

A black and white photograph of a wide river, likely the Ohio River, with a large ice field in the foreground. A long barge is being pushed or pulled by a tugboat in the middle of the river. In the background, a city skyline with several tall buildings is visible on the left, and a large arched bridge spans the river. The right bank is a steep, wooded hill.

US ARMY CORPS OF ENGINEERS NAVIGATION STRATEGIC FRAMEWORK

Published by U.S. Army Corps of Engineers Director, Operations
and Regulatory Programs

Summer 2025

<https://www.usace.army.mil/Missions/Civil-Works>



INTRODUCTION

For almost 250 years the U.S. Army Corps of Engineers (USACE) has been building, operating, and maintaining the world's largest inland and coastal Marine Transportation System (MTS), which is essential to our economy, security, and quality of life. From early involvement in dredging and snagging rivers to building modern locks and dams, USACE has played an essential role in connecting America's heartland to coastal ports and thereby, the rest of the world. USACE is committed to maintaining a safe, reliable, and resilient MTS. Whether it's dredging coastal channels, building coastal jetties, beneficially reusing dredge material, or constructing new locks, USACE has consistently delivered innovative solutions to the nation's toughest navigation challenges.

This document provides a roadmap for the USACE Navigation Program's future and builds upon our successful history. This framework establishes short-term and long-term goals and identifies activities necessary to deliver the future of navigation. Goals, lines of effort, and supporting objectives presented in this Navigation Strategic Vision align with the Chief's Campaign Plan and USACE Civil Works' Four Pillars. USACE's mission is to:

“Deliver engineering solutions, with our partners, to secure our nation, strengthen our economy, and reduce disaster risk.”

Combined, these lines of effort and objectives enable delivery of innovative, effective, sustainable solutions to the nation and build a competent, disciplined, and resilient team equipped to deliver high quality solutions.

FOUR PILLARS OF USACE CIVIL WORKS

01.

PEOPLE

The foundation of Civil Works is its team of skilled professionals.

02.

PRODUCTION

Our focus is to deliver projects on time, within budget, and safely.

03.

PARTNERSHIP

Our collaboration with others is key to the success of Civil Works. We must deliberately engage with partner agencies, industry, stakeholders, academia, and the communities we serve.

04.

INNOVATION

Integrating new technologies and innovation into our Civil Works processes improves the safety, efficiency, and resiliency of our nation.





USACE NAVIGATION MISSION

*To provide safe, reliable, efficient,
effective and environmentally
sustainable waterborne
transportation systems for
movement of commerce, national
security needs, and recreation.*



VISION



*Through modern technologies, strategic
investments, and strong partnerships, USACE
delivers an available and resilient navigation
system to meet the growing demands of the 21st-
century transportation landscape and support
American economic prosperity.*



In 2025, the USACE Navigation Team is updating the Strategic Plan, last revised in 2012, to ensure it remains aligned with evolving challenges, emerging technologies, national priorities, and positions USACE to advance a safe, reliable, and resilient navigation system for the future.

To ensure the United States remains a leading global trading partner, the MTS must deliver safe, reliable, efficient, and environmentally sustainable waterborne cargo movement. The following USACE Navigation Strategic Goals are designed to enhance mission delivery today and prepare the navigation program for future challenges:



GOALS



01. INLAND NAVIGATION MODERNIZATION

Execute a strategic locks construction, rehabilitation, and operation and maintenance program to enhance reliability, reduce downtime, and extend infrastructure lifespan through lifecycle asset management.



02. SUSTAINABLE COASTAL NAVIGATION

Maintain coastal channels through optimized dredging, sediment management, and infrastructure resilience strategies. Advance deep draft channel projects to support larger vessels, port expansions, and global trade competitiveness.



03. USACE FLOATING PLANT ASSET MANAGEMENT

More efficiently execute USACE Floating Plant life-cycle asset management.



DELIVER THE NAVIGATION MISSION



The USACE Navigation Program is committed to delivering a safe, reliable, and efficient Marine Transportation System that supports economic prosperity, national security, and environmental resilience. This line of effort aims to ensure the long-term performance and availability of navigation infrastructure through strategic investment, proactive asset management, and operational excellence. By advancing data-driven planning, improving performance metrics, and strengthening lifecycle management of critical assets, USACE will enhance the reliability and sustainability of both the inland and coastal navigation systems. The following objectives support a unified approach to delivering the navigation mission at a national scale.

Develop and Execute 20-year Construction, and Operation & Maintenance investment plans for inland and coastal programs.

- Develop framework and criteria to prioritize investments
- Manage and maintain USACE navigation assets using a regional approach that supports national priorities
- Define and enhance reliability metrics to boost operational performance
- Develop and refine key performance indicators, including channel availability and trends in scheduled and unscheduled lock closures
- Strengthen asset management by using FEM and maintenance best practices to plan and execute work based on available funding, supported by predictive and condition-based strategies





Develop and implement asset management life-cycle investment plan for our vessel fleet.

- Implement the Dredge Fleet Oversight Board directing actions necessary to achieve effective lifecycle management of our fleet assets to inform the recapitalization plan with a focus on PRIP managed assets
- Establish MSC Fleet and Equipment Boards to establish accountability for fleet management at appropriate levels across the Enterprise
- Implement Maintenance Management Improvement Plan phases I-III on floating plant assets
- Update and track asset replacement cost valuation to ensure sufficient income is being generated to replace PRIP assets



Efficient management of dredged material resources.

- Establish a dredged material management dashboard for tracking placement area use and identify beneficial use opportunities at the enterprise level
- Standardize preliminary assessments and dredged material management plans that maximize benefits of dredged material
- Maintain 5-year regional dredge material management plans
- Maximize the beneficial use of dredged material to the 70% mandate



Use key performance metrics to measure efficiency, reliability, and safety, to ensure mission delivery.

- Floating Plant Downtime
- Floating Plant Certificate of Inspection Status
- Beneficial Use Percentage
- Coastal Structures Reliability
- Lock Availability
- Lock Time/Queue Time
- Lock Construction Cost and Schedule Performance Index



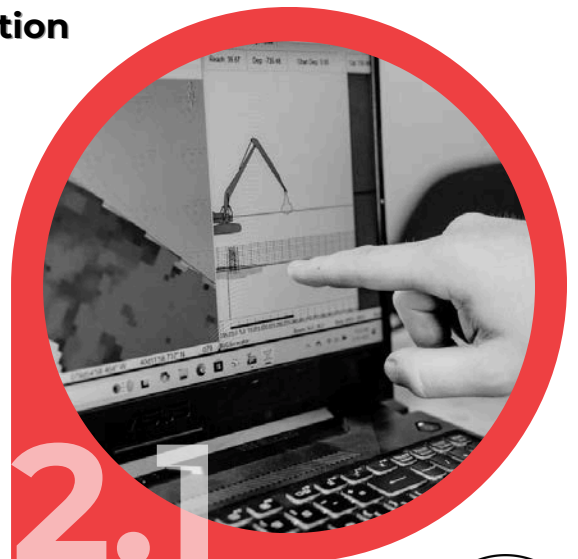
INNOVATE FOR THE FUTURE OF NAVIGATION



Advancing the future of navigation requires a commitment to innovation and the integration of emerging technologies. Leveraging data-driven solutions, modernized infrastructure, and forward-thinking strategies will enhance the resilience, efficiency, and adaptability of the USACE navigation program. By fostering a culture of continuous improvement, USACE will optimize operations, expand capabilities, and proactively address evolving maritime needs, ensuring a reliable, sustainable, and technologically advanced navigation system that delivers lasting value to the nation.

Incorporate emerging technologies into navigation planning and operations.

- Integrate advanced data analytics, automation, and artificial intelligence to enhance decision-making
- Expand the use of digital twin technology and real-time monitoring to improve navigation system reliability and efficiency
- Establish a framework to ensure long term reliability and resilience of the navigation system
- Develop adaptive management strategies that incorporate climate resilience, risk assessment, and sustainability principles
- Transition to fiber reinforced polymers for replacement of hydraulic steel structures

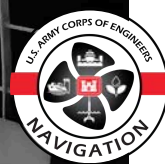


Pilot innovation hubs to explore new technologies and methodologies.

- Establish regional innovation hubs to test and evaluate emerging technologies for navigation infrastructure and operations
- Partner with industry, academia, and The U.S. Army Engineer Research and Development Center (ERDC) to accelerate the adoption of cutting-edge navigation solutions

Continually evaluate business processes to improve effectiveness, leverage data driven decision making tools and predictive analytics.

- Integrate predictive analytics and machine learning into operation and maintenance planning
- Develop and implement dashboards for real-time performance monitoring
- Partner with ERDC to pilot advanced analytical tools
- Train navigation staff in the latest advanced data and analytics tools
- Establish feedback loops for continuous improvement



3

LINE OF
EFFORT

INVEST IN PEOPLE TO ENHANCE WORKFORCE

The key to USACE success is our people which are essential to USACE's continued excellence. The dedication, skill, and expertise of our people are fundamental to everything we do. USACE is committed to fostering a culture of continuous learning and ensuring that our workforce is equipped to deliver the navigation mission.



The success of the USACE navigation mission depends on a skilled, knowledgeable, and adaptable workforce. Investing in people through professional development, mentorship, and knowledge sharing strengthens technical expertise, fosters leadership growth, and enhances mission execution. By prioritizing workforce development, USACE ensures the long-term sustainability of the navigation program, empowering employees with the tools and training needed to drive innovation, improve efficiency, and meet the evolving challenges of the navigation industry.



Recruit and retain navigation-specific talent.

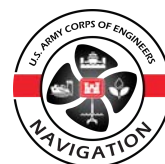
- Develop targeted outreach and recruitment campaigns
- Implement a navigation career branding and engagement strategy
- Establish a strategic and comprehensive plan for career development pathways that provide structured opportunities for advancement and skill-building in navigation
- Implement mentorship programs to connect experienced professionals with emerging talent

Train navigation personnel.

- Ensure on-the-job progression training, developmental assignments and continuing education
- Strengthen the Navigation Community of Practice (CoP) and Knowledge Management
- Identify navigation program workforce requirements to establish ideal functional capabilities
- Develop navigation-specific PROSPECT courses aligned with enterprise needs
- Implement a multi-level navigation certification framework

Promote safety.

- Strengthen safety training and awareness programs to reinforce a culture of risk management and accident prevention
- Implement technology-driven safety enhancements, such as real-time hazard detection and automated safety monitoring systems





LINE OF
EFFORT

STRENGTHEN PARTNERSHIPS



***“Effective communication
and strong partnerships
are essential to the
success of the USACE
navigation mission.”***

USACE delivers the navigation mission in collaboration with federal, state, and local partners, as well as industry stakeholders. By collaborating, we can leverage expertise, resources, and knowledge to address complex challenges. The goal is to enhance communication and coordination to improve decision-making resulting in consensus and unified solutions to navigation challenges.

USACE must actively engage with the Federal agencies / groups such as Committee on the Marine Transportation System, USCG, MARAD, DOT, NOAA, and non-government groups such as Dredging Contractors of America, Western Dredging Association, Waterways Council Inc., Inland Waterway Users Board and other key partners to align priorities, share information, and advance the efficiency and resiliency of the nation’s waterways.

Strengthening these relationships fosters transparency, enhances stakeholder trust, and supports a navigation system that meets the needs of both the present and the future. Lastly, communication and partnerships are a cross-cutting element of Goals One, Two, and Three because each require some level of communication and partnership engagement.



Develop and implement a strategic engagement plan to communicate the importance and success of the Navigation System.

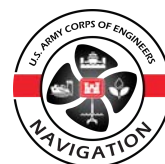
- Identify federal, nonfederal, and non-governmental partners
- Designate leads for each agency partnership
- Define desired outcomes resulting from each partnership

Operationalize the strategic engagement plan.

- Identify key engagements for each partnership
- Determine purpose, expected outcome, and appropriate representatives for each engagement
- Develop a method for tracking outcomes from engagements

Develop and deliver clear, consistent messaging that demonstrates the value of the navigation system to the nation.

- Strategic messaging through public affairs using state of the art video and social media tools
- Identify and document the top transportation needs and priorities using national federal transportation strategies, and policies
- Define and track key performance indicators that demonstrate how the navigation program contributes to addressing the nation's transportation needs
- Communicate how the navigation mission is positioned to evolve, scale, and deliver lasting value in response to future transportation demands



ROLES & RESPONSIBILITIES

01.

The Director of Operations and Regulatory is responsible for strategic oversight and guidance

02.

The Navigation Chief will establish priorities and actively monitor progress

03.

Champions will lead each Lines of Effort providing guidance and oversight. They are empowered to plan and make decisions to accomplish the objectives

04.

Action Officers will lead each Supporting Objective and similarly be empowered to plan and make decisions to accomplish the objective and activities

SUMMARY

The USACE Navigation Strategic Vision provides a framework to guide the achievement of both short-term and long-term priorities for the navigation program. This plan is centered around four comprehensive LOEs:

- 1. Deliver the Navigation mission*
- 2. Innovate for the future of Navigation*
- 3. Invest in people to enhance the Navigation workforce, and*
- 4. Strengthen communication and partnerships*

The activities identified within this Strategic Vision, along with the products that will be developed, enhance USACE's ability to fulfill its navigation mission effectively. These activities will be incrementally executed by the HQ Navigation Team in coordination with MSC and district navigation teams to maximize benefits to the navigation program.

The Chief of HQUSACE Navigation Branch will adaptively manage the USACE Navigation Strategic Vision, overseeing the initiatives, teams, and supporting efforts necessary for its success. As a living document, this vision will evolve through updates to teams, incorporation of lessons learned, and continuous improvement of processes as technology and research and development advance. These efforts will ensure a safe, reliable, efficient, and sustainable waterborne transportation system that continues to serve the nation's needs into the future.

This Strategic Framework is more than a guide. It serves as a tool, a "north star" to produce tangible results that shape the future of navigation. Deliverables include:

- Strategic planning sessions to identify resource requirements and chart clear implementation pathways.
- An annual analysis and performance report to evaluate progress, measure impact and inform future actions.
- A regular review and update of the Navigation Strategic Framework to ensure continued alignment with national priorities, stakeholder expectations, and emerging challenges.

Together, these products ensure accountability, drive measurable outcomes, and maintain momentum in delivering a world-class navigation program.

