CRASH SCENE EVIDENCE COLLECTION

Applications by Maine State Police

CRASH SCENE EVIDENCE COLLECTION

- What is Important Crash Scene Evidence?
  - Tire Marks
  - Roadway Gouges / Scrapes
  - Seatbelts / Airbags
  - Vehicle Debris
  - DNA
  - Cell Phones
  - Airbag Control Modules (Black Box)
  - Anything/Everything!

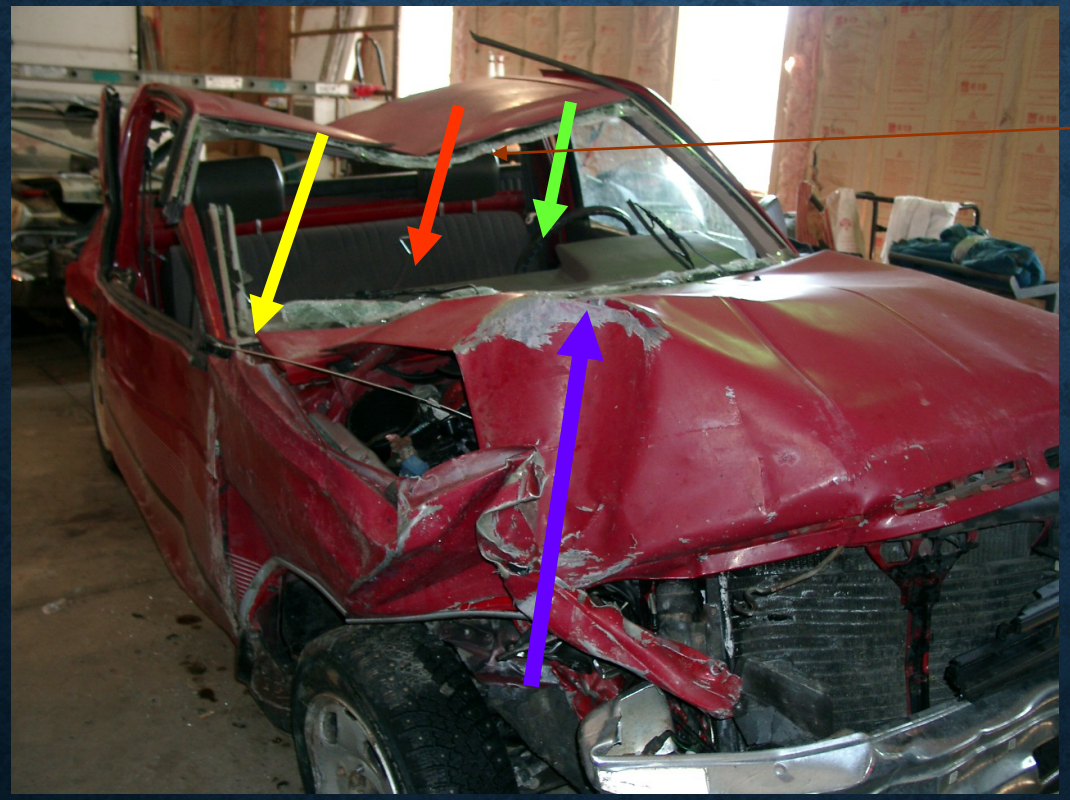
CRASH SCENE EVIDENCE COLLECTION

- What Does Evidence Show?
  - Vehicle Speed
  - Area of Impact (Who is at fault)
  - Who was Driving
  - How / Why Crash Occurred


EXIT
17


(C) Collision Safety Institute 2004

VEHICLE DAMAGE/OCCUPANT INJURIES



Blood

Direction of Force In

Direction of Driver

Direction of Middle Pass.

Direction of Rt. Pass

CRASH SCENE EVIDENCE COLLECTION

- How Is Crash Scene Evidence Collected?
  - Photographs
  - Hand Measurements
  - Forensic Mapping Equipment
  - Drones (UAVs)

UAV BACKGROUND:

- 2017 – State Legislature passes bill to allow the use of Unmanned Aerial Vehicles for Law Enforcement
- May 2017 – MSP trained 3 Crash Reconstruction Experts and 2 Pilots in UAV operation.
- June 2017 – Purchased 3 DJI Matrice 200 UAV's for Crash Reconstruction purposes
- To Date –
  - 77 Crash Reconstruction Mapping Flights
  - 24 Crime Scene Mapping Flights
  - 7 Fire Scene Mapping Flights
  - 27 Search/ Tactical Flights

CRASH SCENE EVIDENCE COLLECTION

- Scene Documentation

CRASH SCENE EVIDENCE COLLECTION

- Scene Analysis

BENEFIT OF UAV OVER TRADITIONAL METHODS

- Time on Scene
  - The longer the roadway is obstructed, the greater the risk of secondary crashes.
  - Roadway shutdowns have a huge economic impact
  - Shutdowns place tremendous strain on public safety assets and can hinder a response in an emergency

BENEFIT OF UAV OVER TRADITIONAL METHODS

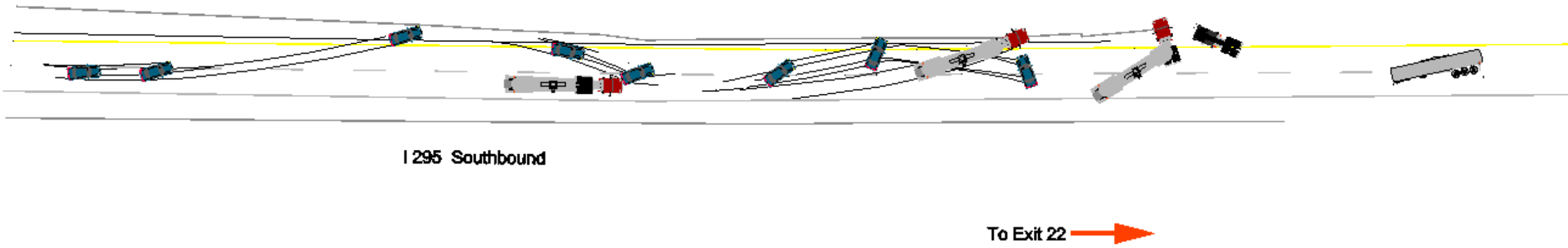
- Time on Scene
  - A Typical Forensic Mapping takes 1 to 2 hours and we collect 200 – 300 points. Roadway must typically be shut down for officer safety.
  - The UAV can collect 100 to 200 photographs which can generate a point cloud containing millions of points in a 10 –15-minute flight. Roadway can generally stay open.

BENEFIT OF UAV OVER TRADITIONAL METHODS

- Time on Scene
  - The UAV doesn't care about scene complexity

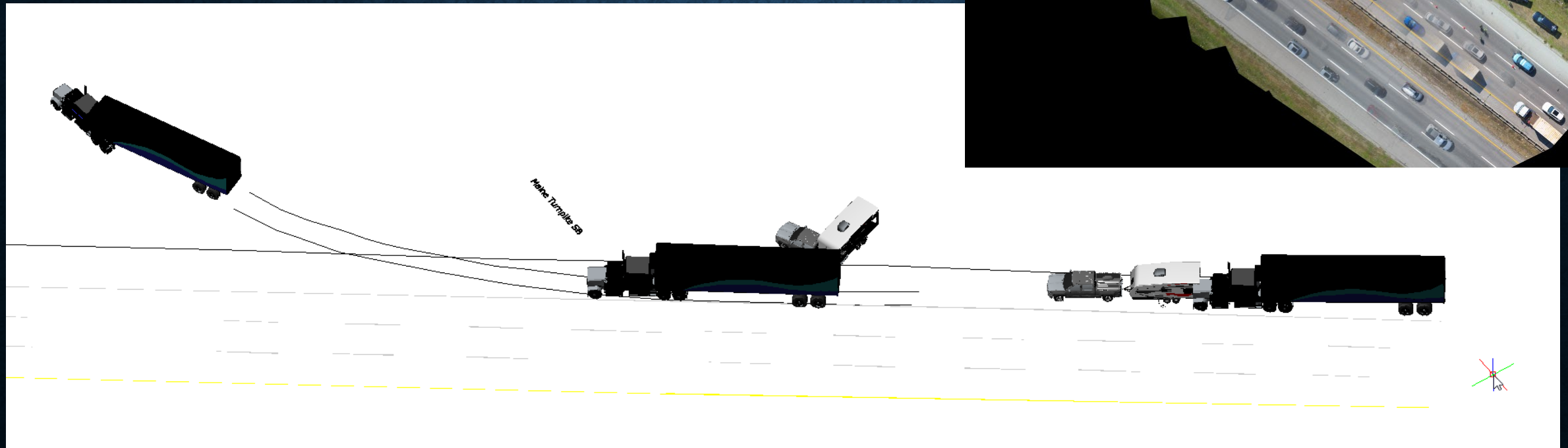
BENEFIT OF UAV OVER TRADITIONAL METHODS

- Time On Scene Mapping: 3 Hours
- Road completely shut down 1 hour
- Traffic in shoulder 3 hours



BENEFIT OF UAV OVER TRADITIONAL METHODS

- UAV set up- 15 minutes
- UAV Flight Time – 11 minutes
- 2 lanes of travel fully left open



ADDITIONAL UAV USES

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