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Countermeasures That Work – Distracted Driving

The National Highway Traffic Safety Administration has published its 10th edition of *Countermeasures That Work*, a basic reference to assist State Highway Safety Offices and other highway safety professionals in selecting effective, evidence-based countermeasures for traffic safety problem areas. This Traffic Tech highlights the effective countermeasures from Chapter 4, “Distracted Driving.”

Background

Distracted driving represents a dangerous behavior on today’s roadways. NHTSA defines distracted driving as anything that diverts the driver’s attention from the primary tasks of driving the vehicle and responding to critical events, i.e., anything that takes the driver’s eyes off the road (visual distraction), hands off the wheel (manual distraction), or mind off the driving task (cognitive distraction). Many activities have the potential to distract a driver. Cell phone use while driving, particularly texting, is risky because it can involve all three forms of distraction. Interacting with a hand-held cell phone while driving increases crash risk 3.6 times, and, specifically, increases crash risk 12.2 times when dialing and 6.1 times when texting as compared to baseline driving without a phone in hand (Dingus et al., 2016).

NHTSA’s 2018 National Occupant Protection Use Survey (NOPUS) reports 3.2% of drivers were talking on hand-held cell phones while driving at a typical daylight moment (NCSA, 2019). In 2018 distraction-affected crashes comprised eight percent of fatal crashes (2,628 distraction-affected fatal crashes out of 33,654 total fatal crashes), with 400,000 people injured and 2,841 people killed (NCSA, 2020). Thirteen percent of fatal distraction-affected crashes involved cell phone use, resulting in 385 deaths.

The 2018 NOPUS also found that hand-held cell phone use continued to be highest among 16- to 24-year-old drivers and lowest among drivers 70 and older (NCSA, 2019). While five percent of all drivers involved in fatal crashes were reported as distracted at the time of the crash (2,688 distracted drivers out of a total of 51,490 drivers involved in fatal crashes), eight percent of drivers 15 to 19 years old involved in fatal crashes were reported as distracted (NCSA, 2020). This age group has the largest proportion of drivers who were distracted at the time of fatal crashes.

NHTSA recognizes there are limitations to the collection and reporting of distraction-affected crashes. Data collection is based on police crash reports, which vary across jurisdictions in how they capture distraction, and other information gathered post-collision. In addition, several potential reasons suggest underreporting for distraction-affected crashes. There are

negative implications associated with distracted driving, especially in conjunction with a crash, that would make it less likely drivers would self-report to law enforcement officers. If a driver fatality occurs in the crash, law enforcement must rely on the crash investigation to report on whether driver distraction was involved. These investigations may rely on witness account and oftentimes these accounts may not be available either. Finally, technologies are changing at a rapid speed, and it is difficult to update crash reports to accommodate these changes.

In 2015 NHTSA conducted the *National Survey on Distracted Driving Attitudes and Behaviors* (Schroeder et al., 2018). Drivers reported at least sometimes engaging in the following potential distractions:

- 68% adjusting the car radio,
- 48% eating or drinking,
- 42% interacting with children in the back seat,
- 38% making or accepting phone calls,
- 36% using a navigational system,
- 36% using a smartphone for driving directions,
- 17% changing CDs, DVDs, or tapes,
- 12% reading email or text messages,
- 9% sending text messages or email, and
- 5% taking pictures with phones.

An analysis of responses to 15 of the survey questions identified two distinct clusters of drivers with similar overall behavioral tendencies. One group was composed of drivers who consistently reported engaging in distracted driving behaviors (“distraction-prone,” or 42% of drivers), and one group was composed of drivers who reported distracted driving behaviors less often (“distraction-averse,” or 58% of drivers). Drivers classified as distraction-prone tended to be younger, more affluent, and have more formal education than those classified as distraction-averse. There was almost no difference in the proportions of distraction-prone and distraction-averse drivers by gender.

In its *2018 Traffic Safety Culture Index*, the AAA Foundation for Traffic Safety reported that 52% of respondents had talked on a hand-held cell phone, 41% had read a text/email, and 32% had typed a text/email while driving in the prior 30 days. Although drivers admit to engaging in distracted driving, most drivers considered talking on a hand-held cell phone (80%), reading a text/email (96%), or typing a text/email while driving (97%) to be very or extremely dangerous.

Effective Distracted Driving Countermeasures

The following sections discuss the two behavioral countermeasures for distracted driving that are supported by research as consistently effective across situations (★★★★), effective in certain situations (★★★), or promising/likely effective (★★). For more information on these countermeasures, their effectiveness, cost, use, and time to implement, see the full *Countermeasures That Work* report.

Countermeasure	Effectiveness
1.1 Graduated Driver Licensing Requirements for Beginning Drivers	★★★★

Graduated Driver Licensing (GDL) Requirements for Beginning Drivers decrease distractions for newly licensed drivers. While teenagers and adults appear to engage in potentially distracted driving activities at similar rates, teens are at higher risk for a crash when engaged in distracting activities than adults. Key areas of the brain are still developing during adolescence, making it more difficult for teens than adults to manage potential distractions. Because GDL systems usually restrict the number of passengers, who increase crash risk for teen drivers, having GDL systems in place can reduce this distraction. However, while GDL systems often restrict the use of cell phones for teen drivers, there is currently no evidence that these restrictions affect cell phone use while driving.

Countermeasure	Effectiveness
1.3 High-Visibility Cell Phone and Text Messaging Enforcement	★★★

High-Visibility Cell Phone and Text Messaging Enforcement can deter cell phone use by increasing the perceived risk of a ticket. The high-visibility enforcement (HVE) model combines dedicated law enforcement with paid and earned media supporting the enforcement activity. Officers actively seek out cell phone users through special roving patrols or through a variety of enforcement techniques such as the spotter technique where a stationary officer radios ahead to another officer when a driver is spotted using a cell phone. High vantage points, taller vehicles such as SUVs, and unmarked vehicles are strategies useful in identifying violators. Earned and paid media are both critical to ensure the public is aware of the enforcement activity and to increase the perception that being caught is likely. Distracted driving HVE programs tend to be effective, with reductions in hand-held cell phone use and increases in program awareness. Although these results are encouraging, the effect of HVE campaigns on crash reduction is not certain.

Conclusion

The relatively small number of countermeasures with proven effectiveness indicates it is difficult to convince or require drivers to avoid distractions while driving. Many drivers con-

sider some distractions to be important and common activities that they are unlikely to give up. In addition, enforcement of cell phone use and text messaging laws remains challenging. Several other countermeasures show promise. For example, officer training shows promise for improving the success of enforcement campaigns. In recent years, several manufacturers have created systems and developers have created smartphone applications that can block cell phones from making (or receiving) calls or texts while people are driving. Although some systems can be circumvented, programs that effectively promote these technologies among those drivers likely to engage in electronic device use while driving will likely decrease distracted driving. Other potentially effective countermeasures, such as stand-alone outreach campaigns and employer programs, could benefit from the creation of new programs coupled with systematic evaluations.

References

- AAA Foundation for Traffic Safety (2019). *2018 Traffic safety culture index*. <https://aaafoundation.org/2018-traffic-safety-culture-index/>
- Dingus, T. A., Guo, F., Lee, S., Antin, J. F., Perez, M., Buchanan-King, M., & Hankey, J. (2016). Driver crash risk factors and prevalence evaluation using naturalistic driving data. *Proceedings of the National Academy of Sciences*, 113(10), 2636–2641. <https://doi.org/10.1073/pnas.1513271113>
- National Center for Statistics and Analysis. (2019, October). *Driver electronic device use in 2018* (Traffic Safety Facts Research Note. Report No. DOT HS 812 818). National Highway Traffic Safety Administration. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812818>
- National Center for Statistics and Analysis. (2020, April). *Distracted driving 2018* (Research Note. Report No. DOT HS 812 926). National Highway Traffic Safety Administration. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812926>
- Schroeder, P., Wilbur, M., & Peña, R. (2018, March). *National survey on distracted driving attitudes and behaviors - 2015* (Report No. DOT HS 812 461). National Highway Traffic Safety Administration. <https://rosap.nhtsa.gov/view/dot/35960>
- Venkatraman, V., Richard, C. M., Magee, K., & Johnson, K. (2021, July). *Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices*, 10th edition 2020 (Report No. DOT HS 813 097). National Highway Traffic Safety Administration. https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-09/15100_Countermeasures10th_080621_v5_tag.pdf

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