NTSB Highway Investigations: Process and Strategies

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Senior Accident Investigator
Human Performance
Office of Highway Safety

- Total staff of 30 managers, investigators, writers, and support staff
- Headquartered in Washington, DC
  - Some regional teleworkers
- Crashes of national interest are monitored 24-7 from the NTSB’s Response Operations Center located at HQ
Types of Highway Crash Investigations

Miriam, NV 6/14/12

Gray Summit, MO 8/5/10

New York, NY 9/12/11

Minneapolis, MN 8/1/07
The Launch

- Staff travel from HQ and regional telework locations to crash scenes anywhere in the U.S.
- Typically on-scene ~ 5 to 14 days
- Parties typically include:
  - Law enforcement
  - Motor carriers
  - State highway organizations
  - Vehicle and component manufacturers

Osseo, WI 10/16/05
Not there to...

• Take over the investigation
• “Oversee” the investigation
• Slow the process
The Team

Investigator-in-Charge (IIC)

- Human Performance
- Survival Factors
- Vehicle Factors

- Motor Carrier Operations
- Highway Factors

- Event Data Recorders
- Scene Mapping/Diagramming
Highway Group

- Looks at:
  - Initial Design of roadway
  - Modifications
  - Maintenance
  - Accident history
  - ADT
  - Roadway evidence
  - Traffic Control Devices

- Information from:
  - DOT
  - Law enforcement
  - MUTCD
  - Roadside Design Guide
  - AASHTO Geometric Design Guide
Motor Carrier Group

**Looks at:**
- Logbooks
- DVIRs
- DQ file(s)
- DOT D&A testing
- Company policies
- FMCSA rating

**Information from:**
- Company staff
- Company records
- FMCSA
- Driver licensing
- Law enforcement
Vehicle

• Looks at:
  • Crash damage
  • Pre-crash condition
  • Maintenance
  • Recalls

• Information from:
  • Vehicle inspection
  • Owner records
  • Law enforcement
Survival Factors

• Looks at:
  • Injuries
  • Injury causes
  • Emergency response

• Information from:
  • Responders
  • CAD
  • Run sheets
  • Hospital records
  • Autopsies
  • Law enforcement
Human Performance

- **Looks at:**
  - Fatigue
  - Distraction
  - Psychology
  - Meds/Drugs
  - Medical conditions
  - Weather
  - Illumination

- **Information from:**
  - Driver
  - Family/Friends
  - Witnesses
  - Doctors
  - Toxicology
  - Cell records
  - USNO
  - Law enforcement
Investigating Distraction

• Is there a source of distraction?
  • AM/FM/XM/CB radio
  • Personal electronics (cell phone)
  • GPS/Maps
  • Dispatch
  • Passengers
  • Billboards/signs
  • Crashes/other cars

• What kind of distraction?
Questions to ask

• What’s installed in vehicle?
• What was brought in?
• Who was in the vehicle?
• What was going on outside?
Challenges & Techniques

- No independent record
  - Interviews - early
- Cell activity – meaning? Recorded?
  - Physical phone
- Related to driving?
  - Programming, area of interest
- Recreating conditions
  - Other agencies, news, locals