

Summary

Cyclists' perceptions of operation and maintenance - results from a survey in nine urban areas

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The Norwegian zero growth target indicates that future growth in passenger traffic in cities and towns should be in the form of walking, cycling and public transport. Good operation and maintenance of cycle infrastructure are important to achieve this. The report presents the results of a survey of 2555 cyclists in nine urban areas about their perception of operation and maintenance for cycling.

In the summer, holes and bumps, as well as sand, gravel and glass shards on the tarmac are experienced as problems. High curbs are also a problem for some. In winter, many people think plowing is less than adequate on sidewalks and bike paths, but the opinions are more divided when it comes to sanding and salting. Cyclists from Trondheim, Bergen and Tromsø are the least satisfied; cyclists from Kristiansand, Rogaland and Kongsberg are the most satisfied. Women, and especially those over the age of 60, are more concerned about difficult cycling conditions than men are, especially in winter.

The results indicate that better operation and maintenance can lead to more people choosing to ride a bike.

Background

The Norwegian Public Roads Administration's research and development program "Better operation and maintenance for more pedestrians and cyclists" (BEVEGELSE) is about the level of effort and methods of operation and maintenance that can lead to increased pedestrian and bicycle traffic. Several municipalities, including Stavanger, Kristiansand, Vefsn, and Trondheim municipality, are participating in the project to share knowledge and experience. In addition, most urban areas in Norway have reward agreements, urban environment agreements or urban growth agreements where they undertake to limit car traffic and promote walking, cycling and public transport. Measures for better operation and maintenance for pedestrians and cyclists are therefore important and relevant in most urban areas in Norway.

Operation includes measures that are necessary for the roads to function well for the daily use of road users. The biggest challenges in winter are snow removal and measures to improve road grip. Maintenance means taking care of the physical infrastructure in a longer perspective, such as maintaining the standard of road surfaces and road equipment in line with quality requirements.

Previous research shows that maintenance and operation have major implications for route choice and comfort, and that difficult road conditions are experienced differently by different groups of cyclists.

This report presents the results of a comprehensive survey of cyclists' experiences and opinions on the operation and maintenance of cycling infrastructure, with particular emphasis on geographical and demographic differences.

Method

Recruiting cyclists for large-scale surveys is often demanding. Amongst other things, there is no clear definition of what a cyclist is and there is no register of cyclists as there is for car drivers (driver's license register and vehicle register). We therefore used several strategies to obtain a sufficient number of cyclists for this study. Both mailing lists from TØI, email from the Cyclists' National Federation (SLF), Facebook, contact with employers (i.e. among employees in the municipalities), postings in bike shops, and email via the Norwegian Public Roads Administration were used. We aimed to include cyclists from the largest cities and urban areas in Norway.

The final sample is 2555 people, with a small overweight of men. The sample is also somewhat older than the general population, but it included respondents from city areas in most of Norway. The sample consists mainly of rather active cyclists. The proportion of winter cyclists is very high; almost half say they often cycle in winter.

Respondents answered many questions about their experience with various aspects of operating and maintaining bicycle infrastructure, both in summer and winter. In addition to questions about operation and management, e.g. about how frequently different conditions occur and about the level of operation and maintenance, we also asked the respondents to evaluate different conditions using photographs of more or less challenging cycling conditions. Participants were also given free-text questions where they could state whether there were areas in their municipality that were particularly well or poorly operated and / or maintained, and generally about what might encourage them to cycle more. The free text responses are presented as word clouds in the main report but also completely in the form of attachments to the report.

Results

In summer, unevenness, holes, and sand / gravel on the asphalt are the most prevalent issues, and one in three view these as major problems. Glass shards is highlighted as a major problem by one out of five cyclists, but there is great variance between geographical areas. Previous research has shown that high curbs can be a risk factor for cyclists, so we included questions about this even if high curbs are not related to operational measures. Four out of ten see high curbs as a major problem, particularly women and respondents from Bergen.

When it comes to winter conditions, poor plowing of sidewalks and pedestrian and bicycle paths, are the most prevalent issues. Four out of ten think plowing is too infrequent on sidewalks, and one out of three thinks it's too infrequent on pedestrian and bicycle paths. When it comes to sanding on sidewalks and pedestrian and bicycle paths the perceptions are more positive, but one out of five says that the level of sanding is inadequate. However, just as many think the level of sanding is adequate (and some have no clear opinion), so the perception varies. The opinions are also fairly divided regarding salting.

The results generally show that women are more concerned about difficult cycling conditions than men. This is especially true in winter, when conditions are the most difficult. Older women (> 60 years) in particular find winter conditions to be difficult. This group also think that winter operation and maintenance, as well as snow removal, are inadequate. We find a corresponding trend for middle-aged and younger men to be most critical to salting in winter operation. Apart from this, we do not find any clear effects of age in this study. The survey was conducted in nine major urban and suburban areas in Norway, and the responses reflect that there are major climatic differences between the

areas. Regardless of this, we see that there are also differences when it comes to how satisfied the cyclists are with operation and maintenance. When it comes to summer and winter operations, the cyclists from Trondheim, Tromsø and Bergen are the least satisfied. The cyclists from Kristiansand, Rogaland and Kongsberg are the most satisfied.

Discussion and conclusion

Many participants are satisfied with the operation and maintenance of cycle infrastructure as it is, especially on major roads. However, the answers show that there is room for improvement on several points. About a third of the respondents say they would cycle more often if road maintenance was better. Winter conditions with snow and ice are considered very challenging. Cyclists adapt in different ways, either by cycling more carefully, or by choosing other means of transport, such as a private car, under winter conditions. These are important consequences that are directly related to operation and maintenance, and counteractive to achieving the goal of zero growth in passenger car traffic.

The cyclists are quite unanimous when it comes to assessing snow removal, sweeping and sanding as good measures to ensure good cycling conditions in winter. Those who experience challenging winter conditions call for more use of such measures. When it comes to salting, the opinions are more divided. Salt is very effective at improving friction, but it has negative effects on the environment (vegetation, etc.) and causes rust and wear on the bike. Many winter bikers use studded tires, and for many it is inconceivable to cycle in winter without studded tires. Users find that studded tires on bicycles provide very good friction, and that ice and hard packed snow are no problem with studded tires. As long not all cycle lanes and paths are ice-free, many will probably use studded tires anyway and hence not see any need for salting. There are also some who avoid cycling in the winter because of salting.

Men are somewhat more critical to salting than women, while women are more dissatisfied when it comes to snow removal and sanding. The results also suggest that women view difficult cycling conditions as a larger obstacle or more problematic than men. This is in line with results from previous research, and probably means that better operation and maintenance is especially important to increase cycling among women.

Better winter operation and maintenance in the form of more frequent snow removal, better sweeping and sanding is emphasized as important to increase cycling in winter. To get more people to cycle in summer, better and more coherent bike lanes are needed, according to the respondents of the survey.