

Road traffic volumes in four urban areas

Measured with travel survey data: RVU 2018/19 and 2022/23

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The urban growth agreements are fundamental instruments for achieving the goal of zero-growth in passenger car transport in the largest city areas.

The primary measures of goal achievements are the city indices derived from car traffic counters on roads in the urban areas (Byindeks). The secondary indicators are vehicle kilometers estimated from travel survey data, of which this report presents results based on the Norwegian national travel surveys (RVU) 2018/19 and 2022/23.

The RVU estimates are compared with Byindeks and official statistics on total car mileages. However, the different data sources for car traffic are not directly comparable. Furthermore, both RVU and Byindeks render quite large error margins.

Yet, the results indicate that car traffic has developed more towards zero-growth in the largest cities compared to the surrounding municipalities. Also, due to traffic counter coverages, some city indices seem to apply better to car driving related to the largest city municipality, rather than the total area of the zero-growth objective.


Urban growth agreements, and how to measure the zero-growth objective

Until 2022, urban growth agreements have been issued in the four largest urban areas, comprising the city and surrounding municipalities of Oslo, Bergen, Trondheim, and Stavanger.

The urban growth agreements are made between local authorities in the and the Norwegian Government in order to handle the increased demand for mobility due to population growth in the city areas. The major goal to be achieved is zero growth in passenger car transport, which implies that any growth in passenger transport must be undertaken by public transit, cycling and walking.

As the primary measures of goal achievements, the Government has decided on the city indices (Byindeks) derived from car traffic counters on roads in the city areas.

The secondary indicators are vehicle kilometers estimated from travel survey data, of which this report presents results based on the Norwegian national travel surveys (RVU) 2018/19 and 2022/23. The results consist of vehicle kilometers calculated for passenger car driving within



the zero-growth areas defined in the urban growth agreements for the four largest city regions: Oslo, Bergen, Trondheim and Stavanger, and surrounding municipalities.

Data sources are not directly comparable

For comparison with the Byindeks city indices, RVU estimated vehicle kilometers are converted to RVU indices for percentage rate of change between 2018/19 and 2022/23.

In addition, official statistics on total car mileages are downloaded from Statistics Norway (SSB).

All three data sources render measures of car traffic and changes over time. Still, they are not directly comparable. Furthermore, both RVU and Byindeks render quite large error margins. Consequently, some deviations appear when results are compared, which is as expected because the different data sources are not recording the exact same traffic.

Thus, the three different data sources for car traffic are only to some extent comparable, and comparability also seems to be somewhat varying between the different urban areas.

Results from the RVU and Byindeks indices for car traffic in the urban areas

The RVU and the Byindeks both render quite large error margins. Splitting of the RVU material for the “largest city indices” further increases the confidence intervals. Yet, the results indicate that car traffic has developed more towards zero-growth in the largest cities compared to the surrounding municipalities.

Also, due to varying traffic counter coverages, some of the Byindeks indicators seem to apply better to car driving related to the largest city municipality, rather than the total area of the zero-growth objective.

The Oslo area (Osloområdet)

The main contribution in the RVU estimates is a small increase in vehicle kilometers produced by the car drivers residing within the zero-growth area. Some reduction by car drivers from surrounding municipalities is estimated, however attended with a high degree of uncertainty due to small number of observations. For the region as a whole, the RVU based estimates measure zero growth between 2018/19 and 2022/23 .

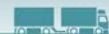
The RVU indices indicate reduction in the vehicle kilometers related to the Oslo city municipality. Accordingly, an increase in car driving has taken place in surrounding areas.

For the Oslo area in total, the RVU estimated zero growth is congruent with the Byindeks levels based on traffic counters.

The coincidence between RVU indices for the total region and the Byindeks levels suggests that the location of traffic counters covers car traffic both for the city of Oslo as well as the larger parts of the zero-growth area.

The Bergen area (Bergensområdet)

The main contribution in the RVU estimates is some increase in vehicle kilometers produced by the car drivers residing within the zero-growth area. Some reduction by car drivers from surrounding municipalities is estimated, however attended with a high degree of uncertainty due to small number of observations. An overall five percent growth rate is estimated for total



vehicle kilometers in the region between 2018/19 and 2022/23. This growth can partly be explained by RVU slightly overestimating the population growth in the region.

The RVU index for vehicle kilometers related to the Bergen city municipality is close to zero, hence the estimated increase stems from car driving in surrounding areas.

Compared to the Byindeks levels, the RVU index is more similar for Bergen city than for the total region, which suggests that the location of traffic counters apply better to car driving in the largest city municipality than in the total zero-growth area.

The Trondheim area (Trondheimsområdet)

The RVU estimates render high growth rates for vehicle kilometers inside the zero-growth area driven by residents inside the area as well as in surrounding municipalities. High levels of uncertainty to the estimates are caused by few observations in some of the surrounding municipalities.

The RVU index for vehicle kilometers related to the Trondheim city municipality estimates about half the growth rate compared to the estimate for the total zero-growth area, which brings the “largest city index” from RVU closer to the traffic counter based Byindeks. This suggests that the location of traffic counters apply better to car driving in the largest city municipality than in the total zero-growth area.

The RVU estimates, together with parts of the documented Byindeks indices indicate some growth in car traffic in the Trondheim area. However, the levels of uncertainty are too high for assessing reliable estimates on growth rates. Also, the RVU estimated growth rates are considered too high. A small part of the estimated growth can be attributed to RVU slightly overestimating the population growth in the Trondheim area.

The Stavanger area (Nord-Jæren)

The results show similarities with the Bergen area, i.e. some increase in vehicle kilometers produced by car drivers residing within the zero-growth area, combined with a small, however nonsignificant, reduction by car drivers from the surrounding municipalities. The joint estimate is a six percent increase in vehicle kilometers within the area.

The RVU index for vehicle kilometers related to the Stavanger city municipality is close to zero, hence the estimated increase stems from car driving in surrounding areas.

The Byindeks indices for Nord-Jæren differ somewhat by choice of base year for the estimate. In first part of the documented period (from 2017 and 2018), the Byindeks indicators show traffic reduction, as opposed to an estimated growth in the last part from 2019 to 2023. The latter is in accordance with the RVU estimated change from 2018/19 to 2022/23.

Considering the relatively large error margins on both RVU and Byindeks estimates, these variations are not proved significant. Yet, among the four urban areas, Nord-Jæren has the highest growth in the SSB statistics on total car mileage for the passenger car fleet over the time period 2018/19 to 2022/23.