

USACE Navigation Strategic Vision

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



US Army Corps of Engineers
BUILDING STRONG

December 2012

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.*



Introduction

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 MTS the USACE is changing parameters that affect the navigation program and making adjustments to minimize risks and maximize benefits produced by the system. This document provides a framework to guide short-term and long-term objectives and identifies activities necessary for the continued success of the USACE navigation program.

Objectives and activities presented in this Navigation Strategic Vision support the USACE Campaign Plan and the Civil Works Strategic Plan (Figure 1). Combined, these objectives and activities enable delivery of innovative, effective, sustainable solutions to the Nation and build and cultivate a competent, disciplined, and resilient team equipped to deliver high quality solutions. This document also links with the strategy and vision of the Committee on the Marine Transportation System (CMTS), a partnership of Federal MTS stewards.

In 2009, the USACE navigation program management assembled a team of representatives from various regions, agencies and interests who developed the USACE Navigation Strategic Vision that was released in February 2011. While that document provided some specific actions, it was intended to be a compass to guide decisions that would result in a more unified and efficient execution of the Corps' navigation mission. A similar team was formed and met in March 2012 to update the initial Strategic Vision and to frame both a tactical plan of action and a monitoring approach to ensure continued implementation.

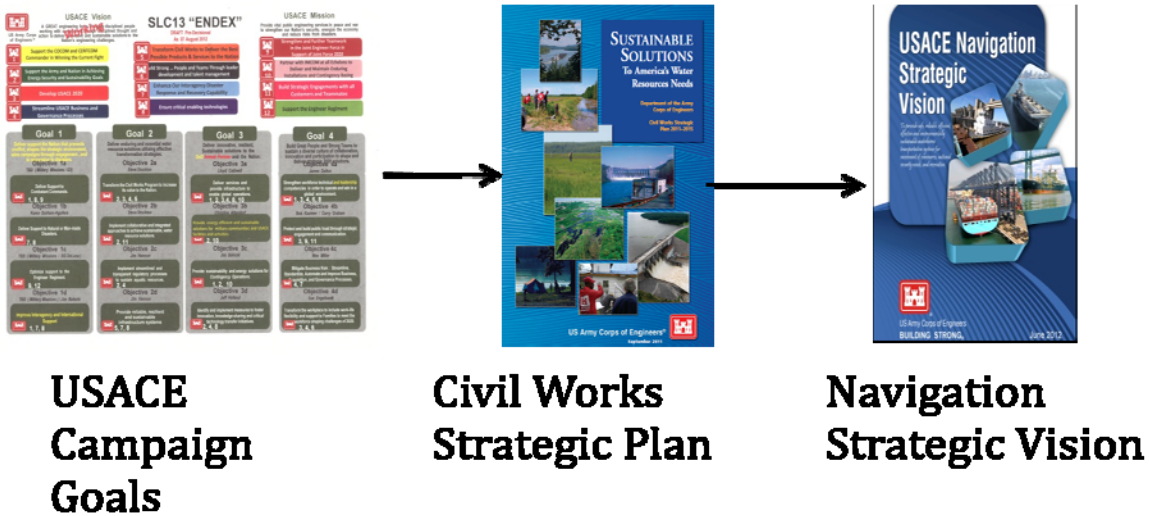


Figure 1. Relationship between the USACE Campaign Goals, Civil Works Strategic Plan, and Navigation Strategic Vision.

To maintain America’s role as a premier trading partner in the global marketplace and to strive to achieve the Administration’s goal of doubling U.S. exports over the next five years, the MTS must continue to provide safe, reliable, efficient, and environmentally sustainable movement of cargo. The USACE Navigation Strategic Vision seeks to guide decisions in order to improve mission delivery as measured against the following primary performance indicators (metrics):

- Increasing availability of navigation channels
- Downward trending scheduled and unscheduled lock closures
- Communicating quantified navigation benefits

Even though numerous decisions will produce growth as measured above, the existence of some attributes will foster the healthiest growth of the navigation program. Some of these attributes include:

- The necessity and benefits of waterborne commerce to the nation’s economy and environmental sustainment is recognized in a national freight policy that links waterborne navigation into the inter-modal transportation system;
- Information is distributed that clearly communicates to the general public and policy makers the benefits provided and risks challenging successful waterborne navigation and related infrastructure;
- The Corps develops, supports and maintains effective partnerships 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 enhance opportunities for environmental benefits and beneficial use through Engineering With Nature;
- Navigation investments strategically support the nation’s utilization of expanding trade infrastructure and options, such as the Panama Canal expansion and the opening of shorter, faster Arctic Ocean shipping routes; and

- Personnel within USACE have identifiable, structured career paths that promote employee growth and retention to ensure adequate staffing with high quality navigation expertise.

The Navigation Strategic Vision is intended to align and compliment the USACE Campaign and Civil Works Strategic Plans. It is also intended to inform development of MSC and District implementation plans. This Navigation Strategic Vision is designed to be a framework to develop these attributes that will carry the USACE navigation program forward efficiently and effectively through the next decade. The major components of this framework are captured in four objectives: (1) Demonstrate the Value of the Navigation System, (2) Deliver the Navigation Mission Efficiently, (3) Align the Navigation Mission with National Priorities, and (4) Strengthen Navigation Knowledge and Workforce. The activities undertaken within each area will incorporate high-priority 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. The Navigation Strategic Action Team (NSAT), a group consisting of USACE navigation managers, will oversee and execute Strategic Navigation Initiatives (SNI) within these Objectives. Figure 2 illustrates the relationship of SNI to the focus areas and guiding documents, the USACE Campaign Plan and the Civil Works (CW) Strategic plan, Figure 3 shows a specific example of these relationships. This Vision will be consistently monitored, reviewed and updated as necessary to ensure it meets the needs of the navigation program and aligns with USACE and CW plans.

Objective 1 Demonstrate the Value of the Navigation System

Waterborne transportation provides proven economic benefits. However, the value of the navigation system should be better documented, formulated and promoted 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

MTS Value to the Nation

The Marine Transportation System (MTS) is a highly integrated system that includes:

- 1,000 harbor channels;
- 25,000 miles of waterways;
- 236 lock chambers; and
- 97,000 aids to navigation.

The MTS supports millions of American jobs, creating significant local, regional, and national economic benefits.

The MTS facilitates trade, moves passengers and goods, and allows America’s economy to stay globally competitive.

The MTS transports commodities that are essential to America’s building, manufacturing, energy, and agricultural industries.

The MTS provides a safe, secure, cost-effective and energy efficient transportation alternative.

Courtesy of the MTS Factsheet,
http://www.cmts.gov/downloads/MTS_Factsheet.pdf



some locations, USACE navigation projects provide a refuge from perilous sea conditions or the only means of providing critical support for a community's livelihood. Safe navigation is essential to some of the nation's most critical defenses, such as supply and troop distribution, fleet access and power production. Navigation projects produce environmental benefits through such activities as beneficial use of dredged material. Information and messages developed regarding value to the nation will clearly communicate the range and magnitude of navigation program benefits (to include economic, social, and ecological benefits). Examples of successful actions and initiatives promoting the value of the navigation mission will be documented and used in proactive two-way communication with key interests, stakeholders, partners, and audiences both internal and external to the Corps.

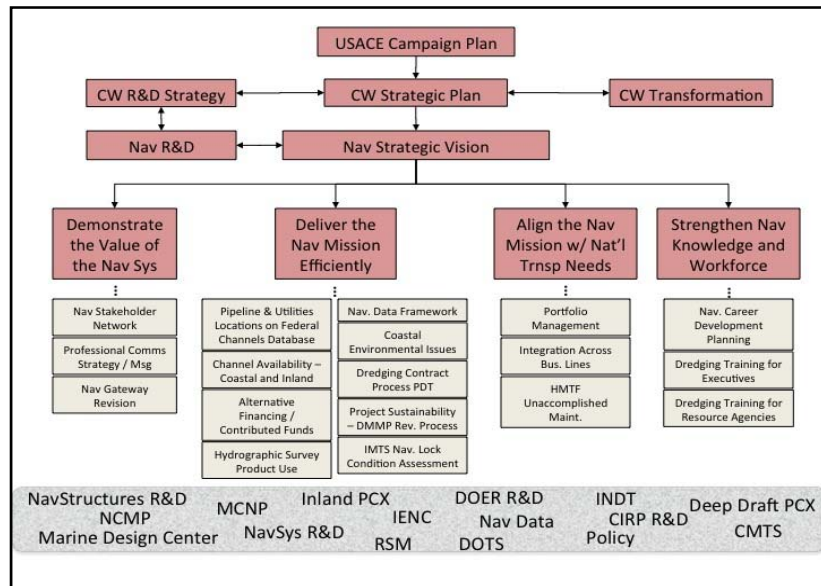


Figure 2. Strategic Navigation Initiatives (SNI), shown in tan, are grouped into the four Objectives addressed in the USACE Navigation Strategic Vision, which aligns with both the USACE Campaign Plan Goals and Civil Works Strategic Plan.

Activity 1.1 Develop and implement a strategy to communicate the importance and success of the Navigation System.

Objective: Strengthen and implement actions promoting the significance and value of the navigation system by targeting audiences with navigation interests including:

- Individuals who influence priorities and funding of Navigation requirements
- State and local agencies that work in Navigation
- Federal agencies particularly through the Committee on the Marine Transportation System (CMTS) as well as intra-agency communication within the Corps
- International partners including the World Association for Waterborne Transport Infrastructure (PIANC)
- 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 interests, agriculture, etc.)
- Those who benefit from the navigation pools created by our locks and dams.

Develop core messages that proactively engage and educate these audiences about the benefits realized through the navigation system. Making navigation a national priority depends on stakeholder appreciation of the value provided by the MTS and proactive participation with the USACE navigation program.

Activity 1.2 Develop and maintain a long-term interaction / communications strategy with the Administration.

Objective: Foster a relationship with the administration that will allow USACE to appropriately provide project information to support the navigation mission and justify funding requests. Consistent processes and a defined strategy will provide the Administration accurate, defensible data tailored to satisfying funding prioritization metrics.

Objective 2 Efficient Navigation Mission Delivery

Accomplishment of USACE navigation mission goals relies upon efficient navigation mission delivery which is realized by optimized business and technical processes. Streamlined and consistent procedures will maximize reliability and sustainability of the navigation program ensuring customer satisfaction, quality projects and a valued return for navigation expenditures.

Activity 2.1 Evaluate business processes critical to executing the navigation mission.

Objective: Develop recommendations to streamline identified processes for more efficient delivery of the Navigation mission. Business areas to be evaluated include:

- Budgetary and funding
- Data management
- Engineering design
- Technological advancements
- Project management and execution
- Communication and stakeholder engagement
- Contracting
- Environmental / Regulatory
- Safe and efficient operations

Activity 2.2 Prioritize and implement recommendations to improve business processes.

Objective: Implement 'best practices' through reviews and redesigned processes that maintain high-quality products while offering the greatest benefits in reducing time and monetary costs associated with delivering navigation projects. Use a team approach to prioritize, manage and execute individual initiatives.

The Committee on the Marine Transportation System

The CMTS is a Federal Cabinet-level, inter-departmental committee chaired by the Secretary of Transportation.

The purpose of the CMTS is to create a partnership of Federal departments and agencies with responsibility for the Marine Transportation System (MTS). The job of the CMTS is to ensure the development and implementation of national MTS policies that are consistent with national needs and to report to the President its views and recommendations for improving the MTS.

The MTS connects to over 152,000 miles of railroad; 45,000 miles of interstate highway; 460,000 miles of pipeline; through nearly 2,000 cargo terminals operated by the Nation's 360 deep and shallow draft ports.

Courtesy of www.cmts.gov



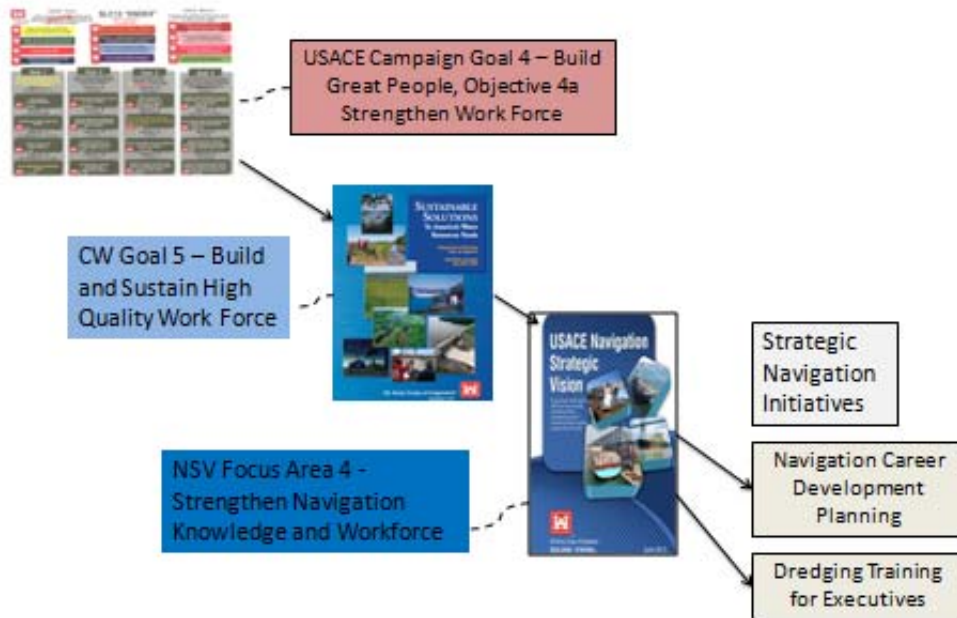


Figure 3. This image is an example of the alignment between USACE Campaign Plan Goal 5, Objective 4a, the CW Strategic Plan Goal 5, and NSV Objective 4 and two supporting SNIs.

Objective 3 Navigation Integration and Freight Movement

Participation of the U.S. in the world’s economy requires the movement of goods quickly, efficiently, and safely through interconnected modes of transportation, such as roads, rails, and waterways. The network of channels, waterways, ports, and equipment that moves these goods, as well as military and passengers, is defined as the Marine Transportation System (MTS). To maintain America’s role as a premier trading partner in the global marketplace and to strive to achieve the Administration’s goal of doubling U.S. exports over the next five years, the MTS must continue to provide safe, reliable, efficient, and environmentally sustainable movement of cargo. New challenges, such as a new Arctic Ocean route and changing conditions in the Arctic region will increase access to natural resources and provide a new trade route taking half the time and distance to deliver freight. The completed expansion of the Panama Canal in late 2014 will more than double its capacity and introduce new capabilities in vessels and freight movement. These growing capabilities will necessitate improvements or new physical and informational infrastructure to support the likely increase in vessel traffic. Navigation maintenance investments must be based upon and aligned with the needs of intermodal and international connectivity, waterways networks, and regional processes.

Activity 3.1 Evaluate the status of all USACE navigation projects and identify the interdependencies of each in supporting the marine transportation system.

Objective: Create an inventory of all federally authorized navigation projects with information about each that will support future funding and management decisions and identify factors critical to ensuring the sustainability of the project and its elements. Further, inter-connectivity between projects will be determined to aid in quantifying regional significance of individual projects and facilitating a systems approach. This activity will ensure the ranking and funding of USACE projects aligns with and fits into the larger Marine Transportation System.

Activity 3.2 Provide the framework and criteria to prioritize USACE Navigation infrastructure modernization investments.

Objective: Develop and implement a modernization strategy that optimizes commercial capacity. This modernization will focus on improvements necessary to support current and projected high-priority navigational needs of the nation. This strategy will be coordinated in the broader context of the national freight transportation system with the CMTS Infrastructure Integrated Action Team (IAT), which will help create broad, inter-modal prioritization criteria.

Activity 3.3 Manage and maintain USACE navigation assets using a regional approach that supports the national priorities.

Objective: Apply a holistic and integrated watershed approach to life-cycle management of navigation assets to support the nation's economy, safety and security. Execute the navigation mission utilizing innovative approaches such as Engineering With Nature, which intentionally aligns natural and engineering processes to efficiently and sustainably deliver economic, environmental and social benefits.

Objective 4 Strengthen Navigation Knowledge and Workforce

The ability of USACE to lead and fulfill its navigation mission depends on a strong workforce composed of trained and dedicated professionals. To maintain this cadre, navigation career paths should be coupled with USACE needs, providing team members targeted growth opportunities that fulfill immediate and future organizational needs and personal vocation aspirations. The Corps must maintain its navigation knowledge and skills to continue efficient execution of the nation's navigation mission and effective leadership in its engagement with its navigation partners and stakeholders.



Activity 4.1 Develop navigation expertise based on current and projected navigation program needs.

Objective: Identify navigation program workforce requirements to generate a list of ideal functional capabilities. Once requirements are determined, identify and predict gaps within the workforce. This analysis will serve as the foundation to develop a plan to close the requirement gaps by adding personnel or providing training for existing employees.

Activity 4.2 Identify innovative training opportunities and retain navigation expertise and skills.

Objective: Ensure the presence of a vital and sustainable workforce by establishing education and training at all levels. This may include on-the-job progression training, developmental assignments and continuing education to develop strong navigation knowledge, skills and abilities. Encourage personnel to pursue certifications, professional licenses and memberships in professional societies. Utilize the Navigation Community of Practice (CoP) and strengthen its role as a resource for our current workforce.

Activity 4.3 Recruit and retain talent to meet navigation program goals.

Objective: Establish a strategic and comprehensive plan for outreach and recruitment that leverages existing efforts. This will include building interest early in students to pursue engineering and scientific careers. Develop a strategy that supports the navigation program by recruiting cooperative education students, and college graduates, and the best and brightest from within USACE for the navigation program. Recruited positions should align with the USACE navigation program's succession plan.

Summary

The USACE Navigation Strategic Vision provides a framework to guide achievement of the short-term and long-term objectives of the navigation program. Four comprehensive objectives have been identified in this plan: (1) Demonstrate the Value of the Navigation System, (2) Deliver the Navigation Mission Efficiently, (3) Align the Navigation Mission with National Priorities, and (4) Strengthen Navigation Knowledge and Workforce.

The Activities identified within this Strategic Vision, and the products that will be generated, improve the USACE's ability to fulfill its navigation mission. These Activities will be incrementally accomplished through SNI managed and executed by the NSAT in a way that provides the greatest benefit to the navigation mission.

The HQUSACE navigation business line manager adaptively manages the USACE Navigation Strategic Vision, the initiatives that are produced, and the supporting teams. As this vision is a living document, teams should be updated as necessary, lessons learned should be developed, and processes should be improved as technology and Research and Development advance. These efforts will lead to a safe, reliable, efficient, sustainable waterborne transportation system that will benefit the nation into the future.

Acknowledgements

This document is based on notes and ideas from several workshops, and were captured and organized by: Emily Vuxton (NOAA Knauss Fellow); Monica Chasten (Philadelphia District); Charles E. (Eddie) Wiggins (Coastal and Hydraulics Laboratory); James Clausner (USACE, retired); and James Walker (Headquarters). Drafts were sent to workshop participants to ensure thoughts were captured correctly. Final approval was through Jeff Lillycrop (Coastal and Hydraulics Laboratory) and James Walker.



The Navigation Strategic Vision provides a framework to guide the objectives and decisions for improving the navigation program over the next decade.



US Army Corps of Engineers

<http://www.usace.army.mil/Missions/CivilWorks/Navigation.aspx>