



The Honorable  
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Vice Chairman

# NTSB 101

- Independent federal agency, investigate transportation accidents
- Determine probable cause(s) and make recommendations to prevent recurrences
  - Safeguards for independence
- Conclusions from facts, not politics



# Purpose

- Single focus is safety
- Objective is to determine probable cause, not blame or liability
- Primary product: Recommendations
- Recommendation acceptance rate:  
<80%



# Most Wanted List

- Airport Operations
  - Bus Operations
  - Distraction
  - Fire Safety
- General Aviation Safety



# Most Wanted (con't)

- Transportation Infrastructure
  - Pipeline Safety
  - Positive Train Control
- Substance-Impaired Driving
- Motor Vehicle Collision Avoidance Technologies



# And Let's Not Forget . . .

- Fatigue

- General
- Sleep Apnea



# Major Bus Operations Issues

- Driver
  - Selection
  - Training
  - Fatigue
- Vehicle
  - Crashworthiness
  - Occupant protection
  - Maintenance



# Bus Issues (con't)

- Motor Carrier Management
  - Safety Management Systems
  - Non-punitive reporting
- State and Federal Safety Oversight
  - Rating methodology re buses, drivers
  - Risk-based oversight



# Distraction

- Fatal Accidents in Every Mode
- Handheld Devices
  - *Texting ESPECIALLY hazardous (factor of 23)!*
- In-Vehicle Systems
- Trends are Troubling



# Munfordville, KY, 2010

## Truck Driver on Cellphone



***11 Fatalities, Including Truck Driver***



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# Gray Summit, MO, 2010

## Pickup Truck Driver Texting?



***2 Fatalities, Including Pickup Truck Driver***



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# Infrastructure

- Bridges
- Public Roads
- Oil and Gas Pipelines
- Railroad Facilities
- Navigable Waterways



# Positive Train Control

- People are part of the system
- People make errors due to:
  - Fatigue/sleeping disorders
  - Use of medication
  - Loss of situational awareness
  - Distractions (e.g., cell phones)
  - Other
- PTC provides a backup to human error



# PTC Preventable Accidents

- Since 1969, the NTSB issued PTC related recommendations in 26 collision investigations
- 6 additional collision investigations noted the lack of PTC in the probable cause
- PTC has been on the NTSB's MWL nearly every year since its inception in 1990



# Chatsworth, CA, 2008



*25 fatalities and 130 injuries*



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# Substance-Impaired Driving

- Longstanding persistent problem
- More than 130 recommendations
- Percent of fatalities from alcohol stubbornly resisting improvement
- Need to add licit and illicit drugs



# Motor Vehicle Collision Avoidance Technologies

- Backup for human error
- Forward Collision Warning
- Lane Departure Warning
- Adaptive Cruise Control
- Automatic Braking
- Electronic Stability Control



# Technologies (con't)

- Tire Pressure Monitoring Systems
- Video Event Recorders
- Onboard Driver Monitoring Systems
- Speed limiters
- Brake Monitoring Systems



# For Every Dollar Spent:

## – Roll Stability Control

- \$1.66 to \$ 9.36 return, payback periods from 6 to 30 months.

## – Lane Departure Warning

- \$1.37 to \$6.55 return, payback periods from 9 to 37 months.

## – Forward Collision Warning Systems

- \$1.33 to \$7.22 return, payback periods from 8 to 37 months.

Source: Joint Transport Research Centre Discussion Paper No. 2010-10



# Fatigue

- Transportation is 24/7
- Initial focus primarily on sleep
- Shiftwork; changing shifts
- Self-diagnosis not reliable



# Obstructive Sleep Apnea

- Associated with Body Mass Index
- BMI in US rapidly increasing
- Often undiagnosed; fear of disclosure
- Success Stories
  - Improved morale
  - Longer retention, less training
  - Fewer accidents



Thank You!

***Questions?***



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