

# NGA Gas School

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Driver Safety Tools & Technology

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# Introduction



# 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**

# (Un)Safe Driving Statistics



- Driving may be the most dangerous thing we do each day
  - injured in vehicle every 18 seconds
  - 40,000+ die/yr in vehicle accidents, 110 daily
  - 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?

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

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)

✓ Avoid Distractions	✓ Keep your Vehicle Maintained
✓ Practice Defensive Driving	✓ Don't Speed
✓ Be Aware/Anticipate Others Actions	✓ Wear your Seatbelts
✓ Don't Follow Too Closely	✓ Don't Drive Drowsy
✓ Be Extra Cautious in Poor Conditions	✓ Don't Drink and Drive

# 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

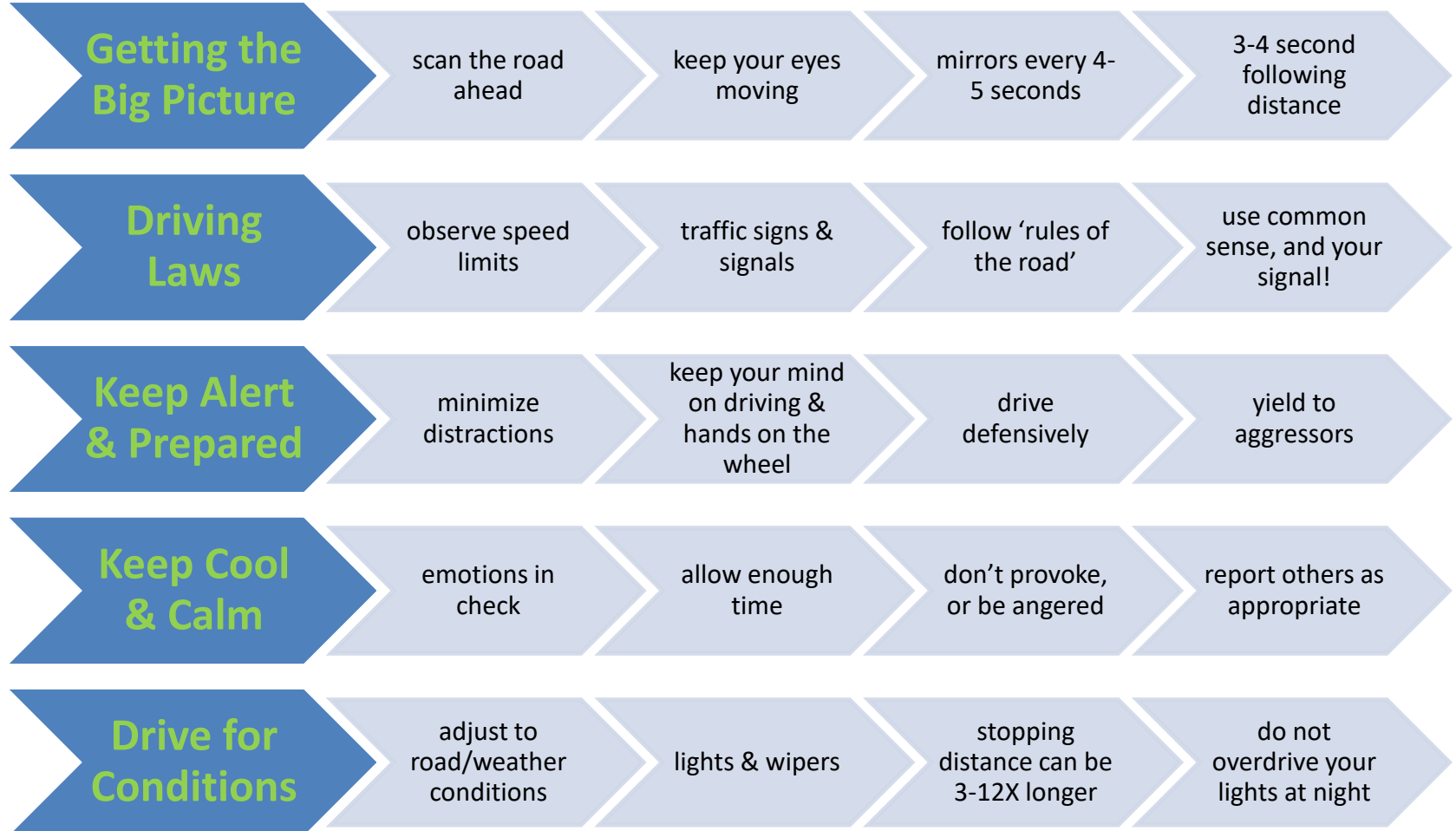
## Things to have on-board Checklist



- ✓ Spare tire and jack
- ✓ Tire inflator and tire foam sealer
- ✓ Jumper cables
- ✓ Jump pack
- ✓ Tire pressure gauge
- ✓ Car manual
- ✓ Duct tape and zip ties
- ✓ Multi-tool
- ✓ Flashlight
- ✓ Energy bars and water
- ✓ Reflective triangle set
- ✓ Ice scraper
- ✓ Traction for rear wheels (kitty litter or carpet floor mats)
- ✓ Hand sanitizer can thaw frozen locks
- ✓ Rain X

# Safe Driving Precautions

## The Bigger Picture



# 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



# Driving Facts

- Dashed highway lines
  - 10 feet long
  - 30 feet in-between lines
- 60 mph = 88 ft./second, 80 mph = 117 ft./second
  - Approximately 3 dotted lines per second
- Reaction time data while driving
  - Average 1.5 seconds or 120 feet traveled before brakes applied
  - Brake engagement distance = 0.3 seconds or 25 feet
  - Physical force distance = 134 feet
  - Total stopping distance = 279 feet or about 7 white highway lines
- 3-4 second rule is key
- Tread depth minimum 1/16<sup>th</sup> inch
- 77% traffic accidents attributed to driver error
- 43% 1<sup>st</sup> year drivers and 37% 2<sup>nd</sup> year involved in car crashes (training reduces this)

# 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 you key then phone via Bluetooth)
  - Blocks text messages and sends messages indicating your 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

## Lane-Keep Assist

Detects lane departure and steers vehicle back into the correct lane.

## Electronic Stability Control

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



## 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](https://www.usaa.com/carbuying).

# Telematics, 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 we utilize these tools.
- Studies have shown a 10% improvement in a driver safety score will yield an 8.2% reduction in collision frequency.

# My Top 10 Pet Peeves on the Road

- Don't go when light turns green
- Indecisive turning
- Not turning on headlights
- Slow driving in passing lane
- Not using turn signal
- Not turning off high beams
- Not letting others merge (zipper merge)
- Taking up more than one parking spot
- Parking in handicap spots illegally
- Texting while driving
- Bonus
  - Unrepaired or Unprepared vehicles

# 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 save your life and the lives of others
- Turn on the safety switch when driving!
- Thanks for your time



# 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”

# 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