

Road traffic risk in Norway 2021/22

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- The Institute of Transport Economics regularly updates calculations of the risk of accidents and injuries in Norwegian road traffic. This report is the ninth in a row since 1988.
- The basis for the risk calculations are official figures for traffic accidents and injuries, figures for traffic volume taken from the National Travel Surveys (RVU), and statistics on transport volumes in Norway published by The Institute of Transport Economics.
- The risk of being injured or killed in traffic has generally been greatly reduced over time, but after 2018 the risk figures have been fairly stable for most groups of road users.
- Older drivers have had a continued decrease in risk from 2018 to 2022, but the previously strong risk reduction we have seen for young drivers has stagnated.
- For cyclists, the figures show a continued decrease in risk from 2018 to 2022, but for bicycles the underreporting of accidents is particularly large and probably increasing over time.
- The risk calculations are uncertain and national estimates based on RVU data are less reliable than before because of a smaller national sample and larger regional subsamples.

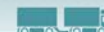
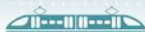
The risk figures are updated regularly

The Institute of Transport Economics regularly calculates new risk figures for road traffic accidents in Norway. The figures are based on official statistics on road traffic accidents obtained from Statistics Norway and the National Public Roads Administration, and on the National Travel Surveys (RVU). RVU was previously carried out every four years but is now a continuous survey.

The risk figures presented here are based on exposure figures from the National Travel Surveys from 2021 and 2022. We have also used exposure figures from the Institute of Transport Economics' annual reports on transport volumes in Norway. In addition to calculated risk figures for 2021/22, figures from previous years have also been presented. The calculations have been made in similar ways as in previous years.

Reduced accident numbers and reduced risk over time

The number of accidents, injuries and deaths has been reduced over time in Norway, and the risk of accidents, injuries and death has been reduced even more. The risk reduction was particularly strong in the 1970s, but there has also been a strong risk reduction in the period



1980–2018. There was a particularly strong reduction in the mid-1980s from 1986 to 1987. Also, after 2007, there has been a marked drop in both the accident and injury figures and in the risk of accidents and injuries. From 2018 to 2022, there have been only small changes in road traffic risks in Norway.

Stable differences in risk between road user groups

Traditionally, motorcycles and mopeds have been the vehicles with the highest risk, and car drivers and passengers have had the lowest risk, regardless of whether one looks at the risk of being killed, seriously injured, or slightly injured. Pedestrians and cyclists have been somewhere in between.

Apart from drivers and passengers on light motorcycles, all road user groups have experienced a reduced risk over time, regardless of whether we look at the risk of death, of being seriously injured or of being slightly injured. For light motorcycles, there have been no major changes in the 2000s in the risk of being seriously injured or slightly injured, but the risk of being killed has somewhat decreased.

For mopeds, there has been a very strong risk reduction, no matter what kind of risk measure we look at. The risk of dying is now roughly on par with the risk in a car. Pedestrians, cyclists and car drivers and passengers have also had their risk reduced over time, but for car drivers and passengers there have been small changes after 2010. Pedestrians and cyclists, on the other hand, have had a fairly strong risk reduction during this period. For bicycles, the under-reporting of accidents is particularly large, because there are a great many single accidents that are not registered by the police and are thus not included in the official statistics. This under-reporting has probably increased over time, so we must be particularly careful when interpreting the risk figures for cyclists.

The young and the elderly are most at risk


The young and the elderly have a higher risk than the middle-aged, regardless of the type of road user group and risk measure we are looking at. However, it varies between road user groups and risk measures as to whether it is the young or the elderly who are most at risk.

Among pedestrians, the elderly over the age of 75 are substantially more at risk than other groups, regardless of whether we look at the risk of being killed, the risk of being seriously injured or the risk of being slightly injured. Among cyclists we also find this tendency towards a higher risk among the oldest, but among cyclists the risk is not higher for young people than for middle-aged people.

Among car drivers and car passengers, young people aged 18–24 have the highest risk of being involved in an accident and of being slightly or seriously injured. But if we look at the risk of dying, it is the oldest over 75 who have the highest risk. In general, we see that the more serious the damage we look at, the higher the risk for the elderly compared to other groups. One explanation for this is that the elderly are more frail and more prone to serious injuries given an accident.

Small risk differences between men and women

Among car drivers, men and women have roughly the same risk of being involved in personal injury accidents, but men have a higher risk of being killed while women have a higher risk of being injured. The main explanation for these differences is probably that accidents involving male drivers occur at higher speeds, and that many fatal accidents involve a male driver who



has been driving under the influence of alcohol or drugs. These differences between men and women have been fairly stable over many years.

Data from the National Travel Survey is more unreliable than before

There are several aspects of the National Travel Survey (RVU) in both 2021 and 2022 that contribute to the results being more unreliable than before. This primarily applies to the composition of the national and regional samples in the later RVUs. Previously, RVU was dominated by a large national sample supplemented by additional regional samples. In recent years this national sample has become much smaller, and the additional regional samples make up an increasingly larger part of the total sample. Hence, far greater statistical weights must be used to produce national representative figures than was the case in previous years.

This means that the answers of certain respondents are given a lot of weight, and if these have very long or short journeys, this affects the overall results substantially. To reduce the importance of such factors, we have used RVU from both 2021 and 2022 in the calculations.

Conclusion

Updated risk figures are calculated based on accident data from the official statistics on road traffic accidents and on exposure figures from the national travel surveys and the Institute of Transport Economics' annual reports on transport volumes in Norway. The calculations have been carried out in the same way as in the previous risk reports published by TØI.

The calculations show that the risk of being injured or killed in traffic in Norway has decreased steadily over the past thirty years. In recent years, too, the risk of being injured or killed in traffic accidents has been reduced for some groups, but the reductions are smaller than previously, and for some groups there is no reduction in the period 2018–2022.

The risk calculations based on travel survey data are uncertain, and particularly for small groups of road users such as e.g., cyclists. The uncertainties become particularly large when we look at risk differences between gender and age groups in such road user groups. Despite that, we find fairly stable trends over time and to a large extent the same risk distributions across gender and age in the various road user groups that have been documented previously. This implies that risk calculations based on the travel surveys are relatively robust, even if there may be random results in some groups.

Travel survey data from 2021 and 2022 have been shown to provide a weaker basis for calculating national traffic figures than previous RVUs. For RVU to continue to be suitable for calculating risk in traffic in the future, we recommend increasing the national base sample in future national travel surveys and simplifying the questionnaire to get more people to answer.