

## Cyclists' perception of maintenance and operation of cycling infrastructure – results from a Norwegian survey

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The Norwegian authorities want to limit the extent of car use in city areas to existing levels. Such a limitation would help combat climate change, improve health of citizens, and alleviate congestion. This implies that any further increase in transport needs will have to be met by walking, cycling and use of public transport. Reaching this ambitious goal requires knowledge about cyclists' preferences concerning operation and maintenance (M&O) of roads and foot/cycle paths. Previous research suggests that M&O have great implications for travel mode choice, bicycle route/path choice, safety, security, and comfort. With the need to serve bicyclists of all ages and genders, this study additionally explores which M&O of roads and foot/cycle the different demographic groups perceive positively or negatively.

This article reports results from a nationwide survey in the summer of 2019. 2376 cyclists across Norway (55% male; 29% <40; 17% >60) participated to determine the cyclists' perceptions about year-round M&O of roads and foot/cycle paths. Respondents, rather than being randomly selected, completed an internet-linked survey. The variables included maintenance of foot/cycle paths in terms of salt and snow plowing and operation and maintenance of roads in terms of glass, holes/bumps, and conditions. Our results suggest that female cyclists suffer more from adverse conditions than do males. We also find that males are more likely to cycle during winter, which is an additional indication that adverse conditions affect women and men differently. Surprisingly, older cyclists report to be less affected by poor conditions than younger cyclists. Self-selection to participate in the survey among older cyclists might be an important explanation for this result. Cycling conditions vary greatly between geographical areas, reflecting the large climatic variations across Norway. Most respondents have experienced a cycle accident where conditions contributed, and many sometimes forfeit cycling due to adverse conditions. Implications for future research and practice of M&O are discussed.