



NTSB

SAFETY ALERT

National Transportation Safety Board

★ Risk Assessment, Driver Distraction, and ★ Seat Belts in Amphibious Passenger Vehicle Operations

The problem

Amphibious passenger vehicles (APV) are large vessel/vehicle hybrids. Their design limits the driver's field of vision when operating on land with respect to surrounding traffic and pedestrians. In addition, APV tours often operate in high-density urban areas with heavy traffic and high numbers of pedestrian intersections, or in high-speed areas. APV tour companies must weigh safety against sightseeing value in selecting an appropriate route.

In addition, many APV drivers conduct or narrate the tour, as well as operate the vehicle, which constitutes a distraction risk. The addition of each auxiliary task can impair a driver's processing of the primary task of driving safely, and focusing on any task other than safe driving impairs performance and can lead to deadly consequences. For safety-critical operations, distraction must be minimized to ensure safe operations. Requiring APV drivers to provide entertainment as well as to drive poses an unacceptable risk of distraction.

Lastly, beginning in November 2016, all newly manufactured non-over-the-road buses, a category into which APVs fall by definition, are required to have seat belts. Although seat belts are necessary to protect APV passengers during the land portions of the tour, to mitigate the risk of impeding emergency marine egress, they must be unbuckled during the water portion of the tour.

Related crashes

- On Thursday, September 24, 2015, about 11:11 a.m., the *DUCK 6* APV, operated by Ride the Ducks of Seattle (RTD Seattle), was traveling north on the Washington State Route 99 Aurora Bridge in Seattle, Washington. At the same time, a 2009 Motor Coach Industries motorcoach was traveling south in the center lane. The *DUCK 6* driver heard a loud noise at the left front of the APV; the vehicle drifted to the right and then veered left suddenly; the driver lost control of the vehicle. The APV crossed the centerline into the southbound lanes of oncoming traffic and struck the motorcoach. Three other vehicles were damaged during the crash event: a southbound 2011 Ram Trucks pickup truck and two northbound vehicles—a 2006 Toyota Highlander sport utility vehicle and a 2007 Toyota Tundra pickup truck. As a result of this crash, five motorcoach passengers died. Seventy-one motorcoach and APV occupants reported injuries ranging from minor to serious. (HWY15MH011)

- On Saturday, April 30, 2016, about 11:40 a.m., the 2009 37-passenger *PENELOPE PRU* APV, operated by Boston Duck Tours, was stopped for a red signal on Charles Street at the traffic-light-controlled intersection with Beacon Street in downtown Boston, Massachusetts. The *PENELOPE PRU* was occupied by a 41-year-old male driver and 27 passengers. Stopped just in front of the APV was a 2013 Lance Havana Classic 50 motor scooter, ridden by a 29-year-old female operator and a male passenger. When the light turned green, both the motor scooter and APV accelerated from the stop bar on Charles Street and turned right (eastbound) onto Beacon Street. The *PENELOPE PRU* accelerated onto Beacon Street at a faster rate than the scooter, and it overrode the scooter about 50 feet from the intersection. The scooter and both its riders were knocked to the pavement; the female operator was killed, and the male passenger was injured. (HWY16FH010)

What can APV operators and permitting authorities do?

- Disconnect your drivers from non-mission-critical tasks by providing a secondary crewmember to be responsible for tour narration and entertainment.
- Isolate situations in which driver distraction could occur, and provide steps to eliminate, reduce, or mitigate these situations during all tour operations.
- Emphasize the potential safety threat of distraction during driver and tour guide training, and highlight countermeasures in company manuals and policies.
- Determine the existence of potential route hazards (such as traffic conditions and density, vehicle characteristics, and speeds).
- Select routes to mitigate risk and avoid preventable crashes.
- Tell passengers during pretrip safety briefings to remove their seat belts when the APV enters the water portion of the tour.
- Institute a visual inspection process by which the deckhand or captain verifies that all passengers have unbuckled their seat belts prior to water entry.

Interested in more information?

With respect to the September 24, 2015, crash in Seattle, on March 17, 2016, the Washington Utilities and Transportation Commission (WUTC) assessed a total penalty of \$308,000 against RTD Seattle. The WUTC suspended \$152,000 of the penalty on the condition that RTD Seattle commits no new violations of the laws, as specified in their agreement, for 24 months, beginning May 3, 2016. (See www.utc.wa.gov/docs/Pages/recordsCenter.aspx and search for filing TE-151906.) The Federal Motor Carrier Safety Administration issued a separate Notice of Claim to RTD Seattle for \$10,890 in civil penalties.

The NTSB's Seattle highway accident report (NTSB/HAR-16/02) is available online at www.nts.gov/investigations/AccidentReports/Pages/highway.aspx. Investigative information for the Boston crash is accessible from the NTSB's Docket Management System web page at www.nts.gov/investigations/SitePages/dms.aspx; search for NTSB accident ID HWY16FH010.

Additional information on distraction in commercial transportation accidents may be found on the Most Wanted List web page on the NTSB website at www.nts.gov/safety/mwl/Pages/mwl8-2017-18.aspx.

This NTSB Safety Alert (SA-059) and others can be accessed from the NTSB's Safety Alerts web page on the NTSB website at www.nts.gov/safety/safety-alerts/Pages/default.aspx.

Information on the US Department of Transportation's National Highway Traffic Safety Administration (NHTSA) final rule requiring lap and shoulder seat belts for each passenger and driver seat on new motorcoaches and other large buses can be accessed from NHTSA's website at www.nhtsa.gov with docket number NHTSA-2013-0121. NHTSA's final rule amending Federal Motor Vehicle Safety Standard 208 requires, starting in November 2016, that newly manufactured buses (considered non-over-the-road) with a gross vehicle weight rating greater than 26,000 pounds be equipped with lap and shoulder belts for each passenger seat. Title 49 *Code of Federal Regulations* 571.3(b) defines a bus as "a motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons."