

# POLICY OPTIONS TO REDUCE EMISSIONS FROM THE MOBILITY SECTOR:

INSPIRING EXAMPLES AND LEARNING OPPORTUNITIES.

USEFUL RESOURCES FOR COVENANT OF MAYORS
– EUROPE SIGNATORIES



#### COALITION OF THE WILLING ON SUSTAINABLE MOBILITY

This structured summary is designed to serve as a resource hub on sustainable mobility for Covenant of Mayors Signatories. It catalogues key initiatives, projects, guidelines, case studies and tools in five cornerstone areas: public transport, urban logistics, active mobility, electromobility, and the integration of SECAPs (Sustainable Energy and Climate Action Plans) and SUMPs (Sustainable Urban Mobility Plans).

- Section One introduces the organisations and initiatives that constitute the Coalition of the Willing on Sustainable Mobility.
- Section Two compiles links and descriptions of useful resources on sustainable mobility.
- Section Three offers a selection of freely available education and training programmes on the topic.

#### The Covenant of Mayors: A commitment to climate action

The Covenant of Mayors is a European initiative that solicits voluntary commitments by local governments to implement EU climate and energy objectives. With transport as one of its key sectors, the Covenant plays a significant role in climate mitigation. Transport accounts for approximately 16% of actions submitted by Covenant signatories and contributes to 26-28% of total emissions, according to the Joint Research Committee's Baseline Emission Inventories (BEI, Covenant of Mayors 2019 Assessment). The Covenant also tackles transport in its climate adaptation pillar by using transport-related indicators such as the vulnerability of transport infrastructure to extreme weather events.

In 2022, the Covenant of Mayors further expanded its focus by introducing an Energy Poverty Pillar, which includes indicators related to transport poverty. These metrics assess the accessibility and availability of public transport services, giving insights into how mobility influences social inclusion.

#### **Coalition of the Willing on Sustainable Mobility**

The Coalition of the Willing on Sustainable Mobility is an offshoot of the Covenant of Mayors, established in conjunction with 11 other organisations and initiatives. The coalition aims to deepen expertise in the decarbonisation of the mobility sector. Between 23 June 2022 and 18 September 2023, the coalition hosted a series of webinars titled 'Policy options to reduce emissions from transport – Towards climate-neutral mobility in Covenant cities.» These webinars, linked under each topic below, served as platforms for sharing practical strategies and success stories across these five key areas.

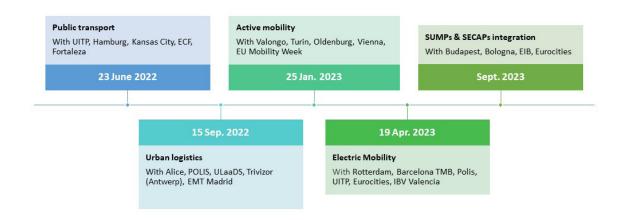


#### Coalition of the willing on sustainable transport



Webinar series on policy options to reduce emissions from transport

Towards a climate-neutral mobility in Covenant cities





#### **ALICE**

The European Technology Platform ALICE develops and implements a comprehensive industry lead strategy for research, innovation and market deployment in the field of logistics and supply chain management in Europe.

Leading experts and companies in implementing supply chain and logistics innovation formed ALICE with the aim to accelerate the transition to net zero emissions transport & logistics operations, where interdisciplinary and multi-stakeholder collaborative innovation is needed.



#### **CIVITAS**

CIVITAS is one of the flagship programmes helping the European Commission achieve its ambitious mobility and transport goals, including the European Green Deal goals.

It does so by acting as a network of and for cities dedicated to sustainable urban mobility. Through peer exchange, networking, and training, CIVITAS fosters political commitment and boosts collective expertise, equipping cities to put mobility at the centre of their decarbonisation efforts.

#### **General Publication of Interest**



#### Ready-to-go sustainable mobility measures & methods

For the past 20 years, CIVITAS projects have been experimenting with measures, solutions and methodologies that make urban mobility and transport in Europe more sustainable. In these slides, CIVITAS has identified some of the solutions that can be most readily replicated across a variety of locations, contexts, and by various mobility projects.



#### **EIT URBAN MOBILITY**

EIT Urban Mobility is an initiative of the European Institute of Innovation and Technology (EIT), a body of the European Union and Europe's largest network for transport innovation in cities. Their mission is to accelerate change towards a sustainable model of urban mobility and liveable urban spaces. They connect public and private actors and provide them with access to markets, talent, finance, and knowledge in four ways:

- Match and connect Bringing together people, funding, knowledge and markets
- Talent to business Educating next generation entrepreneurs
- Innovations to market New solutions to transform mobility in cities

Start-ups to scale - Boosting growth for long-term impact For more information visit www.eiturbanmobility.eu



#### **Eurocities**

Eurocities is the network of more than 200 cities in 38 countries, representing 130 million people, working together to ensure a good quality of life for all. Eurocities works across a wide range of urban policy areas, including sustainable mobility, road safety, intelligent transport systems, energy efficiency, environment, climate change, air quality, social affairs, green economic development and cohesion policy, culture and digital transformation.



#### **EU Cyclists' Federation**

Founded in 1983, ECF is a Brussels-based NGO that is the single umbrella organisation for cycling in Europe. ECF's core mission is to achieve more and better cycling in Europe. It has more than 65 member organisations in over 40 countries, uniting Europe's cycling movements as the only civil society voice at the pan-European level, and as the world's largest and best-known cyclists' advocacy organisation. ECF maintains close ties with European cities through its Cities & Regions for Cyclists network, which counts over 40 cities and regions as members, working with them on EU-funded projects, advocacy initiatives, knowledge-sharing and networking sessions, and publicising the benefits of cycling. ECF is a leading member of the European Commission's Expert Group on Urban Mobility (EGUM), and serves as co-coordinator of the sub-group focusing on active mobility and safety of vulnerable road users. Among ECF's priority advocacy aims are to integrate cycling in the urban nodes of the Trans-European Transport Network, improve cycling in sustainable urban mobility planning and increase the amount of EU funds for cycling to cities and regions in Europe.



#### **EUROPEAN MOBILITY WEEK**

Every year, from 16-22 September, the European Commission invites towns and cities to raise awareness on sustainable urban mobility.

During the week, almost 3,000 towns and cities in Europe and beyond encourage behavioural change in favour of active mobility, public transport and other clean, intelligent transport solutions by organising activities and events with local stakeholders.

The annual theme for 2023 is 'Save energy.'





#### **ERTICO**

ERTICO is a public-private partnership organisation with more than 124 members, connecting eight different stakeholder sectors including service providers, suppliers, the traffic and transport industry, research institutions and universities, public authorities, user organisations, and the connectivity industry, as well as vehicle manufacturers. It also fosters stakeholder engagement. Together with leading pioneering and innovative partners, ERTICO develops, promotes, and connects Intelligent Transport Systems and Services (ITS) through activities including European co-funded projects, innovation platforms, international cooperation advocacy, and publications such as Making Europe's transport smarter with innovative technologies



#### **IURC**

The International Urban and Regional Cooperation programme (IURC) leads and develops a form of decentralised international urban and regional cooperation in the fields of sustainable urban development and innovation in key partner countries and regions in line with the external dimension of 'Europe 2020.' The project facilitates knowledge-exchange through a combination of online tools and face-to-face support such as study visits, participation in thematic and networking events or capacity building contributing to international strategic frameworks through city-to-city diplomacy and collaborative regional efforts to overcome common challenges.



#### **POLIS**

POLIS is a network of European cities and regions working together to develop technologies and policies for local transport. They aim at improving local transport through integrated strategies that address the economic, social and environmental dimensions of transport. Some of the activities carried out by this organisation are the support for exchange of knowledge between European local and regional authorities, fostering cooperation and partnerships across Europe to promote research and innovation in cities and regions, and engaging in dialogue with European institutions to provide them with the perspective of sustainable mobility.



#### **SCM MOBILITY CLUSTER**

This cluster addresses all the challenges that sustainable urban mobility poses for cities, public and private transport operators, and related industries. The cluster works on projects addressing climate change goals, improving air quality, realising seamless inter-modal mobility, using renewable energy for transport and changing mobility from motorised individual vehicles towards sharing and public transport.



#### **UITP**

UITP (Union Internationale des Transports Publics) is the International Association of Public Transport and a passionate champion of sustainable urban mobility. Established in 1885, with more than 135 years of history, it is the only worldwide network to bring together all public transport stakeholders and all sustainable transport modes.

#### >> PUBLIC TRANSPORT

For the **recording of the webinar** click <u>here</u>. You will find the **presentations** at this <u>link</u>.

According to the International Transport Forum, public transport buses and trains can release up to a fifth of CO2 emissions per passenger-Km than ride-hailing and about a third of a private vehicle. A strong and well-integrated public transport network can also help provide equal access to jobs, education, services and other economic opportunities, particularly to those without private vehicles. Investing in public transport is one of the most effective measures to reduce transport emissions and bring cities closer to reaching their climate targets. It can increase equity and foster economic development. Therefore, ensuring that public transportation is accessible, affordable, and inclusive is of paramount importance to reach wider climate and societal goals set by cities.

Check out the publications and projects below to gather inspiration on how to improve your city's public transport network!

#### **PUBLICATIONS OF INTEREST**



#### Eltis SUMP Topic Guide on Planning for Attractive Public Transport

To support urban planners and transport practitioners a SUMP Topic Guide on Planning for Attractive Public Transport has been developed by the second Policy Support Group of the <u>CIVITAS ELEVATE</u> Coordination and Support Action, with the involvement of five experts from selected organisations including International Association of Public Transport - UITP, European Passengers Federation - EPF, Technical University of Berlin - TUB, City of Gdynia, Gothenburg Transport Operator), the chair of the CIVITAS Policy Advisory Committee, TRT (Trasporti e Territorio), and 12 stakeholders from the urban mobility sector. It provides guidance on public transport in the mobility planning and implementation process, in order to achieve more attractive public transport.



### <u>Free passenger transport - exploring the benefits and disadvantages</u>

Many European cities have implemented fare-free public transport (FFPT) schemes over the last 20 years. A comparison of these schemes shows that there are many differences in their implementation. This reflects the way that municipal authorities have tailored FFPT to the characteristics of each city (e.g. public transport network and funding arrangements, the socio-economic make-up of the population and the political landscape).



### Mobility hubs: Steering the shift towards integrated sustainable mobility

This paper will help you understand the variety of multi-modal hubs and the benefits of organising coherent networks of hubs. The focus on the newest types of mobility hubs will provide concrete examples along with recommendations, particularly for authorities and public transport operators, on how to play a driving role in the shift towards sustainable mobility.

#### How should the public transport sector transition to renewable energy?

For cities in search of achieving their climate objectives and Sustainable Development Goals (SDGs), deploying clean public transport fleets supplied with renewables and encouraging a modal shift towards public transport is the key. This deployment can be leveraged for other city services and to support the local economy and energy market while improving health of citizens. These Action Points offers guidance on how public transport undertakings can achieve a successful energy transition to their decarbonisation goals while unlocking other benefits arising from this energy transition.

#### PROJECTS OF INTEREST



#### **Artificial intelligence – Advancing automated mobility** (AI4CCAM)

Artificial intelligence (AI) is considered one of the key enabling technologies that can lead to the successful deployment of automatic vehicles. Indeed, AI can revolutionise the future of automotive mobility services by taking advantage of the huge amount of sensor data that it can assimilate.

However, the benefits of AI in automated mobility are hampered by ethical risks that that it may pose to vulnerable road users such as pedestrians, cyclists, or persons with disabilities.

The EU-funded AI4CCAM project was launched in January 2023 to address this hurdle by developing trustworthy tools and solutions for automatic vehicles using artificial intelligence.



#### modales MODALES project

ERTICO coordinated EU funded project focuses on understanding the impact of user behavior on emissions in road transport, specially in urban areas, and aims to reduce air pollution from traffic through training, awareness campaigns, and a driver assistance app. By examining factors in driving, maintenance, retrofits, and legal aspects, MODALES promotes user-centric methods. Expected results include a 5-10% reduction in pollutant emissions through low-emission driving guidelines, a 20-35% reduction in emissions for poorly maintained vehicles, and >60% reductions in PM (particulate matter) and NOx for retrofitted vehicles meeting Euro VI standards. The project also targets a 20-30% reduction in non-engine PM emissions from brakes and tires. MODALES provides essential insights for policy studies on emission reduction in road transport.



### <u>UPPER - Unleashing the Potential of Public Transport in Europe</u>

UPPER aims to strengthen the role of public transport as the cornerstone of sustainable and innovative mobility. The project will implement a combination of measures looking to push people out of private cars and to pull them closer to public transport in cities across Europe.



#### <u>DATA4PT - Advancing data-sharing practices in public</u> transport to enhance multimodal travel

The DATA4PT project aims to advance data-sharing practices in the public transport sector by supporting the development of data exchange standards and models, to fulfil the needs of multimodal travel information service providers. By supporting EU Member States in deploying a set of harmonised European public data standards (Transmodel, NeTEx and SIRI), DATA4PT wants to enable union-wide multimodal travel information services and contribute to a seamless door-to-door travel ecosystem across Europe that covers all mobility services.

#### **INITIATIVES OF INTEREST**



#### **MaaS alliance**

After having been created under the umbrella of ERTICO, the MaaS Alliance is now an independent public-private partnership dedicated to creating and advancing the foundations for a common approach to mobility as a service (MaaS) by unlocking the economies of scale needed for successful implementation and take-up of MaaS in Europe and beyond. Their vision is to facilitate a single, open market and full deployment of MaaS services globally.



#### **Clean Bus Europe Platform**

The Clean Bus Europe Platform is an initiative under the European Commission's Clean Bus Deployment Initiative that aims to support the deployment of clean bus technologies across Europe. The Platform brings together European cities, transport authorities and operators, together with relevant stakeholders like social dialogue partners, industry, financing and funding institutions, associations, etc. to boost and support the exchange of knowledge and expertise on clean bus deployment.



#### **TUMI E-BUS Mission**

Funded by the German Ministry for Economic Cooperation and Development (BMZ), a core group of works together to accelerate the transition to electric buses in the Global South.

#### CASE STUDIES OF INTEREST



#### The way we move: Transporting stories

Urban mobility is changing. And with new reality defining the way people move around in cities, a central question emerges: what do we want the future of public transport to look like? With this question in mind, UITP launched the series 'The way we move: transporting stories." This is a beautifully crafted series of mini-documentaries that present what public transport can, should, and will do.



#### **The free mobility programme of Cascais**

Urban mobility is changing. And with new reality defining the way people move around in cities, a central question emerges: what do we want the future of public transport to look like? With this question in mind, UITP launched the series 'The way we move: transporting stories." This is a beautifully crafted series of mini-documentaries that present what public transport can, should, and will do.



#### **MobiCascais**

Mobility as a Service (MaaS) system combining operators, services, and infrastructure solutions for Cascais residents. MobiCascais was created as a strategy for mobility management that is focused on the integration of the mobility services and all the mobility operators of Cascais in a single system. It is the first Mobility as a Service (MaaS) experience in Portugal. MobiCascais integrates local transport (bus, bicycles, bike sharing, electric cars, parking) with metropolitan transport.



#### **Hamburg: Hy Solutions**

This public private partnership project that aims at making mobility in Hamburg carbon free. The project is committed to hydrogen and electromobility in numerous initiatives and is advancing in the decarbonisation of the economy. Within the e-bus initiative of VDV, a software company in Hamburg, and in the German fuel cell bus cluster managed by hySOLUTIONS, transport companies exchange information to support each other in the changeover. The exchange of experiences and knowledge via these platforms is an important and successful measure to accelerate the conversion of bus fleets.



#### **Kansas city: Zero FareKC - Electric bus programme**

Transportation is the largest source of emissions of all energy sectors in the nation, responsible for more than 34% of greenhouse gas emissions in greater Kansas City (Source: MARC). KCATA has a longstanding commitment to cleaner transit vehicles, starting with hybrid-electric buses in 2011 and compressed natural gas buses beginning in 2014. Two-thirds of the RideKC fleet now use natural gas. In 2019, KCATA decided to purchase two electric buses to assess life-cycle costs and compare them to diesel and compressed natural gas alternatives. In March 2021, the Mid-America Regional Council (MARC) adopted a regional Climate Action Plan that set a goal of reaching net zero greenhouse gas emissions by 2050.



#### Fortaleza: Prioritising public transport, cycling, and walking

Since 2013, the city of Fortaleza in north-eastern Brazil has promoted public transport, cycling and walking at the heart of its urban mobility framework, aiming to rapidly transition from a car-centric to a people-centric city. Since discovering that transport is Fortaleza's largest greenhouse gas emissions sector, the city's public officials have prioritised city-wide urban mobility projects to reduce emissions via a more equitable division and reorganisation of road space.



#### **Gothenburg: Whispering buses**

Route 55, the first route to be serviced by electric and hybrid buses in Gothenburg, will soon be put into retirement. After five years of service that were a precious source of information to understand and perfect the integration of e-buses in the city's public transport system, this test route, introduced within the framework of the ElectriCity project, will have done its job. Through the link you will access the full article drafted by Eurocities.

#### >> ACTIVE MOBILITY

For the **recording of the webinar** click <u>here</u>. You will find the **presentations** of the session at this <u>link</u>.

Walking and cycling represent the greenest forms of transport as they do not produce any emissions. Known as "active mobility", these forms of transport can not only help meet the European Green Deal's objectives, but can also make cities more liveable by reducing traffic congestion, air and noise pollution, and improving residents' health conditions. Active mobility needs to be underpinned by oculate urban planning that considers both the available spaces and residents' needs when designing and monitoring urban areas used for walking or cycling. The whole urban planning process may be even more effective when participatory processes apply, and locals are engaged from the beginning.

This set of resources will provide you with examples of action to enhance active mobility in cities.

#### **PUBLICATIONS OF INTEREST**



### <u>Bikenomics: Making the case for cycling investment in your city</u>

Bikenomics applies economic thinking to cycling. People often associate the word economy with money. Money is, however, just a unit of measure for value. Hence, Bikenomics studies how cycling influences societal wellbeing by looking at the value of its impact. It uses the same principles of cost-benefit analysis and economic impact assessment. It lists all the initial and expected future investment costs for a cycling project and compares them to the economic value of its societal impacts. The result establishes whether a project is socially efficient or has good value for money.



### <u>Urban corridor road design: Guides, objectives and</u> performance indicators

This document reviews guidelines and other relevant material for road function classification and urban street design and additionally provides a comprehensive compilation of objectives and performance indicators for the design of urban roads and streets. It is based on comprehensive research combined with intense discussions with all partners of the project 'MORE.'



### <u>Practitioner Briefing: Supporting and Encouraging Cycling in</u> <u>Sustainable Urban Mobility Planning</u>

This document provides guidance on cycling related to Sustainable Urban Mobility Planning (SUMP). It is based on the concept of SUMP, as outlined by the European Commission's Urban Mobility Package1 and described in detail in the European SUMP Guidelines.



### <u>Practitioner Briefing: Supporting and Encouraging Walking in Sustainable Urban Mobility Planning</u>

This document provides guidance on walking related to Sustainable Urban Mobility Planning (SUMP). It is based on the concept of SUMP, as outlined by the European Commission's Urban Mobility Package1 and described in detail in the European SUMP Guidelines.



#### The state of national cycling strategies in Europe

2nd edition (2022)

This report, the second of its kind, provides a comprehensive overview of the status of national cycling strategies in 44 European countries, at a time of growing political interest across the continent in cycling as a sustainable and healthy mode of transport.

With the adoption of the Pan-European Master Plan for Cycling Promotion in May 2021 under the umbrella of WHO/Europe and the UN Economic Commission for Europe, 54 countries in the pan-European region are now politically bound to develop and implement strategies to develop cycling at their national level by 2030. With data from 44 European countries, ECF's analysis shows that most countries have a long way to go if they are to reach this objective.

#### **CASE STUDIES OF INTEREST**



#### Cycling for healthier and more inclusive communities

This report comprises a variety of inspiring case studies showing how cycling has been made available to people in cities around the world. It was created by the Cities Changing Diabetes (CCD) programme in partnership with the European Cyclists' Federation (ECF).

#### Parma's Mobility Manager network

Through Parma's Mobility Managers programme, companies work with the support of the city, on home-to-work travel plans, identifying ways to promote the use of more sustainable modes of transportation by their workers.

### MobiCascais: Mobility as a Service (MaaS) system combining operators, services, and infrastructure solutions for Cascais residents

MobiCascais was created as a strategy for mobility management that is focused on the integration of the mobility services and all the mobility operators of Cascais in a single system. It is the first Mobility as a Service (MaaS) experience in Portugal. MobiCascais integrates local transport (bus, bicycles, bike sharing, electric cars, parking) with metropolitan transport.



© Niklas Schmalholz, European Mobility Week

### <u>Valongo: Urban planning for active mobility and the engagement of residents</u>

With just over 98,000 inhabitants and located a bit over 13km from Porto's city centre, the city is a powerhouse when it comes to urban mobility and innovative initiatives to improve its residents' lives – from urban mobility to improving air quality, reducing noise pollution, and seeking to become carbon neutral.

<u>Valongo</u> won the EUROPEANMOBILITYWEEK Award 2021 for smaller municipalities thanks to involving people and organisations in their activities and putting walking and cycling at the centre of their measures. This municipality is a great example for the implementation of tactical urbanism.



#### Turin: re-allocating public spaces for pedestrians and bikers

The City of Turin is working on mobility measures that encourage people to move by bike, (e-)scooters and on foot, instead of by car. This is particularly important considering that most people who would normally use public transport are less likely to do so in the near future.



#### <u>Vienna: Gender-mainstreaming active mobility areas</u> <u>through urban design</u>

Mobility is one of the prerequisites for self-determined and equal participation in public life. It is a key political objective in Vienna to guarantee safe and accessible mobility for all, irrespective of their gender, socioeconomic background, or health restrictions.

#### **PROJECTS OF INTEREST**

#### Oldenburg: Data-driven monitoring of cycling routes

Oldenburg's work and advances on cycling are based on two main projects:



#### **Ecosense**

The aim of the ECOSense project was to improve the basic information on cycling for decisionmakers. To this end, in the study started in June 2019, various parameters such as position, speed, vibrations and environmental factors were recorded by a sensor attached to a bicycle.



#### **Infrasense**

This project aims at improving cycle traffic planning and create an optimal data basis for the expansion of cycle paths for municipalities and cities.



#### **HANDSHAKE**

HANDSHAKE – an EU-funded CIVITAS project - helped cities of all types become more liveable places, improving conditions for cycling as an everyday mode of transport. Handshake achieved this by improving the quality of both cycling infrastructure and communications through identifying innovation in areas such as intelligent transport systems, bike sharing, modelling, bike parking, socio-economic assessment and governance and decision-making.



#### **REALLOCATE**

REALLOCATE aims to transform streets into inclusive, green, safe and future-proof urban spaces, where communities live and thrive. The project enables researchers, mobility experts, urban planners and local citizens to collectively re-imagine our cities and redesign how people move from one place to another.

#### **INITIATIVES OF INTEREST**



#### Walk21

Walk21 wants to make sure that walking is measured, valued and appropriately provided for so that everyone in the world can choose to walk and enjoy the experience.



### Health Economic Assessment Tool (HEAT) For Walking And Cycling

Promoting walking and cycling means promoting health and protecting the environment. The Health Economic Assessment Tool (HEAT) for walking and cycling is an online tool designed to facilitate evidence-based decision-making towards this goal. Its estimates help assess existing situations, planned projects or past investments in terms of associated health and economic impacts.

#### >> URBAN LOGISTICS

For the **recording of the webinar** click <u>here</u>. You will find the **presentations** of the session at this <u>link</u>.

Logistics plays an essential role in the transport sector, as every place of activity requires deliveries, collection and servicing, and brings along challenges such as congestion, air pollution, CO2 emissions, noise, and costs to companies, as well as creating issues for health and safety, resilience, and liveability. This is even more evident in cities, where goods are handled, stored, and delivered. Nonetheless, cities are also the places where many solutions are being piloted to reduce emissions, congestion, and traffic of heavy and light duty vehicles by e.g. deploying e-vehicles at consolidation centres or cargo bikes from micro-depots. Establishing cooperation models between local and regional governments and the business sector through constant dialogue and combined planning is key to brainstorming and piloting new models that can decarbonise the sector. The following resources will provide a wide overview of the challenges and solutions to decarbonise urban logistics thanks to best practices and approaches piloted by cities and businesses.

#### **PUBLICATIONS OF INTEREST**



#### <u>Cities-Regions and Companies work together - Joint guide</u> <u>for advancing zero-emission urban logistics by 2030</u>

This publication covers five areas: i) Smart governance and regulations, ii) Clean & alternative fleet, iii) Logistics operations, iv) Purpose-oriented data acquisition and sharing, v) Consumer engagement, defining the roles that public authorities and the private sector can play in achieving zero-emission urban logistics.



#### **Topic Guide Sustainable Urban Logistics Planning**

This topic guide on SULP development aims to provide authorities with a framework for a proper implementation of actions, in the context of the SUMP development, for efficiently addressing the challenges and achieving development of a sustainable urban logistics policy and plan which will result in the future sustainability expectations of a city being met.



# Solutions that Tackle Congestion and Improve Goods Distribution: success stories and results from CIVITAS Research and Innovation Actions

This publication makes use of short stories – based on in-depth interviews with site managers – to demonstrate key results and best practices from (R)IA projects, achieved during ELEVATE's lifetime. This publication covers successful lessons from CIVITAS in the field of "tackling congestion" (MOMENTUM, SPROUT, and ReVeAL), and on "improving goods distribution" (SUMP-PLUS, and HARMONY).

#### **PROJECTS OF INTEREST**



#### **ULaaDS: Urban Logistics as an on-Demand Service**

UlaaDS aims to foster sustainable and liveable cities through the deployment of innovative, shared, zero-emission logistics, while dealing with the impact of the ondemand economy.



#### **NextETRUCK**

This is a pioneering project focused on decarbonizing vehicle fleets through innovative and integrated zero-emission vehicles and ecosystems for medium-duty urban logistics. It aims to advance knowledge in components, vehicles, fleets, infrastructure, and ecosystems. This EU funded project targets a substantial reduction in CO2 emissions compared to ICE vehicles, estimating up to 60% reduction for a 7.5t e-truck and up to 70% for a 16t e-truck over a 10-year period. Additionally, by integrating renewable energy sources into charging, CO2 reductions of up to 50% are expected. Extending the battery lifecycle by 15-20% and exploring second-life applications contribute to sustainable resource use. NextETRUCK also develops business models for second-life battery applications.



#### **FENIX**

Funded and initiated under CEF, FENIX pioneers Europe's first federated data sharing architecture for the logistics community. It unites shippers, service providers, infrastructure entities, cities, and authorities, ensuring interoperability among existing and future platforms. Key objectives include creating a federated network for optimized TEN-T, national pilot testing for interoperability, and fostering EU corridor communities for cost and emission reduction. FENIX's inception aligns with the European Commission's Digital Transport and Logistic Forum's recommendations for a robust platform network, enabling Business to Administration (B2A) and Business to Business (B2B) data exchange.



#### **DISCO**

The unique name 'DISCO' stands for 'Data-driven, Integrated, Syncromodal, Collaborative and Optimised urban freight meta-model for a new generation of urban logistics and planning with data sharing at European living labs'. In short: it aims to support cities in undertaking the digital transformation of urban logistics and sustainable planning and to optimally and strategically manage urban space, in order to accelerate the achievement of <u>EU Mission Cities'</u> goals by 2030.



#### **URBANE**

A 3.5-year Horizon Europe project (2022-2026) on novel, sustainable, safe, resilient and effective last-mile delivery, combining green automated vehicles and shared space use models. The project will test innovative efficient, replicable and socially acceptable innovative last-mile delivery solutions.



#### Move21

MOVE21 connects urban systems in an integrated approach and addresses both goods and passenger transport. The aim is to improve efficiency, capacity use of existing vehicles and transport-related infrastructure, accessibility and innovation capacity in urban transport. The idea of cities as testbeds is central to MOVE21. Running from May 2021 until April 2025, the project comprises three living labs in Oslo, Gothenburg and Hamburg, together with three replicator cities: Munich, Bologna and Rome.



#### <u>LEAD Project: Digital Twins for Low Emission Last Mile</u> <u>Logistics</u>

LEAD will create Digital Twins of urban logistics networks in six TEN-T urban nodes (Budapest, Lyon, Oslo, Porto, The Hague, Madrid) to support experimentation and decision making with on-demand logistics operations in a public-private urban setting. City logistics solutions will be represented by a set of value case scenarios that address the requirements of the on-demand economy and the pressures caused by the increase of parcel deliveries while aligning competing interests and creating value for all stakeholders. Each value case will combine a number of measures called 'LEAD Strategies' to cover the complete dynamics and complexity of a city's logistics challenges.

#### **CASE STUDIES OF INTEREST**



#### **Antwerp: CULT (Collaborative Urban Logistics and Transport)**

CULT stands for Collaborative Urban Logistics & Transport. It's a community of companies sharing a common vision on how sustainable city logistics can be made efficient through smart consolidation of volume. It was launched in June 2021 by TRI-VIZOR. The latter guarantees natural and impartial governance, involving all stakeholders in the city.

#### **Groningen: Integrated Green Urban Planning**

As a successful applicant for the EU's Climate Neutral Cities Mission, Groningen has high ambitions for decarbonisation. It aims to cover 66% of travels by bike, and to only procure zero emission buses by 2025, supported by a comprehensive public charging plan and active mobility infrastructure.

Decarbonising city logistics is also high on the agenda. By 2035, Groningen wants all logistics transport flows within the municipality to be zero emissions. The city is exploring which measures in shopping centres, residential areas and villages have the potential to stimulate and accelerate the transition to zero emissions logistics in these areas. In 2021 city published their new SUMP, which embarks on a major street space reallocation programme.



### <u>Madrid: Urban consolidation centre supported by digital</u> <u>twins</u>

Urban freight distribution accounts for 10% of the urban fleet, 20% of rush hour congestion and 30% of pollution from transport in Madrid. The Living Lab addresses real freight movement problems, exploring the concept of a digital twin to optimise city logistics operations of hybrid and 100% electric vans and electric three-wheelers used for the last-mile delivery. It does so in relation to a physical urban consolidation centre located within the Special Protection Low Emissions Zone Distrito Centro, set up in idle space of a centrally located, city-owned, underground parking lot close to M-30 ring road, which belongs to the TEN-T network.

#### ≫ ELECTRIC MOBILITY

For the **recording of the webinar** click <u>here</u>. You will find the **presentations** of the session at this <u>link</u>.

The transport sector contributes to a high quantity of emissions in cities. That is why promoting zero emission mobility modes is important. Electric mobility can be a significant way of achieving this switch to sustainable transport. It can contribute to creating safer and cleaner cities and fighting climate change. Particularly for cities, electric mobility can play a prime role as the European Green Deal sets out to achieve a 90% reduction in transport-related emissions by 2050. Cities all over Europe have started incorporating electric mobility in their transport systems. The advantage of electric mobility is its versatility, as it is compatible with various forms of transport, not only cars, such as buses, vans, trucks, motorcycles, scooters, and bikes.

This set of publications, projects and case studies will give you an insight into what other cities are doing in the area, and inspiration to take a step further in your municipality's transition towards electric mobility.

#### **PUBLICATIONS OF INTEREST**



#### <u>Topic Guide: Electrification: Planning For Electric Road</u> <u>Transport in the SUMP Context</u>

The purpose of this topic guide is to support authorities in planning electric mobility solutions as an integral part of a SUMP process, describing how the electrification of road transport can adapt to the main SUMP principles and how to integrate it in the different steps of the SUMP cycle.



## Solutions that boost innovation and e-mobility: Success stories and results from CIVITAS Research and Innovation Actions

This publication makes use of short stories – based on in-depth interviews with site managers – to demonstrate key results and best practices from (R)IA projects achieved in ELEVATE's first few years. It covers CIVITAS projects spanning the e-mobility cluster (MEISTER, GreenCharge) and the uptake of innovative solutions cluster (Park4SUMP, HANDSHAKE, CityChangerCargoBike).



### Making Europe's transport smarter with innovative technologies

This publication looks into how cities are responding to current and future challenges in mobility and transport in six specific areas: Mobility as a service, electric mobility, automated mobility, Urban air mobility, traffic efficiency, and governance. The <a href="ERTICO">ERTICO</a> City Moonshot report showcases the results of the first interviews with 150 cities.



#### **Electro-mobility is ready to transform the way we move**

This booklet shows how electric mobility positively transforms the way people and goods are moved. It was produced by the Platform for Electro-mobility, which is working to create a sustainable, multimodal transport system in which people and goods are predominantly moved across land in Europe using sustainable electricity. The aim of the platform is to drive the development and implementation of sustainable European Union policies, programmes and initiatives to move people and goods by electricity.

### <u>Making EV charging a reality for people with disabilities – empowering everyone</u>

This document compiles expert insights from the U.S. Access Board and ENIL (European Network on Independent Living) to examine guaranteeing accessibility of charging infrastructure to ensure some of those most reliant on cars are not locked out of the shift to cleaner fuels. It was produced by POLIS' Just Transition Taskforce.



#### Stations of the future handbook

This handbook presents insights on how to design and build electric vehicle charging stations. It showcases the findings of USER-CHI research and innovation project aimed at unlocking the massive potential of electric mobility in Europe, from a user-centric perspective. Following a user driven innovation approach, the project performed deep qualitative and quantitative research of charging needs, demands and requirements of residents, including users in six different European countries: Norway, Finland, Hungary, Germany, Italy and Spain. Subjective perceptions of charging options, decision influencing factors and acceptance barriers have been analysed to define the innovative features and value-added services needed and expected in the next generation of charging stations.

#### **PROJECTS OF INTEREST**



#### **User-CHI**

USER-CHI is a project that co-creates and demonstrates electric charging networks around seven connecting nodes of the Mediterranean and Scandinavian-Mediterranean (TEN-T) corridors. It will deploy an interoperability framework and platform, scale up infrastructures with smart grid integration, and develop innovative and convenient charging systems.



#### **SHOW: Automated Urban Mobility**

SHOW supports the deployment of shared, connected and electrified automation in urban transport, to advance sustainable urban mobility. During the project, real-life urban demonstrations taking place in 20 cities across Europe are seeing the integration of fleets of automated vehicles in public transport, demand-responsive transport (DRT), Mobility a Service (MaaS) and Logistics as a Service (LaaS) schemes.



#### **SCALE - Smart Charging Alignment for Europe**

SCALE is a three-year Horizon Europe project that explores and tests smart charging solutions for electric vehicles .

The project stems from a rising opportunity: The uptake of electric vehicles in a mass-deployment scenario, coupled with gas nozzles on cars with the flexibility of renewable energy generation could form the basis of a decentralised power system, simultaneously decarbonising both the transport and energy sectors.

#### **eHUBS Partner Cities**

To guarantee that the concept of eHUBS can be spread across the Northwest Europe region and beyond, the <u>eHUBS consortium</u> has created a letter of intent to invite other cities to become replication cities. Replication cities will be able to use the resources produced by the project. They will commit to implementing a shared e-mobility hub strategy to achieve their sustainable urban mobility goals.



#### eCharge4Drivers

To guarantee that the concept of eHUBS can be spread across the Northwest Europe region and beyond, the <u>eHUBS consortium</u> has created a letter of intent to invite other cities to become replication cities. Replication cities will be able to use the resources produced by the project. They will commit to implementing a shared e-mobility hub strategy to achieve their sustainable urban mobility goals.

#### **INITIATIVES OF INTEREST**



#### **Big Buyers Working Together**

Big Buyers for Climate and Environment is a European Commission Initiative for promoting collaboration between big public buyers in implementing strategic public procurement for sustainable solutions. Public procurement can be a key tool in driving the development of innovative goods and services on the European market. Four working groups have been established focusing on a specific public procurement need, including for example electric heavy-duty vehicles for waste collection, street cleaning and maintenance and zero-emission construction sites.



#### **Platform for electro-mobility**

The platform for electro-mobility is a unique research and advocacy alliance of united industries and civil society organisations across the whole value chain of electric mobility and all transport models to share expertise and provide solutions at EU level to create the e-mobility ecosystem. It has six thematic working groups, each of which is chaired by a platform member. The different working groups are: Infrastructure; Logistic and buses; Supply Chain; Energy; Fleet; and Industrial Strategy.



#### **2ZERO Partnership**

The 2Zero partnership promotes and facilitates pre-competitive research and innovation on road transport mobility within the European Research Area. By identifying the research needs to achieve the targets set in European transport, energy and environmental policies, the 2Zero partnership contributes to draft the path towards a climate-neutral European road transport system and will contribute to the acceleration of the necessary transition.

#### **CASE STUDIES OF INTEREST**



#### **Rotterdam: Zero emission zone for freight**

Rotterdam has committed to reducing CO2 emissions by 49% by 2030. As part of a broader vision for emission-free city logistics, the city of Rotterdam plans to introduce a Zero-Emission Zone in combination with urban consolidation centres on the outskirts of the city to generate a shift to zero-emission vehicles.

#### Barcelona: Planning the green future in Barcelona's bus fleet

By 2024, 80% of Barcelona's municipal fleet should be electric, as well as 100 buses and 800 taxis. In addition, the strategy aims to increase the number of private electric cars and motorcycles up to a combined total of 24,000. The number of electric vehicles and motorcycles currently registered remains below 2,000, which demonstrates how ambitious the strategy is.



#### Amsterdam: Setting the trend for emission free mobility

Some of the targets laid out in the Dutch Climate Plan have a direct impact on how local mobility systems have to be developed. Zero emission logistics by 2030, the sale of only emission free cars, halving the emissions across the country based on 1990 levels. These are some of the examples. In this article drafted by Eurocities, you will find information on how cities like Amsterdam are planning ahead, rolling out charging points to enable decarbonisation of private vehicles, and ensuring public transport offsets zero emissions by 2025.

#### >> SUMPS AND SECAPS

For the **recording of the webinar** click <u>here</u>. You will find the **presentations** of the session at this <u>link</u>.

For many years, cities have been working both on their Sustainable Urban Mobility Plans and on their Sustainable Climate and Energy Action plans. However, the responsibilities for one or the other plan often sits within different departments in the city administration, or even under different political mandates. This complicates coordination. This section will offer you several publications, projects, and case studies that can provide you with tips and guidelines on how to tackle such a complex but necessary task.

#### **PUBLICATIONS OF INTEREST**



### SUMP Topic Guide: Harmonisation of Energy and Sustainable mobility Planning

This document provides guidance related to harmonising two types of related plans Sustainable Urban Mobility Plannings (SUMPs) and Sustainable Climate and Energy Action Plans (SECAPs).



#### **SUMP topic guide: Decarbonisation of urban mobility**

This guide aims to help planners and decisionmakers responsible for tackling climate change and for developing transport plans, at all levels, to understand which measures to introduce within a Sustainable Urban Mobility Plan (SUMP) and the types of impact that are to be expected from those measures, to achieve the relevant greenhouse gas emissions reduction targets. It focuses on personal mobility.

#### Costs and benefits of the sustainable urban mobility transition in Europe

This study assesses the impacts of different urban mobility transition scenarios based on the EIT Urban Mobility strategic objectives, as well as on those laid out in the European Green Deal and the EU Smart and Sustainable Mobility Strategy. The impacts of the potential urban mobility transition scenarios assumed within this study are quantified in terms of costs and social benefits by 2030 and 2050.

#### **PROJECTS OF INTEREST**



#### **SIMPLA**

The SIMPLA project provided a common methodology and guidance to support local authorities in harmonising their SUMPs and SECAPs, targeting small and medium-sized municipalities with a population between 50.000 and 350.000 inhabitants, proposing a four-step approach to foster harmonised planning. Dedicated training and coaching sessions, based on a sound methodology devised at transnational level, lead to the joint development of sustainable energy and mobility plans.

#### **CASE STUDIES OF INTEREST**

#### Monzón

Monzón municipality is a great example of harmonisation of SUMP and SECAP following the Guide for the harmonisation of sustainable urban mobility planning and SECAPs. The work done by this municipality is integrated in the project Simpla, which supported local authorities in the harmonisation of both these plans.



#### **Bologna**

The sustainable urban mobility plan of Bologna covers the whole metropolitan area and was developed jointly by the metropolitan and the city governments. The SUMP of Bologna includes a climate mitigation target for mobility of -40% for greenhouse gas emissions by 2030 compared to 1990. It has been aligned with the climate mitigation target of the EU. The SUMP has been aligned with the climate mitigation strategy and SECAP of Bologna, with which it was developed in parallel.

#### **Nicosia**

As part of the project InnovaSUMP, the Cypriot Municipality developed an action plan to upgrade its sustainable urban mobility plan. This strategy was based on three main pillars. The second pillar focused on the harmonisation of their new SUMP with the SECAP.

#### **Izmir**

The Sustainable Urban Mobility Plan (SUMP) project in Izmir is a testament to the city's commitment to align with the highest European standards and practices. SUMP Izmir serves as a comprehensive blueprint, defining mobility policies and actions firmly rooted in forward-thinking, ambitious ideals. These aspirations are underpinned by well-defined objectives and an array of efficient measures strategically crafted to propel sustainable mobility. At the heart of SUMP Izmir lies a resolute focus on promoting and incentivizing sustainable transportation methods. This encompasses bolstering non-motorized modes of travel, championing shared mobility solutions, and enhancing public transportation services. The measures proposed in this plan are poised to actively discourage car-dependent commuting, making substantial contributions to combat issues like traffic congestion, carbon emissions, and the detrimental consequences linked to excessive private vehicle use.



### Annex To the Guidelines for developing and implementing a sustainable urban mobility plan (2nd edition)

This publication is the annex to the SUMP Topic Guide: Harmonisation of Energy and Sustainable mobility Planning. It presents 63 good practice examples from European cities that have worked on the development of their Sustainable Urban Mobility Plans.

#### >> TRAINING AND EDUCATION PROGRAMMES



#### **CIVITAS Learning Centre**

Accessing the link above you will find a catalogue of capacity building opportunities on all aspects of sustainable mobility. You will also find upcoming training events and e-courses designed by the CIVITAS Secretariat at: <a href="https://civitas-learningcentre.talentlms.com">https://civitas-learningcentre.talentlms.com</a>



#### **CIVITAS Educational Network**

This is the first ever CIVITAS Catalogue on Education in Urban Mobility and aims to be a Europe-wide tool to connect current or prospective students to educational institutions, and universities to other universities, industry and businesses. This is a living document and your comments, suggestions and additions are more than welcome. Please contact the CIVITAS Educational Network at <a href="https://www.civitas.eu/mobility-powered-by-youth">www.civitas.eu/mobility-powered-by-youth</a> for further details and contributions.



#### **ELTIS: The Urban Mobility Observatory**

Eltis facilitates the exchange of information, knowledge and experience in the field of sustainable urban mobility in Europe. It addresses individuals working in transport as well as in related disciplines, including urban and regional development, health, energy and environmental sciences. It is the main observatory on urban mobility. Amongst other things, Eltis provides resources that can support users to act and promote sustainable forms of mobility in regions and cities. Some of these resources are training materials, videos, and case studies.



#### **EIT Urban Mobility**

#### **EIT Campus**

The EIT Campus is an online portal that integrates the educational offer from all KICs, starting with professional education and expanding to the full portfolio from 2023.

This one-stop shop or education marketplace offers diverse programmes in the world of innovation, sustainability, entrepreneurship and technology. EIT Urban Mobility coordinates the EIT Campus initiative, bringing together all EIT Knowledge and Innovation Communities, along with more than 200 partners.

#### **EIT HEI Initiative**

The EIT's HEI Initiative: Innovation Capacity Building for Higher Education, is an EIT activity that involves all eight EIT Knowledge and Innovation Communities (KICs) and which aims to help higher education institutions to become more innovative and entrepreneurial. The initiative provides institutions with expertise and coaching, access to the EIT innovation ecosystem, the largest in Europe, and funding, enabling them to develop innovation action plans complementing the needs of individual higher education institutions.

#### **Girls Go Circular**

The Girls Go Circular project (GGC) is an initiative to promote digital and entrepreneurial skills for the circular economy among 14-19 year-old girls. In 2022, EIT Urban Mobility led the delivery of educational content for one module on a circular approach for sustainable mobility.



#### **The Ertico Academy**

The ERTICO Academy is a unique training programme powered by ERTICO inhouse experts and its partners. The ERTICO Academy facilitates learning and enables participants to upskill with training provided by experienced mobility experts on a wide range of mobility and transport topics and state-of-the-art resources. The topics discussed all have a common aim of improving the mobility system by making it safer, more efficient and better connected. The ERTICO Academy is using a flywheel approach, consisting of 4 training levels. Depending on the training skill set and knowledge requirements of Public Authority for the capacity building, the ERTICO Academy selects the combination of the training levels to deliver the new skillset in the most efficient way. With more than 30 customised training programmes for public authorities and industry stakeholders and 11 courses offered on its Intelligent Transport Systems (ITS) eLearning platform that is currently engaging more than 400 users, the ERTICO Academy has a unique approach towards training and building capacity on Mobility and ITS in the public authorities sector (cities, regions and national Ministries and bodies as well as their partners).



#### **UITP Training**

Free learning opportunities for professionals working in the development of innovative solutions for public transport in cities.

#### >> EDUCATION TOOLS AND PROGRAMMES



#### **SOLUTIONSplus learning programme on Electric Mobility**

The programme follows an Open University approach, combining online courses, webinars, face-to-face training and interactive exchange sessions. In addition to interviews with leading experts in e-mobility, courses will also provide students with additional materials such as policy papers, tools, fact sheets and good practice case studies.

There are several seasons of this course, designed for city and regional authorities, but it can provide a solid knowledge base for any stakeholder involved or interested in e-mobility, ITS and MaaS.



### <u>Sum4all toolkit for supporting Gender equal employment in the transport sector</u>

The toolkit 'Gender imbalance in the transport sector: A toolkit for change' written by POLIS with funding from the FIA Foundation for the World Bank's Sustainable Urban Mobility for All (SUM4All) initiative, is the result of pioneering research which examined existing data and conducted in-depth interviews and surveys to build a comprehensive global analysis of gender-equal employment practices and women's lived experiences working in the transport sector. It contains an extensive set of case studies and provides in-depth and practical recommendations for practitioners. With 25 case studies from transport organisations from across the world, including UPS, Kochi Metro, Go-Ahead Group, the International Longshore and Warehouse Union, (ILWU) Canada and Alta, it is a broad-ranging resource for practitioners across the sector, from aviation to maritime to public transport. The goal is to encourage and support the global sector in recruiting and retaining women, as well as supporting their career advancement.

