



EXECUTIVE SUMMARY

CMTS 2016-17 DHS/USCG CHAIR

This Report documents the work accomplished by The Committee on the Marine Transportation System (CMTS) during the period July 1, 2016, through July 31, 2017, under the Chairmanship of Rear Admiral Paul Thomas, United States Coast Guard. During his term substantial progress has been made on many of the CMTS multi-year projects such as update of the MTS National Strategy, “MTS Assessment Report to Congress,” Future of Navigation, and inter-agency coordination on issues.

Additionally, the CB chair and four other CB members (USACE, NOAA, MARAD, FMC) met with DOT Deputy Secretary to brief him on the value of

- CMTS to DOT to pursue Administration objectives in maritime transportation and infrastructure (re)development;
- A Cabinet level meeting to align Administration priorities in the above areas; and
- SECDOT lead /participation on a broad stakeholder engagement on MTS issues through a “domestic roundtable” composed of maritime industry and Federal leaders.

Listed below are some of the more notable completed projects and “new starts” undertaken by the CMTS.

Completed Actions

- CMTS completed two important documents that are currently in the approval process:
 - “National Strategy for the Marine Transportation System: *Channeling the Maritime Advantage* 2017-2022,” an update of the 2008 National Strategy. There are 14 actions for CMTS interagency engagement under 5 priority areas. The strategy will be implemented across Federal agencies and within the CMTS partnership, as appropriate.
 - MTS Assessment Report to Congress was completed in 2016 and revised per comments received during interagency review and informal comments from OMB. Currently the draft document is with the DOT Office of the Secretary and Office of Policy.
- Arctic MTS IAT report "Recommendations and Criteria for Using Federal Public-Private Partnerships to Support Critical U.S. Arctic Maritime Infrastructure," which was National Strategy for the Arctic Region Implementation Plan Task 1.1.3, was approved and published in January 2017. The report puts forward 19 recommendations for the implementation of public-private partnerships (P3s) in developing, improving, and maintaining infrastructure in support of

Federal maritime activities, national security, navigation safety, and stewardship of natural resources in the U.S. Arctic.

- The Infrastructure Investment IAT developed its 2017 Work Plan, which was approved by the Coordinating Board at its 30 March meeting. The Work Plan includes four items: Updating Resource Library, Communications & Outreach, Policy Support to the Coordinating Board, and Updating the Funding Handbook.
- The Infrastructure Investment Integrated Action Team (IAT) hosted two public events at the Department of Transportation in conjunction with Infrastructure Week May 2017, a national week of events, media coverage, education, and advocacy efforts to elevate infrastructure as a critical issue impacting all Americans. Video recordings of the two events are available on the CMTS homepage under the bulletin section.
- The Research and Development IAT updated the CMTS “Strategic Action Plan for Research and Development in the Marine Transportation System,” which was approved by the Coordinating Board at its 15 June 2017 meeting. The plan identifies priority needs toward improving the Marine Transportation System to meet user and operator requirements.
- The Maritime Data IAT created a topic at Data.gov to promote discoverability of maritime data (August 2016).
- The Maritime Data IAT in coordination with the R&D IAT launched the Performance Measures website to show how maritime components are functioning within the larger, complex MTS. (August 2016).
- The Resilience IAT evaluated ports for best practices and summarized vulnerabilities associated with infrastructure. (Fall 2016)

New Starts

- The Future Navigation IAT began work on the Waterways Harmonization Project, which will allow for commonality and standardization of geo-referenced points of interest throughout U.S. navigable waters. Currently, multiple agencies within the U.S. Government (for example, the USCG, USACE, and NOAA) do not have common, geo-referenced points of interest.
- The Maritime Transportation Extreme Weather Task Force was stood up on January 7, 2016. CMTS, through the Secretary of Transportation, as directed by the National Defense Authorization Act of 2017 to report on best practices and recommendations related to use and response to extreme weather information in the maritime domain.
- The CMTS developed transition products for member agencies to underscore the importance of the MTS, the role of MTS agencies, and the value of the CMTS, when engaging the new Administration.
- At the 21 Sept CB meeting, a new maritime security action was adopted to assess and report on the breadth and scope of Federal maritime security initiatives, including maritime cyber security, to provide foundational information for further interagency engagement. The Maritime Security Task Team drafted a matrix framework.

The Following pages provide a brief one-page summary of the CMTS CB and the individual IATs



CMTS 2016-17 IAT ACCOMPLISHMENT SUMMARIES

MANDATED AND EMERGENT REPORTS (COMPLETED)

- MTS National Strategy (CB approved; awaiting SECDOT Clearance)
- National Strategy for the Arctic Region Implementation Plan Task 1.1.3: “CMTS Recommendations and Criteria for Using Federal Public-Private Partnerships to Support U.S. Arctic Maritime Infrastructure”
- CB meeting with DOT S2

MANDATED AND EMERGENT REPORTS (IN PROCESS)

- MTS Assessment (at DOT awaiting review)
- MTS Extreme Weather Task Force (in process: awaiting federal agency review)

ONGOING INTEGRATED ACTION TEAMS

- Arctic Marine Transportation System IAT
- Future of Navigation IAT
- Infrastructure Investment IAT
- Maritime Data IAT
- Maritime Energy and Air Emissions Working Group
- Maritime Security Task Team
- Research and Development IAT
- Resilience IAT

ACCOMPLISHMENT

Summary

The CMTS CB completed / has in process a number of reports that were mandated by Congress, recommended by the General Accounting Office or self directed as follows:

MANDATED AND EMERGENT REPORTS (COMPLETED)

- MTS National Strategy (CB approved; awaiting SECDOT Clearance)
- National Strategy for the Arctic Region Implementation Plan Task 1.1.3: “CMTS Recommendations and Criteria for Using Federal Public-Private Partnerships to Support U.S. Arctic Maritime Infrastructure”
- CB meeting with DOT S2

MANDATED AND EMERGENT REPORTS (IN PROCESS)

- MTS Assessment (at DOT awaiting review)
- MTS Extreme Weather Task Force (in process: awaiting federal agency review)

- **Mandated Reports**

- “National Strategy for the Marine Transportation System: *Channeling the Maritime Advantage* 2017-2022,” an update of the 2008 National Strategy. There are 14 actions for CMTS interagency engagement in the 2017 Strategy under five priority areas.
- MTS Assessment Report to Congress was completed in 2016 and revised per comments received during interagency review and informal comments from OMB. Currently the draft document is with the DOT Office of the Secretary.
- The Arctic MTS report “CMTS Recommendations and Criteria for Using Federal Public-Private Partnerships to Support U.S. Arctic Maritime Infrastructure,” which was National Strategy for the Arctic Region Implementation Plan Task 1.1.3, was approved and published in January 2017. The report puts forward 19 recommendations for the implementation of public-private partnerships (P3) in developing, improving, and maintaining infrastructure in support of Federal maritime activities

- **Mandated Task Force**

The Maritime Transportation Extreme Weather Task Force was stood up on Jan 7, 2016 in response to the *EL FARO* incident. CMTS, through the SECDOT, was directed by the National Defense Authorization Act of 2017 to report on best practices and recommendations related to extreme weather information in the maritime domain. The input for this report was gathered from Federal maritime agencies, maritime industry groups, and training institutions and is in the last stages of completion.

- **Creation of a “MTS Domestic Roundtable”**

The CB chair and four other CB members met with DOT Deputy Secretary to brief him about the value that CMTS brings to DOT to pursue Administration objectives in maritime transportation and infrastructure development; encourage a Cabinet level meeting to align the administration priorities in the above areas; and to encourage SECDOT lead on a broad stakeholder engagement on MTS issues through a “domestic roundtable” composed of maritime industry and Federal leaders.

ACCOMPLISHMENT

U.S. ARCTIC MARINE TRANSPORTION SYSTEM INTEGRATED ACTION TEAM

Summary

The U. S. Coast Guard Authorization Act of 2010 required the CMTS to coordinate domestic transportation policy for the Arctic. The CMTS U.S. Arctic Marine Transportation Integrated Action Team was established by the Coordinating Board in January of 2010. The intent of the IAT is to identify opportunities for member agencies to work together to address the needs, both current and future, for providing for safe, and environmentally sound navigation in the U.S. Arctic as the waterways become more accessible to use for navigation and other activities.

Co-Chaired by NOAA, MARAD, USCG

Status

On September 26, 2016, the CMTS Coordinating Board approved the “Resolution to Enhance Coordination of Federal Maritime Activities and Outreach to Alaska Native Tribal Governments and Alaska Native Organizations in the U.S. Arctic.”

The IAT completed the Arctic MTS report “CMTS Recommendations and Criteria for Using Federal Public-Private Partnerships to Support U.S. Arctic Maritime Infrastructure,” which was approved and published in January 2017.

The Arctic IAT updated the 2010 Arctic Marine Transportation System Integrated Action Team “Terms of Reference (TOR).” In summary, the revised TOR captures the current state of the Arctic IAT given the completion of three reports under the National Strategy for the Arctic Region Implementation Plan and recognizes the trajectory of the Arctic IAT given agency member requirements.

The updated Terms of Reference includes:

- Background – A brief history of the Arctic IAT from its establishment in 2010 through the completion of the Public-Private Partnerships Report in January 2017;
- Scope – Established as a permanent subgroup of the CMTS to address domestic Arctic marine transportation issues and respond to interagency and Administrative directives;
- Objectives – Including but not limited to supporting safe, security, and reliable marine navigation, supporting maritime commerce, and promoting environmental and economically sustainable natural resource management and economic development in the U.S. Arctic.

Benefits to the MTS

The IAT and its products have become an invaluable resource for federal agency and state initiated efforts to coordinate interagency response and planning for Marine Transportation in the Arctic to enhance safety and ensure environmental viability.

ACCOMPLISHMENT

FUTURE OF NAVIGATION INTEGRATED ACTION TEAM

Summary

The Future of Navigation IAT has coordinated multi-agency efforts on projects focused on improving navigational safety and efficiency in three ways:

- Improving delivery of navigational information,
- Improving accuracy of navigational products, and
- Improving efficiency by enabling agencies to better share information of navigational value.

Co-Chaired by NOAA, USCG, USACE

Outcome(s): As these projects are completed, Mariners can expect significant improvements to navigational safety, as well as enhanced efficiency in the use of our waterways.

Background

The Navigation Technology IAT was established in October 2006 by the CMTS Coordinating Board to assist CMTS member agencies with coordination and integration of their technologies, data, and services to enhance navigational safety and efficiency.

The CB approved a name change from the “e-Navigation Integrated Action Team” to the “Future of Navigation Integrated Action Team” to better reflect waterway user priorities.

Status

The current work plan includes integrating systems for seamless data exchange, decision-focused information, and improved connectivity. Specific action items are: Interagency Coordination and Outreach, Navigation Data Harmonization, Navigation Information Dissemination, and Simplified Information Reporting and Sharing.

At the Radio Technical Commission for Maritime Services (RTCM) Annual Assembly in May 2017, the FutureNav IAT presented its work to harmonize the dissemination of marine safety information from various agencies, including details on the eMSI proof-of concept portal and Application Presentation Interface (API).

The Waterway Harmonization Project will allow for commonality and standardization of geo-referenced points of interest throughout U.S. navigable waters. Currently, multiple agencies within the U.S. Government (e.g. USCG, USACE, NOAA, etc.) do not have common, geo-referenced points. A project team has been established under the IAT and is working to categorize the datasets and provide suggestions for a harmonized identification framework. A prototype system that enables the user to compare and contrast the different datasets over three different navigational regions is being established. This current scope of work is expected to be the initial phase of a larger study, with subsequent work building off the initial results.

Benefits to the MTS

The federal effort in facilitating the safe and efficient operations will leverage technology, initiate management improvements, redefine levels of service, develop data driven analysis, and provide regulatory changes to improve safety and efficiency on America’s waterways.

ACCOMPLISHMENT

INFRASTRUCTURE INVESTMENT INTEGRATED ACTION TEAM

Summary

The Infrastructure Investment Integrated Action Team (IAT) was established to facilitate the development of broad evaluation and decision criteria that can be used across Government programs for informing Federal infrastructure investment.

Co-Chaired by DOT, USACE, Treasury

The IAT also focuses on developing tools that are value-added for practitioners at the local and non-Federal level as well as the Federal stakeholders.

Background

- The Administration's Task Force on Ports noted that, "Nearly 80 percent of the volume of international trade passes through our nation's ports. Maintaining these ports, and making targeted investments in their improvement where appropriate, can lower shipping costs for U.S. exports and imports" (July 2012).
- The IAT was stood up at the request of the Secretary of Transportation in 2012 to prioritize federal investments in MTS infrastructure, building on the memorandum of understanding between DOT and Army in March 2012.
- The products in the IAT's work plan included a
 - Transportation Data Funding Map;
 - a Handbook of Federal MTS-related infrastructure funding sources;
 - a set of criteria to be used across government to review investment decisions;
 - an Alternative Funding Tool Kit;
 - an analysis of existing techniques used to estimate costs and benefits; use of public private partnerships; and to potentially pursue a pilot project to employ using the Best Practices for infrastructure investment.

Status

- The IAT developed a 2017 Work Plan with four items (Updating Resource Library, Communications & Outreach, Policy Support to the Coordinating Board, and Updating the Funding Handbook).
- The IAT hosted two public events at DOT in conjunction with Infrastructure Week 2017, a national week of events, media coverage, education and advocacy efforts to elevate infrastructure as a critical issue impacting all Americans. Video recordings of the two events are available on the CMTS homepage under the bulletin section.
- The IAT meets approximately once a quarter. Meetings this year have taken place on January 24th, March 14th and June 1st. The next meeting is scheduled for August 29th.

Benefits to the MTS

- Decision support tools for infrastructure investment will be used by decision-makers to better align Federal infrastructure investment across agencies, allowing for the leveraging of limited resources and enabling a safer, more efficient, and resilient marine transportation system.
- The IAT has developed products that assist local and state partners in infrastructure planning and investment.

ACCOMPLISHMENT

MARITIME DATA INTEGRATED ACTION TEAM

Summary

The Purpose of the Maritime Data IAT is to serve as the CMTS center of expertise related to maritime data. The work of the IAT includes facilitating the identification, archiving, linking and integration of authoritative maritime related data from all federal agencies that collect and maintain such data. Access to interoperable and shareable authoritative data will assist CMTS member agencies in making timely and well-informed decisions that enhance the capabilities of the MTS as well as fulfill strategic analysis and reporting requirements.

Co-Chaired by USACE and DOT

Background

The CMTS Coordinating Board reinstated the Maritime Data Integrated Action Team (IAT) on July 23, 2015, and approved the CMTS Maritime Data IAT Terms of Reference.

Status

- Created a Maritime Data Inventory Template for individual agencies to identify data capabilities
- Catalogued all datasets in the inventory template under a “maritime” topic on Data.gov
- Established a Working Group to address the need for data to identify Articulated Tug-Barges.
- Provide regular content updates for the Maritime Topic landing page on Data.gov: The Data IAT will coordinate efforts to ensure that the Maritime Topic on Data.gov is regularly updated to include new blog posts and news items that may be of interest to the maritime data community
- Established a working group to coordinate AIS data management and product standardization.

Benefits to the MTS

Efforts by the Maritime Data IAT will benefit the Nation by (1) improving maritime data discoverability and access through common standards; (2) enhancing informed decision-making through access to authoritative data; and (3) optimizing CMTS member mission effectiveness through shared services and interoperability.

ACCOMPLISHMENT

MARITIME ENERGY AND AIR EMISSION WORKING GROUP

Summary

The CMTS Maritime Energy and Air Emissions Working Group (MEAEWG) was established to provide a forum in which Federal agencies can participate in discussions/initiatives on maritime use of alternative fuels and technologies to reduce air emissions and improve energy efficiency

- Propose initiatives to CMTS Coordinating Board;
- Connect MEAEWG to non-federal partners; and
- Provide recommendations related to maritime environmental policy

Co-Chaired by MARAD and DOE

Background

- The CMTS MEAEWG (formerly the Maritime Energy Task Team) was established on December 12, 2013 to provide a forum to exchange information and offer opportunities for interagency collaboration to examine a number of promising alternative ship fuels measures, and technologies to address the challenges of retrofitting and the availability of fuel infrastructure.
- In December 2015, the Coordinating Board unanimously approved to enhance the effort to a more formal working group to incorporate technologies and actions related to addressing air emissions from maritime sources. The MEAEWG is co-led by the Maritime Administration and Department of Energy and includes thirteen CMTS member agencies.

Status

- MEAEWG members finalized and approved the Action Plan at the September 9, 2016 meeting.
- The Department of Energy Bio-energy Technologies Office, gave a presentation on “Bio-intermediates and Advanced Bio-fuels for Marine Market” and provided a detailed look at ongoing research at Oak Ridge National Laboratory to develop bio-fuels and technologies that have the potential to support the U.S. maritime sector in addressing IMO marine fuel sulphur limits.
- The IAT is developing a Port Projects Tracking Matrix

Benefits to the MTS

- MEAEWG provides a forum to share and exchange information, and identify opportunities for interagency collaboration regarding the use of alternative energy for maritime transportation.
- In addition, the Working Group has addressed recent International Maritime Organization and related fuel and air pollution on ships, and implementation of these requirements.

ACCOMPLISHMENT

MARITIME SECURITY TASK TEAM

Summary

The team was tasked to assess and report on the breadth and scope of Federal maritime security initiatives including maritime cyber-security to provide information for further interagency engagement.

Coordinated by CMTS Executive Secretariat

Background

- At the 30 March 2017 CMTS Coordinating Board meeting, CB Chair RADM Thomas approved the 2016-2017 CMTS Work Plan, which included development of a Federal maritime security program matrix.
- The team is developing a matrix using the FEMA Core Capabilities for the National Preparedness Goal and the draft CMTS MTS Assessment as a guide. Topics include: Maritime Domain Awareness (MDA), Critical Infrastructure Protection (CIP), Vessel Security (VS), Information Sharing (IS) and Cyber Security, to capture agency engagement in this cross cutting arena.

Status

- Input has been provided by many federal partners, and additional input is still forthcoming.
- A draft matrix has been compiled based on the information received, and has been sent out to the Interagency Security Task Team for initial review. The information in the matrix will be used to determine the next steps forward for the Maritime Security Task Team.

Benefits to the MTS

- Since there are many potential threats to the maritime sector, this effort is an important step in improving the safety and security of the MTS.

ACCOMPLISHMENT

RESEARCH AND DEVELOPMENT INTEGRATED ACTION TEAM

Summary

The CMTS Coordinating Board established the Research and Development IAT in March 2009 to identify research and development projects to address the pressing challenges identified in the 2008 National *Strategy for the Marine Transportation System*. The IAT also serves as a crosscutting function among all CMTS IATs. It identifies and updates research priorities through a collaborative biennial R&D conference with the Transportation Research Board. Chaired by USACE, the IAT leads several multi-agency collaborative research initiatives and has been very productive with several innovative products being used by CMTS agencies.

Background

The R&D IAT has been working together since 2009 identifying research projects, supporting other IATs technology needs, and partnering with TRB /NAS to hold a biennial R&D conference. Numerous CMTS agencies have participated and contributed knowledge, data, tools, and expertise. The IAT has also reached out to academia and the private sector to ensure its research is inclusive, addressing Federal and National needs.

Status

- R&D IAT projects include
 - Update the 2011 *Strategic Action Plan for Research and Development in the MTS* to reflect accomplishments and new R&D priorities
 - Reinvigorate the R&D IAT with new team membership from agency partners
 - Publish conference summary of June 4th, 2016 biennial CMTS Conference: *From Sail to Satellite: Delivering Solutions for Tomorrow's MTS* [Completed: available at <http://www.cmts.org>.]
 - Support and participate in Maritime DATA IAT and other IATs as needed.
 - IAT seeking opportunities to “co-produce” with academia, private entities, NGOs, etc.
- Milestones for 2017
 - Update the 2011 *Strategic Action Plan for Research and Development in the Marine Transportation System*
 - Convene transportation expert team to develop high fidelity inter-model freight flow model, detailed in *Strategic Action Plan for Research and Development in the MTS*.
 - Publish technical paper on the use of AIS data for waterway travel time estimates, lead author Dr. Patricia DiJoseph. *In Press*.
 - Begin planning for the next biennial CMTS-TRB R&D conference, scheduled for June 2018. First planning session held June 1, 2017.

Benefits to the MTS

The conference served as a forum to examine the use of emerging technologies and practices in marine transportation and waterways management. The conference was designed to help foster partnerships between federal, state, private, and academic institutions that have a shared interest in technological innovations and improved performance of the Marine Transportation System.

ACCOMPLISHMENT

RESILIENCE INTEGRATED ACTION TEAM

Summary

The Resilience Integrated Action Team was established September 17, 2014 and is led by NOAA and USACE with team participation from fifteen member Agencies. The IAT is tasked to focus on cross-Federal agency knowledge, co-production and governance to incorporate the concepts of resilience into the operation and management of the U.S. Marine Transportation System (MTS).

Status

- Synthesized Federal vulnerability and resilience information for Hampton Roads Infrastructure Resiliency Initiative through historical case studies.
- Synthesized Resilience Best Practices of
 - World Association for Waterborne Transport Infrastructure (PIANC)
 - U.S. port after-action lessons learned from previous disasters
 - Input from a workshop with the American Association of Port Authorities (AAPA) Environmental Commission.
- Engaged with non-federal stakeholders to leverage information and gather input on gaps in MTS resilience:
- Worked with University of Rhode Island to gather input on a study of Climate Vulnerability and Resilience for Northeastern Ports at USACE Headquarters on Nov, 2016, and Feb 22, 2017.

Benefits to the MTS

The Resilience IAT will seek to affect future resilience policy and aid in delivering enhanced resilience programs through identifying, coordinating, and leveraging complementary Federal investments and activities related to MTS resilience.