



## DISTRACTED DRIVING

### WHAT IS...

#### What is distracted driving?

Distracted driving occurs when a driver's attention is diverted away from driving because they are focused on something non-driving related.

- > There are two main categories of distraction: internal distractions occur within the vehicle (e.g., reading a newspaper, tending to children, eating) and external distractions occur outside of the vehicle (e.g., looking at billboards, staring at activities on the roadside, reading road signs).<sup>1</sup>
- > Sources of distraction can be grouped into three main categories: visual (eyes off the road), manual (hands off the wheel) and cognitive (mind off task).<sup>2</sup>
- > The effect of distracted driving: a reduction of the driver's awareness of changes in the road environment, decision-making about how to respond to changes, and their ability to safely control the vehicle.
- > Common errors resulting from distracted driving: following too close, failing to maintain lane position (wandering or weaving), irregular speed, red-light running and delayed reaction times.
- > The consequences of distracted driving: increased risk of corrective actions (such as slamming on the brakes to avoid hitting another vehicle, adjusting steering in order to maintain position in the lane), near-crashes or crashes.

#### How many young drivers crash while driving distracted?

Many studies on distracted driving have concluded that young drivers make up a disproportionate number of distracted drivers involved in crashes. In the United States (U.S.), young drivers make up only 6% of the licenced driver population but they account for 13% of the drivers involved in a distracted driving crash. About 985,000 drivers under the age of 21 were involved in a distracted driving-related crash within the last five years. Similarly, about 1.7 million drivers (23%) in their twenties have had a distraction-related crash.<sup>3</sup>

1 Hedlund 2006  
2 Strayer et al. 2013  
3 NHTSA 2010

### BEHAVIOURS

#### Why is distracted driving dangerous?

Humans are 'serial processors' of information, meaning they can only effectively process one thing at a time,<sup>4</sup> or focus their attention on one task at a time. The ability to 'multi-task' is a common misconception. In reality, people cannot multi-task and by trying to do so, neither task receives the necessary amount of attention.

Driving is a complex task that requires "divided attention", as drivers must perform cognitive, manual and visual tasks at the same time. This means that drivers must be able to physically operate the vehicle as well as observe the environment, recognize hazards and decide how to respond to them. Adding in other tasks unrelated to driving (e.g., eating, talking on the phone, changing the radio) to this already heavy workload can overload the brain. Once the brain is overloaded, driving ability can suffer because the brain is unable to give the needed amount of attention to all the demands at hand.

Many people do not recognize the magnitude of the distracted driving problem. While issues such as drinking and driving have been around for a long time, distracted driving has only gained serious attention in recent years. Road users may not realize that distracted driving can pose an even bigger threat. For instance, texting while driving has been found to be 2 to 5 times more risky than driving drunk.<sup>5</sup>

#### What distractions are most common for young drivers?

**Internal distractions.** Studies show that 70% of distractions are inside the vehicle. The younger the driver, the more likely they will engage in non-driving tasks within their vehicle.<sup>6</sup> The top two most common distracted driving behaviours for youth are talking to passengers (80%-90% of drivers) and adjusting the car radio (70%-80% of drivers).<sup>7</sup>

Electronics are also a well-known type of in-vehicle distraction, specifically cell/smart phones, but other in-vehicle devices such as navigation systems and mp3 players are becoming increasingly popular. It has been proven that

4 Smiley 2005  
5 Harkness 2013  
6 Ranney 2008  
7 NHTSA 2011

using in-vehicle technology while driving increases the risk of a collision.<sup>8</sup> For example, a driver's crash risk is four times higher if he or she is talking on a cell- phone<sup>9</sup> and 23 times higher if he or she is texting on a cell-phone.<sup>10</sup> The visual and manual distraction caused by hand-held cell phones has also been shown to degrade driver performance and increase crash risk.<sup>11</sup>

### Do passengers increase the crash risk for young drivers?

**Yes.** The presence of teen passengers in the vehicle increases the already high crash risk of young drivers. Even when sober, 16-19 year olds have a fatal crash rate more than four times as high as that of drivers aged 25-34, and nine times as high as drivers aged 45-54.<sup>12</sup> With each extra teen passenger in the vehicle, the risk of crashing goes up.<sup>13</sup> For instance, a study conducted in New Zealand found that young drivers who are carrying a passenger the same age as themselves are 2.5 times more likely to crash than when driving alone. It is 5.5 times more likely they will crash when young drivers carry two or more passengers of the same age.<sup>14</sup>

### How do passengers distract young drivers?

Distraction can come from having a conversation with a passenger<sup>15</sup>, the movements or actions of a passenger<sup>16</sup> or the social environment created in a vehicle that is full of teens. For instance, the presence of teenage passengers has been found to influence young drivers to take risks and show off.<sup>17</sup> Also, focus groups reported that most young drivers do not have the confidence to impose safety rules on their young passengers (e.g., telling passengers to wear their seatbelts).<sup>18</sup>

Males are more prone to the influence of passengers – they are almost six times more likely to perform an illegal driving move in the presence of peer passengers compared to driving alone. Aggressive acts among male drivers are almost three times higher in the presence of female passengers than without passengers. This influence does not affect young female drivers.<sup>19</sup>

### How do distractions affect young drivers compared to experienced drivers?

Studies of in-vehicle cell-phone use found that both types of drivers are negatively affected, but experienced drivers are more likely to account for their distraction by slowing down or leaving more space between themselves and the car in front of them. Young drivers, on the other hand, drive at similar speeds regardless of whether they are on the phone or

not and also have been found to wander in their lane when on the phone.<sup>20</sup> This shows that the inexperience of young drivers makes distracted driving an even more dangerous behaviour than an experienced driver, adding to their already high risk of crashing.

### Who, among young drivers, is most likely to get distracted?

Studies show that incidences of distraction are the highest among male drivers.<sup>21</sup> The emotional state of a young driver can also influence the likelihood of distraction, especially with respect to cell phone use. This means the current mood of a young driver can increase the likelihood that they will distract themselves within their vehicles, which may lead to driving errors. For example, young drivers may use texting to improve their bad mood or to feel connected to another person when bored or lonely,<sup>22</sup> which diverts their attention away from the road. As well, if teens make a phone call, the complexity and emotional content of the conversation has been found to affect their driving reaction times.<sup>23</sup>

## ATTITUDES, CONCERNS AND PERCEPTIONS

### How many Canadians are concerned with distracted driving?

In a national poll in 2012, Canadians were asked about a series of specific road safety concerns and about how serious they think these problems are. For the third year in a row, texting while driving was ranked number one as the most concerning issue for road safety, with 87.4% of respondents choosing this option. Drinking and driving, which often is the number one issue, came in second at 81.5%.<sup>24</sup> A similar poll was conducted with young Canadians. Of all the road safety issues, the second highest rating of concern for young drivers was texting while driving with 83% rating this as a very or extremely serious problem (drinking and driving rated as the first).<sup>25</sup> Distracted driving was fifth on the list with 69.2% rating this as a very or extremely serious problem.

Confirming previous studies, a poll conducted by the American Automobile Association Foundation for Traffic Safety (AAAFTS) found that 88.5% of respondents felt that drivers talking on cell phones was a somewhat or very serious threat to their safety. However, the same study found that 56.2% of respondents considered hands-free devices to be somewhat or completely acceptable.<sup>26</sup>

### Do young drivers understand the risks associated with using hand-held devices while driving?

**No.** Young drivers are more likely to use hand-held devices in particular while driving and are less likely to view them as dangerous.<sup>27</sup> A recent survey reported that 61% of drivers

8 Kircher et al. 2011

9 McEvoy et al. 2005

10 VTTI 2009

11 Fitch et al. 2013

12 Mayhew et al. 2005

13 Curry et al. 2011

14 Lam et al. 2003

15 Ranney 2008

16 Curry et al. 2011

17 Williams 2002

18 NHTSA 2006

19 Curry et al. 2011

20 Smiley et al. 2008

21 Robertson et al. 2011

22 Feldman 2011

23 Kircher et al. 2011

24 Marcoux et al. 2012

25 Marcoux et al. 2011

26 Strayer et al. 2013

27 Herrmann 2011

ages 16 to 24 had read an email or text while driving at least once in the past 30 days. Comparatively, only 10.6% of drivers ages 60 to 74 reported the same behaviour.<sup>28</sup> Young drivers are also more likely to take risks and be unaware of dangers with respect to cell phone use. No evidence suggests hands-free use is less risky than hand-held use.<sup>29</sup>

Although hands-free cell phones have been promoted as a safe alternative to hand-held cell phone use while driving, hands-free functions should not be relied upon by young drivers to avoid distracted driving. There is significant research saying that they are not actually as safe as people may believe. A study conducted by the National Highway Traffic Safety Administration (NHTSA) revealed that hands-free device use often involved hand-held set up and use before and after making a call or sending a text message. Even during hands-free use, voice systems often fail to recognize commands, requiring the user to make physical corrections, which creates further distraction.<sup>30</sup> Even if hands-free devices were to operate perfectly, they still create a significant amount of cognitive distraction to drivers. Cognitive distractions can lead to impairments such as: suppressed brain activity, increased reaction time, missed cues and decreased accuracy, and, decreased visual scanning,<sup>31</sup> all of which are essential functions needed to drive safely.

## LEGISLATION

### Are there provincial/territorial distracted driving laws?

**Yes.** Almost all Canadian jurisdictions have passed legislation banning hand-held devices while driving that is contained in provincial/territorial highway traffic acts. Penalties incurred range from fines of \$80 (Quebec) to \$250 (Prince Edward Island) and on average, about three to four demerit points can be accumulated for the infraction in some jurisdictions.<sup>32</sup> In 2011, Alberta banned a broader range of distracted driving behaviours in addition to the use of hand-held devices. For example, programming navigation systems and personal grooming while driving are also covered under Alberta's distracted driving law.<sup>33</sup>

All jurisdictions have the offence of "careless driving" or "driving without due care and attention". In Ontario, if a driver endangers others by using a hand-held or hands-free device, he or she can be charged with careless driving which yields a maximum penalty of a fine of \$2,000, six demerit points, six months in jail, and licence suspension for up to two years.<sup>34</sup> In Manitoba, if a driver is convicted of careless driving, they can face fines up to \$5,000 and one year licence suspension. Licence suspension is also a punishment for

careless driving in Prince Edward Island and Nova Scotia.<sup>35</sup>

### Are there specific provincial distracted driving restrictions for young drivers?

**Yes.** All provinces ban young drivers from using hand-held phones while driving. In British Columbia and Saskatchewan, young drivers must abide by the ban on hand-held electronics and also are not allowed to use hand-free electronics while driving. These restrictions are based on recent findings that show that hands-free devices are not safer than using hand-held devices<sup>36</sup> and it is likely other Canadian jurisdictions may also adopt these restrictions for their young drivers. In this regard, a 2010 survey found that 80% of Canadians agreed that new drivers should be restricted from using cell phones while driving.<sup>37</sup>

## SOLUTIONS

### What habits can young drivers develop in order to reduce distracted driving?

Young drivers can reduce their risk of crashing due to distraction by abiding by passenger restrictions enforced by graduated driver licensing programs. Studies show that these restrictions lead to an 88.5% decrease in the fatality risk of 16-year old drivers.<sup>38</sup>

Young drivers are encouraged to develop safe driving habits that reduce distraction in their driving experience, such as:

- > Focus on driving;
- > Never talk or text on your cell phone while driving;
- > Before driving, turn off your phone or set the ringer to "silent" and put your phone away. Use voice mail. Call back later when you are not driving;
- > Do not adjust the radio/CD, channel surf, eat, drink, or comb your hair while driving; and,
- > Drive defensively. Even if you are not distracted, others may be.<sup>39</sup>

### How can distracted driving be reduced among young drivers?

Educational campaigns and programs create awareness about the dangers of distracted driving. Young drivers can help reduce distracted driving by getting involved in these campaigns and programs. For example, the Drop It and Drive Campaign (D.I.A.D) uses blogs, social media and on-site presentations to spread awareness about distracted driving. The goal of the campaign is to make distracted driving as socially unacceptable as drinking and driving.

Many states in the U.S. have begun adopting programs targeted at parents of young drivers. Several programs, such as Michigan's Checkpoints program, have been developed to help parents learn how they can create a safe environment for their teens to develop good driving skills and reduce the risk of distracted driving. As well, it has been shown

28 Strayer et al. 2013

29 Kircher et al. 2011

30 Fitch et al. 2013

31 Strayer et al. 2013

32 Transport Canada 2012

33 Government of Alberta 2011

34 CCMTA 2012

35 Canadian Automobile Association ND

36 Kircher et al. 2011

37 Robertson et al. 2011

38 Vanlaar et al. 2009

39 Transport Canada 2012



that adopting authoritative parenting styles, with regards to supervising new drivers, can reduce the risk of cell phone use when driving by up to 30%.<sup>40</sup>

The 'Distractions Undermining Motorist Behaviour Car' (D.U.M.B car), sponsored by the Insurance Bureau of Canada, is a distraction simulator that travels across several provinces during the summer to different festivals and events and is operated by university students.<sup>41</sup> This car tests a driver's reactions to common distractions (cell phones, eating or drinking, music) and gives youth a controlled environment to get a feel for how dangerous distracted driving can be. By either trying out the simulator or getting involved in the project itself, youth can use this experience to develop safe driving skills.

Another initiative that youth can get involved with is the Canadian Road Safety Youth Committee. This program strives to raise awareness about road safety issues and also advocates for improved road safety policies. Members are part of a national network of young people who speak out on youth related issues. The dangers of distracted driving could be expressed through this program.

For more information go to: [www.youthroadsafety.ca](http://www.youthroadsafety.ca).

Aside from joining clubs or programs, young people can take advantage of accessible social media (such as Facebook, Twitter or YouTube) in order to spread the anti-distracted driving message. By creating as much public awareness about the issue as possible, distracted driving will be recognized as unacceptable and unsafe – hopefully influencing drivers to focus only on the road when driving.

### Are in-vehicle technologies developed by car manufacturers effective in reducing distracted driving?

**No.** There are no studies that have proven these technologies, such as navigation systems or built in voice controls, will lead to a safer driving experience. Transport Canada states in-vehicle technology is a threat to road safety because it can increase driver distraction-related crashes. A mounting body of evidence indicates these devices impair driver performance.<sup>42</sup>

Vehicle manufacturers should focus on minimizing visual and manual interaction with in-vehicle devices. For example, a 'vehicle' mode on devices would lock-out more complex features, such as texting or surfing the web.<sup>43</sup> In order to ensure the safest driving environment as possible, young drivers should not use any in-vehicle technology and should not install any of these devices in their vehicle.

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40 Fischer 2013

41 RCMP 2009

42 Transport Canada 2005

43 Dingus et al. 2011

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