Safe Systems Approaches to Distracted Driving

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October 2022

*National Teen Driver Safety Week (NTDSW) is an awareness week designed to build public awareness of teen driver safety issues and encourage communities to be part of the solution. The focus for NTDSW 2022 is distracted driving. Solutions to this issue typically focus on individual behaviour change. This document highlights how road safety professionals can reframe their thinking to apply a safe systems approach to distracted driving.*

A systems approach to distracted driving considers the way that many components of our society (e.g., legislation, enforcement, built environment and drivers) together affect safety on roads (Young & Salmon, 2015). The safe systems approach mostly focuses on the road environment rather than on the individual road user, which acknowledges human error (Young & Salmon, 2015, Institute of Transportation Engineers. n.d.). Vision Zero is a road safety approach based on safe systems principles. The increased adoption of Vision Zero strategies in North America indicates a shift toward placing the responsibility for road safety on the larger system, not only individual drivers (City of Toronto, 2017, Vision Zero Network, n.d.).

A substantial proportion of fatal road collisions involve driver distraction. In Canada, 24 per cent of fatal crashes involved a distracted driver in 2016 (Lyon, Brown, Vanlaar, & Robertson, 2021). Based on a Canadian survey done by Desjardins in 2022, 50 per cent of young drivers (16 to 34 years of age) report having been distracted by their cellphone while driving in the last 12 months (Desjardins Insurance, 2022).

Traditionally, approaches to reduce driver distraction were driver-centric (i.e. driver enforcement and education) which does not recognize the complexity of the factors resulting in drivers becoming distracted (Young & Salmon, 2015). A safe systems approach to distracted driving recognizes many components related to distracted driving, not just focusing on the driver but also on in-vehicle technologies/vehicle designs, cell phone design and other factors related to the road system (legislation, enforcement, road design) (Young & Salmon, 2015).

One focus of the safe systems approach is on roadway environments, which can be designed to minimize the amount of distraction and resulting injuries. Changes to the road environment that are effective and could help minimize the effects of distracted driving include:

* + Separating cyclists from motor vehicles could reduce the chance that distraction will lead to injury/death (Ling, Rothman, Cloutier, Macarthur, & Howard, 2020).
  + Adding rumble strips on the side of highways could help to re-establish driver attention (Hickey, 1997).
  + Reducing vehicle speeds where people may cross the street. Speed is a key factor in road safety and there are effective measures to reduce speed such as speed humps and innovative intersection designs (Rothman, Fridman, Cloutier, Manaugh, & Howard, 2020, Rothman, L. et al., 2015, Candappa, Logan, Van Nes, & Corben, 2015).

An example of a systems intervention for distracted driving is to legislate, install, enforce and educate about the use of technologies that can automatically disable cellphone functions such as texting while driving – all levels of the system would need to be involved in this intervention (Young & Salmon, 2015).

Enforcement is an important element of the safe systems approach. All provinces and territories in Canada have distracted driving legislation, with varying penalties and levels of enforcement (Parachute, 2022). New technology using artificial intelligence to identify distracted driving is currently being studied in Edmonton, Alberta (MacGregor, 2022).

Only by recognizing and understanding the complexity of how all of the system components work together to enable distraction will it be possible to develop adequate solutions to help mitigate the occurrence and consequences of distracted driving (Young & Salmon, 2015).

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