



**NATIONAL TRANSPORTATION SAFETY BOARD
Public Meeting of April 21, 2009
(Information Subject to Editing)**

**Highway Accident Report
Motorcoach Run-Off-the-Road and Rollover
U.S. Route 163, Mexican Hat, Utah
January 6, 2008
NTSB/HAR-09/01**

This is a synopsis from the Safety Board's report and does not include the Board's rationale for the conclusions, probable cause, and safety recommendations. Safety Board staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing.

EXECUTIVE SUMMARY

On January 6, 2008, about 3:15 p.m. mountain standard time, a 2007 Motor Coach Industries 56-passenger motorcoach with a driver and 52 passengers on board departed Telluride, Colorado, en route to Phoenix, Arizona, as part of a 17-motorcoach charter. The motorcoach passengers were returning from a 3-day ski trip. The normal route from Telluride to Phoenix along Colorado State Route 145 was closed due to snow, and the lead driver planned an alternate route that included U.S. Route 163/191 through Utah.

About 8:02 p.m., the motorcoach was traveling southbound, descending a 5.6-percent grade leading to a curve to the left, 1,800 feet north of milepost 29 on U.S. Route 163. After entering the curve, the motorcoach departed the right side of the roadway at a shallow angle, striking the guardrail with the right-rear wheel and lower coach body about 61 feet before the end of the guardrail. The motorcoach traveled approximately 350 feet along the foreslope (portion of roadside sloping away from the roadway), with the right tires off the roadway. The back tires lost traction as the foreslope transitioned into the drainage ditch. The weather was cloudy, and the roadway was dry at the time of the accident.

The motorcoach rotated in a counterclockwise direction as it descended an embankment. The motorcoach overturned, struck several rocks in a drainage ditch bed at the bottom of the embankment, and came to rest on its wheels. During the 360° rollover sequence, the roof of the motorcoach separated from the body, and 51 of the 53 occupants were ejected.

As a result this accident, 9 passengers were fatally injured, and 43 passengers and the driver received injuries ranging from minor to serious.

CONCLUSIONS

1. The driver was neither distracted by his cellular telephone nor impaired by illicit drugs at the time of the accident.
2. Although it was unlikely that the driver was under the influence of alcohol, the delay in collecting a toxicological specimen prevents the Safety Board from conclusively ruling out alcohol as a factor in this accident.
3. The weather at the time of the accident was not a factor in the motorcoach's departure from the roadway.
4. Neither the mechanical condition of the motorcoach nor the design and condition of the highway were factors in this accident.
5. The driver was experiencing diminished alertness and fatigue-related impairment due to inadequate sleep resulting from the following factors: head congestion, possible problems acclimating to high altitude, and his sporadic use of his continuous positive airway pressure sleeping device during the accident trip.
6. The motorcoach was traveling approximately 88 mph in a 65-mph speed zone when the driver departed the road and lost control of his vehicle.
7. The driver's fatigue affected his monitoring of the motorcoach's speed.
8. The driver's reaction to the motorcoach's departure from the roadway was delayed and, by the time he executed corrective steering action, he had lost control of the vehicle.
9. None of the driver's preexisting medical conditions, except for sleep apnea, played a role in this accident.
10. Both Arrow Stage Lines and its drivers knew of the adverse weather conditions before starting the accident trip and thus intentionally engaged in a trip that would likely exceed hours-of-service regulations.
11. Arrow should have developed contingency plans to avoid hours-of-service violations associated with the return trip.
12. Because of the National Highway Traffic Safety Administration's delay in defining motorcoach occupant protection performance standards, U.S. motorcoaches have not been equipped with such systems, leaving the traveling public inadequately protected during motorcoach crashes, particularly during rollovers.
13. Basic wireless service capability is needed along high-risk rural roads and along rural roads frequently traveled by large buses to enable wireless telephone notification of accidents and emergencies.
14. Until wireless capability is extended along highly traveled rural roads, motor carriers servicing rural areas without wireless telephone coverage remain at risk of being unable to report an accident or emergency in those locations.
15. The regionalization of medical care relies on air medical support to accomplish timely long-distance patient transport without adequate contingency plans when air medical services are not available because of weather or equipment limitations.

16. Although the emergency medical service mutual aid drawn from around the region was well coordinated, long-distance ground travel delayed the availability of advanced life support care.
17. The lack of adequate data on large bus travel in rural areas—especially data related to charter and tour bus activity, travel patterns, and routes—severely limits a State’s ability to assess rural road travel and hazardous locations, especially in remote areas where a tour or charter bus accident can result in large numbers of injured.

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of this accident was the driver’s diminished alertness due to inadequate sleep resulting from a combination of head congestion, problems acclimating to high altitude, and his sporadic use of his continuous positive airway pressure sleeping device during the accident trip. The driver’s state of fatigue affected his awareness of his vehicle’s excessive speed and lane position on a downhill mountain grade of a rural secondary road. Contributing to the accident’s severity was the lack of an adequate motorcoach occupant protection system primarily due to the National Highway Traffic Safety Administration’s delay in developing and promulgating standards to enhance the protection of motor coach passengers.

RECOMMENDATIONS

New Recommendations

To the Federal Interagency Committee on Emergency Medical Services:

1. Develop a plan that can be used by the States and public safety answering points to pursue funding for enhancements of wireless communications coverage that can facilitate prompt accident notification and emergency response along high-risk rural roads, as identified under SAFETEA-LU criteria, and along rural roads having substantial large bus traffic (as defined by the criteria established in Safety Recommendation 4). (H-09-XX)
2. Evaluate the system of emergency care response to large-scale transportation-related rural accidents and, once that evaluation is completed, develop guidelines for emergency medical service response and provide those guidelines to the States. (H-09-XX)

To the Utah Bureau of Emergency Medical Services:

3. Establish written contingency plans for response to large-scale transportation-related emergencies along rural roads traveled by tour and charter buses, such as occurred in Mexican Hat, Utah, that cannot be handled by air medical services due to inclement weather. (H-09-XX)

To the Federal Highway Administration:

4. Develop and implement, in conjunction with the American Association of State Highway and Transportation Officials and the National Association of State Emergency Medical Services Officials, criteria based on traffic patterns, passenger volume, and bus types that can be used to assess the risks of rural travel by large buses. Use this criteria as part of the SAFETEA-LU requirement to identify and select Highway Safety Improvement Program projects. (H-09-XX)

To the American Association of State Highway and Transportation Officials and to the National Association of State Emergency Medical Services Officials:

5. Work with the Federal Highway Administration and the National Association of State Emergency Medical Services Officials to develop and implement criteria based on traffic patterns, passenger volume, and bus types that can be used to assess the risks of rural travel by large buses. (H-09-XX)

To the American Bus Association and to the United Motorcoach Association:

6. Inform your members through Web sites, newsletters, and conferences of the circumstances of the Mexican Hat, Utah, accident. The prepared information should encourage charter operators to develop written contingency plans for each charter to ensure that trip planning is in place in the event of driver fatigue, incapacitation, or illness or in the event of trip delays necessitating replacement drivers to avoid hours-of-service violations and inform drivers of their trip's contingency plans. The prepared information should also provide information about the risks of operating in rural areas without wireless telephone coverage and advise members to carry mobile cellular amplifiers or satellite-based devices to communicate emergency events. (H-09-XX)

To Arrow Stage Lines:

7. Develop written contingency plans for each charter to ensure that trip planning is in place in the event of driver fatigue, incapacitation, or illness or in the event of trip delays necessitating replacement drivers to avoid hours-of-service violations and inform drivers of their trip's contingency plans. (H-09-XX)

Reiterated Recommendations

The National Transportation Safety Board reiterates the following recommendations:

To the Federal Motor Carrier Safety Administration:

Require all interstate commercial vehicle carriers to use electronic on-board recorders that collect and maintain data concerning driver hours of service in a valid, accurate, and secure manner under all circumstances, including accident conditions, to enable the

carriers and their regulators to monitor and assess hours-of-service compliance. (H-07-41)

Recommendations Reclassified by This Report

To the National Highway Traffic Safety Administration:

In 2 years, develop performance standards for motorcoach occupant protection systems that account for frontal impact collisions, side impact collisions, rear impact collisions, and rollovers. (H-99-47)

Once pertinent standards have been developed for motorcoach occupant protection systems, require newly manufactured motorcoaches to have an occupant crash protection system that meets the newly developed performance standards and retains passengers, including those in child safety restraint systems, within the seating compartment throughout the accident sequence for all accident scenarios. (H-99-48)

In 2 years, develop performance standards for motorcoach roof strength that provide maximum survival space for all seating positions and that take into account current typical motorcoach window dimensions. (H-99-50)

Once performance standards have been developed for motorcoach roof strength, require newly manufactured motorcoaches to meet those standards. (H-99-51)

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