



**National  
Transportation  
Safety Board**

# Reaching Zero: Actions Needed to Eliminate Substance-Impaired Driving

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Board Member

111<sup>th</sup> AAA Annual Meeting  
May 6, 2014



- 1) determining the probable cause of transportation accidents**
- 2) making recommendations to prevent their recurrence**



# All Modes

# Commercial Vehicle Collision with Passenger Vehicle and Motor Coach (Orland, CA; 4/10/14)



NTSB

# Independent Federal Agency: Created in 1967

- ~ 132,000 accident investigations
- 13,500+ safety recommendations
- ~ 2,500 organizations/recipients
- 82% acceptance rate



# NTSB Characterized as:

‘compass and conscience of transportation industry’

Former NTSB Chairman Deborah A.P. Hersman



NTSB

# Carrollton, KY (May 14, 1988)



67 passengers, 27 fatalities, 34 serious injuries; driver: .28 BAC

# Since 1988 . . .

- 300,000 lives lost
- Millions injured



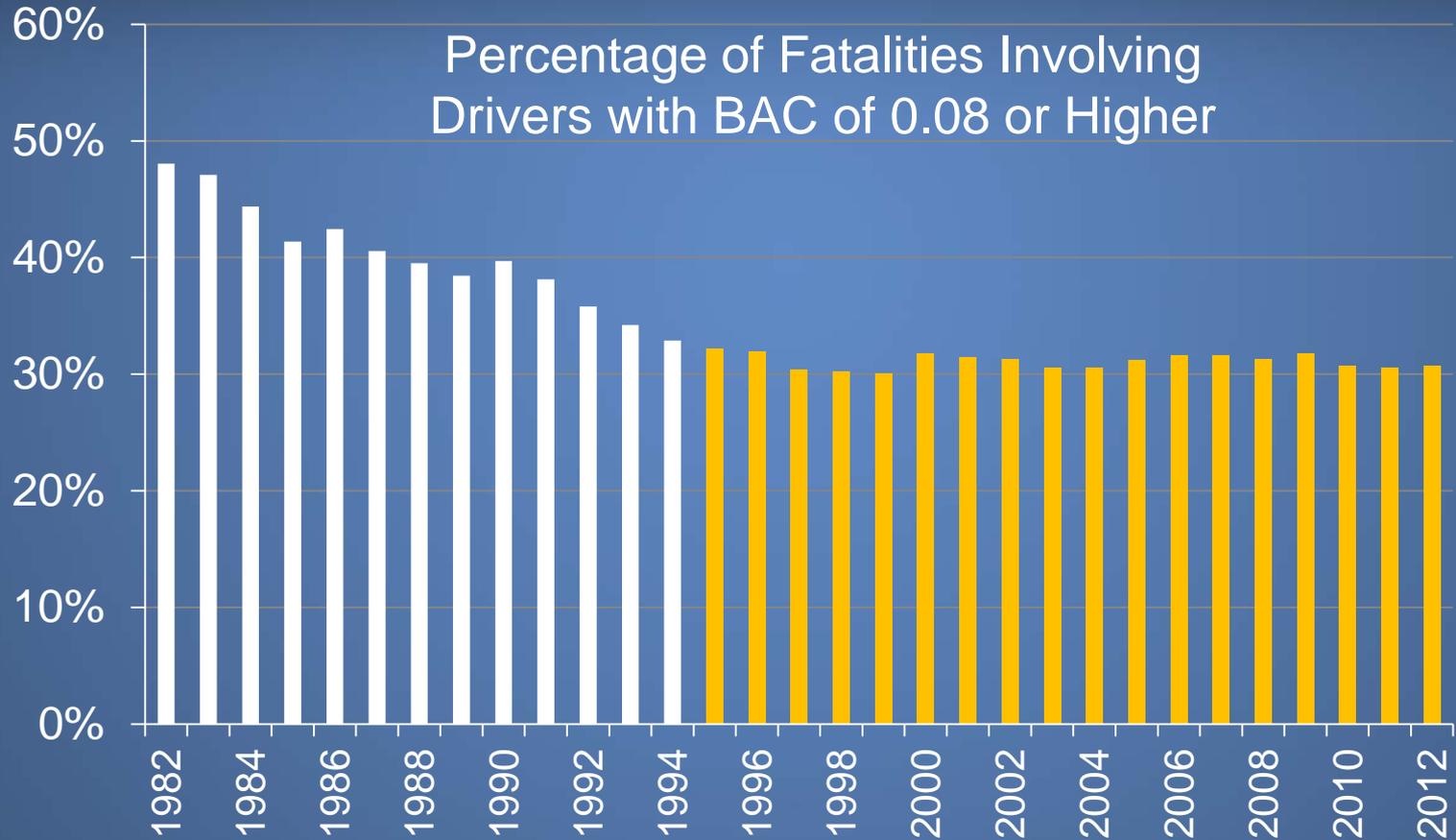
NTSB

# Since 1988 . . .

- 41% of fatalities to 31%
- 31% for over 15 years



# Alcohol-Impaired Driving



# Since 1988 . . .

- 200 law enforcement lives lost



NTSB

# Every Year . . .

- ~ 10,000 lives lost



# Every Year . . .

- 173,000 injuries
  - 27,000 are life-altering



# Every Hour . . .

- 1 life lost
- 20 injuries



2011

# FATALITIES

(the most recent government statistics available)

**9,878** in *impaired driving* crashes

**800** in marine accidents

**759** in rail accidents

**494** in aviation accidents



#1: NTSB Forum: May 15-16, 2012

# REACHING ZERO

Actions to Eliminate Substance-Impaired Driving



NTSB

# NTSB Forum: May 15-16, 2012

- 8 panels with 37 panelists
- Topics included:
  - the substance
  - current interventions
  - consequences
  - international view
  - the problem
  - enforcement
  - prevention
  - next steps



# #2: November 14, 2012

## MOST WANTED LIST

The Most Wanted List represents the NTSB's advocacy priorities. It is designed to increase awareness of, and support for, the most critical changes needed to reduce transportation accidents and save lives.

### ELIMINATE SUBSTANCE-IMPAIRED DRIVING



A generation ago, the NTSB investigated the nation's deadliest impaired driving crash, which killed 27 and injured dozens. Since then, more than 300,000 people have perished at the hands of impaired drivers. Much more must be done to address the senseless deaths of more than 10,000 people every year.

AIRPORT SURFACE OPERATION

BUS SAFETY

ELIMINATE DISTRACTION

FIRE SAFETY

GENERAL AVIATION SAFETY

INFRASTRUCTURE

PIPELINE SAFETY

POSITIVE TRAIN CONTROL

SUBSTANCE-IMPAIRED DRIVING

COLLISION AVOIDANCE



NTSB

# #3: November 23, 2012

- NTSB issues 6 new safety recommendations
- Focus: better data

# Wrong-Way Driving



## Special Investigation Report

NTSB/SIR-12/01  
PB2012-917003



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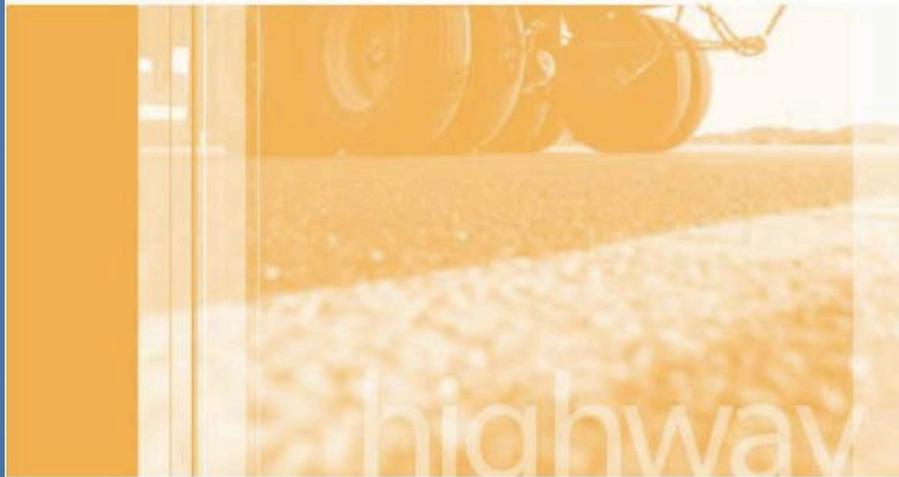
**NTSB**

# #4: December 11, 2012

- Wrong-way driver report
  - > 60% involve alcohol-impaired drivers
- NTSB issues 3 new safety recommendations
- Technology focus:
  - all offender ignition interlock
  - in-vehicle passive monitoring (DADSS)



# Reaching Zero: Actions to Eliminate Alcohol-Impaired Driving



## Safety Report

NTSB/SR-13/01  
PB2013-106566



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# #5: May 14, 2013: Safety Study Report

## 10 New Safety Recommendations

- Laws: reduce BAC limit; expand ALS/ALR
- High Visibility Enforcement with  
Passive Alcohol Sensing technology
- Expand use of in-vehicle devices (ignition interlocks)
- Repeat offenders: use DWI courts/other programs
- Establish measurable goals/track progress (states)



# Reaching Zero: Safety Recommendations

To the National Highway Traffic Safety Administration:

- Develop and disseminate to appropriate state officials a common standard of practice for drug toxicology testing, including (1) the circumstances under which tests should be conducted, (2) a minimum set of drugs for which to test, and (3) cutoff values for reporting the results.



# Alcohol Impairment and Per Se Laws



# Driving-Related Performance

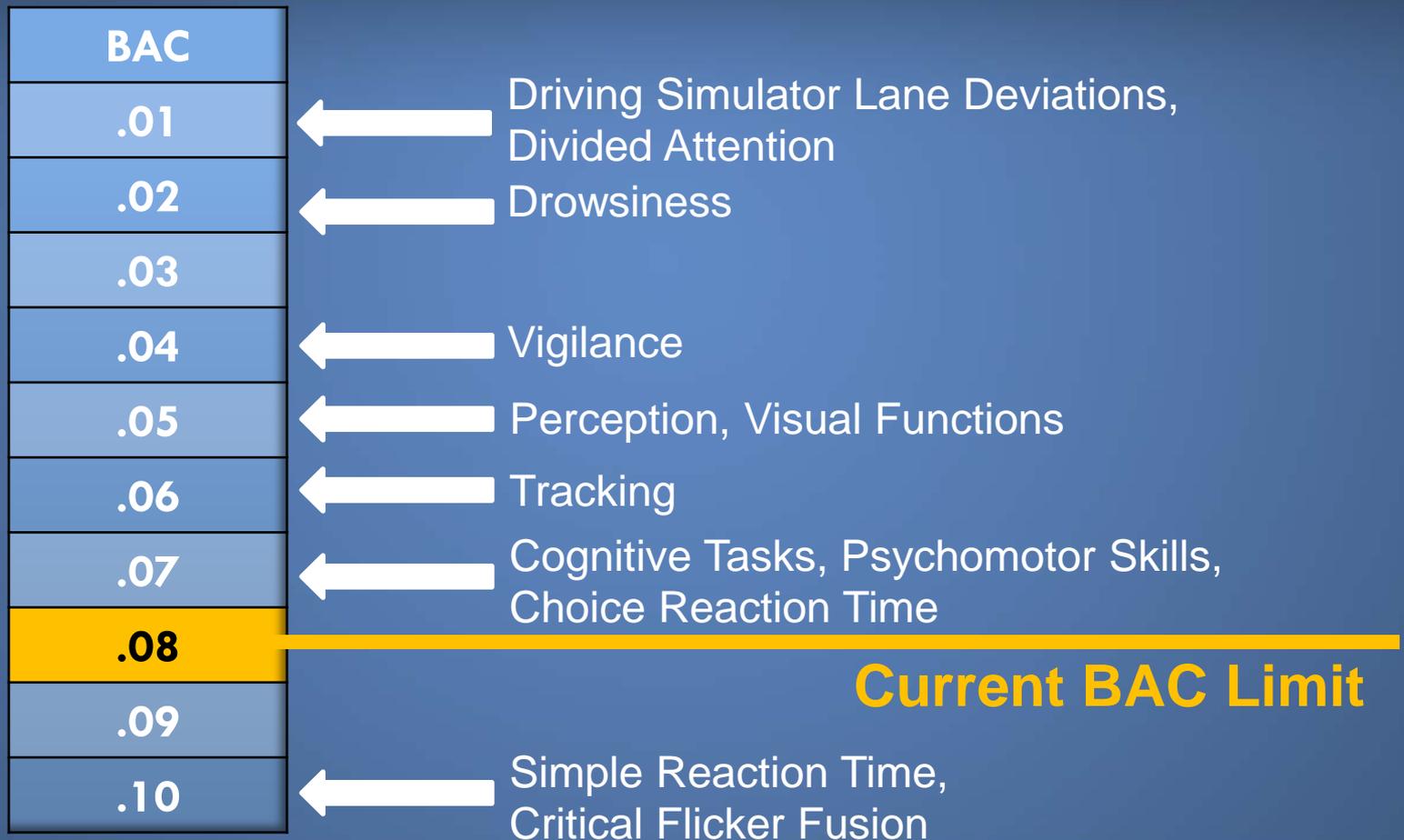
BAC	
.01	← Driving Simulator Lane Deviations, Divided Attention
.02	← Drowsiness
.03	
.04	← Vigilance
.05	← Perception, Visual Functions
.06	← Tracking
.07	← Cognitive Tasks, Psychomotor Skills, Choice Reaction Time
.08	
.09	
.10	← Simple Reaction Time, Critical Flicker Fusion

(Moskowitz and Fiorentino, 2000)



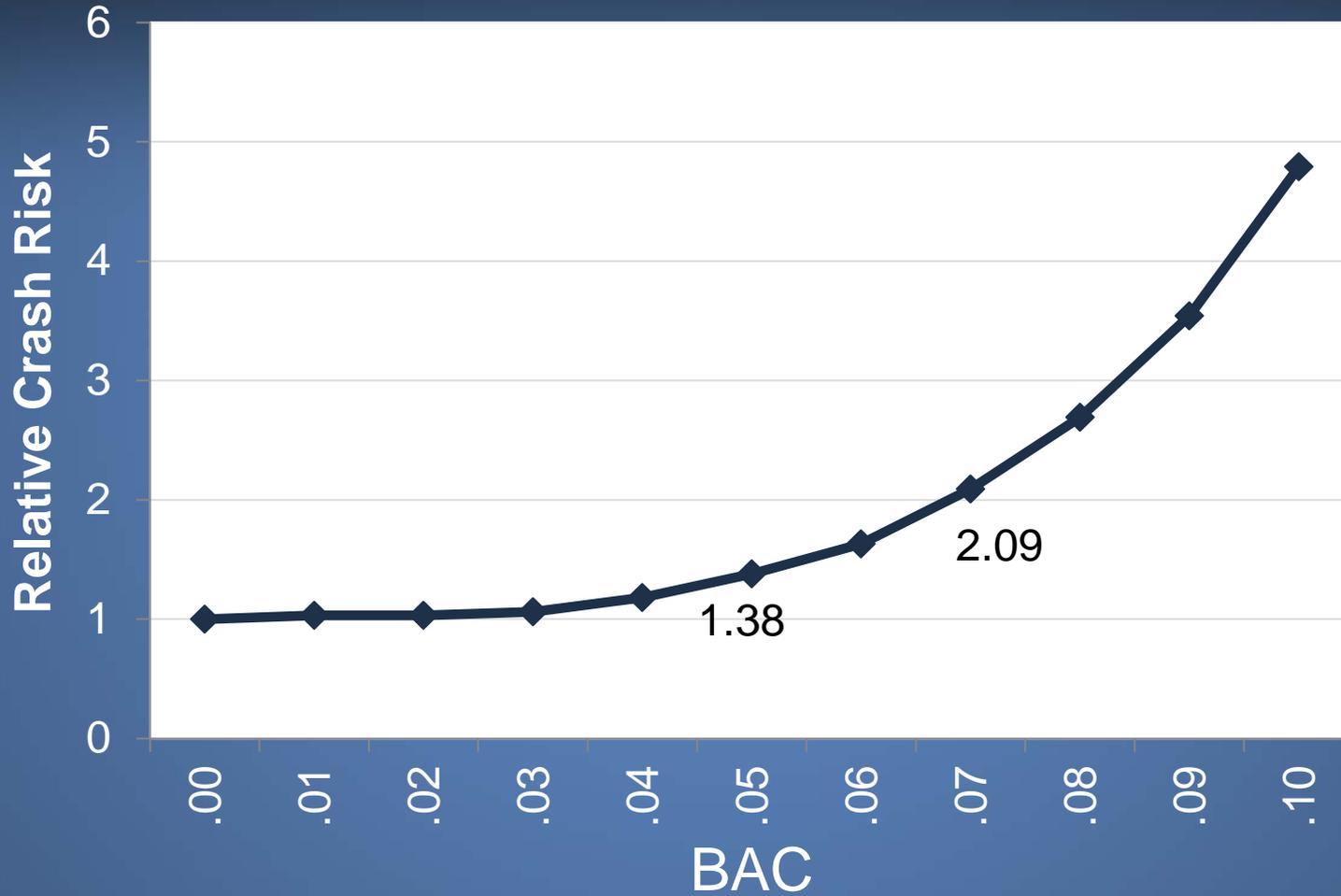
NTSB

# Driving-Related Performance



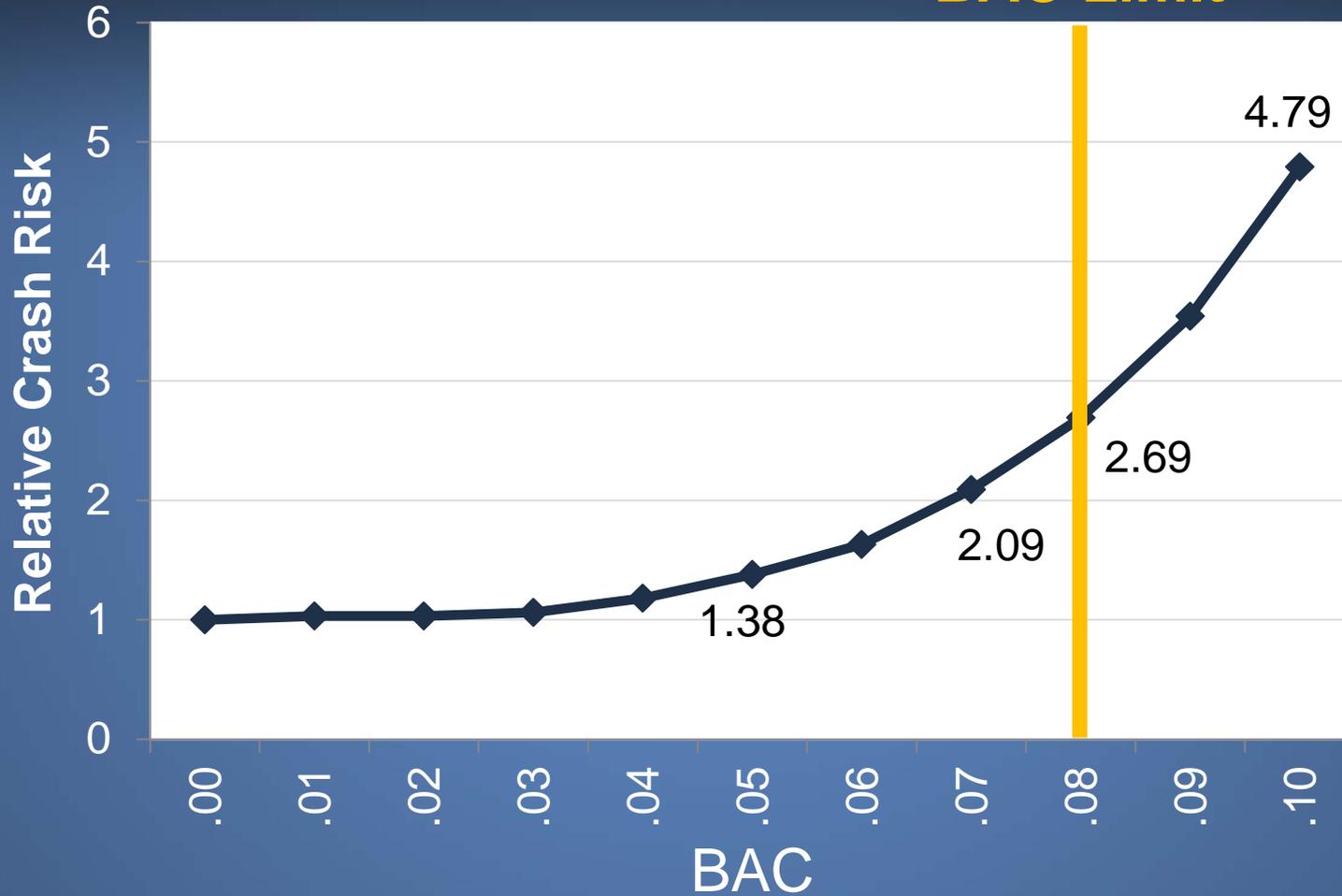
(Moskowitz and Fiorentino, 2000)

# Crash Risk

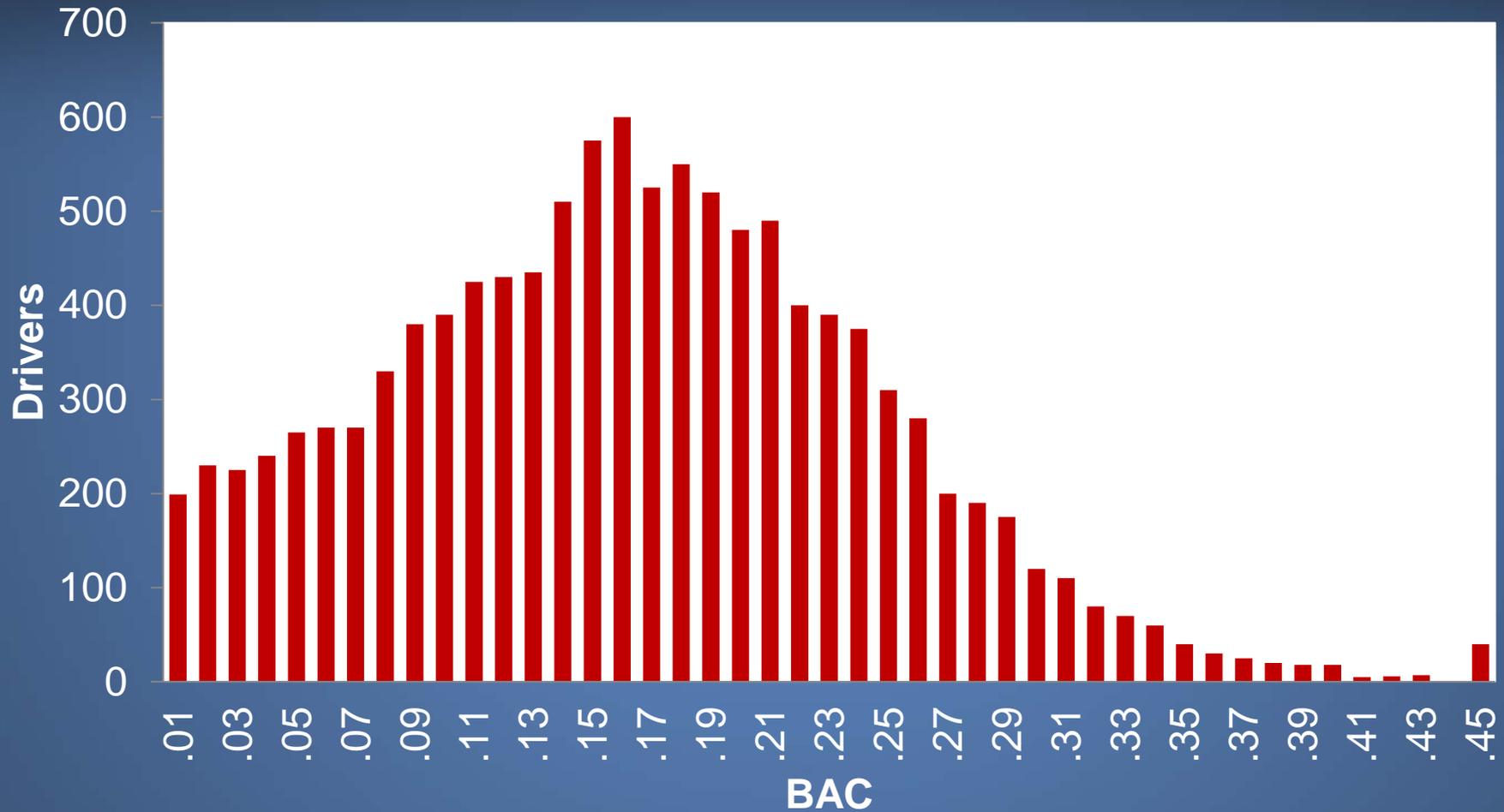


# Crash Risk

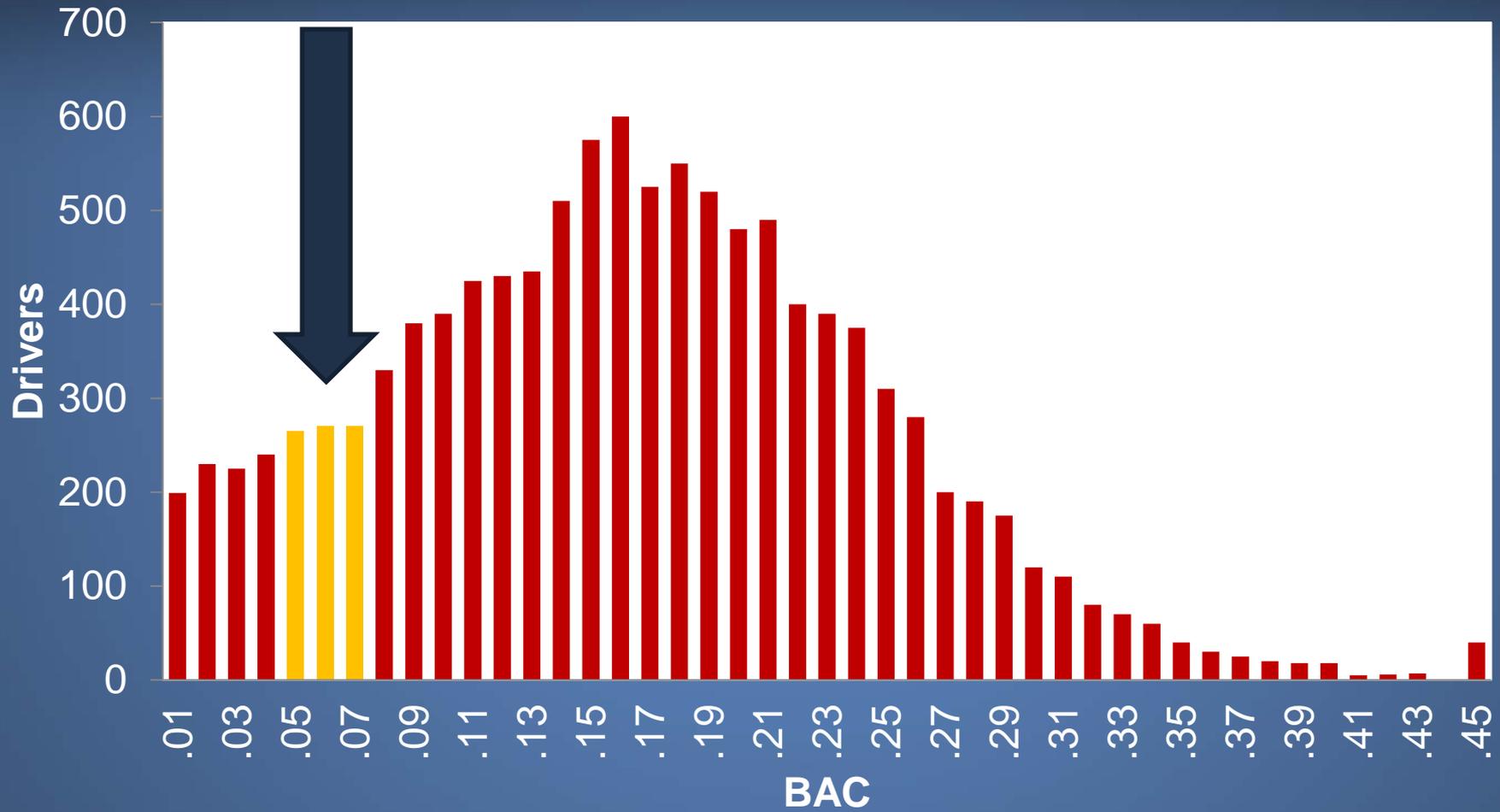
Current  
BAC Limit



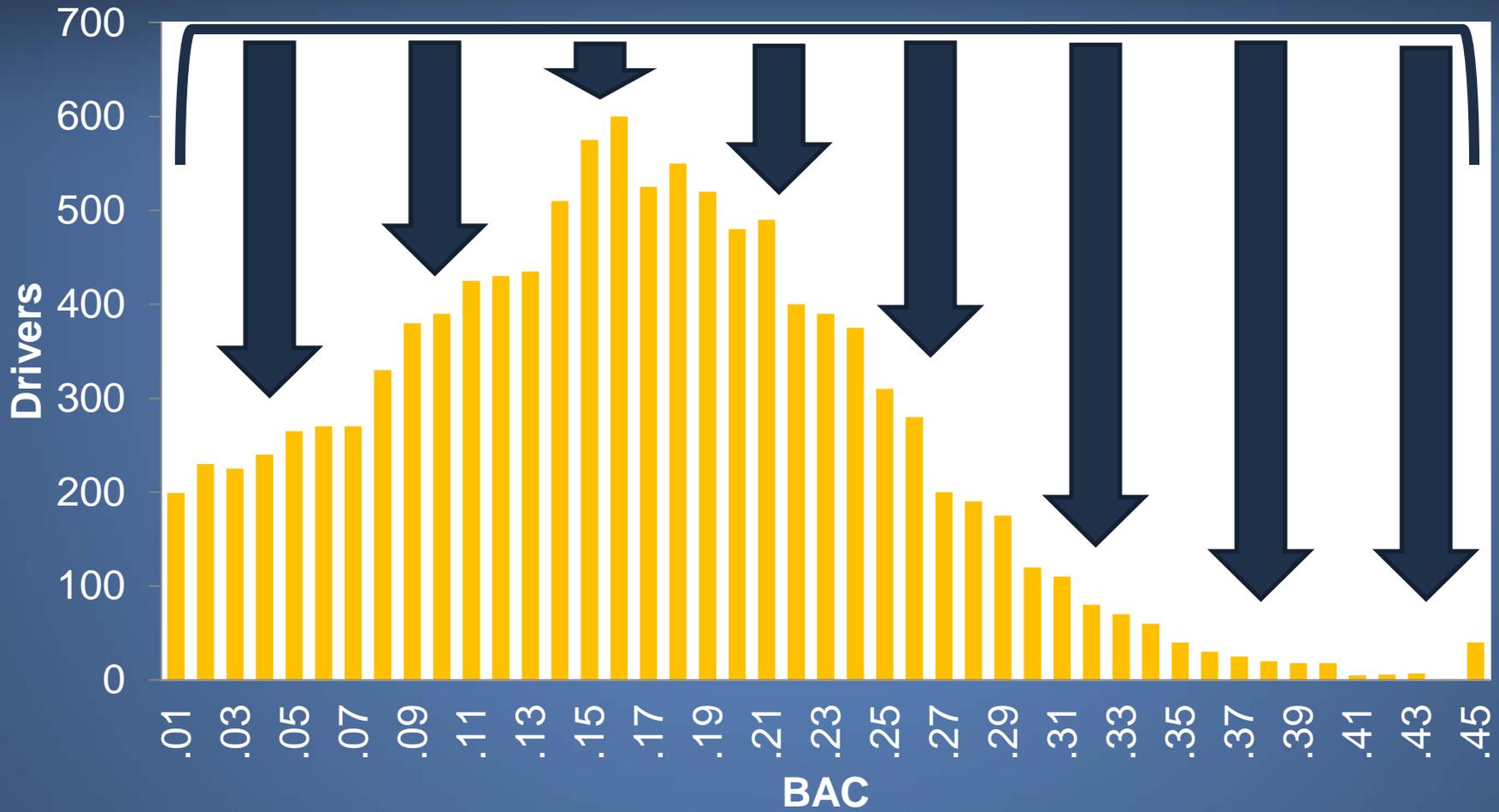
# Fatal Crashes (2012): BAC $\geq$ .01



# Misconception: Changing BAC Affects Small Group



# Reality: Changing BAC Affects Drivers at All Levels



# Reducing Per Se BAC Limits

- Reduces crashes and fatalities across BAC levels
- Move from 0.10 to 0.08
  - 5-16% reduction in crashes, fatalities or injuries
- Estimated:
  - prevents 360 deaths/yr
  - 0.08 to 0.05 prevent additional 538 deaths/yr

(Wagenaar et al, 2007; 28-state study)



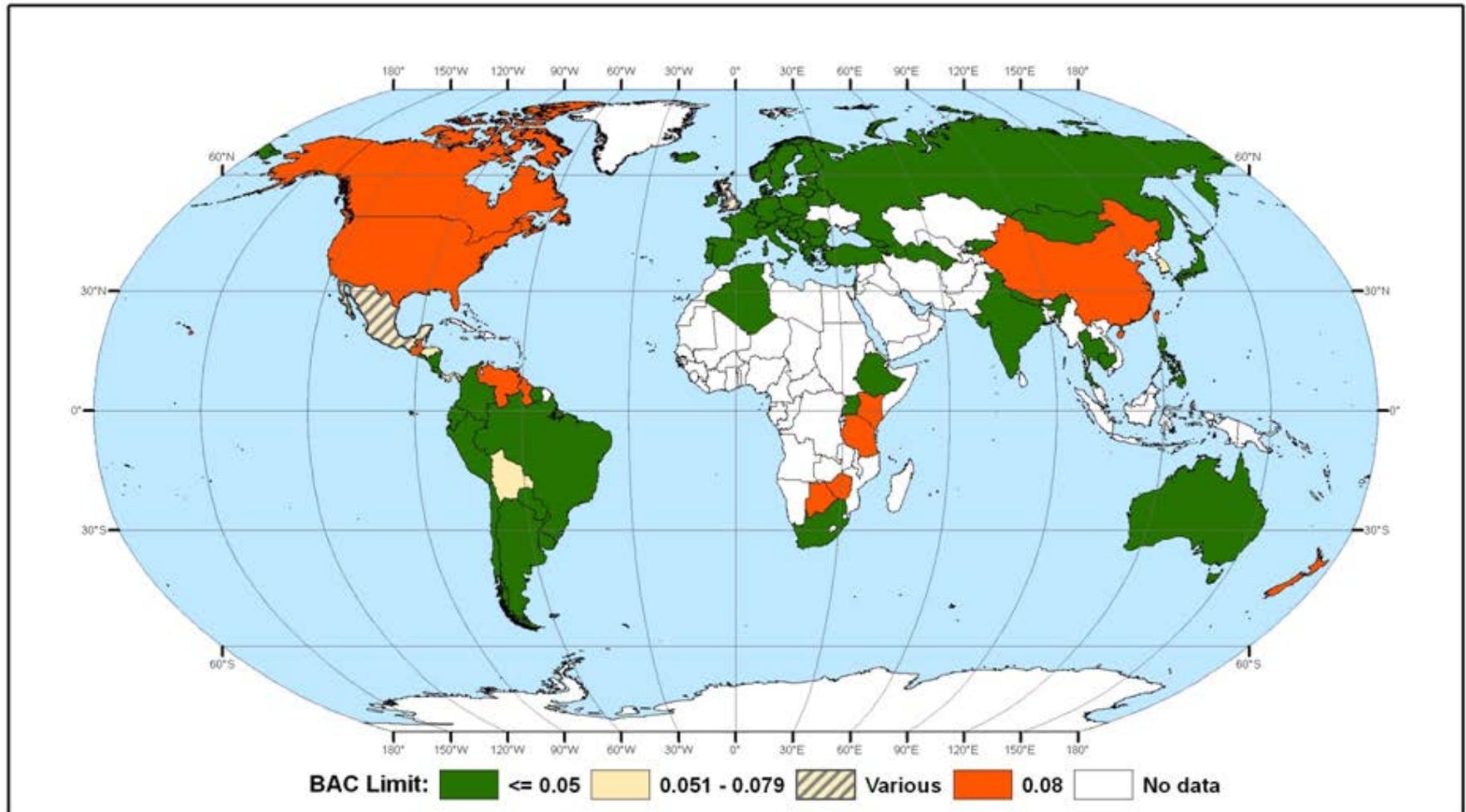
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# Reducing Per Se BAC Limits

- Lowering BAC from 0.08 to  $\leq 0.05$ 
  - Europe: fatal crashes reduced among males and people aged 18-49
  - Australia: fatal crashes reduced 8% & 18% (could prevent ~1,000 – 2,000 deaths/yr)



# BAC Per Se Limits World Wide



# Traffic Safety and Public Health Support

- Association for the Advancement of Automotive Medicine
- American Medical Association
- World Health Organization
- World Medical Association



# 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

*REACHING ZERO*



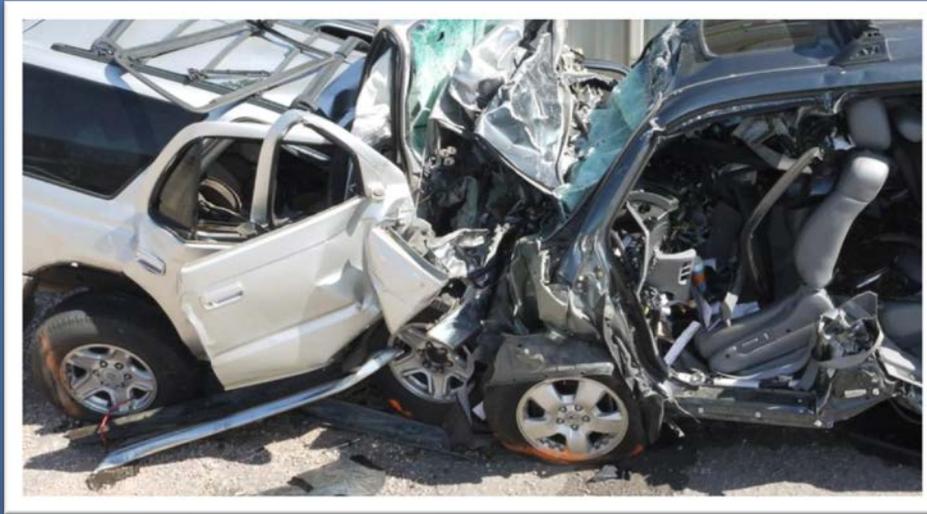
# NTSB Roadmap

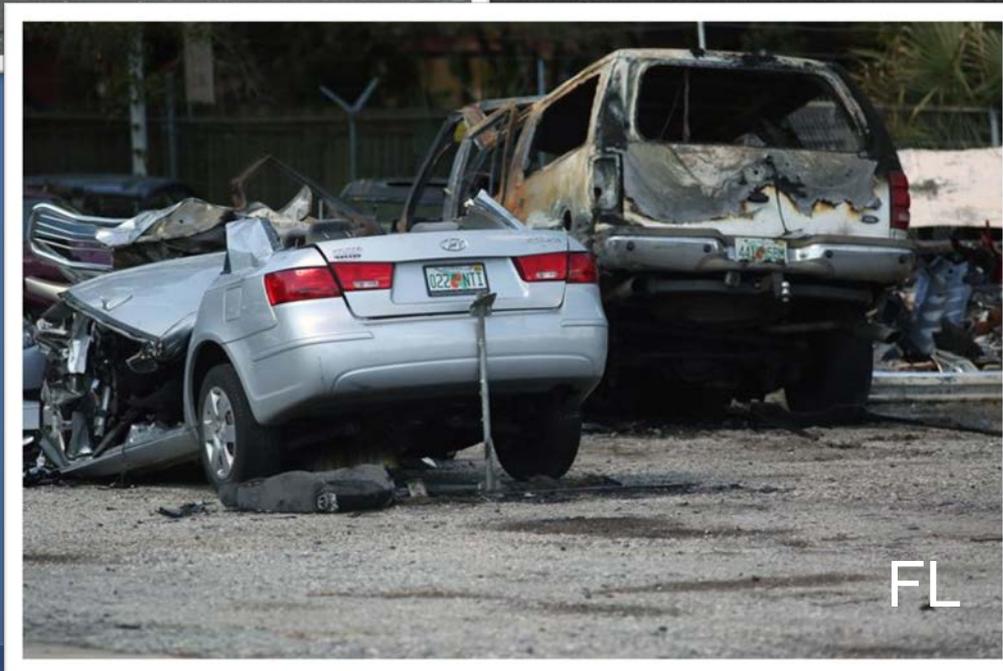
- Science-based/data-driven
- Diverse approaches
- Set of targeted interventions
- Near- and long-term strategies



# Reaching Zero: NTSB Roadmap

- Stronger laws
  - Swifter enforcement
  - Expanded use of technology





11 fatalities  
3 injuries

2/9/14: 2 crashes



NTSB



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