Crash Overview

David Pereira
Investigator-in-Charge
Crash Overview

- Sunday, March 18, 2018
- 9:58 p.m.
- Tempe, Arizona
- North Mill Avenue
- Automated test vehicle
- Night, dry, illuminated roadway
- 1 fatality, pedestrian
Crash Overview

- Test vehicle based on modified 2017 Volvo XC90
- Uber ATG developmental automated driving system (ADS)
- Female operator occupied driver’s seat
- Test vehicle was under ADS control
Uber ATG Test Vehicle

- 2017 Volvo XC90 met all required FMVSS
- No standards or performance protocols for ADS
- Adding ADS did not invalidate pertinent FMVSS
- Uber ATG test vehicle met all federal requirements
Crash Sequence

44.8 MPH 4.2 s to impact
44.6 MPH 2.6 s to impact
43.2 MPH 1.2 s to impact

Pedestrian Position 1.2 s to impact

39 MPH impact
Investigative Staff

- David Pereira - IIC/ Vehicle Factors Investigator
- Michael Fox - Operations Investigator
- Rafael Marshall, PhD - Human Performance Investigator
- David Rayburn - Highway Factors Investigator
- Robert Squire - Technical Reconstructionist
- Mary Pat McKay, MD - Medical Officer
- Sean Payne - Vehicle Recorders
- Jennifer Morrison* - IIC
- Jane Foster* - Vehicle Recorders
- Nicholas Webster, MD* - Medical Officer

(* has since left the NTSB)
Report Development Staff

• Ensar Becic, PhD - Project Manager
• Charlotte Cox - Writer / Editor
• Eric Weiss - Media Relations
• Ivan Cheung, PhD - Mapping
• Julie Perrot - Safety Recommendations
Parties to Investigation

- Arizona Department of Transportation (DOT)
- Uber ATG
- Volvo Car Group
- Volvo Car USA LLC
Safety Issues

• Uber ATG’s inadequate safety culture
• Need for safety risk management requirements for testing automated vehicles on public roads