



Testimony of

Jennifer Homendy
Chair
National Transportation Safety Board

Before the

Committee on Transportation &
Infrastructure
United States House of Representatives

– On –

Reviewing and Examining the Francis Scott Key Bridge Federal
Response

–

Washington, DC • May 15, 2024



An Independent Federal Agency

THIS PAGE INTENTIONALLY BLANK

Good morning, Chairman Graves, Ranking Member Larsen, and members of the committee. As chair of the National Transportation Safety Board (NTSB), I thank you for the opportunity to appear before you today to discuss the NTSB's ongoing investigation into the cargo vessel *Dali's* striking of Baltimore's Francis Scott Key Bridge and subsequent bridge collapse. We offer our heartfelt condolences to the families and communities of all those who were lost in this tragedy, and our assurance that this investigation will be thorough and impartial.

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation: railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, respectively, and we adjudicate appeals of civil penalty actions taken by the FAA.

Our current investigative workload includes over 1,200 active investigations in 47 states and Puerto Rico, in addition to supporting more than 140 foreign investigations in over 50 countries. Throughout a typical year, we work on about 2,200 domestic and 450 foreign cases, and we expect the number of cases annually to remain high and continue to increase in complexity. Our activities include multiple major investigations, such as the in-flight structural failure of a Boeing 737-9 MAX over Portland, Oregon; the derailment of a Norfolk Southern train in East Palestine, Ohio; multiple runway incursions and other near-miss incidents at airports across the country; and, of course, the tragic collapse of Baltimore's Francis Scott Key Bridge after it was struck by the cargo vessel *Dali*, the subject of today's hearing.

Some investigations, understandably, get more public attention than others, but all the NTSB's investigations are critical for improving transportation safety. We owe it to the families of those involved, to the communities where events occurred, and to the traveling public to find out what happened, why it happened, and to make recommendations to help ensure it never happens again. That's exactly what we intend to do in the case of this Baltimore bridge collapse.

Because our investigation into the bridge collapse is ongoing, there are limits to what I can say publicly at this time. As I am sure you can appreciate, I will not undermine the meticulous work of our investigators by speculating prematurely about our eventual analysis and findings. What I will share is information about the facts we have gathered thus far in our investigation, our fact-gathering process, the challenges to date, and the expected direction of our investigation based on what we

know today. I will also outline how our agency's needs relate to this investigation.

A comprehensive summary of the facts we have gathered thus far is available in our preliminary report on this investigation, which was released on May 14 and is available to the public at [NTSB.gov](https://www.ntsb.gov).¹ I want to stress that these findings are preliminary and, as in any investigation, may be subject to change at a later date as new information comes to light.

NTSB investigators were on scene in Baltimore and onboard the *Dali* until May 10, just last week—nearly 7 weeks after the accident. It is highly unusual for an NTSB investigation that our on-scene fact-gathering remained underway for so long. This unusual occurrence speaks to the immense complexity of this event and, therefore, the immense complexity of the investigation. That said, you can be sure the NTSB and our expert employees are fully prepared to complete a comprehensive investigation on behalf of the American people into the causes of this tragedy, and we will do exactly that.

Our comprehensive investigation is a multimodal effort, drawing on the expertise of our Office of Marine Safety, which is leading the investigation, as well as our offices of Highway Safety, Research and Engineering, and Railroad, Pipeline, and Hazardous Materials Investigations.

Since the inception of the agency in 1967, the NTSB has completed more than 2,000 marine investigations. Of those, 311 were major investigations resulting in safety recommendations. In addition, 30 safety studies, other modal investigations, and other Board projects have generated marine safety recommendations over the years. In total, we have issued 2,636 marine safety recommendations to date, including 67 recommendations related to bridge collapses due to vessel strikes. All 67 of these recommendations are attached for the record.

Our marine safety investigators boast over a combined 400 years of professional expertise in their field, in addition to the decades of combined experience possessed by our highway and bridge, data recorder, and hazardous materials investigators. This investigation is in good hands with their knowledge.

That said, it is also true that the NTSB badly needs additional resources to ensure a major investigation like this does not impede our ability to respond to additional accidents and complete simultaneous investigations in a timely manner. The *Dali* investigation provides a telling example.

Our Office of Marine Safety currently has 12 investigators. Half of those

¹ Marine Investigation Preliminary Report, [Contact of Cargo Vessel Dali with Francis Scott Key Bridge and Subsequent Bridge Collapse](#).

investigators were deployed to Baltimore and their time will be consumed by this investigation for months to come. In the meantime, that office is also currently investigating 60 other marine safety events and will undoubtedly be called to the scene of additional marine casualties in the months ahead. The other NTSB offices involved in this investigation—whether as investigators or as staff supporting their efforts—must maintain a similar balance.

The NTSB is deeply grateful to Congress for the additional resources provided in our fiscal year 2024 (FY24) appropriations. We know that was a heavy lift at a time when very few agencies received an increase. I am also extremely grateful to this committee for its leadership in including the NTSB in the FAA reauthorization, which authorizes funding increases over the next 5 years that will help us keep pace with growing costs. I must note, however, that more resources are still needed to ensure timely completion of *all* our investigations.

The NTSB received a \$10.7 million increase in our FY24 appropriations. However, given the \$5.175 million cost of mandatory payroll and benefits increases, and the \$1.575 million that will be required for inflationary operational increases, much of that appropriations increase is already accounted for. Subtracting those built-in costs leaves an increase of \$4 million over FY23. We intend for this increase to take us from 435 staff on board today up to 450 by the end of FY24, but 4 of those positions will be filled by staff for two new Board members. Operationally, that would equate to an increase of only 11 positions spread across all our departments, a fraction of the need.

The fact is, we need to add over 50 more investigators today to be fully staffed. Our Office of Marine Safety alone needs an additional 5 positions—and that's without growing the number of Marine safety investigators. These positions include our Director of Marine Safety, who passed away suddenly in March; one senior investigator to fill a vacancy; a Naval architect; a program manager; and a mission support specialist.

In addition, we need 16 more aviation investigators, 10 more highway investigators, 10 more pipeline and hazardous materials investigators, and 5 more rail investigators. In our research and engineering laboratories, we need 12 additional employees and \$2.4 million dollars to replace aging and obsolete equipment that is critical to conducting robust and comprehensive investigations. And these increases do not even begin to address staffing needs in our support offices, who also play a vital role in achieving our mission.

The NTSB is a small agency relative to our federal partners, both in terms of the size of our budget and our workforce. However, as our recommendation implementation success rate shows, our impact is profound. Everyone at the NTSB plays a role in achieving our mission to make transportation safer. The amounts in our

reauthorization and budget requests represent only a modest downpayment on the investments we need to boost transportation safety across all transportation modes nationwide.

When I say that we need more resources, I want to be clear about exactly what we are requesting. Our budget request of \$150 million for FY 2025 is for an increase of \$10 million, which the President provided. We project that \$10 million would allow us to fill just 20 more positions—still far fewer than we need—and provide much-needed program enhancements, including investment in Zero Trust.

Again, our budget request is a modest investment that would allow the agency to advance and grow with the ever-evolving transportation industry. To continue as the world's preeminent safety agency, completing our investigations and developing recommendations that advance safety changes without delays, we must meet the challenges that come with increasing growth and innovation in transportation. Therefore, it is critical for the agency to have additional resources to respond to events without affecting our timeliness, the quality of our work, or our independence.

Thank you again for the opportunity to testify, and I look forward to your questions.



Recommendation Subjects

5/7/2024 4:57:28 PM

Rec #: M-08-010,H-04-029,H-94-009,H-04-030,H-04-031,I-94-003,I-94-004,I-94-006,I-94-007,I-95-002,M-94-037,R-94-009,R-94-010,R-94-011,R-94-012,H-94-008,M-94-010,M-94-012,M-94-013,M-94-014,M-89-069,M-89-070,M-89-071,M-89-072,M-89-073,M-89-074,M-89-075,M-89-076,M-89-077,M-89-078,M-89-079,M-89-080,M-89-081,M-89-082,M-89-083,M-89-084,M-81-011,M-81-012,M-81-013,M-81-015,M-81-016,M-81-017,M-81-018,M-81-019,M-81-020,M-81-021,M-81-022,M-81-023,H-78-001,H-78-002,H-78-003,H-78-004,H-78-005,M-78-001,H-74-040,H-74-041,H-74-042,H-74-043,H-72-048,M-74-014,M-74-015,M-74-016,M-74-019,M-74-001,M-74-003,M-74-004,M-74-005

Recommendation #	Overall Status	Date Closed	Subject
H-04-029	CAAA	12/11/09	TO THE FEDERAL HIGHWAY ADMINISTRATION: Revise your sufficiency rating system, which prioritizes bridges for rehabilitation and replacement, to include the probability of extreme events, such as vessel impact. (Supersedes Safety Recommendation H-94-009)
H-04-030	CAAA	01/11/13	TO THE FEDERAL HIGHWAY ADMINISTRATION: Develop an effective motorist warning system to stop motor vehicle traffic in the event of a partial or total bridge collapse.
H-04-031	CAA	11/14/13	TO THE AMERICAN ASSOCIATION OF STATE AND HIGHWAY AND TRANSPORTATION OFFICIALS: Once an effective motorist warning system has been developed, provide guidance to the States on its use.
H-72-048	CAA	01/01/80	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION, THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, AND THE INTERNATIONAL BRIDGE, TUNNEL AND TURNPIKE ASSOCIATION: ESTABLISH POLICIES AND STANDARDS TO INSURE THAT STANDARD TRAFFIC CONTROL DEVICES (GATE, SIGNALS, SIGNS, AND PAVEMENT MARKINGS) ARE INSTALLED ON MOVABLE BRIDGES AT LOCATIONS WHICH WILL HALT TRAFFIC ON A SECTION OF THE BRIDGE THAT IS NOT SUBJECT TO IMPACT BY LARGE MARINE VESSELS. SUCH POSITIONING OF WARNING SYSTEMS WILL PREVENT VEHICLES FROM BEING ON THOSE PORTIONS OF SUCH BRIDGES WHICH MAY COLLAPSE WHEN THEY ARE STRUCK BY A MARINE VESSEL.
H-74-040	CAA	01/01/80	THE NTSB RECOMMENDS THAT THE GREATER NEW ORLEANS EXPRESSWAY COMMISSION TAKE THE FOLLOWING MEASURES: ESTABLISH A SYSTEMATIC PROGRAM TO IDENTIFY AND SURVEY HIGH ACCIDENT LOCATIONS ON THE LAKE PONTCHARTRAIN CAUSEWAY. (THE PROGRAM REQUIRES REVIEW OF INDIVIDUAL ACCIDENTS.) GUIDELINES FOR SUCH A PROGRAM CAN BE FOUND IN FEDERAL HIGHWAY SAFETY PROGRAM STANDARD NO. 9, "IDENTIFICATION AND SURVEILLANCE OF ACCIDENT LOCATIONS."
H-74-041	CAA	01/01/80	THE NTSB RECOMMENDS THAT THE GREATER NEW ORLEANS EXPRESSWAY COMMISSION TAKE THE FOLLOWING MEASURES: EVALUATE THE PRESENT BRIDGE BARRIER RAIL SYSTEM ON THE WEST SPAN OF THE LAKE PONTCHARTRAIN CAUSEWAY TO DETERMINE IMPROVEMENTS WHICH WILL ASSURE A BARRIER SYSTEM THAT WILL: (A) PREVENT ERRANT VEHICLES FROM PENETRATING OR VAULTING OVER THE BARRIER, AND (B) PROVIDE SAFE REDIRECTION OF ERRANT VEHICLES WITH A MINIMUM EFFECT ON THE VEHICLE AND ITS OCCUPANTS.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
H-74-042	CAA	01/01/80	THE NTSB RECOMMENDS THAT THE GREATER NEW ORLEANS EXPRESSWAY COMMISSION TAKE THE FOLLOWING MEASURES: INSTALL A WARNING SYSTEM ON THOSE SECTIONS OF THE LAKE PONTCHARTRAIN CAUSEWAY THAT ARE VULNERABLE TO IMPACT BY ERRANT MARINE VESSELS. THE SYSTEM SHOULD ACTIVATE AUTOMATICALLY TO WARN MOTORISTS OF DANGER AHEAD, SHOULD THE CAUSEWAY SPAN COLLAPSES.
H-74-043	CNLA	08/21/95	THE NTSB RECOMMENDS THAT THE LOUISIANA WILDLIFE AND FISHERIES COMMISSION: MAINTAIN A SAFETY INSPECTION PROGRAM WHICH WILL INSURE COMPLIANCE WITH ITS "MINIMAL SAFETY RULES APPLICABLE TO TUGS AND TOWS OPERATING IN LAKE PONTCHARTRAIN," AS ADOPTED ON JULY 20, 1968.
H-78-001	CR	12/12/78	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: STUDY AND PUBLISH A REPORT ON THE COMPLETENESS AND EFFECTIVENESS OF ITS BRIDGE CLASSIFICATION/INSPECTION PROGRAM UNDER 23 USC 144, 23 CFR 650, AND THE AASHTO "MANUAL FOR MAINTENANCE INSPECTION OF BRIDGES" PART 2.5, ESPECIALLY AS TO BRIDGES OVER NAVIGABLE CHANNELS, FOR THEIR ABILITY TO SUSTAIN PIER IMPACT AT WATER LEVEL AND FOR THE DESIGN OF THE TRAFFIC CONTROL SYSTEM ON THE BRIDGES.
H-78-002	CAA	12/05/84	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: WORK WITH THE U.S. COAST GUARD TO DEVELOP SPECIFICATIONS FOR THE DESIGN OF DOLPHINS, FENDERS, AND OTHER ENERGY ABSORPTION AND/OR VESSEL REDIRECTION DEVICES FOR THE PROTECTION OF BOTH BRIDGE AND VESSEL DURING AN ACCIDENTAL IMPACT. ISSUE THESE DESIGN SPECIFICATIONS ALONG WITH GUIDELINES AND REQUIREMENTS FOR THE PLACEMENT OF DOLPHINS, FENDERS, AND ENERGY ABSORPTION AND REDIRECTION DEVICES.
H-78-003	CAA	04/20/84	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: BRING TOGETHER IN ONE PUBLICATION ALL GUIDELINES FOR TRAFFIC CONTROL AT MOVABLE BRIDGES, INCLUDING SIGNS, SIGNALS, PAVEMENT MARKINGS, AND RESTRAINT DEVICES.
H-78-004	CAAA	04/19/85	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: INCLUDE AS PART OF THE FEDERAL-AID HIGHWAY PROGRAM MANUAL 6.8.3.4 PARAGRAPH 5D(3), "SPECIAL PURPOSE SURVEILLANCE AND CONTROL SYSTEMS," A DESCRIPTION OF SURVEILLANCE AND CONTROL SYSTEMS USED ON MULTISPAN BRIDGES OVER WIDE NAVIGABLE WATERWAYS.
H-78-005	CAA	08/23/83	THE NTSB RECOMMENDS THAT THE COMMONWEALTH OF VIRGINIA: IN REBUILDING THE BENJAMIN HARRISON BRIDGE, COMPLY WITH THE FEDERAL HIGHWAY ADMINISTRATION GUIDELINES IN PROVIDING AND LOCATING WARNING SIGNALS AND GATES AND ALL OTHER REQUIRED TRAFFIC CONTROL DEVICES.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
H-94-008	CNLA	10/07/97	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: IN COOPERATION WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS, BROADEN THE APPLICATION OF RISK-ASSESSMENT AND MANAGEMENT PROGRAMS TO EXISTING HIGHWAY BRIDGES. SUCH PROGRAMS SHOULD INCLUDE, AMONG OTHER THINGS, A FORMAL ASSESSMENT OF THE VULNERABILITY OF BRIDGES TO VESSEL COLLISION AND COLLAPSE.
H-94-009	CS	09/09/04	TO THE AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS: In cooperation with the Federal Highway Administration, broaden the application of risk-assessment and management programs to existing bridges. Such programs should include, among other things, a formal assessment of the vulnerability of bridges to vessel collision and collapse. (Superseded by H-04-29)
I-94-003	CAAA	10/27/98	THE NTSB RECOMMENDS THAT THE DEPARTMENT OF TRANSPORTATION: CONVENE AN INTERMODAL TASK FORCE THAT INCLUDES THE COAST GUARD, THE FEDERAL RAILROAD ADMINISTRATION, AND THE U.S. ARMY CORPS OF ENGINEERS TO DEVELOP A STANDARD METHODOLOGY FOR DETERMINING THE VULNERABILITY OF THE NATION'S HIGHWAY AND RAILROAD BRIDGES TO COLLISIONS FROM MARINE VESSELS, TO FORMULATE A RANKING SYSTEM FOR IDENTIFYING BRIDGES AT GREATEST RISK, AND TO PROVIDE GUIDANCE ON THE EFFECTIVENESS AND APPROPRIATENESS OF PROTECTIVE MEASURES.
I-94-004	CAAA	10/27/98	THE NTSB RECOMMENDS THAT THE DEPARTMENT OF TRANSPORTATION: REQUIRE THAT THE FEDERAL RAILROAD ADMINISTRATION AND THE FEDERAL HIGHWAY ADMINISTRATION, FOR THEIR RESPECTIVE MODES, USE THE METHODOLOGY DEVELOPED BY THE INTERMODAL TASK FORCE TO CARRY OUT A NATIONAL RISK ASSESSMENT PROGRAM FOR THE NATION'S RAILROAD AND HIGHWAY BRIDGES.
I-94-006	CAA	04/24/95	THE NTSB RECOMMENDS THAT THE DEPARTMENT OF TRANSPORTATION: CONSIDER THE USE OF RACONS, RADAR REFLECTORS, AND OTHER DEVICES TO MAKE BRIDGES MORE IDENTIFIABLE ON RADAR.
I-94-007	CAAA	05/08/00	THE NTSB RECOMMENDS THAT THE U.S. ARMY CORPS OF ENGINEERS: COOPERATE WITH THE U.S. DEPARTMENT OF TRANSPORTATION IN DEVELOPING A STANDARD METHODOLOGY FOR DETERMINING THE VULNERABILITY OF THE NATION'S HIGHWAY AND RAILROAD BRIDGES TO COLLISIONS FROM MARINE VESSELS, FORMULATING A RANKING SYSTEM TO IDENTIFY BRIDGES AT GREATEST RISK, AND PROVIDING GUIDANCE ON THE EFFECTIVENESS AND APPROPRIATENESS OF PROTECTIVE MEASURES.
I-95-002	CAA	07/23/98	THE NTSB RECOMMENDS THAT THE DOT, OFFICE OF INTERMODALISM: ESTABLISH A MECHANISM TO ENSURE THAT A COMPLETE LIST OF BRIDGES VULNERABLE TO IMPACT BY COMMERCIAL MARINE TRAFFIC, WITH EXACT LOCATIONS, IS DISSEMINATED TO ALL EMERGENCY RESPONSE SERVICES SO THAT ALL BRIDGES CAN BE EASILY IDENTIFIED IN AN EMERGENCY SITUATION.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
M-08-010	CEX	03/19/10	TO THE BOARD OF NEW ORLEANS-BATON ROUGE STEAMSHIP PILOT EXAMINERS FOR THE MISSISSIPPI RIVER: Verify that the pilots assigned to challenging locations such as the Apex dock have received adequate training in docking and undocking large vessels at such locations.
M-74-001	CAA	06/30/76	EXPEDITE THE PROMULGATION OF REGULATIONS REGARDING VESSEL CONTROL IN THE VICINITY OF THE CHESAPEAKE BAY BRIDGE AND TUNNEL.
M-74-003	CUA	06/21/82	PUBLISH AND MAKE AVAILABLE TO TOWBOAT OPERATORS GUIDELINES FOR SAFE OPERATING PROCEDURES FOR TOWING OPERATIONS. THESE GUIDELINES SHOULD INCLUDE METHODS OF PREPLANNING A VOYAGE, THE PROPER USE OF TOWING HAWSERS, AND ACTIONS TO BE TAKEN IN VARIOUS EMERGENCY SITUATIONS.
M-74-004	CAA	06/13/77	DETERMINE THE NEED FOR ANCHORS ON UNMANNED BARGES AND PRACTICAL METHODS OF CONTROLLING SUCH ANCHORS IN ORDER TO PREVENT DAMAGE TO ANY VESSEL, BRIDGE, OR OTHER STRUCTURE, OR OTHER LOSS TO BYSTANDERS ON THE NAVIGABLE WATERS OF THE UNITED STATES.
M-74-005	CAA	05/04/78	PLACE ADDITIONAL EMPHASIS IN ITS SEARCH AND RESCUE PROCEDURES ON PROTECTING BRIDGES FROM VESSEL IMPACTS.
M-74-014	CR	02/18/86	THE COAST GUARD REQUIRE THAT OCEAN-GOING VESSELS BE ALIGNED WITH ANY CHANNEL BRIDGE OPENING BEFORE THE VESSELS REACH A POINT EQUAL TO THE SHIP'S STOPPING DISTANCE FROM THE BRIDGE.
M-74-015	CUA	07/10/81	THE COAST GUARD REQUIRE THAT EVERY MASTER OF AN OCEAN-GOING VESSEL INFORM HIMSELF OF THE PILOT'S PLAN TO MANEUVER HIS SHIP IN OR OUT OF A HARBOR AND THAT THE MASTER DETERMINE, WITH THE PILOT'S ASSISTANCE, THE CRITICAL ASPECTS OF THE MANEUVER, INCLUDING THE PILOT'S PLAN FOR EMERGENCIES. THE MASTER SHOULD THEN BE REQUIRED TO INSTRUCT HIS CREW TO INSURE THAT HIGH-RISK TASKS RECEIVE PRIORITY.
M-74-016	CAA	06/30/76	THE COAST GUARD EXPEDITE THE ISSUANCE OF REGULATIONS REQUIRING THAT ALL OCEAN-GOING VESSELS BE PROVIDED WITH STOPPING DISTANCES AND TURNING RADII FOR VARIOUS SPEEDS AND LOADING CONDITIONS.
M-74-019	CAAA	04/07/77	THE COAST GUARD, IN PROCESSING APPLICATIONS FOR HIGHWAY, RAILROAD, OR PIPELINE BRIDGE CONSTRUCTION, REQUIRE A SAFETY IMPACT STUDY AS WELL AS THE ENVIRONMENTAL IMPACT STUDY. LIFT SPAN BRIDGES WITH NARROW OPENINGS, SUPPORTS IN RELATIVELY DEEP WATER, AND LOCATIONS NEAR CURVED CHANNELS SHOULD BE CONSIDERED RELATIVELY HAZARDOUS.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
M-78-001	CAA	09/01/87	EXPEDITE THE SUBMISSION OF THE LEGISLATIVE PROPOSAL AND URGE CONGRESS TO ENACT LEGISLATION, OR AUTHORIZE THE COAST GUARD TO UNDERTAKE RULEMAKING, TO ESTABLISH IN THE NAVIGATION RULES FOR INLAND WATERS A REQUIREMENT FOR VESSELS TO PROCEED AT A SAFE SPEED IDENTICAL TO THE REQUIREMENT ESTABLISHED BY RULE 6 OF THE NEWLY ADOPTED INTERNATIONAL CONVENTION FOR VESSELS ON THE HIGH SEAS WHICH BECAME EFFECTIVE ON JULY 15, 1977.
M-81-011	CAA	05/04/82	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: IMPROVE NAVIGATIONAL AIDS FOR VESSELS PASSING UNDER THE SUNSHINE SKYWAY BRIDGE.
M-81-012	CR	08/01/88	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: PROHIBIT VESSELS FROM MEETING NEAR THE SHUNSHINE SKYWAY BRIDGE.
M-81-013	CAA	09/01/87	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: IN COOPERATION WITH LOCAL PORT AND BRIDGE AUTHORITIES, DETERMINE THE FEASIBILITY OF INSTALLING NONSTRUCTURAL BRIDGE PROTECTION DEVICES FOR THE SUNSHINE SKYWAY BRIDGE.
M-81-015	CAA	09/01/87	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: IN COOPERATION WITH THE FEDERAL HIGHWAY ADMINISTRATION, DEVELOP STANDARDS FOR THE DESIGN, PERFORMANCE, AND LOCATION OF STRUCTURAL BRIDGE PIER PROTECTION SYSTEMS WHICH CONSIDER THAT THE IMPACT FROM AN OFF-COURSE VESSEL CAN OCCUR SIGNIFICANTLY ABOVE AS WELL AS BELOW THE WATER SURFACE.
M-81-016	CUA	04/13/88	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: IN COOPERATION WITH THE FEDERAL HIGHWAY ADMINISTRATION, CONDUCT A STUDY TO DETERMINE WHICH EXISTING BRIDGES OVER THE NAVIGABLE WATERWAYS OF UNITED STATES PORTS AND HARBORS ARE NOT EQUIPPED WITH ADEQUATE STRUCTURAL PIER PROTECTION.
M-81-017	CAA	09/01/87	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: DISTRIBUTE A COPY OF THE RESULTS OF THE COAST GUARD'S STUDIES REGARDING BRIDGE AND PIER PROTECTION SYSTEMS TO EACH APPROPRIATE MEMBER OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.
M-81-018	CAA	05/04/83	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: DEVELOP STANDARDS FOR THE DESIGN, PERFORMANCE, AND INSTALLATION OF BRIDGE SPAN FAILURE DETECTION AND WARNING SYSTEMS.
M-81-019	CAA	05/04/83	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: ESTABLISH CRITERIA TO EVALUATE THE NEED FOR INSTALLING BRIDGE SPAN FAILURE DETECTION AND WARNING SYSTEMS ON EXISTING AND PROPOSED BRIDGES.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
M-81-020	CAA	12/05/84	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: IN COOPERATION WITH THE U.S. COAST GUARD, DEVELOP STANDARDS FOR THE DESIGN, PERFORMANCE, AND LOCATION OF STRUCTURAL BRIDGE PIER PROTECTION SYSTEMS WHICH CONSIDER THAT THE IMPACT FROM AN OFF COURSE VESSEL CAN OCCUR SIGNIFICANTLY ABOVE AS WELL AS BELOW THE WATER SURFACE.
M-81-021	CAAA	11/19/85	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: IN COOPERATION WITH THE U.S. COAST GUARD, CONDUCT A STUDY TO DETERMINE WHICH EXISTING BRIDGES OVER THE NAVIGABLE WATERWAYS OF UNITED STATES PORTS AND HARBORS ARE NOT EQUIPPED WITH ADEQUATE STRUCTURAL PIER PROTECTION.
M-81-022	CAAA	04/19/85	THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: USE THE RESULTS OF THE STUDY CONDUCTED UNDER RECOMMENDATION M-81-21 TO ADVISE APPROPRIATE BRIDGE AUTHORITIES OF THE BENEFITS OF INSTALLING ADDITIONAL PIER PROTECTION SYSTEMS.
M-81-023	CAA	10/06/92	THE NTSB RECOMMENDS THAT THE STATE OF FLORIDA: PROVIDE STRUCTURAL PIER PROTECTION FOR THE CANTILEVER ARM PIERS AND THE ANCHOR ARM PIERS OF THE SUNSHINE SKYWAY BRIDGE.
M-89-069	CUA	12/08/92	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: REQUIRE OWNERS/OPERATORS OF BASCULE BRIDGES TO INSTALL CAUTION LIGHTS AND DAYLIGHT MARKINGS AT ELEVATION POINTS ON BRIDGE LEAFS WHERE THEY PROTRUDE OVER NAVIGABLE CHANNELS TO IDENTIFY TO MARINERS THE POINT AT WHICH FULL SKYWARD CHANNEL CLEARANCE IS NOT AVAILABLE TO TRANSITING VESSELS; THE LIGHTS SHOULD ACTIVATE WHEN THE BRIDGELEAFS ARE IN THE NORMAL FULLY OPEN POSITION.
M-89-070	CUA	12/08/92	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: REQUIRE THAT BRIDGE OWNERS/OPERATORS PROVIDE IN BASCULE BRIDGE PERMIT APPLICATIONS THE ANGLE OF THE BRIDGELEAF(S), THE MAXIMUM VERTICAL CLEARANCE AT THE FENDERS AND AT THE BRIDGELEAF ENDS, AND THE EXTENT OF HORIZONTAL CHANNEL CLEARANCE OVER WHICH FULL SKYWARD CLEARANCE IS AVAILABLE WHEN THE BRIDGE LEAFS ARE IN THE FULLY OPEN POSITION.
M-89-071	CAA	11/28/94	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: ISSUE A NOTICE TO MARINERS STATING THAT BECAUSE SOME BASCULE BRIDGE LEAFS PROTRUDE OVER THE WATERWAY IN THE FULLY OPEN POSITION, UNLIMITED SKYWARD CLEARANCE MAY NOT BE AVAILABLE TO VESSELS WITH HIGH FREEBOARD, FULL WIDTH SUPERSTRUCTURES FOR THE ENTIRE CHARTED HORIZONTAL CLEARANCE.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
M-89-072	CUA	11/28/94	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: COORDINATE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND THE U.S. ARMY CORPS OF ENGINEERS TO INCORPORATE THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE ON CHARTS AND IN NAUTICAL PUBLICATIONS AVAILABLE TO MARINERS OF VESSELS OPERATING IN U.S. NAVIGABLE WATERS: THE VERTICAL HEIGHT FROM THE DATUM WATER LEVEL AT THE BRIDGE TO THE POINT WHERE A BASCULE BRIDGELEAF BEGINS TO PROTRUDE OVER DRAW FENDERS OR THE EDGE OF THE CHANNEL, AND THE VERTICAL HEIGHT FROM THE DATUM TO THE END OF THE FULLY OPEN BASCULE BRIDGELEAF.
M-89-073	CAA	12/08/92	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: COORDINATE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND THE U.S. ARMY CORPS OF ENGINEERS TO INCORPORATE THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE ON CHARTS AND IN NAUTICAL PUBLICATIONS AVAILABLE TO MARINERS OF VESSELS OPERATING IN U.S. NAVIGABLE WATERS: THE EXTENT OF HORIZONTAL CHANNEL CLEARANCE OVER WHICH FULLY SKYWARD CLEARANCE IS AVAILABLE FROM THE RAISED END OF FULLY OPEN BASCULE BRIDGE LEAF(S).
M-89-074	CUA	11/28/94	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: COORDINATE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND THE U.S. ARMY CORPS OF ENGINEERS TO INCORPORATE THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE ON CHARTS AND IN NAUTICAL PUBLICATIONS AVAILABLE TO MARINERS OF VESSELS OPERATING IN U.S. NAVIGABLE WATERS: THE ANGLE OF BASCULE BRIDGELEAFS WHEN IN THE FULLY OPEN POSITION.
M-89-075	CUA	11/28/94	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: COORDINATE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND THE U.S. ARMY CORPS OF ENGINEERS TO INCORPORATE THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE ON CHARTS AND IN NAUTICAL PUBLICATIONS AVAILABLE TO MARINERS OF VESSELS OPERATING IN U.S. NAVIGABLE WATERS: DEPICTIONS SHOWING WHETHER A BASCULE BRIDGE OVER A NAVIGABLE WATERWAY IS SINGLE- OR DOUBLE-LEAF AND, IF SINGLE-LEAF, ON WHICH SIDE OF THE WATERWAY THE BASE PIVOT POINT OF THE LEAF IS LOCATED.
M-89-076	CAA	11/28/94	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: CONDUCT A ONE TIME SURVEY OF DRAWBRIDGES TO DETERMINE THAT THE GREEN NAVIGATION LIGHTS ACTIVATE, BUT ONLY WHEN DRAWBRIDGES ARE AT THEIR NORMAL FULLY OPEN POSITIONS.
M-89-077	CAA	12/08/92	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: CONDUCT PERIODIC INSPECTIONS OF DRAWBRIDGES OVER U.S. NAVIGABLE WATERS TO DETERMINE THAT THEY ARE BEING PROPERLY OPERATED AND THEIR NAVIGATION LIGHTS ARE BEING PROPERLY MAINTAINED.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
M-89-078	CUA	05/07/91	THE NTSB RECOMMENDS THAT THE FEDERAL RAILROAD ADMINISTRATION: AMEND 49 CFR 219.201 TO INCLUDE SERIOUS ACCIDENTS INVOLVING RAILROAD BRIDGES AND THE OPERATORS OF THESE BRIDGES EVEN WHEN A TRAIN IS NOT INVOLVED.
M-89-079	CAA	11/21/90	THE NTSB RECOMMENDS THAT THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SERVICE: INCLUDE ON STRUCTURES TABLES AND CHARTS THE PRECAUTION ON BRIDGE AND CABLE CLEARANCES CURRENTLY CONTAINED IN THE GENERAL INFORMATION SECTION OF THE COAST PILOT PUBLICATIONS SO THAT SUCH CAUTIONARY INFORMATION IS READILY AVAILABLE TO THE MARINER WHILE NAVIGATING.
M-89-080	CR	03/06/95	THE NTSB RECOMMENDS THAT THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SERVICE: COORDINATE WITH THE U.S. COAST GUARD TO INCORPORATE ON NATIONAL OCEAN SURVEY NAUTICAL CHARTS THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE OVER U.S. NAVIGABLE WATERS: THE VERTICAL HEIGHT FROM THE WATER LEVEL DATUM AT THE BRIDGE TO THE POINT WHERE A BASCULE BRIDGELEAF BEGINS TO PROTRUDE OVER DRAW FENDERS OR THE EDGE OF THE CHANNEL, AND THE VERTICAL HEIGHT FROM THE DATUM TO THE FULLY OPEN END OF THE BASCULE BRIDGELEAF.
M-89-081	CR	12/08/92	THE NTSB RECOMMENDS THAT THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SERVICE: COORDINATE WITH THE U.S. COAST GUARD TO INCORPORATE ON NATIONAL OCEAN SURVEY NAUTICAL CHARTS THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE OVER U.S. NAVIGABLE WATERS: THE EXTENT OF HORIZONTAL CHANNEL CLEARANCE OVER WHICH FULL SKYWARD CLEARANCE IS AVAILABLE FROM THE RAISED END OF THE FULLY OPEN BASCULE BRIDGELEAF(S).
M-89-082	CR	03/06/95	THE NTSB RECOMMENDS THAT THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SERVICE: COORDINATE WITH THE U.S. COAST GUARD TO INCORPORATE ON NATIONAL OCEAN SURVEY NAUTICAL CHARTS THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE OVER U.S. NAVIGABLE WATERS: THE ANGLE OF BASCULE BRIDGELEAFS WHEN IN THE FULLY OPEN POSITION.
M-89-083	CR	03/06/95	THE NTSB RECOMMENDS THAT THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SERVICE: COORDINATE WITH THE U.S. COAST GUARD TO INCORPORATE ON NATIONAL OCEAN SURVEY NAUTICAL CHARTS THE FOLLOWING INFORMATION CONCERNING EACH BASCULE BRIDGE OVER U.S. NAVIGABLE WATERS: DEPICTIONS SHOWING WHETHER A BASCULE BRIDGE OVER A NAVIGABLE WATERWAY IS SINGLE- OR DOUBLE-LEAF AND, IF SINGLE-LEAF, ON WHICH SIDE OF THE WATERWAY THE BASE PIVOT POINT OF THE LEAF IS LOCATED.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
M-89-084	CR	03/04/93	THE NTSB RECOMMENDS THAT THE U.S. ARMY, CORPS OF ENGINEERS: COORDINATE WITH THE U.S. COAST GUARD TO INCORPORATE ON CORPS OF ENGINEERS CHARTS THE FOLLOWING ADDITIONAL INFORMATION CONCERNING EACH BASCULE BRIDGE OVER U.S. NAVIGABLE WATERS: THE VERTICAL HEIGHT FROM THE WATER LEVEL DATUM AT THE BRIDGE TO THE POINT WHERE A BASCULE BRIDGELEAF BEGINS TO PROTRUDE OVER DRAW FENDERS OR THE EDGE OF THE CHANNEL, AND THE VERTICAL HEIGHT FROM THE DATUM TO END OF THE BASCULE BRIDGE LEAF.
M-94-010	CAA	02/04/02	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD, AS THE FEDERAL AGENCY RESPONSIBLE FOR NAVIGATION SAFETY: COORDINATE A COOPERATIVE EFFORT WITH THE UNITED STATES ARMY CORPS OF ENGINEERS, THE BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS, AND BRIDGE OWNERS TO REVIEW CONDITIONS AND PRACTICES IN THE INNER HARBOR NAVIGATION CANAL, IDENTIFY HAZARDS TO THE SAFE TRANSIT OF VESSELS THROUGH THE CANAL AND LOCK SYSTEM, AND IMPLEMENT MEASURES TO REDUCE THOSE HAZARDS.
M-94-012	CAA	08/11/00	THE NTSB RECOMMENDS THAT THE U.S. ARMY CORPS OF ENGINEERS: COOPERATE WITH THE U.S. COAST GUARD TO REVIEW CONDITIONS AND PRACTICES IN THE INNER HARBOR NAVIGATION CANAL, IDENTIFY HAZARDS TO THE SAFE TRANSIT OF VESSELS THROUGH THE CANAL AND LOCK SYSTEM, AND IMPLEMENT MEASURES TO REDUCE THOSE HAZARDS.
M-94-013	CAA	07/14/00	THE NTSB RECOMMENDS THAT THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT: COOPERATE WITH THE U.S. COAST GUARD TO REVIEW CONDITIONS AND PRACTICES IN THE INNER HARBOR NAVIGATION CANAL, IDENTIFY HAZARDS TO THE SAFE TRANSIT OF VESSELS THROUGH THE CANAL AND LOCK SYSTEM, AND IMPLEMENT MEASURES TO REDUCE THOSE HAZARDS.
M-94-014	CAA	09/07/00	THE NTSB RECOMMENDS THAT THE BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS: COOPERATE WITH THE U.S. COAST GUARD TO REVIEW CONDITIONS AND PRACTICES IN THE INNER HARBOR NAVIGATION CANAL, IDENTIFY HAZARDS TO THE SAFE TRANSIT OF VESSEL THROUGH THE CANAL AND LOCK SYSTEM. AND IMPLEMENT MEASURES TO REDUCE THOSE HAZARDS.
M-94-037	CAA	07/25/01	THE NTSB RECOMMENDS THAT THE U.S. COAST GUARD: REQUIRE THAT ALL BRIDGES VULNERABLE TO IMPACT BY COMMERCIAL MARINE TRAFFIC BEAR UNIQUE, READILY VISIBLE MARKINGS SO THAT WATERWAY AND BRIDGE USERS ARE BETTER ABLE TO IDENTIFY BRIDGES INVOLVED IN AN ACCIDENT WHEN THEY REPORT SUCH ACCIDENTS TO EMERGENCY RESPONDERS.
R-94-009	CAA	12/03/96	THE NTSB RECOMMENDS THAT THE ASSOCIATION OF AMERICAN RAILROADS: IMMEDIATELY BEGIN TO COLLECT DATA ON VESSEL COLLISIONS WITH RAILROAD BRIDGES FROM YOUR MEMBERS AND, IF APPROPRIATE, TAKE STEPS TO INCREASE PROTECTION FOR BRIDGES IDENTIFIED AS VULNERABLE.



Recommendation Subjects

5/7/2024 4:57:28 PM

Recommendation #	Overall Status	Date Closed	Subject
R-94-010	CAA	12/03/96	THE NTSB RECOMMENDS THAT THE ASSOCIATION OF AMERICAN RAILROADS: COOPERATE WITH THE U.S. DEPARTMENT OF TRANSPORTATION IN DEVELOPING A NATIONAL RISK ASSESSMENT PROGRAM FOR RAILROAD BRIDGES.
R-94-011	CAA	03/27/95	THE NTSB RECOMMENDS THAT THE AMERICAN SHORT LINE RAILROAD ASSOCIATION: IMMEDIATELY BEGIN TO COLLECT DATA ON VESSEL COLLISIONS WITH RAILROAD BRIDGES FROM YOUR MEMBERS AND, IF APPROPRIATE, TAKE STEPS TO INCREASE PROTECTION FOR BRIDGES IDENTIFIED AS VULNERABLE.
R-94-012	CAA	03/27/95	THE NTSB RECOMMENDS THAT THE AMERICAN SHORT LINE RAILROAD ASSOCIATION: COOPERATE WITH THE U.S. DEPARTMENT OF TRANSPORTATION IN DEVELOPING A NATIONAL RISK ASSESSMENT PROGRAM FOR RAILROAD BRIDGES.

Total Number of Recommendations for Recommendation Subjects Report: 67
