Institute of Transport Economics
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ENGLISH Summary

Cheaper public transport tickets and new fare systems

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The main findings in this report are that significantly lower single ticket fares in public transport result in more journeys by public transport and reduced travel by car and bicycle. Furthermore, that it is technologically feasible to implement distance-based tariffs instead of a zone-based system in public transport in Norway.

The purpose of this report is to isolate the effect of significant public transport price reductions on the number of public transport trips and to investigate the technological possibilities for alternatives to a zone-based system. There are many factors that influence how much people use public transportation, including service frequency and relative travel time compared to other modes of transportation. It's worth noting that in most cases, the ticket price represents a small portion of the overall inconveniences of traveling (the generalized costs). In other words, there are often other factors that are more critical for choosing a mode of transportation than ticket prices and fare systems, such as travel time.

Based on tests conducted in the Kolumbus service area (Rogaland County on the West coast of Norway) in the fall of 2022, we conclude that it is entirely possible to implement distance-based fares. The technology works, and the vast majority of those who have tried the new system have encountered few or no challenges in using it. It should however be noted that we are surveying those who have tested the system, so it is possible that those who are most skeptical may choose not to participate. Therefore, we assume that the results are somewhat more positive than what one might expect if this had been implemented for all travellers.

For those who have tested the new system, we have also asked if they are satisfied with the new system and how they experienced using it. We find that 64 % strongly agree or somewhat agree that they prefer the new payment system over the regular payment system, 67% have confidence that their privacy is well protected (note that we are surveying those who have tested the system, so those who are very sceptical may not be included), and 48% strongly disagree or somewhat disagree that it is tiring to press the payment button in the app before each trip, while 25% say they strongly agree or agree with it. We also find that those who test the new system travel slightly more than the control group. However, the increase in the number of trips is not significantly different from zero.

The main results from the tests with cheaper single tickets are that the number of public transport trips increases when the price falls. The test was conducted as a randomized control trial in the metropolitan area of Oslo, the capital of Norway. The different groups increase the number of public transport trips by between 10% and 18% compared to before the period and the control group. Furthermore, the use of other modes of transportation (car and bicycle) is reduced. The decrease for cars and bicycles trips is not significant for all groups.

The group that receives a 50% discount on single tickets increases the number of public transport trips by 0.32 on the last two weekdays, which corresponds to 18 % increase. Those who receive a 50% discount outside of rush hours but pay full regular fares during rush hours increase the number of public transport trips by 0.24. The group that receives a quantity discount (Ruter Reis) increases the number of trips by 0.19. In other words, the group that receives the largest discount changes the number of public transport trips the most.

When we study the effect of cheaper single tickets on car trips, there is a significant effect for the groups that received 50% discounts all day and 50 % discount except in morning peak, with a decrease in the number of private car trips of -11% and -10%, respectively. For Reis, however, we see no significant effect, but here too, we observe a decrease. When it comes to bicycle trips, we see a significant decrease of 16 % for the 50 % discount group. For the two other groups, we observe a decrease, but this is not significantly different from zero in terms of changes in the number of bicycle trips relative to the control group.