

Follobanen and park and ride

Use of park and ride spaces before and after opening of the Follobanen rail line

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- After opening of the Follobanen rail line, the train service towards Oslo from Ski station and other stations to the south along the Østfoldbanen was substantially improved. At the same time, there was no change in the train service from the stations north of Ski station.
- After opening of Follobanen, the use of park and ride has increased on the stations along the Østfoldbanen. In total, the use has increased with 18.8 percent on the stations we have analysed.
- The highest growth in use is observed on the stations that have experienced the highest improvement in public transport service.
- The stations north of Ski station experience low or no growth in parking after the opening. At Ski station and further south, the increase is higher.
- The zone structure of train ticket pricing has some effect: stations close to the zone borders experience more growth.

In the spring of 2023, the Follobanen rail line opened for traffic between Ski and Oslo central station. This led to an improved train service for residents in Ski and parts of Follo and Østfold. The travel time from Ski to Oslo central station was halved, to 11 minutes. In addition, the new double track line allowed for higher frequencies, leading to a doubling of departures from Ski to Oslo. At the same time, the frequency was increased on stations south of Ski station as well. The stations north of Ski, on the other hand, did not experience an improvement in travel time, but the frequency was increased somewhat.

With the opening of Follobanen, there was some worry related to the use of park and ride (P&R) facilities by the train stations. Would the improvement in the train service lead to more car traffic to Ski station because of more users? And would there be a need for more regulation of the P&R facilities in Ski?

TØI has analysed the use of P&R at Ski station and other stations along Østfoldbanen, before and after the opening of Follobanen. We have registered cars parked on the P&Rs and related this to the home address of the cars' registered owners. We have used the data to answer the following research questions:

- Has the use of P&R changed after the opening of Follobanen?
- Has there been a change in the capacity utilization and car driving distances after the opening of Follobanen?

Large variation in usage change

The utilization of capacity varies much between the station. Some stations had free parking spaces, while other were practically full capacity at the time of registration. The utilization – and change before and after opening of Follobanen – is shown in figure S.1.

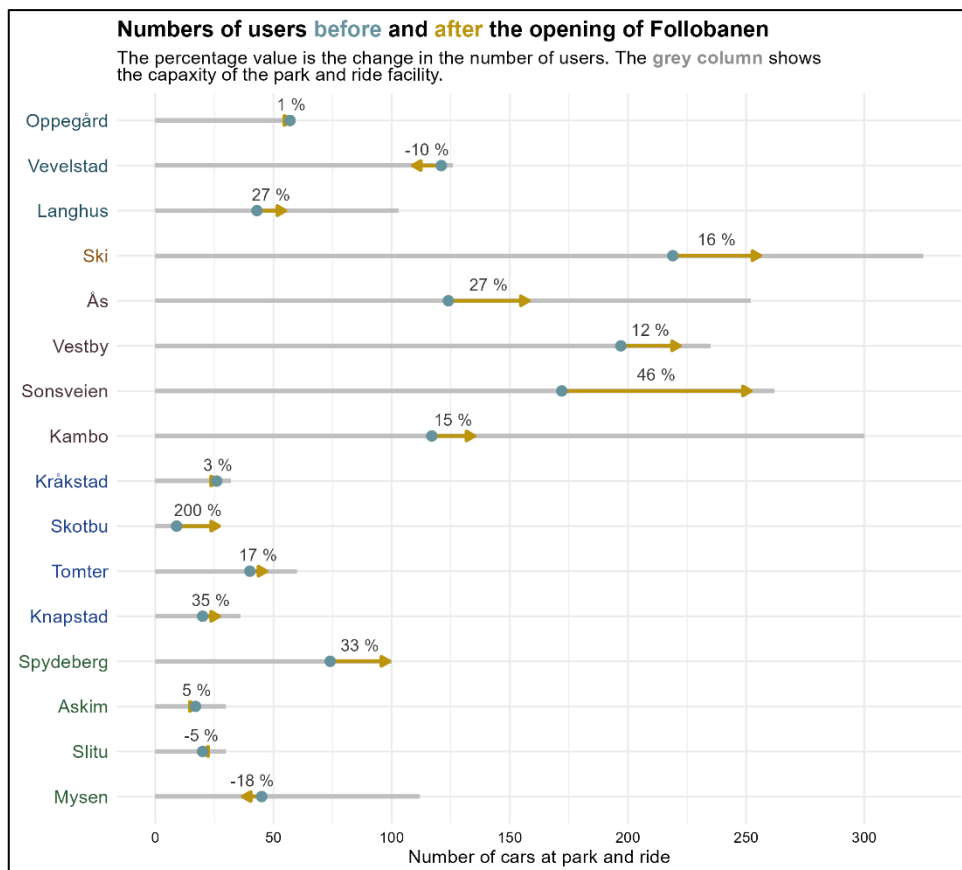


Figure S.1: Change in number of users of P&R by each train station.

Most P&Rs experienced increased demand after the opening of Follobanen. Ski station – as well as Skotbu, Spydeberg, Ås and Vestby – are the stations with the highest increase. One hypothesis in this project was, that the use of P&R north of Ski would decrease, because the train service was not as much improved there. This has happened to some extent. Oppegård, Vevelstad and Langhus north of Ski have not experienced the same growth in use as Ski station and the stations south of Ski.

More users and longer driving distances to Ski station

Figure S.2 shows where the users of Ski station P&R lives. The P&R in Ski attracts users from large parts of the region, both from the rest of Follo and from Indre Østfold.

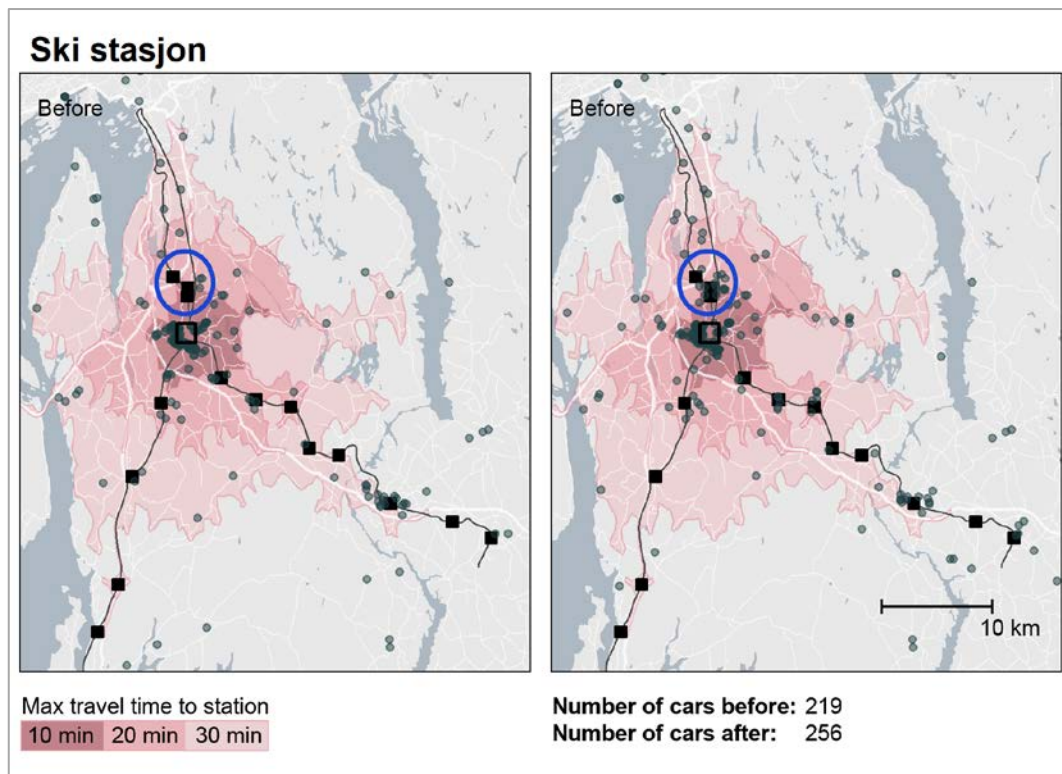
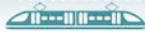


Figure S.2: Map showing the residential location of users of Ski station P&R, before and after opening of Follobanen. The red areas depict travel time with car from the station. Mapdata: Kartverket

The usage pattern is more or less the same before and after opening of Follobanen. However, by the stations north of Ski, we see a large increase of users. This area is shown with the blue circle. Before the opening of Follobanen, few P&R users came from the Northern Follo area. After the opening there is a substantial increase in users from this region. We also find that the median driving distances to Ski P&R has increased with about one kilometer.

The use of P&Rs has increased after the opening of Follobanen

We find that the use of P&R (and likely also the use of the train service) has increased after the opening of Follobanen. This is in line with previous research on the effect of an improved public transport service. At the same time, it does not appear as if people have replaced the stations closest to their homes with Ski station. However, we see some geographical disparities in use. There is a substantial increase in use on the stations south of Ski, especially along the western line. North of Ski, the pattern is different. Here, there is also some growth in use, but lower than in the south. This is probably explained by the change in train service. The service has been substantially improved on the southern stations, while this is not the case in the north.

The analyses of driving distances also give some interesting findings. First, we observe a clear increase in the median driving distance to Ski station, suggesting that the surrounding area of this P&R has expanded. North of Ski station and along the western line, we find no change in the median driving distance. However, there is a significant reduction in driving distance to stations along the eastern line. This means that while the area around Ski station has expanded, the areas around the stations along the eastern line have become smaller. One possible explanation for this is that it has become more attractive to use the P&Rs along the



eastern line for those who live relatively close by, while for those who live farther away, it may have become more attractive to drive to Ski station. If the drive to the nearest train station is already long, it is less inconvenient to drive to a station a bit further away. If this station also has significantly better train service, as it the case with Ski, the effect of driving a bit further can result in shorter total travel time.

We also find some effect of zone structure and ticket prices on how the use of P&R changes. Skotbu is an important example. The station is located at the outer edge of a ticket zone, and the results suggest that more people choose to drive there after the opening of Follobanen. This increase is likely partly explained by the possibility of lower ticket prices at Skotbu.