



NTSB National Transportation Safety Board

Office of Highway Safety

Human Performance

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Human Performance Issues

- General information
- Driver's head congestion
- Accident trip
- DriveCam II data
- Summary

General Driver Information

- Valid license, years of experience
- 71 years old with valid medical certificate
- Obstructive sleep apnea (OSA) in personal medical records
- Reported head congestion in the 3 days prior to accident trip

Driver's Head Congestion

- Runny nose, head congestion
- Driver believed he had cold
- 7,000+ foot altitude change
- Consistent with altitude sickness
- Congestion interfered with use of CPAP device while in Telluride
- Sleep quality poor

The Accident Trip

- Awoke 6:45 a.m., began trip at 3:15 p.m.
- Stopped to remove chains from bus
- Interviewed passengers said:
 - Drifted onto shoulder
 - Steering caused objects to slide
 - Passengers concerned about speed

DriveCam II System

- Forward view
- Audio
- Forward/lateral acceleration
- Interior view
 - No hands, steering wheel
 - 20 seconds (10 before crash)



DriveCam II Interior Video

- Cannot tell if driver showing signs of fatigue
- Two steering inputs to the left
- Objects in motorcoach move and passengers react
- Driver only reacts as crash occurs—after passengers

Summary

- Reduced quality sleep 3 nights prior to crash
- Long day with long period of vigilance
- Vehicle's excessive speed
- Reduced situational awareness
- Slowed/delayed reactions



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