European Parliament

# Research for TRAN Committee – Sustainable and smart urban transport

## KEY FINDINGS

- Recent trends and developments indicate a growing user-centric approach to mobility, prioritising individual needs and interests of users. Disruptive emerging technologies and shared mobility solutions bring new actors to the urban ecosystem. COVID-19 changed behaviours, with walking, cycling and private car use increasing. E-commerce demand has increased significantly, and contactless solutions are still the preferred ones.

- The EU defines policies and develops tools to consistently tackle sustainable and smart transport (SST) challenges at EU level, in compliance with the principle of subsidiarity.

- Challenges are still related to the high levels of congestion, $CO_2$ emissions, noise and air pollution, but also ensuring sustainable deployment of new disruptive technologies. Coordination between different key stakeholders and accessibility for all are considerable challenges in the digital era.

- As for the solutions, there are still some barriers to overcome, but also an extensive list of related opportunities.

- Recommendations focus on more integrated planning between the sectors, modes and (extra) urban areas; better governance mechanisms to improve policy coordination; evidence-based policymaking to ensure the benefits outweigh the costs, and a better blending of funds to support research and deploy innovation.



**Main developments and trends**

The last few years have seen a considerable change in the trends in passenger and freight transport, mainly due to disruptive emerging technologies (automation, drones, urban air mobility) and increase of micro-mobility solutions and shared mobility.

A more user-centric approach has been spreading, focusing on individual needs and preferences.

The present document is the executive summary of the study on Sustainable and smart urban transport. The full study, which is available in English can be downloaded at: https://bit.ly/2DNTKti

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This implies significant changes in mobility, transport network and traffic management. Transport infrastructure, vehicle technologies and digitalisation have been progressively improving, while the movement of people and deliveries of goods and services are expected to increase continuously. There is a growing trend, although not yet widespread, of a shift from vehicle ownership to shared mobility solutions. The use of zero-emissions or low-emissions vehicles for the last mile, mainly due to the car-free centre/environmental zones policies, is also increasing, although still limitedly.

COVID-19 affected the use of public transport and shared mobility services during and after the lockdown, as citizens prefer(red) private vehicles such as cars and bicycles, but also walking. Regarding freight distribution, it has proven to be an essential service during the lockdown, providing food and goods to households. In the wake of new habits established during the lockdown, e-commerce is likely to keep growing.

The evolution of urban mobility trends will depend on the evolution of the pandemic, the pre-COVID-19 situation of each city and country, and on policies that will be promoted at the European, national and local level. There is an opportunity to continue promoting sustainable modes and allocate more city space for that purpose.


## Challenges and opportunities

Urban mobility accounts for 40% of all $CO_2$ emissions of road transport and up to 70% of other pollutants from transport. Air and noise pollution cause physical and mental health issues. Every year, dozens of thousands of citizens get killed in road accidents in the EU.

Besides generating traffic, private cars occupy a large part of the urban space, which is already increasingly scarce to the growing trends of urbanisation.

Freight movement is expected to grow significantly and change its configuration, also because of the changing purchasing habits caused by the COVID-19 pandemic.

The transport network, primarily the road network, suffers from congestion during peak hours. As the population grows, dynamic and flexible network management can accommodate the rising demand for travel and goods. New technologies can address challenges of interoperability and coordination of traffic management systems via integrated and interconnected services.

As for governance, different decision making bodies and institutions are involved from the international to the local level, but different authorities manage functions at the same time. Their articulation and coordination is a key challenge.

The trans-EU network (TEN-T) and urban nodes are vulnerable and need further connectivity. Infrastructure improvements and cybersecurity protocols can make the system more resilient and prevent cyber attacks.


## Solutions

Public transport operators have started integrating and offering new mobility solutions, based on the Mobility-as-a-Service (MaaS)[1] approach. Several solutions and business models have been tested and adopted, such as on-demand ride-sharing services, peer-to-peer vehicle rental, taxi services, ride-sharing, and B2C vehicle short term rentals. Micromobility solutions include e-mopeds, (e-)bicycles, e-scooters.

As for access regulation and space design/management, car-free city centres are increasing. Restictive measures imposed during the lockdown have shown that more space can be made

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[1] MaaS is a concept promoting the combination of different transport services into one single mobile platform

available for walking and cycling, and it is up to local authorities to keep up with it also in the long term. Cities are reducing parking spaces and creating mobility hubs where it is possible to access a variety of shared services like electric car, bike and e-scooter sharing.

Several cities are implementing low-emissions and zero-emissions zones, to accelerate the perspective demand for electric vehicles and charging infrastructure.

Automation and drones are still being experimented and are not common practice yet, as some issues related to regulation, safety, and security, still need to be adequately defined.

Innovative solutions for the last mile delivery vary from urban consolidation centres to parcel lockers. Pilots have demonstrated that in areas with a high receiver density and a fragmented demand, micro-depots and cargo bikes can be used efficiently.

Enhanced cooperation between metropolitan areas and stakeholders along the TEN-T network can align and better integrate planning activities, as well as generate new concepts and benefits for the integration of urban nodes along the TEN-T network.

Data collection, management and sharing principles are fundamental for evidence-based policymaking. This requires cooperation between different data providers and data-sharing protocols and principles agreed between city planners, transport operators, new mobility solutions providers, etc.

**Recommendations for EU policy-makers**

Research outcomes outline the strategic advantage of deploying a more integrated planning between sectors, modes and (extra) urban areas. In order to be effective, EU policy action in this domain should promote and be based on:

- Enhanced integrated planning of urban transport with extra-urban areas, and participatory policy planning approach steering behaviour change;
- Improved (multi-level) governance cooperation mechanisms to facilitate a continuous dialogue and policy coordination among EU, national and local levels;
- Appropriate cost-benefit analyses accompanying the introduction of any new transport measure, and integrating other sectors such as health, social inclusion, economic development, land-use planning, energy;
- Better use and blending of funds, including the complementary use of different funding lines, for example by requiring that applicants for funds for a specific programme clarify how these would be strategically integrated with previously used or allocated funds;
- Striking the appropriate balance between environmental, economic feasibility, and social equity criteria for new transport solutions;
- Introducing innovative tools and schemes (technological and non) to integrate passenger and freight, encourage the definition of data-sharing principles and the use of common EU standards and specifications;
- Promoting and funding the implementation of the most effective transport-related measures positively impacting the health of the citizens.

The EU can steer behaviour change and coordinate the response of local authorities and stakeholders, using the COVID-19 challenge as an opportunity for a new transport paradigm, in line with the European Green Deal targets. This can be done by strengthening existing policies and consolidated tools, as in the case of the COVID-19 Sustainable Urban Mobility Plan (SUMP) Practitioner Briefing, endorsed by the EC.

## Further information

This executive summary is available in the following languages: English, French, German, Italian and Spanish. The study, which is available in English, and the summaries can be downloaded at: https://bit.ly/2DNTKti

More information on Policy Department research for TRAN: https://research4committees.blog/tran/

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