



Individual responsibility in road safety countermeasures: attractive but also effective?

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Introduction

Road crashes are a major cause of death and serious injuries around the world, and the leading cause of child and young adult mortality¹. Several studies indicate our behaviour in traffic to be the most important cause for crashes². Although not undisputed³, these words have resonated among the public and in the policy world. Policy makers are quick to point at behaviour of individual road users as cause of and solution for unsafety. The regional road safety plan of the Dutch Noord-Brabant region states: “How do I behave behind the wheel? According to us, all citizens in Brabant should keep that question in mind when participating in traffic. (...) Your own behaviour in traffic is so very important. That awareness should be raised in all citizens of Brabant.”⁴ These words focus on the responsibility of the individual road user for a better road safety.

Road safety is not the only policy field where policy makers focus at the responsibility of individual citizens to solve policy problems. Stressing the responsibility of individual citizens fits into the neo liberal political vision⁵, in which less regulation, individual choices and efficiency are key. Discussions about the boundaries between individual responsibility and state intervention are at the core of the democratic debate, the legitimacy of governments and the monopoly on violence by states. Discussions have been seen as early as the Greek and Roman philosophers, in publications of political philosophers such as Hobbes and Lock and extensively in the ideas of John Stuart Mill in the eighteenth century.

Although individual responsibility has proven to be an attractive policy direction, the question needs answering whether it is also the most effective one for road safety outcomes. We explore this question for the road safety policy field, where countermeasures can vary on level of individual responsibility. Where airbags do not require any individual responsibility, seat belt reminder nudge you in the right direction, but still require individual action. And education measures rely solely on the individual to put into practice the lessons learned in driver training or mass media campaigns.

This paper addresses three central questions:

1. Does scientific literature show analyses on individual versus state responsibility regarding road safety measures ?

¹ <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>

² Sabey, B.E. & Taylor, H. (1980). The known risks we run: the highway. Transport and Road Research Laboratory, Crowthorne, Berkshire.

³ Hauer, E. (2016). An exemplum and its road safety morals. *Accident Analysis and Prevention* 94, 168–179.

⁴ Provincie Noord-Brabant (2020). Brabants verkeersveiligheidsplan 2020-2024. Provincie Noord-Brabant, 's-Hertogenbosch.

⁵ Vincent, Andrew (2009). *Modern Political Ideologies*. Hoboken, New Jersey: Wiley-Blackwell. p. 337.



2. How do these measures score on individual versus state responsibility?
3. How effective are these measures with individual versus state responsibility?

Methods

The first question was answered through a literature review. For answering the second question, road safety countermeasures were scored on individual and state responsibility, using Calman's eight-step ladder of invasiveness of countermeasures in individual lives⁶. We scored two contrasting categories of measures: measures on speed management and protective measures. The inventory was made based on the SafetyCube DSS, the 2016 European Road Safety Decision Support System⁷, containing more than 200 road safety measures. In the third question, the SafetyCube DSS was used to survey the effectiveness of the chosen measures.

Results

In the scientific literature, we mostly found studies describing the views on responsibility in road safety policies in various spaces and times. However, no studies were found that systematically scored countermeasures on individual versus state responsibility. Neither did we see studies rating the effectiveness of these countermeasures. In the SafetyCubeDSS, the number of speed and protective measures discussed was almost equal (25 versus 27). However, eight times more speed measures than protective measures are based on individual responsibility, consisting of (only) the provision of information as a measure. In reverse, two times more protective measures than speed measures eliminate all choice for individual road users, relying more on state responsibility, using measures such as mandatory airbags in cars. We did not find differences in effectiveness between measures based on individual responsibility or on state responsibility, based on the effect estimations in SafetyCube.

Conclusion and discussion

The discussion on individual versus state responsibility dates back to the social contract of Hobbes and is still relevant in nowadays neo-liberalism times. For the road safety field, we found substantial differences between various categories of countermeasures in the number of measures scoring on individual versus state responsibility. On the basis of the SafetyCubeDSS, we could not conclude that measures based on state responsibility were more effective than measures based on individual responsibility.

This study has a number of limitations. Because the goal of this explorative study was rather to stimulate discussion than to validate theses, the study was limited to two countermeasure categories: speed measures and protective measures. Also, using the SafetyCubeDSS as the only base for both selecting measures and rating their effectiveness, limits this study. For example, SafetyCube rates the effectiveness of mass media campaigns and education substantially higher than some other studies⁸, and no measure at all in SafetyCube is rated ineffective. This could have influenced the outcomes of this study, in particular on the last research question. The study therefore provides many opportunities for more extensive research.

⁶ Calman, K. (2009). Beyond the 'nanny state': Stewardship and public health. *Public Health* 123, e6–e10.

⁷ See <https://www.road-safety-dss.eu/#/>

⁸ SWOV (2024). Traffic education. SWOV fact sheet, March 2024. SWOV, The Hague.
SWOV (2023). Public communication. SWOV fact sheet, June 2023. SWOV, The Hague.