



# The path to sustainable urban mobility

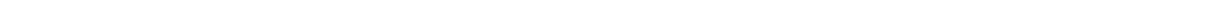
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Three trends will shape the evolution of mobility in our cities: decarbonisation, demand and digitalisation. A European Green Deal should encompass and shape these trends if we are to achieve our vision. The cities of today face challenges of climate change, air pollution, traffic accidents, noise, accessibility and managing urban space, among others. Only through collaboration between all levels of government can we deliver solutions that meet our citizens' expectations for a better future and provide a just transition.

Our vision for mobility in our cities is one focused on people. We aim for a future in which people live and move in a healthy environment. Our expectation is that people take part in an inclusive society and progress in a prosperous local economy. We believe that city authorities must address global challenges.

To achieve this, our network proposes the following key recommendations to the EU institutions:

- Bring forth measures to ensure the EU transport sector is compliant with 2050 net-zero carbon emission pathways
- Expand and strengthen measures that avoid and shift mobility demand in the EU
- Engage with cities to harness digitalisation as an enabling framework for the decarbonisation of transport and the management demand



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# 1. Decarbonisation

European cities are one degree warmer than the previous century. The impact of this warming is already visible in our cities. Weather-related disasters have increased in severity and frequency, citizens of developing countries have been displaced and intensified migratory flows, commercial supply chains are increasingly disrupted, and ecosystems are under threat.

Transport is one of the largest sources of carbon emissions in the EU. Unlike other sectors, these emissions have continued to grow as passenger and freight transport demand has risen. Improvements in transport efficiency and the introduction of new technologies continue but have not been enough to offset this growth.

Decarbonisation is intertwined with the improvement of air quality. Emissions from transport are the main source of air pollution, which contributes to 420,000 premature deaths each year in the EU and creates economic costs in healthcare, lost crop yields and damage to buildings<sup>1</sup>. Poor air quality can have a significant negative effect on the quality of life for vulnerable groups, as a result of health impacts on the young, older people, deprived communities. These impacts also negatively feed climate change, as air pollutants intensify climate warming. Decisive action in reducing transport emissions in urban areas is essential for the EU to achieve net-zero emissions by 2050.

## 1.1 Road transport emissions

Road vehicles are the largest source of carbon emissions in the transport sector and these emissions continue to grow. They are also one of the main causes of air pollution-related deaths in our cities. Noise from road transport also has significant health impacts. Increasing public awareness of climate change and poor air quality means that there is momentum for bolder action in cities to address these challenges and accelerate the transition away from fossil-fuelled vehicles.

Our cities are supporting this future. We are stimulating demand for zero-emission and alternatively fuelled vehicles through public procurement, reduced parking fees, subsidies for commercial fleet renewal, and investments in recharging and refuelling infrastructure.

We can amplify this impact through comprehensive and coordinated measures between all levels of government to send strong signals to the market. Stronger decarbonisation targets for vehicles that meet our goals for net-zero emissions should be coupled with an EU-wide phase out the sale of fossil-fuelled vehicles, in line with the intentions of many EU member states. These targets can be supported with the introduction of measures that reflect the true cost of fossil-fuel transport, such as road charging and appropriate taxation, which should encourage changes in behaviour and, especially in cities, a sustainable modal shift away from individual vehicle use.

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<sup>1</sup> [http://ec.europa.eu/environment/air/cleaner\\_air/#sources](http://ec.europa.eu/environment/air/cleaner_air/#sources)

#### Recommendations:

- align CO<sub>2</sub> targets for road vehicles with EU 2050 net-zero emission compliant pathways
- introduce objectives to phase out the sale and use of fossil-fuelled vehicles in the EU
- strengthen the internalisation of external costs for road vehicles in national road charging and taxation and encourage member states to give cities the powers to design and introduce road charging schemes where necessary.

## 1.2 Alternative fuels infrastructure

A revolution in vehicles requires a revolution in infrastructure. The success of this in cities depends on navigating the complex challenges of urban space, power networks, consumer confidence and funding and financing. In addition, the deployment of infrastructure should be tailored to the needs of different users, such as residents of private houses and apartments, public transport users, operators of commercial fleets and users of shared vehicles.

Local knowledge is the key to address these challenges. Our cities are implementing alternative fuel infrastructure strategies, but coordination between the local, national and European levels is crucial to ensure that they are matched to local needs and are consistent with other policies, such as public procurement targets for clean vehicles, through the establishment of governance bodies and consultation processes.

A long-term vision is crucial. EU policy for alternative fuel infrastructure is based on national flexibility in fuel choices, deployed in line with vehicle supply and geographic distances. If we are to meet net-zero emissions by 2050, clear goals to phase out fossil fuels and greater coherence among member states is needed.

#### Recommendations:

- consult and empower city authorities in the deployment of alternative fuels infrastructure
- establish National Policy Frameworks that target the long-term transition from fossil fuels
- connect public procurement targets for clean vehicles to national infrastructure strategies

## 1.3 Shipping and aviation

International and domestic shipping and aviation are strategic sectors for our economies. With sustained growth and limited technological progress in decarbonising, it is expected that global aviation and shipping will be responsible for 40% of all carbon emissions by 2050 if no action is taken<sup>2</sup>. The impact on many cities is significant, with high levels of air pollution from shipping and from the traffic generated in addition to GHG emissions.

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<sup>2</sup> <https://www.eea.europa.eu/articles/aviation-and-shipping-emissions-in-focus>

Aviation is an oversized and growing contributor to climate change. This growth has been driven by artificially low taxation, with mandatory EU tax exemptions on aviation fuel and frequently limited or non-existent taxation of tickets. This must change and the revenue generated reinvested into innovative efficiency measures and new synthetic fuels if we are to achieve net-zero emissions by 2050.

Each year air pollution from shipping causes 50,000 premature deaths in the EU. In major ports, emissions from shipping is larger than all passenger cars moving in the city. We must act if we are to safeguard public health and quality of life in our cities. Only a handful of national governments have moved to support shore-side electricity (SSE), which would result in zero port emissions and a dramatic improvement in public health.

Recommendations:

- Finance and establish shore-side electricity connection points for shipping in EU ports
- Remove tax exemptions for maritime shipping fuels and exempt SSE electricity taxation
- Reflect the external costs of aviation in ticket taxation and remove tax exemptions for aviation fuel

## 2. Demand

The external costs of transport amount to nearly 1 trillion EUR each year, or 7% of the EU's GDP. These costs include traffic accidents, air pollution, noise, congestion and climate change, which are primarily borne by those that live in cities. Demographic changes further complicate this picture, with the share of the EU population that live in cities is expected to rise from 74% today to 84% in 2050.

These challenges cannot be met solely with technological advancements for vehicles on the road. Fortunately, sustainable modal shift is a powerful means to achieve net-zero emission reduction targets, improve accessibility of cities, protect public health and strengthen transport efficiency.

Policies to reduce or avoid the need to travel or to shift demand to sustainable modes must be considered to a greater extent at EU level. There has been only limited progress to achieve this objective and only limited measures proposed. For city authorities to contribute to our wider societal and environmental challenges, measures that support a comprehensive revolution in how we demand and use transport must be put forward.

### 2.1 Sustainable modal shift

Sustainable modal shift ensures the flow of people and goods while reducing the negative impacts of transport. This will require coherent packages of fiscal, regulatory and investment measures, and engagement on user behaviour to rebalance transport modes.

Our cities have approached this challenge with the implementation of Sustainable Urban Mobility Plans (SUMP). The benefits of SUMP for the EU are clear, with progress in sustainable modal shift, less congestion and improved public health, quality of life and economic indicators. Notably, nine of ten cities with the lowest levels of air pollution have

a SUMP in place. Support from national and EU levels for funding, best practice sharing, and regulatory frameworks is vital to continue advancing the progress already made at the local level to strengthen the impact of SUMP<sup>3</sup>. The development of national frameworks that reinforce governance and legal dimensions of SUMP<sup>3</sup> improve the integration between local, regional and national administrative levels to avoid fragmentation.

Research and innovation (R&I) are enabling factors for sustainable modal shift. EU funding should ensure the replication of innovation between cities, bring new enabling technologies to the market and strengthen the implementation of urban mobility policy. This can be enhanced with an appropriate orientation of Cohesion Policy, which recognises the key role that urban mobility must play in sustainable development across the EU<sup>4</sup>.

Recommendations:

- support the further development of comprehensive SUMP<sup>3</sup> and create national regulatory frameworks that encourage their implementation on a metropolitan scale
- place sustainable urban mobility at the centre of the ‘Greener, Carbon Free Europe’ Cohesion Policy objective
- strengthen EU support for urban mobility research and innovation

## 2.2 Urban vehicle access regulations

To address congestion, road safety, climate change or the public health crisis of poor air quality in our cities, Urban Vehicle Access Regulations (UVARs) have been established in many cities to regulate vehicles based on their characteristics, such as emissions, weight or type, and the way they are used (e.g. at certain times of the day). Each UVAR is tailored to the scale of the local challenge. Examples include low emission zones, which prevent the most polluting vehicles accessing our streets, or congestion zones that reduce traffic with entry charges.

The EU must ensure the effectiveness of UVARs, for example by encouraging exchange of best practice amongst cities in developing and implementing UVARS, raising awareness of different schemes (through the creation of EU-wide information and data portals) and by facilitating cross-border enforcement where drivers infringe the rules.

Recommendations:

- create EU-wide mechanisms to permit cross-border enforcement against infringements
- support best practice exchange among cities on the development and implementation of UVARs
- develop data models and formats that reflect the established variety of UVARs for the ITS National Access Points

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<sup>3</sup> [http://nws.euocities.eu/MediaShell/media/20181105\\_SUMPs\\_Recommendation\\_A3\\_Publication\\_Final.pdf](http://nws.euocities.eu/MediaShell/media/20181105_SUMPs_Recommendation_A3_Publication_Final.pdf)

<sup>4</sup> <http://nws.euocities.eu/MediaShell/media/EUROCITIESpolicypaperoncohesionpolicypost2020FINAL.pdf>

## 2.3 Road safety and active mobility

Each year 9,500 people die on urban roads and 100,000 are seriously injured. Many of these accidents involve vulnerable road users, such as pedestrians and cyclists. The EU has set a 'Vision Zero' road safety strategy to target nearly zero road deaths by 2050. EUROCITIES strongly supports this aspiration and have launched a joint declaration, The New Paradigm for Safe City Streets, to outline principles that can significantly reduce urban road deaths and serious injuries. This will be challenged by the slow rates of improvements in road safety on urban roads and emerging forms of mobility.

Our cities are also implementing 'vision zero' strategies, with action to reduce road speeds, establish UVARs, integrate safety considerations into SUMP and invest in infrastructure for walking and cycling. These measures can be magnified with the alignment of efforts at the EU and national levels to reduce risk at the source and develop safe infrastructure. Swift agreement and implementation of the revised EU General Safety Regulation is critical here.

Safety concerns are one of the main barriers to active mobility in our cities. If we can address this, a 'virtuous circle' emerges in which improved road safety creates greater confidence for vulnerable road users to make the transition from passenger cars to active modes. Passenger car traffic is reduced, which in turn reduces road safety danger and creates ever greater confidence among pedestrians and cyclists.

Recommendations:

- ensure the swift and ambitious development of minimum vehicle safety specifications for intelligent speed assistance, heavy-duty vehicle direct vision and automated emergency braking
- strengthen cross-border enforcement of traffic offences and dangerous parking
- ensure that funding is accessible for urban street safety infrastructure and measures

## 2.4 Freight and logistics

Our cities are the economic backbone of the EU. We serve as the centres of socio-economic and technological development and as the connection points for local, regional and long-distance transport. As urban populations grow and productivity increases, new approaches are required to safeguard sustainability for freight and logistics.

The voice of cities in shaping these trends is crucial. Sustainable Urban Mobility Plans (SUMP) should include measures to engage and influence the freight sector and there should be coherence between urban mobility strategies and the development of the core and comprehensive Trans-European Transport Networks (TEN-T). When coupled with the greater involvement of urban nodes in the governance of TEN-T, the sustainable and efficient flow of goods can be enhanced.

These improvements however rely on infrastructure. The reduced competitiveness of rail with short-range domestic and cross-border aviation results, in part, from lengthy travel times and indirect connections.

Recommendations:

- enhance the role of urban nodes in TEN-T governance

- ensure the coherence of Sustainable Urban Mobility Plans and Sustainable Urban Logistics Plans with TEN-T
- advance and reinforce connections for sustainable modes of transport in the TEN-T

## 3. Digitalisation

The digitalisation of mobility is fundamentally transforming our cities. After decades of incremental improvements to transportation products and services, digital technology has led to an explosion in innovation. If harnessed in alignment with public policy objectives, digitalisation will enable our cities to meet the challenges of decarbonising transport and manage demand.

New mobility services have already changed patterns of mobility in cities and have created new possibilities for cities to manage transport demand and operations. Data flows should provide historical, real-time and predictive information on vehicle performance and transport patterns, which can support traffic enforcement and optimise traffic networks. Through greater use of cooperative technologies and data, we should be able improve safety and transport efficiency. However, digital transport innovation will need to be carefully managed to ensure sustainable urban mobility goals of sustainability, safety and efficiency are met.

### 3.1 New mobility services

New forms of mobility and services have reshaped our cities. In many urban areas, citizens now have a wealth of mobility options at their fingertips, which can support public transport and reduce private car use. They include shared mobility and micro-mobility services, such as car-sharing, bike-sharing and on-demand public transport. Other services, sometimes referred to as Mobility-as-a-Service (MaaS), seek to integrate different mobility services into a single digital platform.

In some cases, it is not clear whether new mobility services have a viable business model or whether they contribute to public policy goals. Services that make it easier or cheaper to use vehicles rather than walk, cycle or take public transport, could have negative impacts on the environment, safety, public health, congestion, accessibility or the viability of public services. Different regulatory approaches may be required to ensure that new mobility services provide the promised benefits and cities need to be included in that debate.

Our approach to data is critical. The availability, shareability and usability of data, alongside the integration and safety of payments, will determine the viability of MaaS. We need to create an open dialogue on principles for data sharing and integration to build an environment in which MaaS supports public policy goals. This will provide a flexible framework in which sustainable operation models can thrive.



Recommendations:

- open a dialogue with cities on data sharing and transparency that meet our 10 principles on citizen data<sup>5</sup>
- support the testing and demonstration of MaaS platforms that support public policy goals
- engage with cities on policy and regulatory approaches to the safe use of micro-mobility services

## 3.2 Cooperative intelligent transport systems

Cooperative intelligent transport systems (C-ITS) can open new horizons in the management of transport. C-ITS creates connectivity between vehicles, infrastructure and road users to enable innovative services and lay the foundation for automated vehicles.

Our cities are motivated by solutions that support a sustainable modal shift, improve safety, reduce congestion and improve accessibility. While the development of C-ITS has advanced rapidly, it is against the background of existing city traffic management systems and with uncertainty in performance. To support the deployment of C-ITS in cities, a focus on the development of C-ITS services that support urban mobility goals should be coupled with a clear overview on their expected performance. In the initial period of market development, funding for cities to advance C-ITS services and communication infrastructure will be key to support their adoption.

The deployment of C-ITS will revolve around data. A smart and cooperative mobility environment depends not only on the connection of vehicles and infrastructure, but also the people that use the systems. A framework and common standards for the use and management of data must be developed to provide control for those users.

Recommendations:

- advance and develop C-ITS services that create safe, efficient and sustainable traffic systems
- provide funding for cities to deploy and test C-ITS infrastructure, communication networks and services
- establish a framework for the use and management of C-ITS data

## 3.3 Automated vehicles

The automation of transport promises to revolutionise the movement of goods and people. However, the impact of this revolution is uncertain. Positive scenarios predict reductions in traffic, emissions and accidents, with a reduced need for parking spaces. Other scenarios foresee an increase in private car use and congestion, as users are tempted from active mobility and public transport by convenience.

Our cities are trialling and demonstrating the automated future we want to see, such as automated public transport to improve accessibility in difficult to connect areas. This is

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<sup>5</sup> [http://nws.eurocities.eu/MediaShell/media/Citizen\\_data\\_principles\\_final\\_draft.pdf](http://nws.eurocities.eu/MediaShell/media/Citizen_data_principles_final_draft.pdf)

supported by engagement with citizens to gather their views on the rise of automated mobility. We believe that zero-emission and shared automated vehicles can support policy goals and provide a better quality of life for citizens. However, our cities will not adapt our streets to meet the needs of automated vehicles but expect that automated vehicles adapt to meet the needs of the city. A sustainable modal shift, social inclusion, environmental sustainability and traffic efficiency must not be compromised.

To reach this vision we need to test the streetscapes that meet the needs of citizens and engage in a dialogue on the access and use of data among stakeholders. Aspects such as road safety, use of infrastructure, research and innovation, data and cybersecurity will need to be integrated and match these scenarios.

#### Recommendations:

- Test automated vehicle use cases and services that meet public policy objectives and citizen needs
- Ensure access to vehicle real-time data for local traffic management, with transparency and data protection for users
- Engage with cities on addressing knowledge and financial gaps<sup>6</sup>

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<sup>6</sup> [http://nws.eurocities.eu/MediaShell/media/EUROCITIES\\_Statement\\_on\\_Transport\\_Automation\\_in\\_Urban\\_Areas\\_final.pdf](http://nws.eurocities.eu/MediaShell/media/EUROCITIES_Statement_on_Transport_Automation_in_Urban_Areas_final.pdf)