

National Highway Traffic Safety Administration

USA: Rulemaking and Research Priorities

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Developing Standards

- Based on relevant vehicle safety information
 - Real world crash, death and injury data
 - Research
- Meet a safety need
- Be practicable
 - (Technologically and economically)
- Objectively measurable compliance
- Performance-oriented
 - (Not unnecessarily design restrictive)
- Appropriateness of standard for each vehicle type
- Developed through public process: notice of proposal published and opportunity for public to comment

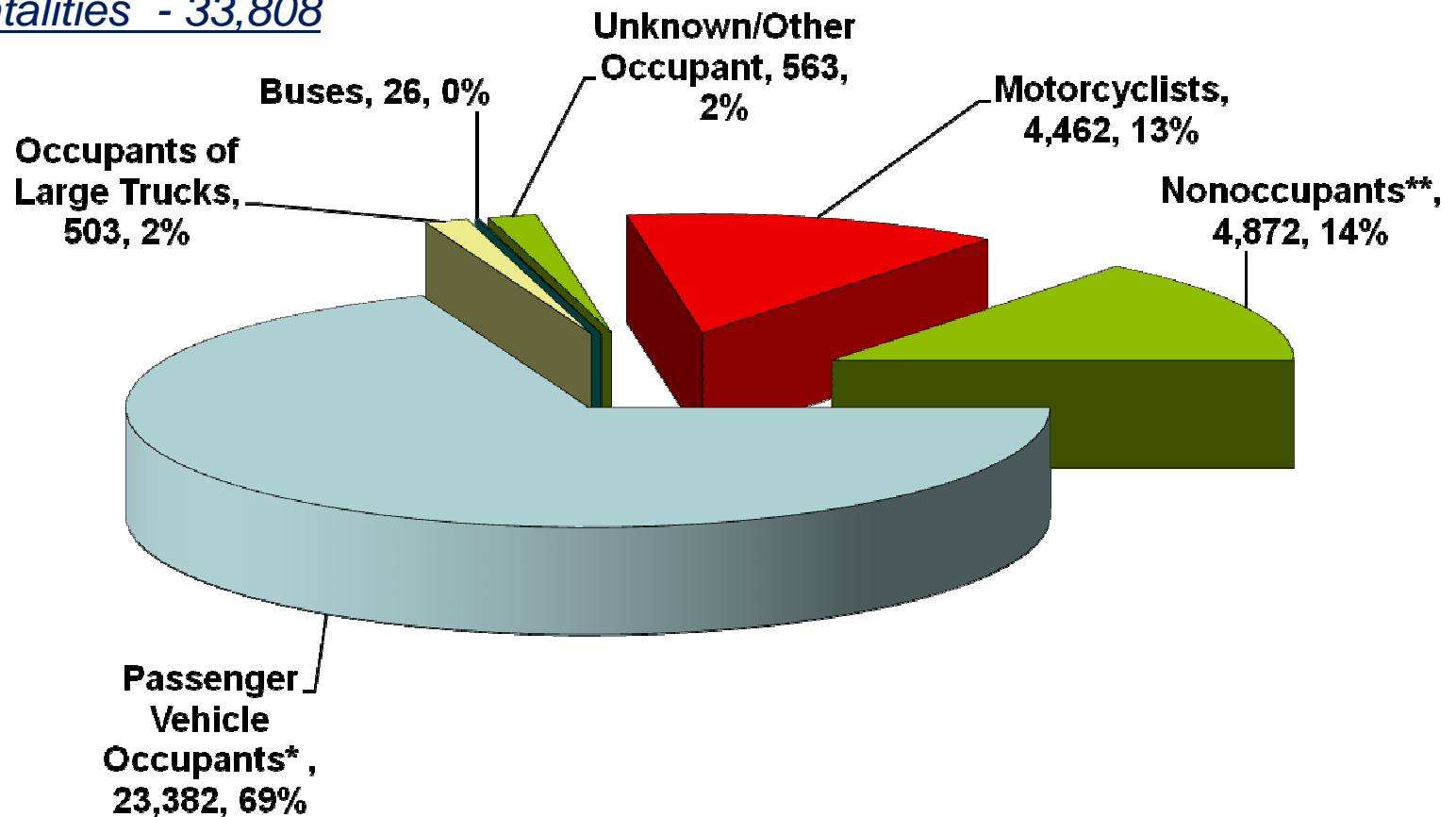
Analysis of Motor Vehicle Crashes

- Vehicle Type
- Crashworthiness
- Crash Avoidance
- Crash Partners
- Body Region injured
- Societal Costs

Brain injuries and ankle/knee injuries have long-term disability and high societal costs

2009 Fatalities by Vehicle Type

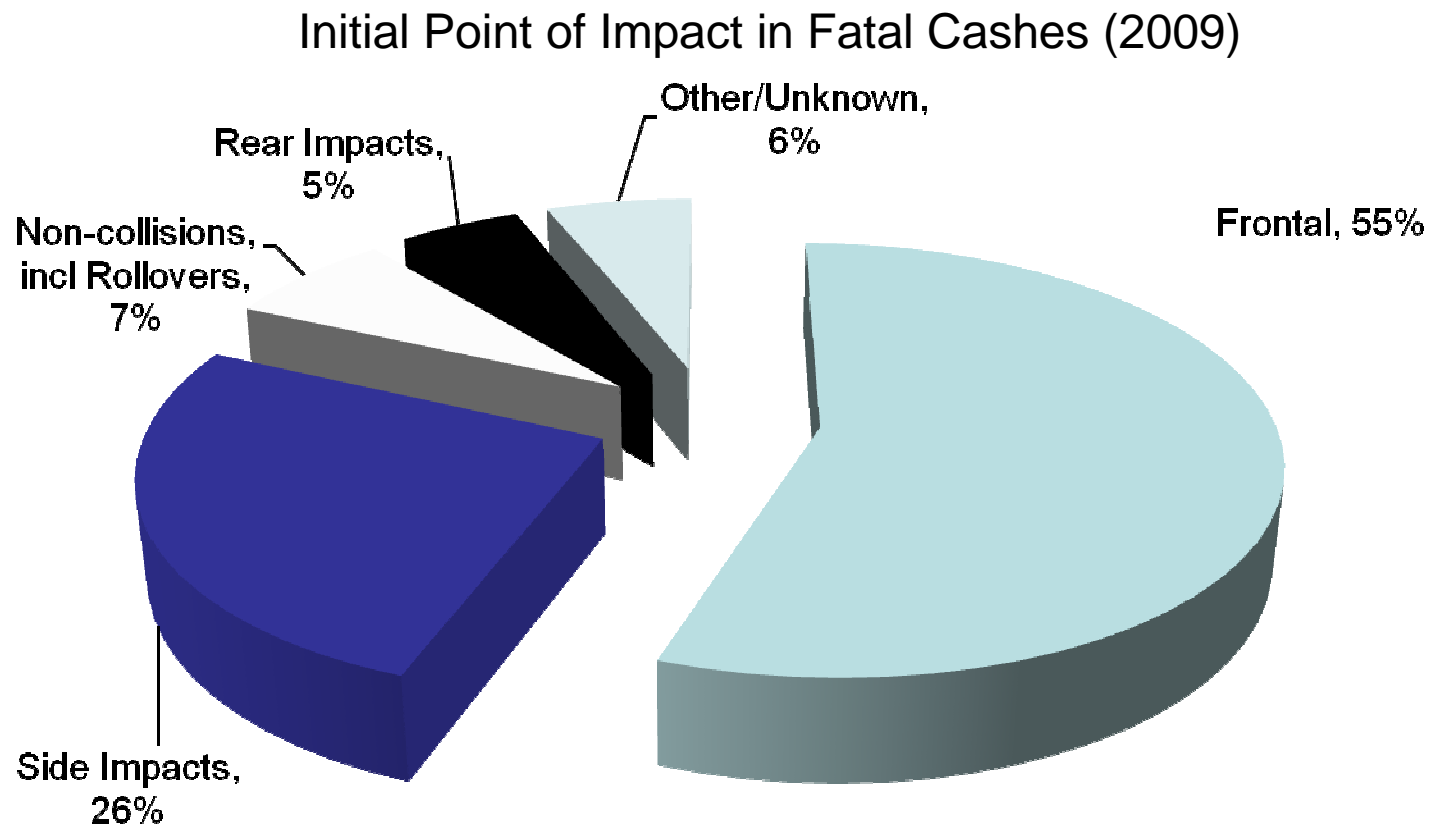
Total Fatalities - 33,808



* Passenger Vehicles = Passenger cars and light trucks (SUVs, vans, & pickups)

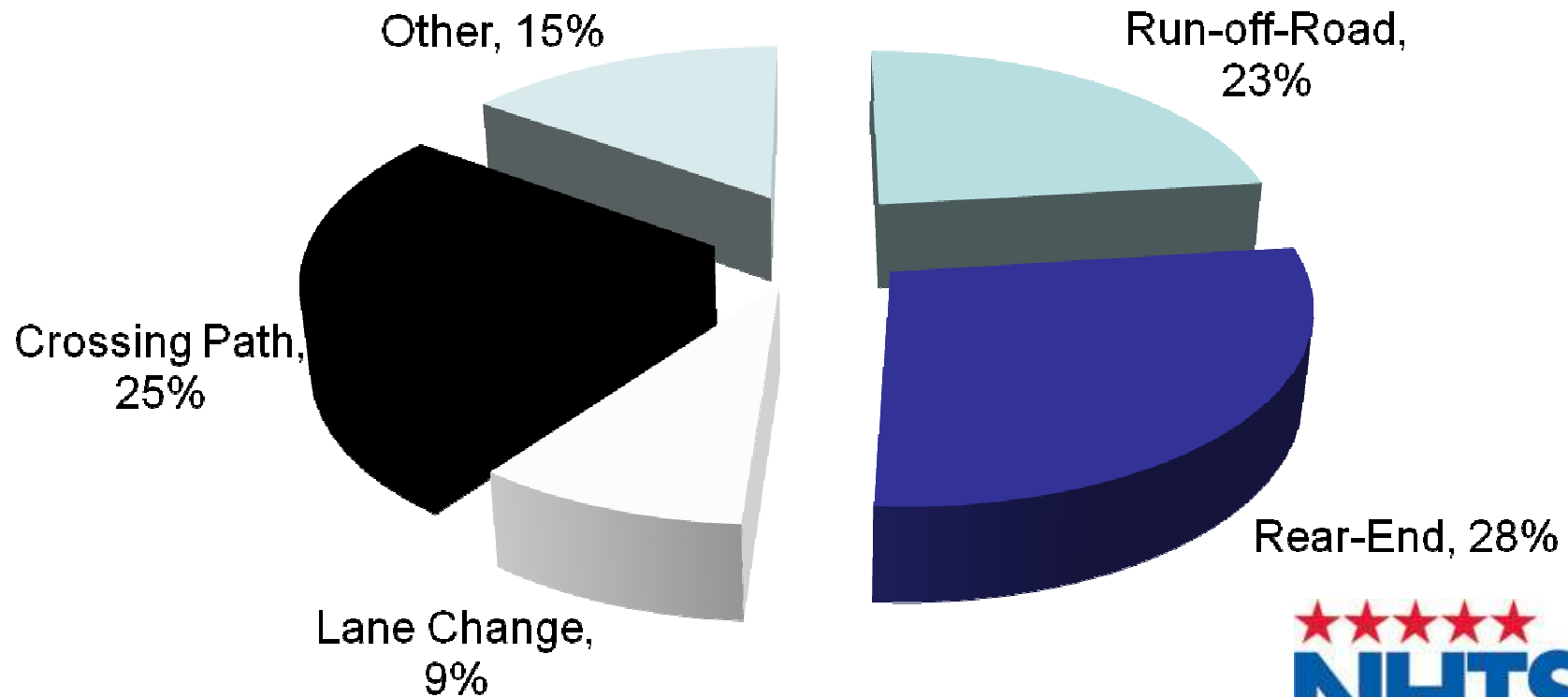
** Nonoccupants include pedestrians, bicyclists, and unknown/other nonoccupants

Crashworthiness – Crash Types



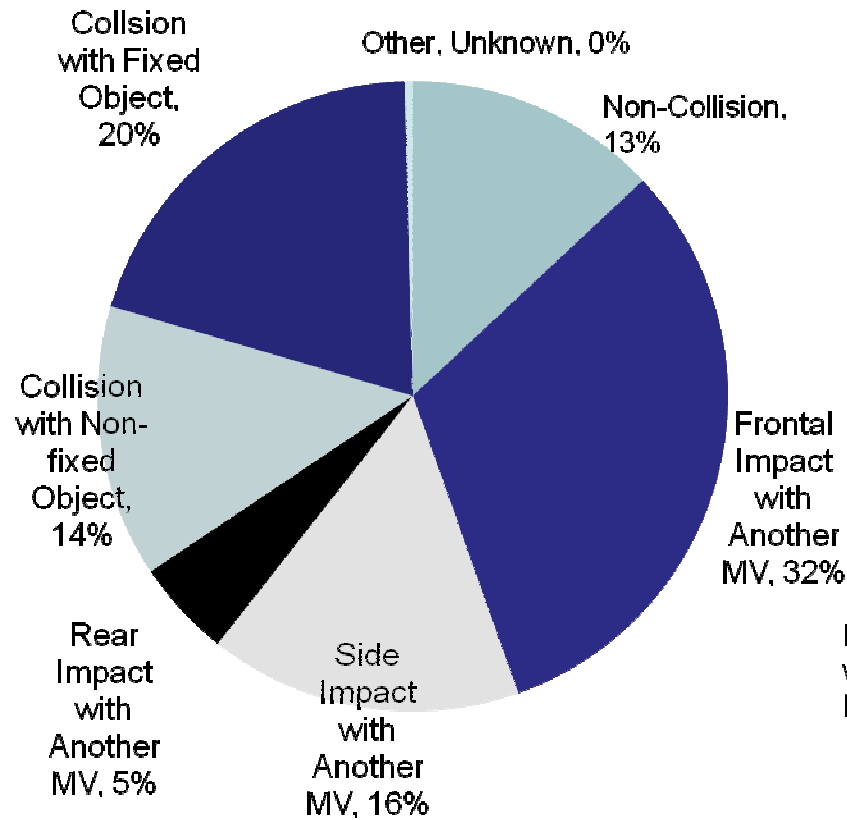
Crash Avoidance – New Technologies

Crash Types Mitigated by New Technologies (FARS, GES 2009)

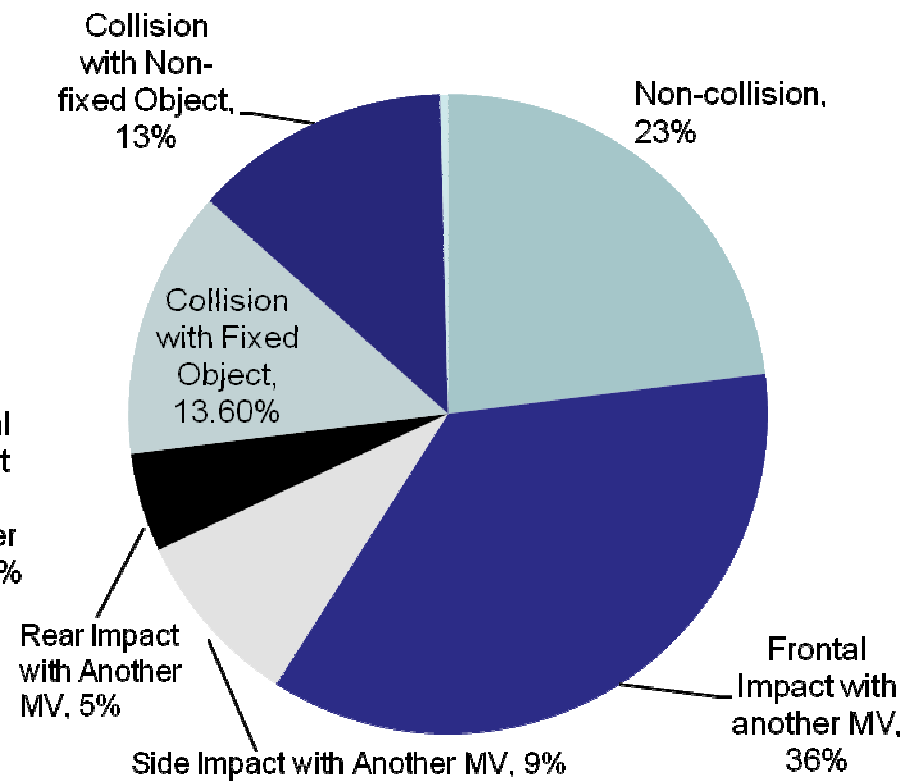


Crash Partners

Passenger Cars



Light Trucks



Rulemaking Priorities

- Heavy Trucks
 - Truck Tractor and Motorcoach Stability Control
- NCAP Updates
 - Updating injury criteria in frontal and side impact programs
 - Identify additional advanced technologies through real-world crash data analysis
 - Develop test procedures for new technologies

Rulemaking Priorities

- Crash Avoidance
 - Quiet Cars
 - Brake Override
 - Keyless ignition
- Child Safety
 - Side impact for child restraints
 - NCAP Vehicle-CRS Fit Program
 - Rearward visibility
- Motor Coach Safety
 - Seat belts
 - Fire safety protection
 - Emergency evacuation
 - Rollover Structural Integrity



Research Priorities

Crash Avoidance

- Connected Vehicles
- Distraction
- Alcohol
- Pedestrian Crash Avoidance
- Medium Truck and Bus Stability Control
- Heavy-Vehicle Forward Collision Avoidance and Mitigation

Research Priorities

Crashworthiness

- Lithium Ion Battery Safety
- Countermeasures for “lightweighted” vehicles
- Low Offset/Oblique Frontal
- Dynamic Rollover
- Anthropometric Test Devices (crash dummies)
- Vulnerable Occupant Injury Analysis

Research Priorities

Electronic Control Systems

- Reliability
 - Fail Safe Strategies
 - Diagnostic Strategies and Trouble Codes
 - Software strategies and Validation Requirements
 - Hardware and System Validation
 - Electromagnetic Compatibility
- Human/Machine Interface
 - Shared control
 - Transitional Control
 - Control failure warning and notification