Driving Safely is Everyone’s Mission

NASA Vehicle Safety

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This and previous presentations are archived at sma.nasa.gov/safety-messages
**THE PROBLEM**

Nearly 40% of all damage mishaps at NASA locations between 2009 and 2011 involved motor vehicle accidents

- There were 475 transportation mishaps and close calls between 2009 and 2011
- There have been fatalities and serious injuries on or near NASA sites, including a fatality in July 2012
- The majority of accidents were caused by
  - Vehicle-to-vehicle collisions
  - Vehicles running into stationary objects

### Transportation Damage Mishaps by Detailed Initiating Event (2009-2011)

- **Vehicle Struck Object**: 65%
- **Collision**: 26%
- **Other Initiating Event**: 9%

### Transportation Incidents by Vehicle Collisions (2009-2011)

- **Backing**: 47%
- **Driving Forward**: 26%
- **Turning**: 7%
- **Unknown**: 21%

### Transportation Incidents by Struck Objects (2009-2011)

- **Backing**: 27%
- **Clearance**: 18%
- **Driving Forward**: 13%
- **Turning**: 13%
- **Brake Failure**: 2%
- **Unknown**: 27%
WHAT HAPPENED?

Skills for backing are often lacking
- Nearly 50% of collisions and more than 25% of all struck-object incidents were caused by vehicles that were backing up
- In both categories, backing accidents led all other transportation incidents at NASA

Driving forward, clearing, and turning
- Second-most frequent cause of vehicle incidents at NASA involved driving forward
- Third-most involved clearance incidents (side and overhead)
- Fourth-most involved turning

Serious mishaps happen
- In 2012, a NASA employee was in what appeared to be a minor incident in an Agency parking lot
- After the employee’s vehicle struck a stop sign supported by a concrete pole, the driver had to be hospitalized with a neck fracture
- Even seemingly minor accidents can result in serious injuries

Pedestrians are also at risk
- There have been many close calls involving pedestrians on NASA sites
- For the majority of the incidents reported, the drivers were exceeding the posted speed limit and/or not paying attention
- In some cases, it was the pedestrians who weren’t paying attention
WHERE DID IT HAPPEN?

Where drivers were at the time of the incidents

- While many of the locations of NASA’s transportation incidents were not specifically recorded, a significant number occurred in parking lots and at gates
- Everyone who works at a NASA Center of facility passes through its gates and parks in its lots
  - In a 2009 incident, an employee driving a government-owned truck misjudged oncoming traffic and ran into a gate
  - There were no injuries, but the damages to the truck and gate were costly

Location-specific dangers

- NASA sites range from compact campuses with lots of buildings, vehicles, and pedestrians to wide open spaces where wild animals roam the roads
- NASA also has vehicles (tour buses, forklifts) and equipment (construction cranes, transport trailers) that are commonly encountered within the Agency’s gates
- Because conditions vary so much, drivers must pay attention to the particular dangers of their locations

Mishaps in parking lots

- Because vehicle speeds are much slower in parking lots, many drivers don’t think about the greater potential for accidents
- Although few injuries occur in parking lots, damages and the cost of repairs can be troublesome and expensive
- One out of every four vehicle accidents in the U.S. is the result of poor backing up procedures

Some backing tips

- Park conveniently, do a walk-around, use a spotter, know your blind spots, clear your windows, turn around and look, back up slowly
WHERE DID IT HAPPEN?

- 29% Occurred in Parking Lots
- 7% Happened at Gates
- 11% Struck Object Incidents
- 14% Vehicle Collisions

Driving Safely is Everyone’s Mission – NASA Vehicle Safety
Driven to distraction

• Based on the types of accidents and reasons that were reported, the causes for mishaps on NASA property are similar to the causes of accidents outside the gates
  – Weather and mechanical problems can be factors
  – More often, it is something the driver did or didn’t do that led to the accident

• Statistics show that one of the principal causes of fatal and serious injury crashes on U.S. roads is **distracted driving**
  – Because of the nature of the transportation incidents that occur at NASA, distracted driving is a major concern
  – Any distraction inside a motor vehicle endangers the safety of the driver, passengers, and those outside the vehicle

• The National Highway Traffic Safety Administration lists three types of distracted driving:
  – **Visual** — taking your eyes of the road
  – **Manual** — taking your hands off the wheel
  – **Cognitive** — taking your mind off your driving

• The U.S. Government’s website, Distraction.gov, defines distracted driving as “Any activity that could divert a person’s attention away from the primary task of driving.”
**Typical driving distractions**

- The Virginia Tech Transportation Institute (VTTI) conducted a study to review the relative risk estimates for crash and near-crash inattention events.
- The results showed increased crash risk (number of times more likely to crash) for the following behaviors:

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Times More Likely to Crash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applying Makeup</td>
<td>3</td>
</tr>
<tr>
<td>Reading</td>
<td>3.4</td>
</tr>
<tr>
<td>Looking at External Object</td>
<td>3.7</td>
</tr>
<tr>
<td>Talking on a Cell Phone</td>
<td>4</td>
</tr>
<tr>
<td>Driving Drowsy</td>
<td>4</td>
</tr>
<tr>
<td>Dialing a Cell Phone</td>
<td>6</td>
</tr>
<tr>
<td>Reaching for a Moving Object</td>
<td>9</td>
</tr>
<tr>
<td>Texting While Driving</td>
<td>23</td>
</tr>
</tbody>
</table>
BEYOND THE NASA GATE…

**No texting while driving—it’s the law for Federal employees**

- On September 30, 2009, President Obama signed an Executive Order directing Federal employees to not engage in text messaging
  1. While driving government-owned vehicles
  2. When using electronic equipment supplied by the government while driving
  3. While driving privately owned vehicles when they are on official government business
- The order also encourages Federal contractors and others doing business with the government to adopt and enforce their own policies banning texting while driving on the job

**Beyond the NASA Gate**

- NASA wants you to be safe wherever you are travelling and in whatever vehicle you use
- Safe driving practices should be followed while you’re on NASA property, on your daily commute, and on your own time
- If all NASA employees drive safely, there will be fewer transportation incidents, along with the physical, emotional, and financial costs
- Stay focused and don’t let distractions make you a traffic statistic
- Driving safely is everyone’s mission
For more information, visit the NSC’s Transportation Safety Campaign page at [http://nsc.nasa.gov/resources/studies/transportationsafety](http://nsc.nasa.gov/resources/studies/transportationsafety).