

Innovative Technologies for a Resilient Marine Transportation System

3rd Biennial Research and Development Conference

June 24–26, 2014

The National Academy of Sciences Building
Washington, D.C.

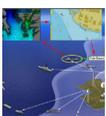
Organized by
Transportation Research Board

Cosponsored by
Committee on the Marine Transportation System

Schedule at a Glance

	Tuesday, June 24	Wednesday, June 25	Thursday, June 26
7:30 AM	Breakfast Great Hall 7:30 a.m. – 8:30 a.m.	Breakfast Great Hall 7:30 a.m. – 8:15 a.m.	Breakfast Great Hall 7:30 a.m. – 8:30 a.m.
8:00 AM			
8:30 AM	Opening Session Auditorium 8:30 a.m. – 10:00 a.m.	Keynote Address: Thad Allen, Resiliency During Disasters Auditorium 8:15 a.m. – 9:00 a.m.	Closing Session Auditorium 8:30 a.m. – 11:30 a.m.
9:00 AM			
9:30 AM		The Future of Navigation: Impacts of e-Navigation on the Marine Transportation System Auditorium 9:00 a.m. – 10:45 a.m.	
10:00 AM			
10:30 AM	Break Great Hall 10:00 a.m. – 10:30 a.m.	Break Great Hall 10:45 a.m. – 11:15 a.m.	
11:00 AM			
11:30 AM	Innovative Technology for a Resilient Marine Transportation System Auditorium 10:30 a.m. – noon	Breakout Sessions (3A–3C) Board Room, NAS 120, NAS 125 11:15 a.m. – 12:45 p.m.	
12:00 PM			
12:30 PM	Lunch Great Hall Noon – 1:00 p.m.	Lunch Great Hall 12:45 p.m. – 1:45 p.m.	
1:00 PM			
	Remarks from Acting MARAD Administrator Paul (Chip) Jaenichen Auditorium 1:00 p.m. – 1:15 p.m.	Lunch Great Hall 12:45 p.m. – 1:45 p.m.	
1:30 PM	Keynote Address: Richard Caci, Global Container Terminal USA Auditorium 1:15 p.m. – 1:45 p.m.		
2:00 PM	Breakout Sessions (1A–1E) Board Room, Member's Room, NAS 125, NAS 120, Auditorium 2:00 p.m. – 3:30 p.m.	Optimizing Freight Transportation System Performance Auditorium 2:00 p.m. – 4:00 p.m.	
2:30 PM			
3:00 PM			
3:30 PM	Break Great Hall 3:30 p.m. – 4:00 p.m.	Reception Great Hall 4:00 p.m. – 5:30 p.m.	
4:00 PM			
4:30 PM	Breakout Sessions (2A–2D) Board Room, Member's Room, NAS 125, NAS 120 4:00 p.m. – 5:30 p.m.		
5:00 PM			
5:30 PM	Ferry Excursion on Miss Mallory Potomac River 6:45 p.m. – 9:00 p.m.		
6:00 PM			
7:00 PM			
8:00 PM			

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WELCOME

Welcome to the biennial marine transportation system (MTS) research and development (R&D) conference, Innovative Technologies for a Resilient Marine Transportation System, cosponsored by TRB and the Committee on the Marine Transportation System (CMTS).



Following the great successes of the 2010 MTS R&D conference, *Transforming the Marine Transportation System: A Vision for Research and Development*, in Irvine, California, and 2012's *Diagnosing the Marine Transportation System: Measuring Performance and Targeting Improvement*, in Washington, D.C., we have gathered again in the nation's capital to consider the challenges of a resilient marine transportation system and how best to infuse innovative technologies to help us achieve our goals.

The conference will engage stakeholders in government, academia, and the private sector to examine what we mean by a resilient system, identify emerging technologies that may help us, consider the future of navigation and the opportunities provided through data and information exchange, and look at the progress made since the previous biennial conference. The goal of the conference is to identify technical and research priorities and directions for the MTS community.

We appreciate the involvement of our many prestigious panelists, speakers, and participants and hope this event provides an excellent opportunity to share your experiences and knowledge and, ultimately, to develop mutually beneficial and dynamic partnerships and collaborations.

With your participation and involvement, we will create a vision for MTS resilience and identify emerging technologies to help achieve our vision for a more competitive and successful MTS.

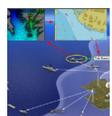
—*W. Jeff Lillycrop*
U.S. Army Corps of Engineers
Conference Chair

TRANSPORTATION RESEARCH BOARD

OF THE NATIONAL ACADEMIES

Transportation Research Board is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance. The National Research Council is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board's varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation. **www.TRB.org**

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ACKNOWLEDGMENTS

This conference would not have been possible without the combined efforts of many individuals and agencies. Special acknowledgment is given to the members of the Committee on the Marine Transportation System Research and Development Integrated Action Team along with the Organizing Committee.

Conference Chair

W. Jeff Lillycrop, U.S. Army Corps of Engineers

Conference Planning Committee

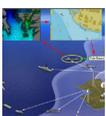
Edward Anthes-Washburn, Port of New Bedford
Paul Bea, PHB Public Affairs
Blaine Collins, Det Norske Veritas (USA), Inc.
Hota GangaRao, West Virginia University
Bill Hanson, Great Lakes Dredge and Dock Company
Jim McCarville, Port of Pittsburgh Commission
Rudy Peschel, Radio Technical Commission for Maritime Services
Joe Ryan, The Skip'r, LLC
Tom Wakeman, Stevens Institute of Technology
Jim Walker, American Association of Port Authorities
Jim Watson, American Bureau of Shipping

Research and Development Integrated Action Team and Other Contributors

Helen Brohl, Committee on the Marine Transportation System (ex officio)
Matt Chambers, U.S. Department of Transportation
Diane Davidson, Oak Ridge National Laboratory
Patricia Dijoseph, U.S. Army Corps of Engineers
Dave Enabnit, National Oceanic and Atmospheric Administration
Irene Gonin, U.S. Coast Guard
Todd Grove, American Bureau of Shipping
Mike Hilliard, Oak Ridge National Laboratory
Rajiv Khandpur, U.S. Coast Guard
Kevin Knight, U.S. Army Corps of Engineers
Marin Kress, U.S. Army Corps of Engineers
Chao Lin, Maritime Administration
Richard Lolich, Maritime Administration
Douglas McDonald, Maritime Administration
Ned Mitchell, U.S. Army Corps of Engineers
Josh Murphy, National Oceanic and Atmospheric Administration
Pat Mutschler, U.S. Army Corps of Engineers
Roy Pearson, Federal Maritime Commission
Gary Rasicot, U.S. Coast Guard
Todd Ripley, Maritime Administration
Julie Rosati, U.S. Army Corps of Engineers
Aaron Sanders, U.S. Coast Guard
Rolf Schmitt, Bureau of Transportation Statistics
Scott Smith, U.S. Coast Guard
Ed Strocko, Federal Highway Administration
Michael Struthers, U.S. Coast Guard
Burton Suedel, U.S. Army Corps of Engineers
Marc Thibault, U.S. Coast Guard
Katherine Touzinsky, U.S. Army Corps of Engineers
Emily Vuxton, U.S. Army Corps of Engineers

TRB Staff

Scott Brotemarkle
Brittney Gick



CMTS COORDINATING BOARD CHAIR

Rear Admiral Joseph A. Servidio

Assistant Commandant for Prevention Policy
U.S. Coast Guard



Rear Admiral Joseph A. Servidio is the Assistant Commandant for Prevention Policy overseeing the U.S. Coast Guard's Compliance and Enforcement Directorate, Marine Transportation Systems Directorate, and Commercial Regulations and Standards Directorate, which include policy experts in waterways management, navigation and boating safety, commercial vessels, ports and facilities, merchant mariner credentialing, vessel documentation, marine casualty investigations, inspections, and port state control.

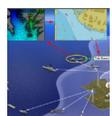
Most recently, he has served as Special Advisor for Homeland Security to the Vice President and as the First Coast Guard District Chief of Staff. He also was Commanding Officer, Sector St. Petersburg; Chief, U.S. Coast Guard Office of Compliance; Transition Team, Department of Transportation to Department of Homeland Security; Commanding Officer, Marine Safety Office San Juan; Executive Officer, Marine Safety Office San Diego; Instructor and School Chief, Marine Inspection and Investigation School, Training Center Yorktown; Supervisor, U.S. Coast Guard Resident Office St. Croix; Vessel Inspector and Investigator, Marine Inspection Office New York; and an engineer onboard the U.S. Coast Guard Icebreaker *Northwind*.

Servidio is a 1982 graduate of the U. S. Coast Guard Academy in New London, Connecticut, receiving a bachelor's degree in ocean engineering and two master's degrees in engineering from the University of Michigan as well as one master's degree in national resource strategy from the Industrial College of the Armed Forces. He is a licensed Professional Engineer in the state of Michigan.

Servidio's military awards include three Legion of Merit Medals, four Meritorious Service Medals, the Transportation 9/11 Medal, three Coast Guard Commendation Medals, and two Coast Guard Achievement Medals.



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KEYNOTE SPEAKER

Major General John Peabody

Deputy Commanding General for Civil and Emergency Operations
U.S. Army Corps of Engineers



Major General John Peabody became the Deputy Commanding General for Civil and Emergency Operations, U.S. Army Corps of Engineers, on Oct. 18, 2013.

As Deputy Commanding General for Civil and Emergency Operations, Peabody is responsible for a \$10 billion annual program. He exercises oversight of the Corps' civil works activities conducted by more than 23,000 military and civilian professionals operating in eight engineer divisions and 38 districts nationwide. The Corps Professionals conduct research and development and plan, design, build, operate, and maintain the nation's water resource civil infrastructure, valued at \$125 billion and including more than 693 dams, 4,254 recreation areas, more than 12,000 miles of commercial inland waterways, approximately 14,000 miles of levees, and 926 harbors. Peabody also coordinates all emergency response missions and preparatory activities for civil disasters in support of the Federal Emergency Management Agency and state and local authorities. He serves the Chief of Engineers and the Assistant Secretary of the Army for Civil Works as their principal military advisor for civil and emergency operations.



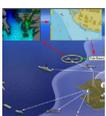
Staff assignments include Company Executive Officer and Aide-de-Camp, 193rd Infantry Brigade; Instructor, U.S. Army School of the Americas; Assistant S3, 307th Engineer Battalion (Airborne); 13th Corps Support Command Engineer, Fort Hood, Texas; Logistics Support Command Engineer, Somalia; S3, 17th Engineer Battalion, 2nd Armored Division; Pol-Mil Division Chief, J5, U.S. Southern Command in Panama; Senior Engineer Trainer, National Training Center, Fort Irwin, California; and Programs Division Chief, U.S. Army Office of the Chief, Legislative Liaison.

Previous commands include the 618th Engineer Company (Light Equipment and Airborne), 82nd Airborne Division; 299th Engineer Battalion, 4th Infantry Division, Fort Hood; Engineer Brigade, 3rd Infantry Division in Operation Iraqi Freedom I; and three Corps of Engineers Divisions for more than 8 years: the Pacific Ocean, Great Lakes and Ohio River, and Mississippi Valley Divisions. He also served 5 years on the Mississippi River Commission, concluding as the 36th President of the Commission.

Awards and decorations include the Distinguished Service Medal, Legion of Merit, Bronze Star Medal with "V" device, Purple Heart, Joint Meritorious and Army Meritorious Service Medals, Armed Forces Expeditionary Medal, Iraq Campaign Medal, Humanitarian Service Medal, Presidential Unit Citation, Joint Unit Commendation Award, Army Superior Unit Award, Combat Action Badge, Master Parachutist Badge, Ranger Tab, and Army Staff Badge.

Peabody graduated from the United States Military Academy, Command and General Staff College, and Army War College with a master's degree in strategic studies. He also holds a master's in public administration from Harvard University and has studied international relations and political sociology as an Olmsted Scholar at El Colegio de Mexico, Mexico City. Peabody is a Professional Engineer in the Commonwealth of Kentucky. Peabody and wife Kelly have a daughter, Reagan.

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KEYNOTE SPEAKER

Victor Mendez

Acting Deputy Secretary of Transportation
U.S. Department of Transportation



On July 17, 2009, Victor Mendez was sworn in as Federal Highway Administrator, the 18th person to hold the position. In this role, he oversees the Federal Highway Administration's (FHWA's) 2,900 employees in Washington and field offices across the country and provides executive guidance on strategic initiatives and policy.

As FHWA Administrator, Mendez directed the agency's implementation of President Barack Obama's American Recovery and Reinvestment Act of 2009, which made \$26.6 billion available for bridge and highway projects across the country, helped revitalize the nation's infrastructure and created jobs through more than 13,000 projects. Under his watch, states met the ambitious milestones outlined in the act. In addition to putting people back to work, these projects helped make communities safer, greener, more livable, less congested, and economically stronger.



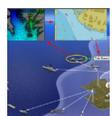
Mendez parlayed his lifelong interest in innovation and technology into launching the Every Day Counts (EDC) initiative. He launched EDC early in his tenure—November 2009—and identified three areas for initial focus: shortening project delivery, accelerating technology and innovation deployment, and the Going Greener initiative, which focuses on how FHWA can improve the environment through internal operations. EDC gives states a range of tools to streamline construction projects and make them more cost-effective, while drawing upon new and established technologies and working within current legal requirements.

Before joining FHWA, Mendez served on the Obama–Biden Presidential Transition Team and as Director, Arizona Department of Transportation (DOT). He has more than 20 years of state DOT experience, having worked at Arizona DOT since 1985. As director, Mendez improved the customer service in the department's highway and motor vehicle divisions. Under his leadership, Arizona DOT built the Regional Freeway System in the Phoenix area 6 years ahead of schedule and consistently delivered statewide construction programs on time.

In 2006, Mendez was elected president of the Western Association of State Highway and Transportation Officials and of the American Association of State Highway and Transportation Officials (AASHTO), its national counterpart. He chaired AASHTO's Standing Committee on Research, the Operations Council of the Standing Committee on Highways, and the oversight group for TRB's Long-Term Pavement Performance program.

Mendez received a bachelor's degree in civil engineering from the University of Texas at El Paso and, later, a master's in business administration from Arizona State University.

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KEYNOTE SPEAKER

Paul (Chip) Jaenichen

Acting Maritime Administrator

Maritime Administration, U.S. Department of Transportation



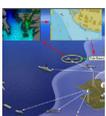
On June 4, 2013, Deputy Maritime Administrator Paul (Chip) Jaenichen was named Acting Maritime Administrator. He will serve in this role until the appointment and confirmation of a new Maritime Administrator. Jaenichen has been with the U.S. Department of Transportation, Maritime Administration, since July 2012, when he was appointed Deputy Maritime Administrator by President Obama.

Jaenichen was a career naval officer, retiring after serving 30 years as nuclear-trained Submarine Officer in the U.S. Navy. His final assignment was as Deputy Chief of Legislative Affairs for the Department of the Navy from October 2010 to April 2012. He served as Commanding Officer of USS *Albany* (SSN 753) from September 1999 to June 2002 and as Commander, Submarine Squadron *Eleven* in San Diego, California, from April 2007 to September 2008. His shore tours included assignments as Director, Submarine/Nuclear Officer Distribution, responsible for the career progression and assignment of more than 5,200 officers; as Officer-in-Charge of Moored Training Ship 635—one of two nuclear-powered training platforms in Charleston, South Carolina—responsible for initial operational training and qualification of over 1,200 officer and enlisted operators annually; and as Chief, European and North Atlantic Treaty Organization (NATO) Policy Division on the Joint Staff, responsible for military-to-military engagement on security cooperation and involvement in coalition operations with all 26 NATO member nations.



Jaenichen's hometown is Brandenburg, Kentucky. He earned a bachelor's degree in ocean engineering from the United States Naval Academy and a master's in engineering management from Old Dominion University. His personal military awards include the Defense Superior Service Medal, Legion of Merit (four awards), Meritorious Service Medal (three awards), Navy–Marine Corps Commendation Medal (five awards), and the Navy–Marine Corps Achievement Medal (two awards). He lives in Bowie, Maryland, with wife Paula Auclair Jaenichen, a National Board Certified teacher.

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KEYNOTE SPEAKER

Richard Ceci

Vice President IT
Global Container Terminals, USA



Richard Ceci joined Global Container Terminals, USA in August 2010 as Vice President of Information Technology (IT) and subsequently assumed the responsibilities of Project Manager for the Global Expansion Project (GEP). The GEP will result in a major capacity expansion of Global's New Jersey facility by the fiscal second quarter of 2014. This expansion will include advanced technology focused on improving both safety and productivity at the terminal.

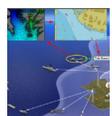
Previously, Ceci was Senior Director of IT at APM Terminals, responsible for IT in the Americas region. He also was the IT lead on the APM Terminals Virginia project; the facility opened in August 2007 and is one of the most technologically advanced marine terminals in the world.

Ceci has more than 25 years of experience delivering automation systems to the automotive industry. His involvement has ranged from the boardroom to the factory floor. After spending 10 years at Ford Motor Company in the Electronic Engine Controls Group, he formed his own company focused on factory automation software systems. Eventually that company was sold and merged into a Fortune 1000 automation company, where Ceci stayed on as Vice President of Technology.

A native of Michigan, Ceci received a bachelor's degree in chemical engineering from Wayne State University in Detroit and a master's in business administration from the University of Michigan in Ann Arbor.

Ceci is married to Page and has two daughters and two grandsons.

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KEYNOTE SPEAKER

Thad Allen

Executive Vice President
Booz Allen



Booz Allen Executive Vice President Thad Allen is a leader in the firm's Departments of Justice and Homeland Security business in the civil market. He leads the development of thought leadership and client engagement regarding the future direction of law enforcement and homeland security. He is known for his expertise in bringing together government and nongovernment entities to address major challenges in a "whole of government" approach designed to achieve a unity of effort. Allen completed his distinguished career in the U.S. Coast Guard as its 23rd Commandant.

In 2010, President Obama selected Allen to serve as the National Incident Commander for the unified response to the *Deepwater Horizon* oil spill in the Gulf of Mexico. Working closely with the U.S. Environmental Protection Agency; the Department of Homeland Security; the Departments of Defense, Interior, Commerce, and Health and Human Services; state and local entities; and BP, he sought to bring a unity of effort to response operations.

Before his assignment as Commandant, Allen served as U.S. Coast Guard Chief of Staff. During his tenure in that position, in 2005, he was designated Principal Federal Official for the U.S. government's response and recovery operations in the aftermath of Hurricanes Katrina and Rita throughout the Gulf Coast region.

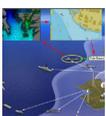
Other Coast Guard assignments included Commander, Atlantic Area, where he led the Coast Guard's Atlantic Area forces following the attacks of September 11, 2001. He previously served as Commander, Seventh Coast Guard District, where he oversaw all operations in the southeastern United States and in the Caribbean.

Before joining Booz Allen, Allen served with the Rand Corporation.

A Fellow in the National Academy of Public Administration and a Member of the Council on Foreign Relations, Allen also serves as a director on the U.S. Coast Guard Foundation and Partnership for Public Service. New York Governor Andrew Cuomo appointed Allen to the New York State Respond Commission tasked with finding ways to ensure that New York State is ready to respond to future weather-related disasters.

Allen is a 1971 graduate of the U.S. Coast Guard Academy and holds a master's in public administration from George Washington University, from which he also received the Alumni Achievement Award in 2006. He also holds a master's degree in management from the Sloan School of Management at the Massachusetts Institute of Technology. Allen has been awarded honorary doctorate degrees from George Mason University, the National Defense University, and the National Graduate School.

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CONFERENCE SESSIONS

Tuesday, June 24

7:30 a.m.–4:00 p.m.

Registration

7:30 a.m.–8:30 a.m., *Great Hall*

Breakfast

8:30 a.m.–10:00 a.m., *Auditorium*

Opening Session

Welcome and Call to Order

Helen Brohl, Committee on the Marine Transportation System

Keynote Address

Major General John Peabody, U.S. Army Corps of Engineers

Keynote Address

Victor Mendez, Acting Deputy Secretary of Transportation

10:00 a.m.–10:30 a.m., *Great Hall*

Morning Break

10:30 a.m.–noon, *Auditorium*

Plenary 1: Innovative Technology for a Resilient Marine Transportation System

Holly Bamford, National Oceanic and Atmospheric Administration, *presiding*

William Hanson, Great Lakes Dredge and Dock Company

Stephen DeLoach, U.S. Army Corps of Engineers

Anne Strauss-Wieder, A. Strauss-Wieder, Inc.

Mary Landry, U.S. Coast Guard

Noon–1:00 p.m., *Great Hall*

Lunch

1:00 p.m.–1:15 p.m., *Auditorium*

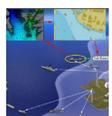
Remarks from Paul N. Jaenichen, Sr., Acting Maritime Administrator

1:15 p.m.–1:45 p.m., *Auditorium*

Keynote Address

Richard Ceci, Global Container Terminal USA

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2:00 p.m.–3:30 p.m.

Breakout Sessions

1A: The Future of Navigation: e-Navigation Innovations, Auditorium

Scott Smith, U.S. Coast Guard, *moderator*

Nongovernmental Organizations and Commercial Entities as Providers of National Alternate Positioning, Navigation, and Timing (PNT) Systems

Dana Goward, Resilient Navigation and Timing Foundation

Moving Forward with e-Navigation

Robert Markle and Joseph Ryan, e-Nav Steering Committee

Reconfigured Nautical Chart Products Help Mariners Catch the Digital Wave

Gerd Glang, National Oceanic and Atmospheric Administration

Services of the Wireless Waterway

Rex Woodward, Port of Pittsburgh Commission, and Dave Kartchner, Pittsburgh Port of Technology, Inc.

1B: System Performance, NAS 125

Jim Walker, American Association of Port Authorities, *moderator*

Innovative Data Mining for Enhanced Inland Waterways Performance Assessment

Gwen DiPietro, Carnegie Mellon University

Leveraging Automatic Identification System (AIS)-Related Data to Improve the Marine Transportation System (MTS)

Jason Tieman, PortVision

Measures for Capacity and Congestion at Ports

Doug McDonald, MARAD

Shipmoves.org: Great Lakes Maritime Domain Awareness

Gregg Ward, Detroit–Windsor Truck Ferry

1C: MTS Resilience, NAS 120

Todd Bridges, U.S. Army Corps of Engineers, *moderator*

Decision-Making Guidelines Enhance Port Resilience to Flood Events

Grace Python, Stevens Institute of Technology

The Impact of Climate Change on Ports: The Example of Mobile, Alabama

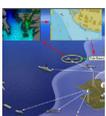
Anne Choate, Beth Rodehorst, Cassie Snow, and Michael Savonis, ICF International

Building Leadership for Climate Adaptation: A Review of Approaches and Assessment of Applicability to the Maritime Infrastructure Sector

Austin Becker, University of Rhode Island

Ensuring Maritime Commerce: U.S. Government Accountability Office Reviews of Department of Homeland Security Programs to Promote Recovery and Resilience in Ports

Stephen Caldwell, U.S. Government Accountability Office



1D: Engineering with Nature, *Member's Room*

William Hanson, Great Lakes Dredge and Dock Company, *moderator*

Dredged Material Placement Practices for Creating River Island Habitat and Effective Waterway Management

Burton Suedel, U.S. Army Corps of Engineers

Engineering with Nature Applied to Dredging Project at Mobile Bay

Joseph Gailani, U.S. Army Corps of Engineers

SAGE: A Community of Practice Focusing on Green and Gray Infrastructure

Naomi Edelson, National Wildlife Federation

Green Alternatives in a Gray Environment

Jon Miller, Stevens Institute–NJ Sea Grant

1E: Innovative Technology, *Board Room*

Hota GangaRao, West Virginia University, *moderator*

Feasibility of Fiber-Reinforced Polymer Materials for Structural Applications

John Clarkson, U.S. Army Corps of Engineers

Design, Evaluation, and Field Implementation of Composite Anti-Collision Bumper System for Bridge Piers

Weiquin Liu, Hai Fang, Lu Zhu, Juan Han, and Yong Zhuang, Nanjing Tech University

Rehabilitations of East Lynn Lake Bridge Steel Pile Bents and Composites

Ray Liang, Mark Skidmore, and Hota GangaRao, West Virginia University

Marine Fiberglass-Reinforced Polymer Pipe Piling for Bridge and Dock Fenders and Foundations

Dustin Troutman, Creative Pultrusions, Inc.

3:30 p.m.–4:00 p.m., *Great Hall*

Afternoon Break

4:00 p.m.–5:30 p.m.

Breakout Sessions

2A: System Performance, *NAS 125*

John Quinn, MARAD, *moderator*

Multistate Freight Corridors in the Mid-America Freight Coalition States: Strategies, Benefits, Markets, and Successes

Ernie Perry, Mid America Freight

America's Leading Seaports: Competitive and Flexible

Matthew Chambers, U.S. Department of Transportation

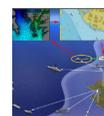
Predicting Future Vessel Arrival Times Using AIS Tracking Data

Michael Hilliard and Brandon Langley, Oak Ridge National Lab

Marine Transportation Performance Measures

Marin Kress, U.S. Army Corps of Engineers

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2B: Security, Board Room

Michael Bee, National Maritime Intelligence–Integration Office, *moderator*

Providing Resilient PNT with eLoran During Global Navigation Satellite System (GNSS) Denial

Chris Hargreaves, Radio Navigation (UK)

Ensuring Optimum Resilience in Marine Transportation: Extended Applications of the Maritime Security Risk Analysis Model and the Dynamic Risk Management Model

Maria G. Burns, Center for Logistics and Transportation Policy, College of Technology, University of Houston

Resilience Through Proactive Cyber Defense

John Felker, HP Enterprise Services

Strategies for Maritime Cyber Security: Leveraging the Other Modes

Mike Dinning, Volpe National Transportation Systems Center

2C: Environmental Stewardship, Member's Room

Ben Steinberg, Department of Energy, *moderator*

2015 North American Emission Control Area: Learning from California

Jeff Cowan

Environmental Sustainability Dimensions of Freight Transport Considering Highway and Waterway Intermodal Integration

Waheed Uddin, University of Mississippi

Analysis of the Movement of Vessels Through the Chicago Area Waterway System in Support of Research Concerning Invasive Asian Carp

Patricia DiJoseph and Martin Schultz, U.S. Army Corps of Engineers

Complying with New Environmental Protection Agency Lubricant, Cleaner Requirements for Marine Transportation

Bernie Roell, RSC Bio Solutions

2D: Innovative Technology, NAS 120

Eddie Wiggins, U.S. Army Corps of Engineers, *moderator*

Sea Traffic Management: Bringing Situational Awareness to the Arctic

Per Setterberg, Swedish Maritime Administration

Long-Needed Port Technologies are the Transport Wave of the Freight Future: A Look at Innovative Port Technology and Practices

Jimmy McDonald, CDM Smith

Recent Developments in the National Oceanic and Atmospheric Administration's Real-Time Coastal Observing Systems for Safety and Efficiency of Maritime Transportation

Richard Edwing, Chung-Chu Teng, and Robert Heitsenrether, National Oceanic and Atmospheric Administration

Remote Sensing for the MTS

Jennifer Wozencraft, U.S. Army Corps of Engineers

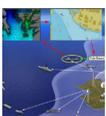
6:45 p.m.–9:00 p.m.

Optional Ferry Excursion Aboard the Potomac Riverboat Company's *Miss Mallory*

Boarding: 6:45 p.m.

Dock location: Diamond Teague Park at the Nationals Stadium, 100 Potomac Avenue SE, Washington, D.C., 20003

June 24–26, 2014



Wednesday, June 25

7:30 a.m.–4:00 p.m.

Registration

7:30 a.m.–8:15 a.m., *Great Hall*

Breakfast

8:15 p.m.–9:00 a.m., *Auditorium*

Keynote Address

Thad Allen, Resiliency During Disasters

9:00 a.m.–10:45 a.m., *Auditorium*

Plenary 2: The Future of Navigation—Impacts of e-Navigation on the Marine Transportation System

Gary Rasicot, U.S. Coast Guard, *presiding*

Bill Burns, U.S. Coast Guard

Gerd Glang, National Oceanic and Atmospheric Administration

Jim McCarville, Port of Pittsburgh Commission

John Gieger, General Electric

Jorge Viso, Tampa Bay Pilots Association

10:45 a.m.–11:15 a.m., *Great Hall*

Morning Break

11:15 a.m.–12:45 p.m.

Breakout Sessions

3A: Data Management and Sharing, *NAS 125*

Brian Tetreault, U.S. Army Corps of Engineers, *moderator*

Ocean Observations in Support of Decision-Making for Maritime Operations

Julie Thomas, Southern California Coastal Ocean Observing System

The Last Mile: Challenges and Opportunities in the Dissemination of Navigation Information to End Users

Brian Tetreault, U.S. Army Corps of Engineers

NOAA's nowCOAST: Providing Situational Awareness of Present and Future Coastal Weather and Ocean Conditions

John Kelley and Jason Greenlaw, National Oceanic and Atmospheric Administration

Post-Sandy State Channel Rehabilitation and Recovery in New Jersey

Jennifer Grenier, Parsons Brinckerhoff

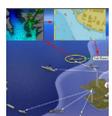
3B: Asset and Maintenance Management, *Board Room*

Bob Leitch, U.S. Army Corps of Engineers, *moderator*

Dredged Material Management Areas: Improving the Confined Disposal Alternative

Corragio Maglio, U.S. Army Corps of Engineers

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Analysis of Optimal Dredging Cycles for Navigation Projects

Corey Winton, Mark Cowan, Kenneth Mitchell, and Patricia DiJoseph, U.S. Army Corps of Engineers

Economic Risk of the U.S. Army Corps of Engineers' Maintenance of Navigation Assets

Martin Hettel, AEP Water Regulatory

Preparing for the Storm: National Ocean Service Predictions of Extreme High and Low Water Levels

Jesse Feyen, National Oceanic and Atmospheric Administration

3C: MTS Resilience, NAS 120

Tom Wakeman, Stevens Institute, *moderator*

Stakeholder Vulnerability Assessment of Maritime Infrastructure: A Case Study of Rhode Island

Austin Becker, University of Rhode Island

State Pilotage: A Critical Component of a Resilient MTS

Clay Diamond, American Pilots Association

Port and Supply Chain Resilience Following Superstorm Sandy

Tom Wakeman, Stevens Institute of Technology

Increasing Resilience of the MTS

Julie Rosati, U.S. Army Corps of Engineers

12:45 p.m.–1:45 p.m., *Great Hall*

Lunch

2:00 p.m.–4:00 p.m., *Auditorium*

Plenary 3: Optimizing Freight Transportation System Performance

William Rogers, TRB, *presiding*

- Jim Kruse, Texas A&M Transportation Institute
- Ned Mitchell, U.S. Army Corps of Engineers
- Susan Monteverde, American Association of Port Authorities
- Ed Strocko, Federal Highway Administration
- Marc-Andre Roy, CPCS Transcom

4:00 p.m.–5:30 p.m., *Great Hall*

Reception

Thursday, June 26

7:30 a.m.–8:30 a.m., *Great Hall*

Breakfast

8:30 a.m.–11:30 a.m., *Auditorium*

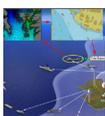
Closing Session

Sandra Knight, WaterWonks LLC, and Jeff Lillycrop, U.S. Army Corps of Engineers, *presiding*

Closing Remarks

Helen Brohl, Committee on the Marine Transportation System

June 24–26, 2014



FERRY EXCURSION

Join us aboard the Potomac Riverboat Company's *Miss Mallory* on Tuesday, June 24, 6:45 p.m.–9:00 p.m., for a cruise down the Potomac River. The boat includes both an upper and lower deck; the upper deck is open with bench seating and the lower deck is enclosed and air-conditioned. Aboard the ferry you will be able to take in the sights of Washington, D.C., including the Kennedy Center, Lincoln Memorial, Jefferson Memorial, Washington Monument, and the Capitol Building. There will be light refreshments and a cash bar.

Boarding: 6:45 p.m.

Pickup and Drop-Off: Diamond Teague Park at the Nationals Stadium, 100 Potomac Avenue SE, Washington, D.C., 20003

Nearest Metro: Navy Yard–Ballpark

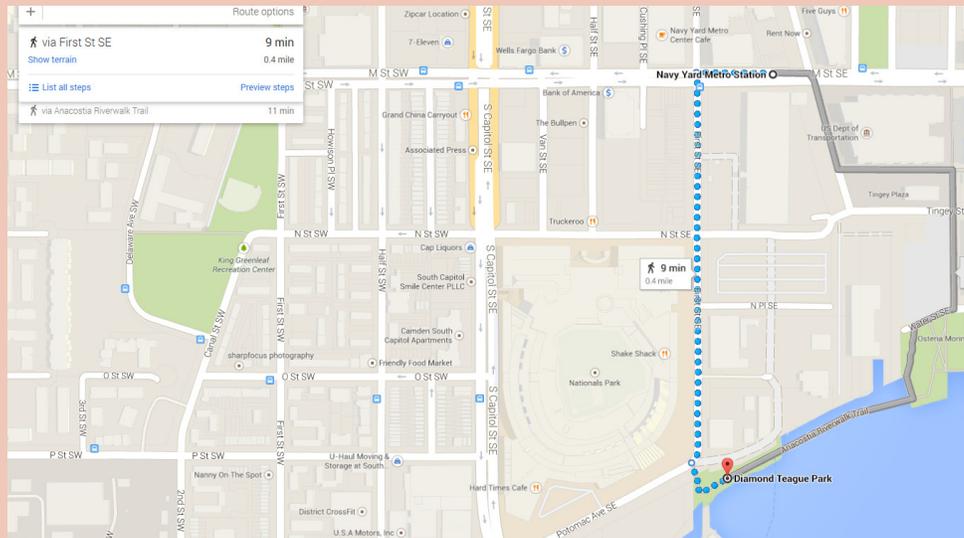
Cost: \$42/person. Option to purchase during registration. Please limit one guest per person.

Directions

Public transit from the Melrose Hotel or the NAS Building:

- Walk to Foggy Bottom Metro Station
- Take Orange Line toward New Carrollton or Blue Line toward Largo Town Center
- Transfer at L'Enfant Metro Station to Green Line toward Branch Avenue
- Exit Metro at Navy Yard
- Head west on M St. SE toward First St. SE (328 ft)
- Turn left onto First St. SE (0.3 mi)
- Continue onto Potomac Ave. SE
- Destination is on the right

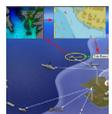
Walking Map, Navy Yard Station to 100 Potomac Avenue SE



By Taxi from the NAS Building

Estimated one-way fare is approximately \$15. There is a cab stand at 22nd St. NW and C St. NW. Travel time: 10–15 minutes.

June 24–26, 2014





**15th Biennial Harbor Safety Committee and
Area Maritime Security Committee Conference:
Partnering for Safe, Secure, and Resilient Port Operations**

August 25–27, 2014

Philadelphia, Pennsylvania

Organized by
Transportation Research Board

Supported by
Mariners' Advisory Committee for the Bay and River Delaware



Save the Date

December 10–11, 2014

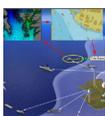


8th University Transportation Center Spotlight Conference on

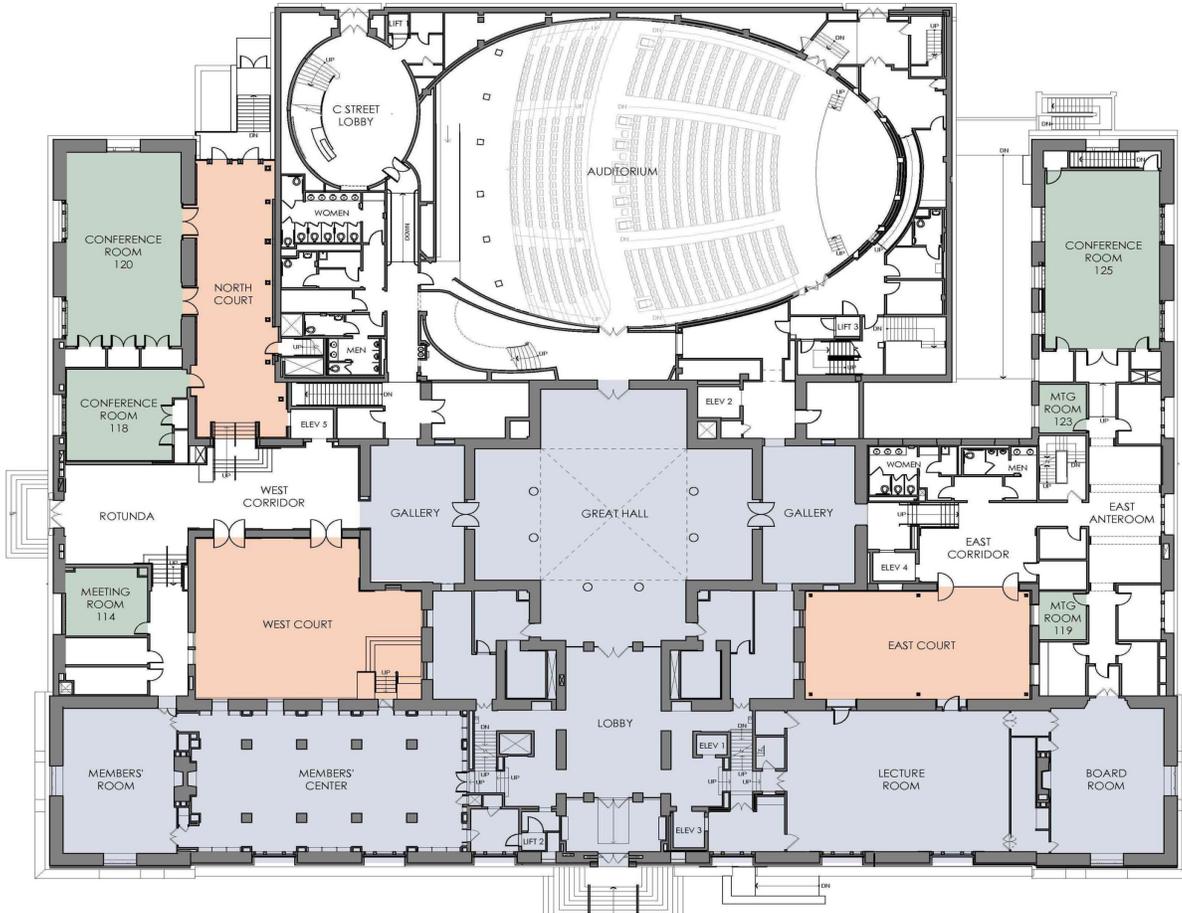
**The Role of Freight Transportation
in Economic Competitiveness**

Washington, D.C.

June 24–26, 2014



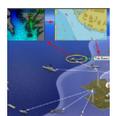
NAS BUILDING FLOOR PLAN



AREA MAP



June 24-26, 2014



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