



Naval Station Mayport

Adaptation Package #6: Adaptation for Regional Roadways

This package includes a multi-step strategic project improves roadway resilience on these mission-critical corridors. It encompasses physical infrastructure improvements and policy recommendations that can be led by state, regional, and local authorities and agencies.



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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:

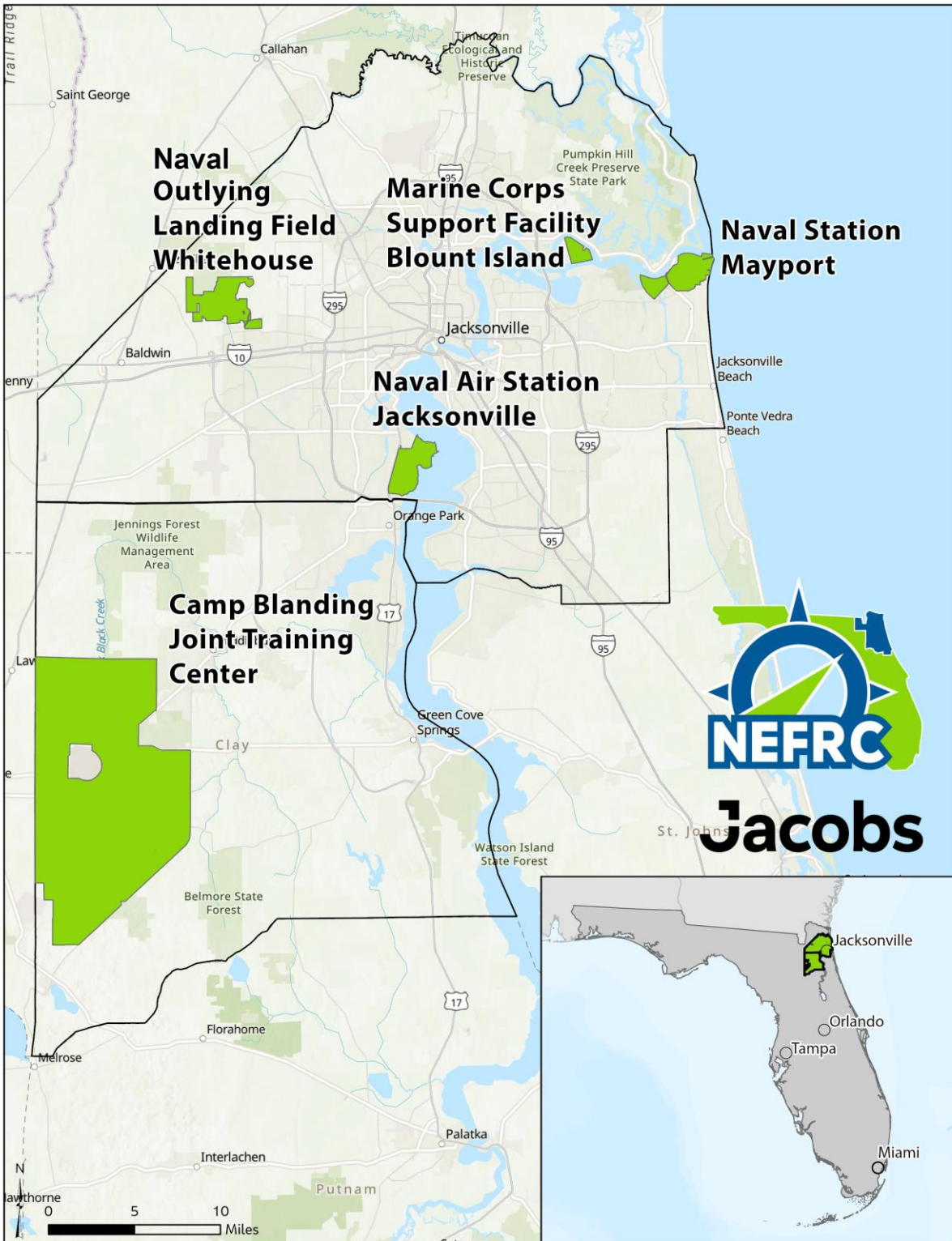
- **Shocks and Stresses** affecting the mission-critical asset
- **Project Objective**, which captures the adaptation goal for the following recommendations to support mission readiness through community resilience
- **Stakeholders and Current Efforts** highlighting successful foundational work upon 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 Center, Marine Corps Support Facility Blount Island, Naval Station (NS) 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.

NS Mayport

NS Mayport is located on the eastern edge of Duval County at the mouth of the St. Johns River. The installation is north of Atlantic Beach, south of the St. Johns River, and east of the Village of Mayport. Because of its location, NS Mayport is unique in its operational composition, combining a busy seaport with an air facility. It can accommodate 34 ships while also operating an 8,000-foot-long runway suitable for any aircraft in the DoD inventory. The base also houses helicopter training sites and uses the surrounding marshlands as essential training environments. Another benefit to NS Mayport's location is the small tidal fluctuations that enable loading and unloading of ships throughout the year. Because of its location at the confluence of the St. Johns River and Atlantic Ocean, the installation is able to serve as a central hub of naval activity, with easy access to Central America, South America, and the Caribbean.

Mission

NS Mayport spans 3,409 acres and serves as a major surface and air warfare-focused installation. Its mission is to provide "The Finest Service to the Finest Fleet." NS Mayport supports the homeporting, readiness, and sustainment of Atlantic Fleet surface forces while also hosting the headquarters and operational activities of U.S. Naval Forces Southern Command/U.S. Fourth Fleet, which employs maritime forces in cooperative security operations to maintain access, enhance interoperability, build enduring partnerships, strengthen regional security, and promote peace, stability, and prosperity throughout the Caribbean and Central and South America. The Fourth Fleet's Area of Responsibility includes 31 countries, 16 dependencies, and areas of special sovereignty, a combined area equaling approximately one-sixth of the world's landmass.

In addition to providing a home for the Fourth Fleet, NS Mayport also supports aviation basing for rotary-wing and unmanned aircraft. The installation is home to the Helicopter Maritime Strike Wing, U.S. Atlantic Fleet (CHSMWL), multiple Helicopter Maritime Strike Squadrons, and the launch, recovery and maintenance location for Unmanned Patrol Squadron (VUP) 19, which uses MQ-4C Triton aircraft for intelligence, surveillance, and reconnaissance purposes. Overall, NS Mayport plays a critical role for fleet readiness and sustainment in the southern hemisphere.

NS Mayport also has multiple secondary missions. It enables carrier and amphibious operations, enables joint/coalition operations and exercises, supports humanitarian and disaster response, and supports major tenant commands. The installation provides operational, logistical, and quality of life support to 82 tenant commands. NS Mayport serves as a critical hub for regional and international defense operations. As of March 2024, NS Mayport is home to 8,076 active-duty

and reserve full-time support personnel, along with 21,500 family members. The workforce also includes 826 civilian employees, 523 non-appropriated fund employees, 1,504 contract employees, and 19 Selected Reserve members.

Installation Interconnections

The Naval Station Mayport linkage overlays, as shown in the NEFL MIRR webpage, illustrate the installation's role as one of Florida's most important surface-fleet, rotary-wing, sustainment, and maritime operations hubs. The maps show how Mayport connects locally to NAS Jacksonville, Blount Island, the St. Johns River defense logistics network, while also linking nationally to Norfolk-based Navy fleet, surface-force, aviation, training, maintenance, and logistics commands. Together, the layers demonstrate that Mayport is not simply a ship homeport, but a combined operating platform that supports surface combatants, helicopter maritime strike forces, long-range maritime reconnaissance, Fourth Fleet operations, ship and aircraft sustainment, port operations, munitions, fuels, training, and operational support.

The broader strategic value of Naval Station Mayport is most strategically significant in its international and theater linkages. Its surface-force and HSM networks connect Mayport to Norfolk, Rota, Guantánamo Bay, and deployed U.S. Navy ships; its Fourth Fleet role links directly to SOUTHCOM, JIATF-South, CSL Comalapa, and maritime security cooperation across the Caribbean, Central America, and South America. Its sustainment and training layers connect broadly across the Navy systems commands and shore enterprise to include: NAVSEA, NAVAIR, FRCSE, AUTEC, Bahrain, Dahlgren, Pensacola, Orlando, NAVSUP, DLA, and Navy expeditionary support commands. When viewed as a combined overlay, NS Mayport is revealed as a critical Atlantic and SOUTHCOM-facing naval node that links Northeast Florida to fleet readiness, regional maritime security, deployed surface operations, and international partnership missions.

Identification of Priority Assets for NS Mayport

Priorities for the installation were based on the direct assets and local services required to support the missions. This includes the shorelines that protect the installation and its systems, the roadways required to access the base, the electrical systems that support all activities, the fueling facilities that support the fleet, and the natural systems that protect the installation from erosion and flooding. These assets were evaluated for exposure to shocks and stresses (Figure 2).

Primary Mission Critical asset types for ship homeporting and support, 4th Fleet Headquarters support, aviation basing and support, managing fuel depots, homeland defense, major ship repairs

- **Location-Specific Positioning**
 - St. John’s River
 - Wetlands and Marshes
 - Shorelines
 - Fuel Depot
- **Assets Providing Direct Support**
 - Electric Production and Supply Facilities
 - Roads and Bridges
 - Communications Facilities (e.g., cell towers, fiberoptic lines)
 - Water utility supply facilities
 - Wastewater conveyance and treatment facilities
 - Safe Harbor Facilities (JAXPORT)
 - Offsite dry dock facilities (BAE)

Secondary Mission Critical asset types that offer the regional fueling depot

- **Assets Providing Direct Support**
 - Emergency Response Facilities
 - Shorelines (Atlantic Coast shorelines)
 - Fire Stations
 - Mission Supportive for the livelihood and health of installation personnel, indirect support to primary and secondary missions.
- **Personnel Support**
 - Affordable Housing
 - Childcare Facilities
 - Emergency Response Facilities (Hospitals)
- **Assets Providing Indirect Support**
 - Solid and Hazardous Waste Facilities

Figure 2. Primary and Secondary Mission Critical Assets for NS Mayport



This package addresses the specific shocks and stresses of regional roads supporting NS Mayport.

Current Conditions That Affect Regional Roadways

The regional roadway system supporting Naval Station Mayport (NS Mayport) relies on a network of critical corridors, including State Road 10, Atlantic Boulevard, U.S. 90, J. Turner Butler Boulevard (SR 202), 3rd Street South, Beach Boulevard (U.S. 90 Alternate), and Dune Avenue, which together form an integrated transportation system that facilitates the movement of military personnel, equipment, and mission-critical resources throughout Northeast Florida, directly supporting operational readiness and mission execution. These corridors provide essential connectivity between the installation, the City of Jacksonville, regional population centers, and key logistics hubs, while also supporting coordination with strategic partners such as the U.S. Coast Guard and other federal, state, and local agencies. The network serves a dual role in supporting both military operations and surrounding civilian communities, particularly in coastal areas where access routes are limited and highly interdependent, and is vital to sustaining operational readiness, enabling efficient regional mobility, and supporting emergency response and evacuation functions.

Primary access to NS Mayport is provided by Mayport Road and State Road A1A, both of which are essential for daily operations, personnel movement, and mission logistics, with A1A serving as the sole roadway connection to the Village of Mayport and highlighting the shared reliance between the installation and adjacent communities on a resilient transportation network. This system is further supported by key east-west corridors such as Wonderwood Drive (SR 116), Atlantic Boulevard (SR 10), and Beach Boulevard (U.S. 90), which link the installation to Interstate 295 and the broader regional network, as well as north-south connectivity provided by 3rd Street South, an at-grade arterial roadway that extends from Butler Boulevard (SR 202) through Atlantic Beach to Atlantic Boulevard. This corridor provides an additional route for personnel and goods traveling to and from the installation, enhancing overall network redundancy and accessibility. Many of these corridors consist of both at-grade roadways and elevated bridge segments traversing low-lying marshes and waterways, reflecting their geographic context and inherent vulnerability to coastal and flood-related impacts, underscoring the importance of maintaining and enhancing system resilience to ensure uninterrupted access to NS Mayport amid increasing environmental and infrastructure challenges.

The regional roadway network is increasingly exposed to a range of evolving stressors that are expected to intensify over time, indicating that maintaining reliable levels of service (LOS) could continue to increase in cost and effort. Projected sea level rise, more frequent tidal flooding, and stronger coastal storm events will increase the likelihood of roadway inundation and disruption across low-lying coastal corridors. At the same time, more intense and variable rainfall patterns are expected to heighten the occurrence of compound flooding, where coastal surge and inland stormwater runoff coincide and exceed the capacity of existing drainage systems. These environmental pressures are further compounded by continued growth and development in Northeast Florida, which will increase travel demand and exacerbate congestion along critical routes. As these trends converge, the risk of recurring delays, reduced capacity, and network interruptions is expected to grow.

Recognizing these challenges, roadway owners and partner agencies—including the Federal Highway Administration (FHWA), Florida Department of Transportation (FDOT), North Florida Transportation Planning Organization (NFTPO), and the City of Jacksonville—are actively advancing initiatives to improve the resilience of the transportation system. Through coordinated planning efforts, vulnerability assessments, and capital investments, these entities are working to

integrate resilience into roadway design, stormwater management, and long-range transportation planning. Collaborative approaches emphasize data sharing, scenario planning, and prioritization of improvements such as drainage enhancements, roadway elevation, and system redundancy. A collective, multi-jurisdictional effort is essential to future-proofing the regional roadway network, ensuring it can continue to support mission-critical operations at NS Mayport while sustaining reliable mobility for the broader community under changing environmental and operational conditions.

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 (Figure 3). 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 (Figure 4).

RRAP Goals and Objectives

Figure 3. Regional Resilience Action Plan Vision



Figure 4. 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 following acknowledgments indicate how it is connected to the Regional Economy, Natural Environment, and Quality of Life.

Figure 5. Connection of This Asset to the Community





Recommendations



Documenting Shocks and Stresses with a Vulnerability Assessment

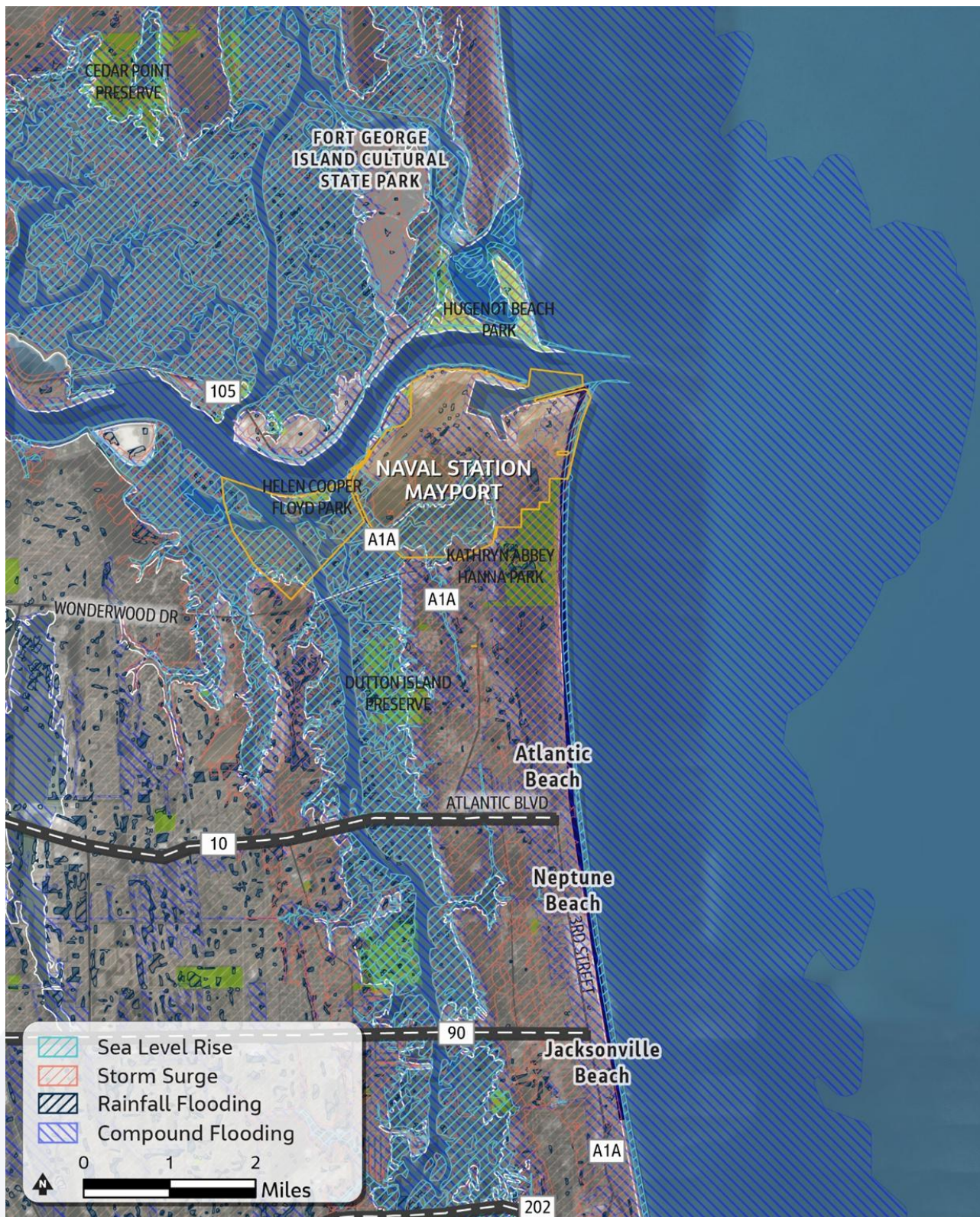
Shocks and stresses to the mission-critical assets supporting NS Mayport include rainfall-induced flooding, coastal flooding due to SLR and storm surge, shoreline loss due to erosion, and school closures.

1. Flooding has been documented as occurring throughout the installation because of storm surge and SLR. It also threatens to permanently inundate other regional mission-critical systems, such as regional fuel depots, in the foreseeable future.
2. Rainfall-induced flood events are also projected to affect supporting access roads, such as Wonderwood Drive.
3. Storm surge can inundate multiple regional facilities, such as electric substations. It can also cause significant shoreline erosion.
4. **Shoreline erosion has occurred on the installation's own shores (such as north of the fuel farm) and affects supporting infrastructure, such as the State Road (SR) A1A. This erosion is exacerbated by major storm events.**
5. The pending closure of the Anchor Academy would be a major shock, requiring students to find a new school and posing physical, emotional, and financial challenges to military families, potentially impacting readiness.

This project package enhances the resilience of the road network at a collaborative regional level (item 4).

Project Need: Improve Resilience of Road Network

Figure 6. Risk to Mission Map



Vulnerabilities Creating Risk to Mission for this Asset

Several regional roadways provide direct access to NS Mayport from surrounding communities, primarily located to the south. These corridors function as critical connections to Jacksonville, Jacksonville Beach, Ponte Vedra Beach, and other nearby jurisdictions, supporting both daily commuting and broader regional mobility.

These roadways have been identified as vulnerable to sea level rise, storm surge, and both rainfall and compound flooding (Figure 6). As essential links between the installation and the surrounding region, they are considered mission-critical assets supporting personnel movement, logistics, and emergency response operations. Additionally, because these corridors serve as primary evacuation routes for Atlantic coastal communities, addressing their vulnerabilities is a near-term priority (Table 1).

Table 1. NS Mayport Regional Roadways Asset Overview

Asset Name	Owner	Location	Mission Criticality	Relevant Shocks & Stresses	Level of Urgency
Regional Roadways	Various	SR-10, Atlantic Blvd., US-90, JT Butler Blvd., 3rd St. S, Beach Blvd., Dune Ave.	Primary	Sea Level Rise, Storm Surge, Rainfall Flooding, Compound Flooding	Near-term

Stakeholders and Current Efforts

Stakeholders play a critical role in planning, funding, and implementing resilience initiatives along these coastal transportation corridors, which serve as vital links between the Installation, surrounding communities, and regional economic centers. Because these roadways function as both mission-critical access routes and primary evacuation corridors, decision-making requires close coordination across multiple levels of government, infrastructure providers, and community partners. Key stakeholders involved in decision-making include:

- U.S. Army Corps of Engineers
- U.S. Navy
- FDOT
- City of Jacksonville
- Beach municipalities (Jacksonville Beach, Neptune Beach, Atlantic Beach)

Several coordinated planning and infrastructure efforts are underway to address the increasing risks of sea level rise, storm surge, and coastal flooding along key roadway corridors near the Atlantic Ocean. These regional roadways serve as mission-critical assets by providing access to the Installation and functioning as primary evacuation routes for coastal communities. Protecting these corridors is vital to maintain operational readiness, ensuring public safety, and supporting regional connectivity.

The City of Jacksonville's Resilient Jacksonville Strategy provides a comprehensive, data-driven foundation for these efforts by modeling the combined impacts of coastal and inland flooding to identify the most vulnerable roadway segments. This information is being used to guide

prioritization of resilience investments and improve long-term planning for transportation infrastructure. The Duval County Shore Protection Project, led by the U.S. Army Corps of Engineers, continues to implement large-scale beach renourishment and dune restoration along the Atlantic coastline. These measures absorb wave energy, reduce storm surge impacts, and protect adjacent roadways from erosion and flood damage.

The City of Jacksonville has also adopted the *Vision Zero Action Plan* as its guiding transportation safety policy, incorporating Safe System Approach (SSA). 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 and Figure 7 provide details on projects and efforts that are currently ongoing or have been identified as a need within the region as it relates to mitigating vulnerabilities for the regional roadways supporting NS Mayport.

Table 2. Current Projects and Efforts Related to NS Mayport's Regional Roadways

Existing Project	Entity	Location	Purpose	Timeline
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)
Resilient Jacksonville Strategy	City of Jacksonville	City-wide/Countywide	Data-driven modelling to identify high-risk road segments	Complete
Duval County Shore Protection Project	USACE	Beaches along Atlantic Coastline	Beach renourishment and dune restoration	Ongoing

Figure 7. Current Projects and Efforts



Review of Strategic Partnerships and Policies

Efforts to mitigate vulnerabilities across regional roadways supporting NS Mayport—particularly from sea level rise, storm surge, rainfall, and compound flooding—are primarily coordinated through established regional transportation partnerships and communication channels. The U.S. Navy’s representation on the North Florida Transportation Planning Organization (TPO) provides a key mechanism for communicating installation access needs and ensuring that resilience considerations are incorporated into long-range transportation planning. Through this forum, flooding risks affecting critical corridors are increasingly reflected in regional priorities and planning discussions.

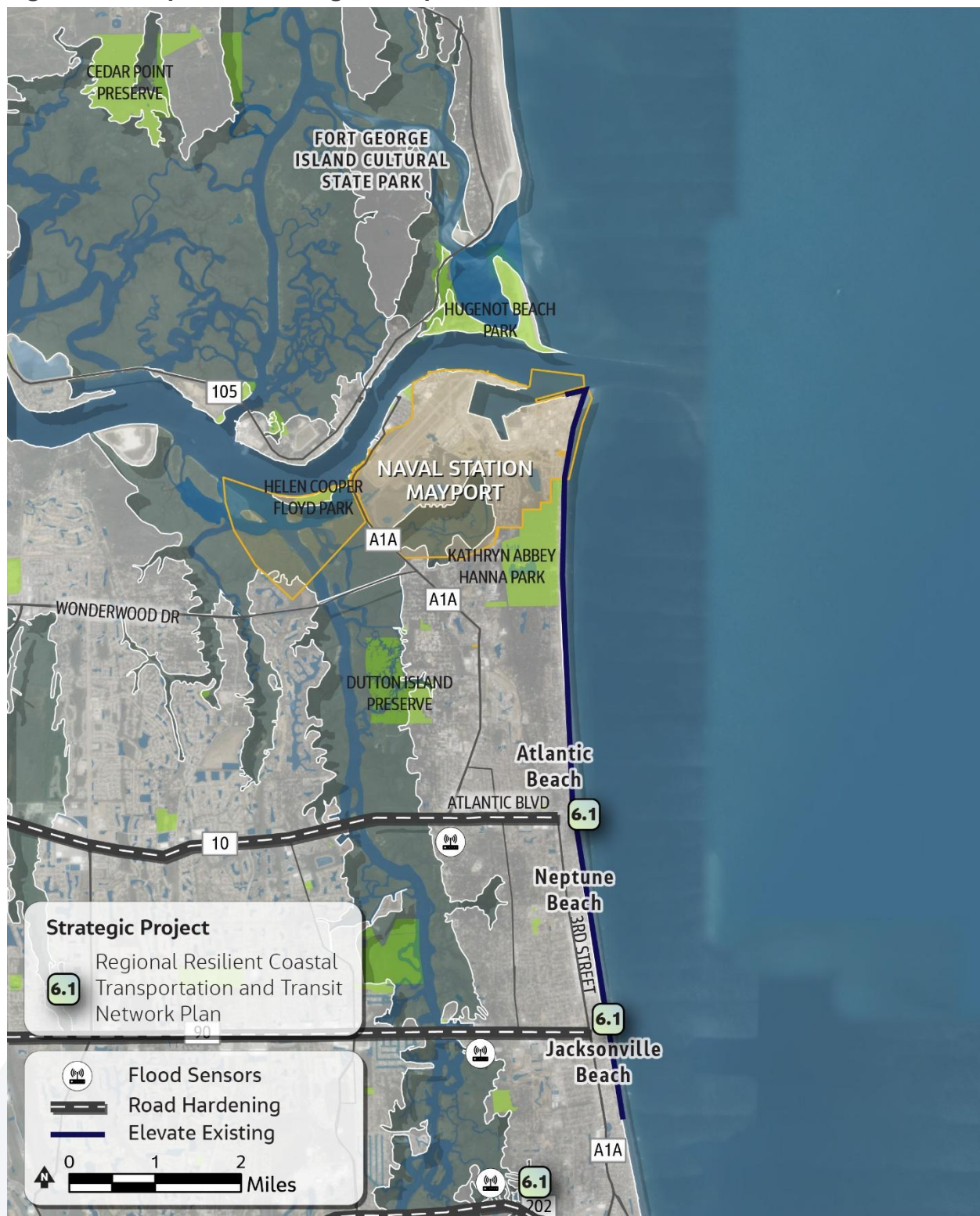
In addition, ongoing communication with the Florida Department of Transportation (FDOT) supports more targeted engagement on roadway-specific improvements and studies. While these interactions are often project-based, they provide an important avenue for conveying installation concerns related to flooding, congestion, and reliability across multiple regional routes that serve NS Mayport.

These formal and informal communication pathways are generally effective in ensuring that the installation’s vulnerabilities are recognized within broader planning efforts. The TPO’s institutional structure offers a durable platform for sustained coordination among military, state, and local stakeholders, while project-level coordination with FDOT allows for more focused dialogue on specific roadway segments.

Looking ahead, continued reliance on these established communication channels is expected to remain effective, particularly as the TPO further integrates resilience into its planning processes. While informal coordination may be more susceptible to changes in personnel or priorities, it complements the formal structure by enabling timely engagement. Overall, existing partnerships provide an efficient and sufficient framework for communicating and advancing solutions to regional roadway flooding vulnerabilities without requiring additional installation-specific coordination mechanisms.

Adaptable Built Infrastructure Projects

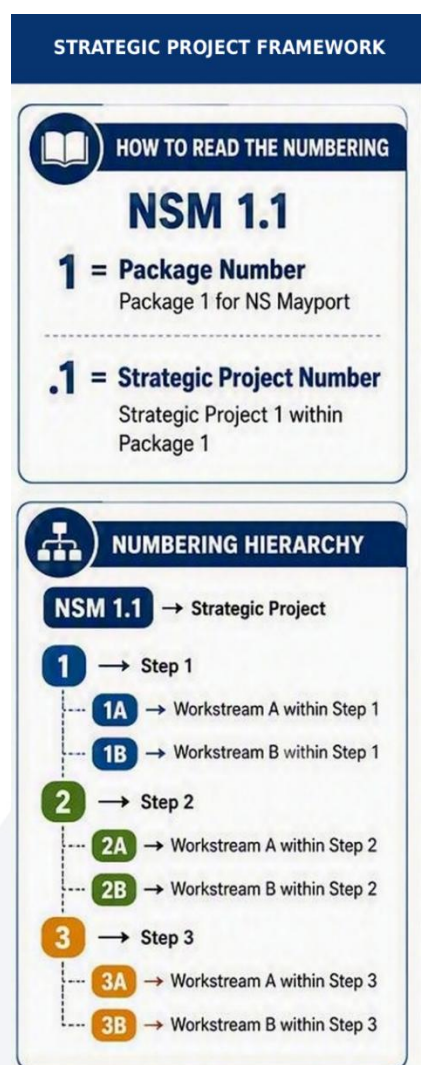
Figure 8. Adaptation Strategies Map



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 8. Strategic Project Framework



The strategic projects are organized by installation, package, project, step, and actions. The 2-3 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 NSM 6.1. Regional Resilient Coastal Transportation and Transit Network Plan

This project establishes a coordinated, regionally scalable initiative to enhance the long-term resilience of Northeast Florida's coastal transportation and transit network, aligned with federal and state funding priorities. Led by a partnership with the Federal Highway Administration (FHWA), Florida Department of Transportation (FDOT), North Florida Transportation Planning Organization (NFTPO), and the City of Jacksonville, the effort is structured to leverage key funding programs such as USDOT PROTECT, RAISE, and FHWA resilience formula funds, as well as FDOT Strategic Intermodal System (SIS) and resilience investments. The plan will bring together partner agencies to align priorities, synthesize existing studies, and establish a unified, regional framework for addressing increasing risks to coastal transportation infrastructure. By taking a holistic, systems-based perspective, the effort will evaluate how coastal hazards, compound flooding, and growth pressures affect connectivity, performance, and level of service (LOS) across the network over time.

The project emphasizes a collaborative, multi-jurisdictional approach that consolidates existing plans, vulnerability assessments, and capital programs to identify critical gaps, interdependencies, and opportunities for coordinated, fundable solutions. 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. A key outcome will be the development of roadway and corridor typologies that reflect exposure, function, and system criticality, along with a prioritization strategy aligned with benefit-cost frameworks and resilience criteria used in federal and state funding programs. The completed plan will be delivered as a shared, accessible, and regularly updateable regional platform that allows all partners to maintain current data, track implementation progress, and refine priorities over time. In addition to informing capital investments, the plan will provide actionable guidance to better align transportation capacity and resilience with land use decisions, enabling agencies to influence development patterns and density based on the level of service that can be reliably sustained under future conditions. 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.

Potential Project Leads and Partners

- Federal Highway Administration (FHWA)
- Florida Department of Transportation (FDOT)
- North Florida Transportation Planning Organization (NFTPO)
- City of Jacksonville

Current Stakeholder Projects

- City of Jacksonville's Vision Zero Action Plan (Plan Adopted)
- Resilient Jacksonville Strategy (Complete)

Estimated Cost

\$750,000

Step 1: Regional Coordination, Data Integration, and Plan Development (Short-term)

1A. Compile and Synthesize Existing Plans and Resilience Efforts

- Project partners can lead a comprehensive synthesis of existing transportation, resilience, and climate adaptation plans to establish a unified regional baseline. This effort will identify overlapping priorities, gaps, and opportunities for alignment, while creating a foundation for funding-ready project development.

1B. Regional Synthesis of Transportation Vulnerability Assessments

- In coordination with FDOT and FHWA, analyze and integrate existing vulnerability assessments through a regional resilience lens. This effort can identify cumulative risks, system interdependencies, and priority corridors, translating existing analyses into a consistent framework that supports coordinated decision-making and funding justification.

Step 2: Typologies, Scenario Planning, and Regional Prioritization (Short-term)

2A. Develop Coastal Transportation Typologies

- Project partners can develop corridor typologies based on exposure, function, criticality, and redundancy. These typologies will provide a standardized framework for evaluating risk and guiding scalable resilience strategies across jurisdictions. Building on existing transportation vulnerability assessments, military installation resilience studies, and regional planning efforts, partners can develop a Defense Mission Consequence Overlay that supplements existing corridor classifications by evaluating factors such as mission supported, time-to-mission impact, availability of a true alternate route, type of military movement supported, simultaneous use by multiple installations, restoration priority, and consequences associated with concurrent corridor failures. This overlay can help address gaps in current planning frameworks, which often emphasize physical exposure and level of service but may not fully evaluate mission consequences associated with corridor disruption.

2B. Scenario-Based Planning for Future Conditions

- The project should incorporate forward-looking scenario analysis to evaluate how sea level rise, precipitation changes, and regional growth will affect LOS, reliability, and system performance. This analysis will inform both immediate priorities and long-term resilience planning.

2C. Regional Resilience Prioritization

- Partners can develop a prioritization framework that identifies high-value resilience investments based on risk exposure, system criticality, performance outcomes, and level of urgency. This approach will ensure that time-sensitive vulnerabilities and near-term risks are

addressed alongside long-term system improvements, supporting both immediate action and strategic investment. The prioritization should incorporate and align with key local and regional planning efforts, including the NFTPO's Mayport Resiliency Plan, and the City of Jacksonville's Resilient Jacksonville initiative and FDEP-funded Adaptation Plan. 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. Integrating these efforts will ensure that nature-based solutions, corridor-specific resilience strategies, and broader community resilience goals are reflected in transportation investment decisions, supporting a comprehensive, adaptable, and regionally consistent approach to enhancing coastal transportation system resilience.

2D. Cost-Benefit Analysis and Avoided Loss Evaluation

- In coordination with FDOT and FHWA, evaluate the economic performance of prioritized resilience strategies through cost-benefit analysis that quantifies avoided losses from flooding, system disruptions, and degradation of service. This analysis should incorporate direct and indirect impacts, including travel time delays, emergency response constraints, and economic disruptions, to support data-driven investment decisions and strengthen competitiveness for federal and state funding programs.

Step 3: Policy Integration and Implementation Readiness (Short-term)

3A. Align Transportation and Land Use Planning

- The plan should provide guidance for integrating resilience and LOS considerations into local comprehensive plans and development regulations. This will enable transportation agencies to influence land use patterns and density based on infrastructure capacity and resilience constraints.

3B. Establish Regional Coordination

- Partners can establish a coordination protocol that supports ongoing collaboration, data sharing, and joint decision-making, ensuring the plan remains active, relevant, and adaptable over time.

3C. Advance Funding Readiness and Implementation Pathways

- Partners should identify funding pathways and establish implementation strategies to advance priority projects into design and construction. The plan will position the region to pursue discretionary grants and utilize formula funding by maintaining a pipeline of well-documented, high-priority resilience projects.

Key Outcomes

- A coordinated, funding-ready regional resilience plan aligned with federal and state investment priorities

- A shared, accessible, and continuously updateable planning platform used by all partners to guide decision-making and track progress
- A standardized system of corridor typologies and prioritized investments that incorporate risk, urgency, and economic benefit
- Improved integration of transportation and land use planning to guide sustainable growth and maintain reliable levels of service under future conditions

Alignment and Support of the Regional Resilience Action Plan

Figure 9. Alignment with the RRAP

SCALE	ACTION	DESCRIPTION
	1	Conserve and protect the region's water resources
	5	Promote the conservation and restoration of ecologically significant natural ecosystems
	8	Support regional transportation networks
	9	Support regional supply chains and provide logistical support for commerce
	13	Facilitate partnerships to advance resilience work
	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
	32	Inventory critical and significant assets
	34	Identify grants and funding opportunities for resilience work



Facilitate



Guide



Analyze

This project advances RRAP Actions 5, 8, 13, 14, 16, 17, 32, and 34, and represents the closest institutional fit between a MIRR recommendation and the Council's own role as the RRAP defines it. Strategic Project NSM 5.1 establishes a Regional Resilient Coastal Transportation and Transit Network Plan led by NEFRC in partnership with FHWA, FDOT, the North Florida TPO, and the City of Jacksonville, addressing corridors that serve both as installation access routes and as primary evacuation routes for Atlantic coastal communities.

Development of corridor typologies reflecting exposure, function, and system criticality, scenario-based analysis of how sea level rise and precipitation change will affect level of service, and a prioritization strategy aligned with benefit-cost frameworks implement Action 8 (Support

Regional Transportation Networks), specifically Subaction 8.1 on ensuring safe and sufficient evacuation routes, under which the Collaborative facilitates coordination so that evacuation routes are clearly defined, well delineated on regional maps, properly maintained, and improved to reflect growing populations, and Subaction 8.2 on improvements to regionally significant transportation assets designed for future conditions. Consideration of transit and regional connectivity within the network plan supports Subaction 8.3 on encouraging investment in regionally significant transit.

Two components of this project implement RRAP commitments the Collaborative has assigned to itself. The regional synthesis of existing transportation vulnerability assessments under Step 1B (analyzing and integrating them through a regional resilience lens to identify cumulative risks, system interdependencies, and priority corridors) is a direct execution of Subaction 32.1, under which the Council currently assists local governments with vulnerability assessments, hosts Northeast Florida's Vulnerability Assessment Portal as a centralized resource, and commits to building on those efforts by analyzing vulnerability assessments on a regional scale. The shared, cloud-based geospatial platform integrating transportation, land use, hazard, and performance data extends this into the inventory function described in Subaction 32.2 for regionally significant assets, built on the geodatabase NEFRC developed through the FDEP Regional Resilience Entity grant.

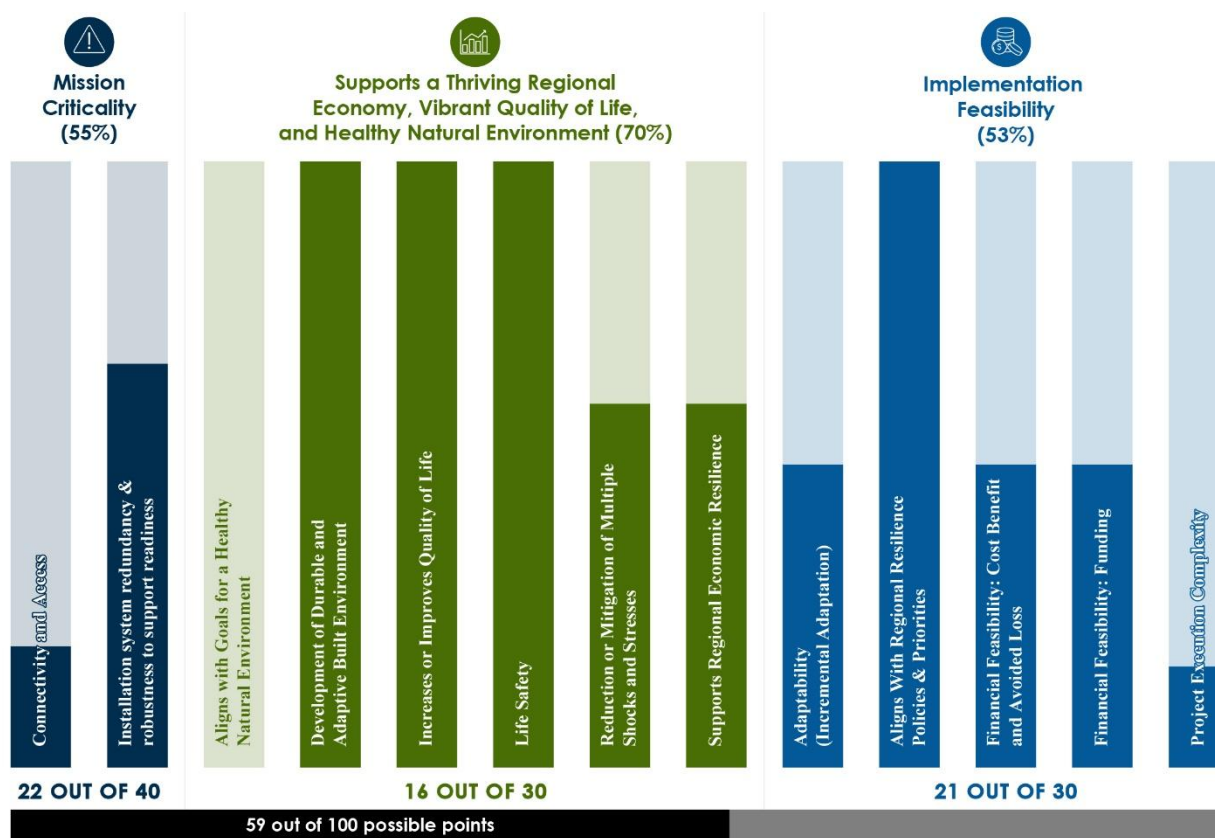
Step 3C's funding readiness work, identifying pathways, maintaining a pipeline of documented high-priority resilience projects, and positioning the region for discretionary grants and formula funding, implements Action 34 (Identify Grants and Funding Opportunities for Resilience Work), under which the Collaborative keeps a comprehensive list of available funding; tracks deadlines, match requirements, and funding minimums and maximums; and notifies local governments when new opportunities become available.

The project's policy and natural-systems components complete the alignment. Step 3A's guidance for integrating resilience and level-of-service considerations into local comprehensive plans and development regulations implements Action 14 (Encourage Smart Growth and Building Practices), specifically Subaction 14.3, under which the Collaborative assists local governments in developing and improving comprehensive plans, building codes, and ordinances by compiling examples and drafting sample language, and Subaction 14.1 on evaluating incentives for resilient development. Incorporation of the Duval County Living Shoreline Suitability Analysis into transportation investment decisions implements Subaction 17.2 on promoting living shorelines and nature-based solutions where conditions are appropriate, and integration of the USACE Duval County Shore Protection Project's beach renourishment and dune restoration work implements Subaction 5.5, under which the Collaborative supports beach and dune protection by bringing together regional experts to discuss upcoming projects and identify funding opportunities, recognizing that dunes reduce coastal erosion and storm surge impacts on adjacent infrastructure. Elevation and hardening of vulnerable segments implement Subaction 16.1, improved stormwater management reducing erosion and pollutant runoff supports Subaction 1.1, and the governance structure and coordination protocol established under Step 3B express Subaction 13.3 on intergovernmental partnerships with state and federal agencies, including the military, to increase regional readiness.

Metrics Score

The NS Mayport Regional Roadways project was evaluated against a robust series of metrics to determine the appropriateness, viability, and achievement of goals. The metric categories are given a percentage weight to indicate the comparative importance of 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 10).

Figure 10. 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).

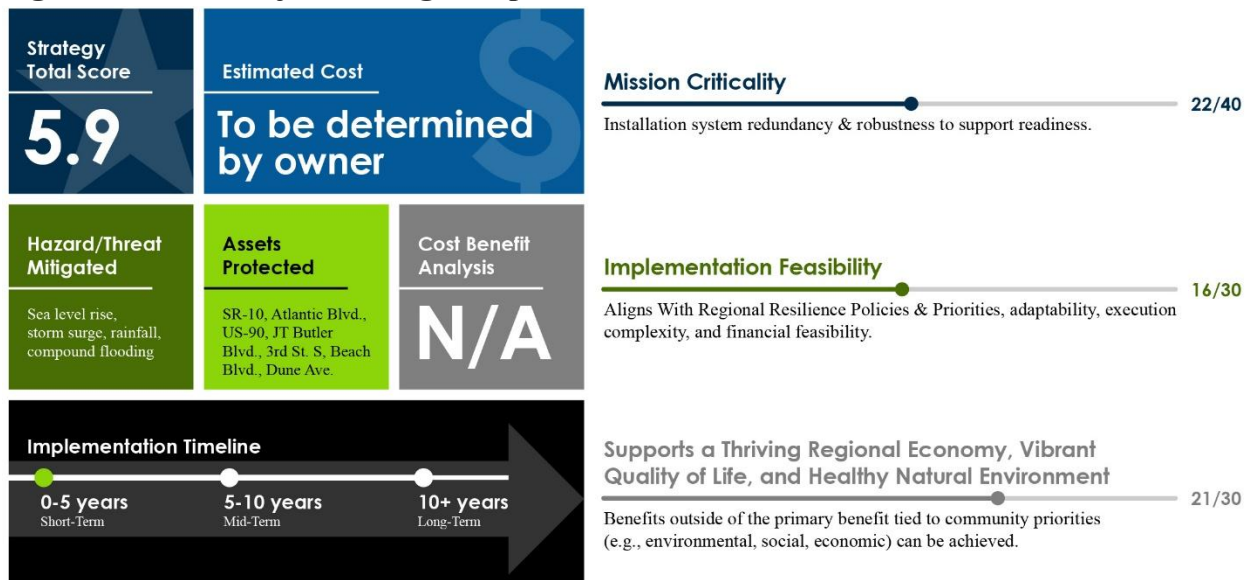
Adaptation project costs were costed to include project construction and design costs, where feasible. Project benefits were costed to include direct (construction or repair costs) and indirect (social, economic, and environmental) costs whenever feasible.

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 11. Total Project Package Snapshot





Implementation Tools



Financial Strategy Toolkit

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.

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.

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.

Funding Opportunities

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/BUILD grants)	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.

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