



US Army Corps  
of Engineers.

# Navigation Strategic Vision

February 2011



# USACE Navigation Strategic Vision

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

The U.S. Army Corps of Engineers (USACE) operates and maintains the largest inland and coastal Marine Transportation System (MTS) in the world. This system connects the very heartland of America to the rest of the world and is vital to the nation's economy, security and quality of life. To maintain a safe, reliable marine transportation system the USACE must recognize changing parameters that affect the navigation program and make adjustments to minimize risk and maximize effectiveness. This document provides a framework to guide short and long-term objectives and identifies actions necessary for the continued success of the USACE navigation program.

This Navigation Strategic Plan is consistent with the USACE Campaign Plan and supports Campaign Plan Goals 3 and 4 to deliver innovative, resilient, sustainable solutions to the Nation and to build and cultivate a competent, disciplined, and resilient team equipped to deliver high quality solutions. It also links with the Committee on the Marine Transportation System (CMTS), which is a Federal inter-departmental committee, chaired by the Secretary of Transportation, created as a partnership of Federal Departments and agencies with responsibility for the MTS. The CMTS is directed to ensure the development and implementation of national MTS policies consistent with national needs and report to the President its views and recommendations for improving the MTS. The National Strategy for the Marine Transportation System: *A Framework for Action*, (July 2008) summarizes National MTS needs and priorities.

In August 2009, the USACE navigation program management assembled a team of representatives from various regions, agencies and interests to provide input and guide development of a strategic vision for USACE navigation to improve its MTS for efficient and cost-effective transportation and for the benefit of quality of life and future generations. This group recognized the need for the Corps to improve upon and ensure sustainability in areas of a system-wide approach for the navigation program, a nationally based decision-making process, environmental stewardship and planning, technical expertise, economic resourcing, and employee succession planning. Decisions in these areas must be made while considering trends and factors that influence the program such as consuming resources, global trends, changing climate, and a changing workforce. While this vision provides some specific actions, it is intended to be a compass to guide decisions resulting in a more unified and efficient execution of the Corps' navigation mission.

To maintain America's roll as a premier trading partner in the global market place and to strive to achieve the Administration's goal of doubling U.S. exports over the next five years, our MTS must continue to provide safe, reliable, efficient, and environmentally sustainable movement of cargo. The Navigation Strategy seeks to

implement several primary performance indicators (metrics), which measure success such as:

- Navigation channel availability increases
- Scheduled and unscheduled lock closures trend downward
- Navigation system risks are expressed as economic impacts.

Primary attributes that would foster growth of a successful Navigation Program include the following:

- A national freight transportation policy recognizes the necessity and benefits of waterborne commerce to the nation's economy and environmental sustainment and links waterborne navigation into the intra-modal transportation system;
- Information is distributed that clearly communicates to the general public and policy makers the benefits provided and risks challenging the successful waterborne navigation and related infrastructure;
- The Corps maintains appropriate relationships with State, Federal and Local agencies and offices to ensure proper communication and coordination of activities and activity priorities to continue successful mission execution;
- Navigation construction and maintenance activities are performed in a systematic, efficient, sustainable manner based on sound engineering that minimizes environmental impacts;
- And personnel within USACE have clear career paths that promote employee growth and retention to ensure adequate staffing with high quality navigation expertise.

This Strategic Vision and Action Plan is designed to be a framework that will carry the USACE Navigation Program forward efficiently and effectively through the next ten years. The major components of this framework are captured in four focus areas including 1) Communicate the value of the Navigation Program, 2) Improve Business Processes, 3) Manage the Marine Transportation System as a System, and 4) Develop a Human Capital Management Strategy for Navigation. The activities presented herein for each of these areas will produce well thought-out initiatives, strategies and projects that best serve the nation's navigation interests and result in a safe, reliable, sustainable waterborne system that is recognized as a critical element of a larger multi-modal transportation system. This plan is considered to be a "living" document that can be monitored, reviewed and updated as necessary to ensure that it consistently meets the needs of the navigation program.

## **Area 1 Communicate the Value of the Navigation Program**

Navigation provides proven economic benefits, however, the value of the navigation program should be better defined, proactively communicated and well publicized to multiple audiences. The marine transportation industry creates jobs and provides less costly means of transporting goods than rail or trucks for a wide range of commodities such as bulk materials, aggregates, steel, and grain, while consuming less

energy to move the freight, easing surface transportation congestion, and improving the quality of life of our citizens. In some locations, navigation projects provide a refuge from perilous sea conditions or the only means of providing critical support for a community's livelihood. Some of the nation's most critical defenses, including power production, supply and troop distribution, or fleet access depend upon safe navigation to accomplish their mission. Messages developed should revolve around these and other identified benefits. This area links to the USACE Campaign Plan Goal 4b.

**Activity 1.1 Develop and implement an active coordinated outreach / communications plan.**

Objective: This activity will identify key vehicles for outreach, generate basic messages in distributable form that clearly articulate and demonstrate the value of the USACE navigation program, and develop a plan that identifies target audiences and suggests methods to communicate with each.

Action 1.1.1 Utilizing reliable data from authoritative sources, develop core messages that highlight the benefits of waterborne navigation.

Action 1.1.2 Identify multiple audiences and proactively engage each with appropriate messages. Audiences would include:

- Those who influence the priorities and funding of the Navigation requirements.
- Stakeholders who directly benefit from waterborne navigation, such as ports, harbors, and industry.
- Those who receive indirect benefits from waterborne navigation (i.e. consumers, environmental benefits, agriculture, etc)
- Those who benefit from the navigation pools created by our locks and dams (i.e. water supply, cooling water intakes, recreation, etc.)



Action 1.1.3 Engage traditional and non-traditional partners to develop and publicize shared messages about the value of the navigation program to the nation.

Action 1.1.4 Utilize professional help to identify vehicles for the most effective message delivery.

### **Activity 1.2 Develop a long-view interaction / communications strategy with the Administration**

Objective: Establish a relationship that will allow USACE to provide the appropriate level of service and consistently deliver credible, defensible data about its projects in order to support the navigation mission and justify funding requests within the Administration.

Action 1.2.1 Establish a USACE team to review data used to justify and prioritize navigation project funding requests. Determine if we are looking at the right parameters and metrics that support Administration funding prioritization decisions and that these metrics have accurate and transparent data.

Action 1.2.2 Revise data gathering and reporting, if necessary, and coordinate with OMB to establish a consistent process to regularly provide fiscal data requirements.

### **Activity 1.3 Develop an internal communications plan**

Objective: This activity will result in a communications plan that outlines the roles and responsibilities for compiling and disseminating information as well as sharing knowledge and lessons learned within the navigation program. The plan will also identify key vehicles for outreach.

Action 1.3.1 Establish a committee and develop an internal communications plan including an organizational chart for the Navigation Program and roles and responsibilities for communicating and disseminating information between HQ, ERDC, IWR, MSCs and Districts. Include procedures for efficient data calls from HQ down to district level.

Action 1.3.2 Identify effective means of delivering information to intended audiences. These may include partner gateways, websites, conferences, regular meetings, conference calls, brochures, e-mail, WIKI, etc.

## **Area 2 Improve Business Processes**

In order to ensure mission accomplishment with a proactive, systematic approach that considers both short and long-term goals for the USACE Navigation Program, improvements to existing business processes must be identified, developed and implemented. Successful business processes will seek to maximize the reliability and sustainability of the navigation program and therefore ensure customer satisfaction, quality projects and a good return on investment. This area links to USACE Campaign Plan Goals 3b, 3c, 3d, & 4c.

### **Activity 2.1 Establish Action Team to Prioritize and Develop Recommendations for Improvement of Business Processes and Implementation of Asset Management**



## **Practices**

Objective: Establish an action team to evaluate, prioritize and further develop the initial recommendations on business processes that were identified in the strategic planning workshop. The team will also identify additional process improvements to be implemented and develop a consistent, asset management, risk-based approach for evaluating navigation projects, working directly with the HQUSACE Asset Management team. This activity will ultimately generate an implementation strategy to ensure that these recommendations are put into action and develop a formal oversight process to execute the improvements and measure their effectiveness.

Action 2.1.1 Establish two teams, one for the inland MTS and the other for the coastal MTS, knowledgeable with technical, management and financial issues within the USACE Navigation Program that will proactively evaluate and ultimately improve the business processes for the program.

Action 2.1.2 Evaluate the efficiency of existing system processes within the Navigation Program (including budgetary/funding, technical, decision-making, communication, contracting and environmental/regulatory actions, operations).

Action 2.1.3 Develop process improvements that result in a consistent, risk-based approach to maximize system safety, reliability, efficiency, and environmental sustainability for navigation projects.

## **Activity 2.2 Implement Recommendations to Improve Business Processes**

Objective: The navigation program manager will have authority to accept and revise the recommendations and approach precipitating from Activity 2.1. The Action Teams will then develop an implementation strategy as well as performance metrics for process improvements.

Action 2.2.1 Prioritize actions to begin implementation of improvements to business processes.

Action 2.2.2 Develop an implementation plan and an execution strategy based on priorities including a timeline to put improvements into action.

Action 2.2.3 Identify key people or agencies necessary for successful implementation. Utilize strategies that engage all stakeholders and minimize risks for delays. Identify changes to policy that may need to be coordinated.

Action 2.2.4 Develop a formal oversight process that includes performance metrics to evaluate the effectiveness of the improvements. Provide recommendations to modify or optimize process improvements as necessary.

## **Area 3 Manage the Marine Transportation System as a System**

Because the Marine Transportation System is essential to the United States' economy, a freight transportation system policy should be developed that recognizes and

capitalizes upon the benefits provided by the marine transportation system and should include prioritizing existing funding to maximize the marine transportation system to meet the policy. We must manage our navigation projects and systems to support this broader view. The MTS supplies a less expensive means of shipping materials that produces less impact on the environment and reduces volume on the highway system. Strategic communication needs to be a deliberate effort to enable the USACE and Army senior leaders to more effectively advocate for the MTS. We must deliver reliable marine transportation using a risk-informed life-cycle asset management business model in order to maintain and operate our coastal and inland navigation program assets. The status of all USACE navigation projects must be documented including identification of each project's role in supporting the MTS and ultimately the national freight transportation system. This area links to the USACE Campaign Plan Goals 3b, 3c, 3d, 4b, & 4c.

**Activity 3.1 Evaluate the status of all USACE navigation projects and identify the role of each in supporting the marine transportation system. Identify factors critical to ensuring the sustainability of the project and its elements.**

Objective: The result of this activity will be an inventory of all federally authorized navigation projects with information about each that will support future funding and management decisions. Further, inter-connectivity between projects will be identified to aid in quantifying regional significance of individual projects and facilitate a systems approach. The capability to execute a risk informed asset management strategy for managing projects and systems will be established.

Action 3.1.1 Develop and maintain an inventory of all federally authorized projects along with metrics that indicates the level of activity or maintenance performed as well as critical factors necessary to ensure the sustainability of the project and its elements. Identify the role of each project in supporting the MTS.

Action 3.1.2 Document the interdependence of ports within the marine navigation system.

- This inventory should indicate if the project is a commercial port, as well as an indicator if it is critical to national security or is identified as a subsistence harbor or critical harbor of refuge.
- If the port is a commercial port, the interconnection should be indicated between the MTS port and intra-modal and inter-modal connections.



Action 3.1.3 Develop a science and engineering based risk-management approach to identify and nationally rank the risks and reliability associated with operating and maintaining each navigation project.

**Activity 3.2 Improve the sustainability of projects and advance the environmental stewardship of USACE in executing its operations and maintenance activities.**

Objective: Activities performed will produce standardized methods to prioritize resource allocation in a manner consistent with national goals, advance scientific findings to support environmental-based restrictions upon maintenance activities, and identify viable alternatives to solve engineering-based challenges to mission execution.

Action 3.2.1 Develop an inventory of all federally authorized projects along with a metric that indicates the challenges to mission execution, such as years of capacity remaining for dredged material placement areas.

Action 3.2.2 Establish practices based on advanced scientific data that minimize environmental impacts, optimize environmental windows and maximize beneficial use opportunities related to maintenance operations.

**Activity 3.3 Utilize the existing National Strategy for the MTS: A Framework for Action & implementation plan to draft a freight transportation policy with goals focused on waterborne transportation.**

Objective: This activity will build on accomplishments to write a draft policy that states the role(s) of waterborne freight transportation in the scheme of the national freight network, highlights the economic and environmental benefits provided by MTS, and addresses funding issues that would ensure the reliability of the MTS.

Action 3.3.1 Assemble a team to coordinate with the Committee on the Marine Transportation System (CMTS) the writing of draft policy stating the target role and extent of waterborne freight transportation as related to the national policy. Determine the appropriate team(s) or individual(s) to carry the message.

- The team should represent USACE and partner agencies, along with industry.
- The draft policy needs to address the roles and responsibilities of the various stakeholders.
- The draft policy needs to address issues that prevent the full revenues in the Harbor Maintenance Trust Fund from being available to maintain the coastal navigation projects and address the revenue shortfall in the Inland Waterways Trust Fund, which precludes the Administration from fully meeting the National inland navigation needs.

**Activity 3.4 Working with PIANC, CMTS and/or other applicable stakeholders, support the Administration to provide information and to increase visibility of the MTS in the national freight transportation policy.**

Objective: This activity will establish and maintain relationships with key organizations to ensure the value provided by MTS is consistently and concisely communicated to those setting policy.

Action 3.4.1 Determine the appropriate team(s) or individual(s) to articulate the benefits and necessity of the MTS.

Action 3.4.2 Identify critical time-frames when input should be provided and schedule appropriate appointments to deliver the message.

## **Area 4 Develop USACE Human Capital Management Strategy for Navigation**

The ability of the USACE to lead and fulfill its navigation mission depends on a strong workforce composed of trained and dedicated experts to perform the needed functions while growing the knowledge and skills of the professional and support team members. The activities below are necessary to strengthen the workforce and to develop and sustain a succession plan for the USACE to maintain its staff expertise to meet the navigation needs of the country. The Corps must maintain its position as the nation's navigation experts to be effective. This area links to Campaign Goals 4a & 4c.

### **Activity 4.1 Define a Navigation Career Path**

Objective: Develop and communicate the knowledge, skills and abilities (KSAs) employees need to advance their career in navigation to progress from entry level through senior management. This should include on the job progression as well as developmental assignments, additional education, certifications and professional registrations and memberships to develop strong navigation knowledge, skills and abilities needed to compete for national advancement.

Action 4.1.1 Identify navigation program workforce requirements to generate an ideal list of functional capabilities, complete with KSAs and number of people in each to accomplish the navigation mission. To be effective the Corps needs to maintain expertise in a wide range of functional area including hydraulic modeling, hydrographic surveying, navigation lock design and operation, coastal structures, ship simulation, project managers, environmental staff, dredging, contracting, budgeting, and more.



Action 4.1.2 Assess ability of existing navigation workforce to accomplish the navigation mission at District, Division and HQ levels. This action should include a data call to accurately determine current workforce composition and structure.

Action 4.1.3 Evaluate needs by comparing the results of Action 4.1.2 with Action 4.1.1 to determine where gaps exist within workforce, both present and future. This analysis will serve as the foundation to develop a plan to close the requirement gaps by adding people or training those we have.

### **Activity 4.2 Building the Workforce**

Objective: Ensure the presence of a vital and sustainable workforce to fulfill needs identified in Activity 4.1.

Action 4.2.1 Establish a strategic and comprehensive plan for outreach and recruitment, leveraging existing efforts. Build interest early in students to pursue engineering and scientific careers. Recruit cooperative education students and college graduates, and the best and brightest from within USACE for the Navigation Program.

Action 4.2.2 Strengthen Workforce. Establish education and training at all levels to ensure a vital and sustainable workforce. Ensure flow with the Navigation Career Path identified in Activity 4.1. Work to strengthen the Navigation Community of Practice (CoP) so that they may play a major role in identifying and offering opportunities and improvements to our current workforce. Leverage programs through Permanent International Association of Navigation Congresses (PIANC), Western Dredging Association (WEDA), American Society of Civil Engineers (ASCE), and other professional organizations to meet and support the needs of the Corps.

### **Activity 4.3 Identify Funding for Human Capital Development**

Objective: This activity will seek funding to accomplish the Human Capital Management Strategic Activity 4.1 & Activity 4.2. This should include innovative approaches to provide a range of opportunities at all levels within the Corps. Historically, human capital efforts are identified as a critical need, yet they are often one of the first areas to be reduced or eliminated in budget reductions. For this reason, this activity is specifically identified with the intention that the CoP will recognize its importance and support its funding.

## **Summary and Recommendations**

The USACE Navigation Strategic Vision and Action Plan provides a framework to guide the short-term and long-term objectives of the Navigation Program and addresses the needs identified in the initial Strategic Planning Workshop held in August 2009. Once implemented, the activities and actions within this plan will lead to a systematic and nationally based approach to the management and implementation of the USACE Navigation Program. Four focus areas/strategic objectives have been detailed in this plan including 1) Promote the Value of the Navigation Program, 2) Improve Business Processes, 3) Manage the Marine Transportation System as a System, and 4) Develop a Human Capital Management Strategy for Navigation.

To effectively coordinate and address these actions requires a team approach that pulls representatives from across the Corps to ensure broad expertise and all the Navigation subspecialties are covered. To the maximum extent possible, we should leverage on-going teams already involved with some of these topics and create a virtual structure to ensure the Program Manager is able to effectively communicate and provide leadership while supported by a strong team network. To address the Areas and many Actions it is

recommended we form a Navigation Team of Teams. One approach is the following Teams:

1. Team 1: The existing Inland MTS Team. Their role will be to address Areas 1, 2, 3 and 4 as related to inland issues, assets, processes, stakeholders, investment, and technology integration. The Team may need modification to expand and address the three Areas. Composition is cross cutting the functional groups, lead by a Program Manager selected by the Navigation Program Manager.
2. Team 2: Coastal MTS Team. This Team would have the same responsibilities as the IMTS with focus on the coastal marine transportation system and its stakeholders.
3. Team 3: Navigation Technology Team. This Team supports the other Teams by providing one door to Research, Development, Technology & Innovation, transitioning to practice and supporting as a reach-back capability. Technology questions and problems are brought to the Team by other Teams and technology transfer is brought out of this Team to the other Teams to aid in moving into practice. Included in the Team are ERDC, IWR and field representatives that compose the Navigation Research Area Review Group. Composition is cross cutting, lead by a Program Manager selected by the Navigation Program Manager.
4. Team 4: Navigation Project Sustainability Team. Their responsibility is to transform our relationships with regulatory and stakeholder organizations building a new paradigm for the national dredging program. This USACE Team will also support the CMTS Environmental Sustainability Interagency Action Team. Composition is cross cutting, lead by a Program Manager selected by the Navigation Program Manager.
5. Team 5: Human Capital Team. This Team will address all human capital issues identified by Area 4 developing a national (inland and coastal) plan with recommendations. The team would likely be ephemeral, standing no longer than 2 years. Composition is cross cutting, lead by a Program Manager selected by the Navigation Program Manager.

The HQUSACE Navigation Program Manager should adaptively manage the USACE Navigation Strategic Vision and Action Plan, the results that are produced, and supporting teams. The plan itself is a living document, teams should be updated as necessary, lessons learned should be developed, processes should be improved as technology/R&D advances, etc. These efforts will lead to a safe, reliable, efficient, sustainable waterborne transportation system that will maintain a high level of success into the future.