the installation.

Figure 12. Metrics Scorecard Results



Cost-Benefit Analysis

Benefit-cost analysis (BCA) determines the cost-effectiveness of adaptation projects. This effectiveness is calculated using the equation:

$$\frac{B}{C} = \text{Value}$$

Where B is the benefit, or avoided costs, of the project and C is the cost to implement the project. A benefit-cost value greater than 1 indicates that a project is cost-effective (i.e., the benefits of the project outweigh the costs incurred in implementing it), whereas a BC value less than 1 indicates the project may not be cost effective (i.e., the costs exceed the benefits).

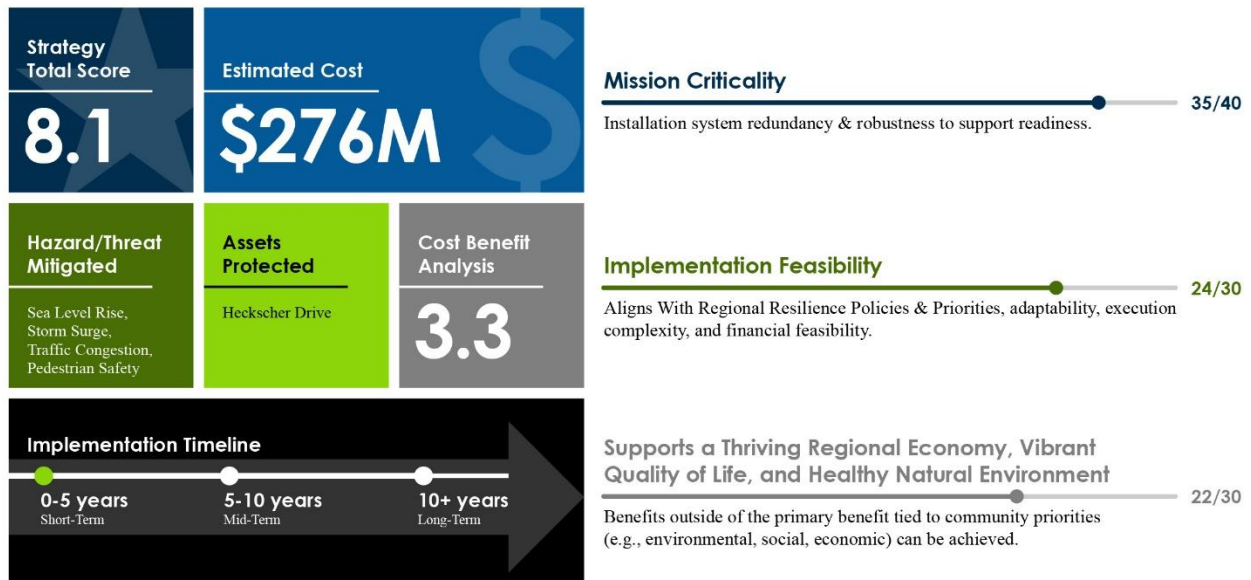
Adaptation project costs were costed to include project construction and design costs, where feasible. Project benefits were costed to include direct (construction or repair costs) and indirect (social, economic, and environmental) costs whenever feasible.

Data sources for benefit values include the Federal Emergency Management Agency, the National Institute of Standards and Technology, the National Interagency Fire Center, and others.

In many cases, associated financial savings data (such as improved installation operations, improved quality of life for installation personnel, or asset-specific O&M costs) was unknown; in these cases, the benefit is described. Hence, BCA values may not reflect the total possible benefit of the proposed adaptation project.

Total Project Package Snapshot

Figure 13. Total Project Package Snapshot





Implementation Tools



Financial Strategy Toolkit

More information on financial strategy building can be found in Technical Memo 10: Implementation Strategy and Investment Pathways.

Many of the tools required to fund, finance, and coordinate resilience implementation are already available under current Florida law or institutional precedent. The challenge, then, is aligning, adapting, and scaling existing tools to support coordinated regional resilience investment strategies. Thus, this section provides an initial inventory of funding, financing, and institutional tools that can be used to support the implementation of the MIRR project portfolio and the broader resilience system envisioned above.

Shorelines & Natural Infrastructure

Position Flood-Reduction Structures for Resilient Florida and FEMA Mitigation Funding

Flood mitigation projects involving hard and grey infrastructure including tidal gates and hybrid armoring qualify for a different set of programs than green and habitat-oriented work. To keep these projects eligible for grant funding, the region should incorporate them into relevant planning documents including regional and municipal hazard mitigation and climate adaptation plans before funding rounds open. Strategies may include:

- Positioning coastal flood-reduction projects for FL DEP's Resilient Florida Grants, which fund vulnerability analysis, planning, and implementation for flooding and sea level rise and are open to counties, municipalities, and regional resilience entities.
- Ensuring qualifying projects are written into the applicable local hazard mitigation strategies/plans now, since FEMA/FDEM's Hazard Mitigation Grant Program requires a presidential disaster declaration and inclusion in an adopted mitigation plan, and eligibility cannot be assembled after the fact.
- Screening structures and NFIP-insured assets for FEMA/FDEM Flood Mitigation Assistance, which supports elevation, acquisition, relocation, and localized flood-reduction projects.

Shorelines & Natural Infrastructure Longer-term Implementation

Shoreline and natural infrastructure projects are best organized at the coastal-system scale. Active work is already underway across NS Mayport, Blount Island, NAS Jacksonville, and the City of Jacksonville with the leadership and support of other partners. This report describes individual near-term funding opportunities. The longer-term task is to keep those efforts connected as projects move from planning and design toward permitting, restoration, and maintenance.

While it is possible to manage projects individually, opportunity exists to manage them as a shared coastal portfolio. Projects could be sorted by shoreline type and asset owner, design and permitting status, and long-term maintenance responsibilities. Existing shoreline partnerships provide the foundation for this approach. Project sponsors and participating partners can identify which projects are ready for design or implementation funding, which need engineering or permitting support, which require landowner coordination, and which need maintenance or monitoring commitments. Over time, this would shift shoreline work from discrete grant

opportunities toward a coordinated investment program serving both installations and the surrounding communities.

Transportation & Mobility

Align Military Access Routes with the FDOT Work Program and TPO Priorities (Near-term)

Since most of the roadway projects sit on FDOT-owned facilities, the highest-leverage near-term action is not a new grant but placement in the pipelines that already fund state roads. Steps include:

- Working with FDOT and the North Florida TPO to align MIRR roadway projects with the FDOT Work Program and the TPO's long-range plan and priority lists, so that resilience upgrades fit into existing corridor and access investments rather than competing as standalone initiatives.
- Using MIRR vulnerability data to inform project scoping, site selection, and the case for prioritization within those programs.
- Embedding resilience and critical-access criteria (flood exposure, installation access, redundancy) into local and regional transportation planning frameworks.

Leverage Defense-Specific Transportation Funding (Near-term)

The installation-access purpose of these routes makes them eligible for funding that general roadway projects cannot reach. The FHWA Defense Access Road (DAR) program provides a mechanism for the Department of Defense to fund public highway improvements necessitated by defense activities, which is a direct fit for access routes such as Mayport Road and the Blount Island corridors. Near-term steps include engaging the installations and DoD early to document the defense necessity that DAR requires, and identifying which access-route projects are strongest candidates. The Defense Community Infrastructure Program (DCIP), discussed under Resilient Utilities, can also fund qualifying off-base transportation projects that support an installation.

Bundle Roadway and Freight-Rail Projects for Federal Discretionary Funding (Near-term)

Federal discretionary programs increasingly favor bundled, regionally coordinated applications, and the region can begin organizing project scopes now even where construction is years out. Near-term steps include:

- Developing a bundled project list focused on installation access routes, freight corridors, and flood-prone transportation nodes.
- Positioning candidate projects for US DOT's BUILD/RAISE and INFRA programs (the latter awarded through the Multimodal Project Discretionary Grant NOFO), which fund road elevation, bridges, freight rail, and multimodal work.
- Coordinating across FDOT, the TPO, CSX, and JAXPORT to align scopes, permitting, and timelines so joint applications and cost-share agreements are ready when rounds open.

Notes: The current federal surface transportation authorization (IIJA) expires September 30, 2026, and future BUILD/RAISE and INFRA rounds depend on reauthorization.

Explore Value Capture and Partnerships in Freight and Growth Corridors (Near-term)

Corridors serving the port and freight network are likely to see rising land values and continued private investment, which creates room for value capture and private participation over a longer horizon. In the near term, the region can conduct a scan of where tax increment financing, mobility fees, or special assessments may be viable, and begin early conversations with private beneficiaries such as JAXPORT tenants, logistics firms, and CSX about co-investment in shared freight-corridor resilience. Full deployment of these tools requires multi-year planning and, in some cases, legislative action, so this is scoping-and-feasibility work now that informs the longer-term strategies.

Transportation & Mobility Longer-term Implementation

As noted earlier, transportation and mobility projects should be carried forward through integration into agency and asset owner investment processes. The key implementation challenge is that mission-related transportation vulnerabilities do not automatically align with established investment priorities. They consequently need to be framed and pursued in ways aligning with those regional priorities.

For roadway and access projects, this may translate into identifying the specific consequences of disruption to mission readiness and positioning projects for the next decision point where they may be advanced. For projects that are already connected to FDOT and the TPO, these should be positioned with the documentation needed for project prioritization and funding consideration.

Freight, port, rail, and aviation needs require similar translation, but through different delivery systems. Port and freight-related priorities may, for example, be framed around topics of regional importance such as shoreline exposure or operational resilience, where those issues intersect with JAXPORT infrastructure planning. Rail-related priorities require early coordination and planning with CSX, with public investment opportunities framed around public benefits while accounting for CSX ownership, operations, and long-term capital planning.

Over time, the strongest adaptation project candidates will be those with a clearly documented readiness consequence, an identified owner or sponsor, established plans, and sufficient scoping to compete for design, capital, or discretionary transportation funding.

Implementation Funding

Table 3. Transportation Funding Options

Agency/Org	Program	Description	Available Funding	General Eligibility	Example Eligible Projects	Timeline
US DOT	Better Utilizing Investments to Leverage Development (BUILD) Grant Program (formerly RAISE)	Provides discretionary funding for transportation projects that promote safety, environmental sustainability, quality of life, and economic competitiveness.	~\$1.5 billion available for FY2026. (transportation.gov/BUILDgrants)	State and local governments, MPOs, transit agencies, port authorities	Complete streets, road elevation, bridges, rail planning, multimodal mobility hubs	FY2026 NOFO published Dec 15, 2025; applications due Feb 24, 2026 (letters of support through Mar 13, 2026). Note: IIJA authorization expires Sept 30, 2026 — future rounds depend on reauthorization. (transportation.gov)
US DOT	INFRA Grant Program	Funds large-scale infrastructure projects that improve the movement of freight and people across the country.	~\$1.6 billion/year	States, MPOs, local governments, tribal governments	Highway modernization, road widening, interchanges, freight rail	Awarded through the combined Multimodal Project Discretionary Grant (MPDG) NOFO (INFRA/Mega/Rural); FY2026 round active. IIJA expires Sept 30, 2026. (transportation.gov/grants/mpdg-program)
US DOT	Safe Streets and Roads for All (SS4A) Grant Program	Supports regional, local, and tribal initiatives to prevent roadway deaths and serious injuries through comprehensive safety planning and implementation.	~\$993.5 million for FY2026 (~\$687.8M Implementation, ~\$305.7M Planning & Demonstration). (transportation.gov/grants/SS4A)	Local, regional, tribal governments	Road safety audits, protected bike lanes, speed management systems, crosswalk improvements	FY2026 NOFO closed May 26, 2026. Likely the final SS4A round — IIJA expires Sept 30, 2026. (transportation.gov; visionzeronetwork.org)
FDOT	Transportation Alternatives (TA) Set-Aside Program	Provides funding for smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, and safe routes to school programs.	Approximately \$5.1 million annually.	Local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts, and tribal governments.	Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation.	Annual competitive application process; specific deadlines vary by FDOT district.
FDOT	Transportation Regional Incentive Program (TRIP)	Encourages regional planning by providing state funds to improve regionally significant transportation facilities in regional transportation areas.	State funds cover up to 50% of the non-federal share of project costs.	Projects must be identified in the capital improvements element of a local government comprehensive plan and be consistent with the MPO’s Long-Range Transportation Plan.	Improvements to regionally significant roadways, public transportation facilities, and intermodal facilities.	Application cycles and deadlines are managed by FDOT districts
FTA	Urbanized Area Formula Grants	Provides formula funding to support public transportation in urbanized areas (pop. > 50,000), including capital, planning, and limited operating expenses.	Over \$6.5 billion annually (nationally). Federal funding not to exceed 80% of total project costs.	Public transit agencies, states, and designated recipients in urbanized areas.	Bus and rail capital investments, mobility hubs, transit planning, fare collection systems.	Funding apportioned based on legislative formulas; funds are apportioned annually.
FTA	Pilot Program for Transit-Oriented Development (TOD) Planning	Supports planning efforts near transit corridors to foster compact, mixed-use development and maximize transit access.	~\$29 million in FY26	Transit project sponsors with eligible capital projects	Planning for mobility hubs, affordable housing near transit, station area design.	Annual discretionary grant; FY26 NOFO issued on 5/11/26. Applications are due by 7/10/2026.

Table 4. Shoreline and Coastal Resilience Funding Options

Agency/Org	Program	Description	Available Funding	General Eligibility	Example Eligible Projects	Timeline
NOAA	Coastal Habitat Restoration and Resilience Grants	Funding for habitat restoration and coastal resilience projects.	\$100 million in funding is available for habitat restoration and coastal resilience through the Bipartisan Infrastructure Law. Award amounts range from \$750,000 to \$10 million	Eligible applicants are institutions of higher education, non-profits, commercial (for profit) organizations, U.S. territories, and state, local, and tribal governments.	Sustaining fisheries, endangered species recovery, coastal resilience, reef restoration, living shorelines.	FY2025 proposals were due April 16, 2025. BIL-funded (\$100M); status of future NOFOs is uncertain amid 2025-26 federal review of BIL habitat funding.
FEMA/FDEM	Hazard Mitigation Grant Program (HMGP)	Provides grants that reduce disaster losses and protect life and property from future disasters. Focuses on long term risk reduction	A presidential major disaster declaration makes HMGP funds available if requested by a governor or tribal executive in eligible communities in a state, tribe or territory. The amount of funding is based on the estimated total federal assistance, subject to a sliding scale formula 75% federal cost share with a 25% state/local match	Applicants may include states, the District of Columbia, U.S. territories, and federally recognized tribal governments. Local governments, including cities, townships, counties, special district governments, state agencies and federally recognized tribal governments (who choose to apply as subapplicants) are considered subapplicants. They must submit subapplications to their state, territory or tribal applicant agency. Requires a Presidential Disaster Declaration; Competed within state for an award. Requires utility projects to be in a local hazard mitigation plan	Eligible projects include planning & enforcement, flood protection, and retrofits to utilities and other infrastructure to enhance resistance to natural hazards	The Hazard Mitigation Grant Program is a grant that requires a federal disaster declaration. Once that requirement has been met, eligible municipalities can send a Letter of Intent to the PA hazard mitigation office to start the process. Applicant must submit all sub-applications to FEMA within 12 months of the date of the presidential major disaster declaration
FEMA/FDEM	Flood Mitigation Assistance (FMA)	FMA provides grants to assist with the planning and implementation of flood mitigation projects that include measures to reduce flood losses by elevation, acquisition, or relocation of National Flood Insurance Program (NFIP)-insured structures. It also allows dry floodproofing of non-residential structures, small local flood reduction projects, and plans to prevent flood damage. Projects must have the effect of reducing the risk of flood	5% federal cost share with a 25% state/local match; 90% federal for repetitive losses and 100% federal for severe repetitive losses; 90% federal for small and impoverished communities	Applicants may include states, the District of Columbia, U.S. territories, and federally recognized tribal governments. Local governments, including cities, townships, counties, special district governments, state agencies and federally recognized tribal governments (who choose to apply as subapplicants) are considered subapplicants. They must submit subapplications to their state, territory or tribal applicant agency. Utility must be insured by NFIP; Requires utility projects in local hazard mitigation plan	Capability and capacity building activities, mitigation plans, technical assistance by states to communities, project scoping, localized flood risk reduction projects, individual flood mitigation projects, and management costs are all eligible	No active FY2026 FMA NOFO as of mid-2026; FEMA announced >\$235M in FMA awards in April 2026. [Related: FEMA's BRIC program was cancelled April 2025, then reinstated by court order; the FY2024-25 BRIC NOFO has a July 23, 2026 deadline.] (fema.gov; floods.org)

Agency/Org	Program	Description	Available Funding	General Eligibility	Example Eligible Projects	Timeline
NFWF	National Coastal Resilience Fund (NCRF)	Invests in nature-based solutions that protect coastal communities while enhancing habitats for fish and wildlife.	2026 RFP: Community Capacity/Planning, Site Assessment & Preliminary Design, and Final Design awards ~\$100K–\$1.5M; Restoration Implementation awards ~\$1M–\$7M. Coordinated with NOAA. (nfwf.org)	- State, tribal, territorial agencies - Local and municipal governments - Non-profits - Educational institutions - For-profit organizations - Semi-federal orgs./federal partnerships"	Competitive Applications must - Invest in nature-based solutions (NBS) - Have clear benefits to community resilience (i.e, reduced flooding and erosion); AND - Have clear benefits to fish, wildlife, and habitat	2026 RFP: pre-proposals due March 31, 2026; invited full proposals due June 24, 2026; awards expected late Nov–early Dec 2026.
FL DEP	Resilient Florida Grants	The Resilient Florida Program includes a selection of grants that are available to counties, municipalities, special districts with specific responsibilities and regional resilience entities. To effectively address the impacts of flooding and sea level rise that the state faces, eligible applicants may receive funding assistance to analyze and plan for vulnerabilities, as well as implement projects for adaptation and mitigation.	Over \$500 million authorized since FY2021–22; individual project awards vary from \$250,000 to \$20+ million	Counties, municipalities, water management districts, flood control districts.	Vulnerability assessments, adaptation planning, infrastructure improvements.	2026 cycle: application portal opened April 1, 2026. Planning and implementation project applications accepted July 1 - September 1.
FL DEP	Coastal Partnership Initiative (CPI) Grants	Projects that promote the protection and effective management of Florida’s coastal resources in four specific priority areas: resilient communities, coastal resource stewardship, access to coastal resources, and working waterfronts.	Minimum of \$10,000, and no more than \$60,000 for construction projects, habitat restoration, invasive plant removal or land acquisition; and no more than \$30,000 for planning, design and coordination activities.1:1 match required.	Florida's 35 coastal counties and all municipalities within the counties' boundaries that are required to include a coastal element in their comprehensive plan		The FY 27-28 CPI request for applications will open on September 1, 2026, and will remain open through October 31, 2026.
FL DEP	Beaches Management Funding Assistance Program	Funding for local governments to plan and implement beach restoration/nourishment projects on beaches that are critically eroded and publicly accessible and consistent with the state’s Strategic Beach Management Plan as well as for the management of inlet sand bypassing/inlet management plan implementation projects.	Up to 50% of beach projects and up to 75% of inlet project costs	Local governments, including county and municipal governments, community development districts and special taxing districts.	Beach restoration and nourishment, design, engineering/environmental studies, inlet management planning, inlet sand transfer, dune restoration.	The Local Government Funding Request for Fiscal Year 2027-28 is available from June 1, 2026, through July 31, 2026.

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