



MISSION CITIES' POLICY BRIEF MOBILITY

This Policy Brief summarises the Policy Lab held in Parma on 30 September 2024, co-hosted with [CIVITAS](#), as a side event of the annual CIVITAS Forum.

The goal of the Policy Lab was to discuss challenges that cities face concerning mobility, develop recommendations for national and EU decision-makers, and build upon lessons learnt from mobility projects under the Cities Mission and the CIVITAS Initiative. The insights and recommendations reflect the discussions from Mission Cities. *The Policy Brief is part of a series of Policy Briefs as part of NetZeroCities' Work Package 14 'Policy Recommendations'.*

NetZeroCities is a consortium consisting of 34 partners from 27 European countries, managing the Mission Platform for the EU Cities Mission "[100 Climate-Neutral and Smart Cities by 2030](#)".



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EXECUTIVE SUMMARY

This Policy Brief offers actionable recommendations for EU policymakers to advance sustainable mobility, particularly in renewable energy supply, to decarbonise the growing electric mobility market, and to motivate public behaviour change towards public transport and supportive shared mobility to achieve climate neutrality goals.

As evidenced by the NetZeroCities' Climate City Contracts (CCCs)¹, cities face challenges with the lack of enabling transport policies at the EU level. The data suggests that reaching climate neutrality within the mobility sector is hindered by many barriers. The main barriers to the public transport sector are infrastructure and institutional arrangements.

This Brief focuses on the regulatory and policy challenges faced in Thessaloniki and Madrid, supported by insights and recommendations from an additional 20 cities. The policy recommendations to EU decision-makers and European national authorities aim to complement the current EU mobility policy framework and empower Mission Cities to accelerate their transition to climate neutrality by 2030 under the European Green Deal.

¹ 21 Mission City CCC Action Plans were analysed by ICLEI with the collaboration of Resilient Cities as part of NZC-SGA1 Task 1.1.4 and EIT Urban Mobility reviewed the data through a transport and mobility lens.



METHODOLOGY

NetZeroCities Policy Labs at the EU level bring together city practitioners from Mission Cities and EU Thematic Policy Experts in a city-centric design to create collective learning on EU public policy by bringing the evidence from real-case city challenges and formulating policy recommendations for EU decision-makers.

The brief is based on the presentations and findings from the Mobility Policy Lab organised in collaboration with CIVITAS.

The session was led by two challenge owner Mission Cities – Thessaloniki and Madrid – and approximately 20 challenge solver cities across Europe who discussed similar mobility challenges and formulated the policy recommendations presented below.

The topics of discussion – behavioural change towards shared mobility and public transport and renewable energy supply for public transport sector decarbonisation – were selected based on Mission Cities barriers and policy gaps identified through the Climate City Contracts (CCCs) and pilot activities and in collaboration with CIVITAS.



CHALLENGES FOR MISSION CITIES

THESSALONIKI: HOW CAN SHARED MOBILITY BE ADOPTED IN A WAY THAT COMPLEMENTS PUBLIC TRANSPORT AND SUPPORTS BEHAVIOUR CHANGE?

CONTEXT

Thessaloniki is the second largest city in Greece, with 1,091,424 inhabitants living in its

Metropolitan area. According to their latest mobility survey², private cars account for 51% of trips, with public transport at 15%, walking at 25%, and 9% other modes (including cycling). Despite initiatives to promote public and non-motorised transportation, private vehicles remain predominant. In the framework of the CIVITAS and Mission project UPPER, Thessaloniki is working to decarbonise its public transport system and reduce car dependency by improving its offer of on-demand and shared mobility services to complement its public transport network.

The city has been working on its new metro line, which commenced operations in November 2024, with the first extension planned for ten months later. Nonetheless, it has become noticeable that the catchment areas around the metro stations, which are heavily populated areas, remain unserved as the nearest metro stations exceed the five-minute walking distance. Shared mobility services constitute a sustainable and viable option for extending the catchment area and ensuring accessible, affordable, and reliable public transport for all citizens.

Thessaloniki is also working to renew its extensive bus fleet, which is partially under implementation to date. It is hoped that, combined with the new metro line and its upcoming extension, the percentage of public transport users will substantially increase.

CHALLENGES

Thessaloniki is struggling to effectively integrate shared mobility and public transport due to the following key issues:

Infrastructure Gaps

- Only five fixed shared mobility stations are available, insufficient to meet the needs of the city's population.
- Dockless options are limited and concentrated in the city centre, leaving peri-urban areas underserved.

²UPPER: <https://www.upperproject.eu/cities-regions/thessaloniki/>
Latest update done in 2021.

- Lack of organised parking infrastructure for shared mobility services.

Regulatory Barriers

- Insufficient legal framework addressing shared mobility, particularly for road safety and parking.
- There is a lack of collaboration between shared mobility providers and public transport operators and the absence of public procurement schemes to support integration.
- Limited data-sharing practices hindering integration with public transport systems.

Behavioural Challenges

- Private car use remains dominant due to inadequate competitive alternatives.
- Limited partnerships between transport operators and service providers fail to meet the needs of peri-urban residents.

EXEMPLARY PRACTICES IN OTHER MISSION CITIES

These challenges are also being experienced in other European cities at different levels. Common challenges include expanding shared mobility services throughout functional urban areas (FUAs), engaging employers in promoting sustainable commuting, enhancing road safety, and building regulatory frameworks to support these initiatives. Below are some examples of how cities are addressing them by implementing various initiatives to enhance sustainable mobility through the integration of public transport and shared mobility.



1. Shared mobility services are often concentrated in city centres, leaving peri-urban and low-density areas underserved.

Solutions:

- Gothenburg requires service providers to cover low-density zones as part of city tenders, ensuring equitable service distribution. This approach has proven effective without requiring any legal changes.
- Valladolid's cargo bike initiative and Portugal's demand-responsive transport (DRT) are tailored to connect underserved areas to major transit hubs.
- Through integrations with the Sustainable Urban Mobility Plans (SUMP), the Social Climate Fund (SCF) could subsidise shared mobility in underserved areas, promoting wider accessibility.

2. Lack of legal frameworks and limited integration of shared mobility with public transport systems.

Solutions:

- Florence uses a multimodal app to coordinate shared mobility services at a metropolitan level while incentivising sustainable mobility options through gamification and restricted car access policies like the "green shield."
- Portugal allows taxi drivers to carry multiple passengers with different destinations at a fare equivalent to a bus ticket, which is integrated into the public transport ticketing system.
- Rome incorporates shared mobility into its SUMP and uses gamification to promote safer usage of scooters and bikes.

3. Low adoption of shared mobility is due to reliance on private cars and a lack of awareness.

Solutions:

- Utrecht collaborates with employers to address

last-mile challenges by offering shared e-bikes for commuting.

- Antwerp incentivises companies through tax benefits to promote shared mobility and sustainable commuting among employees, including e-bike trials, with 25% of local companies participating voluntarily.
- Programs like Valladolid's family-friendly cargo bike initiative raise awareness of alternative mobility solutions.
- Geneva collaborates with hotels to provide free public transport tickets, fostering seamless mobility for tourists.

By tackling these gaps, regulatory barriers, and behavioural challenges, these European cities demonstrate various scalable approaches that can inspire the necessary policy changes to enhance complementarity between public transport and shared mobility.



MADRID: HOW CAN THE PUBLIC TRANSPORT SYSTEM BE DECARBONISED USING RENEWABLE ENERGY?

CONTEXT

As the largest city in Spain (3.4 million inhabitants) and the second most populated Functional Urban Area in the EU, Madrid has a huge challenge with decarbonising its mobility system, all while still meeting the population's daily mobility needs (15.8 million daily trips at the regional level, 13 million at the city level)³. The operator, EMT Madrid, has run a 100% clean bus fleet since December 2022, according to the European Clean Vehicles Directive, and aims to fully decarbonise its entire fleet of 2,100 buses by 2030. Currently, 17% of the total fleet has been electrified, with the plan to reach 21% by the end of 2024 and one-

third by 2027.

In parallel, on the renewable energy supply side, Madrid is committed to using renewable energies: solar, green hydrogen and biogas. Through several initiatives, such as collaboration with the city's energy providers, ambitious investment plans utilising EU funding from the Innovation Fund for emissions trading and circular economy projects, and smart infrastructures such as predictive maintenance and smart charging, Madrid is building the infrastructure and institutional arrangements to advance clean energy.

POLICY CHALLENGES

Despite advancements in renewable energy supply and electric fleets, Madrid is facing several challenges while upscaling its electric fleet and renewable energy supply.

Infrastructure Gaps

- A lack of harmonised regulations and standards across member states proves challenging with cross-border stakeholder coordination and infrastructural connectivity to other urban nodes. Despite cross-border stakeholder cooperation on renewable energy delivering more efficient and cheaper electricity generation and increased certainty in the market, conflicts with national measures and uncertainty on the sharing of costs drive conflict.
- Madrid experiences infrastructure barriers such as insufficient EV charging infrastructure and grid supply limitations. The EU is building renewable energy capacity, and while it is still not enough to meet the growing demands, a major challenge for Madrid is where to physically locate charging infrastructure for cars and shared vehicles in dense neighbourhoods with high needs at specific times. How can cities prioritise energy supply if there's low supply and high demand? And should all the users pay the same market rate?



³Data comes from Madrid presentation slides

Regulatory Barriers

- EMT Madrid energy comes from 100% renewable energy sources; they had originally planned to self-produce their renewable energy to run operations. The benefit would be that they have less dependency on the grid and volatile prices. However, selling the energy back to the grid seems more profitable, which also serves as a revenue stream, supporting operations and diversifying financial sources. Yet, the national policy around selling electricity remains unclear and poses barriers to development, such as lack of clarity around how much energy they can feed back into the grid.

PRACTICES FROM OTHER MISSION CITIES

First, **cities are prioritising the decarbonisation of public transport vehicles by procuring electric vehicles.** According to a recent T&E study⁴, eight European cities plan to have 100 % zero-emission buses by 2025 adding an additional 19 cities by 2030.

1. Cross-border cooperation for renewable energy

Solutions:

- Aachen promotes identifying cross-border needs and building solutions through stakeholder consultations and fostering partnerships for cross-border energy rather than competing for fragmented grid supply.

2. Self-produced renewable energy

Solutions:

- Italy has adopted a new energy decree in 2023 to boost renewable energy self-production, especially for energy-intensive companies.

Clearer, standardised rules and guidance support cities, including Florence and Rome, with electricity security and generation for long-term infrastructural developments.

3. Physical integration for efficient vehicle charging needs

Solutions:

- Finding space for charging vehicles like shared, on-demand and urban freight vehicles, integrated multimodal hubs in cities offer a great solution. For example, in denser neighbourhoods and areas with existing public transport stops or further out of the city centre in public transport depots. Cities including Madrid, Rome, Florence and Oslo are looking at developing this integrated infrastructure, for example, as part of the [MOBILITIES FOR EU](#) project, to bring services closer to people, while also taking advantage of shared charging infrastructure for more efficient use of space.



THE EU POLICY FRAMEWORK ON MOBILITY

Under the European Climate Law, the EU committed to reduce its net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels. Implementing sustainable and innovative means of transport plays a vital role in the EU's energy and climate objectives. The transport sector accounts for around 29% of EU's greenhouse gas emissions⁵. Although mobility demand is rising, emissions have not yet declined, primarily due to the difficulties in rapidly decarbonising all transportation modes.

⁴https://www.transportenvironment.org/articles/battery-electric-is-now-the-top-powertrain-type-for-new-city-buses-in-the-eu?utm_source=T%26E+Bulletin&utm_campaign=0e6e7a2143-EMAIL_CAMPAIGN_2024_06&utm_medium=email&utm_term=0_c36f52390d-2e054f5436-%5BLIST_EMAIL_ID%5D&mc_cid=0e6e7a2143&mc_eid=2a768e8eaa

⁵<https://www.eea.europa.eu/en/topics/in-depth/transport-and-mobility>

Cities must ensure major infrastructure, industry, and citizens' behavioural changes to ensure transport meets the European requirements. With the new CO2 standards for light- and heavy-duty vehicles, all new cars, vans and urban buses registered in Europe will be zero-emission from 2035. The Clean Vehicles Directive sets the national targets for public authorities' purchase of zero-emission vehicles until 2030. As per the renewable energy Directive, at least 29% of the final consumption of the transport sector should be renewable by 2030.

In March 2023, the EU agreed on stronger legislation to increase its renewables capacity by raising its binding target for 2030 to a minimum of 42.5%, up from the current 32% target, with the ambition to reach 45%. This would almost double the existing share of renewable energy in the EU. In addition, as part of the Connecting Europe Facility (CEF) funding programme, €1 billion is available under the Alternative Fuels Infrastructure Facility (AFIF).

SOCIAL CLIMATE FUND

The EU Social Climate Fund (SCF) is a financial mechanism established to support vulnerable households, micro-enterprises, and transport users affected by the transition to a greener, low-carbon economy, particularly as the EU implements its Fit for 55 climate package. As private housing and mobility were included in the EU Emissions Trade System (ETS) and are affected by the carbon border tax, the SCF aims to address energy and transport poverty by helping individuals and businesses manage rising costs associated with decarbonisation measures, such as higher fuel and energy prices.

The SCF will provide EUR 65 billion of funding to Member States. Together with a mandatory 25% contribution of the Member States to their Social Climate Plans, the SCF should mobilise at least EUR 86.7 billion over the 2026-2032 period. These resources will be distributed to Member States to design tailored programs addressing their specific social and environmental needs. It will support households to mitigate the impact on them due

to higher energy and fuel prices due to the ETS, including funding for renewable energy, energy-efficient buildings, and sustainable mobility initiatives such as public transport and shared mobility solutions, particularly in areas at risk of transport poverty.

The EU Regulation establishing the SCF defines *"Transport Poverty as individuals' and/ or a households' inability or difficulty to meet the costs of private or public transport, or their lack of or limited access to transport needed for their access to essential socio-economic services and activities, taking into account the national and spatial context."*

SUSTAINABLE URBAN MOBILITY PLANS

According to the EU Expert Group on Urban Mobility (EGUM)⁶, GHG emissions generated from journeys between peri-urban areas to city centres are generally 25 times higher than those from journeys to the heart of metropolitan areas. This number continues to rise under the increment of displacement and urban sprawl, pushing centres of activities further and further away from living areas, thus also enhancing transport poverty. In this sense, shared mobility has the potential to be used for everyday journeys as a complement to public transport, increasing both of its benefits. A combination of shared mobility and public transport needs to be promoted to offer an effective alternative to private car use.

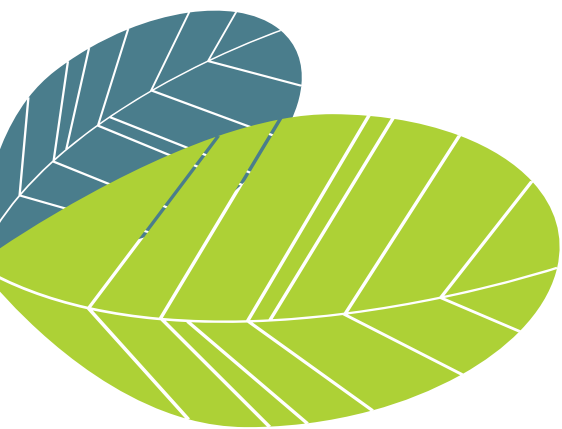
Sustainable Urban Mobility Plans (SUMP) are central to European urban mobility policy, and their adoption is now a legal obligation for 431 urban nodes following the entry into force of the revised TEN-T regulation. SUMP are designed to enhance residents' quality of life by tackling key issues such as congestion, air and noise pollution, climate change, road safety, and parking. They provide a framework for introducing innovative solutions and integrating new mobility services. Effective planning and monitoring within SUMP are essential for organising urban mobility, defining strategies to address challenges, and setting ambitious goals for sustainable transport.

⁶https://transport.ec.europa.eu/document/download/2476beda-4ffd-4608-89f3-973013c47f60_en?filename=EGUM_Recommendations_public_transport-shared%20mobility.pdf



This includes increasing public transport and active mode use while reducing road traffic. Following the EGUM's recommendations, funding is essential to complement the measures of SUMP with shared mobility solutions⁷.

Finally, according to the Shared Mobility Guide⁸, SUMP provide an opportunity to define shared mobility as a key pillar of sustainable mobility and translate this into strategic actions. Embedding shared mobility into SUMP should consider responsibilities, investments, action plans, and the following principles: 1. Plan for sustainable mobility in the 'functional city'; 2. Develop a long-term vision and clear implementation plan; 3. Assess current and future performance; 4. Develop all transport modes in an integrated manner; 5. Cooperate across institutional boundaries; 6. Involve citizens and relevant stakeholders; 7. Arrange for monitoring and evaluation; 8. Assure quality.



RECOMMENDATIONS FOR EU AND NATIONAL DECISION-MAKERS

In the policy context outlined above and based on the discussions with Mission Cities during the Mobility Policy Lab, the following policy recommendations were formulated. These are mainly targeted at EU decision-makers who can support cities in their journey to climate neutrality.

HARMONISATION OF POLICY AROUND RENEWABLE ENERGY PRODUCTION

Clearer, standardised rules and guidance across the EU for energy-intensive industries such as public transport operators would support long-term electricity security. Uncertainties are a big barrier and inhibit investment in long-term infrastructure.

MULTI-LEVEL GOVERNANCE FOR ENERGY TRANSITION

- While this goes beyond the transport sector, **further guidance towards public services takes precedence over electrification and renewable energy supply to ensure they can continue running.** In this case, the transport and mobility sector should be considered a priority sector with other services, with the possibility for subsidised energy prices so services remain reliable and price competitive, compared to private, individual forms of transport.

- **Governance frameworks that deal with the energy transition on multiple levels:** Better coordination of services within the transport sector and beyond will improve energy efficiency. This, in turn, will reduce price volatility and support operations.

- **Coherent guidance of life cycle costing and methodology,** both on the EU and national scale, to support local authorities procurement processes and business models for investing in clean vehicles.

⁷https://transport.ec.europa.eu/document/download/f7e54ea5-23aa-4f8d-a24c-9d902fc9652c_en?filename=EGUM_Recommendations_Social-Climate-Fund.pdf

⁸https://share-north.eu/wp-content/uploads/2022/05/Shared-Mobility-Guide_ENGLISH.pdf

HARMONISED REGULATORY FRAMEWORKS FOR SHARED MOBILITY

- Creating a harmonised regulatory framework to streamline shared mobility services across cities and countries; **Setting standards for shared mobility operations, data sharing and safety.**

- This framework could enable seamless cooperation between operators and cities, reducing regulatory fragmentation and enabling shared mobility services to scale across urban and peri-urban areas.

- The EU Urban Mobility Framework emphasises the importance of sustainable and coordinated urban mobility, which includes complementary approaches and better integration of public transport and shared mobility and micro-mobility across cities.

- The Intelligent Transport Systems Directive (ITS) promotes interoperability and standardised data exchange in transport, which can be expanded to cover shared mobility services, enabling smooth coordination and data sharing across member states.

INCENTIVISE SHARED MOBILITY IN LESS COMMERCIALY VIABLE AREAS

- Introducing funding schemes and incentives, specifically targeting the expansion of shared mobility in less dense, peri-urban, or underserved areas. By expanding existing EU funding mechanisms, such as the SCF or introducing new financing opportunities at the EU and national levels, cities could subsidise operations in these areas, making them more attractive to service providers and operators without relying solely on commercial viability.

- The SCF can fund elements of Sustainable Urban Mobility Plans (SUMP) to promote equitable, accessible, and environmentally friendly transportation. For instance, it can subsidise shared mobility services to underserved areas, making sustainable transport options more affordable and widespread.

SUPPORT EMPLOYER-BASED SUSTAINABLE MOBILITY PROGRAMS

- Encourage and support employer-based initiatives by providing incentives (tax incentives, grants) for companies that actively promote shared and sustainable commuting options.

- Outlining a standard for mobility managers or shared mobility coordinators within large companies, who could oversee such programs and increase employer involvement with sustainable mobility practices.

DATA SHARING AND INTEROPERABILITY

- Develop a standardised data-sharing protocol between shared mobility operators and public transport agencies, ensuring real-time information flow, multimodal trip planning, and payment integration. This would allow users to switch seamlessly between modes, enhancing the convenience of sustainable travel options.

- The ITS Directive already encourages data interoperability for transport systems, which could include shared mobility providers to support seamless connections with public transport.

PROMOTE SAFETY STANDARDS AND AWARENESS OF SHARED MOBILITY

- Given road safety concerns, particularly with e-scooters and shared bikes, the EU could develop guidelines on safe shared mobility operations. Measures like geo fencing and enforcement of speed limits can support safe behaviour.

- EU and national campaigns to promote safe behaviour and responsible usage, such as digital nudging techniques. While additional funding could be allocated for cities to implement protective infrastructure, such as dedicated lanes and parking areas.



CONCLUDING REMARKS

Sustainable urban mobility is at the heart of the EU's Cities Mission to achieve climate neutrality as it remains one of the top emission domains. Frameworks like the Sustainable Urban Mobility Plans (SUMP) champion innovative measures to cut traffic, emissions, and transport poverty while enhancing accessibility and quality of life. However, EU and national policy gaps continue to hinder cities in achieving these ambitious goals. Tackling critical issues such as scaling up renewable energy for decarbonisation, integrating shared mobility with public transport, and promoting behavioural change is essential for supporting cities in creating livable urban spaces.

Long-term success requires collaboration among stakeholders. Stronger public-private partnerships between local governments, transport providers, businesses and employers can encourage the adoption of sustainable mobility options. Well-aligned EU regulations and funding mechanisms should support this. Investments in infrastructure, data sharing, and forward-thinking governance are crucial for effectively scaling these solutions. By addressing these priorities, the EU can create resilient urban mobility systems that align with the climate goals while ensuring inclusivity and accessibility for all.

The Policy Lab, co-hosted with CIVITAS, was the first milestone in ongoing commitments from NetZeroCities and CIVITAS to work together on cross-cutting topics related to mobility, with the goal of better supporting cities and coordinate efforts.

RELATED RESOURCES

<https://www.upperprojecteu.eu/cities-regions/thessaloniki/>

https://transport.ec.europa.eu/document/download/f7e54ea5-23aa-4f8d-a24c-9d902fc9652c_en?filename=EGUM_Recommendations_Social-Climate-Fund.pdf

https://share-north.eu/wp-content/uploads/2022/05/Shared-Mobility-Guide_ENGLISH.pdf

https://transport.ec.europa.eu/document/download/2476beda-4ffd-4608-89f3-973013c47f60_en?filename=EGUM_Recommendations_public_transport-shared%20mobility.pdf

https://transport.ec.europa.eu/document/download/3b3e1a94-3789-4a12-95ef-4e2c431c496b_en?filename=EGUM_PT_and_SM-Topic1.pdf

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City represented	Mission City	CIVITAS city
Aachen	x	x
Antwerp	x	x
Bologna	x	x
Barcelona	x	x
Florence	x	x
Gothenburg	x	x
Imperia		
Krakow	x	x
Madrid	x	x
Milan	x	x
Nice		x
Oslo	x	x
Parma	x	x
Portugal (Public Transport Authority)		
Porto	x	x



Rome	x	x
Thessaloniki	x	x
Turin	x	x
Valladolid	x	x
Vienna		x
Zaragoza	x	x



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