



Urban Mobility



# Urban Mobility Next #2

## Short version: urban mobility strategies during COVID-19



## **EIT Urban Mobility**

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## Surveyed Cities

Antwerp (Belgium)

Barcelona (Spain)

Belgrade (Serbia)

Funchal (Portugal)

Graz (Austria)

Lund (Sweden)

Lviv (Ukraine)

Odense (Denmark)

Rome (Italy)

Rubí (Spain)

Santa Coloma de Gramanet (Spain)

Sint-Niklaas (Belgium)

Stockholm (Sweden)

Tampere (Finland)

Tartu (Estonia)

Würzburg (Germany)

# Introduction

In 2020 EIT Urban Mobility conducted a survey across 16 European cities to understand and analyse their mobility strategies during the COVID-19 pandemic. This paper is a summary of an in-depth report (please refer to the “acknowledgement” section for more details on authorship) exploring the impact of COVID-19 on these cities and in the wider context of urban mobility in Europe.

The cities surveyed constitute a sample of mostly middle-sized cities well spread across Europe, with 2 cities from Western, 5 from Northern, 2 from Eastern, 5 from Southern, and 2 from Central Europe. While most publications about the impact of COVID-19 have been largely focusing on large cities, this paper sheds light on the main challenges posed by the pandemic to diverse cities across Europe, and the mobility strategies deployed to address them.

The paper first sets out the challenges, requirements, and strategies of sustainable urban mobility systems. It then analyses the effects of the COVID-19 pandemic on these systems, before exploring selected best practices for resilient and future-proof mobility systems. Finally, the paper considers innovation in cities as an enabler of the sustainable mobility transition and provides a critical assessment of the economic impact of new mobility solutions in the new context.

## 1. Challenges, requirements, and strategies of sustainable urban mobility systems

The challenges of urban mobility generate present and future requirements that are translated into a variety of strategies.

Our analysis shows that cities have not reconsidered their long-term mobility strategies, but on the contrary, have been using the COVID-19 measures to foster some of them.

For one thing, the requirements coming from the pandemic appear to be temporary and partial. The impacts of COVID-19 can be more or less lasting, and it remains to be seen how resilient the habits of cleanliness, psychological apprehension to be close to other people, sociological patterns like remote working, the effects of the economic crisis will prove. But the direct requirements for social distancing, with all its impacts on public transportation and the use of collective places, will disappear as soon as vaccination is available and extensive. Indeed, put in the context of all the above-mentioned challenges urban mobility systems are facing, COVID-19 requirements represent a small part.

Therefore, the experience of dealing with COVID-19 pandemic enables our societies to learn

many lessons to deal with hypothetical future situations of infectious diseases, as Asian countries like Taiwan or South Korea, with the SARS-Cov-1 outbreak during 2002-2004, the first strain from the current COVID-19/SARS-Cov-2, did.<sup>i</sup> However, it should not deeply change the overall vision of future urban mobility systems, even if vision of sustainability can be in tension with real dynamics of our economies and societies. Nevertheless, the vision defined by the challenges and requirements are a driving force (intended to be the leading one) for the transition towards sustainable urban mobility.

Figure 1 provides an overview of the main challenges and requirements of urban mobility systems, that are still extremely relevant in times of pandemic. In Europe, the implementation of Sustainable Urban Mobility Plans (SUMP) can accelerate the deployments of strategies summarized in figure 1. Since Summer 2020, a SUMP practitioner briefing on COVID-19 is available for city and regions to adapt their urban mobility systems to the new situation.<sup>ii</sup>



Figure 1: Challenges and requirements for Urban Mobility systems

## 2. Effects of COVID-19 on urban mobility systems

The mobility systems before the COVID-19 crisis in most of the cities who participated in our survey focused on private cars. In average the modal split of private cars was around 38 % – with a significant variation from 6 to 60 percent.

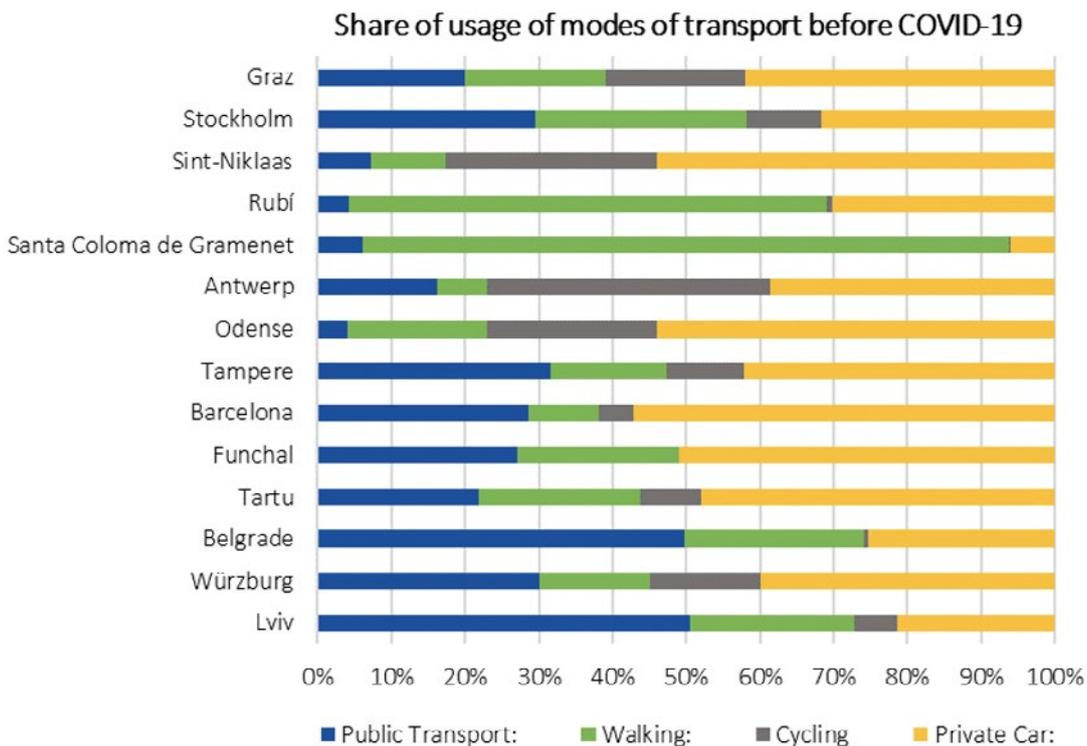


Figure 2: Survey Results from the Question: *Modal split before COVID-19*

Due to the crisis the modal split shifted towards individual modes of transport such as car, walking and cycling (see Figure 2). This is corroborated by a survey by McKinsey showing that on a long-term perspective 70 % of mobility users in the United States, United Kingdom, Germany, France, Italy, Japan, and China would choose to walk or bike at least weekly even after returning to normal life. This is an increase of six percentage points compared to pre-crisis levels. Likewise, the survey indicates an increase of car usage during the pandemic by one percentage point.<sup>iii</sup>

As the pandemic is not only a health but also an economic crisis, investment in innovation and future mobility has been decreasing. Amongst others, this can be seen in the decreasing jobs and postponed innovation projects at big car manufacturers.<sup>iv</sup> The focus of many companies active in the field of urban mobility currently is day-to-day management of the crisis as a decreasing mobility demands also result in decreasing revenues.

In contrast to the decreasing investments in the automotive industry, 46 % of the cities that participated in the survey indicated that the pandemic did not have any effects on their mobility strategy and on the projects planned (see Figure 3).

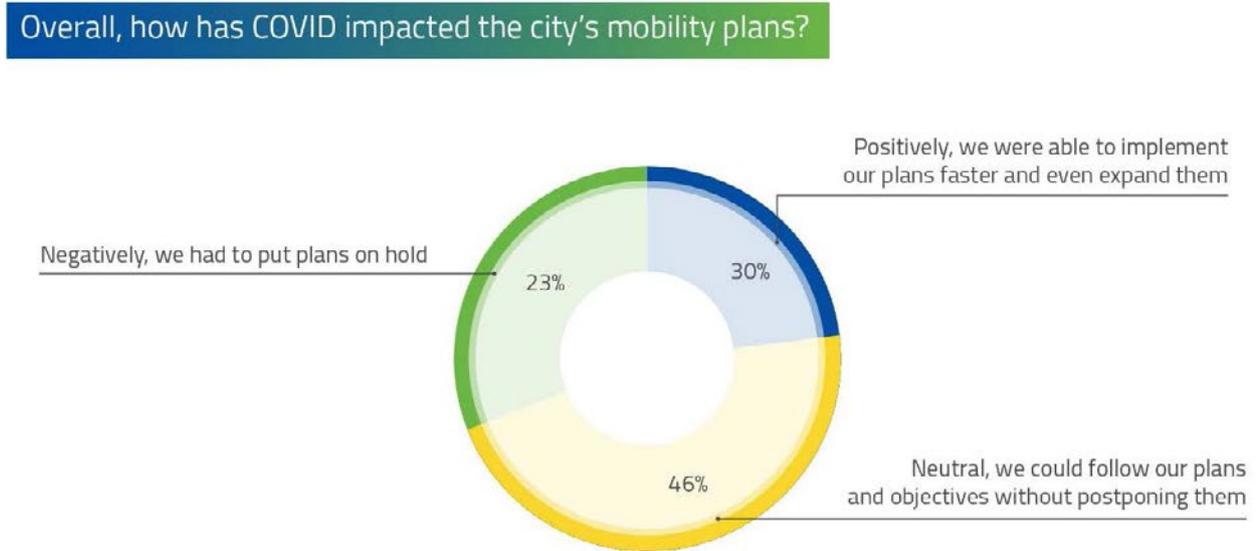


Figure 3: Survey result from the question: *How has COVID-19 impacted the city's mobility plans?*

Thus, the COVID-19 crisis could delay the development of advanced technologies, such as autonomous driving. Also ride hailing services in the world’s major cities have experienced declines of up to 60 to 70 percent, and many micro mobility and carpooling players have suspended their services.<sup>v</sup> As the public investment in micro mobility and shared-mobility providers might drop, the consolidation of the market might be accelerated. This will likely favour success (and survival) larger players with higher cash reserves. On the other hand, 75 % of the cities taking the survey are in favour of multi-modal ticketing which supports micro mobility options and favours an up-take of this segment after the pandemic (see Figure 4).

%	No	Yes	Yes, <b>but</b> it's only a <b>short-term</b> measure (will conclude after the pandemic)	Yes, and will be maintained after the pandemic since it was <b>part of our mobility plans</b>	Yes, <b>and</b> will be maintained after the pandemic <b>though</b> it was <b>not</b> part of our mobility plans.
Offer Multimodal Ticketing	25	75	13	44	19

Figure 4: Survey Results from the Question: *Do you offer multi-modal ticketing due to COVID-19?*



## Dr. Anna Clark, Innovation Lifecycle Manager, EIT Urban Mobility Innovation Hub North

*“In city administrations there has been a redeployment of strategic personnel into other urgent tasks to tackle the pandemic, as well as challenges with home-working and increased sick leave. There is a lot of willingness to do more, however it is challenging for cities to allocate resources, especially for strategic issues.”*

Requirements and strategies for sustainable urban mobility (as described in Figure 1) and the short-term impacts of COVID-19 in the mobility sector can be taken as an opportunity to foster and accelerate long-term sustainable change. In fact, the COVID-19 pandemic has accelerated some urban planning and mobility trends:

- The increase of tactical urbanism to temporarily **reclaim road space** (for widening sidewalks or provide more room for bar terraces) can lead to permanent redesign of public space to improve neighbourhood walkability.
- The development of the **bike network** (both at the level of urban lanes and express inter-urban corridors) as a response to the decrease of public transport capacity can consolidate this mode of transportation.
- The increase of **e-commerce and home** deliveries during the pandemic can propel cities to implement actions to improve urban freight transport.
- The **time factor management** has emerged as a key factor to deal with COVID-19 (for instance, fixing time slots to exit home during the lockdown) and point to the interest of time regulations to share some public spaces between different uses.
- Neighbourhood life under restrictions, with fewer cars on the streets, may raise the social awareness of the **quality of life** associated with clean and calm environments with proximity services.
- The intense use of digital technologies to track the pandemic can foster the **use of mobility data** and applications of Mobility as a Service.
- The acceleration of technologies such as **autonomous driving, multifunctionality increase and air cleaning** solutions research and development has been continued by industrial players.

While these changes are happening now, it is important to note some differences between cities and countries. As it appears from the survey conducted for this study, not all cities have implemented the same measures with the same intentions (short term vs. long term). Important to note is the reduced capacity that many Mobility Departments have experienced during the pandemic, limiting their ability to move forward and faster with existing plans.



## Ivo Cré, Director Policy & Projects, POLIS

*“Successful cities have been able to fast track planned solutions that they have in their SUMPs. This does not happen only due the fact that they have actions planned, but that they have a structure that allows the deployment of such solutions or projects.”*

Nevertheless, our research also shows that the window of opportunity is still open for cities to leverage on the behavioural changes that the pandemic created, and fast forward with a sustainable transformation of their urban mobility. However, it will not be easy since there has been an increase of behavioural patterns, such as the increased use of cars, that could play against that transformation. Furthermore, sustainability and climate goals are urgently compelling policymakers to act, so relevant actions should take place to achieve them on time. Finally, local governments and transport authorities will need to pay close attention to the economic effects of the pandemic in the transport sector and the role of key enablers, such as innovation, to tackle existing and current challenges.

### 3. Best practices for resilient & future-proof urban mobility systems

This section highlights the cases of Rome, Lund, and Tartu as illustrations of how geographically and economically diverse European cities are responding to the pandemic.

#### Rome

 Pop: 2,860,000 (2,236 ca/km<sup>2</sup>) (2019)  Area: 1,285 km<sup>2</sup>  Budget: 646 million (2019)

#### MOBILITY CHALLENGES



High Car Dependency



Performance of Public Transport



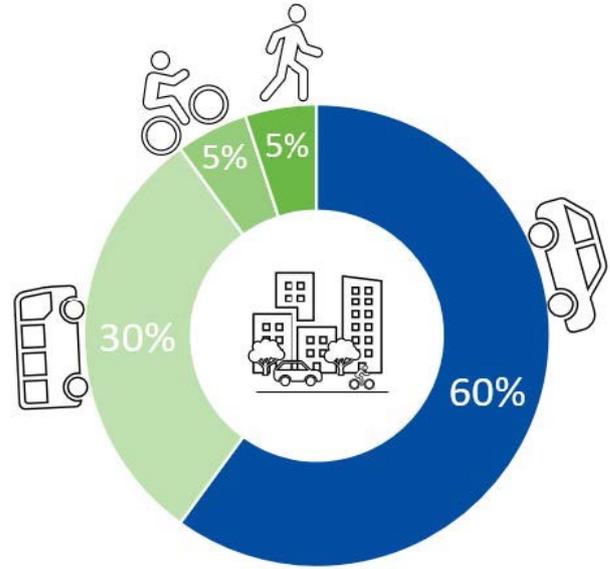
Traffic Congestion



Air Pollution

**Status-quo**

Ranking as the third most populated city in the European Union, Rome is home for almost 3 million inhabitants and capital of Italy. The old saying, “all roads lead to Rome” comes from Rome’s radial road network, configuration that now brings heavy traffic and difficulty to move from one of the radial roads to another without going into the historic centre. Its high car and motorcycle dependency are also contributing to an increase in air pollution. At the moment, Rome has two active mobility plans, their SUMP approved in 2018 and the Electric Mobility plan for the next 3 years.



2018 Modal Split

**Action 1**

**Reduction of Bus & Metro passengers**

The end of the lockdown in late April, marked the start of the phase 2, which indicated the restart of Rome’s public transportation. One of the measures implemented to promote safe travelling was the reduction of the passenger capacity of both buses and metro-trains by two-thirds. This was mainly done by de-servicing seats and keeping count of the number of onboard passengers.

To facilitate the transportation of buses, the so-called blue lanes (designated for parking) were suspended until September. This highly improved the service time of buses to compensate for the restriction of onboard passengers.

Alessandro Drago, Local Councilor to Mobility in Rome, mentioned that during COVID, the main objective was to preserve a healthy



Photo Credit wantedinrome.com (2020)

control of their residents and provide public transport service in a safe way.

On the restriction’s success, Drago stated that social distancing was mostly respected on buses, due to the surveillance of bus drivers. However, in the metro, the situation was different.



Photo Credit themayor.eu (2020)

**Action 2**

**Fostering micro-mobility**

Within Rome’s three-year Electric Mobility Plan, a city-wide discount for renting electric scooters, pedelecs, and e-bikes was implemented. Rome has a long tradition of motorised transportation, with an estimated 350,000 motorcycle ownership. Therefore, incentives like the discount were needed.

Drago mentioned that the offered economic incentive has boosted the use of micro-mobility by at least 30 %.

**Action 3**

**City-wide EV charging infrastructure**

To provide charging capacity for the three-year electric mobility plan, 1200 recharging stations are designed to be installed across Rome. According to Drago, Rome is the only city that has approved an electric mobility plan with such ambition. From the total planned charging stations, 750 have already been implemented. For identifying the ideal locations for the charging stations, the city launched a public awareness and participation platform. In the platform, citizens were able to propose three locations for the charging points. The preference of the public was then taken into consideration for the final locations.

Rome is leading by example for the transition to electric mobility, as they have recently acquired 16 EV through the Horizon 2020 program, for the city authority’s transportation.



Photo Credit romamobilita.it (2020)

**Post COVID-19 Outlook**

After the pandemic, Rome identifies the following areas as future needs concerning innovative actions in mobility:



# Lund

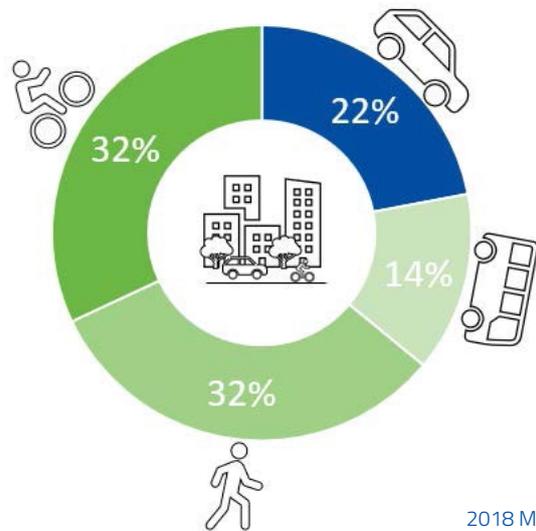
 Pop: 91,940 (3,376 ca/km<sup>2</sup>) (2017)  Area: 27.5 km<sup>2</sup>  Budget: N/A million (2019)

**MOBILITY CHALLENGES**



## Status-quo

Lund, one of the fastest growing cities in Sweden, is located in the province of Scania in the Öresund region of southern Sweden. It is a notable industrial and business centre, 16 km northeast of Malmö. Projections made by the municipality estimates that Lund will build 26,000 new homes by 2040 (Lund Municipality, 2020), therefore, high accessibility and sustainable transport development are the core in the Lund Master Plan. Within the Master Plan, a strategy for sustainable travel called LundaMaTs III was developed, based on six areas aiming to reduce Lund’s major mobility challenges and introduces the city’s outlook for



2018 Modal Split

2025. One of the most pressing challenges is to reduce their dependency from cars for travels into and out of the city (Lund Municipality, 2014).

**Action 1**

## Fall-friendly cycling path

In Sweden it has been identified that cyclist have suffered more injuries and accidents than other modes of transport during the past decade (Lund Municipality, 2020). 82 % of these accidents are caused by poor cycling surface conditions. The project, therefore, intended to reduce the risk of injuries by retrofitting 300 m of the cycle and pedestrian Dalbyvägen path



Photo Credit Lund Kommun (2020)

to be “accident-friendly”. They achieved this by laying a surface road made out of mixed asphalt and rubber particles from recycled tires.

An investigation done by 30 cyclists showed that rubber asphalt was considered to be as good or better compared to normal

asphalt. The coating is hard enough for easily cycling, but soft enough for it to absorb shocks and prevent injuries in the event of a fall. The “safe-path” concept is the first to be tested in an urban street environment.

## Action 2

### Find the way Challenge

Around 1000 students from Lund’s schools participated in the walking and cycling challenge ‘Find the Way’, which aimed to promote sustainable travel to and from schools. The challenge started with the classes filling a travel behaviour survey to find out how each class transported themselves before the challenge. Consequently, each class collected points in the challenge by completing quests. In the assignments, the students drew their school route on a digital map where they could



Photo Credit Lund Kommun (2020)

leave comments about the school route. The data provided by the students are being used by employees of the technical administration as a base for urban planning.



Photo Credit Ingemar Kristiansen (2016)

## Action 3

### Live Streets around schools

Since the 1990s, school trips by bicycle in Lund have decreased by 48 %. It was, therefore, the purpose of this project to raise awareness of the multiple use’s streets can have and test a temporal solution for reducing traffic around schools. For one week, surrounding streets from several schools were closed for car transit and made available to schools for education and leisure purposes. The initiative was launched as part of Lund’s participation in the European Mobility Week.

Astrid Bachs, from the Street and Traffic Department of Lund said that they aimed to encourage children and caretakers to walk and bike to school by making the nearest area around the school safer and fun.

The liveable streets concept has received positive feedback from Lund’s citizens and schools. However, Bachs mentioned that uncertainty still remains of whether or not it would have foster active transportation on a short or long term.

**Post COVID-19 Outlook**

After the pandemic, Lund identifies the following areas as future needs concerning innovative actions in mobility:



# Tartu

Pop: 99,631 (647 ca/km<sup>2</sup>) (2019) Area: 38.8 km<sup>2</sup> Budget: 192 million (2019)

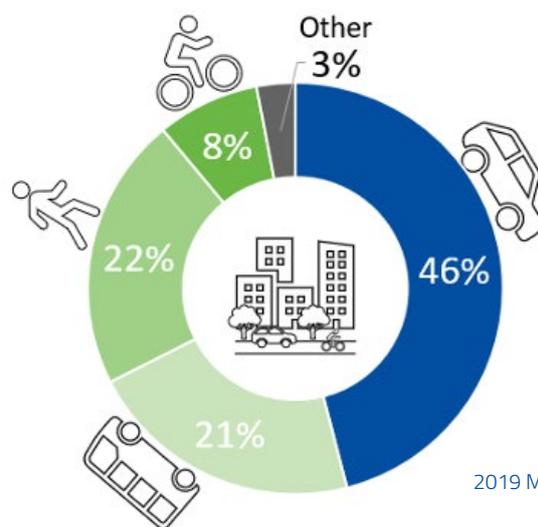
**MOBILITY CHALLENGES**

High Car Dependency

Insufficient Bike Lanes

**Status-quo**

Tartu is the second largest city of Estonia, and it is characterised as an academic and research-oriented city with approximately 36 % of its population being students (Tartu , 2019). During the past 3 years, the city has been planning the total redesign of transport infrastructures and the implementation of innovative solutions through co-creation processes with its citizens. Within their mobility strategy, the improvement of pedestrian zones, reduction and re-distribution of parking zones, bike sharing systems, and promotion of public transport are targeted. The city is striving to



2019 Modal Split

achieve a 26 % modal share for bikes by 2040, 25 % for cars, 23 % for public transport and 21 % pedestrian traffic (Intelligent Transport, 2020).

## Action 1

### Smart Bicycle sharing

In June 2019, the city unveiled its bike sharing systems, with 500 e-bikes, 250 bikes and 69 bike sharing stations across the city. The project intended to contribute to label Tartu's transportation with the motto "anywhere under 15 minutes". The project received funding from the European Regional Development Fund and the H2020 programme.

The overall vision in the cycling strategy is for the bicycle to be "the preferred all-year-round mode of transport and walking is the preferred mode of travel – the residents of Tartu travel daily mainly by bicycle or on foot." The Cycle Strategy 2019–2040 will be integrated into the Tartu Energy 2030+ plan, hopefully allowing for harmonization and coordination between several interdependent policy domains. Jaanus Tamm, Project Manager from Tartu stated that they used data to strategically decide the



Photo Credit Ove Maidla (2019)

location of the stations, identifying the zones with higher pedestrian flow and lower access to buses.

The deployment of shared bicycle has helped Tartu to increase bike usage, however, Tamm acknowledges that more efforts could have been made to foster bike usage, especially during COVID.

## Action 2

### Transformation of Bus Network

With the purpose of accelerating the reduction of car usage, Tartu transformed their existing bus network to one with fewer total routes, better connection between bus lines, and more frequent intervals. For achieving this, the Mayor of Tartu established 13 new bus routes with 64 new, low emission buses.

The project was conceived with great involvement from Tartu's citizens to identify those routes where the potential number of bus riders is greater. The buses are also equipped with contactless payment machines.



Photo Credit Joonas Sisask (2019)

Action 3

Car-free Avenue

Defined by Jaanus Tamm as one of Tartu’s success stories in mobility during the pandemic, the Vabaduse Avenue was transformed into a car-free avenue during the month of July. The project not only observed COVID-19 social distancing guidelines but also gave local businesses an economic relief, as food trucks, a beach bar, flea markets and an outdoor cinema were given a space. An impressive 18,000

visitors were counted in the first three days of opening, according to INHabitat (Wang, et al., 2020). The pilot project brought topics such as climate change and excessive use of cars back to Tartu’s citizens conversations, so it served as a great awareness campaign.



Photo: Mana Kaasik (2020)

Post COVID-19 Outlook

After the pandemic, Tartu identifies the following areas as future needs concerning innovative actions in mobility:



## 4. Innovation in cities as enabler of the transition

Results from our survey are a snapshot that can be used as basis for a qualitative discussion about the effects of the pandemic and possible measures related to strategic and organisational issues. Organisation and collaboration are two key areas for successful work with urban innovation. The majority of responding cities show a traditional organisation with no cross-silo innovation function, as illustrated on figure 5.



This indicates they organisationally should be less flexible and potentially have a weaker capacity and capability to work with innovative solutions and external collaborations for transforming their ability system than frontline cities.

All cities taking part in our survey regularly engage with a variety of stakeholders. Looking at the intensity of city engagement with different sets of external stakeholders, public sector organisations score highest. Citizens and to some extent universities/research organisations have been engaged more often than different categories of private sector stakeholders (see figure 6).



**Dr. Anna Clark, Innovation Lifecycle Manager,  
EIT Urban Mobility, Innovation Hub North**

*“City governments need to think about what framework conditions they can set up, making it possible for private companies to find working business models, that at the same time are in line with the city’s policy goals.”*

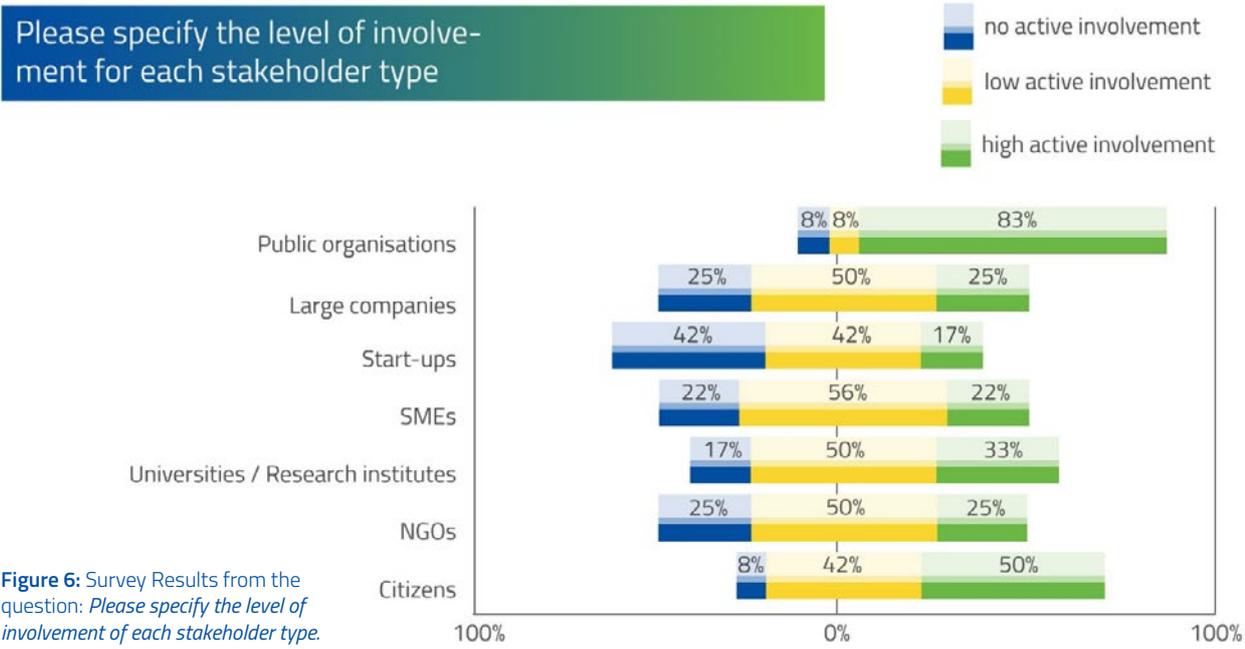


Figure 6: Survey Results from the question: *Please specify the level of involvement of each stakeholder type.*

Collaboration with private sector is something for local government to consider carefully. There are both risks and opportunities in doing it, but it is obvious that with the right setup, there is much knowledge, services and financing that might come from the private sector that can contribute to transforming urban mobility system. This collaboration is increasingly important and learning from frontrunner cities in how to organise and “control” collaboration will be beneficial.

Considering citizen involvement (Figure 7), it is encouraging to see a good amount of activity, and that cities under stress still manage to consult through both formal processes and thanks to citizens’ proposals on mobility measures.

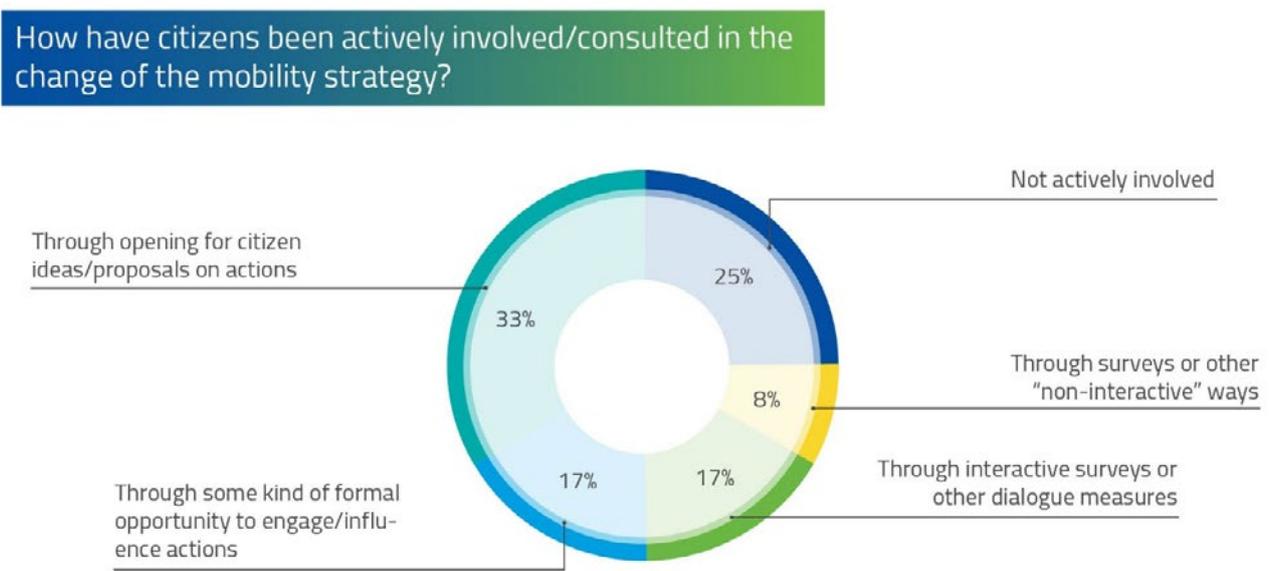


Figure 7: Survey Results from the Question: *How have citizens been actively involved/consulted in the change of the mobility strategy?*

With a more traditional organisational setup, engaging citizens is still natural for cities. Engaging with other stakeholder groups is more challenging, especially when it comes to private sector, and it can be wise to learn from cities being experienced in public-private-partnerships.

When looking into the details of the survey to understand what kind of innovative measures are taken, it looks like much is related to the acute present situation, rather than taking a broader set of future requirements into account. There is a lot of focus on alternative modalities with different biking schemes as the most common action, but also new measures concerning public space and mobility as a service seem to be explored in many places. Some cities also test new mobility apps.

## “ Dr. Anna Clark, Innovation Lifecycle Manager, EIT Urban Mobility, Innovation Hub North

*“During COVID-19 it seems that cities got the opportunity to speed up implementation of some already planned measures, but there was less opportunity to focus on innovating on strategy. There is willingness to re-evaluate strategy, but due to the acute situation, most often strategic issues have been left for the future.”*

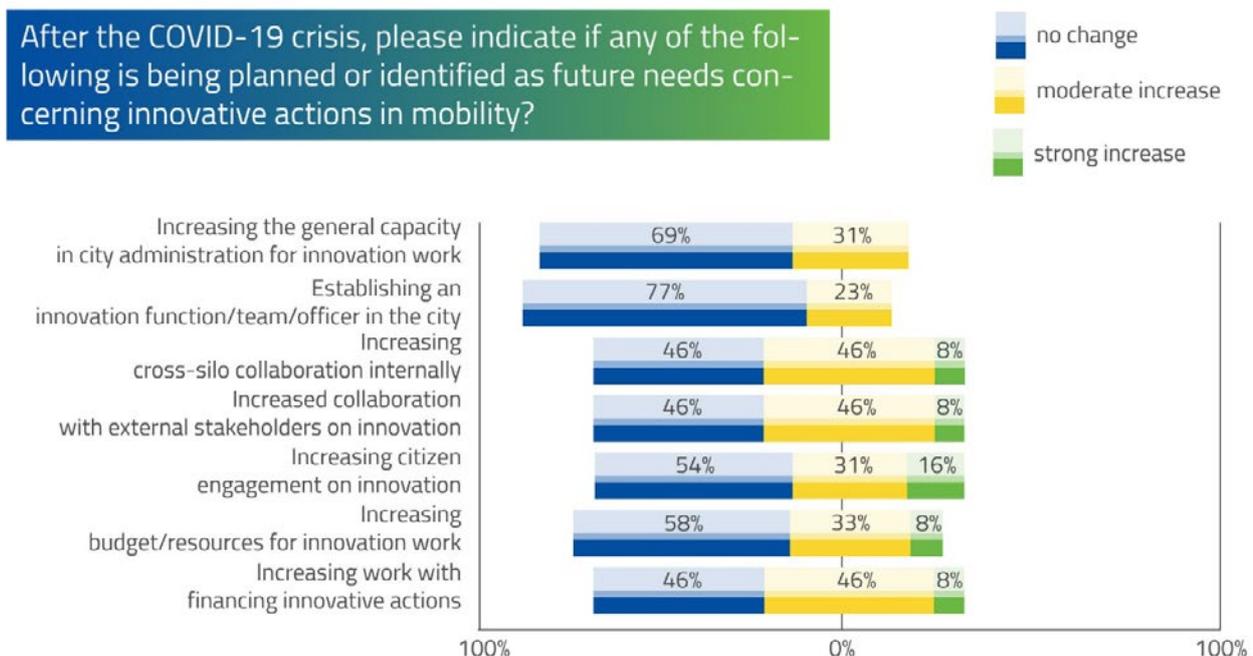


Figure 8: Survey Results from the Question: *After the COVID-19 crisis, please indicate if any of the following is being planned or identified as future needs concerning innovative actions in mobility?*

These results need to be read with great caution, as the answers in many cases are given during the second wave of COVID-19 (October 2020), and what will be part of future planning is to a large extent too early to tell. Still, it seems to be a tendency to increase citizen involvement in the future, and potentially also increase both focus and financing of innovation actions. Bigger organisational changes are not on the agenda among respondents at this stage.

Looking at measures taken, and the answers on what will prevail after the pandemic, it seems too early to tell if the crisis will be a vector for steering strategies and actions into a more sustainable path. However, this is a strategy decision that cities need to investigate, as the pace of change will not slow down, and investments that will be made in the coming years as part of the recovery after the pandemic need to be long-term. Research from the C40 Mayor’s Task Force on Green and Just Recovery indicates that only 3 – 5 % of an estimated US\$12 – \$15 trillion in international COVID-19 stimulus funding is committed to green initiatives (C40 Mayors Recovery Task Force, 2020). They recommend such funds should be channelled towards investments like mass transit, walking and cycling infrastructure and clean energy.

There is a need to address the gap between upcoming resources and cities’ readiness to prepare for the planning and collaboration required to transform urban mobility systems, both on local government level and by the different financing programs that will allocate funding. There is a window of opportunity to channel some of that funding, so cities get support in establishing both capacity and capabilities on innovation, collaboration, and the use of data to support that.

Data has been a key asset for many cities when it comes to analyse the effects of COVID-19 and to take measures to meet those effects. Much of the data has been related to health, but also data in the field of mobility has been valuable to meet the rapidly changing mobility patterns when restrictions were applied, and when individual’s behaviour on mobility changed due to fear of getting infected. Survey results in Figure 9 shed some light on the role of data collection and analysis during the pandemic.

What role has data collection and analysis played in the mobility plans and, especially, during the pandemic?

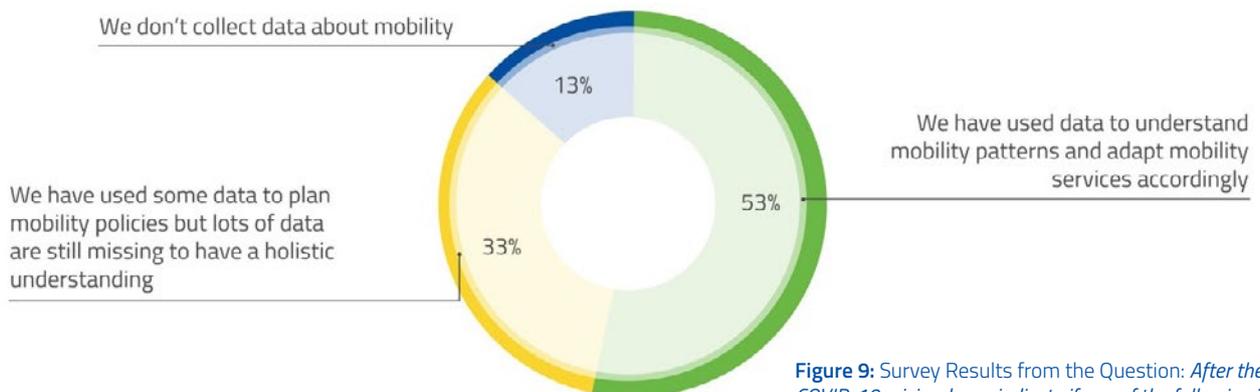


Figure 9: Survey Results from the Question: *After the COVID-19 crisis, please indicate if any of the following is being planned or identified as future needs concerning innovative actions in mobility?*

The question refers to using data for planning, focused on the acute situation of a pandemic. More than half of the cities have been applying data to adapt mobility planning. There is a potential overlap between this option and the next alternative, where five cities have applied data to plan mobility policies but point to the deficits in available data to have a holistic understanding. The cities that have used data seem to have applied it most frequently on adjusting public transport to changing demand, to take measures for the increase in cycling and understanding of how citizens use public space. At least some of them have used data also from external stakeholders like Apple and Google.

It is interesting to compare responses with a more comprehensive OECD study on innovation capacity in cities.<sup>vi</sup> With participation from 89 cities, it looked into how municipalities are innovating, why they are innovating, and what innovation is allowing them to do. For 85 % of surveyed cities, data play a significant or somewhat significant role in innovation decision making and policy making. However, data availability by policy sector remains uneven.

The answers about data collection and analysis from our survey can also be contrasted to the results from the OECD study's question *"Does your city have sufficient data in the following policy areas to support your work on innovation?"* Out of 89 cities 64 % responded positive for *transport/mobility*, making it the highest scoring policy area for availability of data. This could indicate our sample are cities that as group have lower maturity on data collection and use, and so have high potential to improve when it comes to collect and use data for analysing and improving their mobility work.



**Daniel Serra, Innovation Hub South Director,  
EIT Urban Mobility**

*"Most cities are not ready to collect and use data more extensively. There is lack of staff, lack of knowledge, lack of collaboration with private sector. City administration needs to mature on collection, use and collaboration on data."*

Work with innovation requires resources. When it comes to funding the work, financial resources of the responding cities seem to be weak (see Figure 10). Options "no financing" or "don't know" make up for almost two thirds of responses. For the rest project financing is mentioned by some cities, while only one has a city-level budget for innovation. As the dominant part of innovation work according to responses is done in the different departments, it is surprising no city indicate the option of budget resources in relevant departments.

Is there a dedicated budget for innovation?

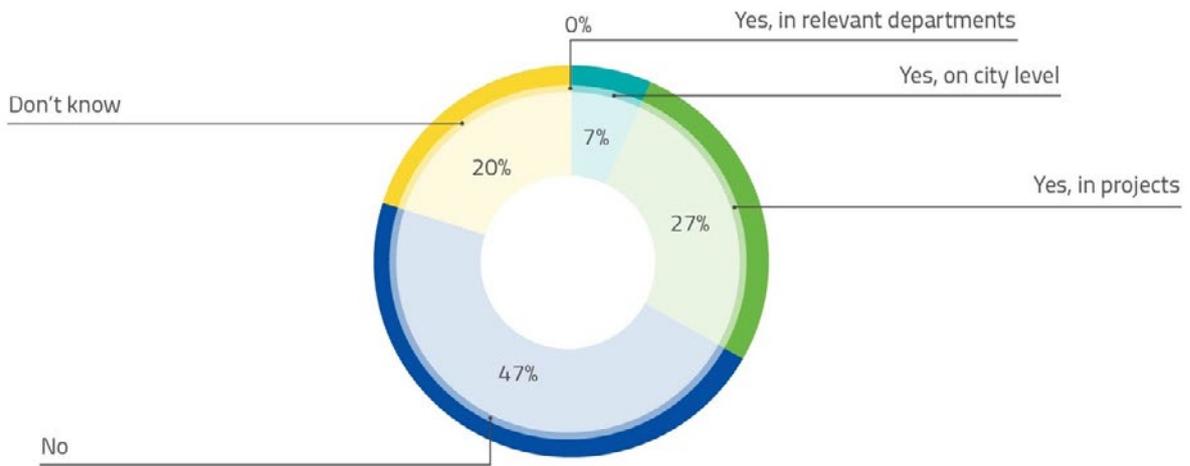


Figure 10: Survey Results from the Question: *Is there a dedicated budget for innovation?*

Compared to these results, in the earlier mentioned OECD study, 70 out of the 89 surveyed cities reported having specific funding available at the municipality level to support innovation capacity. This could, again, indicate that our responding group have a low maturity for working with innovation, and so don't set aside or cannot access relevant financial resources for it.

On the other hand, the answers to how new actions were financed gives a more positive view on the cities' ability to find resources in a situation that requires financing of new measures. The responses indicate local government financing is completely dominating in the short perspective but planning for external funding is starting to happen (Figure 11).

How are the new actions financed?

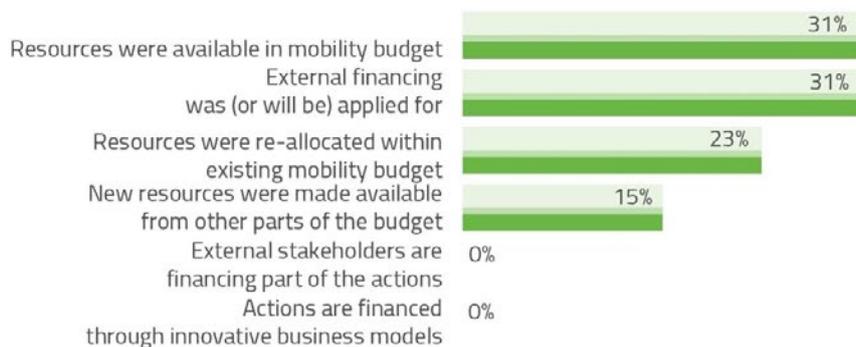


Figure 11: Survey Results from Question: *How are the new actions being financed?*

Notably no financing from the private sector or through innovative business models are mentioned. The London School of Economics' *Emergency Governance for Cities and Regions initiative* shows cities and regional governments report a particular need for more insights on finance and resources, making this a top priority.<sup>vii</sup> This indicates a clear gap to address for cities and regions together with financing stakeholders. Unfortunately, there is a mismatch between information needs and examples of innovative practices which is "*particularly severe for the areas of finance and resources; public participation and inclusion; coordination and integration across government units; cooperation and collaboration across key stakeholders; and communication and consultation.*" In the mentioned OECD study, where around 40 % of cities indicated using external funding sources, only a small extent came from private funding.



**Daniel Serra, Innovation Hub South Director,  
EIT Urban Mobility**

*"Both on innovation and financing of urban mobility, local government need to understand the impact that private sector will have. So, think long-term, work with public-private-partnerships, and measure the impact."*

As cities plan to meet the requirements of a future-proof mobility system, there will be needed to increase private funding substantially. There is extensive work going on in this field, initiated both from European Commission initiatives within different programs<sup>viii</sup>, and as direct dialogue and work with the financial community. Many new stakeholders, new financial instruments and good practice are becoming available to scale private financing for cities (for examples and inspiration see the Cities Climate Finance Leadership Alliance<sup>ix</sup> and the City Climate Finance Gap Fund<sup>x</sup>).

## **5. Economic impact of COVID-19 – Looking Forward**

The pandemic and social distancing measures have fundamentally affected the forces shaping cities. It has exponentially increased the agglomeration negative effects such as the risk of infection and made it difficult to exploit positive agglomeration effects, linked to production and urban amenities. This affects the trade-offs faced by households and firms in their decisions and changes the incentives for their spatial location or mode choice. Thus, affecting the housing market, the layout of economic activity and mobility flows.

Telecommuting broad adoption also disrupted these forces. Its expected net impact on mobility patterns depends on the combination of the increase in distance travelled due to the relocation effect and the frequency of commute trips. Early evidence suggests it can promote urban sprawl and increase car usage appeal for households, while for firms the relocation drive will depend on how much they rely on agglomeration economies, the cost-efficiency of reduced space needs, and their ability to exploit the lower wage compensations for workers commuting.

Shopping behavioural changes have also a translation into a decline in brick-and-mortar retail potentially leading to urban blight and a reduction of the attractiveness of certain areas. Moreover, it also has implications on the flow of goods, the fragmentation of loads, an increased number of instant delivery queries that imply higher operational costs, and the environmental impacts of logistic activities.

The major blow has been taken by public transit, with the effects of the economic crisis likely putting even heavier pressure on transit subsidies. Capacity restrictions imposing operations at low occupancy eliminate public transit competitive advantage, diminishing its congestion relief effect and further increasing the pressure on subsidies. Making transit systems more efficient and levying such constraints to the largest possible extent should be the priority to overcome current and prospective financial situations. Communication campaigns targeting users' risk perception need to be implemented. There is an urgent need to ensure that ridership lost transfers towards micromobility options instead of private cars, as they are considered as access modes to public transit, even they can be substitutive for certain trips. It will pay off to lean the transit system towards more flexible and scalable modes, further integrating it with micromobility options accelerating the rollout of MaaS. Regulatory approaches that are less belligerent against private-initiative shared services will help their economic viability, increasing the mobility system flexibility. Adapting transit services to account for potential households' suburbanization and firms' agglomeration trends triggered by telecommuting broad adoption will also be advisable in order to avoid car-dependence.

With the modal shift towards individual mobility, walking and cycling are the clear winners so far with an increase in car appeal too. Whether car ownership rises will boil down to the larger appeal of cars overcoming financial constraints and disincentives implemented by cities and national governments. Allocating a larger share of public space to sustainable transport modes thanks to bike lanes for instance can be helpful to tackle the shift towards individual mobility introduced by the pandemic, yet these measures need to be accompanied by complementary travel demand management tools to overcome its potential negative effects.

Cities responded to the pandemic by implementing measures to promote public transit safety, reclaiming public space and sustainable mobility promotion, and traffic management and car access restrictions. These interventions aim to abating the negative effects of the pandemic while pursuing strategic city goals. However, policymakers tended to disregard the mid/long-term behavioural shifts introduced by the pandemic. Analysing these shifts through the lens of the interplay between transportation, housing, and job markets provides some guidance on how to take advantage of the opportunities this crisis brought to address distortions in the mobility market, while helping with the climate and housing crisis.

# Conclusions and recommendations

Based on the analysis done for this study key recommendations for different stakeholders in urban mobility systems can be derived.

## For local governments:

- According to resources, move up the “maturity scale” on organising for innovation and data-driven decision making. Identify a broader set of relevant stakeholders and collaborate with them to implement new mobility strategies and solutions.
- Learn from global experiences and best practice but adapt them to your local context.
- Learn from the public behaviour during the pandemic it will pay off to lean the transit system towards more flexible and scalable modes, further integrating it with micromobility options. Regulatory approaches that are open for private-initiative shared services will incorporate economic viability and will increase the needed mobility system flexibility.
- Consider short-term reactions on COVID-19, such as the reclaim of road space for pedestrians, as long-term opportunities for reshaping urban mobility systems.
- Allocating a larger share of public space to sustainable transport modes can be helpful to tackle the shift towards individual mobility introduced by the pandemic (bike lanes and other uses). These measures should be accompanied by price-based complementary travel demand management tools to overcome its potential negative effects.

## For policymakers and funding programs on national and EU level:

- Provide support for cities to organise for innovation and collaboration – both internally and with external stakeholders. Additionally, support the collection and utilization of data aiming at the transformation of cities’ mobility systems.
- Provide support in terms of models, tools and mechanisms for scaling and spreading best practice in urban mobility to all cities - despite their size and maturity level.
- Provide support for the acceleration of projects supporting active modes of transport utilizing current changes in user behaviour.
- It is advisable to adapt transit services (to avoid car-dependence) to households’ suburbanization trends and to the agglomeration drift of companies which are triggered by telecommuting broad adoption.

## For mobility service providers:

- Align your services with the political goals for future mobility system.
- Nurture structured collaboration with local government and learn how you can contribute to the mobility system’s improvement, finding a working business model within that frame.
- React on current trend, but always consider long-term effects and political targets (e.g.,

multimodality, sustainability, or data-driven solutions) when collaborating with governmental institutions.

- Implement communication campaigns targeting users' risk perception during and after the pandemic. There is an urgent need to ensure that lost ridership of public transport is directed towards micromobility options instead of private cars. Micromobility options are of high importance as they are considered as access modes to public transit.



## Stay in touch

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