

Summary

BYTRANS: Changes in the City Centre of Oslo 2017-2019

Effects and Consequences for Commuters, City-centre users, City-centre Attractiveness, and for Delivery Drivers

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In this report, we examine adaptations to, effects and consequences of implemented interventions in the city centre of Oslo from 2017 to 2019, for various user groups and city centre attractiveness. The interventions include removal of street parking spaces, the introduction of a new driving pattern, improvements for public transport and facilitating for pedestrians, cyclists and city life. We found that commuters to the city centre did not adjust to the changes by changing their means of transport on their commutes, the average travel time did not change, and they are just as satisfied with the commute as before. More than before are having access to parking provided by the employer. The city-centre users did not make any adaptations either, they visit the centre as often as before and we find only weak changes in the means of transport. Those driving spend a little longer on parking. City-centre users are doing the same thing in the city centre as before. More people appreciate areas without car traffic. Most people like to be in the city centre and find it easy to get there, and this is slightly improved from before to after the city-centre interventions were implemented. The experience of walking is improved, while driving has become worse. The number of residents, employees and businesses is increasing, and there are more pedestrians and fewer cars. Many expected the changes leading to increased city life, but that they themselves would use the centre as before. And most people did neither change their actual use of the city centre. Delivery drivers experience the situation for deliveries of goods as worsened in the city centre since the changes took place.

Background and objectives

A challenge shared by many politicians, professionals and researchers across the globe is how to develop cities and urban transport systems in ways that ensure efficient mobility while reducing local and global environmental impacts from the transport sector and making cities more attractive and vibrant. In Norway, clear political goals have been defined for zero growth in car traffic in urban areas, on efficient and environmentally friendly urban transport systems and climate-friendly, attractive and vibrant cities.

Between 2015 and 2020, major changes have been made to the transport systems in Oslo. Several individual projects implemented in different parts of the city can be considered natural experiments, providing unique opportunities for the development of new knowledge about the effects and consequences of such changes for travellers, transport systems, society and the environment. Such knowledge can enable politicians, authorities and researchers to develop more efficient and environmentally friendly urban transport systems in the future. In the BYTRANS project, we document the effects and consequences of some of these changes for the transport systems, road users, environment and society, and we thus contribute relevant knowledge. In this report, the results of investigating interventions implemented in Oslo city centre are reported.

Changed accessibility in and to the centre for different transport users

The City Council Declaration from 2015 set goals for Oslo that pedestrians, cyclists and public transport should be given priority over private car transport and that the development of a car-free city centre would be a means of achieving increased city life. This has been followed by the implementation of several specific interventions in the city centre between 2017 and 2019. On-street parking places (approx. 760 places) have been removed and a new driving pattern was introduced to prevent through traffic. These measures have resulted in reduced accessibility by car both within and to the city centre. Areas freed from car use have been repurposed as parking spaces for the disabled and deliveries, sidewalk extensions and new pedestrian streets, more benches and parklets, bicycle parking, bicycle lanes and more. These interventions have contributed to improved accessibility for those walking and cycling. At the same time, streets have been and are being upgraded in and around the city centre to ensure better conditions for public transport. Several of the measures necessitate temporary detours and reduced accessibility during the construction work, this sometimes adversely affect access in and to the centre and the use of the affected area. Additional interventions are planned, and a new zoning plan for the streets and plazas in the city centre sets guidelines for further development. The various interventions can contribute to changed accessibility for both residents, commuters, visitors, and for deliveries, as well as changed accessibility for pedestrians, cyclists, public transport users, car drivers/passengers and delivery drivers. We have examined the adaptations, effects and consequences of the changes in the city centre for different transport users and how the changes affect city centre attractiveness⁵.

Surveys among commuters, city-centre users and goods suppliers

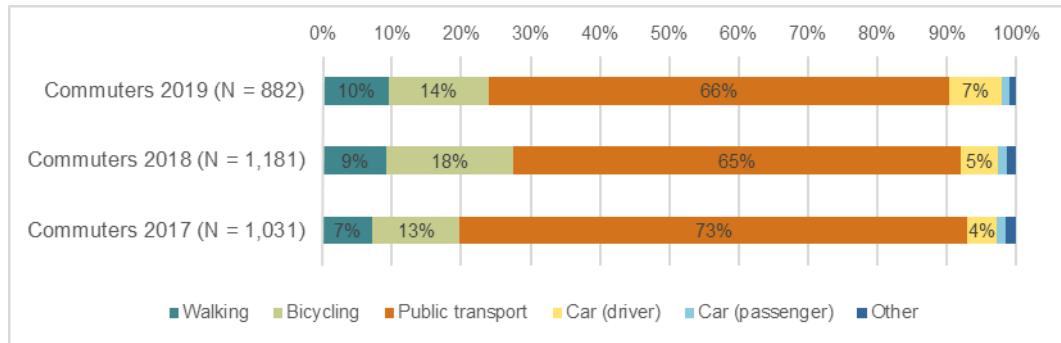
Through annual surveys from 2015 to 2019 distributed among employees of businesses located in Oslo and Østre Bærum, we have extracted answers from those working in businesses in the city centre (548–1,611 respondents each year). Using these surveys, we have investigated whether and, possibly, how the implemented city-centre interventions have resulted in adaptations, effects and consequences for those commuting to the area. In 2017, 2018 and 2019, questions related to the city centre were included as part of the data collection. All survey respondents (both those who work in and those who work outside the city centre) who answered they had been in the city centre the past year (work and work meetings not included) are part of a selection we have called the ‘city-centre users’ (5,457–6,018 respondents each year). Through this selection, we have investigated whether and, possibly, how the changes in the city centre have resulted in adaptations, effects and consequences for the city-centre users, as well as how the changes have affected city centre attractiveness and the use of the city centre.

In 2017, 2018 and 2019, we also conducted annual surveys among delivery drivers (65–90 respondents each year) to investigate whether and, possibly, how the changes in the city centre have resulted in effects and consequences for delivery drivers in the city centre.

⁵ We did not examine effects and consequences for residents in the city centre, both because this is not part of the research design (the BYTRANS focus is commuters) and because there are few residents in the area.

How commuters adjust to the changes

When car access to the city centre is reduced and accessibility with other means of travel is improved, we would expect city-centre commuters to adapt by shifting mode of transport. We found only weak changes in modal choice on commutes. This could be explained by the fact that car shares are already low among those working in the city centre.



We asked 'By which means of transport did you travel the longest the last time you went to work and met at your usual meeting place?`.

Effects of the changes for the commuters

We investigated whether and, possibly, how the city-centre interventions resulted in effects for the commuters. We found only small variations in average travel time on commutes to the city centre from year to year, both in total and per transport mode.

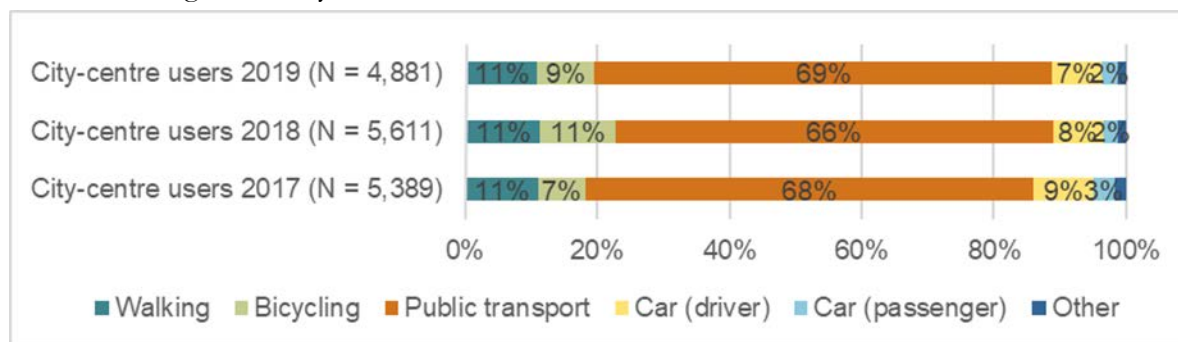
One of the changes in the city centre was the removal of on-street parking places. Hence, we investigated effects for commuters in term of changed access to parking. We found a decrease among those answering they can park in the street. More interestingly is the increased proportion of commuters answering that they can park *at parking spaces offered by the business*; this increased by 21 percentage points from 2017 to 2019. It seems like city-centre businesses to a greater extent offer their employees parking than before the interventions were implemented. This might be a reaction to the planned changes, where the employer rents parking space to ensure that the employees do not change their place of work.

Consequences of the changes for commuters

Changed accessibility can lead to changes in commute satisfaction. Most of the commuters to the city centre are 'very satisfied' or 'satisfied' with their commute (79 per cent in both 2017 and 2019). There are yearly differences, but we found only weak changes in commute satisfaction from before to after the changes were implemented, for commuters in general. Looking at commute satisfaction based on modal shares, we found larger yearly differences. Those who walk and bike are the most satisfied. We also found an increased share answering 'satisfied' among the car drivers in 2019 compared to 2017.

How city-centre users adjust to the changes

Among the users of the city centre, we found only weak changes to means of transport when travelling to the city centre.



We asked 'How did you travel the last time you used the city centre'?

We also examined whether there were changes in how often the city-centre users visit the downtown area, excluding jobs and job meetings, but found only minor changes in the examined years. Many people already visit the city centre frequently; more than 40 per cent of the respondents visit the centre once or several times a week, while over 80 per cent visit several times a month. There are marginal differences between how often women and men in the sample responded that they visit the centre. When comparing the answers on how often they are in the city centre and how they travelled the last time they went there, we find that those who walked and biked visited the centre most often. A greater proportion of respondents without home-living children under the age of 18 are in the centre area more times a week than those with home-living children under the age of 18. Yet, there are no changes in the proportion with and without children who answered that they visit the city centre monthly from 2017 to 2019.

Effects of the changes for city-centre users

In 2018 and 2019, on-street parking spaces in the city centre were removed; therefore, we expect it more difficult to find parking in the city centre both in 2018 and in 2019 than in 2017⁶. City-centre users who travelled by car their last visit to the city centre were asked about parking. As expected, we found an increased proportion who parked in parking garages and in private spaces and a decrease in the shares using on-street parking. The time spent finding parking increased from approximately 5,5 minutes in 2017 to just over 7 minutes in 2018 and 2019. Still, the majority of respondents in 2019, 63 per cent, only spent between 0–5 minutes finding parking (the corresponding proportion in 2017 was 74 per cent). We conclude that it has become somewhat more difficult for city-centre users to find parking.

We found small changes in what city-centre users answered they did their last visit to the city centre, most citing commercial activities as the purpose of the visit. When we asked what they value the most in the city center of Oslo, the *offer of restaurant, pubs etc.* scores the highest, followed by culture and entertainment. Shops and shopping is the sixth most appreciated feature. *Atmosphere, street life, access to the fiord, and squares, plazas and parks* are all highly valued. It is interesting that the alternatives *access to the fiord, squares, places and parks*, as

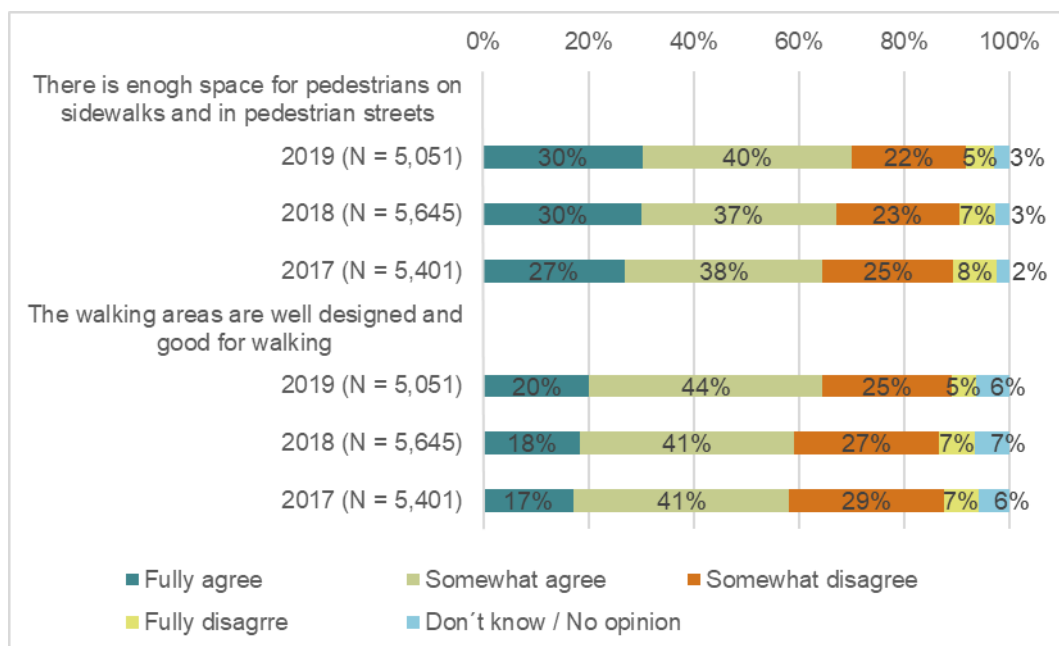
⁶ Access to parking garages is maintained.

well as *pedestrian streets and car-free areas*, gained strongly more votes in 2018 and 2019 than in 2017.

By answering an open question, respondents were given the opportunity to share what they do not appreciate in the city centre. In the three years we surveyed, most respondents dislike ‘*Street vendors, beggars and drug addicts*’ (the response rate varies from 20 to 29 per cent), while ‘*Too much car traffic, parked cars, buses, goods delivery etc.*’ received the second-highest response rate (20 per cent in all years). This is a much higher proportion than the proportion of respondents who identified the car and parking restrictions as conditions they dislike (11 per cent in 2019, 15 per cent 2018). Other factors that respondents specified as not appreciating include construction work and conflicts with other road users. In 2019, some respondents also mentioned electric scooters (these were first distributed in the city centre in the spring of 2019).

Consequences of the changes for city-centre users

We found that city-centre users find it easy to get to the city centre and that the perceived accessibility remained unchanged for the three years of surveys. However, more people answered that it is ‘very easy’ to get to the city centre in 2019 compared to previous years. This may indicate that the accessibility to the city centre is perceived as somewhat improved. As the city-center interventions are aimed at improving conditions for walking and biking, one can expect they contribute to improved experiences for walking and biking. We found that more than 80 per cent of the respondents somewhat agree or totally agree with the statement ‘*I enjoy walking in the city centre*’. When it comes to how the city centre is designed for pedestrians, we find a positive development from 2017 to 2018 and 2019, based on the statements ‘*There is sufficient space for pedestrians on sidewalks and in pedestrian streets*’ and ‘*The pedestrianized areas are good for walking*’. The majority of the respondents stated they ‘totally agree’ or ‘slightly agree’ with these statements, indicating that the experience of walking in the centre has improved. In the long run, this may also affect pedestrian shares.



Selected statements on walking. The respondents were asked how much they agree or disagree with the statements.

We also asked statements concerning biking in the city centre. We found a small positive tendency that may indicate that conditions for cycling are improving; at the same time, most respondents disagree that biking in and through the city centre is sufficiently facilitated. City-centre users were also asked how they experience driving in the city centre. Unsurprisingly, respondents stated it more difficult to drive in the centre in 2019 than before the changes in the driving pattern were introduced.

City centre attractiveness

We investigated how the city-centre interventions affect the attractiveness of the city centre. We found that the number of residents, employees and businesses is increasing in the centre, and that there are more pedestrians and fewer cars. The city-centre users expected interventions to result in increased city life, believing them to lead to more people using the city center more often. However, this has changed over the three years of surveys, and we found that the proportion who believed that *'More people will use the centre of Oslo. There will be more activities, more people, more hustle and bustle'* was gradually reduced, from 43 per cent in 2017 to 40 per cent in 2018 and 37 per cent in 2019. However, in general, a larger proportion believed more people will use the centre (37 per cent in 2019) than those who believed fewer people will use the centre (18 per cent in 2019).

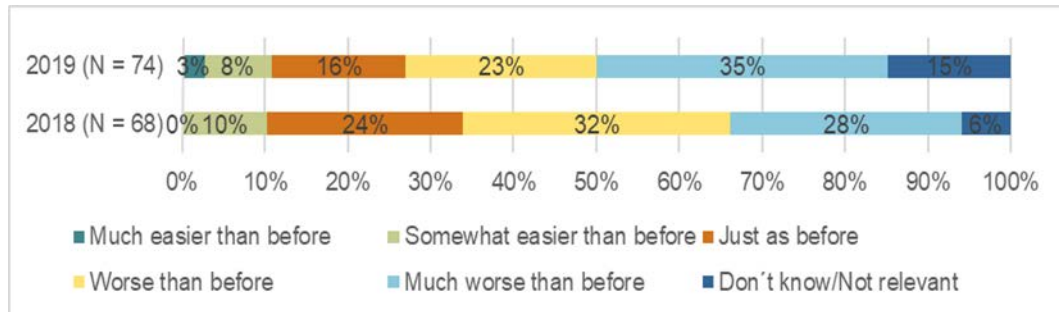
In 2019, we asked respondents how the changes have affected their actual use of Oslo city centre. Here, we find that twice as many responded they use the centre less often than before than those who answered they use the centre more. It is interesting to look at what characterises those who use the centre less or more often than before. There were few clear differences between various groups, but those between the ages of 25 and 34 responded to a greater extent than others to use the centre more often than before. The proportion using the centre less frequently than before is declining with an increasing level of education. Those with home-living children under the age of 18, and those who own a car, respond to a greater degree than others to use the centre less frequently. In open answers and comments to the surveys, several pointed out that changes in life situation (having children) make them use the centre less often and not the changes in the centre itself.

Effects and consequences for the delivery of goods

We examined the effects and consequences of the city-centre interventions for delivery drivers. The results are somewhat confusing, but we conclude that those delivering goods were dissatisfied with the delivery situation in the city centre already before interventions took place, that they were still unhappy and disappointed as the changes did not provide the improvements they hoped for.

Fewer delivery drivers responded that few places for loading and unloading and accessibility problems due to other road users were more important challenges in 2018 and 2019 than in 2017. At the same time, the drivers clearly expressed that the specific interventions in the centre have worsened the goods delivery situation. Drivers found it more difficult to find parking since most on-street parking was removed, and that the changes in driving patterns had made it worse to deliver goods in the downtown area. One consequence of the changed driving pattern in the centre of Oslo is that several drivers experienced increased time spent on the delivery routes, and the proportion of drivers who responded that it was difficult to comply with time requirements (regardless of area) also increased from 2017 to 2019. Most drivers were generally dissatisfied with the goods

delivery situation in the city centre, although we found a tendency for increased satisfaction. Many of the drivers expected the changes to improve the delivery situation, but in retrospect, we found that a majority of the drivers felt the situation to be worse than before. Finally, we investigated what the drivers believe the authorities can do to facilitate the delivery of goods in the city centre. Most people highlighted more sites for loading and unloading to be important.



We asked 'Do you find it easier or more difficult to find a place to park after the municipality a) removed several on-street parking spaces in the summer of 2017 (asked in 2018) and b) removed all on-street parking spaces in 2017 and 2018 (asked in 2019)?'.

Concluding remarks

The results of the surveys indicate that the city-centre interventions have had the intended effect, although the changes we find are small. Although we find no or only weak changes in the modal shares among commuters and city-centre users, we find that the experience of walking and cycling in the city centre has improved from 2017 to 2019. We find a decreased anticipation of how the changes will affect the use of the city centre, but it might be that city-centre users had high expectations for the announced changes and that these have not yet been fulfilled⁷.

Although one of the goals of the City of Oslo was to ensure the access for delivery of goods even though car access was restricted, it seems delivery drivers feel the changes have worsened the situation. This despite that more parking spaces are now reserved for deliveries. Among the proposals of what authorities can do to improve the supply situation in the city centre of Oslo, the drivers most frequently mentioned additional reserved spaces for deliveries.

⁷ The City Council Declaration from 2015 named the project car-free city life, and the project got high media attention and several discussions in the implications. In reality, cars are still allowed, but several restrictions have been implemented aiming to reduce the use of cars in the centre area—not completely banning cars.