

National Transportation Safety Board  
**ANNUAL REPORT**  
*To Congress*



2012 Annual Report



**National  
Transportation  
Safety Board**

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## A Message from the Chairman of the NTSB



[Deborah A.P. Hersman](#)  
[Chairman](#)

I am pleased to present the National Transportation Safety Board's (NTSB) 2012 *Annual Report to Congress*. Recognized internationally for our accident investigation expertise, the NTSB has been in the forefront of transportation safety for over 40 years. Throughout our history, we have investigated more than 140,000 aviation accidents and incidents as well as thousands of surface transportation accidents; issued more than 13,700 safety recommendations. The 2012 annual report presents the agency's work over the last year, providing details of completed and ongoing investigations, safety recommendations, family disaster assistance activities, and emerging issues.

The NTSB had a productive year in 2012, as we worked as a team to advance our transportation safety mission with accountability, integrity, and transparency. We completed over 1300 accident briefs and 18 major accident reports, 2 of which were completed within 1 year of the accident date: the [air races accident in Reno, Nevada](#), and the [collision of the tankship \*Elka Apollon\*](#) in Galveston Bay, Texas. Also in 2012, we released a safety study on [experimental amateur-built aircraft](#) and a special investigation report on [wrong-way driving](#). In addition, we undertook activities to impart lessons learned from our investigations and raise awareness of emerging safety issues by holding public forums on [substance-impaired driving](#), [attentive driving](#), general aviation [search and rescue](#), and improving the safety of [general aviation](#). We also held a forum on using [geographic information systems](#) to improve transportation safety. All of these activities, as well as the 207 associated safety recommendations we issued in 2012, were based on technical integrity and transparency.

Throughout the year, we continued our safety role abroad, providing technical expertise to our international partners and participating in dozens of foreign accident investigations including support for seven major international investigations. These activities drive further safety improvements in US products and services and encourage reciprocal support from our foreign partners when foreign equipment or foreign carriers are involved in accidents in the United States.

We hope you find the 2012 *Annual Report to Congress* to be an informative presentation of the agency's accomplishments.

Sincerely,

June 21, 2013

## About the NTSB

The National Transportation Safety Board (NTSB) is an independent federal agency charged with determining the probable cause of transportation accidents, promoting transportation safety, and assisting victims of transportation accidents and their families. We investigate accidents, conduct safety studies, evaluate the effectiveness of other government agencies' programs for preventing transportation accidents, and review the appeals of enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and the US Coast Guard (the Coast Guard), as well as the appeals of civil penalty actions taken by the FAA.

Since our inception, we have investigated more than 140,000 aviation accidents and thousands of surface transportation accidents. On call 24 hours a day, 365 days a year, NTSB investigators travel throughout the country and internationally to investigate significant accidents and develop factual records and safety recommendations with one aim—to ensure that such accidents never happen again. Our [Most Wanted List](#) highlights safety-critical actions that the US Department of Transportation (DOT) modal administrations, the Coast Guard, and others need to take to help prevent accidents and save lives.

To date, we have issued over 13,700 safety recommendations to more than 2,300 recipients. Because we have no formal authority to regulate the transportation industry, our effectiveness depends on our reputation for conducting thorough, accurate, and independent investigations and for producing timely, well-considered recommendations to enhance transportation safety.

The NTSB has five Board Members, each nominated by the President and confirmed by the Senate to serve 5-year terms. A Member is designated by the President as Chairman and another as Vice Chairman for 2-year terms. The Chairmanship requires separate Senate confirmation. When there is no designated Chairman, the Vice Chairman serves as Acting Chairman.

The Office of the Managing Director assists the Chairman in the discharge of the Chairman's functions as the executive and administrative head of the NTSB. The office provides overall leadership for the management of the agency, including production, strategy, and support functions. The office ensures that NTSB resources are allocated appropriately so the NTSB can perform its mission to promote transportation safety in the most cost-effective manner.

In 2012, the NTSB continued to push for safety improvements as 181 recommendations were officially closed, 121 with an acceptable status. The average acceptance rate for safety

recommendations from 2008 to 2012 was 75 percent. Another 207 recommendations (72 aviation, 68 highway, 10 marine, 43 railroad, and 19 pipeline) were issued in 2012.

## *Legislative Mandate*

*Maintaining* our congressionally mandated independence and objectivity;

*Conducting* objective, precise accident investigations and safety studies;

*Performing* fair and objective airman and mariner certification appeals;

*Advocating* and promoting safety recommendations; and

*Assisting* victims of transportation accidents and their families.

## *Mission*

*Independently Advancing Transportation Safety*

## *Core Values*

The NTSB embraces the values of **transparency**, **accountability**, **integrity**, **diversity**, and **inclusion** in our work. We are committed to these values every day and in every way.

**Table 1: NTSB At A Glance Safety Statistics**

<b>2012 At A GLANCE</b>	
<b>Accident Launches</b>	
<b>Major Accident Launches</b>	8
<b>Regional/Field Accident Launches</b>	252
<b>International Accident Launches</b>	19
<b>Major Reports and Products Adopted by the Board</b>	
<b>Major Reports</b>	18
<b>Accident Briefs</b>	1,426
<b>Recommendations</b>	
<b>Recommendations Issued</b>	207
<b>Recommendations Closed/Acceptable Status</b>	121
<b>Recommendations Closed/Unacceptable Status</b>	47
<b>Aviation Certificate Appeals</b>	
<b>Total Cases Received</b>	330
<b>Total Cases Closed</b>	345
<b>Emergency Cases Closed</b>	117

# Safety Recommendations and Quality Assurance Division

The Office of the Managing Director’s mission is to provide the strategic direction of the organization and to guide and support NTSB programs to ensure the independence, competency, efficiency, and effectiveness of safety recommendations.

**Table 2. 2012 Safety Recommendation Statistics**

<i>Safety Recommendations and Quality Assurance 2012 At A Glance</i>	
<b>Recommendations Issued</b>	<b>207</b>
<b>Recommendations Closed in Acceptable Status</b>	<b>121</b>
<b>Recommendations Closed in Unacceptable Status</b>	<b>47</b>

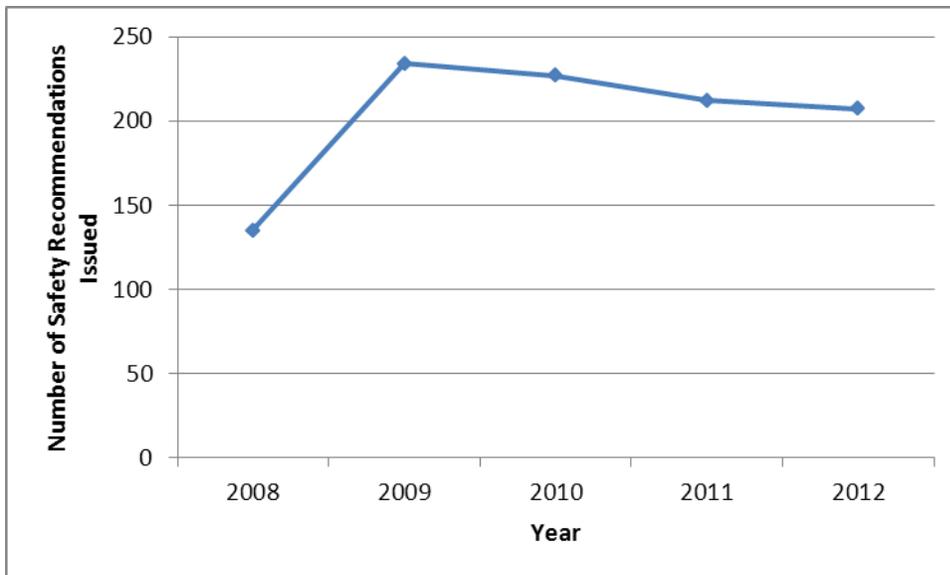
The Safety Recommendations and Quality Assurance Division, under the Office of the Managing Director, is responsible for designing and coordinating strategies to encourage those in a position to effect changes to implement the NTSB’s recommendations. The division is also responsible for tracking the implementation of those safety recommendations after they are issued to recipients and for maintaining statistics of recommendation adoption and implementation rates. See table 2 for a summary of the 2012 safety recommendations. The division is also responsible for managing the NTSB’s notation and correspondence processes and coordinating agency products submitted to the Board. The division ensures that the NTSB’s products are consistently of the highest quality.

In 2012, the division submitted 473 separate items to the Board Members for their consideration, all of which were adopted.

Safety recommendations are issued by the NTSB following the investigation of transportation accidents and other safety problems. Recommendations usually address a specific issue uncovered during an investigation, study, or special investigation report (SIR) and specify corrective action that will help prevent recurrences. Letters containing the recommendations are sent to the organization best able to act on the problem; recipients of NTSB safety recommendations

include the DOT and its modal administrations,<sup>1</sup> the Coast Guard, other federal and state agencies, manufacturers, industry and trade organizations, and others.

The division encourages the DOT modal administrations, the Coast Guard, and other recipients to implement the NTSB's recommendations; compiles monthly statistics regarding recommendation acceptance rates; and coordinates products for Board review via the NTSB notation process. In 2012, the NTSB issued 207 recommendations (72 aviation, 63 highway, 43 railroad, 10 marine, and 19 pipeline). Over the last 5 years, the NTSB has issued 1,015 safety recommendations across all modes of transportation, as shown in figure 1. During 2012, a total of 181 recommendations were closed, 121 with an acceptable status; all of the acceptable closures represented a positive impact on transportation safety. Of the safety recommendations issued between the beginning of 2008 and the close of 2012, excluding recommendations that are in process reconsidered, superseded, or no longer applicable, 75 percent of the recommended actions have been satisfactorily completed.



**Figure 1. Safety recommendations issued in the past 5 years.**

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<sup>1</sup> DOT modal agencies include the following: the FAA, the Federal Highway Administration (FHWA), the Federal Motor Carrier Safety Administration (FMCSA), the Federal Railroad Administration (FRA), the Federal Transit Administration (FTA), the National Highway Traffic Safety Administration (NHTSA), and the Pipeline and Hazardous Materials Safety Administration (PHMSA).

In response to NTSB safety recommendations, the federal agencies issued a number of important notices of proposed rulemakings (NPRMs), advanced notices of proposed rulemakings (ANPRMs), supplemental notices of proposed rulemakings (SNPRMs), advisory circulars (ACs), notice of proposed federal guidelines (NPFGs), airworthiness directives (ADs), and proposed technical standard orders (TSOs). See table 3.

Advocacy efforts by NTSB staff and the FAA’s staff to resolve issues regarding recommendations issued to the FAA led to the closure of 100 recommendations issued to that agency.

**Table 3. NPRMs, ANPRMs, ACs, NPFGs, ADs, and Proposed TSOs from Federal Agencies that Addressed Safety Recommendations**

<i>NPRMs, ANPRMs, ACs, NPFGs, ADs, and Proposed TSOs from Federal Agencies that Addressed Safety Recommendations</i>	
<b>Federal Railroad Administration</b>	<b>3</b>
<b>Federal Aviation Administration</b>	<b>13</b>
<b>Pipeline and Hazardous Materials Safety Administration</b>	<b>2</b>
<b>National Highway Traffic Safety Administration</b>	<b>4</b>

## Office of Aviation Safety

The Office of Aviation Safety has the responsibility for investigating aviation accidents and incidents (about 1,800 annually) and for proposing the probable cause of accidents for the Board's approval. In collaboration with other offices within the NTSB, the Office of Aviation Safety also works to

**Table 4. 2012 Aviation Safety Statistics**

<i>Office of Aviation Safety 2012 At A Glance</i>	
<b>Recommendations Issued</b>	<b>72</b>
<b>Recommendations Closed in Acceptable Status</b>	<b>69</b>
<b>Recommendations Closed in Unacceptable Status</b>	<b>37</b>
<b>Major Reports</b>	<b>4</b>
<b>Accident Briefs</b>	<b>1,418</b>
<b>Major Accident Launches</b>	<b>0</b>
<b>Regional Accident Launches</b>	<b>233</b>
<b>International Accident Launches</b>	<b>19</b>

formulate recommendations to prevent the recurrence of similar accidents and incidents and to otherwise improve aviation safety. NTSB investigations routinely examine all factors surrounding an accident or a series of accidents or serious incidents, thereby ensuring that regulatory agencies and the industry are given a thorough and objective analysis of actual, as well as potential, deficiencies in the transportation system. Solutions can then be proposed to correct deficiencies that may have caused an accident. Given the international nature of air transportation and the leading role of the United States in the development of aviation technologies, the NTSB's investigations of domestic accidents and its participation in foreign investigations are essential to the enhancement of aviation safety worldwide. The agency's major aviation accident reports, safety recommendations, and accident statistics are disseminated worldwide and have a direct influence on safety policies domestically and abroad, helping to ensure the safe transportation by air of US citizens and other travelers around the world.

The NTSB fulfills US obligations to foreign accident investigations, established by treaty under the auspices of the International Civil Aviation Organization (ICAO), by sending accredited representatives and technical advisors from the NTSB and airframe, engine, and systems manufacturers to participate in investigations that involve US interests. The office also maintains liaison and coordination with other government agencies through the US Interagency Group on International Aviation and ICAO. The headquarters for the Office of Aviation

Safety is located in Washington, DC. Four regions operate out of nine office sites around the country.

The headquarters office comprises five divisions that reflect the organization of the NTSB's investigative process: Major Investigations, Operational Factors, Aviation Engineering, Human Performance and Survival Factors, and Writing and Editing.

## Completed Major Aviation Investigations

### [Runway Overrun, American Airlines Flight 2253, Boeing 757-200, Jackson Hole, WY \(0 fatal, 0 injured\)](#)

On December 29, 2010, American Airlines flight 2253, a Boeing 757-200, N668AA, ran off the departure end of runway 19 after landing at Jackson Hole Airport, Jackson Hole, Wyoming. The airplane came to rest about 730 feet past the departure end of the runway in deep snow. The 179 passengers, 2 pilots, and 4 flight attendants on board were not injured, and the airplane sustained minor damage.



**Figure 2. Picture of American Airlines flight 2253 on runway.**

The NTSB determined that the probable cause of this incident was a manufacturing defect in a clutch mechanism that prevented the speedbrakes from automatically deploying after touchdown and the captain's failure to monitor and extend the speedbrakes manually. Also causal was the failure of the thrust

reversers to deploy when initially commanded. Contributing to the incident was the captain's failure to confirm speedbrake extension before announcing their deployment and his distraction caused by the thrust reversers' failure to initially deploy after landing.

Safety issues identified in this incident included the following:

- Inadequate pilot training for recognition of a situation in which the speedbrakes do not automatically deploy as expected after landing.
- Lack of an alert to warn pilots when speedbrakes have not automatically deployed during the landing roll.
- Lack of guidance for pilots of certain Boeing airplanes to follow when an unintended thrust reverser lockout occurs.
- Lack of pilot training for multiple emergency and abnormal situations.
- Lack of pilot training emphasizing monitoring skills and workload management.

#### **Safety Recommendations Issued:**

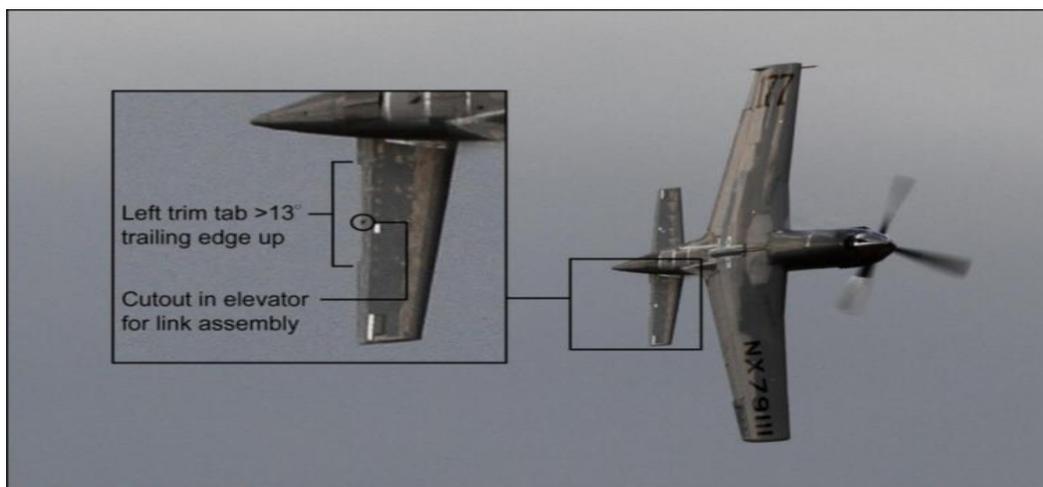
As a result of its investigation, the NTSB issued three new, and reiterated three existing, safety recommendations to the FAA.

#### **[Pilot/Race 177, The Galloping Ghost, North American P-51D, Reno, NV](#)**

***(11 fatal, 64 injured)***

On September 16, 2011, an experimental, single-seat North American P-51D, N79111, collided with the airport ramp in the spectator box seating area following a loss of control during the National Championship Air Races unlimited class gold race at the Reno/Stead Airport (RTS), Reno, Nevada. The airplane was registered to Aero-Trans Corp (dba Leeward Aeronautical Sales), Ocala, Florida, and operated by the commercial pilot as Race 177, The Galloping Ghost, under the provisions of [Title 14 Code of Federal Regulations \(CFR\) Part 91](#). The pilot and 10 people on the ground sustained fatal injuries, and at least 64 people on the ground were injured (at least 16 of whom were reported to have sustained serious injuries). The airplane sustained substantial damage, fragmenting upon collision with the ramp. Visual meteorological conditions prevailed, and no flight plan had been filed for the local air race flight, which departed RTS about 10 minutes before the accident.

The NTSB determined that the probable cause of this accident was the reduced stiffness of the elevator trim tab system that allowed aerodynamic flutter to occur at racing speeds. The reduced stiffness was a result of deteriorated locknut inserts that allowed the trim tab attachment screws to become loose and to initiate fatigue cracking in one screw sometime before the accident flight. Aerodynamic flutter of the trim tabs resulted in a failure of the left trim tab link assembly, elevator movement, high flight loads, and a loss of control. Contributing to the accident were the undocumented and untested major modifications to the airplane and the pilot's operation of the airplane in the unique air racing environment without adequate flight testing.



**Figure 3. Reno Air Races, Pilot/Race 177, the Galloping Ghost, North American P-51D, Reno, Nevada, September 16, 2011.**

### **Safety Recommendations Issued**

As a result of its investigation, the NTSB issued four new safety recommendations to the Reno Air Racing Association, five new recommendations to the National Air-racing Group Unlimited Division, and one new recommendation to the FAA.

### **[Crash During Experimental Test Flight Gulfstream Aerospace Corporation](#) (4 fatal, 0 injured)**

On April 2, 2011, an experimental Gulfstream Aerospace Corporation GVI (G650), N652GD, crashed during takeoff from runway 21 at Roswell

International Air Center Airport, Roswell, New Mexico. The two pilots and the two flight test engineers were fatally injured, and the airplane was substantially damaged by impact forces and a postcrash fire. The airplane was registered to and operated by Gulfstream as part of its G650 flight test program. The flight was conducted under the provisions of [14 CFR Part 91](#). Visual meteorological conditions prevailed at the time of the accident.



**Figure 4. Crash during experimental test flight, Gulfstream Aerospace Corporation GVI (G650), Roswell, New Mexico.**

The NTSB determined that the probable cause of this accident was an aerodynamic stall and subsequent uncommanded roll during a one engine inoperative takeoff flight test, which were the result of (1) Gulfstream's failure to properly develop and validate takeoff speeds for the flight tests and recognize and correct the  $V_2$  error during previous G650 flight tests, (2) the G650 flight test team's persistent and increasingly aggressive attempts to achieve  $V_2$  speeds that were erroneously low, and (3) Gulfstream's inadequate investigation of previous G650 uncommanded roll events, which indicated that the company's estimated stall angle of attack while the airplane was in ground effect was too high. Contributing to the accident was Gulfstream's failure to effectively manage the G650 flight test program by pursuing an aggressive program schedule without ensuring that (1) the roles and responsibilities of team members had been appropriately defined and implemented, (2) engineering processes had received sufficient technical planning and oversight, (3) potential hazards had been fully identified, and (4) appropriate risk controls had been implemented and were functioning as intended.

## **Safety Recommendations Issued:**

As a result of its investigation, the NTSB issued five new safety recommendations to the FAA; three new recommendations to the Flight Test Safety Committee, and two new recommendations to the Gulfstream Aerospace Corporation.

## **Ongoing Major Aviation Investigations**

Southwest Airlines Flight 812 In-Flight Fuselage Rupture, Yuma, Arizona, April 1, 2011

Helicopter Emergency Medical Services Accident in Mosby, Missouri, August 26, 2011

Fresh Air Convair 340 Cargo Accident in San Juan, Puerto Rico, March 15, 2012

Era Alaska flight 874 Loss of Control In-Flight Incident in Soldotna, Arkansas, September 5, 2012

## **International Aviation Accident Investigations**

The NTSB participates in the investigation of aviation accidents and serious incidents outside the United States in accordance with the Chicago Convention of ICAO and the Standards and Recommended Practices (SARPS) provided in Annex 13 to the Convention.

If an accident or serious incident occurs in a foreign state involving a civil aircraft of US registry, a US operator, or an aircraft of US design or manufacture, and the foreign state is a signatory to the ICAO Convention, that state is responsible for the investigation. In accordance with the ICAO Annex 13 SARPS, upon receipt of ICAO notification of the accident or serious incident, the NTSB designates a US accredited representative and appoints advisors to carry out the obligations, receive the entitlements, provide consultation, and receive safety recommendations from the state of occurrence.

If an accident or serious incident occurs in a foreign state not bound by the provisions of Annex 13 to the ICAO Convention, if a foreign state delegates all or part of an

investigation by mutual consent to the NTSB, or if the accident or serious incident involves a public aircraft, the conduct of the investigation shall be in consonance with any agreement entered into between the United States and the foreign state.

The following are ongoing major international investigations:

***Crash of Gulfstream GIV on Takeoff, Bukavu, Democratic Republic of Congo, February 12, 2012***

On February 12, 2012, a Gulfstream, G-IV, operated by Trident Aviation of Wilmington, Delaware, crashed at Bukavu-Kamenbe Airport (BKY), Bukavu, Democratic Republic of Congo (DRC). The domestic private flight departed Kinshasa with an intermediate stop at Goma to enplane passengers and to refuel. During the landing at BKY, the airplane overran the runway, went down an embankment and came to rest in a ravine. Four of the 12 persons on board died, including the pilot, copilot, and 2 passengers. The airplane was substantially damaged, but there was no fire.

The investigation is being conducted by the DRC. Because the United States is the state of manufacture and registry, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance during this investigation.

***Crash on Approach of a Cessna 750, Egelsbach, Germany, March 1, 2012***

On March 1, 2012, a Cessna 750 Citation X, registered to Cessna Finance Corp, and operated by Asia Today Ltd, crashed in a wooded area while approaching to land, about 2.5 miles east of runway 27 at Frankfurt-Egelsbach Airport, Egelsbach, Germany. The airline transport-rated pilot and copilot as well as all three passengers received fatal injuries, and the airplane was destroyed. The flight had departed from Linz, Austria.

The accident is being investigated by the government of Germany. Because the United States is the state of manufacture of the airplane, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance during this investigation.

***Crash of Bhoja Air Boeing 737, Islamabad, Pakistan, April 20, 2012***

On April 20, 2012, Bhoja Air flight BH0213, a Boeing 737-236, crashed about 3.7 miles short of runway 30 during an approach to landing at the Benazir Bhutto International Airport, Islamabad, Pakistan. The flight originated from Jinnah International Airport, Karachi, Pakistan. All 127 people on board were fatally injured, and the aircraft was destroyed. Heavy rain and thunderstorms were reported at the time of the accident.

The accident is being investigated by the government of Pakistan. Because the United States is the state of manufacture of the airplane and engines, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance during this investigation.

***Crash of a Dana Air Boeing MD-83, Abuja, Nigeria, June 3, 2012***

On June 3, 2012 a Boeing MD-83, operated by Dana Airlines Limited as flight 992, crashed into a densely populated area during a forced landing following a total loss of power in both engines while on approach to Muhammed Murtala Airport, Lagos, Nigeria. Visual meteorological conditions prevailed at the time, and the airplane was on an instrument flight rules flight plan. All 153 persons aboard the airplane, including the 6 crewmembers, were fatally injured. There were 10 confirmed ground fatalities. The airplane was destroyed, and there was a post impact fire. The domestic scheduled commercial flight was operating from Abuja International Airport, Abuja, Nigeria to LOS.

The accident is being investigated by the government of Nigeria. Because the United States is the state of manufacture of the airplane and engines, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance.

***Excursion on Landing Involving a Gulfstream GIV Airplane, Le Castellet, France, July 13, 2012***

On July 13, 2012, a Gulfstream GIV, operated by Universal Jet Aviation, exited the left side of runway 13 at Le Castellet Airport, Le Castellet, France. The airplane was destroyed by impact forces and fire. The three crewmembers were

fatally injured. The airplane was on a repositioning flight from Nice, France, with no passengers.

The accident is being investigated by the government of France. Because the United States is the state of manufacture and registry, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance.

***Fire in the cockpit of a Corendon Airlines Boeing 737-800, Antalya, Turkey, October 14, 2012***

On October 14, 2012, a Boeing 737-800, operated by Corendon Airlines as flight 7H-773 departing Antalya, Turkey for Trondheim, Norway, experienced smoke/fire in the cockpit during push-back from the gate. The captain ordered an emergency evacuation, and the aircraft was evacuated via the emergency slides. There was substantial fire damage to the cockpit of the airplane. There were 189 passengers and 7 crew on board; 27 passengers were hospitalized, with 2 serious injuries reported.

The investigation is being conducted by the government of Turkey. Because the United States is the state of manufacture and design, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance during this investigation.

***Crash of a Learjet LJ25 near Monterrey, Mexico, December 9, 2012***

On December 9, 2012, a Learjet 25, crashed in mountainous terrain at an elevation of about 5,600 feet above mean sea level about 70 miles south of Monterrey, Mexico. The flight departed General Mariano Escobedo International Airport, Monterrey, Nuevo Leon, Mexico, was en route to Lic. Adolfo Lopez Mateo International Airport, Toluca, Estado de Mexico, Mexico. The two crewmembers and five passengers on board were fatally injured and the aircraft was destroyed.

The investigation is being conducted by the government of Mexico. Because the United States is the state of manufacture and registry, the NTSB was designated as the US accredited representative to this investigation and provided additional technical assistance.

## Public Hearings, Forums, Conferences, and Symposiums

### [Air Race and Air Show Safety Hearing](#)

On January 10, 2012, the NTSB held a hearing on regulations and oversight and aviation event operations.

The purpose of the hearing was to (1) bring public attention to the safety issues involved in aviation event operations, and (2) provide Board Members and investigative staff with a deeper understanding of regulations, protocols, and practices used in the planning and operations of air shows and air races. Information gathered in the hearing assisted NTSB staff in the investigation of air show and air race incidents and accidents.

**Safety Recommendations Issued:** None

### [General Aviation Safety Forum: Climbing to the Next Level](#)

On June 19 and 20, 2012, the NTSB held a safety forum on general aviation (GA), which addressed emerging safety issues in the GA community. The goals of the forum were to (1) raise awareness of the GA accident rate and associated recurring safety issue areas, (2) promote and facilitate dialogue about these issues, and (3) determine how to effectively address these issues to improve the safety of GA operations for the future.

The general scope of the forum included discussions of pilot training and performance; pilot access to, and use of, weather-related information; and aircraft design, certification, and maintenance. Eight panels were presented during the 2-day forum. Panelists were questioned by a technical panel composed of NTSB staff as well as the NTSB Board Members, who made up the board of inquiry.

**Safety Recommendations Issued:** None

### *General Aviation Search and Rescue Forum*

On July 17 and 18, 2012, the NTSB held a forum focused on GA search and rescue operations. The forum concentrated on examining the regulations, policies, and procedures at a federal level and served as a platform to facilitate dialogue among search organizations, technology manufacturers, and industry groups on the issues currently impacting the GA community. On the second day, participants discussed emerging technologies and how they may shape the future of GA search and rescue. Panelists participating in the forum represented government and industry.

**Safety Recommendations Issued:** None

### *International Investigative Issues Conference*

On August 27–31, 2012, the NTSB conducted the International Investigative Issues Conference in conjunction with the International Society of Air Safety Investigators seminar in Baltimore, Maryland. The seminar was organized to (1) share experiences of the challenges involved in conducting Annex 13 aviation accident and incident investigations; (2) discuss solutions, lessons learned, and best practices in dealing with the above noted challenges; and (3) discuss process improvement opportunities for future efficiencies in Annex 13 investigations.

The event consisted of four panel sessions, each moderated by a Board Member, with four to six panelists representing international accident investigation agencies, local regulators, or an educational organization. In addition, aviation manufacturers (Boeing, Airbus, and Honeywell) offered tutorials on their products and expertise in accident investigations, titled *Manufacturer Assistance to Accident Investigation*. Accident investigation representatives from 33 countries attended the seminar and offered NTSB staff the opportunity to advance their knowledge on a variety of accident investigation and safety topics and practices.

## Significant Achievements

- Completed the Reno air races accident investigation, [\*Pilot/Race 177, The Galloping Ghost, North American P-51D, Reno, NV\*](#), within 11 months and issued 10 important safety recommendations within 7 months of the accident based on the findings.
- Completed a comprehensive investigation of a serious incident involving an American Airlines Boeing 757 that overran the runway by 700 feet at Jackson Hole, Wyoming, during landing. Although there were no serious injuries to the passengers and crew, the NTSB's investigation resulted in a number of important safety recommendations and highlighted the recurring safety issue of ensuring proper spoiler deployment on landing.
- Conducted an issues hearing and two public forums. The hearing examined air race and air show safety, which increased the NTSB's and the public's understanding of the unique safety challenges associated with these operations. One public forum examined a broad spectrum of issues impacting GA safety, which raised awareness, promoted dialogue across the GA industry, and afforded discussion of potential solutions to improve overall safety of GA operations. The other forum took an in-depth look at search and rescue operations in GA accidents, which offered a platform for dialogue between critical industry stakeholders as well as explored new technologies to improve the outcomes in search and rescue operations.
- Convened a conference that focused on sharing lessons learned and discussing the latest issues in international accident and incident investigations with colleagues from accident investigation agencies across the world. Representatives from over 33 countries attended the conference to participate in these important discussions.

## Office of Highway Safety

The Office of Highway Safety conducts thorough, comprehensive, independent, and objective investigations of highway accidents to identify root causes and proposes recommendations for the Board's approval to prevent future accidents.

**Table 5. 2012 Highway Safety Statistics**

<i>Office of Highway Safety 2012 At A Glance</i>	
<b>Recommendations Issued</b>	<b>63</b>
<b>Recommendations Closed in Acceptable Status</b>	<b>15</b>
<b>Recommendations Closed in Unacceptable Status</b>	<b>6</b>
<b>Major Reports</b>	<b>4</b>
<b>Major Accident Launches</b>	<b>2</b>
<b>Field Investigation Accident Launches</b>	<b>4</b>

The NTSB is required to investigate highway accidents, including railroad grade crossing accidents that the Board selects in cooperation with a state. With 7 million highway accidents occurring per year in the United States (19,000 per day), the Office of Highway Safety must be highly selective in choosing for investigation those accidents that will identify nationwide highway safety issues.

In cooperation with other offices, the office works to formulate recommendations to prevent the recurrence of similar accidents or otherwise improve highway safety. Because of the unique nature and thoroughness of the NTSB's accident investigation process, the staff continues to discover emerging safety issues each year. In 2012, the office addressed and made safety recommendations concerning the following:

- The need for (1) onboard monitoring systems to improve commercial driver safety performance, (2) maintaining commercial driver licensing records for 10 years, (3) improvements in the Federal Motor Carrier Safety Administration's (FMCSA) Compliance, Safety, Accountability (CSA) system, (4) advanced speed-limiting technology on heavy vehicles, and (5) performance guidelines for high-performance roadside barriers capable of redirecting commercial passenger vehicles.
- The need for (1) fatigue management programs for motor carriers, (2) scientifically based fatigue mitigation strategies as part of the hours-of-service regulations, and (3) improvements in new entrant safety

audits to incorporate a structured process such as the FMCSA's Safety Management Cycle.

- The need for (1) guidelines for blood alcohol concentration (BAC) testing and reporting, (2) standard practices for drug toxicology testing, (3) increased BAC reporting rates by the states, (4) documenting the place of last drink, (5) accelerating the implementation of driver alcohol detection systems for safety, and (6) requiring the use of alcohol ignition interlock devices for all offenders.
- The need for (1) assessment tools, strategies, and countermeasures to reduce the instances of drivers traveling the wrong way on divided highways, (2) effective countermeasures to prevent wrong-way collisions involving older drivers, (3) comprehensive highway safety programs for older drivers, (4) addressing ramp design and pavement channelization to reduce wrong-way driving, and (5) developing standards for global positioning system navigation systems to help prevent wrong-way driving.
- The need for onboard brake stroke monitoring systems on commercial motor vehicles.

In addition, this office and the Office of Research and Engineering may conduct safety studies or special investigations regarding specific highway safety issues. These safety studies or investigations can result in recommendations to federal and state agencies and to the highway industry. The Office of Highway Safety consists of the Investigations Division and the Report Development Division. Office staff are located throughout the country to facilitate rapid response to accidents.

## Completed Major Highway Investigations

### [Motorcoach Run-Off-the-Road and Collision, New York City, NY](#)

*(15 fatal, 18 injured)*

On March 12, 2011, about 5:38 a.m. Eastern Standard Time (EST), a 1999 Prevost 56-passenger motorcoach, operated by World Wide Travel of Greater New York, headquartered in Brooklyn, was traveling southbound on Interstate 95, en route from the Mohegan Sun Casino in Uncasville, Connecticut, to New York City, carrying 32 passengers. While in the vicinity of mile marker 3.2, the motorcoach departed from the travel lanes to the right, driving over the rumble strips on the right shoulder edge. The motorcoach then crossed over the 10-foot-wide paved shoulder and struck a strong-post W-beam guardrail, traveling about 480 feet alongside and on the guardrail, before finally overturning 90° onto its right side and flattening the guardrail. The front of the vehicle subsequently collided with a vertical highway signpost consisting of two vertical 8-inch-diameter steel tubular poles linked by cross-beam diagonal metal supports. The front roof also collided with a steel electrical box mounted to the sign support structure. After the motorcoach struck the support structure and electrical box, the two poles entered the passenger compartment along the base of the passenger windows as the vehicle slid forward. The impact resulted in the roof panel being torn from the bus body for almost the entire length of the bus. Fifteen passengers were killed, 17 passengers received serious-to-minor injuries, and the bus driver received minor injuries.

Safety issues identified in this accident investigation included the following:

- Motorcoach driver fatigue and onboard driver performance monitoring systems.
- Commercial driver license history.
- Heavy-vehicle speed limiters.
- Safety management systems and motor carrier safety ratings.
- Roadside barriers for heavy commercial passenger vehicles.
- Occupant injuries and motorcoach crashworthiness.



**Figure 5. Roof separation due to intrusion of the vertical highway signpost poles.**

The NTSB determined that the probable cause of the accident was the motorcoach driver's failure to control the motorcoach due to fatigue resulting from failure to obtain adequate sleep, poor sleep quality, and the time of day at which the accident occurred. Contributing to the accident was inadequate safety oversight of the accident driver by World Wide Travel's management. Contributing to the severity of the accident was the motorcoach's speed and a guardrail that was not designed to redirect the heavy vehicle and that did not prevent it from colliding with the vertical highway signpost. Contributing to the severity of passenger injuries was the extensive intrusion of the vertical highway signpost into the passenger compartment.

#### **Safety Recommendations Issued:**

As a result of its investigation, the NTSB issued seven new recommendations to the FMCSA; three new recommendations to NHTSA; two new recommendations to the FHWA; three new recommendations to the American Association of State Highway Transportation Officials (AASHTO); and one new recommendation to the American Bus Association, the National Motorcoach Network, and the United Motorcoach Association. The NTSB reiterated four existing recommendations to the FMCSA and two existing recommendations to NHTSA.

**Motorcoach Roadway Departure and Overturn on Interstate 95, Doswell, VA**  
***(4 fatal, 50 injured)***

On May 31, 2011, about 4:55 a.m. (EDT), a 2000 Setra 59-passenger motorcoach operated by Sky Express, Inc., occupied by a driver and 58 passengers, was traveling north on Interstate 95 in the right lane of the three northbound lanes near Doswell, Virginia. The motorcoach drifted from the highway to the right, struck a cable barrier, rotated counterclockwise around its vertical axis, overturned to the right, and rolled onto its roof. As a result of the accident, 4 of the 58 passengers were killed, 14 received serious injuries, and 35 received minor injuries. The driver sustained minor injuries and refused medical treatment.



**Figure 6. Overturned motorcoach at final rest.**

The NTSB determined that the probable cause of this accident was (1) the failure of the motorcoach driver to maintain control of the vehicle due to his falling asleep while driving because of fatigue resulting from acute sleep loss, poor sleep quality, and circadian disruption and (2) the failure of Sky Express, Inc., management to follow adequate safety practices and to exercise safety oversight of the driver. Contributing to the accident was the FMCSA's lack of adequate oversight of Sky Express, Inc., which allowed the company to continue operations despite known safety issues. Contributing to the fatalities and the severity of the injuries was the lack of a comprehensive occupant protection system, including systems for providing passenger restraint and for ensuring sufficient roof strength.

The accident investigation focused on the following safety issues:

- Driver fatigue.
- Motorcoach deficiencies in roof strength and occupant protection.
- The FMCSA's failure to exercise adequate safety oversight of the accident motor carrier.

### **Safety Recommendations Issued:**

As a result of the investigation, the NTSB issued three new recommendations to the FMCSA, reiterated previous recommendations to the FMCSA and NHTSA, reclassified a previous recommendation to the FMCSA, and reiterated and reclassified a previous recommendation to NHTSA.

#### **[Collision between an Amtrak Passenger Train and a Tractor trailer at Grade Crossing, Miriam, Nevada \(6 fatal, 16 injuries\)](#)**

On June 24, 2011, about 11:19 a.m. (PDT), a 2008 Peterbilt truck-tractor occupied by a 43-year-old driver was traveling north on US Highway 95 near Miriam, Nevada. The truck-tractor was pulling two empty 2007 side-dump trailers. As it approached an active highway-railroad grade crossing consisting of two cantilever signal masts with flashing lights and two crossing gate arms in the descended position, it failed to stop and struck the left side of Amtrak train no. 5, which was passing through the grade crossing from the northeast. The collision destroyed the truck-tractor and two passenger railcars. The train came to a stop without derailling; however, a fire ensued, engulfing two railcars and damaging a third railcar. The truck driver, the train conductor, and 4 train passengers were killed; 15 train passengers and 1 crewmember were injured.



**Figure 7. Picture of Amtrak railcars burning.**

The NTSB determined that the probable cause of the Miriam, Nevada, accident was the truck driver's delayed braking and the failure of John Davis Trucking to adequately maintain the brakes on the accident truck. Contributing to the number of fatalities and the severity of injuries was insufficient passenger railcar side impact strength.

The accident investigation focused on the following safety issues:

- Commercial driver fatigue and distraction.
- Commercial driver license and employment history.
- Commercial vehicle brake maintenance.
- Passenger railcar crashworthiness and fire protection.
- Grade crossing action plans.

### **Safety Recommendations Issued:**

As a result of this investigation, the NTSB issued four new recommendations to the FMCSA; two new recommendations to NHTSA; two new recommendations to the FHWA; five new recommendations to the Federal Railroad Administration (FRA); two new recommendations to the Commercial Vehicle Safety Alliance; and one new recommendation each to the Nevada Highway Patrol, the American Trucking Associations, the Owner-Operator Independent Drivers Association, the Towing and Recovery Association of America Inc., the American Bus

Association, the United Motorcoach Association, and John Davis Trucking Company, Inc.

### *Highway Special Investigation Report: Wrong-Way Driving*

This SIR looked at one of the most serious types of accidents that occur on our highways: collisions involving vehicles traveling the wrong way on high-speed divided highways. The goal of the project was to identify causal factors and make relevant safety recommendations to prevent wrong-way collisions on such highways and access ramps. The investigations included in the report took a focused view of the driver and highway issues affecting wrong-way collisions.

The report issued recommendations to address the following safety issues:

- Driver impairment, primarily from alcohol use, with consideration of older driver issues and possible drug involvement.
- The need to establish—through traffic control devices and highway design—distinctly different views for motorists approaching entrance and exit ramps.
- Monitoring and intervention programs for wrong-way collisions.
- In-vehicle driver support systems.

#### **Safety Recommendations Issued:**

As a result of this investigation, the NTSB issued five new recommendations to the FHWA; two new recommendations to NHTSA; and one new recommendation each to the states, the Commonwealth of Puerto Rico, the District of Columbia, AASHTO, the Automotive Coalition for Traffic Safety Inc., the International Association of Chiefs of Police, the National Sheriffs' Association, and SAE International; and two new recommendations to the Alliance of Automobile Manufacturers, Global Automakers, and the Consumer Electronics Association.

## **Ongoing Major Highway Investigations**

School Bus Struck by a Dump Truck Crossing Through an Intersection, Chesterfield, New Jersey, February 16, 2012

Tractor Trailer, Used as a Parade Float, Struck by a Freight Train, Midland, Texas, November 15, 2012

Motorcoach Run-Off-Road and Rollover, Pendleton, Oregon, December 30, 2012

## Public Hearings, Forums, and Symposiums

### [Attentive Driving: Countermeasures to Distraction](#)

On March 27, 2012, the NTSB hosted a forum and invited experts to discuss the topic “Attentive Driving: Countermeasures to Distraction.” The forum was consisted of four panels: one introducing the topic and three covering countermeasures—enforcement, education, and engineering. The stated goals of the forum were (1) to further highlight the dangers of distracted driving, (2) to gather information about the effects of distraction other than from portable electronic devices, (3) to identify obstacles to implementation of the NTSB’s driver distraction recommendations and discuss solutions, and (4) to gather information about the limitations of national data on distracted driving.

In September 2012, the NTSB published a [summary](#) of the forum.

**Safety Recommendations Issued:** None

### [Reaching Zero: Actions to Eliminate Substance-Impaired Driving Forum](#)

On May 15 and 16, 2012, the NTSB convened a 2-day public forum to identify the most effective, data-driven, science-based actions needed to “reach zero” accidents resulting from substance-impaired driving. Panelists included subject matter experts from academia, research and advocacy organizations, industry, and state and federal agencies. The panel topics included the following:

Current State of Affairs:

- The Substance: How alcohol and drugs affect the driver and how impairment is measured.

- **The Problem:** Description of the individuals who drive impaired, the scope of the substance-impaired driving problem through crash/injury/fatality data, and the challenges in collecting the data.

#### Interventions:

- **Education and Outreach:** The role of education and outreach in changing substance-impaired driving behavior.
- **Enforcement:** How impaired drivers are identified and arrested and the role that insurance companies can play to “enforce” sober driving.
- **Consequences:** The benefits and challenges that the judicial system faces in dealing with substance-impaired drivers.

#### Further Intervention Opportunities:

- **Prevention:** Proactive non-judicial measures to prevent substance-impaired driving.
- **International Perspectives:** How other countries address substance-impaired driving and how those programs may be relevant in the United States.

#### Next Steps:

- **Reaching Zero:** Representatives from government, advocacy organizations, industry, and other key constituencies discussed the practical concerns and actions needed to eliminate substance-impaired driving.

In November 2012, the NTSB published a [summary](#) of the forum and issued six safety recommendations.

#### **Safety Recommendations Issued:**

As a result of this forum, the NTSB issued two new recommendations to NHTSA; two new recommendations to 45 States, the Commonwealth of Puerto Rico, and the District of Columbia; and two to the 50 States, the Commonwealth of Puerto Rico, and the District of Columbia.

## Significant Achievements

- Ongoing work on driver distraction. In late 2011, as a result of the Gray Summit, Missouri, accident investigation, the NTSB issued a ground-breaking safety recommendation calling for a nationwide ban on portable electronic devices while driving. Acknowledging that driver distraction is one of the most challenging issues in transportation safety, we continued to confront this issue, holding the “[Attentive Driving: Countermeasures to Distraction](#)” forum in March 2012. This forum brought together experts from advocacy, industry, law enforcement, government, and the research community to examine methods to mitigate distracted driving behaviors. The forum highlighted findings of distracted driver research and promoted ongoing and future efforts to eliminate distracted driving accidents.
- Addressing impaired driving, one of the long-standing, leading causes of highway accident fatalities. In May 2012, the Office of Highway Safety and the Office of Communications jointly presented the “Reaching Zero: Actions to Eliminate Substance-Impaired Driving” forum. Then, in December 2012, the Office of Highway Safety completed a SIR on wrong-way driving, addressing a new subset of impaired driving accidents. As a result of the SIR, the NTSB issued 10 new recommendations, reiterated 9 recommendations, and reclassified 1 recommendation to reduce impaired driving accidents by improving the accuracy of alcohol/drug testing of impaired drivers, documenting the place of last drink, accelerating the implementation of driver alcohol detection systems for safety technology, and enacting laws requiring alcohol ignition interlock devices for all first offenders. Work continues in this area, with another SIR adopted in May 2013 to address the findings of the “Reaching Zero” forum.

## Office of Marine Safety

Title [49 United States Code](#) **Table 6. 2012 Marine Safety Statistics**

[Section 1131\(a\)\(1\)\(E\)](#) states that “The NTSB shall investigate or have investigated (in detail the Board prescribes) and establish the facts, circumstances, and cause or probable cause of ... a major marine casualty (except a casualty involving only public vessels) occurring on or under the navigable waters, internal waters, or the territorial sea of

<i>Office of Marine Safety 2012 At A Glance</i>	
<b>Recommendations Issued</b>	<b>10</b>
<b>Recommendations Closed in Acceptable Status</b>	<b>6</b>
<b>Recommendations Closed in Unacceptable Status</b>	<b>0</b>
<b>Major Reports</b>	<b>2</b>
<b>Accident Briefs</b>	<b>2</b>
<b>Major Accident Launches</b>	<b>1</b>
<b>Field Investigation Accident Launches</b>	<b>4</b>

the United States or involving a vessel of the United States under regulations prescribed jointly by the Board and the head of the department in which the [US] Coast Guard is operating.” A major marine casualty involves the loss of 6 or more lives; the loss of a self-propelled vessel of over 100 gross registered tons; property damage over \$500,000; or a serious threat to life, property, or the environment from hazardous materials. The NTSB’s Office of Marine Safety also investigates certain accidents that involve public and nonpublic vessels; involve significant issues related to Coast Guard marine safety functions; are catastrophic; or indicate recurring safety issues in areas where the states have primary jurisdiction, such as accidents involving recreational boats or commercial vessels that operate solely in state waters.

In a memorandum of understanding (MOU) signed December 18, 2008, the NTSB and the Coast Guard agreed that when both agencies investigate a marine casualty, one agency will serve as the lead federal agency for the investigation. The NTSB Chairman and the Coast Guard Commandant, or their designees, will determine which agency will lead the investigation. The NTSB may lead the investigation of “significant marine casualties,” defined in the MOU as loss of 3 or more lives on a commercial passenger vessel; loss of life or serious injury to 12 or more persons on any commercial vessel; loss of a mechanically propelled commercial vessel of 1,600 or more gross tons; loss of life involving a highway, bridge, railroad, or other shoreside structure; serious threat, as determined by the

NTSB Chairman and the Coast Guard Commandant, or their designees, to life, property, or the environment by hazardous materials; and significant safety issues, as determined by the NTSB Chairman and the Coast Guard Commandant, or their designees, relating to Coast Guard marine safety functions.

The Office of Marine Safety maintains a staff of professional investigators in Washington, DC, at NTSB headquarters; in Jacksonville, Florida; and in Stafford, Virginia. The staff includes Coast Guard-licensed master mariners, marine engineers, marine inspectors, naval architects, and human factors and survival factors specialists. In addition to investigating marine accidents, the office—together with the Office of Research and Engineering—may conduct safety studies of specific marine safety issues. These safety studies generally result in recommendations to federal and state agencies and to maritime industry organizations.

Given the international nature of the marine transportation system and the number of foreign-registered cruise and cargo ships operating from US ports, the office's investigation of accidents involving both domestic and foreign-registered vessels promotes marine safety worldwide. The Office of Marine Safety investigates marine accidents involving foreign-registered vessels operating in US waters and has investigated marine accidents involving US-registered ships as far away as the Persian Gulf and the South China Sea. In 2012, the office investigated one international accident (the capsizing of the passenger ship *Costa Concordia*). The NTSB cooperates with foreign marine accident investigation authorities under standards established by the International Maritime Organization (IMO), and US delegations participate in several IMO committees and subcommittees. As international standards are developed, NTSB staff informs the IMO of important safety-related issues that are identified during NTSB investigations and provides expertise to the US delegations. Participation in IMO committees and subcommittees enhances the NTSB's marine safety investigation capabilities by (1) contributing to the development of safety standards based on lessons learned from accident investigations; (2) keeping staff abreast of international marine developments; and (3) establishing and maintaining working relationships with technical experts from the Coast Guard, the US maritime industry and associations, and foreign governments involved in marine safety and marine accident investigations.

## Completed Major Marine Investigations

### [Collision of Tugboat/Barge Alliance/MMI 3024 with Tankship Naticina, Texas City Channel and Gulf Intracoastal Waterway, Galveston, Texas \(0 fatal, 0 injured\)](#)

On August 17, 2011, at 8:05 a.m. (CDT), the tankship *Naticina* was outbound to sea, transiting southeasterly in the Texas City Channel with two Galveston–Texas City pilots on board. The towing vessel *Alliance*, pushing the tank barges MMI 3024 and MMI 3025, was transiting northeasterly in the intersecting Gulf Intracoastal Waterway. The bow of the lead tank barge, the MMI 3024, collided with the hull of the *Naticina*.



**Figure 8. Tankship Naticina at Galveston Fairway Anchorage, postaccident.**

The NTSB determined that the probable cause of the collision was the encroachment by the master of the *Alliance* and its two barges into the Texas City Channel and into the path of the *Naticina*.

**Safety Recommendations Issued:** None

***Collision of Towing Vessel/Barge Natures Way Commander/ACBL 3111 with Barge CE-858, Gulf Intracoastal Waterway, Port Allen Lock, Louisiana (0 fatal, 0 injured)***

About 4:30 p.m. (CDT) on February 1, 2012, the ACBL 3111, a loaded hopper barge pushed by the uninspected towing vessel *Natures Way Commander*, collided with the moored US Army Corps of Engineers deck barge CE-858.



**Figure 9. The towing vessel Natures Way Commander.**

The NTSB determined that the probable cause of the collision was the failure of the pilot of the towboat *Natures Way Commander* to anticipate the effects of the heavy rain on his visibility and ability to communicate with the forward lookout as he approached the Port Allen Lock in a narrow waterway and his failure to take appropriate measures to avoid the collision.

**Safety Recommendations Issued: None**

*Allision of Passenger Ferry Andrew J. Barberi With St. George Terminal, Staten Island, New York (0 fatal, 50 injured)*

On May 8, 2010, at 9:18 a.m. (EDT), the passenger ferry *Andrew J. Barberi* allided with the terminal structure at slip No. 5 at the St. George terminal, Staten Island, New York, after a loss of propulsion control. Eighteen crewmembers, 2 New York City police officers, 2 concessionaires, and 244 passengers were on board. As a result of the allision, three passengers sustained serious injuries. Forty-seven passengers, crew, and others reported minor injuries.

This accident was similar to the allision of the same vessel at the same location on October 15, 2003, which resulted in 10 fatalities, 19 serious injuries, and 57 other injuries. The NTSB's report on the 2003 accident noted several deficiencies in the Ferry Division's operation that contributed to the accident, and the NTSB recommended that the Ferry Division create a comprehensive safety management system despite such a system's not being required by regulation. Safety management systems in the marine industry is a structured and documented system developed to enhance safe vessel operation, ensure compliance with regulatory requirements, prevent injury and loss of life, and avoid environmental pollution.



**Figure 10. Damage to the vessel's port side (Staten Island-end).**

The NTSB determined that the probable cause of the accident was a solenoid failure, which caused a loss of propulsion control of one of the vessel's two cycloidal propellers. Contributing to the accident was the propulsion system's

lack of a propeller pitch deviation alarm, which was not required by regulation, but which would have alerted the pilothouse crew to the loss of propulsion control and permitted prompt action.

Safety issues identified in this accident included the following:

- Undetected loss of propulsion control.
- Lack of propeller pitch deviation alarms on vessels with controllable pitch or cycloidal propulsion.

### **Safety Recommendations Issued:**

As a result of the investigation, the NTSB issued three new recommendations, reiterated two existing recommendations, and reclassified one recommendation, all to the Coast Guard.

### **[Collision of Tankship \*Elka Apollon\* with Containership \*MSC Nederland\*, Houston Ship Channel, Upper Galveston Bay, Texas \(0 fatalities, 0 injuries\)](#)**

On October 29, 2011, the tankship *Elka Apollon* was outbound in the Houston Ship Channel. The containership *MSC Nederland* was inbound in the same waterway. The onboard pilots agreed by radio that their ships would meet and pass one another just south of the intersection between the Houston Ship Channel and the Bayport Ship Channel. The vessels collided near the Bayport flare.

The NTSB determined that the probable cause of the collision between the *Elka Apollon* and the *MSC Nederland* was the failure of the pilot conning the *Elka Apollon* to appropriately respond to changes in bank effect forces as the vessel transited the Bayport flare, causing the vessel to sheer across the channel and collide with the *MSC Nederland*. Contributing to the accident were the combination of the narrow waterway, bank effects at the Bayport flare, and traffic density at the time, which increased the challenges in a waterway with a limited margin for error.



**Figure 11. Damaged containers on the MSC Nederland, forward of the bridge wing.**

Safety issues identified in this accident included the following:

- Piloting challenges in the Houston Ship Channel.
- Vessel separation.
- Lack of identification of Coast Guard precautionary areas.

#### **Safety Recommendations Issued:**

As a result of this investigation, the NTSB issued two new recommendations to the Coast Guard.

## **Ongoing Major Marine Investigations**

Personnel Abandonment of Weather-Damaged US Liftboat *Trinity II*, Bay of Campeche, Gulf of Mexico, September 8, 2011

Allision of the Cargo Vessel M/V *Delta Mariner* with Eggner's Ferry Bridge, Tennessee River near Aurora, Kentucky, January 26, 2012

Sinking of the Sailing Vessel HMS *Bounty*, 100 miles east of Cape Hatteras, North Carolina, October 29, 2012

## Significant Achievements

- By issuing two marine accident reports and two safety recommendation letters, the NTSB increased the marine industry's awareness of the value of safety management systems and of maintaining a consistent policy for drug and alcohol testing of Coast Guard personnel following marine casualties, as well as the need to reduce risk in the Houston Ship Channel.
  - The investigation of the 2010 allision of the *Andrew J. Barberi* highlighted the Ferry Division's implementation of a safety management system and the resultant significant improvement in crew performance and the company's safety culture.
  - As a result of several marine accidents involving the Coast Guard, the NTSB issued three recommendations to the Coast Guard to encourage it to develop and implement a consistent policy for toxicological testing of Coast Guard personnel following marine accidents. The NTSB also recommended that the Coast Guard seek legislative authority to require toxicological testing similar to that required of merchant mariners following marine accidents.
  - Following the investigation of the October 29, 2011, collision of the containership *MSC Nederland* and the tankship *Elka Apollon* in the Houston Ship Channel near the intersection with the Bayport Ship Channel, the NTSB identified a needed safety enhancement and recommended that the Coast Guard develop and implement a policy to ensure adequate separation between vessels operating in the most challenging portions of the Houston Ship Channel.

## Office of Railroad, Pipeline and Hazardous Materials Investigations

The Office of Railroad, Pipeline and Hazardous Materials Investigations investigates many railroad accidents, including freight train collisions and derailments, placing special emphasis on train accidents that involve the traveling public, such as passenger train and rapid rail transit accidents. The NTSB's criteria for investigating a railroad accident include fatalities or substantial damage. On the basis of the investigations conducted by this office, the NTSB issues safety recommendations to federal and state regulatory agencies, industry and safety standards organizations, carriers and pipeline operators, equipment and container manufacturers, producers and shippers of hazardous materials, and emergency response organizations.

**Table 7. 2012 Railroad, Pipeline and Hazardous Materials Investigations Safety Statistics**

<i>Office of Railroad, Pipeline and Hazardous Materials Investigations 2012 At A Glance</i>	
<b>Recommendations Issued</b>	
Railroad	43
Pipeline	19
<b>Recommendations Closed Acceptable</b>	
Railroad	26
Pipeline	5
<b>Recommendations Closed Unacceptable</b>	
Railroad	3
Pipeline	1
<b>Major Reports</b>	
Railroad	5
Pipeline	1
Hazardous Materials	1
<b>Accident Briefs</b>	
Railroad	6
<b>Major Accident Launches</b>	
Railroad	4
Hazardous Materials	1
<b>Field Accident Launches</b>	
Railroad	7
Pipeline	4
Hazardous Materials	0

The office is also required to investigate all pipeline accidents involving a fatality or substantial property damage and may investigate accidents of a recurring nature. Once notified of an accident, the NTSB dispatches to the site an investigator who takes charge of a team comprising investigative personnel from such entities as the state public utility commission, local fire and police units, pipeline companies, and the DOT.

In addition, the office investigates selected accidents involving the release of hazardous materials in all modes of transportation, including fatal accidents or those causing major disruptions to a community. NTSB investigations focus especially on the effects of materials released in public areas, the emergency response by local authorities, and the adequacy of federal standards for the transportation of hazardous materials. When the accident is the result of the transport of a hazardous material, the investigation focuses on the performance of the containers, the preparation for and handling of the material during transport, the health and safety hazards of the material, the markings and hazard communications for the shipments, and the effectiveness of the emergency response. The office also supports the investigation of accidents in other modes of transportation when the release of hazardous materials is involved.

The Office of Railroad, Pipeline and Hazardous Materials Investigations has four divisions: the Railroad Division, the Pipeline and Hazardous Materials Division, the Human Performance and Survival Factors Division, and the Report Development Division.

## **Completed Major Railroad, Pipeline and Hazardous Materials Investigations**

### ***Railroad Investigations***

#### **[Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire, Cherry Valley, Illinois \(1 fatal, 7 injured\)](#)**

On June 19, 2009, about 8:36 p.m. (CDT), eastbound Canadian National Railway Company (CN) freight train U70691-18, traveling at 36 mph, derailed at a highway-rail grade crossing in Cherry Valley, Illinois. The train consisted of 2 locomotives and 114 cars, 19 of which derailed. All of the derailed cars were tank cars carrying denatured fuel ethanol, a flammable liquid. Thirteen of the derailed tank cars were either breached or lost product and caught fire. At the time of the derailment, several motor vehicles were stopped on either side of the grade crossing waiting for the train to pass. As a result of the fire that erupted after the derailment, a passenger in one of the stopped cars was fatally injured, two passengers in the same car received serious injuries, and five occupants of other cars waiting at the highway/rail crossing were injured. Two responding

firefighters also sustained minor injuries. The release of ethanol and the resulting fire prompted a mandatory evacuation of about 600 residences within a 0.50-mile radius of the accident site. Monetary damages were estimated to total \$7.9 million.



**Figure 12. Derailed railroad tank cars burning at highway/rail grade crossing.**

The NTSB determined that the probable cause of the accident was the washout of the track structure that had been discovered about 1 hour before the train's arrival, and the CN's failure to notify the train crew of the known washout in time to stop the train because of the inadequacy of the CN's emergency communication procedures. Contributing to the accident was the CN's failure to work with Winnebago County to develop a comprehensive storm water management design to address previous washouts in 2006 and 2007. Contributing to the severity of the accident was the CN's failure to issue the flash flood warning to the train crew and the inadequate design of the DOT-111 tank cars, which subjected the cars to damage and catastrophic loss of hazardous materials during the derailment.

### **Safety Recommendations Issued:**

As a result of its investigation, the NTSB issued two new recommendations each to the DOT, the FRA, PHMSA, and the CN; one new recommendation each to the Association of American Railroads (AAR), AASHTO, the National Association of County Engineers, the American Public Works Association, the Institute of Transportation Engineers, the National League of Cities, the National Association

of Counties, the Association of State Dam Safety Officials, the National Association of Towns and Townships, and the US Conference of Mayors. The NTSB also reiterated two previously issued recommendations to the FRA and PHMSA.

*Collision of BNSF Freight Train G-CRKINB9-16H With Motor Vehicle at Highway-Rail Grade Crossing, Kelso, Washington (3 fatal, 1 injured)*

On March 23, 2011, at 4:25 p.m. (PDT), a northbound BNSF Railway (BNSF) freight train, G-CRKINB9-16H (BNSF 7363), collided with a 2008 Chevrolet Suburban departing the Longview Junction yard at a private grade crossing in Kelso, Washington. A Coach America driver was operating the Suburban. (Coach America was under contract to BNSF to transport operating crews.) A BNSF conductor, a student conductor, and a locomotive engineer were passengers in the Suburban. The driver, the student conductor, and the locomotive engineer were fatally injured. The conductor sustained serious injuries and was flown to Oregon Health & Science University Hospital in Portland, Oregon. The BNSF train crew was not injured. The NTSB determined that the probable cause of the accident was the failure of the Suburban driver to stop his vehicle before he drove onto the tracks to ensure there were no approaching trains. Contributing to the accident was the placement of railroad equipment too close to the crossing, obscuring the visibility of approaching trains.



**Figure 13. Stop sign and railroad warning crossbuck sign as seen by approaching accident driver.**

**Safety Recommendations Issued:** None

***Collision of BSNF Coal Train With the Rear End of Standing BSNF Maintenance-of-Way Equipment Train, Red Oak, Iowa (2 fatal, 0 injured)***

On April 17, 2011, about 6:55 a.m. (CDT), eastbound BNSF coal train C-BTMCNM0-26 (BNSF 9159 East) traveling about 23 mph, collided with the rear end of standing BNSF Railway maintenance-of-way equipment train U-BRGCRI-15 (BNSF 9470 East) near Red Oak, Iowa. The accident occurred near milepost 448.3 on main track number two on the Creston Subdivision of the BNSF Nebraska Division. The collision resulted in the derailment of 2 locomotives and 12 cars. As a result of collision forces, the lead locomotive's modular crew cab was detached, partially crushed, and involved in a subsequent diesel fuel fire. Both crewmembers on the striking train were fatally injured. Damage exceeded \$8.7 million.



**Figure 14. View of wreckage from highway overpass facing east.**

The NTSB determined that the probable cause of the accident was the failure of the crew of the striking train to comply with the signal indication requiring them to operate in accordance with restricted speed requirements and to stop short of the standing train; the crew had fallen asleep due to fatigue resulting from their irregular work schedules and their medical conditions. Contributing to the accident was the absence of a positive train control system that identifies the rear of a train and stops a following train if a safe braking profile is exceeded. Contributing to the severity of collision damage to the locomotive cab of the

striking coal train was the absence of crashworthiness standards for modular locomotive crew cabs.

### **Safety Recommendations Issued:**

As a result of this accident investigation, the NTSB issued four new recommendations before the completion of this report: two new recommendations to the FRA, one new recommendation each to the AAR and the BNSF.

Upon completion of the report, the NTSB issued seven new recommendations to the FRA, two new recommendations to the AAR, and one new recommendation to BNSF. The NTSB also reclassified one recommendation each to the FRA, All Class I Railroads, the AAR, and to the Brotherhood of Locomotive Engineers and Trainmen and the United Transportation Union. In addition, the NTSB reiterated five recommendations to the FRA.

### ***Collision of Dakota, Minnesota & Eastern Railroad Freight Train and 19 Stationary Railcars, Bettendorf, Iowa (2 fatal, 0 injured)***

On July 14, 2009, about 2:08 a.m. (CDT), southbound Dakota, Minnesota & Eastern Railroad freight train B61-13 entered Bettendorf Yard in Bettendorf, Iowa, because of a misaligned switch and struck 19 stationary railcars. The impact fatally injured the locomotive engineer and the conductor. There were no wayside signals or other devices to convey the position of the hand-operated switch on the main track leading into the north yard sufficiently in advance to allow the approaching train to stop. The train was moving at the authorized speed of 25 mph and was operating under valid track warrant authority. Track warrants are authorizations issued by a dispatcher for a train to occupy a certain segment of track for a certain period of time. Track warrant authority is obtained and released through communication between train crews and the dispatcher.



**Figure 15. Freight train's lead locomotive that struck stationary railcars.**

The NTSB determined that the probable cause of the accident was the crew of BNSF Railway local train RCHI4274-13I releasing track warrant authority before returning the north yard hand-operated switch to the correct position. Contributing to the accident was the dispatcher for the Dakota, Minnesota & Eastern Railroad granting track warrant authority to Dakota, Minnesota & Eastern Railroad train B61-13 without holding a job briefing, which would confirm the accurate positions of all applicable main track switches. Also contributing to the accident was a hand-operated switch position reflector target that could not be observed by the crew of train B61-13 at a sufficient distance to stop the train and avoid the accident.

The safety issues discussed in this report included the following:

- Incorrect alignment of a hand-operated switch in non-signaled territory.
- Inadequate job briefing between train crewmembers.
- Inadequate job briefing requirements for train crewmembers and train dispatchers prior to releasing track occupancy authority.
- The absence of appropriate switch position technology.

### **Safety Recommendations Issued:**

As a result of this accident investigation, the NTSB issued three new recommendations to the FRA and two new recommendations to the Canadian

Pacific Railway. In addition, the NTSB reclassified one recommendation to the FRA.

**[Washington Metropolitan Area Transit Authority Hi-Rail Maintenance Vehicle Strikes Two Wayside Workers near the Rockville Station, Rockville, Maryland \(2 fatal, 0 injured\)](#)**

On January 26, 2010, about 1:40 a.m. (EST), a hi-rail vehicle—a truck or automobile that can be operated on either highways or rails—operating southbound about 0.9 miles north of the Washington Metropolitan Area Transit Authority (WMATA) Rockville Metro Station struck and fatally injured two automatic train control technicians who were working on the right-of-way replacing an impedance bond between the tracks. The hi-rail vehicle was traveling down the track in reverse gear about 13 mph.



**Figure 16. Striking hi-rail vehicle at the accident location.**

The safety issues discussed in this report are the following:

- Inadequate procedures within the WMATA Operations Control Center for protecting roadway workers.
- Inadequate procedures within the WMATA Operations Control Center to coordinate work between two separate roadway worker work groups.
- Inadequate communication between roadway worker work groups.
- Inadequate federal agency oversight of roadway worker policies and procedures.

- Lack of requirements for automatic backup alarms on hi-rail vehicles.

The NTSB determined that the probable cause of the accident was inadequate safeguards being taken by WMATA to protect roadway workers from approaching hi-rail vehicles and to ensure that hi-rail operators were aware of any wayside work being performed.

### **Safety Recommendations Issued:**

As a result of this accident investigation, the NTSB issued four new recommendations to the FTA and one new recommendation to the American Public Transportation Association.

### ***PATH Train Collision with Bumping Post at End of Station Platform, Hoboken, New Jersey (0 fatal, 32 injuries)***

On May 8, 2011, about 8:32 a.m. (EDT), Port Authority Trans Hudson Corporation (PATH) train 820, consisting of seven multiple-unit electric locomotives, was routed to platform track 2 to offload passengers at the Hoboken station in Hoboken, New Jersey, when it struck the bumping post at the end of the track. It was estimated that 70 passengers were on board the train. As a result of the collision, 30 passengers, the engineer, and the conductor were transported to local hospitals with non-life-threatening injuries and released the same day. Five injured passengers refused medical attention on scene. Damages were estimated to be \$352,617.



**Figure 17. Photo of damaged PATH train 820 at Hoboken Station.**

The NTSB determined that the probable cause of the accident was the failure of the engineer to control the speed of the train entering the station. Contributing to the accident was the lack of a positive train control system that would have intervened to stop the train and prevent the collision.

This investigation focused on federal regulations and oversight of PATH, and was limited in scope. The safety issues discussed in the report included the following:

- The failure of the FRA to ensure the process for waiving safety rules is managed as required by [49 CFR Part 211](#).
- The failure of the FRA to ensure the process for regulatory enforcement is managed as required by [49 CFR Part 209](#).

### **Safety Recommendations Issued:**

As a result of this accident investigation, the NTSB issued two new recommendations to the FRA.

### ***Pipeline and Hazardous Materials Investigations***

#### **[Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release, Marshall, Michigan \(0 fatal, 0 injured\)](#)**

On July 25, 2010, at 5:58 p.m. (EDT), a segment of a 30-inch-diameter pipeline (Line 6B), owned and operated by Enbridge Incorporated (Enbridge), ruptured in a wetland in Marshall, Michigan. The rupture occurred during the last stages of a planned shutdown and was not discovered or addressed for over 17 hours. During this period, Enbridge twice pumped additional oil (81 percent of the total release) into Line 6B during two startups; the total release was estimated to be 843,444 gallons of crude oil. The oil saturated the surrounding wetlands and flowed into the Talmadge Creek and the Kalamazoo River. Local residents self-evacuated from their houses, and the environment was negatively affected. Cleanup efforts were continuing as of the adoption date of the Marshall accident report, with continuing costs exceeding \$767 million. About 320 people reported symptoms consistent with crude oil exposure. No fatalities were reported.



**Figure 18. Cleanup efforts in an oil-soaked wetland near the rupture site.**

The NTSB determined that the probable cause of the pipeline rupture was corrosion fatigue cracks that grew and coalesced from crack and corrosion defects under disbonded polyethylene tape coating, producing a substantial crude oil release that went undetected by the control center for over 17 hours. The rupture and prolonged release were made possible by pervasive organizational failures at Enbridge that included the following:

- Deficient integrity management procedures, which allowed well-documented crack defects in corroded areas to propagate until the pipeline failed.
- Inadequate training of control center personnel, which allowed the rupture to remain undetected for 17 hours and through two startups of the pipeline.
- Insufficient public awareness and education, which allowed the release to continue for nearly 14 hours after the first notification of an odor to local emergency response agencies.

Contributing to the accident was PHMSA's weak regulation for assessing and repairing crack indications, as well as PHMSA's ineffective oversight of pipeline integrity management programs, control center procedures, and public awareness.

Contributing to the severity of the environmental consequences were (1) Enbridge's failure to identify and ensure the availability of well-trained emergency responders with sufficient response resources, (2) PHMSA's lack of

regulatory guidance for pipeline facility response planning, and (3) PHMSA's limited oversight of pipeline emergency preparedness that led to the approval of a deficient facility response plan.

### **Safety Recommendations Issued:**

As a result of this investigation, the NTSB issued two new recommendations to the DOT, eight to PHMSA, six to Enbridge, and one each to the American Petroleum Institute, the Pipeline Research Council International, the International Association of Fire Chiefs, and the National Emergency Number Association. The NTSB also reiterated one previous recommendation to PHMSA.

#### ***Cargo Hose Rupture and Release of Anhydrous Ammonia, Swansea, South Carolina (1 fatal, 7 injured)***

On July 15, 2009, about 8:00 a.m. (EDT), a cargo transfer hose ruptured shortly after the transfer of anhydrous ammonia began from a Werner Transportation Services, Inc. cargo tank truck to a storage tank at the Tanner Industries, Inc. facility in Swansea, South Carolina. A white cloud of anhydrous ammonia, a toxic-by-inhalation gas, moved from the parking lot of the facility, across US Highway 321, to a largely wooded area, where it eventually dissipated. About the same time, a motorist traveling north on the highway drove into the ammonia cloud, apparently tried to get away from the cloud, then got out of her car and died of ammonia poisoning. Seven people went to the Lexington Medical Center emergency department complaining of respiratory problems and dizziness; all seven patients were treated and released the same day. The anhydrous ammonia cloud caused temporary discoloration of vegetation in the area, including the leaves on the trees. Residents in the area sheltered in place, and US Highway 321 was closed until about 2:00 p.m. that afternoon. The Lexington County Fire Service arrived on scene about 8:07 a.m. Property damage and losses were limited to the ruptured hose and about 6,895 pounds of the anhydrous ammonia that was released.

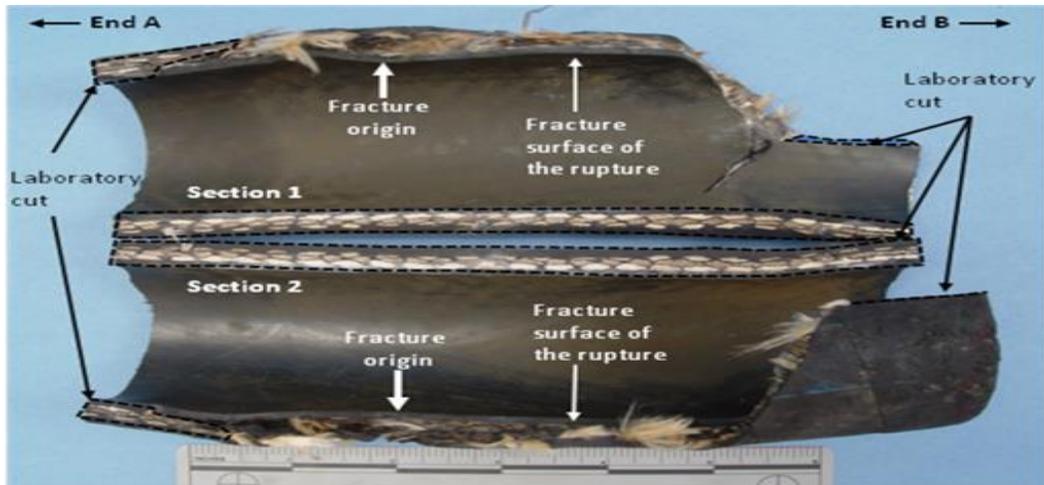


Figure 19. Section of ruptured accident hose cut to reveal fracture surfaces.

The NTSB determined that the probable cause of the accident was Werner Transportation Services Inc.'s use of a cargo hose assembly that was not chemically compatible with anhydrous ammonia. Contributing to the accident was the lack of explicit requirements by PHMSA for the motor carrier and the facility carrier to verify that the cargo hose assembly was chemically compatible with the product to be transferred before transfer operations began.

The following safety issues were identified in this accident:

- Use of chemically incompatible hose assembly.
- Inadequate unloading procedure.
- Inadequate cargo hose requirements for passive emergency discharge, monthly inspection, and annual leakage tests.

#### **Safety Recommendations Issued:**

As a result of this investigation, the NTSB issued one new recommendation to the FMCSA and five new recommendations to PHMSA.

## **Ongoing Major Railroad, Pipeline and Hazardous Materials Investigations**

### ***Railroad***

Collision of Two CN Freight Trains in Two Harbors, Minnesota, September 30, 2010

Rear-end Collision of Two CSX Freight Trains, Mineral Springs, North Carolina, May 24, 2011

Employee Fatality While Switching Cars in Railroad Yard, Bedford Park, Illinois, July 25, 2011

Employee Fatality While Switching Cars in Railroad Yard, Kansas City, Kansas, August 15, 2011

Ethanol Train Derailment, Tiskilwa, Illinois, October 7, 2011

Accident Involving Two Freight Trains, Goodwell, Oklahoma, June 26, 2012

Freight Train Derailment, Columbus, Ohio, July 11, 2012

Freight Train Derailment, Ellicott City, Maryland, August 21, 2012

### ***Pipeline***

Rupture of Florida Gas Transmission Company Natural Gas Transmission Pipeline, Palm City, Florida, May 4, 2009

Excavation Damage Caused Rupture of Natural Gas Transmission Pipeline, Cleburne, Texas, June 7, 2010

Rupture of Hazardous Liquid Pipeline and Release of Crude Oil, Romeoville, Illinois, September 9, 2010

Pipeline Rupture, Sissonville, West Virginia, December 11, 2012

## *Hazardous Materials*

Railroad Derailment with Hazardous Materials Release, Paulsboro, New Jersey, November 30, 2012

## **Significant Achievements**

- The Pipeline and Hazardous Materials investigation team completed its investigation of a major crude oil pipeline accident that occurred in Marshall, Michigan. This was the first NTSB investigation that required a secure evidence locker to support a parallel criminal investigation. The accident involved the largest onshore oil spill and the most expensive land cleanup in US history.
- The [Cherry Valley, Illinois accident investigation](#) identified a diverse range of new safety issues, including (1) the effectiveness of the railroad's internal emergency communication system, (2) the effectiveness of the railroad's weather alert policies and rules, (3) the vulnerability of the DOT-111 tank car shells and fittings to damage and subsequent release of lading during derailments, (4) the inspection and maintenance of storm water detention ponds, (5) construction standards for underground pipelines at railroad crossings, and (6) the adequacy of the storm water drainage system assessment.
- As a result of the [Red Oak, Iowa, accident investigation](#), several new and important safety issues were identified, including the need to (1) medically screen employees in safety-sensitive positions for sleep apnea and other sleep disorders; (2) establish an ongoing program to monitor, evaluate, report on, and continuously improve fatigue management; (3) conduct research on new and existing methods that can identify fatigue and mitigate performance decrements associated with fatigue; (4) require the implementation of methods that can identify fatigue and mitigate performance decrements associated with fatigue; (5) require the use of positive train control technologies that will detect the rear of trains and prevent rear-end collisions; and (6) revise federal regulations to ensure the protection of the occupants of isolated locomotive operating cabs in the event of a collision. When the accident investigation report was

completed, safety recommendations were issued to address all of these issues.

## Office of Research and Engineering

The Office of Research and Engineering provides technical and analytical support to each of the NTSB investigative offices. As accident investigations become more complex, investigators rely upon the office's technological capabilities to assist them in determining the cause of accidents. Office staff in four

**Table 8. 2012 Research and Engineering Safety**

<i>Office of Research and Engineering 2012 At A Glance</i>	
<b>Major Reports</b>	<b>1</b>
<b>Major Accident Launch Support</b>	<b>5</b>
<b>Field Investigation Accident Launch Support</b>	<b>4</b>
<b>Vehicle Recorder Readouts</b>	<b>483</b>
<b>Material Laboratory Exam Reports</b>	<b>240</b>
<b>Vehicle Performance Reports</b>	<b>15</b>

divisions—Vehicle Recorder Division, Vehicle Performance Division, Materials Laboratory Division, and Safety Research Division—analyze accident, recorder, and radar data; assess vehicle performance; reconstruct accidents; perform visibility calculations; create animations and vehicle motion simulations; examine materials and structural failures; and probe fires and explosions. In addition, senior medical staff investigate accidents involving medical issues and review toxicology reports. The office works closely with the modal investigative offices to write safety recommendations and often is the principal developer for recommendations on technical matters.

In 2012, the office continued to pursue a number of efforts to expand the NTSB's technological capabilities by developing close working relationships with outside transportation agencies, both in the United States and abroad. For example, the office coordinated with the Transportation Safety Board of Canada in its investigation of a midair collision of two planes in Sumerduck, Virginia, which were registered to an FAA employee and an NTSB employee.

The office also helped to advance the NTSB's use of public forums to focus attention on specific safety issues during 2012. Staff from the Safety Research Division led the [Conference](#) by leading the forum and serving on several technical panels.



**Figure 20. An NTSB engineer examines a section of pipe from the rupture of a natural gas transmission line that occurred in Sissonville, West Virginia.**

Upgrades to the office’s laboratory equipment in 2012 have allowed the NTSB to maintain its state-of-the-art analytic capabilities in accident investigations. These upgrades include enhanced capabilities to the digital microscope system and ultrasonic cleaning equipment. The office also purchased a highway vehicle simulator with a 3-degree-of-freedom motion base. This simulator will be used to help communicate the sequence of events in highway accidents and to explore possible alternative scenarios.

## **Safety Research Division**

The Safety Research Division staff includes transportation research and aviation data analysts who provide statistical support to other NTSB offices, respond to requests for statistical data from the public, including Congress, and develop safety studies and other safety research products to further the NTSB’s safety mission. In 2012, staff supported numerous accident investigations and engaged in a broad variety of research and support activities for Board Members and other offices. These activities included completing one safety study, continuing research for another safety study, producing an annual aviation accident data report, generating five rapid reports and other data reports to support investigations, and participating in numerous presentations and training for internal and external organizations. The following section discusses the division’s safety studies that were completed and those in progress in 2012.

# Safety Studies

## *Completed*

### *The Safety of Experimental Amateur-Built Aircraft*

Experimental amateur-built (E-AB) aircraft represent nearly 10 percent of the GA fleet in the United States, but they accounted for about 15 percent of the total (and 21 percent of the fatal) GA accidents in the United States in 2011. E-AB aircraft represent a growing segment of the United States' GA fleet—a segment that now numbers nearly 33,000 aircraft.

The NTSB undertook this study because of the popularity of E-AB aircraft, concerns over their safety record, and the absence of a contemporary and definitive analysis of E-AB aircraft safety. The study employed several different methods and data collection procedures to carefully examine this segment of US civil aviation. This comprehensive approach resulted in a detailed characterization of the current E-AB aircraft fleet, pilot population, and associated accidents.

### **Safety Recommendations Issued:**

As a result of the study, the NTSB issued 12 new safety recommendations to the FAA and 4 new recommendations to the Experimental Aircraft Association.

## *Ongoing*

### *Characteristics of Single-Unit Truck Accidents Resulting in Non-Fatal Injuries and Deaths*

Garbage trucks, delivery vans, dump trucks, and enlarged pickup trucks exceeding 10,000 pounds gross vehicle weight all are considered single-unit trucks. Existing data suggest that a substantial number of deaths and injuries arise from accidents involving these trucks. Each year from 2007 through 2009, more than 900 people were fatally injured and about 39,000 others received non-fatal injuries as a result of collisions involving single-unit large trucks. In 2011, the NTSB began a study to understand the circumstances in which people are fatally or seriously injured in

single-unit truck accidents. The Board Meeting is tentatively scheduled to take place in summer 2013.

## **Materials Laboratory Division**

The Materials Laboratory Division is composed of metallurgists, materials scientists, mechanical engineers, and fire and explosion specialists. Staff members examine, analyze, and test parts and wreckage in support of investigations from all transportation modes. In 2012, division staff completed 240 reports for 179 accident cases and launched to 3 accident sites (the Norfolk Southern freight train accident in Columbus, Ohio; the Conrail train accident in Paulsboro, New Jersey; and the pipeline accident and fire in Sissonville, West Virginia).

In 2012, the Materials Laboratory Division completed two studies, one on the engine failure during takeoff of a Delta Boeing 757 in Atlanta, Georgia, and another on the crude oil pipeline rupture in Marshall, Michigan. Staff also provided comments to Final Rule FAA-2012-0739 (regarding fracture of masts on OH-58 helicopters), which were approved by the Board and submitted to the FAA.

The Materials Laboratory Division's work also resulted in NTSB recommendations to the FAA regarding the effectiveness of the current fire protection strategy employed in cargo airplanes. These recommendations were developed after the NTSB conducted a cargo container fire study and participated in the investigations of three catastrophic in-flight cargo fires aboard cargo airplanes over the past 6 years. This study and these investigations revealed a critical need for improvements in the current fire protection regulations for these aircraft.

## **Vehicle Performance Division**

The Vehicle Performance Division develops computer simulations of vehicle and occupant motion, produces video animations of accident scenarios, provides laser scanning support for accident scenes and vehicles, and participates in and directs research for other special projects as needed. Computational and engineering graphics technology are used to provide an accurate time-motion history of the sequence of events leading to an accident and to show vehicle and occupant motion, as well as the underlying causes for that motion.

Graphic and visual arts specialists from the Vehicle Performance Division produced accident reconstruction animations for six Board Meetings in 2012. These animations were used in the Board Meetings for the collision of a BNSF coal train with a standing BNSF maintenance-of-way equipment train in Red Oak, Iowa; the safety study on experimental amateur-built aircraft; a motorcoach road departure and collision with a signpost in New York City; the overturning of a Sky Express motorcoach near Doswell, Virginia; the collision of the *Elka Apollon* and the *MSC Nederland* in the Houston ship channel; and the tractor trailer collision with an Amtrak train at a grade crossing near Miriam, Nevada.

Vehicle Performance Division staff completed 13 aircraft performance studies in support of accident investigations in 2012. Major studies were completed for accidents, including the “Gallopig Ghost” at the National Championship Air Races in Reno, Nevada; the crash during flight testing of a Gulfstream G650 in Roswell, New Mexico; the Boeing 737 runway overrun in Georgetown, Guyana; a runway overrun by an Embraer EMB-500 in Sedona, Arizona; a Learjet runway overrun in Springfield, Illinois; and a Lockheed L-100 controlled flight into terrain in Kabul, Afghanistan.

Staff also completed highway vehicle performance studies and biomechanics studies for two motorcoach accidents in New York City and Doswell, Virginia. Other products from the division in 2012 included one aircraft visibility study, three video studies, and three laser scanning reports.

## **Vehicle Recorder Division**

The Vehicle Recorder Division received 696 devices and completed 483 readouts, transcripts, and studies in support of aviation, rail, marine, and highway investigations in 2012. The division’s high volume of workload continued, because of (1) the expanded use of advanced technology such as global positioning system units and avionics displays, which can record data on aircraft not otherwise equipped with flight recorders, (2) a proliferation of video recordings and still images from sources such as installed cameras, handheld cameras, and security cameras, and (3) continued support for international aviation investigations (75 of the 696 recorders were from foreign accidents).

Staff continues to assist in special foreign investigations, as specified in international treaties. Representatives from the division downloaded the cockpit

voice recorder and the flight data recorder from Bhoja Air flight BH0213, which crashed while approaching Benazir Bhutto International Airport in Islamabad, Pakistan, and fatally injured all 127 people on board. Staff also processed the cockpit voice recorder and the flight data recorder from Dana Airlines flight 992, which crashed into a densely populated area during a forced landing following a total loss of power in both engines while approaching Muhammed Murtala Airport in Lagos, Nigeria, and fatally injured 153 people aboard and 10 people on the ground.

Staff launched on seven investigations and continued to assist other agencies by sharing expertise in recorder technology. For example, recorder specialists aided the Federal Bureau of Investigation (FBI) with the readout of the flight recorders from an event that occurred on March 27, 2012, involving a JetBlue Airbus A320 flight into Amarillo, Texas.

## **Medical Factors**

Medical staff typically participate in more than 100 NTSB accident investigations in all transportation modes each year, evaluating and addressing medical issues through formal factual and analytical reports, safety recommendations, coordination with other agencies, and formal presentations to the NTSB and external audiences. Staff provided input and assistance for the collision of a BNSF coal train with a standing BNSF maintenance-of-way equipment train in Red Oak, Iowa, and the accident involving the “Gallopig Ghost” at the National Championship Air Races in Reno, Nevada.

## **Public Hearings, Forums, and Symposiums**

### **[Geographic Information Systems \(GIS\) in Transportation Safety](#)**

On December 4–5, 2012, the NTSB held a public conference on the use of the Geographic Information Systems (GIS) in transportation safety. GIS are a rapidly expanding group of technologies and analytical techniques that uses geographically referenced data to support complex data integration, advanced statistical analysis, precise investigation, and effective visualization of data. The meeting brought researchers and practitioners in transportation safety and GIS together to discuss how GIS data, technologies, and techniques are applied to

improve transportation safety. They identified emerging themes, current challenges, and potential solutions in using GIS in transportation safety. The meeting included eight panels composed of experts from government agencies, research institutes, non-profit organizations, and industry, covering all modes of transportation.

## **Significant Achievements**

- The office completed a study on the safety of E-AB aircraft, which the NTSB adopted on May 22, 2012. Although E-AB represent nearly 10 percent of the GA fleet in the United States, they account for 15 percent of the total (and 21 percent of the fatal) GA accidents in the United States in 2011. Staff's finding from this study yielded 12 safety recommendations to the FAA and 4 to the EAA.
- Motorcoach safety received increased public attention as a result of multiple serious accidents during 2011. The most serious of these motorcoach accidents occurred on March 12, 2011, in the Bronx borough of New York City, in which 15 people were fatally injured. Based upon its 2011 *Report on Curbside Motorcoach Safety*, in 2012 the office developed six safety recommendations to the FMCSA that were adopted and issued by the NTSB. These recommendations were that the FMCSA (1) revise reporting requirements, (2) develop and implement a consistent plan for enforcing interstate passenger carrier reporting requirements, (3) revise a system to provide accurate assessments of passenger carrier safety performance risk, (4) revise website and mobile applications sources so that passenger carrier safety performance information is easy for consumers to interpret and understand, (5) evaluate a voluntary reporting system to ensure that it is meeting its full potential, and (6) develop and implement a system for use in prioritizing passenger carrier inspections.
- Over the past 6 years, we conducted or participated in the investigations of three catastrophic in-flight cargo fires aboard cargo airplanes. As a result of these investigations and the office's completion of the study of fire detection and suppression in aircraft cargo compartments, the NTSB issued three safety recommendations to the FAA relating to cargo fires aboard cargo airplanes. We recommended that the FAA (1) improve early

detection of fires originating within cargo containers and pallets, (2) develop materials standards for cargo containers to provide better fire resistance, and (3) require active fire suppression systems in all cargo compartments or containers, or both.

## Office of Communications

The Office of Communications includes the Safety Advocacy Division, the Public Affairs Division, the Government Affairs Division, the Transportation Disaster Assistance Division (TDA), and Web Content. The Office of Communications provides a central and coordinated office for the

**Table 9. 2012 Office of Communication Statistics**

<i>Office of Communications 2012 At A Glance</i>	
<b>Aviation Accident Launch Support</b>	<b>2</b>
<b>Highway Accident Launch Support</b>	<b>2</b>
<b>Testimony to Congressional Committees</b>	<b>0</b>
<b>Testimony to State Legislative Committees</b>	<b>4</b>

timely engagement and coordination of communications with the NTSB's external stakeholders, such as other Executive Branch agencies, federal and state legislators, the news media, the transportation industry, those directly involved in transportation accidents and their families, and the general public.

One of the office's primary functions includes ensuring that federal, state, and local government stakeholders are accurately and effectively informed of the NTSB's mission; to do this, Office of Communications staff and Board Members testify before congressional and state legislative committees several times during the year. Complete copies of NTSB testimony are available on the agency's website at <http://www.nts.gov/news/speeches.html>. This site is vital in disseminating information to the public and is the agency's point of contact for members of the public and the news media. Other primary office functions include (1) encouraging implementation of the agency's state-related safety recommendations; (2) tracking agency-wide advocacy efforts through the development of the agency's flagship communications product, the Most Wanted List, and the advocacy of the issues included on this list; (3) coordinating the NTSB's overall strategy for safety advocacy through traditional media outlets, as well as through social media, with industry and other non-governmental organizations engaged in safety advocacy at the federal and state levels; and (4) assisting the victims of aviation disasters and their families through the TDA Division.

### *Transportation Disaster Assistance*

In 1996, Congress passed the Aviation Disaster Family Assistance Act, which charged the NTSB with assisting victims of aviation disasters and their families. The agency's primary responsibility involves coordination among federal agencies, commercial airlines, state and local authorities, and the families of victims. In 1997, Congress enacted the Foreign Air Carrier Family Support Act to require that foreign air carriers operating flights to and from the United States meet the same standards of victim assistance as their US counterparts. In 2008, the Rail Passenger Disaster Family Assistance Act gave similar responsibilities to the NTSB following rail passenger accidents involving Amtrak and interstate/intercity high speed passenger rail.

Primary responsibilities of the team upon arrival at an accident site include coordinating resources of local, state, and federal agencies; establishing a Joint Family Support Operations Center; and ensuring that the airline or railroad establishes a Family Assistance Center. In addition, the team maintains contact with family members following the on-scene phase of an accident investigation to provide updates about the investigation, notifies them of public hearings and/or Board Meetings, and answer various other questions and concerns. When staff responds to an accident, a team of specialists with expertise in victim services, emergency operations, and victim recovery and identification is launched to the accident site. The division is responsible for responding to all major aviation accidents and major rail passenger disasters. Increasingly, TDA staff are launched to or otherwise engaged in other modal accident investigations that are not mandated by statute. Staff also manages ongoing requests for information from family members via phone and e-mail.

### **Transportation Disaster Assistance Partnerships**

During 2012, TDA staff participated in 4 accident launches, supported nearly 800 outreach activities/requests, and conducted 2 training courses at the NTSB Training Center. They provided support to family members attending several Board Meetings and public forums. The staff also provided guidance and technical expertise to the Chairman and Board Members regarding family member attendance at Board Meetings, forums, and symposia.

The NTSB has a memorandum of agreement with the American Red Cross and such federal agencies as the US Department of Homeland Security, the US Department of Defense, the US Department of Health and Human Services, Department of State, and the FBI. Together, these agencies collaborate to support both the investigative and family assistance efforts at major accidents.

## **Accident Launch Support**

*Aviation Accident, Summerduck, Virginia, May 28, 2012.* TDA staff provided support to family members, the Northern Virginia Medical Examiners Office, and the Transportation Safety Board of Canada following this midair collision of a Beechcraft Bonanza with a Piper Cherokee.

*Grade Crossing Accident, Midland, Texas, November 15, 2012.* TDA staff provided support to local agencies and the Office of Highway Safety following this accident involving a Union Pacific freight train striking a flatbed semi-trailer being used as a parade float at a grade crossing.

*Freight Train Derailment and Hazardous Materials Release, Paulsboro, New Jersey, November 30, 2012.* TDA staff coordinated with local authorities regarding support for displaced citizens.

*Pipeline Explosion, Sissonville, West Virginia, December 11, 2012.* TDA staff coordinated with local authorities and the operator to provide support for citizens impacted by the accident.

## **Additional Launch Support**

- Railroad Accident, Westville, Indiana, January 6, 2012
- Railroad Accident, Goodwell, Oklahoma, June 24, 2012
- Railroad/Hazardous Materials release Accident, Columbus, Ohio, July 11, 2012
- Railroad Accident, Ellicott City, Maryland, August 21, 2012
- Aviation Accident, Pompano Beach, Florida, August 15, 2012
- Highway Motorcoach Accident, Pendleton, Oregon, December 30, 2012

## Non-Launch Support

- TDA staff also provided support for family members in over 125 GA and other modal accidents this year.

## Public Hearings and Forums

### [Attentive Driving—Countermeasures for Distraction](#)

The NTSB held a forum on attentive driving on March 2, 2012. The forum examined countermeasures to mitigate distracted driving behaviors. Forum panels considered findings of distracted driver research and highlighted ongoing and future efforts to promote attentive driving and to eliminate distracted driving accidents. Specific countermeasures addressed included distracted driving laws and enforcement, changing attitudes and behaviors through education, and outreach and technology and design countermeasures.

Expert panelists included safety advocacy groups, vehicle manufacturers, law enforcement, government, and the research community.

### [Reaching Zero: Actions to Eliminate Substance-Impaired Driving](#)

The NTSB held a forum on substance impaired driving on May 15 and 16, 2012. The forum identified the most effective, data-driven, science-based actions needed to “reach zero” accidents resulting from substance-impaired driving. This included taking a fresh look at the NTSB’s previous work and assessing the need for updated or new safety recommendations. Panels critically examined the knowledge, interventions, and public policy considerations needed to aggressively address this national safety problem.

Expert panelists included representatives of federal, state, and local governments, as well as leading researchers, law enforcement, the judiciary, industry, treatment experts, and advocacy groups.

In addition to these forums, the Office of Communications also supported the [Air Race and Air Show Safety](#) hearing, the [General Aviation Safety: Climbing to](#)

[the Next Level](#) forum, the [General Aviation Search and Rescue](#) forum, and the [Geographic Information Systems \(GIS\) in Transportation Safety](#) conference.

## Significant Achievements

- Developed the second Most Wanted List using the new guidelines. Sixty percent of the issue areas on the 2013 list were different from the 2012 list, demonstrating that the new program maintains a dynamic list of issues.
- Participated in ICAO’s Assistance to Aircraft Accident Victims Policy Task Force, which finalized a policy document for aviation accident family assistance for ICAO states.
- Initiated an air carrier “train the trainer” program to ensure accurate information regarding TDA operations and legislated responsibilities is provided to air carrier emergency managers and their training staff.
- Supported legislative and regulatory efforts to improve transportation safety in at least 17 states. The proposed improvements addressed such issues as child passenger safety, driver distraction, motorcycle safety, occupant protection, and recreational boating safety. Of these 17 states, 5 states enacted transportation safety improvements.

## Office of Administrative Law Judges

Since 1967, the NTSB has served as the “court of appeal” for such certificate holders as airmen, mechanics, or mariners whenever the FAA or the Coast Guard takes a certificate action.

The administrative law judges hear, consider, and issue initial decisions on appeals filed with the NTSB. Included are appeals

from orders issued by the FAA Administrator that amend, modify, suspend or revoke, in whole or in part, certificates of airmen, air agencies, and air carriers for alleged violations of the *Federal Aviation Regulations* or for lack of qualification; appeals about FAA actions denying applications for the issuance or renewal of airman certificates; and appeals of certain FAA civil penalty orders issued by the FAA against pilots, flight engineers, mechanics, or repairmen in cases where the amount in dispute is less than \$50,000. The judges also adjudicate claims for fees and expenses stemming from certificate and civil penalty actions under the Equal Access to Justice Act (EAJA).

The NTSB currently has four administrative law judges. Two are based in Washington, DC, and hold hearings primarily in the eastern half of the United States. The other two are based in Arlington, Texas, and Denver, Colorado, and hear cases primarily in the western half of the country.

Either the certificate holder or the FAA may appeal the judges’ decisions to the NTSB’s five-member Board. The Board’s review on appeal of its administrative law judges’ decisions is based on the record of the proceeding, which includes hearing testimony (transcript), exhibits, and the judge’s decision, as well as appeal briefs submitted by both sides. A certificate holder can appeal the Board’s

**Table 10. 2012 Administrative Law Judges Statistics**

<i>Office of Administrative Law Judges 2012 At A Glance</i>	
<b>Total Cases Received</b>	<b>330</b>
<b>Total Cases Closed</b>	<b>345</b>
<b>Emergency Cases Closed</b>	<b>117</b>
<b>Challenges to Emergency Determinations</b>	<b>26</b>
<b>Hearings Held</b>	<b>38</b>
<b>Board Opinions and Orders (O&amp;O)</b>	<b>30</b>
<b>Board O&amp;O appealed to US Court of Appeals</b>	<b>7</b>

decision to the US Court of Appeals. The FAA also has the right to appeal the Board's decisions to the US Court of Appeals when the FAA determines that the Board's decision "will have a significant adverse impact" on the FAA's aviation safety duties and powers. Airmen and mechanics have the right to appeal all adverse Board decisions to the US Court of Appeals.

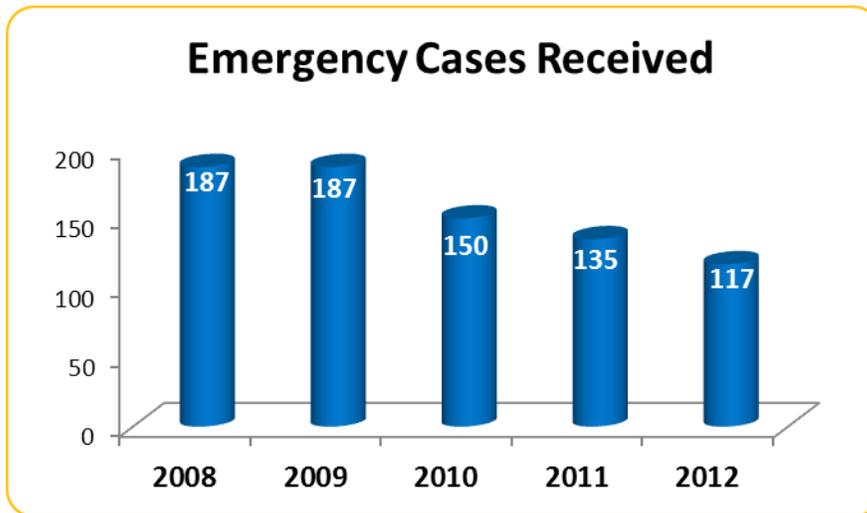
Upon review of the Board's decision, the Court of Appeals has the power to affirm, modify, or set aside the decision in whole or in part—or, if need is found, to order further proceedings by the Board. The decision of the Court of Appeals is subject to review by the US Supreme Court on writ of certiorari. In April 2000, the US Congress enacted Section 716 of the Aviation Investment and Reform Act for the 21st Century (Public Law 106- 181). This Act expanded the NTSB's jurisdiction to include the review of FAA designations of safety enforcement actions as emergencies, which require an order to be effective immediately, upon petition by the affected certificate holder. The Board has delegated its review authority to its administrative law judges. There is no administrative review of the administrative law judges' decisions in these cases. Marine certificate actions are heard first by the Coast Guard's administrative law judges and may be appealed to the Coast Guard Commandant. The ruling of the Commandant may then be appealed to the NTSB. The Board follows the same appellate process in marine cases as it does when considering the initial decisions of its law judges in aviation cases. In 2012, the Board received one marine appeal. No rulings were issued on marine cases.

## **Significant Achievements**

In 2012, the Office of Administrative Law Judges disposed of 76 percent of its caseload.

- In 2012, 327 aviation certificate appeals were filed with the NTSB's administrative law judges. The judges held 38 hearings and closed 345 cases. In addition, the judges received 117 emergency cases, which, by statute, require expedited handling and hearing, as shown in figure 21. The emergency cases received at the NTSB are generated by certificate actions initiated by the FAA.

- In 2012, 27 of the judges' decisions were appealed to the Board. The Board decided 30 appeals, affirming the judge in 9, modifying 1, reversing 1, and remanding 3 cases to the judges for further proceedings. Seven of the Board's decisions were appealed to the US Court of Appeals, which rendered two decisions. The Court affirmed the Board in both cases.



**Figure 21. Emergency Cases Received by Year.**

- In 2012, three EAJA applications were filed with the NTSB's administrative law judges, and the judges decided five EAJA cases, granting fees in one. Three of the judges' EAJA decisions were appealed to the NTSB Board. The Board issued ruling in one EAJA case.

## NTSB Training Center

Located in Ashburn, Virginia, the NTSB Training Center provides training opportunities for all NTSB employees and others from the transportation community through a variety of course offerings related to the various modes of transportation. The core of

**Table 11. 2012 Training Center Statistics**

<i>NTSB Training Center 2012 At A Glance</i>	
<b>Courses, Programs, Seminars Offered</b>	<b>66</b>
<b>Workforce Development Courses</b>	<b>42</b>
<b>Student (Individual) Attendance</b>	<b>1,658</b>
<b>External Participants</b>	<b>933</b>
<b>Foreign Participants</b>	<b>139</b>
<b>NTSB Participants</b>	<b>586</b>
<b>Federal Partnerships</b>	<b>3</b>

the training program continues to be key investigative courses that focus on competencies important to safety investigations for NTSB staff and outside participants. The laboratory area contains the reconstruction of TWA Flight 800 as well as other wreckage and materials that are used in the Training Center's investigative courses so that participants gain hands-on experience. The Workforce Development curriculum is open specifically to NTSB staff and offers employees access to additional courses focused on career development and on the improvement of management, leadership, and critical thinking skills. Vacant seats are open to employees of other federal agencies to maximize training opportunities and knowledge management for the federal workforce and to provide the best stewardship of taxpayers' training dollars. In particular, investigators from the NTSB and from other organizations in the transportation community use the Training Center as a means of improving their accident investigation techniques.

### **NTSB Employees and Federal Workforce Community**

During 2012, the NTSB continued to refine the programs offered at the Training Center while ensuring that the agency's critical investigative responsibilities were not negatively affected. These improvements supported the NTSB's accident investigation mission and helped promote transportation safety. In addition, we continued our focus on improving training programs for agency employees.

The Workforce Development Program was launched in 2007 for NTSB employees as the signature effort to improve and enhance employees' on-the-job training and to help strengthen their core workforce competencies, leadership, and management skills. Since the program's inception, the Training Center has offered 300 courses, programs, and seminars in the Workforce Development curriculum. In order to make maximum use of training funds and to act as responsible custodians of public monies, Workforce Development courses were opened up to other government agencies as seats became available. This maximized attendance at the courses and created a collegial atmosphere with other agencies, particularly those in the small agency council, where limited training resources are shared among agencies. It also created opportunities for NTSB personnel to attend training that was offered by other federal government agencies. The Training Center initiated a technical training program for NTSB investigators in 2012. A significant portion of the Workforce Development budget was channeled into that area. Examples of technical training courses include Introduction to Composite Materials, Lead Investigator Training, Rotax Engines, and Pratt & Whitney Engine familiarization. We plan to continue this successful initiative in 2013, adding such training as Advanced Avionics/FITS (FAA-Industry Training Standards) Aircraft Training and Advanced Composite Materials, depending on available funding levels.



**Figure 22. NTSB Training Center in Ashburn, Virginia.**

## **Continuing Education Units**

The Training Center awards continuing education units (CEUs) for many of its courses. The many businesses, government agencies, higher education institutions, nonprofit corporations, and individuals authorized to issue CEUs may do so only when they can demonstrate a consistent adherence to strict educational training guidelines and protocols. Accordingly, many organizations and agencies use these credits for staff development, and individuals use them to maintain professional certifications.

## **Transportation Community and Partnerships**

The Training Center attracts attendees not only from the United States, but also from the worldwide transportation community and from many foreign governmental agencies and transportation entities. Participants rely on the training received at the Training Center and either return for additional training or encourage colleagues to attend courses offered in accident investigation, transportation disaster response, media response, human factors, accident photography, and conducting presentations related to transportation safety. Furthering its commitment to meeting the training needs of those in other areas of government, the transportation safety community, and the security and emergency response communities, the NTSB Training Center continues to build upon its alliances with private organizations and federal agencies. For example, the Training Center again worked with the Army National Guard (ANG) Safety Center at Fort Rucker to develop and present a 2-week Aviation Accident Investigation School exclusively tailored for ANG. It was presented for the third time in 2012, and ANG has requested that it be offered annually. Representatives from San Mateo County, California, Conoco-Phillips, and Delta Airlines attended the NTSB Public Affairs and Managing Communications Course. The Training Center also worked closely with the FBI to develop and present a 2-day Aviation Investigation Course for its Civil Aviation Security Program stations throughout the country, reaching over 400 special agents in Los Angeles, California, New York, New York, and Chicago, Illinois.

## Significant Achievements

- Developed a course in Basic Aviation Accident Investigation for the Iraqi government. This course was presented in Baghdad to a group of 24 people that will become the core of the Iraqi Accident Investigation authority.
- Purchased and integrated an Advanced Aviation Training Device full motion aircraft simulator to illustrate and demonstrate accident scenarios during NTSB training courses.
- Continued and expanded technical- and scientific-based training opportunities for investigators and investigative support personnel. The following course offerings will help to maintain and enhance our technical capabilities and and improve the quality and timeliness of our accident investigations and products:
  - Advanced Composite Materials
  - Media Training for Investigators
  - Critical Thinking
  - Root Cause Analysis
  - Safety Management Systems in Transportation

## Member Profiles



[Deborah A.P. Hersman](#)

[Chairman](#)

NTSB Chairman Deborah Hersman is recognized as one of the nation's most visionary and passionate safety leaders who advocates for safety across all modes of transportation. Among her many initiatives, Chairman Hersman has focused attention and actions on distracted driving, child passenger safety, and helping accident victims and their families. She emphasizes the NTSB's role as "the conscience and the compass of the transportation industry."

Chairman Hersman has been the Board Member on-scene for 19 major transportation accidents, chaired scores of NTSB hearings, forums and events, and regularly testifies before Congress. Her leadership has created a more transparent and accountable organization by significantly increasing the quantity and quality of NTSB information available on the agency's website, holding more public meetings to highlight safety issues, and embracing social media to communicate with stakeholders and citizens.

Chairman Hersman has overseen the timely completion of several high-profile accident investigations during her tenure as Chair, including:

Crash of a Colgan Air commuter airplane near Buffalo, NY in 2009

Collision of two Metro trains in Washington, DC in 2009

Mid-air collision over the Hudson River near Hoboken, NJ in 2009

Collision between a barge and tour vessel on the Delaware River in Philadelphia, PA in 2010

Pipeline rupture in San Bruno, CA in 2010

Crash of a chartered airplane carrying Senator Ted Stevens in Aleknagik, AK in 2010

Study of curbside bus operators following several high-profile fatal accidents in 2011

Created as an independent federal agency in 1967, the NTSB has investigated more than 132,000 accidents and made more than 13,500 safety recommendations. The NTSB is recognized

internationally as a preeminent accident investigation organization. Hersman serves as the chief executive of the agency, which has 400-plus employees and an annual budget of more than \$100 million.

Hersman was first appointed as a Board Member by President Bush in 2004 and reappointed to a second five-year term by President Obama. Appointed Chairman by President Obama in 2009 and 2011 with unanimous Senate confirmation votes, she is now serving her second term as Chairman. Her Board position and chairmanship both expire in 2013.

Previously, Hersman was a senior advisor to the U.S. Senate Committee on Commerce, Science and Transportation from 1999-2004 and served as Staff Director and Senior Legislative Aide to West Virginia Congressman Bob Wise from 1992-1999. Her efforts contributed to the passage of milestone bills such as the Motor Carrier Safety Improvement Act of 1999, Pipeline Safety Improvement Act of 2002, Transportation Equity Act of the 21st Century, and Amtrak Reform and Accountability Act.

Chairman Hersman received B.A. degrees in Political Science and International Studies from Virginia Tech, and an M.S. in Conflict Analysis and Resolution from George Mason University. She holds a commercial driver's license (with passenger, school bus, and air brake endorsements) as well as a motorcycle endorsement.



Christopher A. Hart was sworn in as a Member of the National Transportation Safety Board on August 12, 2009. He was designated by the President for his second two-year term as Vice Chairman of the Board on August 23, 2011.

Member Hart joined the Board after a long career in transportation safety, including a previous term as a Member of the NTSB. Immediately before returning to the Board, he was Deputy Director for Air Traffic Safety Oversight at the Federal Aviation Administration. He was previously the FAA Assistant Administrator for the Office of System Safety.

**CHRISTOPHER A. HART**

*Vice Chairman*

He served as a Member of the NTSB from 1990 to 1993. After leaving the Board, he served as Deputy Administrator of the National Highway Traffic Safety Administration, before moving to the FAA in 1995.

From 1973 until joining the Board in 1990, Member Hart held a series of legal positions, mostly in the private sector. He holds a law degree from Harvard University and Master's and Bachelor's degrees in Aerospace Engineering from Princeton University. He is a member of the District of Columbia Bar and the Lawyer-Pilots Bar Association.

Member Hart is a licensed pilot with commercial, multi-engine and instrument ratings.

Member Hart's family has a tradition of accomplishment in the field of transportation. His great uncle, James Herman Banning, was the first African-American to receive a pilot's license issued by the United States government, in 1926.

His term expires December 31, 2012.



**Robert L. Sumwalt**

*Member*

Robert L. Sumwalt was sworn in as the 37th Member of the National Transportation Safety Board in August 2006, whereupon President George W. Bush designated him as Vice Chairman of the Board for a two-year term. In November 2011, President Barack Obama reappointed Member Sumwalt to an additional five year term. His term of office as a Board Member will run until December 31, 2016.

Prior to coming to the Board, Mr. Sumwalt was Manager of Aviation for the SCANA Corporation, a Fortune 500 energy-based company.

Mr. Sumwalt was a pilot for 32 years, including 24 years as an airline pilot with Piedmont Airlines and then US Airways. He logged over 14,000 flight hours and earned type ratings in five aircraft.

Mr. Sumwalt worked on special assignment to the US Airways Flight Safety Department from 1997 to 2004, where he was involved in the development of numerous airline safety programs, and he served on the US Airways Flight Operational Quality Assurance (FOQA) Monitoring Team.

Mr. Sumwalt served as a member of the Air Line Pilots Association's (ALPA) Accident Investigation Board, and he chaired ALPA's Human Factors and Training Group. He was a co-founder of that organization's Critical Incident Response Program, which provides guidance to airline personnel involved in traumatic events such as accidents.

From 1991 to 1999, Mr. Sumwalt conducted aviation safety research as a consultant to NASA's Aviation Safety Reporting System, studying various issues including flight crew performance, improving flight crew monitoring skills, and air carrier de-icing and anti-icing problems.

Mr. Sumwalt co-authored a book on aircraft accidents and has written extensively on aviation safety matters, having published over 85 articles and papers in aviation trade publications. Before joining the Board, he was a regular contributor to Professional Pilot magazine.

In 2003, Mr. Sumwalt joined the faculty of the University of Southern California's Aviation Safety and Security Program, where he was the primary human factors instructor.

In recognition of his contributions to the aviation industry, Mr. Sumwalt received the Flight Safety Foundation's Laura Taber Barbour Award in 2003 and ALPA's Air Safety Award in 2005. He is a 2009 inductee into the South Carolina Aviation Hall of Fame.

Since joining the Board, Member Sumwalt has served as the Chairman of the Board of Inquiry for the following NTSB public hearings and forums:

- May 2011 - Truck and Bus Safety: A Decade of Progress
- October 2010 – Fishing Vessel Safety Forum
- February 2010 - collision of two Washington Metropolitan Area Transit Authority trains near Fort Totten Station, Washington, DC, on June 22, 2009;
- June 2009 - landing of U.S. Airways flight 1549, Airbus A320, N106US, in the Hudson River, near Weehawken, New Jersey, on January 15, 2009;
- February 2009 - safety of helicopter emergency medical services (HEMS) operations.

He has served as the Member on-scene for the following NTSB accident investigations:

- April, 2011 - Southwest Airlines B737-300 rapid decompression and emergency landing due to fuselage crack in Yuma, Arizona;
- September, 2010 – crash of a Freightliner Mid-Size tour bus on Interstate 270 in Bethesda, Maryland;
- July, 2010 - collision involving a barge and an amphibious passenger vessel in the Delaware River, near Philadelphia, Pennsylvania;
- May, 2010 - collision between the Staten Island Ferry Andrew Barberi and the St. George terminal pier in Staten Island, New York;
- September, 2009 - crash of an emergency medical services helicopter that claimed three lives in Georgetown, South Carolina;
- June, 2009 - derailment of a CN train which resulted in the explosion and burning of several ethanol tank cars at a grade crossing in Rockford, Illinois;
- December, 2008 - Continental Airlines flight 1404, a Boeing 737-500 that departed a runway during takeoff roll at the Denver International Airport, and caught fire;

- November, 2007 - collision between an Amtrak passenger train and a standing Norfolk Southern freight train in Chicago, Illinois;
- November, 2007 - rupture and explosion of a liquid propane pipeline in Carmichael, Mississippi;
- July, 2007- crash of a twin-engine Cessna 310R airplane that impacted homes in a residential area in Sanford, Florida;
- October, 2006 - derailment of a Norfolk Southern train in New Brighton, Pennsylvania;

He also accompanied the NTSB Go-Team to Lexington, Kentucky for the on-site investigation of the August 27, 2006 crash of Comair flight 5191.

Mr. Sumwalt is a graduate of the University of South Carolina.



**MARK R. ROSEKIND**

*Member*

safety.

On June 30, 2010, Mark R. Rosekind, Ph.D. took the oath of office as the 40th Member of the National Transportation Safety Board (NTSB). He was nominated by President Obama and confirmed by the United States Senate for a term that expires December 31, 2014.

Member Rosekind has served as the Board Member on-scene for five major transportation accidents, including the 2011 Reno National Championship Air Races crash. He has also participated in NTSB public hearings and forums on issues such as substance-impaired driving, general aviation safety, distracted driving, and international safety investigations. He advances the agency's advocacy goals on substance-impaired driving and fire

As one of the world's foremost human fatigue experts, Member Rosekind has led the field with innovative research and the implementation of programs in diverse settings, including all modes of transportation. He has published more than 150 scientific, technical, and industry papers and has given hundreds of presentations to operational, general, and scientific audiences. His achievements have been acknowledged through numerous honors and awards, including NASA's Exceptional Service Medal; the Mark O. Hatfield Award for Public Policy from the American Academy of Sleep Medicine; six other NASA Group/Team Awards; two Flight Safety Foundation honors, the Presidential Citation for Outstanding Safety Leadership and the Business Aviation Meritorious Award; and Fellow of the World Economic Forum in Davos, Switzerland.

Before his appointment to the Board, Dr. Rosekind founded Alertness Solutions (AS), a pioneering scientific consulting firm that specializes in fatigue management and served the company as its first President and Chief Scientist. Prior to AS, he directed the Fatigue Countermeasures Program at the NASA Ames Research Center and was Chief of the Aviation Operations Branch in the Flight Management and Human Factors Division. He launched his

professional career as the Director of the Center for Human Sleep Research at Stanford University's Sleep Disorders and Research Center.

He earned his A. B. with Honors at Stanford University, his M.S., M.Phil., and Ph.D. at Yale University, and completed a postdoctoral fellowship at the Brown University Medical School.

Member Rosekind is married and has two children.



[Earl F. Weener](#)

*Member*

Earl F. Weener, Ph.D. took the oath of office as the 41<sup>st</sup> Member of the National Transportation Safety Board on June 30<sup>th</sup>, 2010. He was nominated by President Obama and confirmed by the Senate for a term that expires December 31, 2015.

Member Weener has an accomplished career in aviation as an engineering executive, safety advocate, industry safety spokesperson, engineer and pilot. He has given numerous presentations on aviation safety in airline operations, as well as corporate, business and general aviation safety. Most recently, he was a Foundation Fellow for the Flight Safety Foundation, where he led international industry teams to develop means to reduce accidents through coordinated industry programs in areas such as ground operations and runway excursions.

Prior to his appointment to the Board, Member Weener enjoyed a twenty four year career with the Boeing Company. During his time with Boeing he held a series of Chief Engineer positions, including the Airworthiness, Reliability and Maintainability, and Safety organization, the System Engineering organization, and Safety Technology Development. He also served four years in Washington, D.C., as Boeing's Manager of Engineering and Technical Government Affairs. As well, Member Weener was integrally involved in the initial development of the Boeing two-crew 747 flight deck concept and the development of the 757/767 flight decks, the initial advanced technology commercial transport glass cockpit.

Aside from his professional career in aviation, Member Weener is an experienced commercial licensed general aviation flight instructor and charter pilot, in addition to owning a Beechcraft Bonanza and remaining an active general aviation pilot.

Member Weener also has extensive marine experience. He obtained his U.S. Coast Guard Master's License in 2000. In addition to navigating the waterways of the Pacific Northwest, he spent four years cruising both the inland waterways and coastline of the U.S., living aboard a specially built steel hull trawler. His travels included the East Coast Intracoastal Waterway, the Great Lakes, the waterways from Chicago to Mobile, Alabama, the West Coast, as well as the

inside passage to Alaska.

Member Weener earned all three of his academic degrees in Aerospace Engineering from the University of Michigan – his bachelor’s degree summa cum laude, master’s degree and doctorate.

Among his awards is a 1994 Laurels Award from Aviation Week and Space Technology, and in 2005 he was awarded the Honeywell Bendix Trophy for Aviation Safety. He has served on the Flight Safety Foundation Board of Governors and on the Foundation’s Icarus Committee, and International Advisory Committee. He was also a director of the Northwest Bonanza Society.

Member Weener and his wife, Linda, currently reside in Northern Virginia.

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<i>Aviation</i>			<i>None to Report</i>	
<i>Highway</i>			<i>None to Report</i>	
<i>Marine</i>			<i>None to Report</i>	
<i>Railroad</i>				
<b>Accidents involving Transit Trains</b>				
<b>Transit</b>	1/3/2012	Utah Transit Authority	Train struck motor vehicle	Limited Resources
<b>Transit</b>	1/6/2012	New Jersey Transit Corporation	Train struck trespasser	Limited Resources
<b>Transit</b>	1/10/2012	Dallas Area Rapid Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	1/11/2012	Maryland Transit Administration	Train struck trespasser	Limited Resources
<b>Transit</b>	1/12/2012	Utah Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	1/12/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	1/13/2012	Sacramento Regional Transit District	Train struck pedestrian	Limited Resources
<b>Transit</b>	1/13/2012	Metropolitan Transit Authority of Harris County, Texas	Train struck pedestrian	Limited Resources
<b>Transit</b>	1/15/2012	King County Department of Transportation - Metro Transit Division	Train struck motor vehicle	Limited Resources
<b>Transit</b>	1/18/2012	Santa Clara Valley Transportation Authority	Train struck motor vehicle	Limited Resources
<b>Transit</b>	1/19/2012	MTA New York City Transit	Train struck pedestrian	Limited Resources
<b>Transit</b>	1/21/2012	MTA New York City Transit	Train struck passenger	Limited Resources
<b>Transit</b>	1/21/2012	MTA New York City Transit	Train struck pedestrian	Limited Resources
<b>Transit</b>	1/21/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	1/22/2012	Dallas Area Rapid Transit	Train struck pedestrian	Limited Resources
<b>Transit</b>	1/23/2012	Southeastern Pennsylvania Transportation Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	1/23/2012	Chicago Transit Authority	Rail Vehicle	Limited Resources
<b>Transit</b>	1/26/2012	Southeastern Pennsylvania Transportation Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	1/26/2012	Metropolitan Transit Authority of Harris County, Texas	Train struck trespasser	Limited Resources
<b>Transit</b>	1/26/2012	Sacramento Regional Transit District	Motor Vehicle	Limited Resources
<b>Transit</b>	1/28/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	1/29/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	1/30/2012	Maryland Transit Administration	Train struck pedestrian	Limited Resources
<b>Transit</b>	2/2/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/3/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	2/3/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	2/4/2012	Santa Clara Valley Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	2/5/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	2/5/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	2/5/2012	Valley Metro Rail, Inc.	Motor Vehicle	Limited Resources
<b>Transit</b>	2/6/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	2/7/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	2/10/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/11/2012	Southeastern Pennsylvania Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	2/12/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck pedestrian	Limited Resources
<b>Transit</b>	2/12/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck pedestrian	Limited Resources
<b>Transit</b>	2/14/2012	San Francisco Municipal Railway	Train struck pedestrian	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Transit</b>	2/17/2012	Santa Clara Valley Transportation Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	2/17/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	2/17/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/18/2012	Valley Metro Rail, Inc.	Train struck trespasser	Limited Resources
<b>Transit</b>	2/19/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/20/2012	Valley Metro Rail, Inc.	Motor Vehicle	Limited Resources
<b>Transit</b>	2/21/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/21/2012	San Diego Metropolitan Transit System	Train struck trespasser	Limited Resources
<b>Transit</b>	2/23/2012	San Francisco Municipal Railway	Train struck pedestrian	Limited Resources
<b>Transit</b>	2/25/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/25/2012	Denton County Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	2/26/2012	Metropolitan Transit Authority of Harris County, Texas	Motor Vehicle	Limited Resources
<b>Transit</b>	2/27/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	2/27/2012	San Francisco Bay Area Rapid Transit District	Train struck trespasser	Limited Resources
<b>Transit</b>	2/28/2012	Santa Clara Valley Transportation Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	2/28/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	2/29/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/1/2012	Massachusetts Bay Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	3/1/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/2/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/4/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/4/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	3/4/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/7/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/7/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/8/2012	Metropolitan Transit Authority of Harris County, Texas	Train struck pedestrian	Limited Resources
<b>Transit</b>	3/9/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck pedestrian	Limited Resources
<b>Transit</b>	3/9/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/10/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/11/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/12/2012	Massachusetts Bay Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	3/13/2012	San Francisco Municipal Railway	Rail Vehicle	Limited Resources
<b>Transit</b>	3/13/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/14/2012	New Jersey Transit Corporation	Train struck trespasser	Limited Resources
<b>Transit</b>	3/15/2012	Sacramento Regional Transit District	Motor Vehicle	Limited Resources
<b>Transit</b>	3/15/2012	Dallas Area Rapid Transit	Motor Vehicle	Limited Resources
<b>Transit</b>	3/17/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/18/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/18/2012	Chicago Transit Authority	Rail Vehicle	Limited Resources
<b>Transit</b>	3/18/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/19/2012	Miami-Dade Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/19/2012	Maryland Transit Administration	Motor Vehicle	Limited Resources
<b>Transit</b>	3/19/2012	Massachusetts Bay Transportation Authority	Train struck passenger	Limited Resources
<b>Transit</b>	3/22/2012	MTA New York City Transit	Train struck passenger	Limited Resources
<b>Transit</b>	3/23/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/23/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	3/23/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/23/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/23/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/25/2012	Valley Metro Rail, Inc.	Motor Vehicle	Limited Resources
<b>Transit</b>	3/26/2012	Chicago Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	3/27/2012	Utah Transit Authority	Motor Vehicle	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<i>ACCIDENT DATE</i>	<i>ACCIDENT LOCATION</i>	<i>ACCIDENT CIRCUMSTANCES</i>	<i>REASON NOT INVESTIGATED</i>
<b>Transit</b>	3/27/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	3/29/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/29/2012	San Francisco Municipal Railway	Train struck pedestrian	Limited Resources
<b>Transit</b>	3/29/2012	Sacramento Regional Transit District	Motor Vehicle	Limited Resources
<b>Transit</b>	3/30/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	3/30/2012	Dallas Area Rapid Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	4/1/2012	Valley Metro Rail, Inc.	Motor Vehicle	Limited Resources
<b>Transit</b>	4/1/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	4/1/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	4/2/2012	MTA New York City Transit	Train struck passenger	Limited Resources
<b>Transit</b>	4/2/2012	Port Authority of Allegheny County	Motor Vehicle	Limited Resources
<b>Transit</b>	4/8/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	4/8/2012	Sacramento Regional Transit District	Train struck trespasser	Limited Resources
<b>Transit</b>	4/9/2012	Maryland Transit Administration	Motor Vehicle	Limited Resources
<b>Transit</b>	4/9/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	4/11/2012	Southeastern Pennsylvania Transportation Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	4/13/2012	Metro Transit	Train struck passenger	Limited Resources
<b>Transit</b>	4/14/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	4/14/2012	Sacramento Regional Transit District	Train struck trespasser	Limited Resources
<b>Transit</b>	4/15/2012	Bi-State Development Agency	Motor Vehicle	Limited Resources
<b>Transit</b>	4/16/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	4/23/2012	Bi-State Development Agency	Motor Vehicle	Limited Resources
<b>Transit</b>	4/23/2012	San Francisco Municipal Railway	Train struck trespasser	Limited Resources
<b>Transit</b>	4/24/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	4/25/2012	Charlotte Area Transit System	Motor Vehicle	Limited Resources
<b>Transit</b>	4/28/2012	Metropolitan Transit Authority of Harris County, Texas	Motor Vehicle	Limited Resources
<b>Transit</b>	4/28/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	4/30/2012	MTA New York City Transit	Train struck trespasser	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Transit</b>	4/30/2012	Memphis Area Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	5/1/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/1/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/2/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/4/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	5/4/2012	Maryland Transit Administration	Motor Vehicle	Limited Resources
<b>Transit</b>	5/5/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/5/2012	Bi-State Development Agency	Train struck trespasser	Limited Resources
<b>Transit</b>	5/6/2012	San Francisco Municipal Railway	Train struck trespasser	Limited Resources
<b>Transit</b>	5/6/2012	Miami-Dade Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/6/2012	Santa Clara Valley Transportation Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	5/8/2012	Tri-County Metropolitan Transportation District of Oregon	Train struck pedestrian	Limited Resources
<b>Transit</b>	5/8/2012	Sacramento Regional Transit District	Train struck trespasser	Limited Resources
<b>Transit</b>	5/10/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	5/10/2012	Utah Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	5/12/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/14/2012	San Diego Metropolitan Transit System	Train struck trespasser	Limited Resources
<b>Transit</b>	5/14/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/14/2012	Utah Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	5/14/2012	Santa Clara Valley Transportation Authority	Train struck bicyclist	Limited Resources
<b>Transit</b>	5/16/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/16/2012	Tri-County Metropolitan Transportation District of Oregon	Motor Vehicle	Limited Resources
<b>Transit</b>	5/16/2012	Maryland Transit Administration	Motor Vehicle	Limited Resources
<b>Transit</b>	5/16/2012	Tri-County Metropolitan Transportation District of Oregon	Motor Vehicle	Limited Resources
<b>Transit</b>	5/17/2012	Massachusetts Bay Transportation Authority	Train struck passenger	Limited Resources
<b>Transit</b>	5/20/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	5/22/2012	Southeastern Pennsylvania Transportation Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	5/25/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/26/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/26/2012	Denver Regional Transportation District	Train struck trespasser	Limited Resources
<b>Transit</b>	5/28/2012	Massachusetts Bay Transportation Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	5/29/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	5/29/2012	Tri-County Metropolitan Transportation District of Oregon	Train struck trespasser	Limited Resources
<b>Transit</b>	5/30/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	5/30/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	5/31/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/2/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/4/2012	MTA New York City Transit	Train struck trespasser	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Transit</b>	6/5/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	6/6/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/7/2012	Massachusetts Bay Transportation Authority	Passenger evacuation	Limited Resources
<b>Transit</b>	6/7/2012	San Diego Metropolitan Transit System	Train struck pedestrian	Limited Resources
<b>Transit</b>	6/8/2012	San Francisco Municipal Railway	Train struck passenger	Limited Resources
<b>Transit</b>	6/8/2012	Tri-County Metropolitan Transportation District of Oregon	Train struck trespasser	Limited Resources
<b>Transit</b>	6/12/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/12/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	6/13/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/14/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/15/2012	San Francisco Municipal Railway	Train struck pedestrian	Limited Resources
<b>Transit</b>	6/16/2012	Maryland Transit Administration	Train struck trespasser	Limited Resources
<b>Transit</b>	6/16/2012	San Francisco Municipal Railway	Train struck bicyclist	Limited Resources
<b>Transit</b>	6/16/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	6/17/2012	Charlotte Area Transit System	Motor Vehicle	Limited Resources
<b>Transit</b>	6/18/2012	MTA New York City Transit	Train struck passenger	Limited Resources
<b>Transit</b>	6/18/2012	Metropolitan Atlanta Rapid Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	6/20/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	6/21/2012	Tri-County Metropolitan Transportation District of Oregon	Motor Vehicle	Limited Resources
<b>Transit</b>	6/23/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	6/28/2012	MTA New York City Transit	Train struck pedestrian	Limited Resources
<b>Transit</b>	6/28/2012	Dallas Area Rapid Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	7/2/2012	Tri-County Metropolitan Transportation District of Oregon	Fixed Object	Limited Resources
<b>Transit</b>	7/3/2012	Charlotte Area Transit System	Motor Vehicle	Limited Resources
<b>Transit</b>	7/6/2012	Southeastern Pennsylvania Transportation Authority	Rail Vehicle	Limited Resources
<b>Transit</b>	7/7/2012	Tri-County Metropolitan Transportation District of Oregon	Train struck trespasser	Limited Resources
<b>Transit</b>	7/9/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	7/10/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	7/11/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	7/11/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	7/11/2012	Southeastern Pennsylvania Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	7/13/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	7/13/2012	Valley Metro Rail, Inc.	Motor Vehicle	Limited Resources
<b>Transit</b>	7/15/2012	Chicago Transit Authority	Train struck trespasser	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Transit</b>	7/19/2012	New Orleans Regional Transit Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	7/23/2012	Massachusetts Bay Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	7/24/2012	MTA New York City Transit	Train struck passenger	Limited Resources
<b>Transit</b>	7/25/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	7/27/2012	San Diego Metropolitan Transit System	Train struck trespasser	Limited Resources
<b>Transit</b>	7/27/2012	Chicago Transit Authority	Train struck passenger	Limited Resources
<b>Transit</b>	7/27/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	7/30/2012	Santa Clara Valley Transportation Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	7/30/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	8/1/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	8/3/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	8/3/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	8/4/2012	Bi-State Development Agency	Train struck trespasser	Limited Resources
<b>Transit</b>	8/6/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	8/10/2012	Chicago Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	8/10/2012	Valley Metro Rail, Inc.	Motor Vehicle	Limited Resources
<b>Transit</b>	8/13/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	8/14/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	8/15/2012	Southeastern Pennsylvania Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	8/15/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	8/18/2012	Metropolitan Atlanta Rapid Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	8/23/2012	San Diego Metropolitan Transit System	Motor Vehicle	Limited Resources
<b>Transit</b>	8/24/2012	Southeastern Pennsylvania Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	8/26/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	8/27/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro		Limited Resources
<b>Transit</b>	8/28/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	8/30/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	8/31/2012	Southeastern Pennsylvania Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	9/4/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck trespasser	Limited Resources
<b>Transit</b>	9/6/2012	New Orleans Regional Transit Authority	Train struck trespasser	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Transit</b>	9/7/2012	Chicago Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	9/13/2012	Maryland Transit Administration	Train struck pedestrian	Limited Resources
<b>Transit</b>	9/14/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Motor Vehicle	Limited Resources
<b>Transit</b>	9/14/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	9/15/2012	San Francisco Bay Area Rapid Transit District	Train struck trespasser	Limited Resources
<b>Transit</b>	9/17/2012	Los Angeles County Metropolitan Transportation Authority dba: Metro	Train struck pedestrian	Limited Resources
<b>Transit</b>	9/17/2012	Chicago Transit Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	9/18/2012	Metropolitan Transit Authority of Harris County, Texas	Motor Vehicle	Limited Resources
<b>Transit</b>	9/19/2012	San Diego Metropolitan Transit System	Train struck trespasser	Limited Resources
<b>Transit</b>	9/21/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	9/23/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	9/24/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	9/26/2012	Dallas Area Rapid Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	9/28/2012	Dallas Area Rapid Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	9/29/2012	Dallas Area Rapid Transit	Train struck pedestrian	Limited Resources
<b>Transit</b>	10/3/2012	Maryland Transit Administration	Motor Vehicle	Limited Resources
<b>Transit</b>	10/8/2012	Massachusetts Bay Transportation Authority	Train struck trespasser	Limited Resources
<b>Transit</b>	10/8/2012	Massachusetts Bay Transportation Authority	Rail Vehicle	Limited Resources
<b>Transit</b>	10/8/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/9/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/9/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/10/2012	Tri-County Metropolitan Transportation District of Oregon	Motor Vehicle	Limited Resources
<b>Transit</b>	10/11/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/12/2012	Utah Transit Authority	Rail Vehicle	Limited Resources
<b>Transit</b>	10/17/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	10/18/2012	San Francisco Municipal Railway	Motor Vehicle	Limited Resources
<b>Transit</b>	10/18/2012	Chicago Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	10/19/2012	New Orleans Regional Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	10/20/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/23/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/25/2012	Utah Transit Authority	Motor Vehicle	Limited Resources
<b>Transit</b>	10/25/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/26/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/26/2012	Massachusetts Bay Transportation Authority	Train struck pedestrian	Limited Resources
<b>Transit</b>	10/28/2012	MTA New York City Transit	Train struck trespasser	Limited Resources
<b>Transit</b>	10/29/2012	Santa Clara Valley Transportation Authority	Train struck pedestrian	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Accidents involving Freight Trains</b>				
<i>Freight</i>	1/6/2012	IN / PORTER / WESTVILLE	CSX, Rear end collision, \$2.6M	Limited Resources
<i>Freight</i>	1/6/2012	IN / PORTER / WESTVILLE	CSX, Rear end collision, \$2.6M	Limited Resources
<i>Freight</i>	1/6/2012	IN / PORTER / WESTVILLE	CSX, Obstruction impact, \$1.5M	Limited Resources
<i>Freight</i>	1/17/2012	MT / ROOSEVELT / BAINVILLE	BNSF, Highway-rail impact, \$2.7M	Limited Resources
<i>Freight</i>	1/28/2012	NE / HOOKER / MULLEN	BNSF, Derailments, \$2.4M	Limited Resources
<i>Freight</i>	2/7/2012	TX / KINNEY / DEL RIO	UP, Derailments, \$1.7M	Limited Resources
<i>Freight</i>	2/12/2012	OH / HURON / GREENWICH	CSX, Derailments, \$1.2M	Limited Resources
<i>Freight</i>	3/8/2012	SC / ABBEVILLE / ABBEVILLE	CSX, Derailments, \$1.4M	Limited Resources
<i>Freight</i>	3/27/2012	IN / NOBLE / LIGONIER	NS, Derailments, \$1.3M	Limited Resources
<i>Freight</i>	4/1/2012	TX / KINNEY / SPOFFORD	UP, Derailments, \$1.2M	Limited Resources
<i>Freight</i>	4/8/2012	IN / LAKE / GARY	CSX, Obstruction impact, \$1.2M	Limited Resources
<i>Freight</i>	5/3/2012	IL / HENRY / KEWANEE	BNSF, Derailments, \$1M	Limited Resources
<i>Freight</i>	5/6/2012	IL / MARSHALL / TOLUCA	BNSF, Derailments, \$3M	Limited Resources
<i>Freight</i>	5/9/2012	MS / COVINGTON / COLLINS	CN, Derailments, \$2.3M	Limited Resources
<i>Freight</i>	5/26/2012	OK / BRYAN / DURANT	UP, Derailments, \$1.3M	Limited Resources
<i>Freight</i>	6/5/2012	TX / GRAYSON / DENISON	UP, Derailments, \$1.5M	Limited Resources
<i>Freight</i>	6/15/2012	CO / LINCOLN / LIMON	UP, Derailments, \$1.5M	Limited Resources
<i>Freight</i>	6/17/2012	TX / EASTLAND / CISCO	UP, Derailments, \$2.4M	Limited Resources
<i>Freight</i>	6/21/2012	MO / PEMISCOT / HAYTI	BNSF, Derailments, \$1.8M	Limited Resources
<i>Freight</i>	6/23/2012	WY / CONVERSE / BILL	UP, Derailments, \$1.6M	Limited Resources
<i>Freight</i>	6/23/2012	CO / WASHINGTON / MERINO	BNSF, Derailments, \$1.6M	Limited Resources
<i>Freight</i>	6/24/2012	OK / TEXAS / GOODWELL	UP, Head on collision, \$13M	Limited Resources
<i>Freight</i>	6/24/2012	OK / TEXAS / GOODWELL	UP, Head on collision, \$13M	Limited Resources
<i>Freight</i>	6/27/2012	KS / GEARY / JUNCTION CITY	UP, Derailments, \$1.4M	Limited Resources
<i>Freight</i>	7/2/2012	WA / FRANKLIN / MESA	BNSF, Derailments, \$2M	Limited Resources
<i>Freight</i>	7/4/2012	TX / BELL / PENDELTON	BNSF, Derailments, \$3.5M	Limited Resources
<i>Freight</i>	7/4/2012	IL / COOK / NORTHBROOK	UP, Derailments, \$5.2M	Limited Resources
<i>Freight</i>	7/14/2012	MO / BUTLER / POPLAR BLUFF	UP, Derailments, \$1.8M	Limited Resources
<i>Freight</i>	7/17/2012	MT / VALLEY / NASHUA	BNSF, Derailments, \$1.5M	Limited Resources
<i>Freight</i>	7/21/2012	MO / BARTON / LIBERAL	BNSF, RR crossing collision, \$7.3M	Limited Resources
<i>Freight</i>	7/21/2012	MO / BARTON / LIBERAL	KCS, RR crossing collision, \$7.3M	Limited Resources
<i>Freight</i>	7/29/2012	KS / SALINE / SALINA	UP, Derailments, \$1.9M	Limited Resources
<b>Accidents involving Railroad Employees</b>				
<i>Employees</i>	1/9/2012	TX / POTTER	Struck by on-track equipment	Limited Resources
<i>Employees</i>	1/25/2012	MO / ST LOUIS	Lost balance	Limited Resources
<i>Employees</i>	1/30/2012	IN / LAKE	Ran into on-track equipment	Limited Resources
<i>Employees</i>	5/18/2012	PA / MONTGOMERY	Struck by falling object	Limited Resources
<i>Employees</i>	5/28/2012	ND / WARD	Other impacts - on track equipment	Limited Resources
<i>Employees</i>	6/21/2012	IL / ADAMS	Collision/impact - auto, truck, bus, van, etc.	Limited Resources
<i>Employees</i>	6/24/2012	OK / TEXAS	Collision - between on track equipment	Limited Resources
<i>Employees</i>	6/24/2012	OK / TEXAS	Collision - between on track equipment	Limited Resources
<i>Employees</i>	6/24/2012	OK / TEXAS	Collision - between on track equipment	Limited Resources
<i>Employees</i>	7/27/2012	AZ / COCONINO	Collision - between on track equipment	Limited Resources
<i>Employees</i>	7/31/2012	IA / CERRO GORDO	Struck by on-track equipment	Limited Resources
<b>Accidents involving Passenger Trains</b>				
<i>Passenger</i>	1/2/2012	CT / FAIRFIELD / BRIDGEPORT	75% UNDETECTABLE OLD BREAK UNDER CLIP, TRACK 4 AT CATENARY 812, FAILED UNDER MOVEMENT OF TRAIN 6526 ENGAGING PANTOGRAPH OF CAR 8400, DAMAGING SAME.	Limited Resources
<i>Passenger</i>	1/3/2012	PA / PHILADELPHIA / PHILADELPHIA	TRAIN 137 OPERATING WITH LOCOMOTIVE E/914 AND 7 CARS TERMINATED AT MP1.7 DUE TO THE PANTOGRAPH ON ENGINE 914 GOT CAUGHT UP IN THE CATENARY WIRE AND WAS RIPPED OFF OF THE R END OF THE MOTOR. A 5/8" NICO PRESSED EYE WAS MISSING FROM CATENARY SUPPORT AND THE MISSING PIECE CAUSED THE WIRE TO SAG AND ENTANGLE THE PANTOGRAPH.	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Passenger</b>	1/4/2012	PA / BUCKS / CORNWELLS HEIGHTS	TRAIN 170 OPERATING WITH ENGINES E/928 E/929 AND 8 CARS CAME IN CONTACT WITH DOWNED CATENARY WIRE ON NO.2 TRACK.	Limited Resources
<b>Passenger</b>	1/7/2012	TX / WILLIAMSON / LIBERTY HILL	SEMI RAN INTO THE SIDE OF THE TRAIN, SIDESWIPING THE LOCOMOTIVE AND THREE PASSENGER CARS. EMERGENCY BRAKE APPLICATION CAUSED FLAT SPOTS ON TWELVE WHEEL SETS	Limited Resources
<b>Passenger</b>	1/7/2012	TX / WILLIAMSON / LIBERTY HILL	SEMI RAN INTO THE SIDE OF THE TRAIN. SIDES WIPING THE LOCOMOTIVE AND 3 PASSENGER CARS. THE EMERGENCY APPLICATION OF THE BRAKES CAUSED FLAT ON 12 WHEEL SETS.	Limited Resources
<b>Passenger</b>	1/9/2011	MD / CECIL / NORTH EAST	TRAIN 130 TERMINATED AFTER STRIKING UNKNOWN WIRE.	Limited Resources
<b>Passenger</b>	1/11/2012	NY / QUEENS / NEW YORK	TRAIN 2190 TERMINATED AT MP5.5 DUE TO PANTOGRAPH DAMAGE.	Limited Resources
<b>Passenger</b>	1/26/2012	MS / HINDS / TERRY	TRAIN 59 OPERATING WITH LOCOMOTIVES E/185-E/88 AND 7 CARS STRUCK THE REAR OF A TRACTOR-TRAILER TRUCK AT MP746.3, A PRIVATE CROSSING.	Limited Resources
<b>Passenger</b>	1/26/2012	MS / HINDS / TERRY	AMTRAK TRAIN STRUCK THE REAR OF A TRACTOR-TRAILER THAT STOPPED ON A PRIVATE CROSSING. AMTRAK ADVISED \$16,671 IN DAMAGE.	Limited Resources
<b>Passenger</b>	1/28/2012	MS / YAZOO / YAZOO CITY	AMTRAK TRAIN, P05991-27, STRUCK A PICK UP TRUCK THAT STOPPED ON THE CROSSING AT GRAND AVE. KILLING THE DRIVER OF THE VEHICLE. THE IMPACT OF COLLISION CAUSED THE VEHICLE TO BE LODGED UNDERNEATH THE PILOT OF THE ENGINE, IGNITING A FIRE TOWARDS THE HEAD END OF THE LOCOMOTIVE - AMTK94. THE CROSSING IS PROTECTED BY GATES AND FLASHERS. AMTRAK ADVISED \$36,436 IN EQUIPMENT DAMAGE.	Limited Resources
<b>Passenger</b>	1/28/2012	MS / YAZOO / YAZOO CITY	TRAIN 59 OPERATING WITH LOCOMOTIVE E/94 AND 7 CARS STRUCK A PICK-UP TRUCK AT MP172.30, GRAND AVE CROSSING.	Limited Resources
<b>Passenger</b>	2/1/2012	MI / JACKSON / LEONI	WESTBOUND AMTRAK 01AB501(#351) STRUCK A SEMI TRACTOR TRAILER THAT WAS STOPPED ON CROSSING AT MH68.2 DERAILING LEAD UNIT, AMTK 128 AND 2 PASSENGER CARS, AMTK 48197 AND AMTK54542.	Limited Resources
<b>Passenger</b>	2/1/2012	MI / JACKSON / LEONI	TRAIN 351 OPERATING WITH LOCOMOTIVE E/128, 5 CARS, AND LOCOMOTIVE E/31 IN THE REAR STRUCK A TRACTOR-TRAILER TRUCK AT MP68.22, PORTAGE RD CROSSING CAUSING ENGINE UNIT 128 AND 2 CARS TO DERAIL.	Limited Resources
<b>Passenger</b>	2/16/2012	MI / EATON / LANSING	TRAIN 364 OPERATING WITH LOCOMOTIVE E/126, 8 CARS AND LOCOMOTIVE E/32 TRAILING, STRUCK AN AUTOMOBILE AT MP216.19, MILLETT HWY RD CROSSING.	Limited Resources
<b>Passenger</b>	2/16/2012	MI / EATON / LANSING	AMTRAK P36461-16 STRUCK A VEHICLE THAT WENT AROUND THE DESCENDED GATES AT THE MILLETT HWY CROSSING. THE DRIVER SUSTAINED FATAL INJURIES IN THE IMPACT.	Limited Resources
<b>Passenger</b>	2/19/2012	CA / FRESNO / FRESNO	TRAIN 703 OPERATING WITH LOCOMOTIVE E/2014 AND 4 CARS STRUCK AN AUTOMOBILE AT MP 1000.70, CLINTON AVE CROSSING.	Limited Resources
<b>Passenger</b>	2/19/2012	CA / FRESNO / FRESNO	AMTRAK TRAIN 703 STRUCK A VEHICLE FOULING THE MAIN TRACK.	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Passenger</b>	2/27/2012	MD / BALTIMORE / BALTIMORE	TRAIN 2104 OPERATING WITH LOCOMOTIVE E/2003 IN THE LEAD, 6 CARS AND E/2001 TRAILING STRUCK INTER-TRACK FENCE BETWEEN #1 AND #2 TRACK. THE SIDE PANEL DOOR ON POWER CAR 2003 WASNT PROPERLY LATCHED AND STRUCK THE FENCING.	Limited Resources
<b>Passenger</b>	2/28/2012	FL / POLK / PLANT CITY	TRAIN 91 OPERATING WITH LOCOMOTIVES E/179-E/153 AND 9 CARS STRUCK A NORTHBOUND TRACTOR-TRAILER TRUCK AT MP857.03, COUNTY LINE RD CROSSING. HEAVY DEBRIS FROM THIS COLLISION STRUCK A SOUTHBOUND VEHICLE ON COUNTY LINE RD.	Limited Resources
<b>Passenger</b>	2/28/2012	FL / POLK / PLANT CITY	P09127 STRUCK TRAILER OF SEMI TRUCK FOULING CROSSING AT STOP LIGHT. AMTRAK ESTIMATED EQUIPMENT COST \$18,000.00.	Limited Resources
<b>Passenger</b>	3/1/2012	PA / PHILADELPHIA / PHILADELPHIA	TRAIN HIT DAMAGES WIRES, CREW NOT TESTED.	Limited Resources
<b>Passenger</b>	3/2/2012	FL / OKEECHOBEE / OKEECHOBEE	TRAIN 97 OPERATING WITH LOCOMOTIVES E/65-E/193 AND 13 CARS WAS STRUCK BY PICK-UP TRUCK AT MP904.40, US HIGHWAY 98 CROSSING.	Limited Resources
<b>Passenger</b>	3/2/2012	FL / OKEECHOBEE / OKEECHOBEE	P09701 STRUCK VEHICLE AT CROSSING, FATALLY INJURING DRIVER. AMTRAK EQPT DAMAGE IS \$20K.	Limited Resources
<b>Passenger</b>	3/2/2012	NC / ROWAN / SALISBURY	PTER SPECIAL TRAIN 861 WITH ENGINE 134 AND 2 CARS DERAILED E/134 AND LEAD TRUCK OF FIRST CAR C/82629 ON THE ROUND HOUSE LEAD TRACK AT NS SPENCER YARD. CAUSE OF DERAILMENT WAS A RAIL SPREAD UNDER MOVEMENT DUE TO WEAK CROSSTIES.	Limited Resources
<b>Passenger</b>	3/7/2012	CA / TULARE / CORCORAN	TRAIN 713 OPERATING WITH LOCOMOTIVE E/2005 AND 5 CARS STRUCK A SEMI-TRACTOR TRAILER AT MP934.23, AVENUE 56 RD CROSSING CAUSING EXTENSIVE DAMAGE TO THE LEAD UNIT E/2005.	Limited Resources
<b>Passenger</b>	3/7/2012	CA / TULARE / CORCORAN	AMTRAK TRAIN 713 STRUCK A TRACTOR TRAILER FOULING THE MAIN TRACK.	Limited Resources
<b>Passenger</b>	3/15/2012	PA / BUCKS / CORNWELLS HEIGHTS	TRAIN 2100, POWER CAR 2012/2013 WHILE OPERATING EAST ON NO.2 TRK CAME IN CONTACT WITH DOWNED CATENARY WIRE. THE DOWNED WIRE WAS CAUSED BY A FATIGUE BREAK OF THE AUXILIARY WIRE LOCATED BENEATH CLIP WHICH ALLOWED AUXILIARY WIRE TO DISENGAGE AND COME IN CONTACT WITH THE R END PANTOGRAPH ON TRAIL POWER CAR 2013. THIS IN TURN CREATED DAMAGE TO PANTOGRAPH COLLECTOR HEAD WHICH REQUIRED THE REMAINDER OF	Limited Resources
<b>Passenger</b>	3/21/2012	OR / LANE / OAKRIDGE	AMTRAK'S AMT14-20 DERAILED THE A END OF A CAR AND THE SET OF TRUCKS DUE TO A MUDSLIDE. NO TRACK DAMAGE REPORTED. AMTRAK'S EST EQUIP DAMAGE: \$21,902.	Limited Resources
<b>Passenger</b>	3/21/2012	OR / LANE / OAKRIDGE	TRAIN 14 OPERATING WITH LOCOMOTIVES E/167-E/41 AND 11 CARS STRUCK A FALLEN TREE AT MP571.5 AND A LANDSLIDE CAME DOWN CAUSING ADDITIONAL TREES TO FALL ON TOP OF BAGGAGE CAR C/1164 AND DERAILING THE LEAD TRUCK ON THE BAGGAGE CAR C/1164.	Limited Resources
<b>Passenger</b>	3/23/2012	PA / PHILADELPHIA / PHILADELPHIA	DERAILED AT BROAD INTERLOCKING, ENGINEER TESTED. CAUSE UNDER INVERSTIGATION	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Passenger</b>	3/24/2012	SC / BAMBERG / DENMARK	TRAIN 92 OPERATING WITH LOCOMOTIVES E/24-E/2 AND 9 CARS STRUCK DOWNED TREES AT MP-S415.0.	Limited Resources
<b>Passenger</b>	3/24/2012	SC / BAMBERG / DENMARK	TRAIN 92 STRUCK DOWNED TREES. AMTRAK EQUIPMENT DAMAGE IS \$10,000.00.	Limited Resources
<b>Passenger</b>	3/29/2012	RI / WASHINGTON / DAVISVILLE	HSR TRAIN 2171 DERAILED LEAD POWER CAR PC/2026 AT MP 168, DAVISVILLE.	Limited Resources
<b>Passenger</b>	4/10/2012	IL / COOK / CHICAGO	Y-CHC1131-10 HANDLING 11 CARS MOVING ON LEAD 1 WITH 11 CARS WAS STRUCK BY A-1230-1-10 (LITE ENGINE) OPERATING IN OPPOSITE DIRECTION. CREWS UNABLE TO SEE EACH OTHER AS TRACK PASSED UNDER CANAL ST BRIDGE AND AROUND A CURVE. NEITHER CREW WAS ABLE TO STOP COMPLETELY PRIOR TO IMPACT. NO FUEL WAS RELEASED.	Limited Resources
<b>Passenger</b>	4/10/2012	IL / COOK / CHICAGO	Y-CHC1131-10 HANDLING 11 CARS MOVING ON LEAD 1 WITH 11 CARS WAS STRUCK BY A-1230-1-10 (LITE ENGINE) OPERATING IN OPPOSITE DIRECTION. CREWS UNABLE TO SEE EACH OTHER AS TRACK PASSED UNDER CANAL ST BRIDGE AND AROUND A CURVE. NEITHER CREW WAS ABLE TO STOP COMPLETELY PRIOR TO IMPACT. NO FUEL WAS RELEASED.	Limited Resources
<b>Passenger</b>	4/10/2012	IL / COOK / CHICAGO	Y-CHC1131-10 HANDLING 11 CARS MOVING ON LEAD 1 WITH 11 CARS WAS STRUCK BY A-1230-1-10 (LITE ENGINE) OPERATING IN OPPOSITE DIRECTION. CREWS UNABLE TO SEE EACH OTHER AS TRACK PASSED UNDER CANAL ST BRIDGE AND AROUND A CURVE. NEITHER CREW WAS ABLE TO STOP COMPLETELY PRIOR TO IMPACT. NO FUEL WAS RELEASED.	Limited Resources
<b>Passenger</b>	4/13/2012	GA / COBB / AUSTELL	TRAIN 19 OPERATING WITH LOCOMOTIVES E/5-E/93 AND 9 CARS STRUCK A TRACTOR-TRAILER TRUCK AT MP650.45, SPRING ST CROSSING.	Limited Resources
<b>Passenger</b>	5/2/2012	NC / CABARRUS / HARRISBURG	TRAIN 74 OPERATING WITH LOCOMOTIVE NC1869 AND 3 CARS STRUCK A DUMP TRUCK AT MP361.50, PHARR MILL RD CROSSING.	Limited Resources
<b>Passenger</b>	5/22/2012	TX / EL PASO / EL PASO	AMTK1-20, STRUCK AN UNOCCUPIED VEHICLE THAT HAD BECOME HIGH CENTERED DUE TO HAVING BEEN STRUCK FROM BEHIND BY A VEHICLE AND HAD BECOME DISABLED ON THE CROSSING. THERE WERE NO OCCUPANTS IN THE VEHICLE. NO INJURIES INVOLVED. NO TRACK DAMAGE. ATK'S ESTIMATED EQUIPMENT DAMAGE = \$5,000. AMTK ID#123927.	Limited Resources
<b>Passenger</b>	5/22/2012	TX / EL PASO / EL PASO	TRAIN 1 OPERATING WITH LOCOMOTIVES E/125-E/151 AND 9 CARS STRUCK AN ABANDONED PICK-UP TRUCK AT MP817.17, PENDALE RD CROSSING. THE TRUCK HAD BEEN INVOLVED IN A COLLISION WITH ANOTHER VEHICLE AND BECAME DISABLED ON THE TRACKS.	Limited Resources
<b>Passenger</b>	5/27/2012	MD / HARFORD / ABERDEEN	TRAIN 140 DELAYED ACCOUNT LOCOMOTIVE E/934 REPORTED WITH REAR-PANTOGRAPH DAMAGED AND RIPPED OFF. CATENARY WIRES REPORTED DAMAGED AND DOWN AT MP66.46 WITH DOWNED WIRES FOULING NO.2 AND NO.3 TRACKS AND OVERHEAD WIRE SAGGING ON NO.4 TRACK.	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<i>Passenger</i>	5/27/2012	MD / HARFORD / ABERDEEN	HSP TRAIN 2251 REPORTED STOPPED ON NO.4 TRACK WITH DAMAGED PANTOGRAPH. CATENARY WIRES REPORTED DAMAGED AND DOWN AT MP66.46 WITH DOWNED WIRES FOULING NO.2 AND NO.3 TRACKS AND OVERHEAD WIRE SAGGING ON NO.4 TRACK.	Limited Resources
<i>Passenger</i>	5/28/2012	PA / BUCKS / MORRISVILLE	A BENT PANTOGRAPH ON LOCOMOTIVE #4629 WAS DISCOVERED AND REPORTED TO THE SUPERVISOR OF TRAIN OPERATION. A CATENARY DEFECT (SNAPPED INSULATOR) WAS REPORTED.	Limited Resources
<i>Passenger</i>	6/5/2012	NJ / HUDSON / KEARNY	B PANTOGRAPH WAS BROKEN OFF ENGINE #4607 WHILE TRAIN #6314 WAS ENROUTE EAST ONTRACK #1 AT KEARNY JUNCTION NEAR MP 5.7. CAUSE WAS NOT DETERMINED.	Limited Resources
<i>Passenger</i>	6/5/2012	MO / BUTLER / POPLAR BLUFF	AMT21-04 TRAVELING SOUTHBOUND ON UPRR MAIN LINE COLLIDED WITH A VEHICLE THAT WAS STOPPED ON THE WILCOX ROAD CROSSING RESULTING IN TWO FATALITIES. AMTRAK'S ESTIMATED DAMAGES ARE \$9,805. NO TRACK DAMAGE.	Limited Resources
<i>Passenger</i>	6/5/2012	MO / BUTLER / POPLAR BLUFF	TRAIN 21 OPERATING WITH LOCOMOTIVES E/137-E/206 AND 7 CARS STRUCK A JEEP CHEROKEE SUV THAT STALLED ON THE PUBLIC COUNTY ROAD CROSSING. THE OCCUPANTS IN THE VEHICLE WERE PLAYING A GAME WHEN THEY PARKED THEIR VEHICLE ON THE TRACKS. AS THE TRAIN APPROACHED, THE VEHICLE STALLED AND WAS UNABLE TO MOVE BEFORE IMPACT.	Limited Resources
<i>Passenger</i>	6/14/2012	NJ / HUDSON / HOBOKEN	YARD CREW #YH-13 OPERATED ALP 45 UNIT #4503 WITH TWO CARS FROM ELECTRIC TERRITORY TO NON-ELECTRIC TERRITORY WHILE IN ELECTRIC MODE. A SPECIFIC FRA HUMAN FACTOR CAUSE CODE WAS NOT IDENTIFIED BASED ON THE CURRENT GUIDE.	Limited Resources
<i>Passenger</i>	6/29/2012	TX / TARRANT / ARLINGTON	TRAIN 21 OPERATING WITH LOCOMOTIVE E/69 AND 7 CARS STRUCK A COMMERCIAL TRACTOR-TRAILER TRUCK AT MP236.56, A PRIVATE RD CROSSING.	Limited Resources
<i>Passenger</i>	6/29/2012	TX / TARRANT / ARLINGTON	AMT21-29, WEST BOUND STRUCK A SEMI TRUCK BELONGING TO KING RANCH TURF GRASS CARRYING A LOAD OF SOD. THE TRUCK WAS TRAVELING EASTBOUND ON HIGHWAY 180 WHICH PARALLELS THE UP TRACK. THE TRUCK TURNED SOUTHBOUND AND CROSSED TRACKS. AMTRAK LOCOMOTIVE #AMTK69 STRUCK TRUCK BETWEEN TRACK CAN AND THE TRAILER. NO DERAILMENT OF ANY ENGINES OR CARS. THERE WERE NO REPORTED INJURIES TO THE AMTRAK CREW. THE	Limited Resources
<i>Passenger</i>	7/11/2012	CT / NEW HAVEN / NEW HAVEN	CDOT TRAIN 1697 WITH LOCOMOTIVE E/6696 AND 3 CARS, OPERATED OVER A DERAIL ON TRACK 24 EAST AT THE CDOT SHOP CAUSING LOCOMOTIVE E/6696 TO DERAIL. THE CAUSE OF THE DERAILMENT WAS FAILURE TO STOP TRAIN IN CLEAR.	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<i>ACCIDENT DATE</i>	<i>ACCIDENT LOCATION</i>	<i>ACCIDENT CIRCUMSTANCES</i>	<i>REASON NOT INVESTIGATED</i>
<b>Passenger</b>	7/11/2012	OR / LINN / JEFFERSON	THE OE EXPRESS WAS TRAVELLING EAST ON THE OE DISTRICT WHEN THE TRAIN WENT INTO EMERGENCY AT MP 87.4. INSPECTION OF THE TRAIN FOUND A TOTAL OF 9 CARS DERAILED 6 LOG CARS ON THEIR SIDE. INVESTIGATION FOUND THAT A MINOR SUN KINK ON THE EAST TRACK CAUSED THE CARS TO DERAIL, ROLL THE RAIL ON THE WEST TRACK.	Limited Resources
<b>Passenger</b>	7/18/2012	WA / COWLITZ / WOODLAND	AMTRAK 508 DERAILED LEAD UNIT WHILE MAKING CROSSOVER FROM MT2 TO MT1. INVESTIGATION DETERMINED DUAL-CONTROL CROSSOVER SWITCH FAILED TO LOCK PROPERLY.	Limited Resources
<b>Passenger</b>	7/18/2012	WA / COWLITZ / WOODLAND	TRAIN 508 DERAILED LEAD LOCOMOTIVE E/809 WHILE GOING THROUGH CROSSOVER FROM MAIN TRACK 2 TO MAIN TRACK 1. THE CAUSE OF DERAILMENT WAS GAPPED SWITCH POINT DUE TO IMPROPER ADJUSTMENT OF SWITCH POINT STOCK RAIL OR SWITCH MACHINE FAILURE ON BNSF 21N CROSSOVER SWITCH.	Limited Resources

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<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Passenger</b>	7/20/2012	MD / BALTIMORE / HALETHORPE	HSP TRAIN 2124 REPORTED STOPPED ON #2 TRACK WITH THE PANTOGRAPH RIPPED OFF OF ENGINE UNIT 2124 DUE TO HARDWARE FATIGUE ON SAP ASSEMBLY.	Limited Resources
<b>Passenger</b>	7/27/2012	CT / FAIRFIELD / BRIDGEPORT	AUXILIARY WIRE OF CATENARY SYSTEM BECAME SLACK DUE TO EXTEREMLY HIGH AMBIENT TEMPERATURE, ALLOWING YELLOW HORN OF CAR TO RIDE OFF WIRE AT CATENARY 819, RESULTING IN DAMAGES TO THE CATENARY SYSTEM AND THE PANTOGRAPHS OF CARS 8900 AND 8951.	Limited Resources
<b>Passenger</b>	7/30/2012	MS / HINDS / JACKSON	AMTRAK TRAIN, P05991-29, STRUCK A DUMP TRUCK THAT FAILED TO YIELD AT THE ELTON ROAD CROSSING AMTRAK ADVISED \$27,071 IN EQUIPMENT DAMAGE.	Limited Resources
<b>Passenger</b>	7/30/2012	MS / HINDS / JACKSON	TRAIN 59 OPERATING WITH LOCOMOTIVE E/54 AND 7 CARS STRUCK THE REAR PORTION OF A TRACTOR-TRAILER AT MP734.94, ELTON RD CROSSING.	Limited Resources
<b>Accidents involving Railroad Trespasser Fatalities</b>				
<b>Trespassers</b>	1/2/2012	CA / SAN MATEO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/3/2012	WY / LARAMIE	Alongside of on-track equipment on ground-Shot	Limited Resources
<b>Trespassers</b>	1/4/2012	MN / HENNEPIN	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/4/2012	GA / HOUSTON	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/4/2012	GA / BARTOW	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/5/2012	OH / STARK	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/6/2012	PA / BEAVER	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/6/2012	TX / TARRANT	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/7/2012	CA / LOS ANGELES	Between cars/locomotives-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/8/2012	WA / COWLITZ	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/8/2012	TX / BELL	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/9/2012	IL / LAKE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/9/2012	MI / KENT	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/9/2012	VA / RICHMOND	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/10/2012	CA / SOLANO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/10/2012	CA / SAN JOAQUIN	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/10/2012	FL / OSCEOLA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/11/2012	NE / SCOTTS BLUFF	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/11/2012	PA / DELAWARE	In car-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/13/2012	NC / GUILFORD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/13/2012	MS / LAMAR	Between tracks-Struck by on-track equipment	Limited Resources

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<b>Trespassers</b>	1/14/2012	MT / LINCOLN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/14/2012	NC / ALAMANCE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/14/2012	NC / ALAMANCE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/14/2012	TX / TAYLOR	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/14/2012	AL / MOBILE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/16/2012	CA / LOS ANGELES	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/16/2012	CA / YUBA	Beside track-Pushed/shoved from	Limited Resources
<b>Trespassers</b>	1/22/2012	CA / SANTA CLARA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/23/2012	OH / FRANKLIN	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/24/2012	CA / KERN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/26/2012	PA / CLINTON	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/27/2012	AL / CALHOUN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/28/2012	MS / YAZOO	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/31/2012	KY / KNOX	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	1/31/2012	MA / SUFFOLK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	1/31/2012	WV / PUTNAM	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/1/2012	GA / FLOYD	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/2/2012	CA / SACRAMENTO	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/3/2012	ND / WARD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/4/2012	MA / ESSEX	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/5/2012	NC / LEE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/5/2012	TX / BEXAR	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/7/2012	WA / GRANT	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/7/2012	OR / CLACKAMAS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/8/2012	TX / ANGELINA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/8/2012	CA / SAN DIEGO	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/8/2012	CA / MERCED	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/9/2012	OH / LAKE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/9/2012	FL / BROWARD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/11/2012	LA / ST TAMMANY	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/12/2012	PA / FRANKLIN	On highway-rail crossing-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/12/2012	CA / LOS ANGELES	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/14/2012	NY / SUFFOLK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/14/2012	NY / SUFFOLK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/15/2012	CT / NEW HAVEN	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/16/2012	MI / EATON	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/16/2012	MN / RAMSEY	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/17/2012	WA / YAKIMA	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/21/2012	CA / IMPERIAL	On track-Slipped, fell, stumbled, other	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Trespassers</b>	2/21/2012	GA / DE KALB	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/22/2012	OH / BUTLER	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/22/2012	OH / CUYAHOGA	Between cars/locomotives-Caught Between Equipment	Limited Resources
<b>Trespassers</b>	2/22/2012	OH / CLINTON	Between tracks-Other (describe in narrative)	Limited Resources
<b>Trespassers</b>	2/22/2012	TX / TARRANT	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/22/2012	GA / FULTON	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/23/2012	CA / SANTA CLARA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/24/2012	MD / HARFORD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/24/2012	CA / SAN JOAQUIN	On bridge/trestle-Slipped, fell, stumbled, other	Limited Resources
<b>Trespassers</b>	2/25/2012	TX / DENTON	Beside track-Other (describe in narrative)	Limited Resources
<b>Trespassers</b>	2/25/2012	TX / GUADALUPE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/26/2012	NC / GASTON	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/26/2012	AZ / YUMA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/27/2012	WI / MILWAUKEE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/28/2012	IL / MADISON	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	2/28/2012	MA / BERKSHIRE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/28/2012	NY / ERIE	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/29/2012	FL / DADE	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	2/29/2012	GA / BRANTLEY	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/2/2012	IL / COOK	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/2/2012	IL / WILLIAMSON	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/2/2012	TX / MCLENNAN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/2/2012	FL / OKEECHOBEE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/3/2012	NY / DUTCHESS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/3/2012	CA / IMPERIAL	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/4/2012	IL / COOK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/7/2012	IL / COOK	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/8/2012	OH / WOOD	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/8/2012	OK / TULSA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/8/2012	TX / ANGELINA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/8/2012	TX / ANGELINA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/8/2012	TX / ANGELINA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/9/2012	OH / WAYNE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/9/2012	CA / ALAMEDA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/9/2012	CA / SAN MATEO	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/10/2012	ND / BURLEIGH	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/10/2012	TN / POLK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/11/2012	FL / PALM BEACH	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/11/2012	GA / GWINNETT	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/12/2012	FL / PALM BEACH	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/13/2012	LA / OUACHITA	Beside track-Struck by on-track equipment	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Trespassers</b>	3/13/2012	WA / COWLITZ	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/14/2012	TN / WEAKLEY	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/15/2012	CA / LOS ANGELES	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/16/2012	FL / ST JOHNS	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/16/2012	FL / BROWARD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/17/2012	CO / GARFIELD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/19/2012	MN / CLAY	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/19/2012	NJ / MONMOUTH	On track-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/20/2012	IN / ELKHART	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/20/2012	MT / ROOSEVELT	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/20/2012	OR / CLACKAMAS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/20/2012	TX / HARRIS	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/22/2012	KS / RUSSELL	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/23/2012	GA / PEACH	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/24/2012	KY / KENTON	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/24/2012	ND / GRAND FORKS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/24/2012	NY / SUFFOLK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/24/2012	CA / MERCED	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/24/2012	CA / SAN BERNARDINO	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/26/2012	CA / VENTURA	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/28/2012	CT / MIDDLESEX	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/29/2012	KY / FAYETTE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/31/2012	IL / UNION	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/31/2012	LA / MADISON	On track-Other (describe in narrative)	Limited Resources
<b>Trespassers</b>	3/31/2012	TN / BLOUNT	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/31/2012	TN / BLOUNT	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	3/31/2012	SC / CHEROKEE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	3/31/2012	TX / EASTLAND	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/1/2012	MN / STEARNS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/2/2012	CA / CONTRA COSTA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/3/2012	AZ / COCHISE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/4/2012	OH / DELAWARE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/4/2012	OH / DELAWARE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/4/2012	CA / CONTRA COSTA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/5/2012	TN / KNOX	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/5/2012	FL / BREVARD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/6/2012	KY / ROCKCASTLE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/6/2012	NY / CHAUTAUQUA	On bridge/trestle-Struck by on-track equipment	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Trespassers</b>	4/6/2012	NY / CHAUTAUQUA	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/6/2012	AZ / MARICOPA	On side of car-Slipped, fell, stumbled, other	Limited Resources
<b>Trespassers</b>	4/8/2012	KS / KIOWA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/8/2012	WV / KANAWHA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/8/2012	OH / HENRY	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/10/2012	WA / KING	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/10/2012	CA / ALAMEDA	In/operating vehicle-Collision/impact - auto, truck, bus, van, etc.	Limited Resources
<b>Trespassers</b>	4/11/2012	MN / ST LOUIS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/11/2012	CA / YOLO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/12/2012	MI / WAYNE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/12/2012	FL / BROWARD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/13/2012	OH / MONTGOMERY	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/13/2012	UT / UTAH	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/14/2012	MO / JACKSON	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/14/2012	IL / WILL	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/15/2012	OK / ROGERS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/16/2012	ME / YORK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/16/2012	MS / LAWRENCE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/17/2012	FL / OSCEOLA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/19/2012	NJ / BERGEN	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/22/2012	IL / VERMILION	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/22/2012	OK / SEQUOYAH	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/22/2012	TX / ECTOR	In/operating vehicle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/23/2012	PA / MONTGOMERY	In car-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/23/2012	SC / GREENWOOD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/24/2012	FL / HILLSBOROUGH	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/25/2012	CA / KERN	In/operating vehicle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/25/2012	FL / PALM BEACH	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/26/2012	AZ / PINAL	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/27/2012	TX / EL PASO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/28/2012	NV / HUMBOLDT	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/28/2012	AR / CLARK	On highway--rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/28/2012	CA / LOS ANGELES	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/29/2012	FL / VOLUSIA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	4/30/2012	KY / HOPKINS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	4/30/2012	NC / GASTON	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/1/2012	LA / ASCENSION	Alongside of on-track equipment on ground-Collision/impact - auto, truck, bus, van, etc.	Limited Resources
<b>Trespassers</b>	5/1/2012	MD / BALTIMORE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/2/2012	CA / TULARE	On track-Struck by on-track equipment	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Trespassers</b>	5/2/2012	GA / FULTON	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/3/2012	MI / WAYNE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/4/2012	IL / WHITESIDE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/4/2012	AL / SUMTER	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/4/2012	CA / SAN DIEGO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/5/2012	MN / RAMSEY	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/5/2012	UT / SALT LAKE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/6/2012	SC / WILLIAMSBURG	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/6/2012	FL / ST JOHNS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/7/2012	KY / JEFFERSON	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/9/2012	MA / SUFFOLK	Other location-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/11/2012	IL / MADISON	Other location-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/11/2012	NY / NIAGARA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/13/2012	MA / ESSEX	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/14/2012	MA / NORFOLK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/14/2012	PA / PHILADELPHIA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/15/2012	MA / NORFOLK	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/15/2012	AL / TALLADEGA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/15/2012	CA / ALAMEDA	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/15/2012	GA / DE KALB	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/16/2012	CA / SANTA CLARA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/16/2012	FL / NASSAU	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/18/2012	FL / BROWARD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/19/2012	CA / VENTURA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/21/2012	MN / ST LOUIS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/22/2012	OH / ERIE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/22/2012	NY / QUEENS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/23/2012	IN / LAKE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/25/2012	NC / ALAMANCE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/26/2012	IL / CHAMPAIGN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/27/2012	OH / PORTAGE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/28/2012	SC / FAIRFIELD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/28/2012	CO / EL PASO	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/29/2012	IL / COOK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/29/2012	MS / JONES	On track-Other (describe in narrative)	Limited Resources
<b>Trespassers</b>	5/29/2012	TX / WEBB	On track-Slipped, fell, stumbled, other	Limited Resources
<b>Trespassers</b>	5/30/2012	MO / ST LOUIS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/30/2012	MD / PRINCE GEORGES	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/30/2012	IL / COOK	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/30/2012	CA / SAN MATEO	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	5/31/2012	IL / CARROLL	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/31/2012	WA / ADAMS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	5/31/2012	CA / SAN JOAQUIN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/1/2012	IN / PUTNAM	On track-Slipped, fell, stumbled, other	Limited Resources
<b>Trespassers</b>	6/4/2012	OR / MARION	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/4/2012	TX / TARRANT	On highway-rail crossing-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/4/2012	FL / DADE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/4/2012	GA / MONROE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/5/2012	PA / PHILADELPHIA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/6/2012	MI / OAKLAND	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/6/2012	NE / HALL	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	6/6/2012	CA / SANTA CLARA	Between tracks-Struck by on-track equipment	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Tresspassers</b>	6/6/2012	CA / YOLO	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/6/2012	FL / BREVARD	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/7/2012	CA / VENTURA	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/8/2012	NE / SCOTTS BLUFF	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/10/2012	NC / GASTON	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/10/2012	NE / LANCASTER	On track-Slipped, fell, stumbled, other	Limited Resources
<b>Tresspassers</b>	6/10/2012	CA / SAN JOAQUIN	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/10/2012	FL / DADE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/11/2012	LA / ORLEANS	Between cars/locomotives-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/11/2012	NC / WAKE	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/11/2012	NY / SUFFOLK	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/11/2012	TX / HAYS	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/12/2012	CA / LOS ANGELES	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/12/2012	FL / VOLUSIA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/12/2012	FL / PALM BEACH	On track-Other (describe in narrative)	Limited Resources
<b>Tresspassers</b>	6/13/2012	IL / WILL	On highway-rail crossing-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/14/2012	FL / DUVAL	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/15/2012	IL / COOK	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/15/2012	IL / LAKE	Between tracks-Slipped, fell, stumbled, other	Limited Resources
<b>Tresspassers</b>	6/15/2012	NC / CABARRUS	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/15/2012	TX / CALLAHAN	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/15/2012	CA / MONTEREY	On side of car-Slipped, fell, stumbled, other	Limited Resources
<b>Tresspassers</b>	6/17/2012	TN / DAVIDSON	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/18/2012	TX / BEXAR	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/19/2012	CA / RIVERSIDE	Beside track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/19/2012	CA / ALAMEDA	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/19/2012	IA / CRAWFORD	Beside track-Slipped, fell, stumbled, other	Limited Resources
<b>Tresspassers</b>	6/20/2012	IL / COOK	Beside track-Needle puncture/prick/stick	Limited Resources
<b>Tresspassers</b>	6/20/2012	NC / ROBESON	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/20/2012	FL / BREVARD	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/20/2012	GA / ROCKDALE	Beside track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/21/2012	PA / CAMBRIA	Beside track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/21/2012	CA / SAN MATEO	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/22/2012	IN / ALLEN	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/23/2012	MS / HARRISON	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/23/2012	OH / CRAWFORD	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	6/23/2012	NY / ROCKLAND	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/24/2012	MT / MISSOULA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/24/2012	OH / FRANKLIN	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/24/2012	PA / BUCKS	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/25/2012	IL / COOK	On other rail crossing-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/27/2012	NM / SANDOVAL	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/27/2012	NV / CLARK	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/27/2012	WA / COWLITZ	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/27/2012	CA / CONTRA COSTA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/28/2012	CA / ALAMEDA	On track-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	6/28/2012	FL / PALM BEACH	On track-Other (describe in narrative)	Limited Resources
<b>Tresspassers</b>	6/30/2012	CA / RIVERSIDE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Tresspassers</b>	7/1/2012	IL / UNION	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	7/1/2012	MO / ST CHARLES	Between tracks-Struck by on-track equipment	Limited Resources
<b>Tresspassers</b>	7/1/2012	RI / WASHINGTON	On bridge/trestle-Struck by on-track equipment	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Trespassers</b>	7/2/2012	WA / PIERCE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/2/2012	WA / CHELAN	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/2/2012	SC / BERKELEY	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/2/2012	CA / BUTTE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/3/2012	OR / COLUMBIA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/3/2012	AZ / MARICOPA	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/3/2012	CA / LOS ANGELES	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/4/2012	AZ / MOHAVE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/6/2012	NJ / WARREN	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/6/2012	PA / CHESTER	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	IL / DU PAGE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	MI / ST CLAIR	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	TN / CLAIBORNE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	TN / GIBSON	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	SC / MARLBORO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	TX / WISE	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/7/2012	CT / FAIRFIELD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/8/2012	IN / SULLIVAN	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/8/2012	NC / UNION	On track-On track equipment, other incidents	Limited Resources
<b>Trespassers</b>	7/9/2012	MI / GENESEE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/9/2012	NC / BURKE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/10/2012	PA / BEDFORD	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/10/2012	CA / STANISLAUS	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/11/2012	TN / MONROE	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/11/2012	CA / LOS ANGELES	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/11/2012	CT / WINDHAM	Alongside of on-track equipment on ground-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/12/2012	CT / WINDHAM	Alongside of on-track equipment on ground-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/13/2012	OH / STARK	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/13/2012	TX / EL PASO	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/13/2012	AL / MONTGOMERY	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/13/2012	CA / SANTA CRUZ	On bridge/trestle-Pushed/shoved from	Limited Resources
<b>Trespassers</b>	7/14/2012	CA / LOS ANGELES	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/15/2012	CA / SACRAMENTO	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/15/2012	CA / SANTA CLARA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/16/2012	WV / KANAWHA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/16/2012	CA / SAN LUIS OBISPO	Between tracks-Slipped, fell, stumbled, other	Limited Resources
<b>Trespassers</b>	7/17/2012	IL / COOK	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/17/2012	NC / DAVIDSON	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/17/2012	WI / WALWORTH	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/18/2012	KS / SEDGWICK	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/20/2012	TX / HARRIS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/20/2012	FL / PALM BEACH	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/21/2012	NY / SUFFOLK	On track-Other (describe in narrative)	Limited Resources
<b>Trespassers</b>	7/21/2012	PA / PHILADELPHIA	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/21/2012	AZ / COCONINO	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/21/2012	AZ / COCONINO	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/21/2012	CA / MERCED	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/23/2012	MN / HENNEPIN	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/24/2012	NJ / BERGEN	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/24/2012	NC / ROCKINGHAM	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/24/2012	OH / WYANDOT	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/24/2012	CO / MESA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/26/2012	TX / CORYELL	Between tracks-Struck by on-track equipment	Limited Resources

**Appendix A: Accidents Required to be Investigated Under Section 1131 But not Investigated**

<i>Mode</i>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<b>Trespassers</b>	7/26/2012	CA / SANTA BARBARA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/27/2012	IL / ST CLAIR	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/27/2012	TX / TARRANT	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/28/2012	MO / ST LOUIS	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/28/2012	MI / ALLEGAN	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/29/2012	TX / WISE	On highway-rail crossing-Highway-rail collision/impact	Limited Resources
<b>Trespassers</b>	7/30/2012	IL / KANE	Beside track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/30/2012	FL / OSCEOLA	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/31/2012	IL / COOK	On bridge/trestle-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/31/2012	NC / MECKLENBURG	On track-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/31/2012	CA / MERCED	Between tracks-Struck by on-track equipment	Limited Resources
<b>Trespassers</b>	7/31/2012	GA / FULTON	Beside track-Struck by on-track equipment	Limited Resources

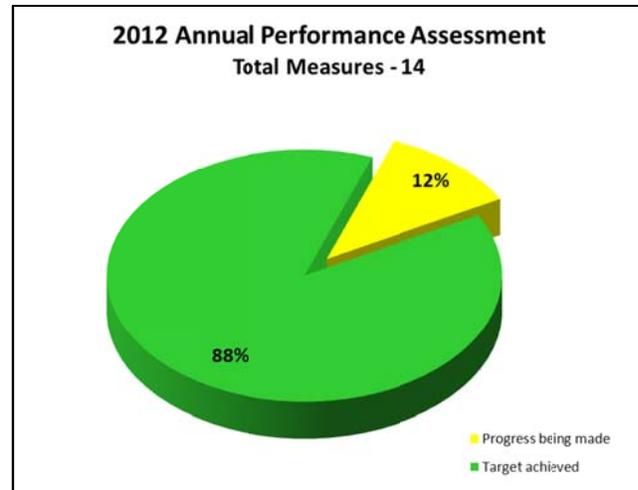
**Appendix B: Accidents Exceeding the Expected Time Allotted for Completion by Board Order**

<b>Mode</b>	<b>ACCIDENT DATE</b>	<b>ACCIDENT LOCATION</b>	<b>ACCIDENT CIRCUMSTANCES</b>	<b>REASON NOT INVESTIGATED</b>
<i>Aviation</i>				
	5/18/2011	Pt. Mugu, CA	Omega Aerial Refueling Services flight crashed on takeoff	Limited Resources
	12/7/2011	Las Vegas, NV	Loss of control of sightseeing helicopter	Unavailability of board meeting date in 2012
	8/26/2011	Mosby, MO	Helicopter EMS accident	Limited Resources
<i>Highway</i>			<i>None to Report</i>	
<i>Marine</i>			<i>None to Report</i>	
<i>Railroad</i>				
	9/1/2010	Coon Rapids, MN	BNSF Roadmaster Struck by Commuter Train	Limited Resources
	9/2/2010	Bridgeport, NJ	Conrail Conductor killed while riding on Tank Car	Limited Resources
	9/4/2010	Mobile, AL	Trainman Fatally Injured in Switching Ops	Limited Resources
	9/30/2010	Two Harbors, MN	Collision of two CN Freight Trains	Limited Resources
	5/24/2011	Mineral Springs, NC	Rear-end collision of two CSX freight trains	Limited Resources
	07/25 & 8/15/2011	Bedford Park / Kansas City	Employee fatalities while switching cars	Limited Resources
	10/7/2011	Tiskilwa, IL	Iowa Interstate Railroad Ethanol train derailment	Limited Resources
<i>Pipeline</i>				
	5/4/2009	Palm City, FL	Rupture of FGT Natural Gas Pipeline	Limited Resources
	6/7/2010	Cleburne, TX	Rupture of Natural Gas Pipeline during excavation	Limited Resources
	9/9/2010	Romeoville, IL	Rupture of Pipeline and Crude Oil release	Limited Resources and Technical Complexity



## NATIONAL TRANSPORTATION SAFETY BOARD 2012 Annual Performance Assessment

The National Transportation Safety Board (NTSB) has achieved 88 percent of its performance targets for fiscal year 2012. NTSB performance is guided by four strategic goals: (1) accomplish objective investigations of transportation accidents, (2) from investigations, recommend and advocate actions that will improve transportation safety, (3) provide outstanding stewardship of resources, and (4) achieve organizational excellence. During fiscal year 2012, agency activities were based on 17 specific strategic objectives and 14 performance measures that cascaded from these four strategic goals and directly related to organizational and employee performance.



Listed below are several of the key performance targets that the agency successfully met:

- The Board adopted 52 products including completed reports, accident briefs, safety studies, safety reports, hearings, forums, and/or responses to proposed rulemakings.
- To raise awareness of emerging safety issues, the Board held the following forums, hearings and completed safety studies: General Aviation Search and Rescue, General Aviation: Climbing to the Next Level, Reaching Zero: Actions to Eliminate Substance-Impaired Driving, Attentive Driving: Countermeasures to Distraction, Oversight of Public Aircraft Operations: Ensuring Safety for Critical Missions, NTSB's Role in International Investigations, Air Race: Air Show Safety, Curbside Motor Safety Report, and Experimental-Amateur Built Aircraft Study.
- The Office of Administrative Law Judges disposed of 75 percent of total cases.

Throughout the year, performance measures were evaluated as the agency continued to develop a targeted set of outcome/results-oriented measures consistent with the NTSB's mission. As a result of this effort, the new 2013 Operating Plan includes 17 performance measures, with 59 percent of those measures focusing on outcomes/results, in accordance with government performance management best practices. The remainder of the measures are classified as either output or efficiency performance measures. The NTSB will continue to evaluate and adjust its performance management program as applicable.

### NTSB Planning Documents

- [2013-2016 NTSB Strategic Plan](#)
- [2010-2015 Information Technology Strategic Plan](#)
- [2011 Annual Report to Congress](#)
- [2011 Performance and Accountability Report](#)
- [2011-2016 Strategic Human Capital Plan](#)