

【欧州】【Common】

Common - Innovation and change of urban transport infrastructure in post-Corona era in the EU: The trend towards active mobility in urban transport and the pandemic' s impact

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【概要 : Summary】

The COVID-19 pandemic and the related lockdown measures in the past months has affected the urban transport due to the restrictions of the movement of people. Considering the pandemic' s environmental impact in urban mobility, there is taking place a shift in passenger transport towards active mobility by using bikes or walking. However, this change has partially gone to the expense of the public transport system, as people intend to avoid public transport due to the lack of social distancing. On the other hand, people tend to use also their automobiles in order to avoiding crowds of people in public transport. This trend towards the utilisation of private cars in urban transport need to be reversed by making active mobility by bike or walking more attractive.

In order to give recommendations how to change urban transport during the COVID-19 pandemic, the European Commission presented its Communication "Guidelines on the progressive restoration of transport services and connectivity" C(2020) 3139 final in May 2020, including recommendations for urban mobility. However, also before the pandemic, cities in several EU Member States have re-thought urban mobility in order to take measures towards reaching the target of net zero

CO2 emissions by 2050 under the European Green Deal and to reduce other pollution in the cities. Considering the necessary changes in urban transport towards achieving the Green Deal targets and considering the need to providing social distancing during the COVID-19 pandemic, in fact, this pandemic could accelerate the process of giving urban transport a new direction towards environmental friendlier mobility.

This article presents examples of changes in urban transport and of the ongoing changes towards active mobility in selected cities in the EU. The cities of Barcelona, Berlin, Milan and Paris are presented as examples, as they are delivering important initiatives to promote more sustainable, healthy and efficient active mobility as traffic calming measures. At the same time, active mobility allows more social distancing, which helps to avoid the further spread of the SARS-CoV-2 virus.

The long-term aim of the measures implemented by the selected cities is to improve safety and sustainability of urban transport. While in short-term, the introduction of new, instant cycling lanes also allows for more social distancing during the ongoing COVID-19 pandemic, they could be useful also in the long-term perspective. In fact, these so-called pop-up

cycling lanes do not cause pollution and they do not occupy much space, while they help to maintain social distancing during the COVID-19 pandemic. Considering the changes in urban mobility beyond the COVID-19 pandemic, the further development of active mobility in European metropolitan areas and municipalities will depend on the future policy targets of urban transport planning in these and other European cities. The pandemic-related initiatives to support active mobility should be continued and become an essential part of the European, national and municipalities' future initiatives. The promotion of active mobility measures could also help to further decrease individual car use in cities and thereby reduce the air pollution and environmental impact of urban transport. Considering the net zero CO2 emission target of the European Green Deal, the momentum of the mobility shift towards active mobility during the pandemic should be taken up and used for the mid- and long-term promotion of shifting urban transport towards these low to zero emission transport means.



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【記事 : Article】

1. The European Commission recommendations for urban mobility under the COVID-19 pandemic conditions

Prior to the COVID-19 pandemic, the European Commission published the European Green Deal in December 2019 with the target to reach net zero CO2 emissions by 2050. This will make it necessary

to reconsider the rules for the reduction of CO2 emissions in all sectors and in particular from the transport sector. In this context also urban mobility has to be restructured with focus on low to zero GHG emission solutions for urban transport. Besides the challenges arising from the 2050 CO₂ emission reduction targets under the European Green Deal, the COVID-19 pandemic has shown its impact on the transport sector due to the restrictions in the free movement of people to avoid a further spread of the SARS-CoV-2 virus. The measures necessary during the COVID-19 pandemic related to social distancing on the one hand and the need to take measures to achieving the Green Deal targets on the other hand, will both have their impact on the further development in urban mobility.

After the COVID-19 pandemic reached Europe by the end of January 2020 and the World Health Organisation (WHO)'s announcement on 11 March 2020, to declare the COVID-19 a global pandemic, almost all EU Member State decided to introduce lock down measures for their citizens and restricted the free movement of people. These restrictions were eased since mid-April 2020, depending on the individual Member State's epidemiologic development. The return to a so-called "new normality" included a continuation of sanitary measures like wearing masks in public and social distancing. The recent substantial increase in the number of COVID-19 cases in almost all EU Member States has led to new lock down measures and the free movement of people is restricted again.

On 13 May 2020, the European Commission presented some recommendations also regarding urban mobility during the on-going COVID-19 pandemic. The Communication's "COVID-19: Guidelines on the progressive restoration of transport services and connectivity" C(2020) 3139 final, intend to give recommendations to enable the free movement of people within the EU and across EU Member States' borders, while introducing all the

necessary measures to stabilize the numbers of COVID-19 infections. The Communication contains recommendations for each mode of transport. The C(2020) 3139 final guidelines also include recommendations on urban mobility, as urban areas, regions and cities need to adapt to the new way of mobility under the COVID-19 pandemic restrictions. The cities have to consider measures to make active mobility, like walking and cycling, a safe and more attractive mobility option in the urban areas, as this kind of mobility allows for social distancing during the pandemic. In fact, under the special requirements of social distancing during the pandemic, the cities encourage the utilisation of bicycles and walking and have increased active mobility areas by extending pavements and bicycle paths.

In many cities and regions, public transport (buses, metros, trams, urban and sub-urban trains, etc.) has continued to function throughout the COVID-19 outbreak. However, more measures need to be put in place in order to ensure safe minimum distancing of passengers and passenger flows at stations and transport hubs. Stickers and floor markings are used in public transport vehicles or city roads to guide passengers to keep a safe distance. Furthermore, the contacts between drivers and passengers in urban trains and buses have to be minimised. Considering the high number of passengers transported in public transport, and the number of stations served, compliance with the general distancing and sanitary rules are important to protect public health. It is also of great importance to increase and adapt operational frequency of public transport, as well as readjusting lines, to allow safe minimum distancing when passenger numbers increase.

Regarding shared mobility solutions, shared mobility companies like car-sharing, bike, e-scooter sharing companies should take various measures to protect drivers and passengers from infection. Rental vehicles should be thoroughly disinfected after each use, and vehicles used for

car-sharing should be disinfected at least once on every day of use. E-scooter and e-bike rental companies should disinfect scooters and bikes at least with each battery change.

Regarding the so-called active mobility, many European cities are taking steps to make active mobility, e.g. walking and cycling, a safe and more attractive mobility option during the COVID-19 outbreak in order to avoid a modal shift back to private cars.

In order to share best practices, ideas and innovations for safe mobility in urban and sub-urban areas during the COVID-19 pandemic, the Commission will also gather Member States, local authorities and stakeholders active in the field of urban mobility in order to analyse the lessons learnt and identify the future opportunities for more sustainable mobility in the EU, in line with the European Green Deal.

Considering the impact of the COVID-19 pandemic on urban transport, urban mobility is already rethought in several EU Member States, regions and cities. The measures include an instant extension of pavements and bicycle lanes, adapting timetables and developing innovative technologies to manage passenger flows in order to avoid crowding. The Commission encourages and supports the development and implementation of new urban mobility solutions and measures to facilitate active, collective and shared mobility in a safe manner, and to ensure trust among citizens.

In the medium/long-term, it is recommended that all extraordinary measures put in place during the COVID-19 pandemic should be monitored, assessed and reconsidered on a timely basis, as these measures could have a potential to improve transport systems and urban transport in the long-term. The European Commission intends to draw lessons and gather experiences gained so far, and identify the opportunities for future, more sustainable mobility in the EU, in line with the targets of the European Green Deal.

2. Changes in urban mobility during the COVID-19 pandemic and beyond

The COVID-19 pandemic is causing some changes in urban transport and mobility choices of people. In order to avoid greater accumulations of people, urban dwellers have turned to use private cars in order to avoid public transport. This could cause a drawback for clean mobility such as public transport, as, due to the fear of the virus, one-person car-use could further increase. However, according to Pacchiodo & Arraitz (2020), the Covid-19 pandemic has had also a positive impact on some people who were before depending on public transportation as they now use micro-mobilities, including active mobility such as walking, cycling or clean individual transport such as electric scooters. These active mobility choices allow for an easier physical distancing of people in the urban environment, in contrast to public transport. Moreover, these micro-mobilities are also inexpensive alternatives for the cities and municipalities because they require little investment in infrastructure. Therefore, Pacchiodo & Arraitz (2020) point out that micro-mobilities offer a possibility to significantly lower the environmental impact of transport in cities while generating various economic and social benefits. However, the sudden increase in the use of bikes, e-scooters and other alternatives could cause some challenges and the cities and municipalities trying to help this trend away from private car towards walking and cycling and other clean individual transport solutions by creating more cycling lanes, and enlargement of sidewalks.

While cycling lanes were already introduced to different extends in the cities' urban transport in the past decades, the COVID-19 pandemic has accelerated the trend towards an increased use of bikes in the cities, rather than public transport or private cars. Due to the need of social distancing and the responsible use of more environmentally friendly transport means, many municipalities offer new ways of travelling by

introducing instant, so called "pop-up" cycling lanes. The fact that a large group of people were requested to work from their home office during the COVID-19 pandemic's lock down led to a significant decrease of congestion by cars in the city centres, giving more space to cyclists. This made it possible to setting up these "pop-up" cycling lanes in order to improve the safety of cycling in urban areas. According to Lozzi, et al. (2020) "Cycling ... was prominent already during the lockdowns but increased further with the easing of measures. Cycling could represent an alternative to PT [public transport], but also to private car rides."

In this way, active mobility in urban areas could become even more attractive in many European cities, as an alternative, safe and more attractive mobility option, not only during the COVID-19 pandemic, but also as an option for urban transport in the future, post-pandemic era. In this way, the Covid-19 pandemic works in a positive way as an accelerator to increase the use of active mobility solutions.

3. Examples of changes towards active mobility in urban mobility before and during the COVID-19 pandemic

3.1. Background

With the COVID-19 pandemic, social-distancing measures have proven to be most effective means not only to prevent the disease from spreading but also to change people's daily choice of transport means. In this context, the lockdown and the related urban exodus, based on remote working in a home office have been key components of the COVID-19 pandemic's social impacts in the EU since March 2020. Several metropolitan areas in Europe have thought of projects to facilitate social distancing in urban transport and mobility. The main solutions offer more space in the city areas to non-motorised transport, such as walking and cycling. The implications changes in urban mobility towards active mobility in before and

during the COVID-19 pandemic is explained by giving some examples of initiatives in the metropolitan areas of Barcelona, Berlin, Milan and Paris. The presented initiatives and projects give a non-exhaustive overview on solutions to improve the passenger transport in cities beyond private car use, implemented before and during the COVID-19 pandemic.

3.2. The “superilles “ (super islands) and active mobility in Barcelona, Spain

In Spain, the COVID-19 pandemic with decreases in private transport of up to 80% and the public transport journeys of 95% gave the regional governments the space to consider the promotion of different, more environmentally friendly mobility solutions.

The city of Barcelona, Spain decided to widen the sidewalks and spaces for pedestrians in order to improve physical distancing. Furthermore, due to the drop in the volume of private transport, Barcelona’s council approved plans to create new bicycle lane corridors that so far were occupied exclusively by cars. Already in the past years, the Barcelona City Council has started promoting active mobility solutions and more sustainable and healthier means of transport like bicycles in the city in order to improve air quality.



Photo 1: Cycling lane in Barcelona, Spain

Photo by [Joakim Aglo](#) on [Unsplash](#)

Currently, there are over 200 kilometres of

bicycle lanes available in the city, and the Barcelona city Council is planning a series of measures to further improve the situation. In the first phase, the city Council intends to create 21km of new bicycle lanes, while at the same time the traffic lanes for cars were reduced, both inside the city and for metropolitan connections. Furthermore, the city of Barcelona introduces a new sustainable mobility model in the city’s public space, which could also help bring the city back to life after the COVID-19 pandemic.

For more than thirty years, different municipal governments in Barcelona have seen the “superblock “, an old concept of modern urban planning for freeing certain urban sectors from fast-moving traffic, as a solution for the city’s transport and air pollution problem. In its urban mobility plan of the years 2013 to 2018, Barcelona city has described the model to transform several most densely populated parts of the city into “Poblenou Superblock” areas. Barcelona’s project Poblenou superblocks started in 2016. The concept is that in Barcelona’s grid-shaped new town two by two or three by three blocks of houses are combined into so-called “superilles “ (super islands). They are at the core of the Barcelona city administration’s concept for more sustainable mobility. In the grid shaped Eixample district in Barcelona, the superilles comprise of up to nine street blocks of houses. Within the superblocks, pedestrians and cyclists have priority. By building the superilles, public space is taken from private vehicles and streets are restructured in order to make space on the former crossings available for public transport, bicycles and pedestrians.

Before the “superilles” were introduced, the inner streets of the blocks previously allowed three lanes and parking space—for cars. After the reconstruction, the former crossroads within the superilles have become public squares accessible for pedestrians and cyclists, equipped with benches, trees and children’s playgrounds. By

reshaping these crossings, in each street section, 75% of the surface, formerly occupied by cars, has been freed to pedestrian zones. Cyclists and pedestrians have priority and the only car traffic allowed in the superilles is that of residents and delivery vans at certain times. Motorised traffic has only one lane and is obliged to make a ninety-degree turn at each crossroads. The access for vehicles to all the buildings within the pedestrianised zone is still guaranteed to residents and delivery services. However, they will be obliged to move more slowly and taking a more roundabout routes by adhering to the speed limit of ten km/h.

Meanwhile, after the relaxation of the lockdown during the COVID-19 pandemic, the number of journeys made by city residents has gradually returned to normal, but the change in the types of transport introduced during the lockdown period has been maintained. However, as a negative impact of the COVID-19 pandemic, the journeys made by private vehicles have increased rapidly compared to public transport, and there has been a more rapid recovery in individual motorised transport than collective ones.

Therefore, now the aim is to promote environmentally friendly transport means, like cycling and walking. In addition to the new corridors and lanes already created, in the second phase of the superilles development in Barcelona, the city council intends to further improve the city's infrastructure for cyclists in order to further promote active mobility using bicycles. A total of 12 kilometres and 30,000 square metres of motorised traffic has been closed off in order to provide more space to people travelling on foot. This also allows for social distancing. More traffic lanes will be replaced with bike lanes or combined lanes for bikes and buses. Regarding the promotion of journeys on foot, traffic must be calmed and the safe surface area for pedestrians must be increased in order to improve safety, air quality,

health and community life.

Also, in the second phase, Barcelona City Council plans to include some of the street closures enacted every weekend and public holiday during this period into the "Obrim Carrers" (Opening Streets) programme, with the aim of adding new places for the general public to enjoy at the weekend. Furthermore, since public transport is essential in a dense city like Barcelona, during the COVID-19 pandemic, the metro, buses, trams and other means of public transport have been adapted to demand and have complied with disinfection and capacity protocols, as well as preventative health measures, in order to guarantee safe journeys as much as possible.

To sum it up, private motor vehicles are not wanted as predominant mode of transport anymore in the Barcelona city's mobility, as the excessive use of motorised vehicles in Barcelona city has harmful effects like air pollution. Nevertheless, there are some actions to be taken which are linked to private motor vehicles. There are plans to apply environmental charges that benefit non-polluting vehicles, as well as setting up charging points for electric vehicles.

3.3. Pop-up cycling lanes in Berlin, Germany

Cycling is particularly a solution during the COVID-19 pandemic in order to avoid the risk of infections in overcrowded public transport, to cover absolutely necessary distances and to engage in sports in the fresh air.

In March 2020, the city of Berlin, Germany implemented a planning guideline for temporary introducing temporary pop-up bicycle lanes in order to provide more space for cyclists, especially in the area in front of traffic lights and at intersections throughout the city. The temporary extension of cycle lanes offers the possibility of reacting at short notice to changing conditions in road traffic. The temporary, pop-up cycle lanes create additional safe and sufficient space for cyclists. Extended

parking areas at intersections can also provide more space to maintain the necessary distance from other cyclists. Furthermore, it improves the safety of cycling in the city and re-utilises road space, which was underused by cars during the COVID-19 pandemic lockdown. In this way, the pop-up cycling lanes also help to relieve the local public transport from overcrowding and make it easier to maintain the required distance in suburban and subway trains, buses and trams. The Berlin Senate Administration’s plan on “Temporary Installation and Extension of Cycling Facilities” will serve the city’s districts as a planning basis for the implementation of such projects. In the longer-term perspective, the aim is to provide an attractive alternative to public transport. Therefore, while the first lockdown passed, the Berlin city administration now intends to further improve the locations of bicycle lanes and cycling infrastructure in the city also beyond the pandemic. Just in October 2020, a Berlin court ruled in a lawsuit against the continuation of the so-called pop-up cycling lanes that their temporary installation may continue also in the long-term in order to provide the city with more cycling lanes.

3.4. Milan’s “Strade Aperte” (open streets) and “Piazze Aperte” (open squares) projects

In the municipality of Milan, Italy, bicycle lanes have been created already before the COVID-19 pandemic arrived in Europe. In Milan, several of the city’s main roads have been equipped with cycling lanes, while Milan’s urban mobility strategy includes also the “Strade Aperte” initiative, which in the ongoing COVID-19 pandemic also helps to follow the physical and social distancing requirements. The “Strade Aperte” initiative’s goal is to create protected and accessible roads for pedestrians and cyclists, and to offer new public spaces while encouraging travels on foot, by bicycle and e-

scooter as alternatives to the public transport or private car, in particular.

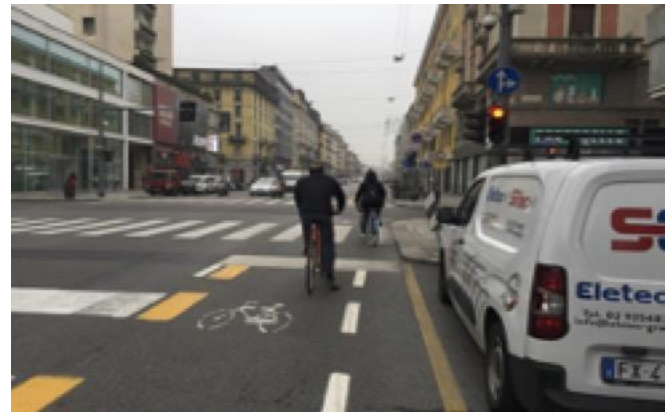


Photo 2: Cycling lane in Corso Buenos Aires, Milan

Photo by Giorgia Antolini, Milan, Nov. 2020



Photo 3: Separation of cars and cycling lanes in Corso Buenos Aires, Milan

Photo by Giorgia Antolini, Milan, Nov. 2020



Photo 4: Separation of car traffic, parking, cycling lane and sidewalk in Corso Venezia, Milan

Photo by Giorgia Antolini, Milan, Nov. 2020

Cycling is now encouraged in Milan and the 35 km of new cycle lanes is one more step towards changing urban mobility. The cycling lanes are also created within some distance to parked vehicles. In this way, cyclists are also more protected from accidents with parked vehicles, as the sudden opening of doors of parked cars can create some danger for the cyclists (photo 2 and 4). Furthermore, the municipality of Milan promotes in its urban mobility strategy also the “Piazze Aperte” (open squares) initiative. This initiative aims at creating new pedestrian areas that can be used safely, by giving a new quality to public spaces in the neighbourhood. Some roads temporarily became more accessible to pedestrians by widening the sidewalks and 30 km/h speed limit zones are introduced, in connection with the existing cycling paths. The “Piazze Aperte” (Open Squares) urban planning project, has regenerated 15 city squares through quick and low-cost interventions in the last year and a half. It is planned to free more public space on squares (“piazze”) and to dedicate the freed squares to the people’s outdoor life. By banning private cars from parking on those squares it leaves space to placing tables for bars and restaurants on former parking areas. Also benches and sport equipment like table tennis areas are set up on the piazza.

One example is Piazza Dergano in Milan, Italy, where changes were introduced under the “Piazze Aperte” project. The cars have been banned from the square and instead benches, plants, table tennis facilities have been placed on the square’s surface. Bicycle parking space has been created at one side of the square. While the square itself is now closed for car traffic, motorised traffic can move around in some parts of the outer end of the square.

The goal of both initiatives, Strade Aperte and Piazze Aperte, is to create protected and accessible streets for everyone, offering new public spaces for the people’s recreation and

free time in their immediate neighbourhood. It encourages travel on foot, by bicycle and scooter for journeys on an urban scale. While both initiatives already started before the COVID-19 pandemic, the need of changing the urban structure is now accelerated by the necessity to respond to the pandemic’s measures of social distancing also in the area of urban mobility. By widening of sidewalks and the establishment of new cycle lanes or the enlargement of existing cycle lanes the social distancing in the ongoing pandemic is adhered. In a mid- and long-term view, the “Piazze Aperte” will offer new outdoor areas in the neighbourhood of housing areas for pedestrians and precious public space will be freed up to the outdoor life of adults and children living in Milan.

3.5. “Plan Vélo” in Paris, France

In Paris, France, as the lockdown measures were eased before the summer, the city administration implemented 650 km of emergency bicycle lanes in with its “Plan Vélo” (Planvelo, 2020). It was launched on 5 May 2020 to facilitate movement of people while securing the social distancing on the one hand, and to avoid a potential increase in the use of private cars. Paris is not a cycling city, yet, and only 4% of Parisians use bicycles to get to work. The French capital is lacking in the infrastructure like bicycle lanes and bicycle parking. The Plan Vélo calls for making every street in Paris bicycle-friendly by 2024 and to remove 72% of the city’s on-street car parking spaces. During the pandemic but also regarding the reduction of air pollution and the long-term GHG emission reduction target of the European green deal, it is essential to make bicycles a mobility solution accessible to the greatest number of people, also in Paris.

4. Conclusion

While the COVID-19 pandemic is continuing in Europe, several cities have considered solutions

how to facilitate social distancing within urban transport. The cities have put into practice several temporary projects to improving the conditions of bicycle lanes, pedestrian zones and public transport. Several European cities have also taken measures already before the pandemic reached Europe. Therefore, the initiatives in Barcelona, Berlin, Milan and Paris show a variety of measures for changing urban transport in particular direction of promoting active mobility in urban areas.

During the pandemic, cities have also introduced temporary enlargements of pedestrian sidewalks and cycling lanes. It remains to be seen for how long these new projects in urban transport will be continued. Some of the temporary measures could come to an end. However, even pop-up cycle lanes could become a long-term measure to make city centres more cycling friendly. By the time the pandemic will come to an end, it will be necessary to consider a continuation of good practices and make the former improvised solutions, like pop-up cycle lanes, a new way of mobility in the cities.

Considering the urban planning measures that had already started before the COVID-19 pandemic reached Europe, the pandemic could even accelerate the modal shift towards active mobility by bike in these urban restructuring projects like in Barcelona or Milan. These urban development projects could change the people's perception of individual transport by car.

Pandemic-related initiatives like pop-up cycling lanes or giving more space to bicycles and pedestrians in the cities, should be continued and become an essential part of urban transport planning. While using the momentum of the pandemic to achieve a change towards low to zero emission transport means in urban transport, this could eventually contribute to achieving the net-zero CO2 emission target of 2050.

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