
What is distraction?
Distraction and inattention

- **Driver distraction** is a **diversion of attention** away from activities critical for safe driving toward a competing activity.

- **Driver inattention** is **diminished attention** to activities that are critical for safe driving in the absence of a competing activity.

- Sources of diminished attention include fatigue and alcohol.

Distraction sources

- Built-in, carried-in, and outside the vehicle
- Passengers—attractions and distractions
- Role of person behind the wheel: driver or mother, boyfriend, diner, worker...
Distraction types

- **Visual**—eyes off the road
- **Manual**—hands off wheel
- **Cognitive**—mind off the road

- Hands free phone
- Radio tuning
- Reaching
- Texting
Distraction dangers

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Rare</th>
<th>Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity</td>
<td>C+V+M</td>
<td></td>
</tr>
</tbody>
</table>

- Texting: C
- Radio tuning: M
- Reaching for moving object: C
- Talking/listening to hand held device: M

Severe
Why is distraction dangerous?
It’s using very electronic difficult devices to near pay railroad attention tracks to can two be things extremely at dangerous once.

Don’t text near trains.

CommonSenseUseIt.com
Ball Game

- Watch ball being passed between players in white
- Count number of passes
- Don’t let players in black distract you

https://www.youtube.com/watch?v=vJG698U2Mvo
Distraction in a driving simulator

Taylor, Roman, McFeaters, Romoser, Borowsky, Merritt, Pollatsek, Lee and Fisher
(In preparation)
Drivers neglect hazards with cellphone

<table>
<thead>
<tr>
<th>Hazard</th>
<th>With cellphone</th>
<th>Without cellphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left side of crosswalk hidden by traffic</td>
<td>21.4%</td>
<td>92.9%</td>
</tr>
<tr>
<td>Fresh green light</td>
<td>14.3%</td>
<td>21.4%</td>
</tr>
</tbody>
</table>
Portion of drivers glancing to hazard location with and without cellphone

<table>
<thead>
<tr>
<th></th>
<th>No Intersection</th>
<th>Intersection</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Cellphone</td>
<td>.19</td>
<td>.39</td>
</tr>
<tr>
<td>Without Cellphone</td>
<td>.61</td>
<td>.64</td>
</tr>
</tbody>
</table>
Scrolling while driving

![Graph showing density vs. glance length](image-url)
Direction

What might the future bring?
Event-triggered video feedback for teen drivers

- Accelerometer detects severe braking and steering
- Camera captures video to share with parents

Next generation cars: Attend to the driver and road.
Facebook updates and web searches while driving???
Distraction without “safety critical driving activity”?

Mercedes 2014 S Class
Semi-autonomous driving

Volvo’s City Safe auto braking
ABBA and safety culture
Driver distraction

- Definition: Eyes, Hands, or Mind off the road

- Danger: Poor feedback regarding dangerous behavior makes risky behavior seem safe

- Direction: Quickly changing technology offers great promise, but also threatens drivers

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