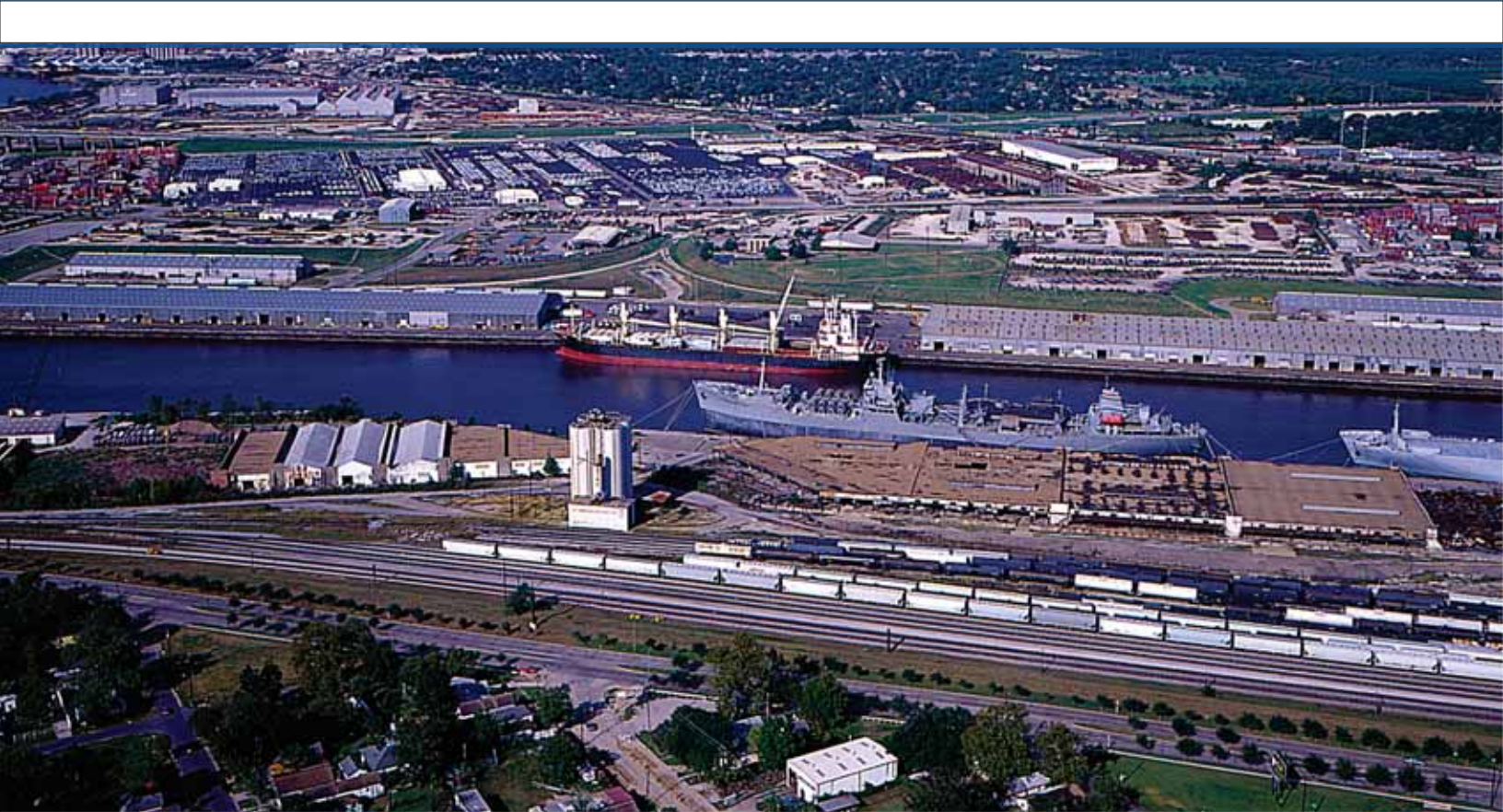


17th Biennial National Harbor Safety Committee Conference

Safe, Shared Waterways: From Conversation to Action
June 25-27, 2019

Houston, Texas



Organized by

TRB TRANSPORTATION RESEARCH BOARD

Co-sponsored by

The Lone Star Harbor Safety Committee

&

The South Texas Waterways Advisory Committee

ACKNOWLEDGEMENTS

This conference would not have been possible without the combined efforts of many individuals and organizations. Special acknowledgement is given to the Lone Star Harbor Safety Committee and the South Texas Waterways Advisory Committee.

Conference Chair

James Prazak, Tricon Energy and the Lone Star Harbor Safety Committee

Conference Planning Committee Members

LCDR William Albright, U.S. Coast Guard

Amy Arrowood, San Jacinto College

CAPT Stuart Griffin, Mariners' Advisory Committee for the Bay and River Delaware

LCDR Ian Hanna, U.S. Coast Guard

Joe Harrington, Valero

Dennis Holland, U.S. Coast Guard

Rajiv Khandpur, U.S. Coast Guard

Lynn Korwatch, Marine Exchange of the San Francisco Bay Region

Todd Ripley, U.S. Maritime Administration

LCDR Sarah Rousseau, U.S. Coast Guard

CAPT John Strong, Jacobsen Pilot Services

Xavier F. Valverde, Sr., G & H Towing Company

John Veentjer, Marine Exchange of Puget Sound

Liz Wainwright, Merchant's Exchange of Portland, Oregon

TRB Staff

Scott Brotemarkle, Marine Board Program Director

Brie Schwartz, Marine Board Staff

Gary Jenkins, Associate Program Officer, Technical Activities Division

Bruce Millar, Deputy Director, Meetings Department

Ted Jamele, Meetings Department Staff

The **Transportation Research Board** is one of seven major programs of the National Academies of Sciences, Engineering, and Medicine. The mission of the Transportation Research Board is to increase the benefits that transportation contributes to society by providing 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 committees, task forces, and panels 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

WELCOME

Welcome Letter from the Chair

On behalf of the Lone Star Harbor Safety Committee and the South Texas Waterways Advisory Committee, I am pleased to welcome you to the 17th Biennial National Harbor Safety Committee Conference. Our theme, *Safe, Shared Waterways: From Conversation to Action* highlights and addresses many important issues facing waterways users across the country, and reminds us that we can only be successful if our ideas become reality.

We have crafted a comprehensive agenda that focuses on nationally pertinent issues and associated best practices, including: The Future of Navigation and Shipping; Cybersecurity; Disaster Preparedness; Harbor Safety Committee Management; Communication, Coordination, and Collaboration; Community Outreach; The Role of the Waterways Stakeholder in Vessel Traffic Safety and Security; Innovations in Training, Education, and Exercises; and more. Prepare yourselves for a conversation, with extensive interaction between the panel members and the audience. We have an amazing group of panel members and keynote speakers representing many of the best in our maritime industry!

On Wednesday, the Lone Star Harbor Safety Committee invites you to put on your cowboy boots and join us for a truly Texas-sized off-site event at Wild West, a nearby Country-Western dance hall, for great Texas BBQ and Country Music. New to Country-Western dancing – don't worry! We'll even have professional instructors teaching us to line dance (no dance partner required). This will be a special evening to relax, network and celebrate the hard work and dedication of our nation's Harbor Safety Committees.

Special appreciation is extended to our conference planning committee, the Transportation Research Board and the U.S. Coast Guard—specifically our co-host Sectors of Sectors Houston-Galveston and Corpus Christi - for all of their hard work and dedication. A Texas-sized "Thank-you" goes out to all of the panelists for providing their insight. I would especially like to express my sincere gratitude to our public and private patrons, for without their support, this conference would not have been possible. Please be sure to visit our conference exhibitors' booths in-between sessions, as they highly complement the conference program.

We hope that you will find the conference both informative and enjoyable.

Again, welcome to Houston!

James Prazak, Tricon Energy, Ltd.
Conference Chair



PROGRAM OVERVIEW

	Tuesday, June 25, 2019	Wednesday, June 26, 2019	Thursday, June 27, 2019
7:00AM			
7:30AM		Breakfast & Exhibits	
8:00AM			
8:30AM		Session 3: Disaster Resilience - Learning from Past Storm Seasons to Prepare for the Future	Session 7: The Role of Waterways Stakeholders in Vessel Traffic Safety and Security
9:00AM			
9:30AM	TRB Marine Safety and Human Factors (AW040) Committee Meeting	Morning Break & Exhibits	
10:00AM		Session 4: Harbor Safety Committee Management Leadership Perspectives	Session 8: Continuous Improvement - Innovations in Mariner Training and Education
10:30AM			
11:00AM			
11:30AM			
12:00PM	Opening Keynote Address	Lunch & Keynote Address	Closing Keynote Address
12:30PM			
1:00PM	Session 1: The Future of Navigation Safety in a Dynamic Marine Transportation System	Session 5: Best Practices in Federal, Regional, and Local Level Collaboration and Community Outreach	Safe travels!
1:30PM			
2:00PM			
2:30PM	Afternoon Break & Exhibits		
3:00PM	Afternoon Break & Exhibits		
3:30PM	Session 2: The Future of Navigation Safety—Innovations and Implications for Harbor Safety and Waterways Management	Session 6: Influences on Shipping Traffic and Waterways Safety	
4:00PM			
4:30PM	Reception	Offsite Event	
5:00PM			
5:30PM			
6:00PM			
6:30PM			
7:00PM			
7:30PM			
8:00PM			



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OPENING KEYNOTE ADDRESS

Rear Admiral Paul Thomas serves as the Commander, Eighth Coast Guard District headquartered in New Orleans, and is responsible for United States Coast Guard operations spanning 26 states, including the Gulf of Mexico coastline from Florida to Mexico, the adjacent offshore waters and outer continental shelf, and the inland waterways of the Mississippi, Ohio, Missouri, Illinois and Tennessee River systems.

His previous Flag assignment was as the Assistant Commandant for Prevention Policy where he was responsible for oversight and program management for all Coast guard navigation services, boating safety, ports and facilities, waterways management, merchant mariner credentialing, vessel documentation, marine casualty investigation, commercial vessel inspections, and port state control.

A specialist in Marine Safety, Security and Environmental Protection he has served at the Marine Safety Center in Washington D.C., Marine Safety Office San Francisco Bay, CA., Marine Safety Detachment Port Canaveral, FL, and Marine Safety Office Jacksonville, FL. He has also served as Commanding Officer of Marine Safety Unit Galveston, TX, Commander Coast Guard Sector Jacksonville, FL, and as the Director of Inspections and Compliance at Coast Guard Headquarters. His other tours include Fifth Coast Guard District Chief of Staff, Executive Assistant to the Assistant Commandant for Marine Safety, Security and Stewardship, Military Assistant to the Director of Net Assessment in the Office of the Secretary of Defense, Commanding Office in USCGC CAPE ROMAIN and Operations Officer in USCGC BLACKHAW.

Rear Admiral Thomas is a graduate of the US Coast Guard Academy and the Massachusetts Institute of Technology. In 2005 he completed a National Security Fellowship at Harvard University's John F. Kennedy School of Government, and in 2010 he served as a Senior Fellow to the Chief of Naval Operations Strategic Studies Group (SSG XXIX). He is also an alumnus of Harvard's National Preparedness Leadership Initiative. His military awards include the Legion of Merit, Meritorious Service Medal, Coast Guard Commendation Medal, Transportation 9/11 Medal, Joint Service Commendation Medal and the Coast Guard Achievement Medal.



LUNCHEON KEYNOTE ADDRESS

Rear Admiral Timothy Gallaudet, Ph.D. (USN Ret), was confirmed by the U.S. Senate on October 5, 2017, as the assistant secretary of commerce for oceans and atmosphere for the Department of Commerce in the National Oceanic and Atmospheric Administration.

Dr. Gallaudet was previously a rear admiral in the U.S. Navy, where his most recent assignment was Oceanographer of the Navy and Commander of the Navy Meteorology and Oceanography Command. During his 32 years of military service, Dr. Gallaudet has had experience in weather and ocean forecasting, hydrographic surveying, developing policy and plans to counter illegal, unregulated and unreported fishing, and assessing the national security impacts of climate change. He has led teams of Navy sailors and civilians performing such diverse functions as overseeing aircraft carrier combat operations, planning and conducting humanitarian assistance and disaster response efforts, assisting Navy SEAL Teams during high visibility counter-terrorism operations, and developing the Navy's annual \$52 billion information technology, cybersecurity and intelligence budget.



Dr. Gallaudet holds a bachelor's degree from the U.S. Naval Academy and master's and doctoral degrees from Scripps Institution of Oceanography, all in oceanography.

CLOSING KEYNOTE ADDRESS

Admiral Karl L. Schultz assumed the duties as the 26th Commandant of the United States Coast Guard on June 1, 2018. He previously served from August 2016 to May 2018 as Commander, Atlantic Area where he was the operational commander for all Coast Guard missions spanning five Coast Guard Districts and 40 states. He concurrently served as Director, DHS Joint Task Force-East, responsible for achieving the objectives of the DHS Southern Border and Approaches Campaign Plan throughout the Caribbean Sea and Eastern Pacific Region, including Central America.

Prior flag assignments include Director of Operations (J3), U.S. Southern Command in Doral, Florida; Commander, Eleventh Coast Guard District in Alameda, California; and Director of Governmental and Public Affairs at Coast Guard Headquarters in Washington, D.C.

Previous operational assignments include Sector Commander in Miami, Florida, as well as command tours aboard Cutters VENTUROUS, ACACIA and FARALLON. His senior staff assignments include Chief of the Office of Congressional and Governmental Affairs; Congressional Liaison to the U.S. House of Representatives; Liaison Officer to the U.S. Department of State, Bureau for International Narcotics and Law Enforcement Affairs; Assignment Officer at the Coast Guard Personnel Command; and Command Duty Officer in the Seventh Coast Guard District Operations Center in Miami.

A native of Connecticut, Admiral Schultz graduated from the Coast Guard Academy in 1983, earning a Bachelor of Science degree in Civil Engineering. In 1992, he was awarded a Master's Degree in Public Administration from the University of Connecticut, and in 2006, completed a one year National Security Fellowship at Harvard University's Kennedy School of Government. He and his wife, Dawn, have five children - Kelsey, Lindsey, Annaliese, Eric, and Zachary.

His personal awards include the Coast Guard Distinguished Service Medal, Defense Superior Service Medal, four Legions of Merit, four Meritorious Service Medals, three Coast Guard Commendation medals, two Coast Guard Achievement Medals and various other personal and unit awards.



HARBOR SAFETY COMMITTEE AWARD

HARBOR SAFETY COMMITTEE OF THE YEAR FOR 2014-2015: THE LOWER COLUMBIA REGION HARBOR SAFETY COMMITTEE

The Lower Columbia River Harbor Safety Committee (LCRHSC) was recognized in 2016 as the Harbor Safety Committee of the Year for the period 2014 through 2015. The LCRHSC initiated several efforts that had significant and far-reaching impact on the extent of the Columbia River waterway, ensuring the safe transport of \$24 billion in cargo annually and supporting over 40,000 jobs. The LCRHSC exemplifies the collaborative partnership between various segments of industry, and myriad federal and state government agencies.

In 2015, the State of Washington mandated a Columbia River Vessel Traffic Safety Assessment (CRVTSA) to examine the current and future risk of increased maritime and rail oil transportation on the Columbia River. The LCRHSC quickly embraced the effort, leveraging the expertise of its membership. A CRVTSA Subcommittee formed to work directly with the State as the primary representative of the region's maritime industry. This group clarified the methodology and data sources for the study, and served as a conduit to the general membership to ensure that quality data was being gathered. The effort enhanced the understanding of present and future risk of oil transportation on the Columbia River, and provided thorough examination of the working standards and practices intended to facilitate the safe and reliable transportation of maritime cargoes. Also in 2015, the LCRHSC began a rewrite of the Harbor Safety Plan (HSP). The HSP adopted a cooperative "standards of care" approach by regulators and industry that complements existing regulations, and informs mariners of unique conditions and requirements on the Lower Columbia River. The extensive rewrite involved all members, and touched upon nearly every operation on the River, from extensive anchoring guidelines to incident management procedures. This publication is now used as a reference for all ships navigating the Columbia River. In anticipation of the changing shipping environment on the Columbia River, the LCRHSC formed an Anchorage Subcommittee to examine expansion of the current number of anchorages. They evaluated ten proposals, with three locations determined to be best candidates for further examination. These additional anchorages will provide a more flexible Marine Transportation System to augment safe and efficient vessel queuing for export facilities, particularly during adverse weather and shipping congestion.

Additionally, the LCRHSC formed an "Extreme Water" Subcommittee that maintains an active partnership with the U.S. Army Corps of Engineers (USACE) to monitor safe and efficient water levels within the river system. The sub-committee meets monthly to review survey data in an effort to identify shifting shoals and review projected river levels. This group is especially critical during late summer low-water conditions before the grain harvest season. The Subcommittee provides valuable input to the USACE, serves as a conduit to the maritime community, and allows facilities and shippers to anticipate low-water periods in an effort to avoid disruption to maritime commerce. Each year members of LCRHSC sponsor "COBALT" or Columbia Basin Leadership Training. The week-long industry event provides immersion training for incoming senior Coast Guard officers (including the District 13 Commander) to gain exposure to key assets, critical infrastructure and essential operations that drive the economics of the region. This executive-level seminar is the cornerstone of LCRHSC's commitment to building stronger maritime partnerships and facilitating safe and efficient maritime commerce on the Columbia River.

The exceptional actions and distinguished service of the Lower Columbia River Harbor Safety Committee reflect the strong support and teamwork of government, industry, and all waterways users and stakeholders. The Committee's efforts are most heartily commended and are in keeping with the highest traditions of the maritime community.

PROGRAM AGENDA

Tuesday, June 25, 2019

9:00 AM **TRB Committee Meeting - Marine Safety and Human Factors (AW040)** LEGENDS 1

12:00 PM **Todd Ripley**, Maritime Administration, Committee Chair

1:00 PM - **Opening Keynote Address** DISCOVERY AB

Rear Admiral Paul F. Thomas, Eighth District Commander (D8), U.S. Coast Guard

2:00 PM - **Session 1: The Future of Navigation Safety in a Dynamic Marine Transportation System**
DISCOVERY AB

Helen Brohl, U.S. Committee on the Marine Transportation System, *presiding*

This session will set the stage for the conference by presenting a national level discussion with current maritime transportation leaders from the Federal and private sectors with an eye toward future safety issues over the 10 to 20-year horizon within a dynamic MTS. Discussions will address environmental impacts to our inland and coastal ports, congestion in our navigation channels, competing uses within the maritime domain, and fluctuating market requirements. The panel will focus on how these factors will challenge public and private initiatives to promote a more secure and efficient system while preserving and enhancing navigation safety.

- **Major General Scott Spellmon**, U.S. Army Corps of Engineers
- **Rear Admiral Richard V. Timme**, U.S. Coast Guard
- **Rear Admiral Shepard M. Smith**, National Oceanic and Atmospheric Administration
- **Mark Wright**, American Waterways Operators
- **John Groundwater**, Passenger Vessel Association
- **Morgan Turrell**, National Transportation Safety Board

3:30 PM - **Afternoon Break & Exhibits** LEGENDS 4-7

4:00 PM - **Session 2: The Future of Navigation Safety– Innovations and Implications for Harbor Safety and Waterways Management** DISCOVERY AB

Rajiv Khandpur, U.S. Coast Guard, *presiding*

This session will discuss emerging innovations and technologies related to a number of trends including autonomous vessels and collision avoidance, LNG fuel bunkering and infrastructure, commercial space transport and recovery on barges, and AIS real time data for critical navigation updates. The panel will discuss the current state with respect to these technologies and explore the implications on waterways management, safety, regulatory requirements, and the conceivable future state of harbor safety.

- **Warren Freda**, Sea Machines Robotics, Inc.
- **LCDR Jason Kling**, Marine Safety Detachment, USCG, Port Canaveral
- **Matthew Fisher**, Eagle LNG Partners
- **Brian Tetreault**, U.S. Army Corps of Engineers

5:30 PM - **Reception & Exhibits**
Welcoming Remarks - Roger Guenther, Executive Director, Port of Houston Authority
LEGENDS 4-7

7:30 AM - **Breakfast & Exhibits**

LEGENDS 4-7

8:30 AM - **Session 3: Disaster Resilience - Learning from Past Storm Seasons to Prepare for the Future**

DISCOVERY AB

Katherine Chambers, U.S. Army Corps of Engineers, *presiding*

The Marine Transportation System (MTS) and the ports and channels resident within this vast system are critical components of national economic security; facilitating the movement of U.S. goods and services within the global marketplace. When the MTS is disrupted, there is a cascading effect on the entire intermodal system, which, if not resilient and capable of responding, recovering, and adapting between disruptions, will have catastrophic impacts. Reflections on past experiences and recommendations for future improvements are critical to minimizing the impact of future disruptive events. This session utilizes broad expertise from Federal agencies, local recovery units, coordination teams, and private industry to discuss how stakeholders can implement best practices and recommendations from previous MTS disruptions.

- **CDR Charles Bright**, U.S. Coast Guard
- **CDR Joe Leonard**, (USCG-Ret.) PENTA Consortium, LLC
- **Josh Murphy**, National Oceanic and Atmospheric Administration
- **CAPT Bob Bijur**, Island Queen Cruises and Tours
- **Dr. Sandra Pinel**, Department of Homeland Security

10:00 AM - **Morning Break & Exhibits**

LEGENDS 4-7

10:30 AM - **Session 4: Harbor Safety Committee Management Leadership Perspectives**

DISCOVERY AB

CAPT Bill Diehl, Greater Houston Port Bureau, *presiding*

This session features leaders from regional Harbor Safety Committees that will discuss current and future maritime transportation and harbor safety issues from the perspective of their unique ports, harbors and waterways. Panelists will highlight safety activities and initiatives designed to head off incidents before they have the opportunity to cause injury, loss of life, environmental harm, and damage to assets and infrastructure.

- **CAPT Andrew McGovern**, Sandy Hook Pilots
- **CAPT J.J. Plunkett**, Houston Pilots
- **CAPT John Strong**, Jacobsen Pilot Service

12:00 PM - **Keynote Luncheon**

LEGENDS 4-7

RDML Tim Gallaudet, Ph.D. (USN Ret.), Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy NOAA Administrator

1:30 PM - **Session 5: Best Practices in Federal, Regional, and Local Level Collaboration and Community Outreach** DISCOVERY AB

Tom Marian, Buffalo Marine Service, Inc., *presiding*

The enormous breadth and scope of our nation's marine transportation system is subject to multiple jurisdictions. With the extraordinary diversity of the stakeholders that ply the channels of the world's largest waterway system, it is not surprising that potential conflicts exist across various jurisdictional boundaries between federal agencies, states, navigation districts, municipalities, and port authorities. This session will focus on the interplay, roles and barriers associated with regulating the navigable waterways of the United States.

- **CDR Jerry Butwid**, U.S. Coast Guard
- **Todd Gentile**, Blessey Marine
- **Craig Montesano**, American Waterways Operators
- **Steven Nerheim**, U.S. Coast Guard

3:00 PM - **Afternoon Break & Exhibits** LEGENDS 4-7

3:30 PM - **Session 6: Influences on Shipping Traffic and Waterways Safety** DISCOVERY AB

Marc C. Hebert, Greater New Orleans Port Safety Council, *presiding*

The Marine Transportation System (MTS) is a dynamic environment with a wide range of competing activities which faces the challenge of growing its capacity to meet increasing demand while simultaneously absorbing greater complexity. This situation presents challenges for shared governance. In this session, panelists will discuss a number of evolving developments which illuminate this dynamic, including changes in oil movement, growing wind energy initiatives, and whale protection measures.

- **Darryl Francois**, Bureau of Ocean Energy Management
- **Shannon Bettridge**, National Oceanic and Atmospheric Administration
- **Suzanne Lemieux**, American Petroleum Institute
- **George Detweiler**, U.S. Coast Guard

5:30 PM - Offsite Event hosted by the **Lone Star Harbor Safety Committee**



7:30 AM - **Breakfast & Exhibits**

LEGENDS 4-7

8:30 AM - **Session 7: The Role of Waterways Stakeholders in Vessel Traffic Safety and Security**

DISCOVERY AB

Eric Christensen, Passenger Vessel Association, *presiding*

Regionally, waterways experience different factors that may disrupt the system. Nationally, all stakeholders can share lessons learned to continually improve the overall system. This session will highlight the critical role of local and national waterways stakeholder coordination to achieve a safe and secure marine transportation system.

- **Brian Falk**, Kirby Marine
- **Matt Chambers**, Bureau of Transportation Statistics
- **James Andrews**, Texas City Pilots
- **Michael Borgström**, Wendella Boats

10:00 AM - **Morning Break & Exhibits**

LEGENDS 4-7

10:30 AM - **Session 8: Continuous Improvement - Innovations in Mariner Training and Education**

DISCOVERY AB

John Arenstam, Seamen's Church Institute, *presiding*

This session will address how mariner training providers are adjusting programs and practices to support emerging needs and innovations. Panelists will focus on various training trends, technological adaptation, and best practices in the promotion and development of future U.S. mariners.

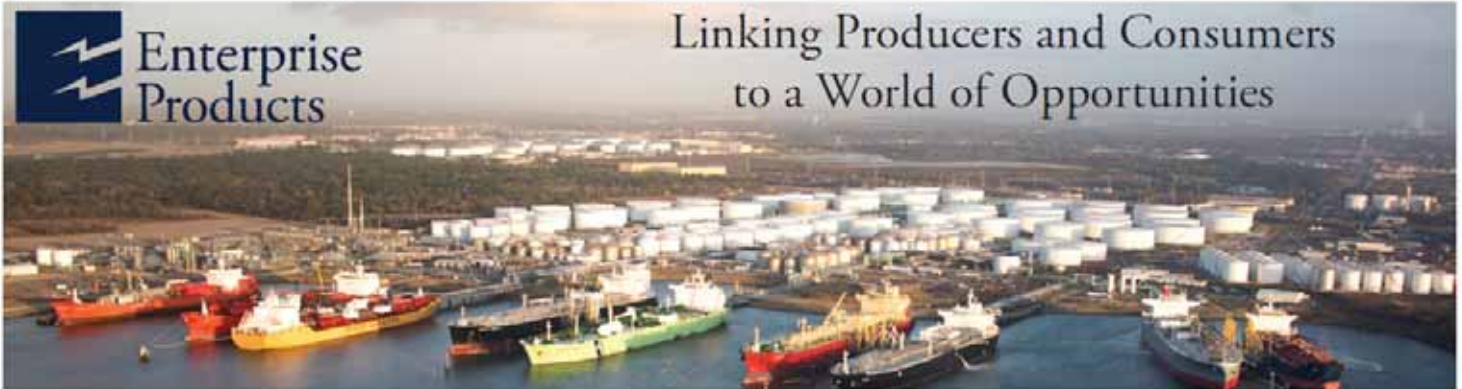
- **RADM Mike Rodriguez**, Texas A&M Maritime Academy - Galveston
- **John Stauffer**, San Jacinto College
- **Shawn Cannon**, STAR Center
- **Greg Trunnell**, Maritime Institute of Technology and Graduate Studies (MITAGS), and the Pacific Maritime Institute (PMI)
- **George Burkley**, Maritime Pilots Institute (MPI)

12:00 PM - **Closing Keynote Address**

DISCOVERY AB

Admiral Karl L. Schultz, Commandant, U.S. Coast Guard

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Join more than 13,000 transportation professionals at the TRB Annual Meeting, January 12–16, 2020, in Washington, D.C.

The program will cover all transportation modes, with more than 5,000 presentations in nearly 800 sessions, addressing topics of interest to policy makers, researchers, administrators, practitioners, and representatives of government, industry, and academic institutions.

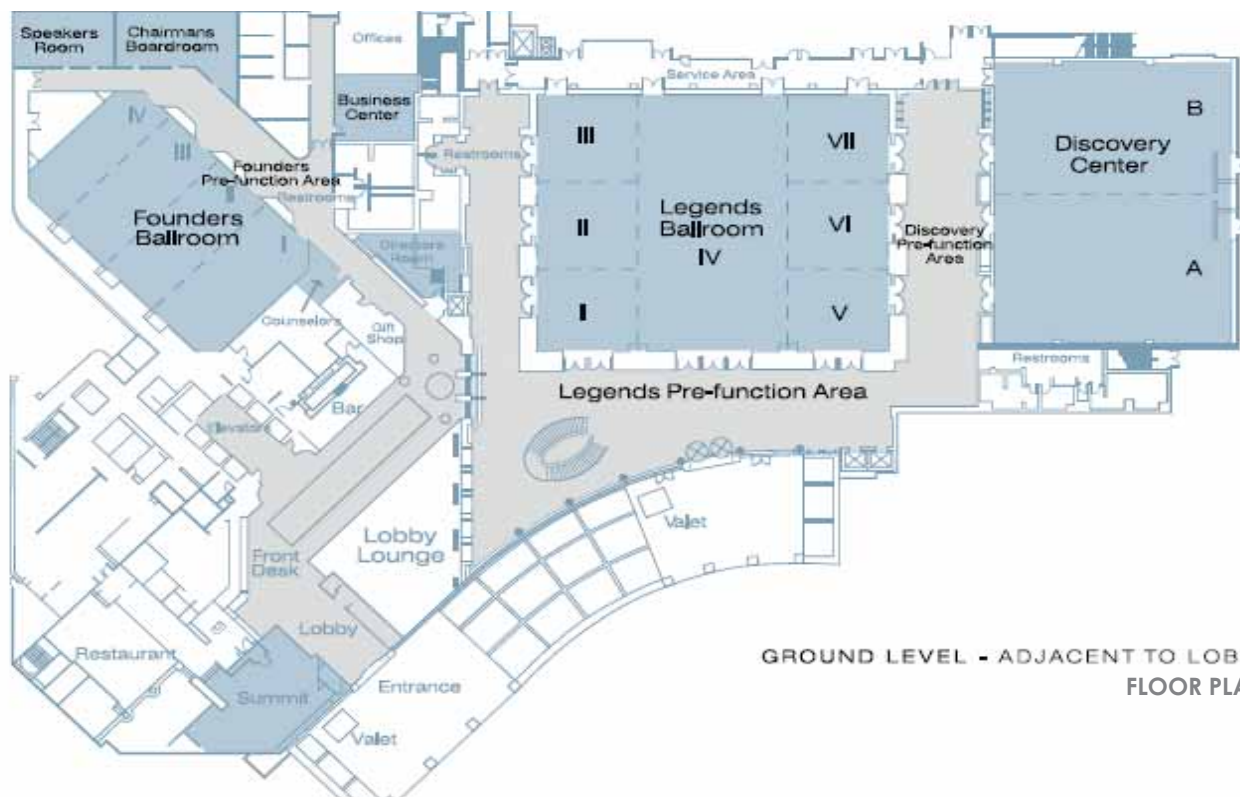
Also, a number of sessions and workshops will focus on the spotlight theme for the 2020 meeting, *“A Century of Progress: Foundation for the Future.”*

The full 2020 program will be available online in November, 2019.

Plan now to attend. For more information, visit www.trb.org/AnnualMeeting.

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