Recreating the Unknown: Major Impaired Driving Crash Investigation & Reconstruction

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Who is the NTSB?

- Independent Federal Agency
- Aviation, Marine, Rail, and Highway
- Headquartered in Washington, DC
  - 400 staff nationwide
- Mission: Independently Advancing Transportation Safety
Multi Modal
- Improve Rail Transit Safety Oversight
- Ensure the Safe Shipment of Hazardous Materials
- Increase Implementation of Collision Avoidance Technologies
- Strengthen Occupant Protection
- Prevent Loss of Control In Flight In General Aviation
- Eliminate Distractions
- Require Medical Fitness
- Expand Recorders Use to Enhance Safety
- Reduce Fatigue-Related Accidents
- End Alcohol and Other Drug Impairment
End Alcohol and Other Drug Impairment in Transportation

ROADMAP TO REACHING ZERO

- Lower BAC limit
- Increased use of high-visibility enforcement
- Use of in-vehicle alcohol detection technology

- Ignition interlocks for all offenders
- Enhanced use of Administrative License Actions

- Target repeat offenders
- Use of DWI Courts
Who is the Highway Division?

- Total staff of 30 managers, investigators, writers, and support staff
- Crashes monitored 24-7 from NTSB’s Response Operations Center
- Ready to “Launch” at a moment’s notice
What to Expect On-scene

Typically on-scene
- Within 12 to 24 hrs
- For 7 to 10 days

We work with:
- Law enforcement
- Motor carriers
- State highway organizations
- Vehicle and component manufacturers

Party Process

NTSB

Facts

Law Enforcement

Motor Carriers

State DOTs

Manufacturers
Highway’s Multidisciplinary Team

- Investigator-in-Charge (IIC)
- Human Performance
- Survival Factors
- Vehicle Factors
- Motor Carrier Operations
- Highway Factors
- Data Recorders
- Scene Mapping/Diagramming
On-scene Meetings

- Progress meeting each day
- Attended by Party representatives
- NTSB group chairman present daily findings
- Held until Close-out meeting
The Final Product

- Report Development
  - Testing / Research
  - Follow trips
  - Writing
- Report Types
  - Close out
  - Brief (w/ or w/o recs)
  - Full Report – Board Meeting

1 year from accident date
Multivehicle Work Zone Crash on Interstate 75
Chattanooga, Tennessee
June 25, 2015
Location
Crash Description
Crash Scene

Source: Chattanooga PD
Final Rest Position

Source: Chattanooga PD
Final Rest Position

Source: Chattanooga PD
Injured

- 6 Fatal
- 4 Injured
  - 1 Serious
  - 3 Minor
- 8 Uninjured
Driver Performance

- Excessive speed
- Clear visibility of roadway for about a mile
- Visual cues in place to warn drivers
- No evasive steering
- No emergency brake application
Driver Fatigue

- 40 hours of wakefulness
- 10 hours of sleep opportunity
- 14.5 hours awake and driving
# Information Indicating Drug Use

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Drug Test History

- July 2013 positive for oxymorphone (urine)
- May 15, 2015 positive for methamphetamine (hair)
- June 16, 2015 negative urine drug test
- June 25, 2015 positive for methamphetamine (blood)
- June 27, 2015 negative urine drug test
Toxicology Testing

A partially used bottle of a “total body cleanser” was found in the sleeper berth area of the accident truck.

Several websites recommend this product to help pass a drug test after having used drugs.
Probable Cause

- the truck driver’s failure to respond to the slow-moving traffic within a work zone because of performance decrements associated with fatigue and methamphetamine use.
Safety Recommendations

• FMCSA – Pre-Employment Screening and Hair Drug Testing
• FHWA – Guidance for Work Zone Projects
• Kentucky and Idaho DMV – License Reporting
• TN DOT and Highway Patrol – Work Zone Procedures
Investigating Crashes Involving Synthetic Drugs

(Davis, Oklahoma)

2018 Lifesavers Conference
Dennis Collins
Crash Location

Map showing the crash location near Davis, Oklahoma on I-35.
Roadway Departure
Impact Location

Champion bus
Vehicles at Final Rest

Scene Photographs: Oklahoma Highway Patrol
Truck Driver’s Statement

• Written statement to Oklahoma Highway Patrol that he was reaching into a cooler, lost control, ended up in the brush

• Any issues with that?
  • Went over 1,100 feet in median (10+ seconds) with no evidence of steering or braking
  • Made no mention of striking bus
  • Accelerator fully depressed AFTER impact
Search of the Truck

Photograph: Oklahoma Highway Patrol
Driver’s Previous Supervisor

- Contacted investigators
- Driver missing work, lethargic, and forgetful
- Driver admitted using “K2”
- Insisted substance was legal and would not show on DOT tests
Driver’s Medical Records

• Wife called doctor
  • Driver smoking “K2” - synthetic
  • “Can’t leave it alone”
  • “Seizure-like” behavior

• Driver told provider he was using synthetic drugs, including while working
Laboratory Testing

- Frequent communication with laboratory
- “5-flouro-AMB”
  - Synthetic cannabinoid
Synthetic Cannabinoids

- Stimulate the same receptors as THC
- Synthesized in the 1980s for research and not as natural substitutes for marijuana
- Manufactured overseas, sold as “herbal incense” or “potpourri”
- “Not for human consumption”
Synthetic Cannabinoids

- Hundreds of different names:
  - Spice
  - K2
  - Mellow Mood
Synthetic Cannabinoid Effects

- No product consistency
- Symptoms vary widely:
  - Euphoria
  - Psychosis
  - Nonresponsiveness
  - Seizures
  - Death

- Jan-April 2015; 330% increase (349 to 1,501) in poison control calls for symptoms related to SCs use
- Increase in deaths
Testing is a Problem

- New drug class
- Over 170 different synthetic cannabinoids have been identified
  - May be hundreds more
- Drug Enforcement Administration (DEA) Schedule I
  - 25 synthetic cannabinoids listed
  - Elusive target
Synthetic Cannabinoid Structure

5-fluoro-AMB
In pipe

ADB-Pinaca
Schedule I Drug
Lessons Learned

• Evidence of Impairment
  • Statement/evidence inconsistent
  • Physical signs

• Normal procedures work!
  • Search of truck & ECM data

• Other sources of information

• Lab may not be able to confirm
Investigating Crashes Involving Prescription Drugs

(Cooper Township, Michigan)

2018 Lifesavers Conference
Dennis Collins
Chevrolet Driver

• Three calls to 9-1-1 starting 22 minutes before crash
  • 6:07 pm – erratic driver
  • 6:09 pm – speeding on wrong side
  • 6:19 pm – hit and run
  • 6:29 pm – cyclist crash
Chevrolet Driver - continued

- Exited vehicle; 100-150 ft. away
- Swaying, balance, falling
- Unresponsive; no discernable words
- Under the influence and placed in custody
- Became combative; sedated
- Blood sample via search warrant
The Pickup

- Searched:
  - Alcohol
  - Green Plant Material
  - Prescription Drugs (Spanish labels)
Toxicology

- No alcohol
- THC-COOH
- Amphetamine
- Methamphetamine
- Hydrocodone
- Tramadol
- O-desmethyltramadol
- Ketamine
- Cyclobenzaprine
Witness

- Known driver for ~2 years
- With driver when began driving
- Stated driver had history of drug use
- Took “16-20” Flexeril and “at least 10” Tramadol and drove away
Lessons Learned

• Initial observations
• Standard police tasks
• Obvious not always true
• Legal drugs can be bad
• Toxicology easier
• Polypharmacy
Use of the Drug Recognition Expert in Fatal Crash Investigations

Deputy Frank Sloup
Pinal County Sheriff’s Office
Florence, Arizona
The Drug Recognition Expert Program

• A drug recognition expert (DRE) is a law enforcement officer trained to recognize impairment in drivers under the influence of drugs other than, or in addition to, alcohol.

History of the Program

• The Los Angeles Police Department (LAPD) originated the DRE program in the early 1970s in response to contacting drivers who were obviously impaired but returned at little or no alcohol levels.
The Drug Recognition Expert (DRE) Program cont.

• LAPD Sergeant Studdard along with others from within the department established a standardized procedure to recognize and document drug influence and impairment.

• These procedures were developed to be simple and both standardized and systematic.

• In 1979, this program was officially adopted by the LAPD.
The Drug Recognition Expert (DRE) Program cont.

The DRE Program has been validated in both the Laboratory and the Field

- During the laboratory study (Johns Hopkins University) subjects were dosed with Marijuana, Secobarbital (Seconal, a barbiturate CNS Depressant), Diazepam (Valium, a benzodiazepine CNS Depressant) and dextroamphetamine (Dexedrine, a CNS Stimulant)

- DRE Officers correctly identified 98.7% of subjects impaired by high doses
The Drug Recognition Expert (DRE) Program cont.

- LAPD and the National Highway Traffic Safety Administration (NHTSA) collaborated on the development of the DRE Program

- In 1987 the Drug Evaluation and Classification (DEC) pilot program was initiated in Arizona, Colorado, New York and Virginia.

The DRE Program makes the following determinations:
1. Alcohol level does not match impairment
2. Ensures impairment is not caused by a medical condition
3. Determines category of drug(s) causing impairment
We don’t call a drug, we call a **DRUG CATEGORY**!
• Beginning in 1989, IACP and NHTSA expanded the DEC Program across the country. Currently, all 50 states, the District of Columbia, Canada, and several other countries around the world participate in the DEC Program.

• In 1995, the first Annual IACP Training Conference on Drugs, Alcohol, and Impaired Driving was held in Phoenix, AZ. Since then every year the conference is attended by DREs, DUI enforcement officers, prosecutors, toxicologists and other highway safety advocates.
There are many ways to skin a cat!

• The following sequence of events is ONE possible way to handle this type of investigation.

• There are many other options which could lead to the same conclusion, this is just the way I’ve seen the best results using the resources at hand.
The Call-Out

DREs should be called-out as part of Fatal Accident Team

- Traffic Supervisor should call out 2 DRE’s as part of initial response to a fatal collision
- Possibly sent directly to hospital for evaluation
- Needed coordination between investigators at the scene
DREs and Fatal Collisions

Benefits

• Two evaluators looking for possible impairment
• Takes workload from collision investigators
• Expert-level observations for search warrant affidavit
• Ability to obtain evidence otherwise overlooked
DREs and Fatal Collisions cont.

Negatives

- Requires certifications to be maintained
- Requires additional manpower
- Possible coordination needed from multiple divisions
- Burns out DREs with call-outs
The Evaluation

The typical Drug Influence Evaluation is a standardized and systematic 12 step process used by certified DREs to eliminate a medical condition and identify a drug category(s) causing the observed and documented impairment.
The Evaluation cont.

DRE’s will respond to the location(s) of drivers involved in the collision(s):

- Scene
- Hospital
- BOTH?

TIME IS OF THE ESSENCE!!!
The Evaluation cont.

Investigators at the scene work to identify the at-fault vehicle while DREs evaluate driver(s) to determine impairment.

DRE’s may find impairment in:
- either driver
- both drivers
- neither driver
DREs conduct preliminary evaluations to determine if probable cause exists to detain and evaluate driver(s)
If impairment is identified, DREs will obtain information from the investigators at the scene to author a search warrant.

The search warrant will be for BOTH:

1. A portion of the hospital blood
2. Blood drawn by law enforcement specifically to be tested and used to prosecute the driver.
The Evaluation cont.

DREs should be phlebotomy trained!! This allows the DRE to perform their own blood draws and eliminate the need for the hospital staff to become “agents of the state.”
• If Vehicular Crimes detectives are not able to come to the hospital, DREs may also conduct preliminary interviews (under Miranda)
Examination of Other Evidence

- DREs can examine other evidence such as Body Worn Camera Video or Interview footage to evaluate the subject for possible signs and symptoms of drug/alcohol impairment.

Obvious signs of impairment:
- "On the nod"
- Pupils: Dilated, Constricted, Ptosis

Speech patterns / Admissions
The OTHER Stuff

Other things to think about during the course of call-outs:

• Supplements must be written

• Evidence must be impounded

• OVERTIME **MUST** BE PAID
  • Grants?
  • Call-out budget?

Who has an endless budget?

(Ken Does)
The Most Important Parts

DRE’s used in conjunction during a Fatal Collision Investigation exponentially increase the likelihood of a conviction.

Teamwork and communication are absolutely critical aspects of this equation.

Continuing Training is non-negotiable for the entire Fatal Collision Investigations Team in their respective specialties.

State laws and/or policies may need to be rewritten or changed (i.e.: eWarrant, LEO Phlebotomy, mandatory chemical testing).
eWarrant Information

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623-640-0250
Contact Information:

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"Stop a Murder in Progress: Arrest the Impaired Driver"
Thank you

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