



Knowledge of road safety data at municipalities in the Netherlands

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Introduction

Road crashes are a large cause of fatalities and serious injuries in Europe (European Commission, 2022; Weijermars et al., 2018). In order to prevent crashes and formulate effective road safety policies, municipal civil servants must possess adequate knowledge of proven road safety measures. Past studies have pinpointed obstacles to implementation, including political incentives and budgetary constraints (C.A. Bax, 2011). More recently, a multi-year project was started to assess the level of knowledge municipal civil servants possess regarding road safety. The first study by C.A. Bax, Uijtdewilligen, van der Kint, and Commandeur (2020) showed a glimpse of the knowledge level of municipal civil servants, and where possible improvements could be made. The follow-up study examined how municipal civil servants assess the effectiveness of road safety measures and revealed that there appears to be a knowledge gap, particularly in the realm of traffic education and information C. A. Bax, Uijtdewilligen, and Kint (2021). They seem to rely more on informal sources of knowledge, leading to misjudgement of the effectiveness of measures. The present study uses interviews and a questionnaire to examine which knowledge municipal civil servants have about road safety data and how they use this data.

Methods

The initial study (C.A. Bax et al., 2020) included only a small section on the use of data in road safety within a larger questionnaire, as there was limited knowledge about data usage among municipal civil servants. For the current study, more in depth knowledge was needed to get a feeling for this topic. Therefore, meetings were conducted with relevant stakeholders to determine the necessary data skills and knowledge municipal civil servants should possess. Using this information, semi-structured interviews were designed and then conducted with eight municipal civil servants representing various municipalities. This gave us a deeper insight into their data usage, including accident data and SPIs, as well as their key priorities. Using insights from these interviews, we developed an online questionnaire covering topics such as under-reporting, data access, data collection, data usage, and its application in a risk-based approach. This questionnaire was distributed to all 342 municipalities in the Netherlands, targeting the municipal civil servants overseeing road safety.

Results

In total, 109 municipal civil servants fully completed the questionnaire. About half had a function description related to policy, such as *policy makers*, *policy consultants* or *policy advisors* and a quarter was related to *traffic engineering*. The remaining percentages consisted of specific function descriptions, such as '*traffic specialist*'.



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Regarding the use of data and underreporting, it was revealed that 55% of municipalities understand what underreporting means, but less than half know where to find information about underreporting and how to account for it. More respondents are aware of what underreporting is compared to the 2020 study, although two-thirds of the respondents do not know where to find this information.

Additionally, almost all municipalities pay for their data, or the province does it for them. Two things stood out. First, several municipalities (10 out of 109 respondents) indicate that they lack the funds to purchase data themselves, and their province is unable to provide free data. As a result, they claim to have no access to the data they need to formulate traffic safety policies. The lack of freely accessible data for governments thus obstructs effective data management and evidence-based traffic safety policies. Second, paying for data implies that municipalities (and provinces) depend on commercial providers, where these parties determine the availability, quality, and integrity of data.

Municipalities report using data for all obvious applications such as policy formulation, monitoring, and informing councillors, the council, and inhabitants. However, the vast majority of municipalities state that they have no support for data issues. Although this was not explicitly asked, it is reasonable to assume that a lack of support affects the quality of data, data usage, data knowledge, and data maintenance. In addition, about a quarter of municipalities indicate that they cannot assess the data quality well. In interviews with municipalities and stakeholders, respondents mentioned that they believe assessing data quality is not their responsibility; data providers should ensure the data quality. Municipal officials seem to view themselves more as data users than managers. Given their earlier answers, it does not seem likely that municipalities can independently verify whether (commercial) data providers handle data quality correctly. Therefore, they also do not know exactly what they can and cannot use the data for.

The risk-based approach requires the use of more diverse data sources than in previous years. In addition to crash data, information on infrastructure, speed, traffic behaviour data and more is required. While not all data may be readily available, this research indicates that municipalities are indeed utilising a diverse array of data. Many municipalities are incorporating speed data and information on the condition of their infrastructure alongside crash data.

Conclusion

The findings from the interviews and questionnaire prompt the question of what role municipal officers should play in relation to data and what they are capable of. On the one hand, they could take on the role of data gatherer, collecting (raw) data themselves and understanding all its possibilities and limitations. However, this position is vulnerable due to time, money, and collaboration it requires, particularly posing a challenge for smaller municipalities. On the other hand, civil servants could function as data users, receiving pre-processed data that can be translated into policy and risk assessments. However, they are, again, vulnerable because they have limited awareness of data quality and its implications for usage. Without available support, officers may become reliant on data suppliers for ensuring data quality. Based on these observations, recommendations are formulated.



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