



# The Safe System Approach

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# Outline

- Who is the NTSB
- What is a Safe System Approach?
- NTSB Most Wanted List and Safety Recommendations
- What can you do?

# NTSB Mission

AVIATION



MARINE



HIGHWAY



RAILROAD



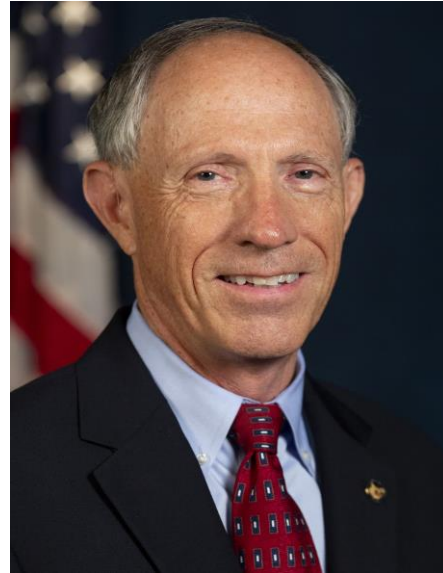
PIPELINE



# NTSB Board Members



Honorable  
**Jennifer Homendy**  
Chair



Honorable  
**Bruce Landsberg**  
Vice Chair



Honorable  
**Michael E. Graham**



Honorable  
**Thomas B. Chapman**

# NTSB Safety Investigation

We look at the roles of:

- **Humans**  
Did the driver, operator, mechanic contribute to the accident or crash
- **Machines**  
Mechanical failures, technology, management of the company
- **The environment**  
Road design, weather



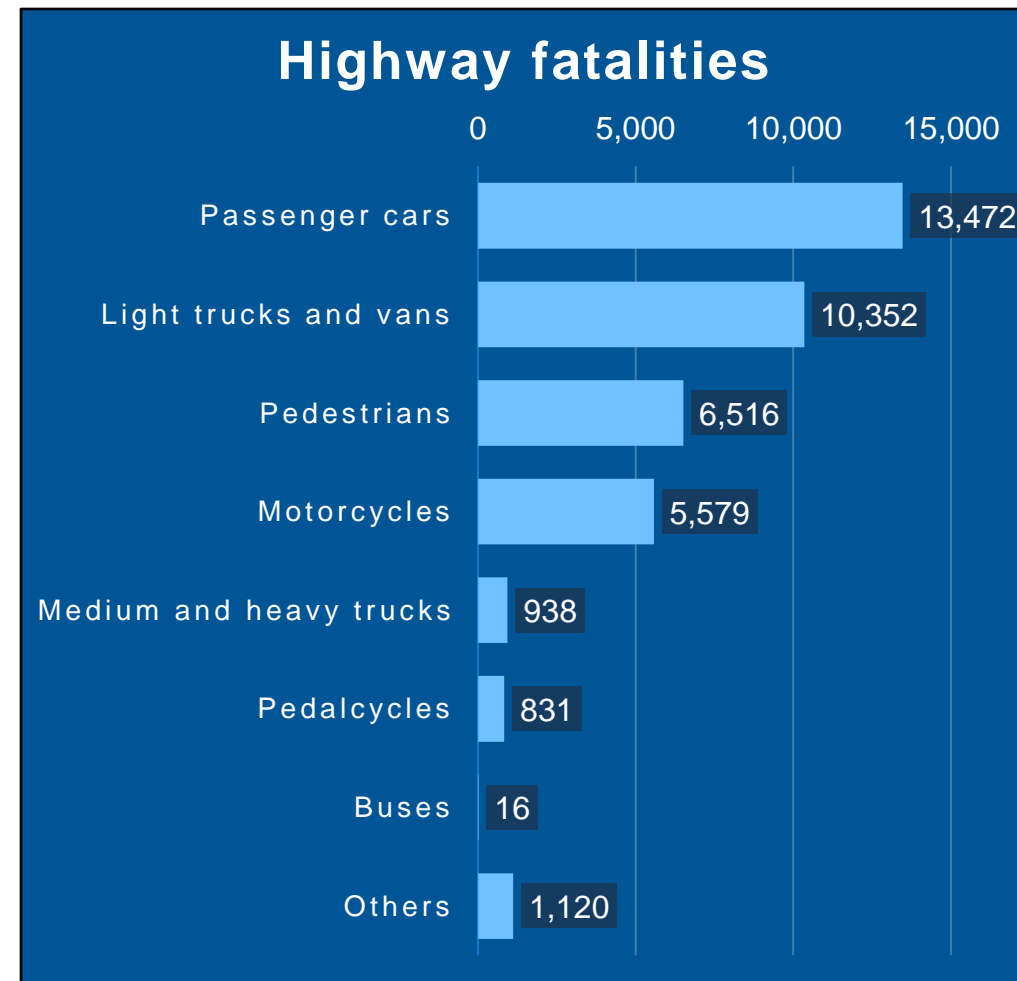
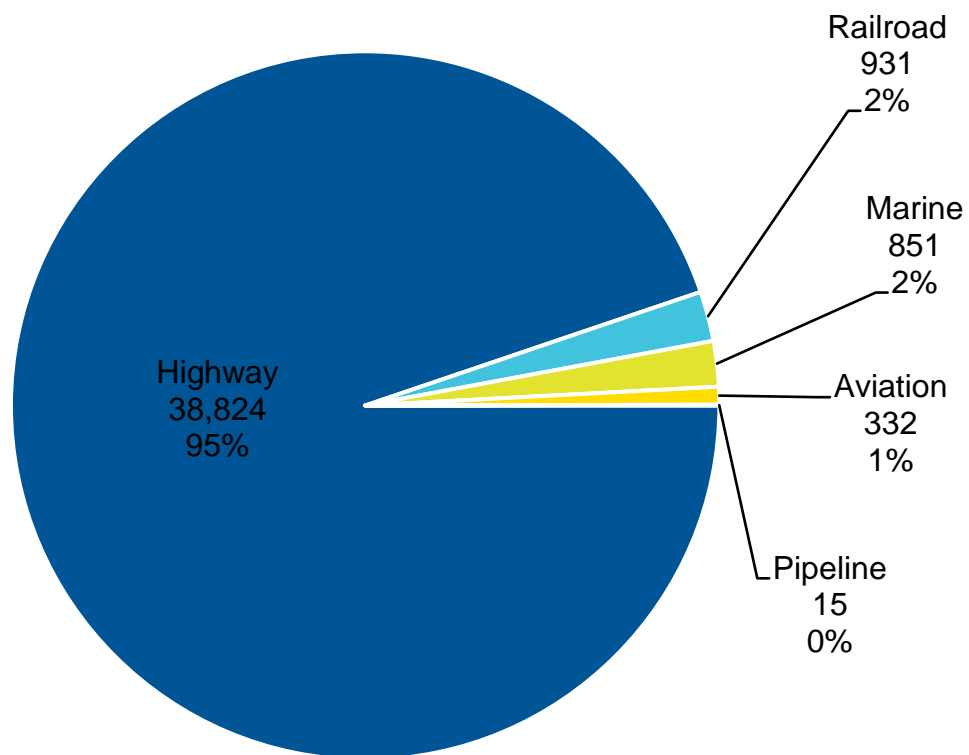
# NTSB Focus on Safety

**We focus solely on safety,**  
to make recommendations that could  
help to prevent the next accident.

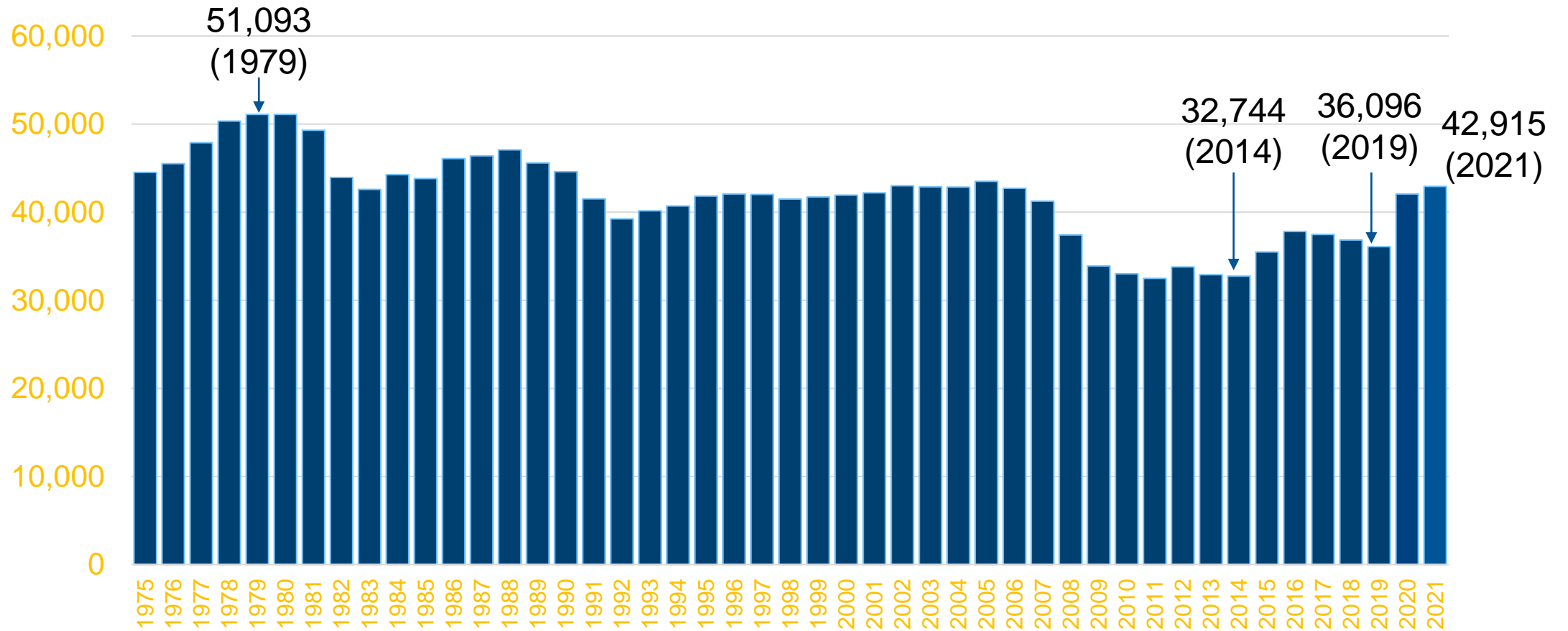
- We do not determine blame or liability.
- We do not investigate intentional criminal acts.



# US Transportation Fatalities in 2020 – by Mode



# Motor vehicle crash deaths (1975-2021)





# NTSB 2021-2022 Most Wanted List of Transportation Safety Improvements



2021-2022 NTSB  
**MOST WANTED LIST**  
OF TRANSPORTATION SAFETY IMPROVEMENTS

**AVIATION**  
Require and Verify the Effectiveness of Safety Management Systems in all Revenue Passenger-Carrying Aviation Operations  
Install Crash-Resistant Recorders and Establish Flight Data Monitoring Programs

**HIGHWAY**  
Implement a Comprehensive Strategy to Eliminate Speeding-Related Crashes  
Protect Vulnerable Road Users through a Safe System Approach  
Prevent Alcohol- and Other Drug-Impaired Driving  
Require Collision-Avoidance and Connected-Vehicle Technologies on All Vehicles  
Eliminate Distracted Driving

**MARINE**  
Improve Passenger and Fishing Vessel Safety

**RAILROAD, PIPELINE, AND HAZARDOUS MATERIALS**  
Improve Pipeline Leak Detection and Mitigation  
Improve Rail Worker Safety

NTSB 2021-2022  
**MWL**  
MOST WANTED LIST

# NTSB Most Wanted List – Highway Safety Items



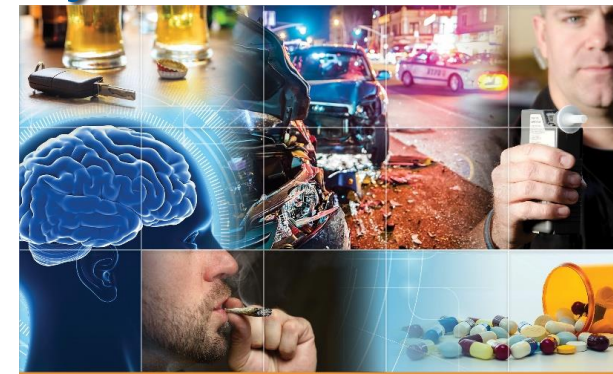
NTSB 2021–2022  
**MWL**  
MOST WANTED LIST

**Implement a Comprehensive Strategy to Eliminate Speeding-Related Crashes**



NTSB 2021–2022  
**MWL**  
MOST WANTED LIST

**Eliminate Distracted Driving**



NTSB 2021–2022  
**MWL**  
MOST WANTED LIST

**Prevent Alcohol- and Other Drug-Impaired Driving**



NTSB 2021–2022  
**MWL**  
MOST WANTED LIST

**Protect Vulnerable Road Users through a Safe System Approach**



NTSB 2021–2022  
**MWL**  
MOST WANTED LIST

**Require Collision-Avoidance and Connected-Vehicle Technologies on All Vehicles**

# Principles of the Safe System Approach



Humans Make Mistakes



Humans are Vulnerable to Injury



Responsibility is Shared

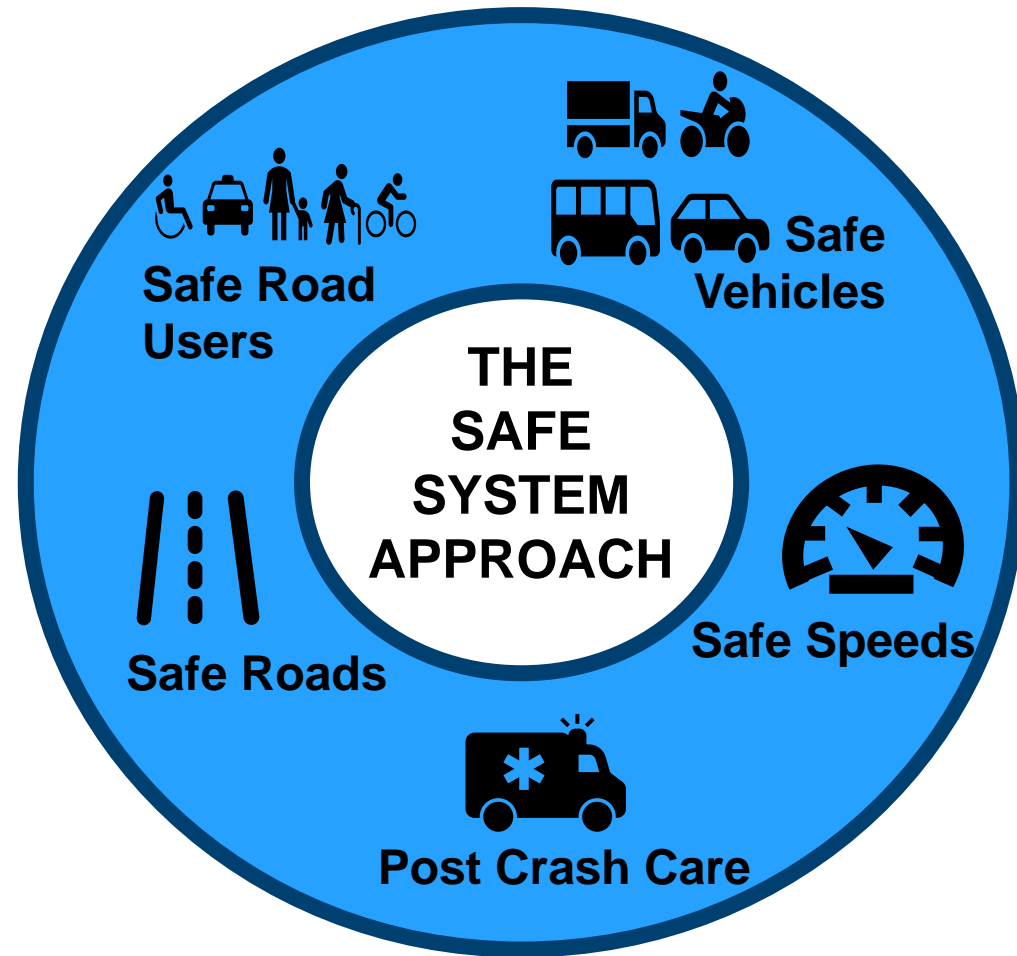


No Death or Serious Injury is Acceptable



Safety is Proactive

# Elements of the Safe System Approach



# Speed

Speeding is one of the most common crash factors

**Between 2010 and 2020, speeding-related crashes resulted in more than 119,000 fatalities**

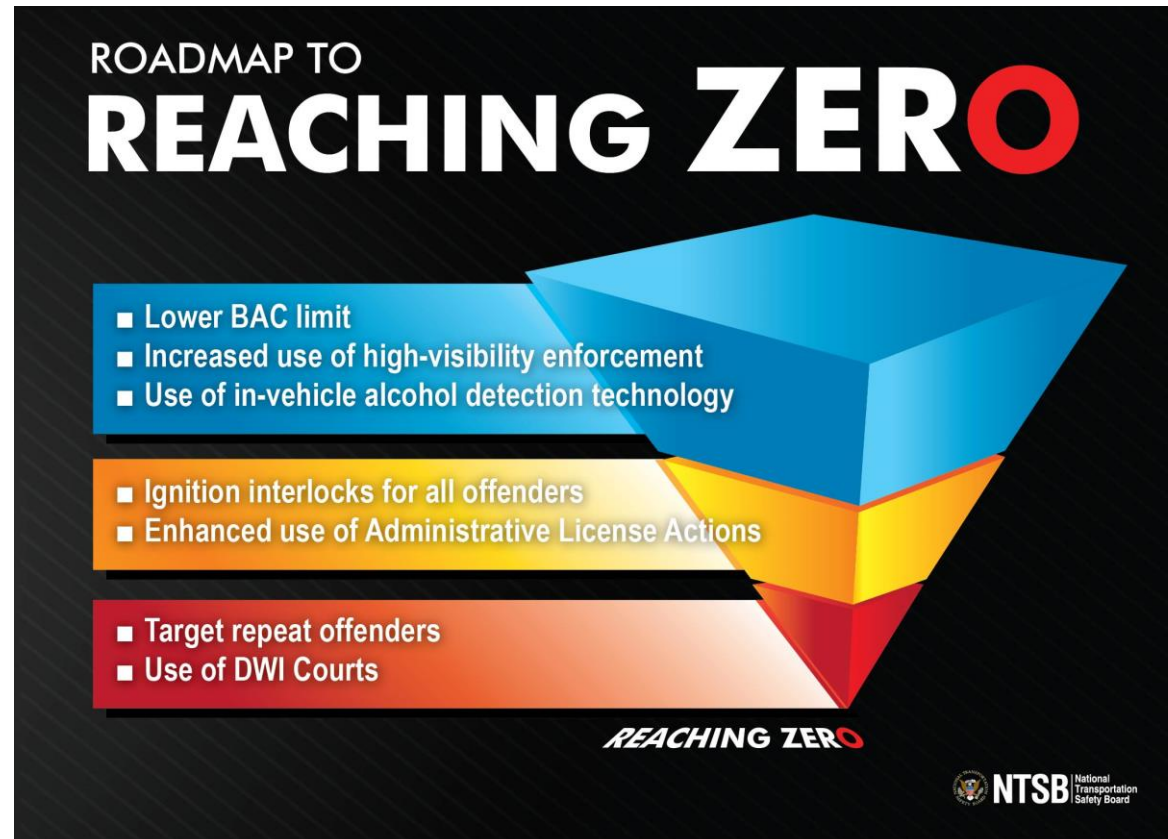
Speed—and therefore speeding—increases the likelihood of being involved in a crash, and the severity of injuries sustained by all road users in a crash.



# NTSB Recommendations for Reducing Speeding-Related Crashes Involving Passenger Vehicles

- Adoption of the Safe System Approach
- Remove the 85<sup>th</sup> percentile guidance for setting speed limits
- Data-driven high-visibility speed enforcement programs
- Automated speed enforcement (ASE)
- Adoption of Intelligent speed adaptation (ISA) systems
- Consistent reporting of speeding-related crashes
- National leadership—annual public awareness/enforcement mobilization campaign

# NTSB Recommendations to Prevent Alcohol-Impaired Driving



The graphic features a large, 3D pyramid with three distinct color sections: blue at the top, yellow in the middle, and red at the bottom. To the left of the pyramid are three horizontal bars in corresponding colors (blue, yellow, red) containing bulleted lists of recommendations. The text 'ROADMAP TO REACHING ZERO' is prominently displayed at the top left, with 'REACHING ZERO' in a larger font where the zero is a red circle. The NTSB logo is in the bottom right corner.

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** National Transportation Safety Board

# NTSB Recommendation to Lower the per se BAC limit

In 2013, the NTSB called on all 50 states, Puerto Rico and the District of Columbia to:

Establish a per se blood alcohol concentration (BAC) limit of 0.05 or lower for all drivers who are not already required to adhere to lower BAC limits.



## What .05 DOES

### Saves lives

1500+ people saved every year if all states passed a .05 BAC

### Deters people at ALL BAC levels from driving

Even at high BACs

### Separates drinking from driving



63% of Americans support .05

### What .05 DOES NOT do

**There is no evidence that it reduces drinking**

In fact, per capita alcohol consumption in countries with a .05 BAC is the same or higher than in the US, but deaths are lower

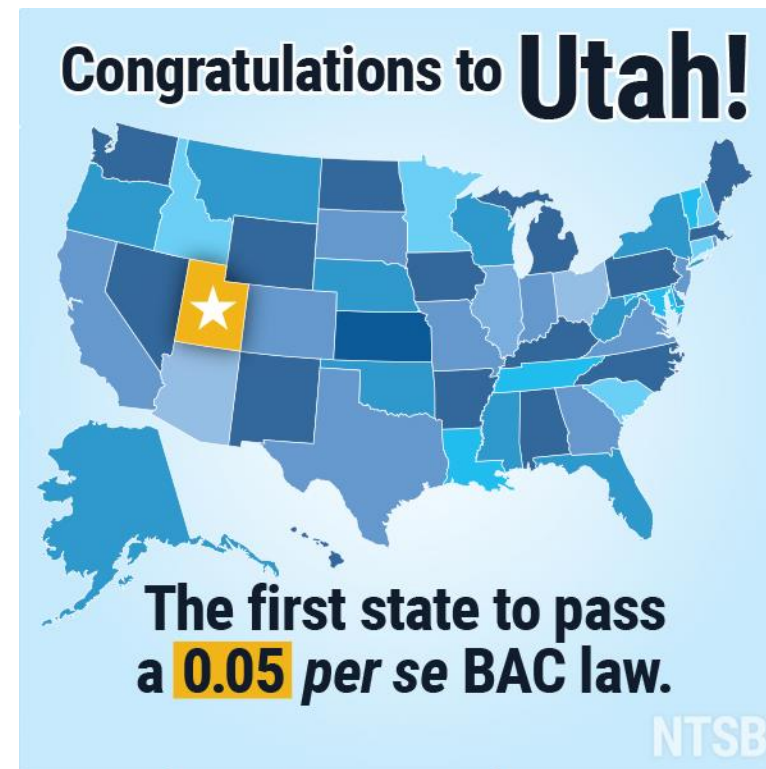
**A .05 BAC law does not necessarily increase arrests**

People make the right choice not to get behind the wheel when they have been drinking – primary prevention



# NHTSA Examination of Utah 0.05 BAC Law

- In 2019, Utah's fatal crash rate dropped by 19.8%, and the fatality rate decreased by 18.3%.
- In 2019, more than 22% (about 1 in 5) of those who drank alcohol indicated they had changed their behaviors once the law went into effect.
- None of the economic impacts that had been predicted with the change from .08% to .05%.
- Alcohol-impaired-driving arrests did not climb sharply after the law went into effect.



# What can you do?

- Prioritize infrastructure investments that improve safety for vulnerable road users
- Prioritize implementation of countermeasures such as setting safe speed limits, data-driven approaches to speed enforcement, expand use of speed safety cameras, and intelligent speed adaption
- Establish a per se BAC limit of 0.05 or lower for all drivers
- Implement NTSB safety recommendations
- Strengthen existing road safety laws (graduated driver licensing, automated speed enforcement, sobriety checkpoints)
- Support road safety public awareness campaigns

# NTSB Safe System Approach Roundtable Series

- 6-part roundtable series featuring discussions with global road safety experts and leaders hosted by Chair Homendy
- Examines the Safe System Approach and its individual elements
- Featured Dongho Chang from WSDOT
- Recordings available on NTSB YouTube channel

NTSB MOST WANTED LIST **ROUNDTABLE SERIES**

## The **Safe System** Approach

A Safe System

Safe Roads

Safe Vehicles

Safe Road Users

Post-Crash Care

Safe Speeds

Hosted by NTSB Chair Jennifer Homendy

**NTSB**

**STREAMING ONLINE**

<https://www.youtube.com/user/NTSBgov>

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Safety Compass

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