NGA Spring Conference
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Driver Safety Tools & Technology
Mark Gunsalus
Introduction
Ferrari Wreck

What happens to a Ferrari after hitting a pole at high speed....?
Individual only sustained minor injuries, very lucky!
Pre-discussion Pop Quiz

1. The number 1 cause of vehicle accidents is: **Distracted Driving**

2. The number 1 type of vehicle collision is: **Rear-End Collisions**

3. Drivers who use hand-held devices are ? times as likely to get into injury-producing crashes. **Four Times**

4. More than ____% of drivers admit to blatantly hazardous behavior. **80%**

5. You should keep a ___-___ second following distance from the vehicle in front. **3-4**

6. T/F – If you go into a skid, turn the wheel in the opposite direction of the skid. **False**

7. T/F – If you’ve had too much to drink, a couple of cups of coffee will sober you up. **False**
(Un)Safe Driving Statistics

• Driving may be the most dangerous thing we do each day
  o injured in vehicle every 18 seconds
  o 40,000+ die/yr in vehicle accidents, 110 daily
  o 35% of work-related fatalities involve motor vehicles (Source: BLS)

• Drivers who use hand-held devices are 4 times as likely to get into injury-producing crashes. (Source: Insurance Institute for Highway Safety)

• Using a cell phone while driving (whether it’s hand-held or hands-free) delays a driver’s reactions as much as having a blood alcohol concentration at the legal limit of .08%. (Source: University of Utah)

• 80% of all crashes and 65% of near crashes involve some type of distraction (Virginia Tech Study for the NHTSA)

• Brain activity used while driving decreases by 40% when a driver listens to conversation or music. (Center for Cognitive Brain Imaging at Carnegie Mellon University)

• More than 80% of drivers admit to blatantly hazardous behavior: changing clothes, steering with a knee, painting nails, even shaving
Distractions

What is Distracted Driving?

“any non-driving activity a person engages in that has the potential to distract him or her from the primary task of driving and increase the risk of crashing.”

Driving is a skill that requires your *focused* attention to safely control the vehicle and respond to events happening around you. Distractions are anything that takes your attention off the primary task of driving.
Distractions

There are 3 primary types of distractions:

**Visual Distractions:** Anything that takes your eyes off the road.

**Manual Distractions:** Anything that takes your hands off the steering wheel.

**Cognitive Distractions:** Anything that takes your mind off driving.

All distractions can be dangerous and life threatening; *texting* is one of the most dangerous because it involves all three types of distractions.
Distractions can lead to Risky Driving Behaviors

Other distractive activities include:

• Using a cell phone
• Eating and drinking
• Talking to passengers
• Grooming
• Reading, including map
• Using PDA or navigation system
• Watching a video
• Changing the radio station, CD, Mp3 player or other device
• Children and pets
# Risky Behaviors – do you contribute?

<table>
<thead>
<tr>
<th>Behavior Admitted</th>
<th>% of Drivers</th>
<th>Behavior Admitted</th>
<th>% of Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speeding</td>
<td>71</td>
<td>Carrying an unbelted passenger</td>
<td>23</td>
</tr>
<tr>
<td>Eating</td>
<td>59</td>
<td>Failing to properly maintain the vehicle</td>
<td>17</td>
</tr>
<tr>
<td>Using a cell phone</td>
<td>37</td>
<td>Reading</td>
<td>14</td>
</tr>
<tr>
<td>Running a red or yellow light</td>
<td>30</td>
<td>Driving aggressively</td>
<td>13</td>
</tr>
<tr>
<td>Not wearing a seat belt</td>
<td>28</td>
<td>Driving while drowsy</td>
<td>10</td>
</tr>
<tr>
<td>Failing to signal</td>
<td>26</td>
<td>Changing lanes without clear vision</td>
<td>7</td>
</tr>
</tbody>
</table>

*Source: National Traffic Safety Test*
Leading Causes of Collisions

Most frequent causes of accidents

• **Distractions!** Inattention to detail...#1 cause of accidents in America
• Speeding
• Following too closely
• Unsafe lane changes
• Driving too fast for conditions
• Failure to yield right-of-way
• DUI

Other contributing factors

• Road Conditions – weather related & physical
• Vehicle Maintenance – tire tread/pressure, brakes, head/tail lights

**Rear-end Collisions** are the leading type of vehicle accident

- Maintain a minimal 3-second following distance to react safely
- Breaking distance is 3-12X longer in poor weather conditions
Decrease Distractions & Drive Defensively

Being an Undistracted and Defensive Driver is the safest way to drive.

When drivers are undistracted, they are able to stay focused in the roadway and are aware of behaviors of other drivers on the road. These drivers drive defensively, pay attention, and expect the unexpected.

Defensive Driving is "driving to save lives, time, and money, in spite of the conditions around you and the actions of others." (National Safety Council & ANSI Z15.1 Safe Practices for Motor Vehicle Operations)
## Safe Driving Precautions
### Tips to Follow

### 10 Driver Safety Tips that Avoid Accidents
(Source: How Stuff Works)

<table>
<thead>
<tr>
<th>✓ Avoid Distractions</th>
<th>✓ Keep your Vehicle Maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Practice Defensive Driving</td>
<td>✓ Don’t Speed</td>
</tr>
<tr>
<td>✓ Be Aware/Anticipate Others Actions</td>
<td>✓ Wear your Seatbelts</td>
</tr>
<tr>
<td>✓ Don’t Follow Too Closely</td>
<td>✓ Don’t Drive Drowsy</td>
</tr>
<tr>
<td>✓ Be Extra Cautious in Poor Conditions</td>
<td>✓ Don’t Drink and Drive</td>
</tr>
</tbody>
</table>
Safe Driving Precautions
Pre-Trip Inspection & Walk Around

- Pre-trip Walk Around
  - windows, mirrors
  - lights, tires, fluids

- Inside the Vehicle
  - adjust to driver
  - check gauges
  - gas ½ tank full
  - settings in advance

- Prepare mentally
  - distractions minimal
  - mentally ready
  - stress/emotion/attitude
  - drowsiness/fatigue
# Safe Driving Precautions

## The Bigger Picture

### Getting the Big Picture
- scan the road ahead
- keep your eyes moving
- mirrors every 4-5 seconds
- 3-4 second following distance

### Driving Laws
- observe speed limits
- traffic signs & signals
- follow ‘rules of the road’
- use common sense, and your signal!

### Keep Alert & Prepared
- minimize distractions
- keep your mind on driving & hands on the wheel
- drive defensively
- yield to aggressors

### Keep Cool & Calm
- emotions in check
- allow enough time
- don’t provoke, or be angered
- report others as appropriate

### Drive for Conditions
- adjust to road/weather conditions
- lights & wipers
- stopping distance can be 3-12X longer
- do not overdrive your lights at night
Safe Driving Precautions
Risk Reduction Checklist

While Driving

✓ Visual search: look 10-15 seconds ahead for objects or conditions that could become a threat
✓ Have a plan: identify an alternate path of travel, and the level of traction available
✓ Never tailgate: always travel with an adequate cushion of space ahead
✓ Position your vehicle: with space to the sides and front with an escape route
✓ Obey all traffic controls/laws
✓ Exercise the right-of-way rules
✓ Drive defensively: try to predict the possible actions of other highway users
✓ See and be seen: communicate your presence to others
✓ Avoid sudden steering and braking movements
✓ Avoid distractions and be a considerate driver
Technology Within the Vehicle

• Bluetooth hands-free technology
  – If you talk while driving, this is a MUST for keeping hands on the wheel while cognitive actions are not fully on driving.

• Voice activated dialing

• Vehicle rear camera technology

• Phone suppression technology (Zoom Safer, Key2safedriving)
  – Screens calls and alerts you if it’s a critical number or call so you can pull over (integrates with your key then phone via Bluetooth)
  – Blocks text messages and sends messages indicating you are driving
Technology Within the Vehicle

• Telematics (black box for your vehicle)
  – Insurance companies
  – Rental cars
  – Fleet vehicles

• Anti-collision technology

• Electronic stability

• Blind spot detectors

• Drowsiness sensors

• Driver Cams

• Electronic Logging Devices (ELD)
8 Tech Features That Improve Car Safety

Electronic Stability Control
Slows individual wheels during a turn to keep car on course.

Lane-Keep Assist
Detects lane departure and steers vehicle back into the correct lane.

Adaptive Cruise Control
Monitors the driver-set speed and distance to the vehicle ahead.

Adaptive Headlights
Improve forward illumination based on road conditions.

Collision Warning System
Alerts the driver if a collision is imminent.

Active Park Assist
Helps parallel park the vehicle with no steering from the driver.

360-Degree Camera
Improves visibility when backing up or parking.

Drowsiness Alert
Uses automobile or driver data to indicate when you need a break.

Get help finding your next vehicle at usaa.com/carbuying.
Big Brother is Here, Embrace it (Caterpillar and Trucking Companies in Full Swing)

• There is some good upside
  – Drivers can be monitored, scored and coached to be safer drivers.
  – Can protect the truck or fleet driver by recording the incident on video and telematics.
  – It will cause immediate and positive behavior changes in drivers.

• It’s all in how a company communicates and uses these tools.
  – Get educated
  – Communicate openly
  – Be patient
  – Keep it positive
  – Follow thru
  – Share rewards
  – Gain buy-in
  – More reward than stick is my recommendation

• Studies have shown a 10% improvement in a driver safety score will yield an 8.2% reduction in collision frequency.
Gas Operations

Driver Rodeo
Purpose

• To provide our “drivers” training to assist in keeping them safe on the road
• Competition which will offer incentive for superior performance
• Highlight a sense of pride to safe and skillful driving
• Build comradery and add a fun factor to the training
District Yard Training

• Custom designed for specific driving hazards and issues
• Designed for maximum interaction and participation with drivers
• Clear message sent by management on driving expectations
• Need to “FOCUS” on driving when behind the wheel key discussion point
Driving Skills Qualifier

• Backing alley off-set track
• 9 foot alley with blind spots
• One pull-up and one get out allowed
• Closest to the bar without hitting it
• Challenging course
• Best in each class selected for finals in each district (van, dump, swat - finalists)
Finals

• All finalists start with 100 points
• All vehicles inspected for DOT compliance and house-keeping (team paired inspectors of Eversource Safety & Gas Operations)
• Points lost for inspection issues found and hitting cones or mirrors
• Bonus points given for closest to the bar
• 3 skills on one track
  – Forward slalom to tight turn and forward stop
  – Alley dock back
  – Offset alley back with mirror hazards
• 2 pull-ups and 2 gets outs allowed, extra ones cost 5 points
Program Observations

• Excellent discussion during training sessions
• Solid communication and strong messages sent
• Pride in the finalists and other drivers was evident
• It was a great opportunity to assess driver skill levels and showed a need for more training
• The event built comradery and created some motivation around driving safety
• The investment made a shift in the way some of our drivers approach the task of “getting behind the wheel”
NSTAR Gas
Driving Rodeo
Box Truck
Category
Champions
Other Programs

• Dump trucks with trailers competition
• Back Hoe competition
• Pick up trucks & Supervisor competition
• Electric and Gas together in finals
• “One on One” driver coaching
• Driver narrative sessions
• Van driver training
Conclusion

• I hope you picked up a few tips to help you drive safer
  – Lead by example
  – Educate your fellow employees and new drivers/teens around you
• Try a few on your way home
• Always be prepared for the unexpected, it could safe your life and the lives of others
• Turn on the safety switch when driving!
• Thanks for your time