Driver Distraction: Overview of the Problem & NHTSA Activities

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What is Driver Distraction?

Distraction is anything that takes away visual, manual, or cognitive resources from the driving task.

[does not include other types of inattention (ex., fatigue)]
Driver Distraction Problem

- Reported in 16 percent of all fatal crashes
- Younger drivers most at risk
- Observations indicate that about 11 percent of drivers use cell phones at any point in time
- Naturalistic driving study indicates distraction contributes to 22 percent of crashes and near-crashes
Driver Distraction Problem

Distracted drivers are involved in:

- 11 percent of bicyclist fatalities
- 16 percent of bicyclist injuries
- 9 percent of pedestrian fatalities
- 15 percent of pedestrian injuries
Naturalistic Driving Behavior Study

- Instrumented extensively 100 vehicles for one year, continuously recording drivers
- 42,300 hours of driving data collected/ ~2 M miles of driving
- 109 primary drivers, 241 total drivers
- Ages 18-73
- 82 “crashes” and collisions (15 police reported)

<table>
<thead>
<tr>
<th>Type of Secondary Task</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaching for a moving object</td>
<td>8.82</td>
</tr>
<tr>
<td>Insect in Vehicle</td>
<td>6.37</td>
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<tr>
<td>Looking at external object</td>
<td>3.70</td>
</tr>
<tr>
<td>Reading</td>
<td>3.38</td>
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<tr>
<td>Applying makeup</td>
<td>3.13</td>
</tr>
<tr>
<td><strong>Dialing hand-held device</strong></td>
<td><strong>2.79</strong></td>
</tr>
<tr>
<td>Inserting/retrieving CD</td>
<td>2.25</td>
</tr>
<tr>
<td>Eating</td>
<td>1.57</td>
</tr>
<tr>
<td>Reaching for non-moving object</td>
<td>1.38</td>
</tr>
<tr>
<td><strong>Talking/listening to a hand-held device</strong></td>
<td><strong>1.29</strong></td>
</tr>
<tr>
<td>Drinking from open container</td>
<td>1.03</td>
</tr>
<tr>
<td>Other personal hygiene</td>
<td>0.70</td>
</tr>
<tr>
<td>Adjusting radio</td>
<td>0.55</td>
</tr>
<tr>
<td>Passenger in adjacent seat</td>
<td>0.50</td>
</tr>
<tr>
<td>Passenger in rear seat</td>
<td>0.39</td>
</tr>
<tr>
<td>Child in rear seat</td>
<td>0.33</td>
</tr>
</tbody>
</table>

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Our Mission: Save lives, prevent injuries, reduce vehicle-related crashes
Previous NHTSA Research – Distraction Summary

- Provides a comprehensive summary of relevant research to date
- All reports are available on the NHTSA web page
Current and Future Research

- NHTSA goal: Eliminate distraction-related crashes.
- To move toward this goal, we developed an agency-wide research plan, which outlines current and future research projects.
- The plan was released in April and is posted on www.Distraction.gov
NHTSA Distraction Plan

Eliminate Crashes Due to Distraction

**Initiative 1**
Improve the Understanding of the Problem
- Data Approach

**Initiative 2**
Reduce Workload from Interfaces
- Vehicle Approaches

**Initiative 3**
Keep Drivers Safe

**Initiative 4**
Recognize Risks and Consequences
- Behavioral Approach

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Improve Understanding

Initiative 1: Improve the Understanding of the Problem

Efforts

1. Initiate improved police reporting
2. Analyze additional crash data
3. Continue observational studies
4. Publish observational protocol
5. Plan analyses for SHRP 2
6. Assess use of new technology
7. Assess cell phone interfaces
8. Evaluate manual entry tasks

Outcomes

- Improved data quality through standardized reporting
- Improved countermeasure identification
- Continued tracking of use
- Improved protocols and data collection techniques
- Provide guidance to outside entities on data collection methods
- Increased understanding of rate/effect/sources of distracted driving
- Information on driver use patterns to identify (dis)benefits
- New data collection methods
- Estimates of exposure, risk of using each interface type
- Estimates of distraction potential of different tasks
Reduce Workload (Distraction) from Interfaces

*Initiative 2: Reduce Workload From Interfaces*

**Efforts**

1. Review current guidelines
   - Assess use of current guidelines
   - Identify enhancements

2. Develop distraction and usability metrics
   - Develop test procedures to evaluate in-vehicle and nomadic interfaces

3. Integrate findings of previous tasks to develop guidelines
   - Develop voluntary guidelines

**Outcomes**

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Keep Drivers Safe

Initiative 3: Keep Distracted Driver Safe

**Efforts**

1. Improve crash warning interfaces
2. Quantify benefits of crash warning systems
3. Assess distraction monitoring systems
4. Assess effectiveness (technical and behavioral) of cell phone blockers

**Outcomes**

- Estimate effectiveness and acceptability of different HMIs
- Estimate crash reduction benefits, long term effects of crash warning technologies
- Develop a set of testing protocols to evaluate/compare systems
- Estimate effectiveness of these systems

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Recognize Risks and Consequences

**Initiative 4:** Recognize Risks and Consequences

**Efforts**

1. Evaluate laws and high-visibility enforcement
2. Develop targeted media messages
3. Draft and publish model law for use by states
4. Publish guidance for Federal ban
5. Assess potential of education and training programs
6. Develop program resource through World Health Org.

**Outcomes**

- Determine effectiveness of laws, high-visibility enforcement
- Assess the effectiveness of media campaigns on enforcement
- Provide guidance to States
- Develop employee information program to increase compliance
- Evaluate ways to modify or reduce behaviors
- International leadership and outreach on driver distraction

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Stop Distracted Driving Demonstration Projects

- Hartford, CT and Syracuse, NY
- Demonstration projects consist of four waves of high visibility enforcement in April, July, October 2010, and February/April 2011 coupled with strong paid media and earned media campaigns
Distracted Driving Program Information Kit

- Developed in cooperation with WHO, UNRSC, and UNECE
- Provide information to develop & implement a distracted driving program
- Focused on portable electronic devices
- Two sections:
  - Report on the status of the problem & available countermeasures
  - A series of information/factoid sheets
Distracted Driving Summit

- Second National Distracted Driving Summit will be held on September 21, 2010, in Washington, DC.
- Meeting of leading transportation officials, safety advocates, law enforcement, industry, researchers, and victims affected by distraction-related crashes
- Address challenges and identify opportunities for national anti-distracted driving efforts.