

MOBILITY METAMORPHOSIS

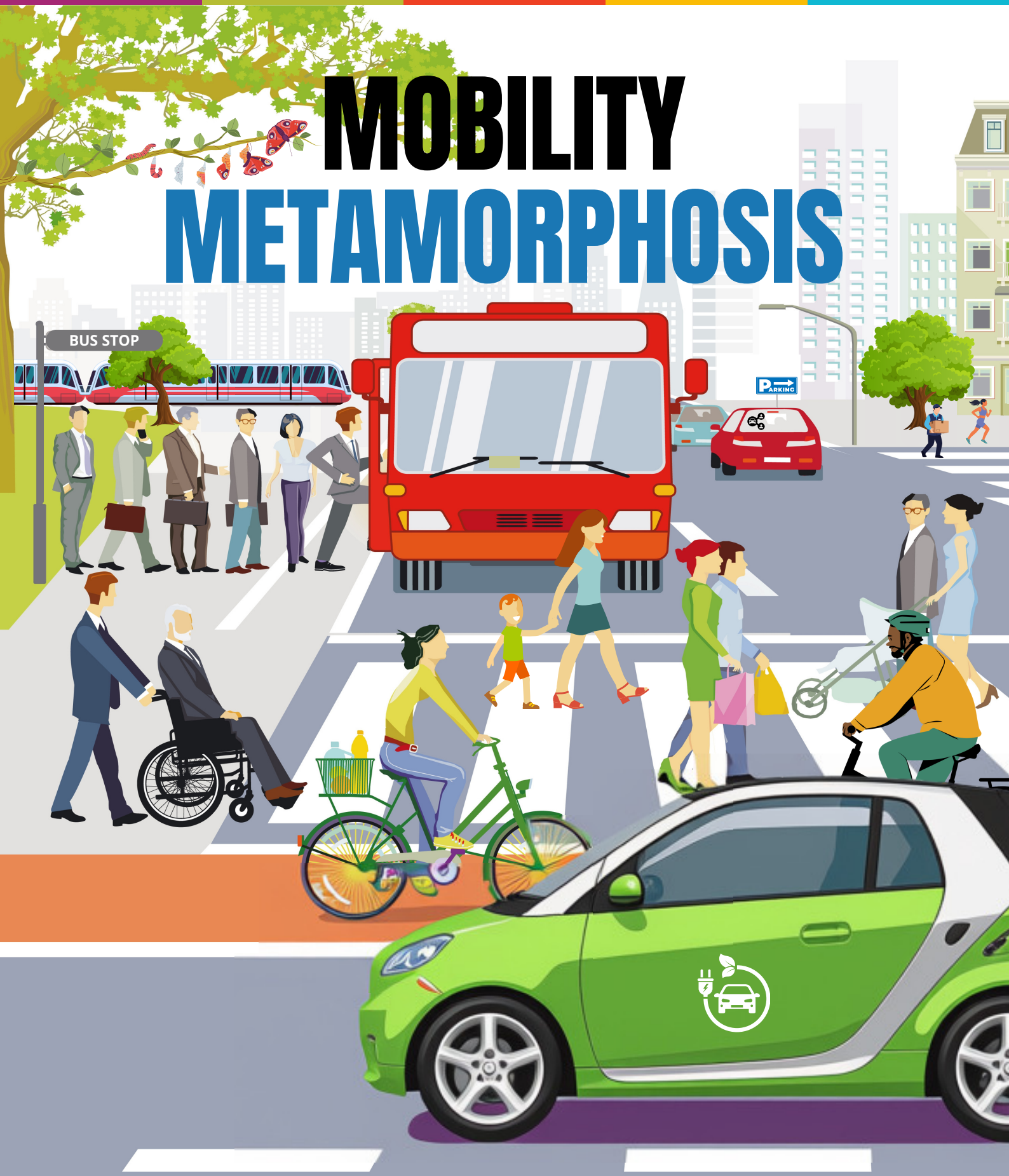


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What is 'Cities in motion'?

'Cities in motion' is **POLIS' magazine**—a place for answers, analysis, and inspiration about the intense and evolving relationship between cities, transport and, essentially, our lives as citizens and mobility actors.

Developed **entirely in-house**, Cities in motion brings together all the inputs on urban mobility that our members have to offer in one convenient place.

For both those who are already vanguard of all things sustainable mobility and those who want to sink their teeth into the world of transport for the first time, 'Cities in motion' quenches a thirst for topic knowledge, and then soe.

Do you wish to contribute to the next 'Cities in motion'?

Contact **Alessia Giorgiutti**, POLIS' Communications and Membership Lead, or **Karen Vancluysen**, Secretary General at POLIS.

FOREWORD



Karen Vancluysen

Secretary General
POLIS

Europe's cities and regions have always been shaped by mobility : ancient trade routes established the first urban connections, railways stitched together urban, suburban, and rural fabrics, and ports—later also airports, once we all gained our silvery, metallic wings—became gateways between local economies and the wider world. Each generation inherited a mobility system shaped by the priorities of its time, only to transform it again as societies changed, technologies advanced, negative transport externalities popped up, and new expectations emerged.

Mobility, in a way, has never stood still. Like any living organism, it has continuously adapted, shedding old forms and taking on new ones. For a while now, it has been undergoing a profound paradigm shift in cities and regions—a metamorphosis that has been unfolding gradually, often beneath the surface, until its scale has become impossible to overlook.

Climate change, demographic shifts, digitalisation, tourism pressures, geopolitical uncertainty, growing demands for social equity and more, are reshaping the transport agenda and redefining what mobility means. Transport has become the connective tissue between urban planning, public health, economic resilience, territorial cohesion, environmental protection, and quality of life.

This issue of *Cities in motion* explores the ongoing mobility metamorphosis, where transformation is not an abstract concept but a daily reality—that of cities and regions, the places where people want to live, work, play, and belong.

In Rome and Île-de-France, the debate around Europe's forthcoming Sustainable Tourism Strategy reveals how visitor flows and mobility have become two sides of the same challenging coin. Tourism brings energy, exchange, and economic opportunity, while simultaneously asking destinations to perform a modern Herculean task :

opening their doors to the world while protecting the very character that makes them worth visiting. The future of tourism depends on guiding journeys in ways that preserve both the vitality of destinations and the quality of life of the communities that call them home.

A similar lesson emerges in Madrid, where the transition towards zero-emission mobility shows that technology must travel alongside political vision, coordinated planning, investment, and public trust. Electrification changes the vehicles we use, yet the foundations of the transition are built through governance.

Throughout this issue, governance and innovation go together like wings and flight. We see it in the evolution of Connected, Cooperative and Automated Mobility into a shared European commitment, where emerging technologies can spread their wings when anchored in public purpose ; in partnerships with digital platforms such as Google Maps and Waze, where data can become a shared resource when guided by responsible governance ; and in collaborations with operators such as Voi, where public authorities and private innovators are learning to chart the flight path together. This is not a given, as, public and private sector interests are not always aligned, and for innovation to become truly policy-responsive, agile regulatory frameworks are required.

However, mobility's metamorphosis only reaches its fullest expression when systems also become more responsive to the people who rely on them. Research from Friuli Venezia Giulia highlights how mobility experiences vary across gender and geography, revealing how distance and limited services can quietly narrow access to opportunity in rural and peripheral areas, while in Germany #BIKEYGEES and Difu remind us that even cycling, the crown jewel of sustainable mobility, does not automatically guarantee inclusion—infrastructure can open doors, but it cannot remove the deeper social barriers that determine who feels able, safe, and welcome to use it.

This broader understanding of mobility changes the questions cities ask themselves, moving beyond efficiency and connectivity towards the wider conditions that shape everyday life. London's Vision Zero journey illustrates this shift, showing how transport systems are evolving from managing movement to actively protecting life, embedding safety into design, governance, and decision-making. The same principle extends into the hours when many cities fall silent : night-time mobility reveals whether a transport network truly serves its communities, from healthcare workers and hospitality staff finishing late shifts to students, visitors, and residents who depend on public transport after dark.

The search for more inclusive mobility also requires rethinking how citizens participate in shaping change. Gamification opens new pathways into this conversation by bringing engagement into familiar digital environments and allowing people, including those often absent from traditional consultations, to become active contributors to the transition. Perhaps, the future of mobility engagement will need fewer lectures and more joysticks, transforming citizens from passive passengers into players in the journey ahead.

A true metamorphosis changes more than the appearance of a system : it changes its sense of purpose. The future of mobility will be shaped by its ability to adapt to different realities while ensuring that every territory, community, and person can take part in the transformation, creating an ecosystem that connects places, responds to needs, and delivers lasting public value.

As a network connecting cities and regions committed to sustainable urban mobility and innovation, POLIS finds its role precisely in this collective journey, building on the belief that transformation grows through collaboration—every member brings experiences shaped by its own geography, culture, and priorities ; every success offers lessons beyond administrative borders ; and every experiment contributes to a wider European conversation about how mobility should evolve and how innovation can serve public policy goals.

From Hamburg to Sofia, Zagreb to Budapest, Flanders to North Rhine-Westphalia, Teruel, and beyond, different contexts produce different solutions, yet all contribute to the same collective endeavour, which is creating mobility systems that are more sustainable, more competitive, more inclusive, and ultimately more liveable.

Enjoy the read!

Karen Vanchuysen
Secretary General of POLIS Network



ACCESS

The **Access** pillar encompasses the **Access** and **Parking Working Groups**, as well as the **Just Transition**, **Urban Nodes**, and **Urban Air Mobility Taskforces**.

These work together to tackle the diverse challenges of mobility, ensuring that cities and regions can deliver transport systems that are accessible, inclusive, and sustainable for all.

The **Access Working Group** brings together cities and regions to tackle access-related challenges across social, economic, physical, digital, and regulatory dimensions. Topics include UVARs, housing, tourism mobility, peri-urban connectivity, and sustainable urban planning. The group promotes knowledge exchange and cross-sector collaboration to shape policies that balance sustainability, accessibility, and innovation.

The **Parking Working Group** brings together members of POLIS and the European Parking Association to discuss challenges and foster innovation related to parking policies and practices. It facilitates coordination between authorities in charge of parking policy and parking operators, regarding on-street and off-street and public and private parking, related urban planning, and curb-space management.

The **Just Transition Taskforce** ensures the shift to sustainable urban mobility is fair and inclusive. It promotes equity by addressing affordability, accessibility, and social justice—especially for vulnerable groups. Through events, research, and collaboration, the Taskforce integrates just transition principles across transport policies to ensure all citizens benefit from and shape the mobility transition.

The **Urban Nodes Taskforce** helps cities meet TEN-T goals through peer exchange, tools, and joint action. Supporting over 60 cities, it focuses on 2027 targets including SUMP, mobility data reporting, and multimodal access. The group fosters governance coordination, monitors Urban Mobility Indicators, and connects members to funding and innovation.

The **Urban Air Mobility Taskforce** supports cities and regions in integrating aerial services into local mobility systems. It facilitates knowledge exchange, links members with innovation networks, and promotes regulatory readiness. By addressing governance, safety, public space use, and acceptance, it empowers local authorities to shape sustainable, inclusive urban airspace.



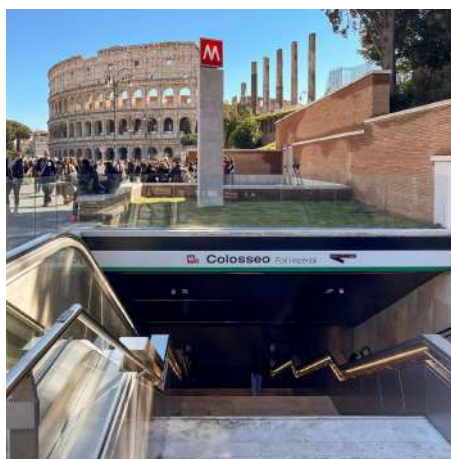
OVER CAPACITY, UNDER CONTROL

Rethinking tourism governance through mobility integration

The **EU Sustainable Tourism Strategy** will reshape Europe's approach to tourism, decarbonisation, and territorial balance, with mobility at its core. **NECSTouR**, **Île-de-France Region**, and the **City of Rome** converge on a shared conclusion: tourism and mobility can no longer be treated separately, as managing visitor flows becomes a defining policy challenge across Europe.

POLIS: The European Commission will soon launch its Sustainable Tourism Strategy—which is now officially backed by the Council of the EU's Strategic Guidelines adopted on 28 May 2026, and the European Parliament's Resolution adopted on 28 April 2026. What should its main priorities be for mobility?

Eugenio Patanè (Rome): The EU is moving in the right direction, particularly in recognising overtourism, decarbonisation, and territorial redistribution as central issues.



INTERVIEW WITH
CRISTINA NÚÑEZ
FRANÇOISE GUASPARE
EUGENIO PATANÈ

ELABORATED BY
SARA MECATTI

From top to bottom:
Colosseo Fori Imperiali
metro station in Rome, Italy
rarrarorro, Shutterstock

E-cycling along the Vélomaritime
trail near Bayeux, Normandy, France
Loc Vélo, Normandy Tourism

Passengers at the Gare
de Paris-Saint-Lazare, France
Brice Perrin



Eugenio Patanè

Deputy Mayor for Mobility
City of Rome



Cristina Núñez

Strategy Director
NECSTouR

But for cities like Rome, the key question is implementation under real pressure conditions.

Tourism mobility must shift from road-based to rail-based systems, supported by infrastructure investments that were delayed for decades. Major events, including the Jubilee, have accelerated this transition, but structural change is still ongoing.

We see four priority areas. First, capacity, because the current infrastructure cannot absorb 21st-century demand patterns. Second, access regulation, which must be clear, predictable, and enforceable. Third, digitalisation, including real-time crowd management, dynamic coach access, and integrated booking systems. Fourth, redistributing flows beyond the historic centre, because Rome cannot remain a city where 90% of visitors concentrate within just 5% of its territory. Here, our Sustainable Urban Mobility Plan (SUMP), is instrumental in opening up the eastern and southern quadrants, making the peripheries more accessible and encouraging a more balanced distribution of visitor flows.

The objective is to distribute tourism more intelligently across space and time—this is what regenerative tourism means in practice, at least to us. Rome's scale and complexity also make it a useful European test case. Managing millions of visitors in a city with archaeological constraints and overlapping governance levels offers lessons that can be transferred to other urban contexts.

Cristina Núñez (NECSTouR): The future EU Sustainable Tourism Strategy, while not yet published, is clearly moving toward a more sustainable and territorially balanced model. Within this framework, mobility is not an accessory policy area, but a structural pillar.

Transport accounts for nearly 80% of tourism-related emissions: this means there is no credible sustainability pathway for tourism without addressing mobility directly. The challenge in Europe is no longer simply attracting visitors, but

managing flows in a way that preserves territorial balance, environmental quality, and quality of life for residents.

What is needed now is a double integration: tourism strategies must embed mobility considerations from the outset, while mobility planning must better reflect tourism realities and seasonal demand patterns.

We expect the EU strategy to prioritise three elements. First, sustainable connectivity across modes and territories. Second, stronger governance and data capacities to manage flows more intelligently. Third, resilience, particularly in the face of climate, geopolitical, and economic disruptions.

Regions are central in this equation. Tourism impacts transport systems, public space, and infrastructure in very direct ways. This requires coordinated governance across transport, tourism, and territorial planning.

As Mathieu Cuip, President of NECSTouR, notes, tourism 'cuts across transport, environment, culture, digital systems, and economic development'. Without stronger coordination between these domains, sustainable tourism remains out of reach. The integration of long-distance transport networks with local public transport is particularly decisive for accessibility and cohesion across Europe.

Françoise Guaspare (Île-de-France Mobilités): The EU Sustainable Tourism Strategy must address a persistent structural issue: tourism growth is still too often coupled with emissions growth, and decoupling the two remains a central challenge.

At the regional level, we also face increasing exposure to climate risks, alongside skills shortages in sustainable mobility, digitalisation, and low-carbon service delivery. Tourism resilience is then both a strategic and economic concern.

A major obstacle remains governance fragmentation. Tourism and transport are still frequently planned and managed

separately, despite their deep interdependence. In Île-de-France, we are addressing this through a more integrated approach, linking mobility planning, tourism development, and territorial balance within our Regional Mobility Plan 2030.

The EU strategy should support this integration while aligning tourism policy with the European Green Deal and the Clean Industrial Deal to ensure coherent decarbonisation across transport and tourism.

It should also recognise that seamless mobility is central to the visitor experience. Simple ticketing, real-time information, and interoperable systems are not technical details; they are prerequisites for sustainable tourism. Through the European Metropolitan Transport Authorities (EMTA), Île-de-France Mobilités and other European metropolitan public transport authorities are working on a Europe-wide federated ticketing solution that would allow visitors to access public transport networks across Europe without creating a new account, downloading a new app, or purchasing a separate ticket in every destination.

Finally, stronger investment under the next Multiannual Financial Framework will be essential. Meeting the objectives of the revised TEN-T Regulation on multimodal passenger hubs and urban nodes by 2030 will require continued support through the Connecting Europe Facility to finance low-carbon mobility infrastructure that benefits both residents and visitors.

What are the main challenges the EU strategy needs to address, and what opportunities could it create?

CN (NECSTouR): At NECSTouR, we see three structural challenges that stand out.

The first is integration, because tourism and mobility systems are often developed in parallel, not in coordination. As a result, sustainable transport options usually remain fragmented and difficult to access for visitors.

The second is governance: visitor flows do not respect administrative boundaries, yet coordination between authorities, operators, and destination managers remains limited.

The third is investment. Without targeted financial support, particularly under the next Multiannual Financial Framework, destinations will struggle to develop multimodal hubs, improve last-mile connectivity, and deploy digital systems that enable sustainable travel choices.

At the same time, there is a significant opportunity—many regions are already experimenting with integrated ticketing, multimodal hubs, rail-tourism initiatives, and digital flow management tools. The EU strategy can help scale these solutions and create shared standards that allow replication across Europe.

Tourism is largely a regional and national competence, but the EU can provide the framework conditions for it to thrive, such as data standards, interoperability, and coordination mechanisms that could enable better planning and anticipation of demand.



Françoise Guaspere

Senior Policy Advisor

Ile-de-France Region;

Penholder of the EC Expert Group on Urban Mobility Guidance Report on the Tourism and Mobility Nexus

In Normandy, France, Nomad trains are designed to accommodate bicycle travel

François Legrand





Paved bike lane running along the banks of the Tiber River in Rome, Italy

StudioLab images, Shutterstock

EP (Rome): For us, the main challenge is institutional fragmentation combined with the physical and historical complexity that makes Rome unlike any other European capital.

Rome covers more than 1,285 square kilometres, the largest municipal territory among European capitals. Added to this is an unparalleled concentration of archaeological heritage and a fragmented governance framework involving the State, the Region, the Metropolitan City, and the Vatican: each has a legitimate role to play, but together they create one of the most complex governance puzzles in European urban mobility.

This complexity is not a limitation; it is an opportunity to innovate. During the Jubilee, Rome welcomed around 33 million pilgrims, with daily averages of 100,000 visitors, while ordinary tourism continued uninterrupted. Managing these flows required coordinated transport

operations, the reorganisation of multimodal hubs, real-time passenger information, and close cooperation across institutions.

How do you move millions of people without paralysing a metropolis of three million inhabitants? How do you operate modern public transport in a millennia-old city while preserving an open-air museum? These are the kinds of questions Rome is confronting every day. The solutions are not always perfect, but they provide practical experience that other European cities facing increasing tourism pressure can build upon.

This is why Rome sees itself not only as a beneficiary of the future European framework, but also as a contributor to it. We need stable financial instruments, a regulatory framework that supports micromobility, shared mobility and clean fleets, and a stronger political space where European capitals can work together. In return, Rome offers what few cities can: scale, complexity, and a willingness to pilot new solutions.

FG (IdFM): The central challenge remains governance fragmentation, combined with insufficient integration between tourism planning and mobility systems.

This is particularly evident in the management of visitor flows, where transport networks are often not designed with tourism demand in mind. At the same time, tourists represent a unique opportunity for modal shift; their mobility choices are more flexible than commuters—something that makes them a powerful lever for accelerating sustainable transport use.

Better integration can also help redistribute flows beyond congested city centres, improving both visitor experience and local quality of life.

In Île-de-France, we are addressing this through multimodal transport networks, rail-tourism connections, cycling infrastructure linked to leisure routes, and eco-shuttle systems in natural areas. Digital tools are also essential in managing flows more dynamically.

How can cities and regions increase synergies between mobility and tourism?

FG (IdFM): By treating mobility not as a service layer added to tourism, but as its structural backbone.

As I mentioned before, this approach is already visible in Île-de-France, and the experience of the Olympic Games further confirmed this logic. In 2024, we showed that high passenger flows can be managed effectively when public transport, active mobility, digital tools and communication are fully coordinated. Under our leadership, the Games relied on close cooperation between operators, infrastructure managers, local authorities, the State, and event organisers.

The Olympics also highlighted the importance of anticipating multimodal hub reorganisation, improving passenger circulation, wayfinding, cycling facilities, eco-bus infrastructure and real-time information systems. These investments were not limited to major events; they strengthened the long-term performance and attractiveness of everyday urban mobility from then onward.

CN (NECSTouR): For us, a key priority is also breaking down the persistent silos between mobility and tourism. To do so, collaboration with networks such as POLIS is essential: stronger cooperation helps ensure that both policies are developed in a more coherent and integrated way, better aligned with sustainability, accessibility, and territorial cohesion objectives.

This logic also extends to implementation. In the Normandy Region, initiatives such as the D-Day Bus Line and the Low Carbon Rate scheme demonstrate how linking transport planning with tourism offers improve accessibility, encourage sustainable travel choices, and support more balanced territorial development.

Data remains a key enabler, and by combining tourism and mobility datasets, regions can better forecast demand,

monitor impacts, and improve both visitor experience and local quality of life.

Moreover, stronger governance is essential. Tourism authorities, mobility planners, and destination management organisations must work together from the outset, ensuring that mobility is embedded as a strategic pillar of destination development rather than treated as an operational layer.

EP (Rome): Indeed, true synergy requires institutional redesign: mobility and tourism departments often operate with different objectives, timelines, and success indicators. Without alignment of metrics, coordination remains superficial.

For us, three changes are necessary. First, shared data systems that allow cities to track mobility and tourism patterns together. Second, joint planning instruments that integrate tourism strategy with mobility planning. Third, integrated funding mechanisms that reflect the overlap between the two sectors.

Networks like POLIS can play a crucial role in supporting this transition, particularly by bridging cities and European-level policy development as the EU strategy moves into implementation.

Metro wayfinding during the Olympic Games in 2024 in Paris, France

OKcamera, Shutterstock



HOW MUCH DO WE MOVE?

Mapping gendered mobility in Northern Italy

WRITTEN BY

DARIO BERTOCCHI
FRANCESCO BRUZZONE
SILVIO NOCERA

Women and men do not move through space in the same way, especially in **rural areas** where transport options are limited.

Using cell phone big data from **Northern Italy**, this study reveals how **gender**, **geography**, and **accessibility** shape everyday mobility, exposing hidden inequalities in access.

*Rural bus stop in the Julian Prealps,
Friuli Venezia Giulia, Italy
Alessia Giorgiutti, POLIS*

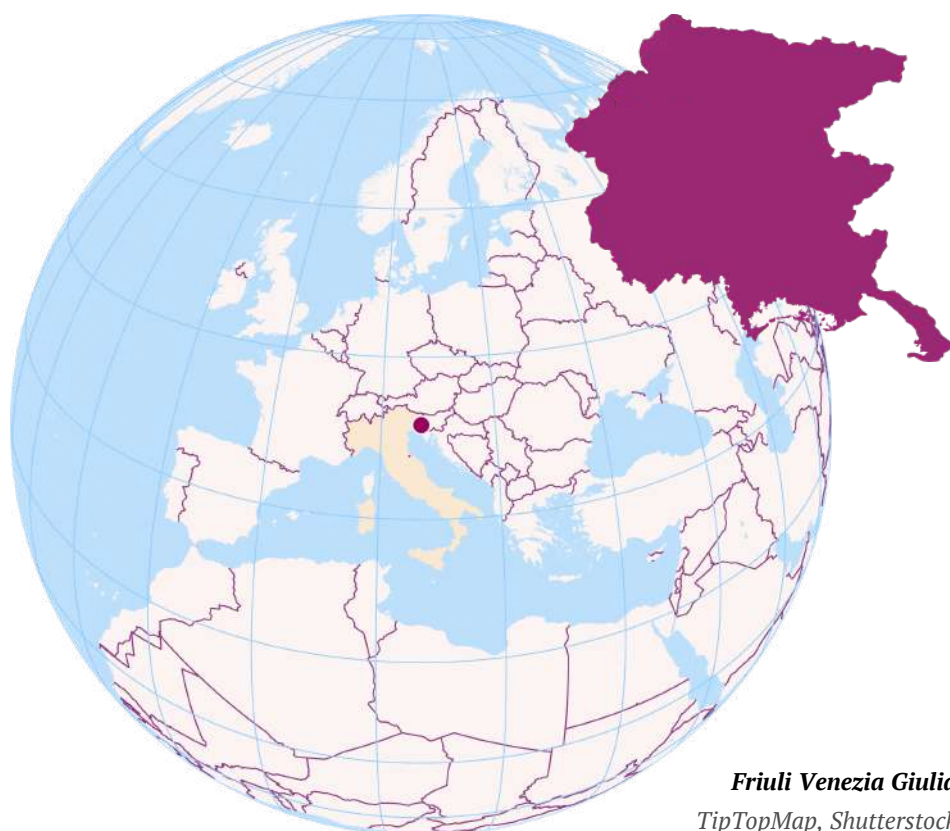
Mobility is essential to everyday quality of life: people commute to work, go to school, visit doctors, shop, care for family members, or simply enjoy their free time. The ability to travel easily and affordably is closely tied to social inclusion, well-being, and access to opportunities. Yet, mobility is not experienced equally: income, age, place of residence, access to a car, public transport availability, and gender identity can all influence how freely people move. Studying mobility, therefore, also means studying inequality, even more so in rural areas, where transport options are often limited.

For decades, researchers have relied on surveys, census data, and travel diaries to understand mobility patterns. These tools remain valuable, but they often involve limited samples, may miss short or irregular trips, and are costly for public authorities to collect. Today, cell phone big data offers a different perspective, making it possible to observe movements across large areas and over long periods of time. While this data cannot reveal the purpose of a trip or the mode of transport used, it can show where people move, when they move, and how varied their movements are.

These questions are especially relevant in Friuli Venezia Giulia (hereby referred to as FVG), an autonomous region in northern Italy, where cities, rural communities, mountain areas, coastal destinations, and border zones coexist within a relatively small territory. The region offers an ideal setting for exploring whether men and women move differently, and whether these differences become more pronounced in so-called ‘inner areas’—rural or peripheral territories located far from essential services.

Big data and entropy

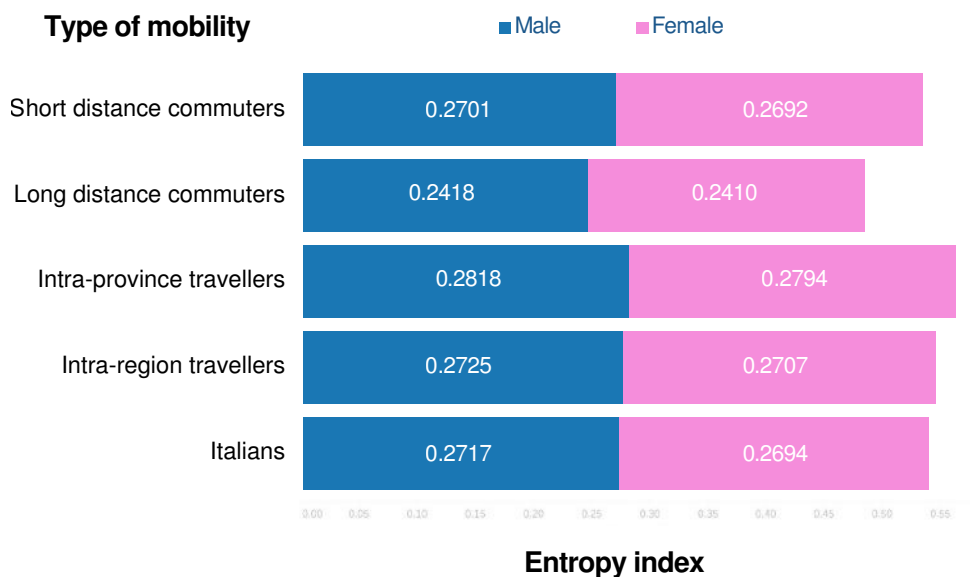
Tracking cell phone signals through cell-ID positioning for trips made within FVG during 2023, a year in which mobility had largely stabilised following the COVID-19 pandemic and tourism flows had returned to normal, it is possible to identify different types of travellers: short-distance commuters moving across nearby municipalities, long-distance commuters travelling across FVG, intra-province travellers, intra-region travellers, and Italian visitors living outside the region.



Friuli Venezia Giulia

TipTopMap, Shutterstock

Gender Entropy Index per type of travellers



Travellers and commuters are distinguished, because commuters generally return to their starting point every day. This distinction matters: a daily commute, a trip to the seaside, access to public services, and a tourist excursion all follow different spatial logics. Looking at these movements separately helps reveal where gender differences are most visible.

To understand how varied these movements really are, the study [‘A big data analysis of the gender gap in mobility at the regional scale: Insights from northern Italy’](#) uses [Shannon’s entropy index](#). Imagine two people making the same number of trips. One repeatedly travels between home, work, and the supermarket; the other moves between workplaces, shops, relatives, services, and leisure destinations. Although both make the same number of trips, the second person has a more diverse mobility pattern. Entropy offers a way of measuring that diversity, where a higher value means trips are spread across more destinations, while a lower value points to movements that are more concentrated and predictable. This matters because reaching a wider range of destinations can also mean access to a broader range of opportunities.

In Friuli Venezia Giulia, mobility is shaped by both everyday routines and seasonal rhythms.

Most trips are made by short-distance commuters and people travelling within the same province—FVG has four: Trieste, Udine, Pordenone, and Gorizia, reflecting ordinary activities such as work, study, shopping, and access to services.

Tourism becomes particularly visible during summer: Italian visitors from outside Friuli Venezia Giulia account for fewer trips overall, but their movements rise sharply in the month of August. Coastal towns such as Lignano Sabbiadoro and Grado, alongside mountain destinations and cultural centres like Tarvisio and Trieste, attract large numbers of visitors. By contrast, short-distance commuting remains relatively stable throughout the year, dipping slightly in August before increasing again in autumn.

Focusing on gender differences

One pattern appears consistently across all traveller categories: men make more trips than women. Overall, men account for around 55% of trips, compared with 45% for women, and this imbalance remains quite stable throughout the year, as it is reflected across more than 426 million recorded trips.

The gap is most evident among long-distance commuters, people travelling across the region, and Italian visitors from outside Friuli Venezia Giulia. It is less pronounced among short-distance commuters and intra-provincial travellers.

In other words, gender differences become more visible as mobility expands across wider areas. Men are more present in longer and more dispersed trips, where their share rises to almost 60% and in some months even slightly above, while women remain relatively more concentrated within local mobility patterns. That being said, counting trips tells only part of the story: it is equally important to look at how many different places people actually reach. These differences suggest that gender shapes not only how much people travel, but also the spatial scope and diversity of their daily mobility.

When mobility diversity is taken into account, men generally display slightly higher entropy values than women. In practice, this means that men tend to access a broader range of destinations, while women's movements are often more concentrated and predictable. At the regional scale, these differences are not always very dramatic, but the same tendency consistently appears across traveller groups and throughout the year: men generally experience a wider mobility range.

Seasonality also changes the picture. In absolute terms, mobility surges in spring and early autumn, with intra-province trips peaking in October at over 8.1 million daily-recorded movements, while short-distance commuting reaches its annual high of nearly 22.8 million trips in the same month.

Tourism introduces a sharp summer distortion: Italian visitors more than double their activity in August, rising to roughly 2.46 million trips, compared with just over 1.16 million in February, and mobility becomes more varied for both men and women, as holidays, tourism, and leisure travel increase—during winter, on the other hand, movements become more localised and routine-driven, as leisure trips decline and everyday obligations dominate mobility patterns.

Increased disparities in rural areas

The sharpest differences emerge when comparing inner and non-inner areas. Inner areas are defined by the Italian Territorial Cohesion Agency as rural, peripheral, or mountainous territories where access to essential services is more difficult. Public transport is often infrequent, distances are longer, and reaching schools, healthcare facilities, or workplaces may require considerable effort.

Non-inner areas benefit from a stronger network of urban and industrial centres, including Udine, Pordenone, Gorizia, as well as industrial hubs such as Monfalcone and Tolmezzo. These nodes generate denser and more varied mobility flows, both for commuting and for service-related travel.

From top to bottom:

***Alpe Adria Cycle Route in Grado,
Friuli Venezia Giulia, Italy***

lucaapl, Shutterstock

***Alpe Adria Cycle Route in Tarvisio,
Friuli Venezia Giulia, Italy***

SiposM, Shutterstock



Trips originating from inner areas in FVG show lower mobility diversity than those starting from non-inner areas. In other words, people living in these territories tend to reach fewer and less varied destinations: their mobility is more constrained and service-dependent. The difference is particularly pronounced for women, whose mobility diversity is lower than men's, especially during the winter months. This points to a broader issue: territorial isolation appears to affect women more strongly. When services are distant and transport options limited, women seem to experience a narrower range of movement and opportunity.

It would then not be inaccurate to say that the gender gap in transport is closely connected to the organisation of territory, the location of services, and the availability of mobility options. Big data makes these patterns visible on a regional scale: men tend to make more trips and access a wider range of destinations, while women's mobility remains more localised and predictable, especially in inner areas.

Women may therefore face greater constraints when living in places with weaker accessibility. Transport policies should pay closer attention to the relationship between gender and territory. Strengthening collective transport in rural areas could help reduce these inequalities, and so would flexible

solutions, such as Demand-Responsive Transport (DRT), community transport schemes, or stronger links between small municipalities and major service centres.

This shift towards more flexible, demand-driven mobility is already visible on the ground in several pilot services across the region. One example is the UDonDemand service operated by TPL FVG in the Val Degano area, covering municipalities such as Forni Avoltri, Rigolato, Comeglians, Ovaro, and Raveo. Designed to connect isolated hamlets with interchange points towards Sappada and Tolmezzo, the service operates only upon reservation via app or call centre, offering a flexible alternative where conventional routes are sparse or infrequent.

A similar logic underpins the SMARTBUS pilot developed in the Karst area near Trieste, where on-demand shuttles link peripheral settlements such as Opicina, Cattinara, and Draga Sant'Elia with key interchange hubs like Prosecco, integrating weak-demand territories into the wider urban network. Although the SMARTBUS project has since been temporarily halted following a regional restructuring of public transport governance, it remains a reference case for how digital booking systems and flexible routing can reshape accessibility in peripheral regions.g, and if you are sure about the reported information, I'm ok with leaving them.

UDonDemand service in the Val Degano area, Friuli Venezia Giulia, Italy

Arriva Udine; TPL FVG



Beyond transport

The patterns emerging from the data show that gender, geography, and accessibility are deeply interconnected. Hence, understanding how people move impacts their accessibility to opportunities and, ultimately, their quality of life.

Building fairer transport systems requires planning that takes gender differences, rural isolation, and everyday access to opportunities seriously. A more inclusive mobility system is essential not only for territorial competitiveness, but also for social equity.

(UN)EQUAL CYCLING

ELABORATED BY
VITTORIA MADDALENA

WITH CONTRIBUTION FROM
ANNETTE KRÜGER
MARTINA HERTEL

*Annette Krüger teaching women to cycle
during a #BIKEYGEES workshop*

Jan Ehlers/Deutsche Fernsehlotterie



Many governments are investing in **cycling** as a sustainable, efficient, and affordable transport mode.

Yet, looking at the case of **Germany**, the impacts of these measures are not equally distributed, but reproduce social inequalities instead of reducing them.

The bicycle is the most convenient sustainable mobility option. It has very low maintenance costs, it does not contribute to air pollution when in use, it is small, and easier to store than a car. Sounds pretty accessible to everyone, no?

Germany has heavily invested in promoting cycling as a sustainable, healthy, and efficient alternative to the private car. The 2023 Cycling Monitor survey confirms that there is both an increasing interest and willingness to cycle more often.

However, studies reveal that the 'cycling boom' in German cities is not so impressive. According to the study 'Mobility in Germany 2023' conducted by the Federal Minister of Transport on the mobility patterns in Germany, the modal split for cycling increased only from 9 to 11% from 2002 to 2023. This is a very small increase for such a long period of time.

Looking at the passenger-kilometre performance, what emerges is that cycling distances have increased by almost half since 2022, thanks also to the uptake of electrically assisted bicycles.

These data show how cycling policies in Germany have not resulted in more people using this mode, but those who already cycle regularly are simply cycling more often and over longer distances. This is because the cycling boom is highly uneven, driven by certain socio-economic groups while disregarding others.

Missing picture

Germany has missed the point of why cycling is not the default option for many people. The idea of 'just make it, and they will come' does not work for anyone, or rather, it works only on a specific part of the population. The issue is not that cycling is an unattractive alternative, but rather that certain social groups remain excluded from accessing it altogether.

By analysing cycling groups and levels of education, cycling is much more common for well-educated, medium- and upper-income people living in medium-sized and large cities. This group has, in fact, better access to cycling infrastructure and favours cycling for health and environmental reasons. Meanwhile, for groups with lower education, who tend to live in remote and not well-connected areas, the cycling distances to relevant destinations are often less feasible. In addition, the social meaning given to cycling is much different. The car is considered a symbol of wealth and independence, while cycling is seen with negative connotations.

When looking at income levels, there is also a clear difference. People with low incomes use the bicycle much less than their wealthier counterparts, and almost 40% of people in households at the lowest end of the socioeconomic scale have no access to a functioning bicycle.

This reveals an uncomfortable truth: the investments have not benefited all social

groups equally. The well-educated with high income benefit disproportionately from the cycling-related investments, while certain parts of the population are completely overlooked. This exclusion represents not only untapped potential for the contribution to sustainability goals, but also reinforces social inequalities instead of supporting the groups most exposed to mobility poverty.

Social gap

At first, it seems counterintuitive: if a bicycle is much cheaper than a car, why is it not a popular option among lower-income groups? Research consistently shows that income poverty and mobility poverty are deeply intertwined, and the underlying issues are various and complex.

Germany has invested heavily in creating safe cycling infrastructure

Alessia Giorgiutti, POLIS





A bike with cargo carriage for children

Hardial Aujla, Unsplash

The barriers to cycling are economic, cultural, health-related, and personal. Within migrant communities in particular, many people—especially women—never learn to ride a bike. Even those who can cycle may lack access to their own bicycle, a secure place to store it, or the basic repair knowledge to maintain it. Cycling infrastructure is frequently inadequate in suburban and lower-income neighbourhoods, so navigating trafficked roads without proper infrastructure holds back many.

Women face even more difficulties: many of their journeys are for caregiving purposes, such as accompanying children or elder relatives with limited mobility, or running errands. Bringing a kid or just a heavy shopping bag on a bicycle appears inconvenient, and more spacious bicycles such as cargo bikes are expensive and require an adequate parking space.

In addition, low-income workers often face difficult working conditions with very early or irregular working hours that fall outside the public transport schedule, contributing to forced car ownership and exacerbating the risk of mobility poverty. Within households, the car tends to be the preserve of men, leaving women more reliant on public transport.

Uncovering the differences: the Radklusion project

The Radklusion project, carried out by the German Institute for Urban Affairs (Difu) together with SINUS and infas and funded by the Federal Ministry of Transport (BMV), researches the inequality in cycling. Its aim is to investigate how better cycling conditions can reduce mobility poverty and strengthen social participation.

To do so, it first focuses on the existing barriers for socially disadvantaged groups. Then, by using a mix of data analysis, interviews, household surveys, GPS tracking, and collaborative workshops across five partner cities, the final goal is to develop an action matrix containing a comprehensive overview of concrete options.

This matrix maps barriers across different contexts and links them to concrete measures, such as better infrastructure, promoting participation, or offering educational opportunities. The project's goal is to give local authorities the tools to embed social equity into cycling strategies and Sustainable Urban Mobility Plans (SUMP).

Teaching women how to bike

In the context of increasing cycling equality, migrant and minority women are underrepresented. Migrant women cycle far less than those without a migrant background—only one in three does so regularly, compared to two in three of the broader population. According to a study on migrant women from non-EU countries, only around 40% of them can ride a bike.

YallaFAHR, delivered by the association #BIKEYGEES e.V. and funded by the Federal Ministry of Transport, was founded in 2025 to address this gap.

The #BIKEYGEES e.V. association has extensive practical experience in this field. Founded in 2015 by Annette Krüger, it has taught over 2,400 women and girls to cycle and donated more than 680 bicycle sets.

The success of the programme stems from the need for practical, low-threshold cycling courses that are multilingual and accessible. Participation is free, and the courses are designed around the needs of participants.

Volunteers who themselves only learned to cycle as adults serve as peer role models, and all materials, including traffic lessons with photos and graphics, are available in multiple languages, ensuring accessibility for women with limited literacy. Beyond the basics, courses cover bike maintenance, road safety, and traffic rules, complemented by online tutorials.

The objective of the course goes beyond supporting the uptake of the bicycle as a transport mode; it empowers and emancipates women. In fact, for many

participants, cycling represents a first step towards greater independence and confidence, especially for those who did not have the chance to learn in their country of birth due to cultural and societal biases.

A means for freedom

The bicycle has long been a symbol of freedom. However, the privilege of independence is not available for all groups of people. The studies on the use of the bicycle by socio-economic and gender groups break the narrative that this is the most convenient and accessible transport solution for everyone.

To overcome these underlying challenges and make the bicycle truly a means for independence, a bottom-up approach is needed to fill in the gaps. Initiatives such as the YallaFAHR and Radklusion projects serve exactly this purpose: including and engaging with the groups for which a bicycle is not just a mobility option, but the key to freedom.

A group of #BIKEYGEES students
Jan Ehlers/Deutsche Fernsehlotterie



ENVIRONMENT AND HEALTH

The Environment, Health and Mobility pillar addresses the intersection of environment, health, and mobility through two dedicated Working Groups—Active Travel & Health and Clean Vehicles & Air Quality—as well as the Climate-Neutral Cities Mission Taskforce.

The Active Travel & Health Working Group is dedicated to preserving and boosting walking, wheeling, and cycling as integral parts of the mobility system, while also considering their various interactions with urban planning, the environment, and health. It aims to foster discussions and exchange knowledge on strategies and measures that prioritise active modes of transport. The overarching goal is to facilitate a more equitable distribution of public space, thereby improving quality of life for everyone.

The Clean Vehicles & Air Quality Working Group helps cities reduce transport emissions and improve air quality. It focuses on clean fleet deployment, smart EV charging, non-exhaust emissions, noise pollution, and regulatory alignment. By sharing knowledge and engaging with policy, it supports cities and regions in meeting EU environmental targets and advancing cleaner mobility.

The Climate-Neutral Cities Mission Taskforce supports POLIS members selected in the EU's Climate-Neutral and Smart Cities Mission in accelerating transport decarbonisation. Through peer-to-peer exchange, the group promotes concrete action aligned with the Cities Mission, focusing on governance, funding, public-private cooperation, and impact measurement, driving the shift to climate-neutral transport systems.



IN THE TRAIN OF THOUGHT

Rethinking modern rail networks

INTERVIEW WITH
MASAYUKI SAOTOME

ELABORATED BY
ALESSIA GIORGIUTTI

Urban rail faces increasing pressure to decarbonise, expand capacity, and improve efficiency within constrained systems.

Mitsubishi Electric
Europe's Masayuki Saotome highlights that the next phase of innovation depends less on individual technologies and more on data-driven integration across infrastructure, energy systems, and urban ecosystems.

Shinkansen bullet train in Nagoya, Japan
JapanNewbie, Shutterstock



Masayuki Saotome

Business Unit President – Transportation
Mitsubishi Electric Europe

POLIS: Across many European cities, rail is being asked to do more with constrained infrastructure, tight budgets, and decarbonisation pressure. What is the single biggest constraint rail systems face today that technology can realistically address?

Masayuki Saotome: One of the biggest constraints facing rail systems today is the need to simultaneously achieve decarbonisation, higher transport capacity, and cost efficiency while working within ageing infrastructure and limited investment budgets.

From our perspective, this challenge can be addressed through two complementary frameworks: the first is a technological contribution at the component and subsystem level—the core technologies that support railway vehicles and infrastructure; the second is a data-driven, system-level optimisation approach covering the entire railway operation, including wayside infrastructure.

POLIS: OK, let us look at the core technologies, then.

MS: In the power domain, innovation in power electronics continues to deliver significant improvements in efficiency and operational performance. Examples include high-efficiency traction converters using Silicon Carbide (SiC) semiconductors, synchronous reluctance motor technologies that improve efficiency while reducing rare-earth dependency, and mechanical innovations such as self-cooling systems using airflow generated during train operation—all technologies that contribute to lower energy consumption and cooling requirements, lighter systems, improved maintainability, and longer infrastructure lifetime.

Mitsubishi Electric has contributed to the development and deployment of many of these technologies and continues to invest in next-generation railway systems.

POLIS: Got it. And what about system-level optimisation?

MS: The thing is, improving the efficiency of individual components alone is no longer sufficient.

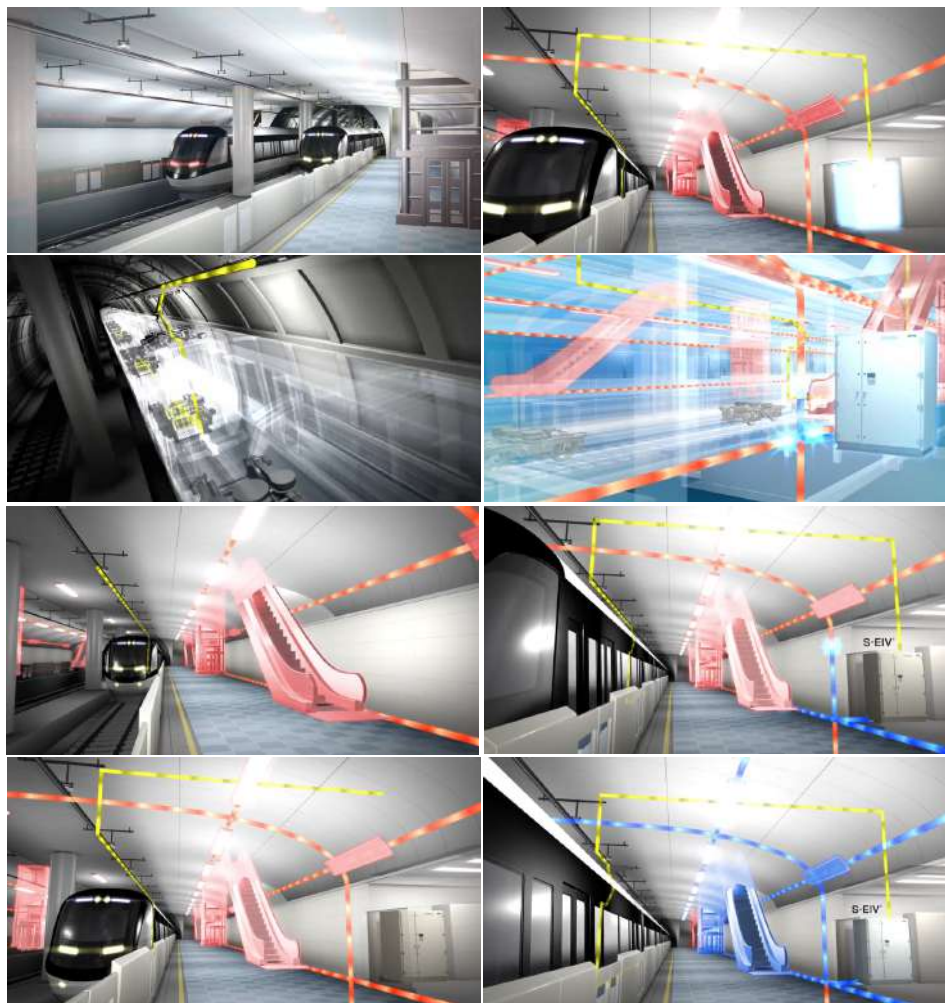
We need to collect, visualise, and analyse operational and energy-related data across trains, substations, stations, and energy storage systems in real time, so we can understand where regenerative energy is generated, transferred, or lost, and optimise coordination between rolling stock and infrastructure. This enables operators to improve not only energy efficiency, but also peak load management, transport capacity, operational resilience, and infrastructure utilisation across the entire railway network.

Within this system approach, energy storage technologies, supported by intelligent power conversion systems and energy management platforms, play a key role in future railway energy optimisation. While onboard batteries are often associated with replacing diesel operation on non-electrified lines, their potential applications are much broader. They can support regenerative energy absorption, substation load reduction, peak shaving, emergency resilience, station energy hubs, and integration with surrounding e-mobility ecosystems. In many cases, storage systems can also help defer or reduce expensive infrastructure upgrades by complementing ageing substations and existing power supply systems.

Going forward, we believe the industry needs more opportunities to demonstrate and validate these technologies not in isolation, but as integrated urban mobility and energy solutions.

POLIS: How can regenerative energy be integrated with wider city energy ecosystems?

MS: In the future, integration with the wider city ecosystem will become essential rather than optional.



**Station Energy Saving Inverter (S-EIV)
developed by Mitsubishi Electric**

Mitsubishi Electric

Regenerative energy is generated instantaneously, and railway systems alone cannot always absorb it efficiently. This makes coordination with stations, nearby buildings, energy storage systems, and urban energy networks increasingly important.

This is not only about energy efficiency: In Europe, the concept of 'dual use' is gaining relevance. Stations can, for example, function as emergency shelters and resilience hubs during blackouts or disasters. By integrating Energy Storage Solution (ESS) technologies and regenerative energy systems, they can maintain an essential power supply even in emergencies.

Beyond resilience, stations should also be connected with surrounding e-mobility ecosystems. Integration with EV charging, e-bikes, and electric buses can transform stations into urban energy hubs. As stations become more active and multifunctional, they attract people,

businesses, and services, contributing directly to urban revitalisation. We believe stations should no longer be viewed simply as transport facilities, but as platforms for creating urban value.

POLIS: Mitsubishi Electric invests heavily in simulation and digital twins. At what point does simulation move from being a design and testing tool to something that actively shapes operational decisions?

MS: Simulation evolves from a design tool into an operational decision-making tool when it becomes connected to real-time data and AI. The objective is not only to analyse data, but to understand and optimise the behaviour of real-world infrastructure, vehicles, energy systems, and operations.

The introduction of AI will further accelerate the shift. Equally important is the accumulation and sharing of case studies across different cities and transport modes. Successful experiences from railways, buses, ports, and airports can significantly speed up decision-making by governments, municipalities, and transport authorities.

While cities differ in size, budget, and resources, many of their core challenges are shared: decarbonisation, equitable access to public transport, and improving quality of life. For that reason, the industry should move toward open, accessible platforms where stakeholders can access knowledge, evaluate solutions, and learn from proven experience regardless of organisational scale.

In the future, this may evolve into marketplace-like platforms offering access to solutions, funding schemes, Proof of Concept (PoC) examples, KPIs, implementation results, and operational best practices. This would reduce the need for each city to start from scratch, significantly accelerate deployment, and help smaller or resource-constrained cities access expertise more easily.

POLIS: Stations are increasingly evolving beyond transport nodes into multifunctional urban hubs. Where do you see the greatest opportunities for innovation in station environments, and how can rail technology providers help cities unlock their wider value?

MS: Transit-oriented development around stations is already well established globally. However, levels of safety, convenience, and quality still vary significantly by country and region. Japan illustrates how stations can function not only as transport nodes, but also as centres for commerce, resilience, public services, and community life, demonstrating how transport infrastructure can become a catalyst for long-term economic activity.

As station value increases, so does the value of the surrounding area: they become magnets for people, businesses, services, and investments, contributing to long-term urban revitalisation.

Technology can further enhance this role. Energy management systems and passenger flow analysis can turn stations into resilient urban energy hubs, supporting emergency functions during disasters or power outages, while also optimising energy consumption in normal conditions. These same systems can improve in-station services and commercial experiences, improving convenience and attractiveness for passengers and local communities. Better integration of mobility data and operational systems can evolve Park & Ride concepts and strengthen last-mile connectivity through shared mobility, e-bikes, e-buses, and other urban transport services.

Going forward, stations will increasingly integrate energy systems, resilience functions, Mobility-as-a-Service (MaaS) connectivity, real-time crowd management, and commercial as well as public services into a single urban platform. This cannot be achieved by infrastructure managers or railway operators alone: it requires collaboration

between local governments, railway companies, infrastructure managers, private partners, and mobility providers.

We believe the most sustainable approach is one where all stakeholders, including passengers and local communities, share in the long-term value created through coordinated development.

POLIS: You operate globally, including in Asia, North America, and Europe. Where do you see the biggest differences in how innovation is deployed in rail systems? Are there practices from outside Europe that could realistically be transferred, or are governance factors the main barrier?

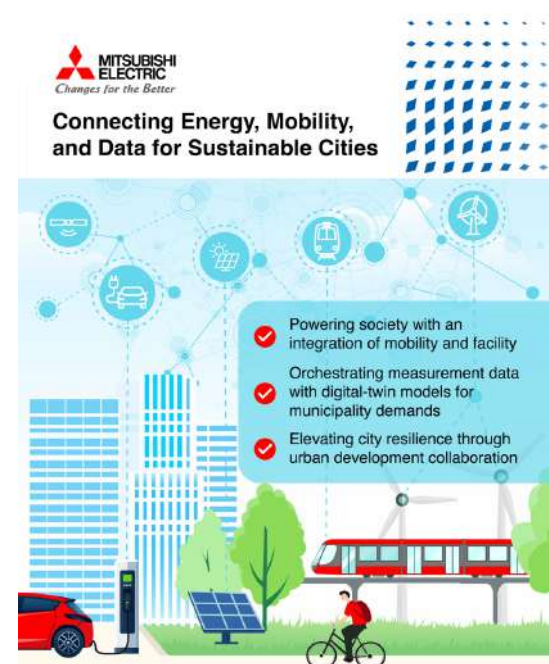
MS: The European market has a strong preference for proven solutions. Even when technologies clearly offer advantages, deployment often requires PoCs, pilot projects, or long validation periods if there is no European reference case. This reflects the railway sector's emphasis on safety, reliability, and public accountability, but it can slow adoption.

Europe is also not a single market: each country—and often each city—differs in operational conditions, regulations, procurement structures, and political priorities, which further increases complexity. As a result, technologies that could deliver societal benefits may take longer to scale. This is why closer collaboration between public-interest organisations such as POLIS or the Union of the Baltic Cities and private-sector companies is important. By combining municipal problem awareness with technical capability and innovation from industry, it becomes possible to reduce risk while accelerating social and environmental impact.

In most cases, successful deployment in Europe requires phased introduction, collaboration with local partners, and evidence-based implementation rather than purely technology-driven rollout.

Promotional flyer for Mitsubishi Electric

Mitsubishi Electric





*Liverpool Station in
London, United Kingdom
William Perugini, Shutterstock*

POLIS: Rail systems are long-lived assets, often involving decades-long relationships between cities and suppliers. How do you build collaborative and long-lasting partnerships without creating lock-in?

MS: The key is maintaining fair and transparent technical evaluation. While localisation is increasingly emphasised for economic security reasons, excessive localisation can itself create lock-in and limit access to necessary technologies.

At the same time, the sector faces geopolitical, economic, supply-chain, and industrial capacity constraints, making it harder to ensure consistent support across all regions. Excessively strict domestic sourcing requirements can, in some cases, risk undermining continuity of essential public transport services. Traditionally, various risk mitigation approaches have been applied, such as second sourcing and obsolescence strategies, but these can sometimes increase cost and delivery time due to regulatory and certification requirements, including homologation processes.

Safety, reliability, and passenger comfort remain the highest priority, but procurement frameworks should be flexible enough to avoid structural lock-in. Evaluation should also go beyond Capital Expenditures (CapEx) and include lifecycle performance, energy efficiency, maintainability, resilience, and data-driven value creation.

Greater data sharing and more flexible regulatory frameworks are also needed to enable continuous upgrades, retrofits, and functional improvements across asset lifecycles.

Ultimately, trust in public transport depends on the ability to provide reliable alternatives and flexible technical solutions even as conditions change. We see this combination of engineering capability and problem-solving as one of the most important expectations for future technology providers.

POLIS: If you could remove one layer of complexity from today's urban rail systems to accelerate innovation, which would it be, and why?

MS: If I could remove one layer of complexity from today's urban rail systems, it would be the fragmentation between stakeholders, responsibilities, and value creation structures.

In many cases, infrastructure managers, operators, local authorities, and private companies are separated not only institutionally, but also by incentives, data ownership, investment priorities, and long-term objectives. While these structures were often introduced for transparency or competitiveness, they can slow innovation, hinder system optimisation, and delay technologies that could deliver clear social and environmental benefits.

At the same time, urban public transport systems still rely heavily on public funding and are often viewed primarily as cost centres rather than platforms for creating wider urban value.

I believe future urban rail systems require a more integrated approach, in which public authorities, operators, infrastructure managers, and private-sector companies work together not only to maintain infrastructure, but also to create commercial, energy, data, resilience, and social value across mobility ecosystems.

For example, stations can evolve into urban energy hubs, resilience centres, commercial platforms, and connectors for last-mile mobility. If the value created through these activities is reinvested into operations, service quality, and urban development, innovation can become more financially sustainable and socially impactful.

In short, reducing fragmentation between stakeholders and enabling more collaborative, value-oriented ecosystems would, in my view, be one of the most effective ways to accelerate innovation in urban rail.

CYCLING LIFELINES

Leveraging cycling networks for regional resilience

Regional cycling networks act as a force multiplier to public authorities working to decarbonise transport, while also offering a highly sustainable way to harness the benefits of tourism. Moreover, regional transport strategies, combined with **cycling tourism** initiatives, can help alleviate challenges linked to transport poverty and depopulation.

On a Friday afternoon, in November last year, I shut down my laptop and wheeled my bike outside for a long ride from Brussels to the port of Calais. Usually, planning a route such as this is prone to going awry with missed turns, unforeseen deviations, or unsuitable way-types; instead, I rolled into Calais precisely at the predicted hour, having spent the past twelve hours almost entirely on segregated cycle paths cutting through the Flemish countryside to the French coast. The ease with which I got from A to B whilst bypassing unsafe traffic conditions was a real vindication of the cycle network as a whole in this corner of Europe.

Although not entirely perfect, an entire region is being stitched together by cycling-specific infrastructure, and the results are worth spreading.

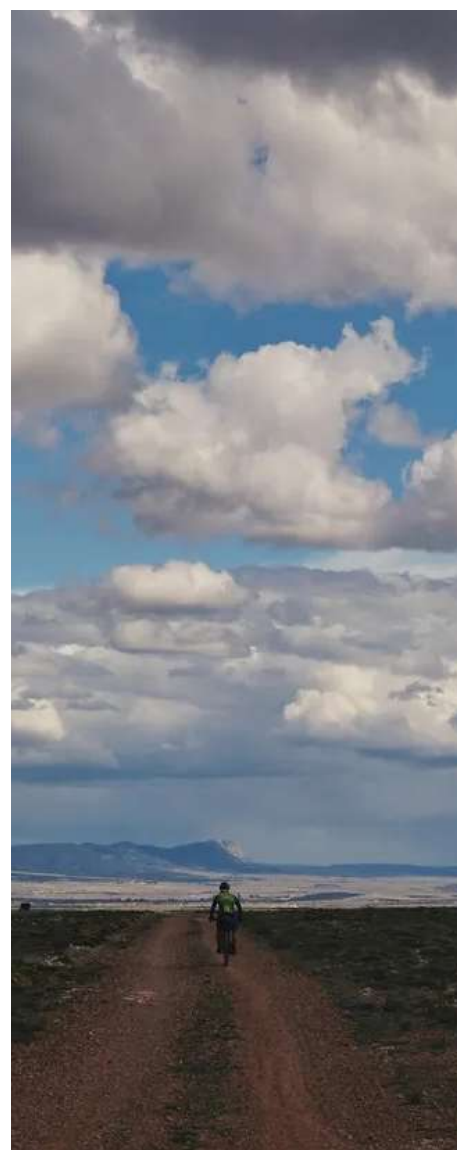
Cycling has been on a journey these last 6 years. It started with a pandemic-induced bang, as health advice encouraged citizens to avoid public transport and cities were suddenly car-free. In the years since, the cycling industry has had to struggle to first meet this demand, navigate supply chain disruptions, and then the slowdown in consumer spending after 2022. Politically, this renewed emphasis on cycling as a solution culminated in the [European Declaration on Cycling in 2023](#), and efforts to solidify cycling's place in the European modal split continue with the recent EU fuel-saving recommendation to replace trips with walking and cycling when possible.

Despite industry struggles, the data on daily cycling is trending positively. Cities such as Paris and London have made great strides to incorporate cycling as a fully-fledged transport mode, and everyday commuters have been provided with greater choice than ever before with the rise of micromobility services and their fleets of e-bikes. Time and time again, when strikes and disruptions affect transport networks in cities such as Brussels or London, it is the humble bicycle that comes to the rescue, but the bicycle is not solely an urban mobility solution.

Much like the COVID-cycle boom brought bicycles to the streets of many European cities, it also grew in appeal across entire regions and rural areas. Sometimes for daily errands, other times for holidays and of course for sport, but always for getting from A to B reliably and enjoyably.

WRITTEN BY
BEN LUOMA

Cycling in the Montañas Vacías
Ernesto Pastor, Montañas Vacías



Across Europe's regions, cycling is here to stay: it is unlocking new lifestyles for underserved communities, providing a lifeline to left-behind places and building a new tourism industry that maximises benefits and minimises negative impacts for host regions.

In Flanders, the commitment to 'More and better cycling' as a solution is very real and revolves around four concrete objectives:

1. Cycling in Flanders is inclusive
2. Safe and comfortable cycling routes
3. Hoppin points (multimodal hubs)
4. Bicycle transport in logistics

Connecting the dots

It is perhaps no surprise that one of the spiritual homes of cycling, the Region of Flanders, is leading the way in developing regional cycling. Their policy is ambitious: 30% of all trips to be made by bicycle and zero cycling fatalities on Flemish roads by 2040. Importantly, they emphasise ensuring a seamless transition from cycling to other sustainable transport modes, which will ideally result in an ever-greater number of Flemish people jumping on their bikes without a second thought.

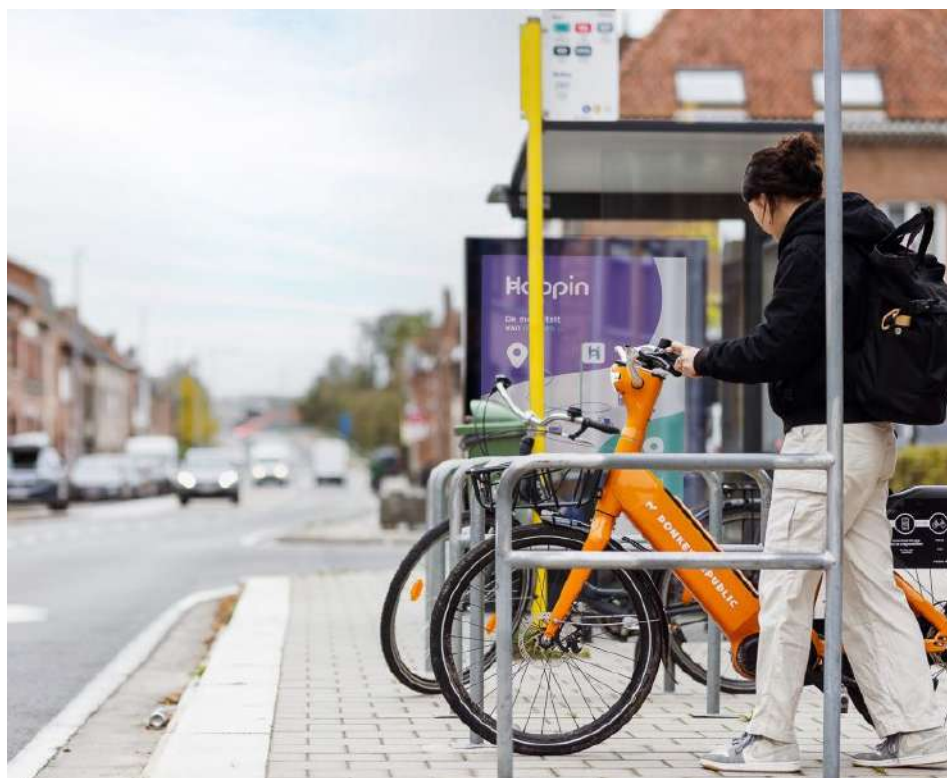
Home to some of professional cycling's biggest events, the region and its second-largest city, Ghent, also carried the political torch for cycling, following the European Declaration on Cycling in 2023, when they hosted the biggest-ever edition of the Velo-city Conference in 2024.

Beyond the cities, where motor traffic speeds are often higher, ensuring that cycle routes are safe and comfortable is of paramount importance. As I experienced, Flanders already has a well-developed network of Fietsnelwegen, long-distance segregated cycle routes connecting the major residential centres with schools and employment zones, and this network continues to expand—as does the share of e-bike commuters in Flanders, providing evidence of its success.

Not everyone has to cycle the whole way, by focusing on developing the 'Hoppin' points, the bicycle instead becomes the ideal feeder system into an increasingly efficient and accessible public transport system. It might seem basic, but even just ensuring the presence of bicycle racks at a rural bus stop is all that is needed to increase the catchment area of a bus route, improve rural youth mobility, and discourage dependence on private cars.

Multimodal Hoppin point in Flanders, Belgium

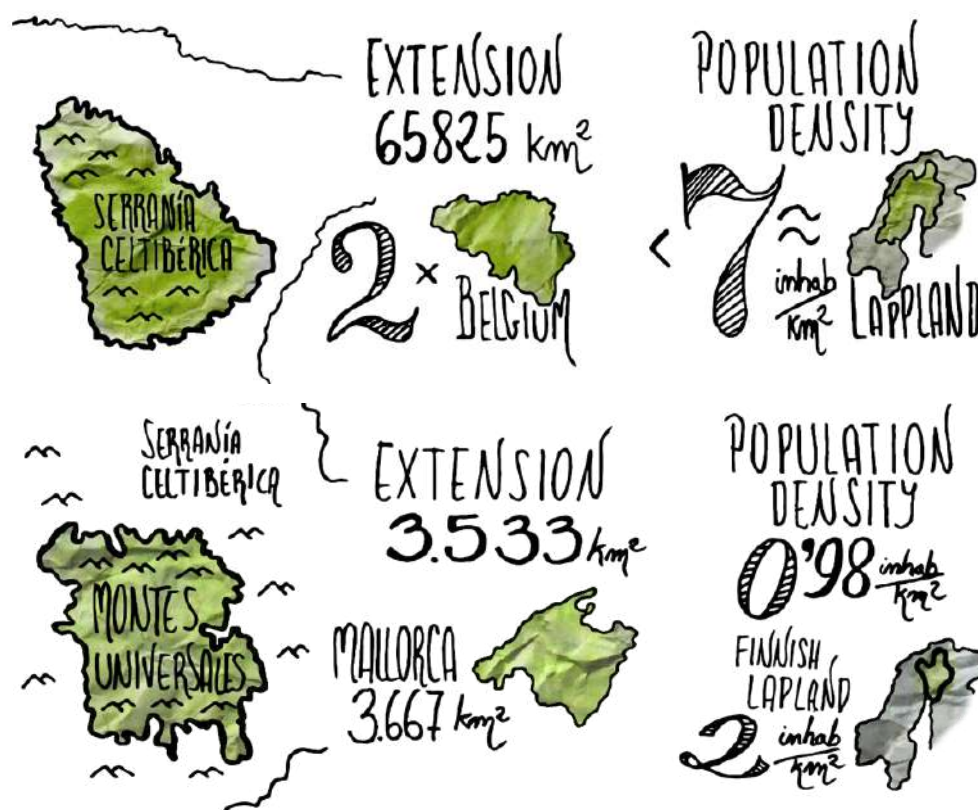
Hoppin



Business or pleasure

Cycling in Flanders is a cross-government collaboration between numerous departments from the Agency for Roads and Traffic and the Flemish Waterways Agency, to the Flemish Cycling Embassy and VISITFLANDERS. The latter is crucial in building resilience within the Flemish rural economy and employs the bicycle as the ideal tool to support the region.

Under 'Flanders: The ultimate paradise for every cyclist', various themed cycling routes are recommended for all ages, abilities, and preferences, along with resources to aid with accommodation planning and more. The infrastructure used by tourists is the same as that used by commuters; this dual use is precisely why cycling reinforces rural resilience.



The 'Spanish Lapland'

Ernesto Pastor, Montañas Vacías

'Teruel Exists!'

The population density in rural Flanders is, admittedly, towards the higher end of the scale for rural regions, with the province of West Flanders, through which I cycled that November night, averaging around 391 people per km². At the other end of the scale, with a mere 28.6 people per km², lies the Serranía Celtibérica—a place 'twice the size of Belgium, with a population density similar to Lapland or the Scottish Highlands', as described on the Montañas Vacías project website.

Teruel, a province within this region, has been on the frontline of rural depopulation and transport planning neglect since it began to fall behind the rest of Spain in the 1990s. Indeed, there is a [running joke in Spanish media](#) that Teruel does not, much as a mythical place, exist at all. The campaign group, 'Teruel Existe' (literally, 'Teruel Exists'), has been fighting for the province's right to transport connections and redevelopment funds since its founding in the 1990s. In recent years, a project has been established to play to the region's strengths as a mythical place of natural beauty and exploration to capture some of the benefits of the bicycle boom.

The [Montañas Vacías Project](#), or Empty Mountains, is a volunteer-built cycling network of farm tracks and trails criss-crossing the sparsely populated yet incredibly beautiful region of Teruel, a former mining area with left-behind villages and an ageing population. The initiative seeks to attract adventure cyclists by creating what its founder, Ernesto Pastor, describes as a 'story' in motion, where 'the traveller feels like the protagonist, and has a role in the history of the region and its struggle with depopulation'.

In practice, the project connects local businesses and residents who provide [services](#) and authentic experiences along the route, while these service points increasingly become community hubs where people gather, engage, and welcome travellers passing through.

Led by Pastor, a local to the area, the network develops train-accessible cycling routes that link natural landscapes, historical sites, and remote villages and hamlets. Each route tells a story of the landscapes and peoples who inhabited it, with the area also gaining recognition as the [first official 'Quiet Trail'](#) from [Quiet Parks International](#).

Even in the absence of traditional funding, cycling has become a lifeline for rural communities in Teruel, and sustainable tourism steadily expands with each passing year.

Building on this success, Teruel's government has implemented the Turicleta self-service e-bike sharing system as yet another way to attract visitors to the region. The app and self-service secure kiosks make it a viable service offering and an entry point for promoting cycling tourism to a wider audience who do not necessarily travel with their own bikes. Furthermore, this digital-first approach is replicated by the award-winning Red de Pueblo (Village Network) app, which connects residents to share journeys and ask for favours and mutual assistance where services may be lacking.

The lack of communication routes and public transport connecting the territory has long been a concern for territorial advocacy movements like Teruel Existe. Antonio Abad, Deputy Delegate for Assistance to Municipalities and European Programmes, captures this shift in perspective, noting that the absence of major infrastructure has allowed greenways and rural paths to emerge as transport alternatives and 'gateways to unspoiled nature, the tranquillity of trails, the mosaic of crops, the dark and clear skies, and the wide horizons'. In this reading, what might be elsewhere be considered a deficit becomes a defining asset—one that public authorities have the responsibility to 'recognise, protect, and actively promote' as a driver for development and long-term regional future.

Echoing this sentiment, cycling infrastructure and active mobility investments are one of the best value-for-money returns in transport policy. According to the European Cyclists' Federation, one mile of a high-quality segregated bicycle lane costs 240 times less than the same length of conventional highway and experiences significantly less wear and, as a result, requires less subsequent maintenance. Further developing trails will only benefit the region and locals, avoiding the pitfalls of

mass tourism and preserving 'Spanish Lapland' for all to enjoy.

Starting with cycling tourism routes and the local economy benefits that they bring can be the first step towards building a wider network inspired by the Netherlands and Flanders. Ultimately, the goal needs to be for anyone, whether in cities or rural regions, to be able to mount their bicycle and be confident in knowing that they can ride safely from A to B.

***From top to bottom:
Bikepacking in the
Montañas Vacías***

Ernesto Pastor, Montañas Vacías

***Sign indicating the Ruta
de los Chopos Cabecero***

Ernesto Pastor, Montañas Vacías



CURRENT OF CHANGE

Europe aims to become climate-neutral by 2050. For this, **electrifying road transport** is essential, but requires public authorities to adopt integrated planning strategies, aligning electromobility and charging with their local sustainable mobility, parking, and energy policies. How are cities like **Madrid** overcoming this challenge?

POLIS: Madrid is committed to becoming climate-neutral by 2030. Your city also has ambitious air quality policies in place, such as the Low Emission Zones (LEZs). Were these the driving factors that stirred your city towards clean and zero-emission mobility? Were there other factors?

María ds é Aparicio Sanchiz: In Madrid, the commitment to climate neutrality by 2030 and air quality policies have clearly been major drivers, but they are not the only ones. The city's strategy is framed by the Madrid 360 Environmental Sustainability Strategy and the Sustainable Mobility Plan Madrid 360,

INTERVIEW WITH
MARÍA DS É APARICIO SANCHIZ

ELABORATED BY
PEDRO GOMES

Digital Variable Message Sign indicating Low Emission Zone or Zona de Bajas Emisiones (ZBE) in Madrid, Spain

Kristof Bellens, Shutterstock





Electric charging station at service station in Madrid, Spain
Repsol, Shutterstock

which set a clear direction: reducing emissions, implementing LEZs across the municipality, and prioritising public transport and active mobility.

Other factors are also important: a strong public demand for cleaner air, a need to maintain economic competitiveness, the ongoing renewal of logistics and municipal service fleets, and the opportunity to channel European funding into charging infrastructure and transport modernisation. The transition to electric mobility is not only about climate policy, but also about improving urban quality of life, supporting economic transformation, and fostering technological innovation.

POLIS: What strategic actions is your city taking to accelerate the electromobility transition?

MJAS: Madrid is accelerating the transition through a combination of planning, regulation, and infrastructure deployment. First, the Madrid 360 Sustainable Mobility Plan integrates electrification measures with demand management and the prioritisation of public transport.

Second, the expansion of the LEZs progressively restricts the most polluting vehicles and sends a clear signal to the market. Third, the city is electrifying public fleets and urban services, including city buses, municipal fleets, street-cleaning,

and waste-collection services, while also expanding shared mobility systems. Fourth, Madrid is deploying public charging points, facilitating private investment, and integrating charging infrastructure into park-and-ride facilities and multimodal hubs, coordinating with the electricity grid to avoid bottlenecks.

In addition, the city is developing the Madrid 360 Mobility Hubs, which bring together charging services, smart parking, and shared mobility solutions to enable zero-emission travel and improve intermodality across the city. Finally, to address urban logistics, Madrid is improving loading and unloading areas and promoting last-mile distribution through the use of light electric vehicles and micrologistics solutions.

POLIS: How hard is it to obtain long-term political commitment for this?

MJAS: Securing it is always challenging because mobility transitions extend beyond electoral cycles. In Madrid, we seek to ensure continuity through strategic instruments such as the Madrid 360 Environmental Sustainability Strategy and the Madrid 360 Sustainable Mobility Plan, developed through public consultation and contributions from political groups, businesses, and civil society.

The key is to build consensus around shared objectives, such as environmental protection, public health, economic competitiveness, and road safety, rather than around political labels. We see electric mobility as one element within a broader mobility ecosystem, where the priority remains reducing reliance on private cars while strengthening public transport, cycling, and walking. Within that framework, the electrification of public fleets is particularly strategic.

Evidence also plays an important role. Today, Madrid records the lowest NO₂ levels in its recent history, which helps sustain political commitment because citizens can see the tangible results of these policies.

POLIS: What policies is Madrid implementing to ensure the mobility transition is socially fair and does not increase inequalities?

MJAS: In Madrid, we are aware that the transition could generate inequalities if it is not managed with careful attention to the needs of the entire population. For this reason, LEZs are accompanied by a gradual implementation process, support for professional fleets, incentives for public transport use, and alternatives such as the bicycle-sharing system, car-sharing services, and park-and-ride facilities connected to the public transport network.

At the local level, we act in three ways:

- Design policies in collaboration with stakeholders and affected sectors to ensure they respond to real needs.
- Ensure that outer districts benefit from high-quality public transport services and adequate charging infrastructure.
- Target financial support to those who need it most, including small businesses, self-employed workers, and vulnerable households.

In addition, Madrid offers grants for low- and zero-emission vehicles and subsidies for installing home and residential charging points, helping households participate without significant financial barriers.

These measures are complemented by free bus lines within the Special Protection Low Emission Zone (ZBEDEP) Centro, providing accessible alternatives to private car use. Finally, the expansion of BiciMAD across all districts further improves access to sustainable mobility options.

POLIS: What progress has Madrid made in improving air quality and advancing sustainable mobility?

MJAS: There are several noteworthy achievements. First, there has been a clear and measurable improvement in air quality.

In 2019, Madrid was close to facing European Union sanctions due to repeated exceedances of NO₂ limits. Today, the city has achieved four consecutive years of full compliance with the European Ambient Air Quality (AAQ) Directive and records the lowest NO₂ levels since monitoring began.

This progress results from a combination of measures, including LEZs, fleet renewal, and stronger public transport. Municipal fleets, taxis, and ride-hailing services have played a key role. The EMT Madrid bus fleet has made the city the first European capital to fully eliminate diesel from its public buses, alongside growing adoption of private electric cars, delivery vans, motorcycles, and other light vehicles.

The city has also established a coherent strategic framework through the Madrid 360 Environmental Sustainability Strategy and the Madrid 360 Sustainable Mobility Plan, ensuring consistency across policies. Finally, these changes reflect a broader cultural shift, as citizens increasingly recognise sustainable mobility as essential for public health, competitiveness, and quality of life.

Madrid demonstrates that environmental sustainability can drive economic sustainability, with clean mobility investments supporting urban modernisation and long-term growth.



María José Aparicio Sanchiz

General Mobility Coordinator
Madrid City Council

BiciMAD electric rental bikes

EduardoRM, Shutterstock



GOVERNANCE AND INTEGRATION

The Governance and Integration pillar focuses on the core challenges local and regional authorities face when designing policies to accelerate sustainable mobility, enhance equity, protect public interest, and manage emerging innovations.

The Governance & Integration Working Group tackles key challenges faced by local and regional authorities when shaping policies to improve mobility at the urban, suburban, and rural levels, particularly in regard to accelerating the shift to sustainable and equitable mobility, and steering private initiative to address and advance collective needs and public goals. Its discussions focus on shared mobility, Mobility as a Service (MaaS), public transport governance, workforce adaptation, and tackling transport poverty.

The Urban Freight Working Group aids cities and regions in developing sustainable urban logistics via knowledge exchange, partnerships, and innovation. It addresses challenges such as last-mile delivery, zero-emission zones, and freight planning digital tools. Collaborating with ETP-ALICE and EU projects, the group fosters public-private dialogue and supports decarbonisation strategies to reduce pollution, congestion, and improve freight efficiency.

The Small & Medium-Sized Cities Platform brings together smaller cities within POLIS and gives them a dedicated platform to discuss governance issues, challenges, and solutions that are inherent to their shape and size. It focuses on key topics such as population growth, developing research and innovation ecosystems, tourism and leisure mobility, and implementing TEN-T regulation specifically for SMCs.

The Regions Working Group brings together regional and metropolitan authorities to address transport challenges across urban, suburban, and rural territories. It focuses on policy coherence, interconnectivity, and sustainable mobility at a regional scale. Key priorities include transit-oriented development & housing, bridging urban-rural divides, cross-border mobility, the role of regions in TEN-T regulation, and regional public transport and DRT solutions.

The Capitals Working Group supports capitals cities and regions by providing a forum for peer exchange on their unique mobility challenges, such as heavy traffic, major events, and security concerns. It connects technical experts and political leaders to develop shared solutions focused on decongestion, decarbonisation, air quality, tourism management, and safety.



STRIVING TOGETHER

WRITTEN BY
JORGE MANZO GARCÍA

From top to bottom:
***Artwork 'We Ain't Getting Nowhere
Unless We Go Together'***

Rozalina Burkova for OBI x Fine Acts

Artwork 'Road Of Togetherness'

Lina Safstrom

Competitiveness, cohesion, and climate are usually treated as competing priorities. The soon-to-be published POLIS policy paper **'The Climate & Cohesion Competitive Transport Cocktail'** argues that they are one agenda, and that local and regional mobility is what holds them together.

'Competitiveness' has become Europe's policy watchword, but what does it actually require, and how do we ensure we get it right? An upcoming POLIS policy paper changes the narrative around familiar EU buzzwords like 'competitiveness', but also 'climate action' and 'cohesion'.

Rather than competing priorities to be traded off against one another, these objectives are mutually reinforcing, shaped by the same underlying urban and regional dynamics, with mobility acting as the system that connects them.

Back to the root

The word doing the heavy lifting in today's policy debates deserves a closer look. 'Competitiveness' comes from the Latin 'competere', which originally meant 'to strive together'.



Cooperation came first; the emphasis on rivalry came later.

That older meaning is more than a curiosity. Ask any successful team and the same truth emerges: to compete, a team must first be in shape, and this means every member training together, building a shared ambition, and making the most of the whole group. A team is a system, defined not by a single part, but by how those parts interact with each other.

This lens applies exactly to the European economy and to its transport. For the system to work, every actor must collaborate to ensure it benefits everyone. This also implies that improving any single part of it requires advancing on the others too.

A system, not a sector

This is why climate, cohesion, and competitiveness are too often pursued through separate policy logics—climate treated as a cost, cohesion as compensation, and competitiveness as a race for short-term efficiency. This separation is itself the problem.

The interdependence is measurable. In terms of environmental impact, transport accounts for roughly a quarter of the EU's greenhouse gas emissions and is one of the hardest sectors to decarbonise—without progress in sustainable mobility, climate targets become far harder to reach.

Congestion and inefficient urban mobility cost the European economy an estimated €180 billion every year, more than 1% of EU GDP. And when mobility systems fail, the costs fall unevenly: low-income households, rural communities, younger and older citizens, and those without a car carry the heaviest burden.

Development has never been evenly distributed across space. Historical infrastructure, industrial specialisation, and accessibility patterns create path



dependencies that shape how different places absorb change. Around 6% of EU regions face particularly high socio-economic exposure to the low-carbon transition, and these are often territories already facing structural disadvantage. Accelerating the transition without addressing these territorial conditions risks preventing some parts of Europe from taking part in the economic and climate transformation, leaving them behind.

From trade-offs to synergies

Europe's competitiveness will not be determined by how well it chooses between climate ambition, social inclusion, and growth, but by whether it can align them.

The evidence points in the same direction. Well-designed climate action can strengthen economic performance, improve energy security, and reduce exposure to external shocks. The success of this, however, depends on where investment goes, who can access it, and whether territories can turn innovation into broad economic participation.

In that sense, cohesion is not only a question of fairness, but also of market capacity. Territories marked by weak accessibility or rising inequality struggle to

Pavilion road in Chelsea and Kensington

Mareks Perkons, Shutterstock



generate the workforce participation, local demand, and institutional trust that innovation needs in order to scale.

The upside is significant. An analysis by EIT Urban Mobility suggests that urban mobility transitions could generate up to €177 billion in net societal and economic benefits by 2030, with returns exceeding €3 for every euro invested under favourable conditions. But capturing that value depends on connecting the three agendas, not running them in parallel.

A territorial transition

The EU's climate and digital transition is therefore also a territorial transition. Reframing where this shift happens is therefore the first step to address development gaps. And who brings the three agendas together on the ground? Local and regional authorities. Their strategic role takes three forms.

As builders, cities, and regions create the physical conditions for economic participation. A prime example of this is the Grand Paris Express, a megaproject that aims to add over 200 km of automated metro and 68 new stations in the Île-de-France region. It goes beyond transport: by connecting peripheral territories to jobs, universities and hospitals, it is designed to integrate labour markets and reduce territorial inequality across the wider metropolitan region, ultimately bringing some two million additional residents within reach of high-capacity transit.

As market shapers, they coordinate the actors, institutions, and investments that move a whole market in a new direction. Electric buses are an example of a fossil-free alternative that has been in the market for a long time, but the decision to scale the local bus fleets lies in the hands of public authorities. Madrid's municipal transport operator, EMT, made that decision through a succession of procurement cycles, each one pulling the market further in a single direction. In December 2022, the city retired its last diesel vehicle, becoming the first major

European capital, by population and fleet size, to operate an exclusively low- and zero-emission bus network. The transition did not stop there: backed by a €50 million European Investment Bank loan covering 250 electric and 10 hydrogen buses, and by two further tender rounds launched at the end of 2025, EMT is on course for a fully electric fleet by 2030.

As innovation drivers, they act as first deployers, lead customers, and real-world testbeds. In September 2025, Leuven became the first city in Belgium to run autonomous shuttles in live urban traffic. Two WeRide Level 4 vehicles now operate Line 16, a four-kilometre route connecting Leuven Station to Heverlee, open to passengers since January 2026. This shows that innovation only becomes meaningful when it can be translated into accessible and useful services that respond to real public needs. Its wider deployment depends on public authorities being able to frame innovation around collective goals, ensuring that technological development is guided by accessibility, inclusion, and long-term societal value rather than technology alone.

Letting cities do their job

The argument leads to a clear conclusion. The regions that succeed in the next phase of Europe's transformation will not simply be those that decarbonise, grow, or innovate fastest. They will be those who connect these transitions and translate them into tangible opportunities across their territory.

To do that, cities and regions need to be recognised for what they already are: not passive recipients of transformation, but the platforms through which it becomes possible. That recognition in funding, in competence, in trust, is, in the end, what the paper asks for.

From top to bottom:

Construction site of Metro line 18, Grand Paris Express, to the Orly Airport, Paris, France

Alphacit Newim Reporter, Shutterstock

New e-buses in Madrid, Spain

Pedrojgarcia, Shutterstock

The autonomous public transport shuttles in Leuven, Belgium

Alessia Giorgiutti, POLIS

LEADERSHIP THAT GETS IT DONE

Lessons from Zagreb for Europe's mobility leaders

Leadership Summit attendees using Bajs bikes during cycling site visit
Hrvoje Baudoin

WRITTEN BY
CARLOTTA INSERRA

Europe has no shortage of bold mobility ideas. But at the **POLIS Leadership Summit** in **Zagreb**, the focus shifted from innovation to implementation, exploring how governance, institutional capacity, and long-term continuity are the real drivers behind sustainable urban mobility.

Innovations such as autonomous vehicles, artificial intelligence, digital twins, and connected infrastructure all promise to reshape how people move through cities and regions. Yet when mobility leaders gathered in Zagreb for the fifth edition of the POLIS Leadership Summit, the conversation centred around a more immediate question: how can local authorities get things done?

This reflects a growing reality across Europe: most cities already know what a more sustainable, efficient, and inclusive mobility system should look like. The challenge is no longer a lack of ideas or technologies, but the ability to implement them consistently and over time.

Hosted by the City of Zagreb, the Summit brought together leaders from across government, industry, research, and civil society to discuss how Europe can build transport systems that remain sustainable





**Group photo during the
Leadership Summit in Zagreb**

Hrvoje Baudoin

an increasingly uncertain world. Overall, the discussions pointed towards an important shift in thinking. The future of mobility will depend less on innovation alone, and more on governance, coordination, and long-term delivery capacity.

reconstruction with long-term investments in modernising ageing infrastructure, improving public services, and advancing its climate ambitions. Rather than treating these as separate priorities, Zagreb has increasingly positioned mobility as the thread holding them together.

In other words, the central question is no longer ‘what should cities do about sustainable mobility?’, but ‘what does it take to actually make it happen?’

Zagreb: A city rebuilding through mobility

Zagreb offered a fitting backdrop for this conversation to take place. Over the past several years, the city has been quietly building the foundations for a different mobility future. It is in the midst of one of the largest public investment cycles in its recent history, balancing post-earthquake

One of the most visible examples is the capital’s investment in the largest tram renewal programme in decades, procuring 40 new low-floor trams through a combination of EU and local funding. The first vehicles have already entered service and are gradually replacing ageing rolling stock. The result is not only improved reliability and accessibility, but also a gradual modernisation of the entire system. Alongside this, Zagreb is also investing in 62 new electric buses and preparing new tram infrastructure projects, including extensions along Heinzelova and Sarajevska avenues. These are all part of a broader effort to strengthen the capacity of public transport and reduce reliance on private cars. But Zagreb’s ambitions go beyond this: through the

expansion of the Bajs public bicycle-sharing system, designed around public transport hubs and key destinations across the city, Zagreb is seeking to strengthen multimodal travel and make sustainable transport a more attractive everyday choice.

These investments also sit within a broader vision for urban development. As part of the EU Mission for 100 Climate-Neutral and Smart Cities, the city has developed a Climate City Contract that brings together planned investments across transport, energy, buildings, and urban development to support its goal of climate neutrality by 2030. Within this framework, mobility is not simply a transport policy, but a tool for creating a healthier, more resilient, and more liveable city.

Low-floor tram in Zagreb, Croatia

NGCHIYUI, Shutterstock



The implementation challenge

The discussions during the Summit highlighted a key reality facing cities across Europe, which is the gap between planning and implementation. Many European cities and regions already know what they want their mobility systems to look like and how to plan for them, but translating these strategies into sustained delivery depends on a set of conditions that are often less visible than infrastructure or technology, but ultimately more decisive.

One is institutional capacity. Delivering mobility transitions requires coordination across multiple departments and governance levels, including transport authorities, urban planners, political leadership, and financial decision-makers. Where responsibilities are fragmented, implementation slows down or becomes limited to isolated pilots.

Another is continuity. Full mobility transformation rarely fits within electoral cycles. Cities must therefore maintain strategic direction over time while navigating political change, budget constraints, and shifting public priorities. Without continuity, even well-designed plans risk losing momentum.

A third challenge is scaling what works. Many cities have no shortage of pilot projects, demonstrations, and experimental initiatives. The difficulty lies in embedding successful approaches into standard practice, either through procurement systems, planning rules, and administrative routines, so that they become the default rather than the exception.

Governing mobility, managing complexity

The inaugural episode of the POLIS podcast featuring Zagreb Mayor Tomislav Tomašević offered a closer look at what this means in a city context, focusing on the realities of governing a modern European capital and its complexities.

Rather than describing mobility as a standalone challenge, Tomašević presented it as one element of a much wider transformation for the city.

In practice, every major mobility decision in Zagreb, from tram infrastructure to bus network changes or cycling investments, involves trade-offs. These decisions affect how public space is used and how this is received by residents. This makes mobility one of the most politically sensitive areas of urban governance, but also one of the most visible. Changes are immediate, tangible, and often disruptive in the short term, even when they deliver long-term benefits.

This means that for today's leaders, mobility has become one of the most visible expressions of how well cities manage competing priorities. Success depends not only on delivering infrastructure, but also on coordinating across departments, securing long-term investment, and maintaining public trust throughout often lengthy processes of change.

Looking ahead

There is no single blueprint for Europe's mobility transition. Cities and regions differ too widely in geography, governance, political context, and local priorities for one model to apply everywhere.

What emerged from the Summit was instead a shared recognition that successful mobility transitions depend on more than infrastructure projects or technological innovation. They require coordinating complex change, sustaining direction over time, and embedding innovation into everyday administrative practice.

At a time when public debate often focuses on what comes next, the Summit served as a reminder that progress is ultimately measured not by ideas alone, but by their implementation. The cities that will lead the mobility transition are not necessarily those with the most ambitious visions, but those with the strongest capacity to deliver them consistently, under real conditions, for their citizens.



Bajs bike in Zagreb, Croatia
City of Zagreb

DESIGNED TO DELIVER

From mobility planning to implementation

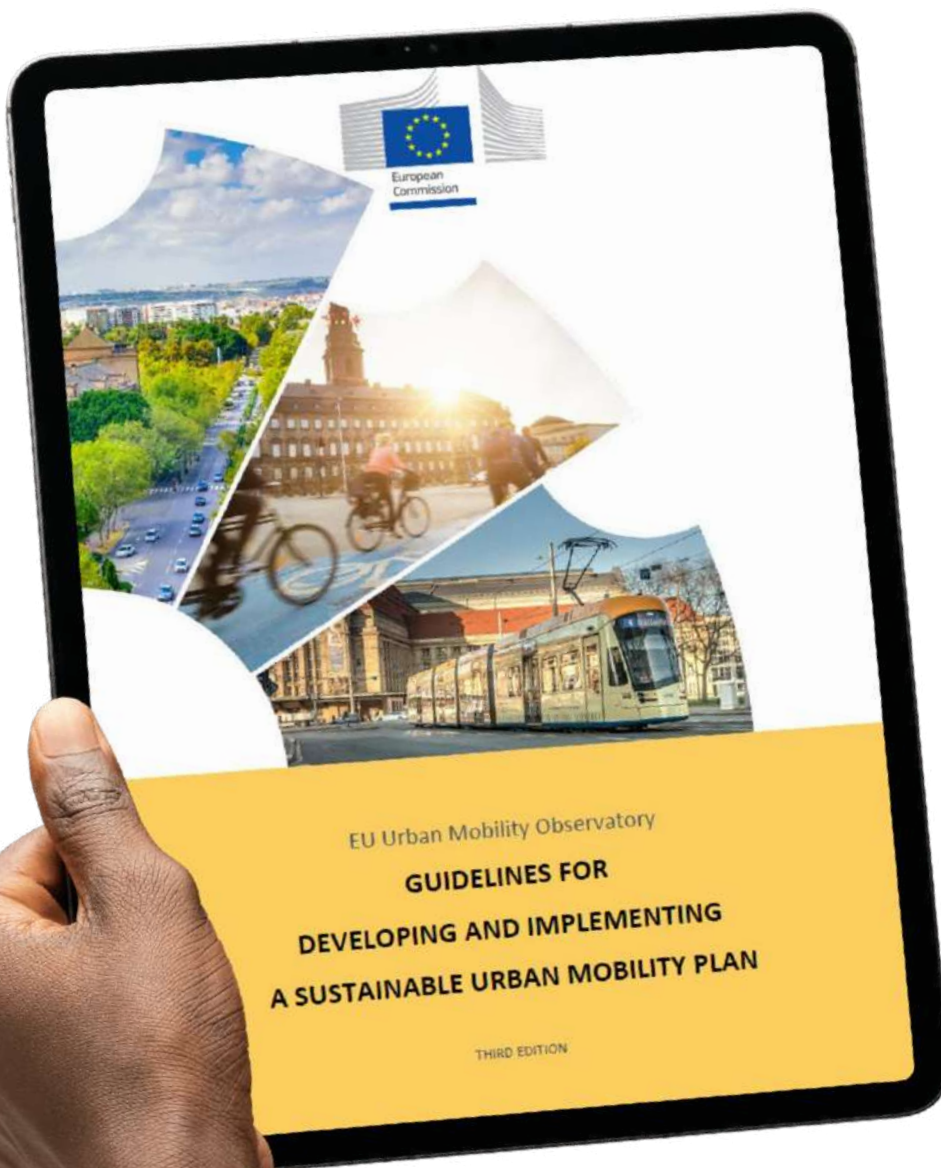
WRITTEN BY
ALESSIA GIORGIUTTI

The publication of the third edition of the Guidelines for developing and implementing a **Sustainable Urban Mobility Plans** marks an important milestone for urban mobility policy in Europe.

13 years after the first SUMP guidelines were introduced, the European Commission has once again updated its flagship methodology to reflect a rapidly changing policy landscape, new societal expectations, and the practical experience accumulated by hundreds of cities that have adopted and implemented Sustainable Urban Mobility Plans.

From writing plans to delivering change

The update comes at a particularly significant moment. Sustainable urban mobility planning has evolved from a voluntary planning approach into a central pillar of European transport policy. Under the revised Trans-European Transport Network (TEN-T) Regulation, 431 urban nodes will be required to adopt a Sustainable Urban Mobility Plan by the end of 2027. At the same time, cities are expected to contribute to climate neutrality objectives, address social inequalities, manage increasingly complex logistics flows and respond to technological change.



*The third edition of the SUMP guidelines
European Commission*

Although the familiar four phases and twelve steps remain unchanged, the third edition reflects a decade of practical experience. It is less concerned with helping cities write plans and more concerned with helping them deliver change. Governance, implementation, monitoring and political leadership feature far more prominently than in previous editions, reflecting a growing recognition that technical solutions alone are rarely the main barrier to smart and sustainable mobility.

Leadership as a game changer

One of the clearest messages running throughout the new guidelines is that successful mobility planning begins with strong political support and a clear sense of ownership among decision-makers. Earlier editions largely focused on planning processes, governance innovation, stakeholder engagement, and technical analysis, but the 2026 update, which incorporates older and newer good practices and examples, places greater emphasis on the institutions and political structures needed to turn ambitions into reality.

This shift mirrors developments seen across Europe. In cities such as London, Groningen, and Ljubljana, strong mayoral leadership has played a decisive role in advancing ambitious mobility agendas. Measures such as road space reallocation, parking reform, low-emission zones, and major public transport investments rarely emerge from technical planning alone, and require political ownership, a willingness to defend long-term objectives, and the capacity to build public support for change.

Budapest offers another perspective on this challenge. Rather than relying solely on individual political champions, the city established regular roundtable meetings that bring together decision-makers from different institutions and levels of government. The result is a more structured approach to cooperation,

helping align priorities and resolve disagreements before they become obstacles to implementation. The example illustrates an increasingly important principle within the new guidelines: successful mobility planning depends on durable governance arrangements rather than isolated planning exercises.

The rise of the Functional Urban Area

The stronger focus on governance is closely linked to another defining feature of the third edition, which is a move beyond municipal administrative boundaries. European cities increasingly operate as metropolitan regions, yet transport planning often remains fragmented between multiple authorities. The updated guidelines respond by placing greater emphasis on the Functional Urban Area (FUA) as the appropriate scale for mobility planning.

Lidija Pavić-Rogošić (ODRAZ) and Dejan Crnek (City of Ljubljana) at #POLIS25

Michiel Ton





Engagement and exchange in Bologna *PUMS Bologna*

Bologna demonstrates what this looks like in practice. Its metropolitan SUMP connects mobility planning with territorial development and logistics, recognising that transport systems are inseparable from broader patterns of urban growth and economic activity. Rather than treating mobility as a standalone sector, Bologna has integrated it into a wider strategic framework for metropolitan development.

A similar philosophy underpins the cooperation models established within the transport regions of Flanders. By creating mechanisms for collaboration across municipal boundaries, these arrangements help coordinate policies that affect daily travel patterns far beyond the limits of individual cities. Together, these examples reflect a growing understanding that many mobility challenges can only be addressed through metropolitan governance.

Neighbourhoods as the building blocks of mobility

Another growing theme throughout the updated guidelines is the increasing attention given to neighbourhood-scale interventions. Rather than focusing exclusively on citywide transport networks, many cities are using circulation plans, superblocks, and low-traffic neighbourhoods to reshape mobility at the local level.

Ghent's circulation plan demonstrates how strategic traffic management can reduce through traffic while improving conditions for walking, cycling, and public transport. Barcelona's superblocks programme similarly reallocates street space from cars to people, creating quieter, safer public spaces while supporting wider mobility objectives. These approaches illustrate how Sustainable Urban Mobility Plans are increasingly translated into tangible changes that residents experience in their daily lives.

Alternative futures

This emphasis on long-term thinking is also visible in the stronger focus on scenario development and strategic foresight. Traditional transport planning often relied on forecasting future demand and responding to projected growth: the updated guidelines encourage cities to take a more proactive approach by exploring alternative futures and identifying pathways towards preferred outcomes.

Prague provides an instructive example. The city developed multiple future scenarios through extensive engagement with stakeholders and citizens, creating a framework for discussing different mobility futures rather than simply extrapolating existing trends. Antwerp adopted a similarly ambitious approach, bringing together citizens, policymakers, and experts in large-scale discussions about the future of the city and its transport system. Both experiences highlight a broader shift in planning philosophy. Rather than asking what is likely to happen, cities are increasingly asking what kind of future they want to create.

The Liveable SUMP™

The growing importance of quality of life represents another notable feature of the third edition. Mobility is no longer evaluated primarily through a set of indicators, such as traffic flow or network capacity.

Instead, increasing attention is given to health, safety, accessibility and social inclusion.

This broader perspective can be seen in Gothenburg's Vision Zero approach, which treats road safety as a fundamental design principle rather than a specialist policy area. In Madrid, mobility objectives have been developed specifically for peripheral and peri-urban areas, recognising that transport disadvantages are often concentrated in neighbourhoods located far from city centres. London's Healthy Streets framework takes the discussion even further by linking mobility planning to public health, wellbeing, and the quality of urban space.

Collectively, these experiences reflect a significant change in how mobility success is defined. The central question is no longer how efficiently vehicles move through a city, but how effectively mobility systems contribute to safer, healthier, and more inclusive urban environments.

Implementation on the ground

The third edition also places greater emphasis on implementation. After more than a decade of SUMP practice, there is widespread recognition that developing and adopting a plan is only the beginning: the challenge lies in translating strategic ambitions into visible improvements on the ground.

Aarhus demonstrates how this can be achieved through its Active Mobility Hubs, which bring together different mobility services in accessible locations and encourage more sustainable travel behaviour.

In Vitoria-Gasteiz, mobility measures have become an integral part of the city's superblock model, helping reshape public space while reducing the dominance of private vehicles. In both cases, mobility planning functions as a catalyst for wider urban transformation rather than a collection of isolated transport projects.



It takes money to make a SUMP like this

Pavilion road in Chelsea and Kensington

Mareks Perkons, Shutterstock

The question of financing also receives greater attention in the updated guidance. Delivering ambitious mobility strategies requires stable and long-term funding sources, particularly at a time when many cities face growing investment needs.

Vienna's employer contribution model illustrates how dedicated local funding mechanisms can support the expansion of public transport infrastructure. Barcelona, meanwhile, demonstrates the role that European funding can play in accelerating investment and modernisation. Together, these examples underline a simple reality: implementation depends not only on good planning, but also on the ability to secure sustainable financial resources.

Not just a one-off consultation

The same applies to public engagement. The most successful mobility strategies increasingly rely on continuous dialogue rather than one-off consultation exercises.

In Ghent, public debate evenings, stakeholder meetings, and consultation activities have become part of an ongoing conversation about mobility. Bologna has experimented with innovative engagement formats designed to involve residents more actively in decision-making processes, while the Métropole Européenne de Lille has established regular political coordination mechanisms to steer mobility policies across a wider metropolitan area.

Matter of monitoring

Perhaps the most forward-looking aspect of the third edition is its stronger emphasis on monitoring, evaluation, and evidence-based decision-making.

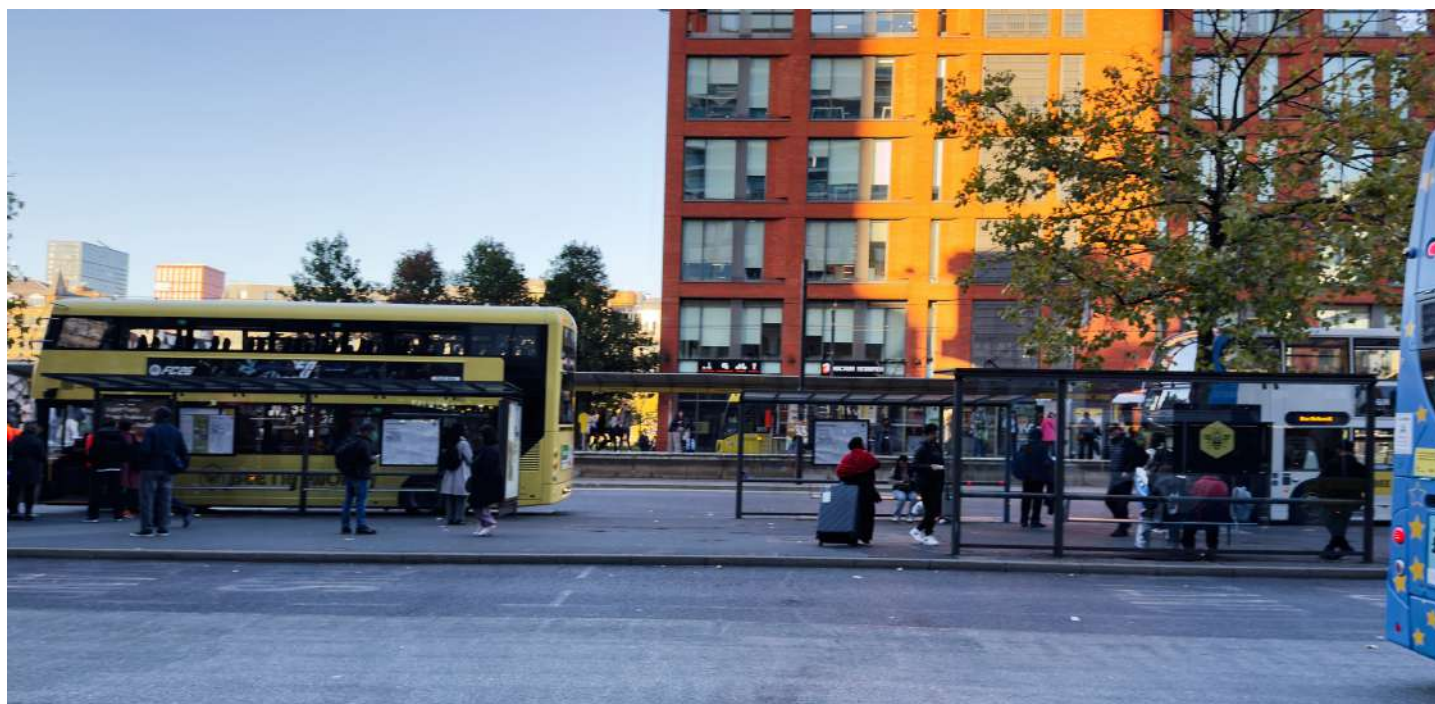
Mobility planning is increasingly presented as a continuous process rather than a document produced once every decade.

Madrid's evaluation of the Madrid 360 Sustainable Urban Mobility Plan demonstrates how cities can assess outcomes and adjust policies based on evidence. Greater Manchester has taken this principle even further through a continually updated online evidence base that supports strategic planning and policy development. Both examples point towards a future in which mobility plans become living frameworks capable of adapting to changing circumstances.

The Expert Corner

The publication of the new guidelines is also accompanied by a growing body of specialised knowledge. Through the Expert Corner and related resources, practitioners now have access to detailed guidance on subjects ranging from cycling and urban vehicle access regulations to climate resilience, logistics, public transport, social inclusion and shared mobility. This expanding knowledge ecosystem reflects the increasing maturity of Sustainable Urban Mobility Planning itself, in that cities are no longer simply seeking guidance on how to develop a plan—they are looking for practical tools to address increasingly complex urban challenges.

Bus stop in Manchester, United Kingdom
AS photo family, Shutterstock



MORE THAN A STOP

Why Mediterranean mobility hubs must be designed around everyday life

WRITTEN BY
VASILIKI AMPRASI AND
PANAGIOTIS PAPANTONIOU

Mobility hubs are spreading across Europe, yet many fail to reflect the realities of Mediterranean cities.

What if hubs were designed not just as transport nodes, but as everyday real places shaped by climate, culture, and behaviour?

A shift in perspective may hold the key to successful implementation.

Bus station in Nicosia, Cyprus
Yuriy Stankevich, Shutterstock

On a hot summer afternoon in a Mediterranean city, movement slows down. A commuter steps off a bus, hesitates for a moment under the sun, then crosses the street towards a small, shaded area. There, a shared e-scooter is parked beside a bench and a water fountain, a digital display showing arrival times right in the back. It is not a station, nor quite a square, but something in between: a space that enhances the commuter's experience. It is a mobility hub, and even though we cannot see it, we can easily imagine its benefits.

Across Europe, mobility hubs are gaining momentum as a key tool for enabling multimodal travel and reducing car dependency. Yet many existing models originate in cities such as Antwerp and Amsterdam, where transport systems, climate, and daily rhythms differ significantly. Transferring these models without proper adaptation may result in creating spaces that function in theory, but not in practice.

In Mediterranean cities, mobility is about more than efficiency: it is shaped by heat, density, social interaction, and seasonality. As such, mobility hubs cannot be treated as standardised infrastructure; they must be rethought as places embedded in everyday urban life.

A mobility hub in Ghent, Belgium

Vasiliki Amprasi



Why the Mediterranean is not a minor variation

Understanding what makes mobility hubs work in the Mediterranean requires looking beyond transport systems and into the lived experience of cities, where climate, social habits, and seasonal rhythms all shape the way people move.

Climate, for instance, is a defining factor: high temperatures, particularly during extended summer periods, directly influence when and how people move, turning walking distances and waiting times that may seem reasonable elsewhere into significant barriers without shade, cooling elements, or comfortable spaces. A hub that ignores these thermal realities risks becoming a place people avoid altogether.

Urban form adds further constraints. Dense, often historic neighbourhoods leave little space for large-scale interventions, calling for precision rather than scale, and favouring small, well-placed hubs that integrate into existing streets rather than competing with them.

Public space also carries a particular meaning in Mediterranean areas, where streets and squares are places of interaction where daily life unfolds, as much as movement. A mobility hub that overlooks this social dimension risks remaining merely functional and invisible to users.

Seasonality further reshapes demand, with tourist flows dramatically altering mobility patterns by placing pressure on certain areas while leaving others underused. Flexibility is therefore essential, extending beyond the services offered to include how space is allocated, adapted, and managed over time.

Insights emerging from recent work across Mediterranean cities in [GREENMO](#) (Promoting Green and Inclusive Mobility hubs for greener MED living areas by leveraging citizens' real needs), an Interreg EuroMED project, show a consistent pattern: mobility hubs succeed

when they respond to local conditions, prioritising usability, comfort, safety, and local integration over purely technical optimisation.

A Mediterranean framework

Translating this understanding into practice requires, beyond design adjustments, a strategic framework that is both structured and flexible, and connects user needs, spatial design, services, and governance into a coherent approach.

Work developed in the GREENMO project outlines a set of pillars that support implementation:

Diverse and reliable mobility options

At the core of any hub lies the availability of transport choices: public transport, shared micromobility, and on-demand services must coexist in a way that supports seamless transitions. Without this diversity, hubs cannot function as connectors within the wider system.

Services that support everyday life

Mobility alone is not enough. Users value non-mobility amenities such as seating, shade, parcel lockers, or small retail functions, and they see them not as extras, but as part of the experience: these elements transform hubs from transfer points into places people are willing to use.

Attractive, safe and human-centred design

Perceived and actual safety, comfort, and accessibility are decisive. Lighting, visibility, and inclusive design influence whether people trust and return to a hub, especially in rural areas. In Mediterranean contexts, comfort, mainly in relation to protection from heat, is a key success factor.

Clear and accessible information

Even well-designed mobility hubs fail when users cannot understand how to



navigate them: physical signage, real-time information, and intuitive digital tools are essential for reducing uncertainty and enabling multimodal travel.

Supportive governance and coordination

Perhaps the most underestimated dimension is governance. Mobility hubs sit at the intersection of multiple actors, such as municipalities, operators, and service providers, and without coordination between all parts, integration remains theoretical.

Taken together, these pillars form a practical pathway from concept to implementation. They do not prescribe a single model, but they help cities avoid common pitfalls while adapting solutions to their specific context. At the same time, they highlight a simple but often overlooked truth: mobility hubs are organisational systems as much as they are physical spaces.

Shared micromobility at a touristic area

Lyle Hastie, Unsplash

Lessons emerged

Based on the extensive research undertaken in the GREENMO project with the participation of 60 stakeholders and over 1,400 citizens in 6 countries (Greece, Cyprus, Malta, Italy, Spain, Bosnia and Herzegovina), a recurring lesson from Mediterranean cities is that the main challenge lies in bridging the gap between concept and implementation.

In parallel, institutional fragmentation remains a key obstacle. Different departments and stakeholders often operate with limited alignment, slowing down decision-making processes; at the same time, uncertainty around funding and long-term operation can hinder commitment.

Equally important is the integration of mobility hubs within broader planning frameworks, such as Sustainable Urban Mobility Plans (SUMP). When aligned with wider strategies, hubs can act as

catalysts rather than isolated projects. This highlights a crucial shift: implementation is not a linear process, but an iterative one. It requires engaging, understanding, designing and planning, testing, monitoring and adapting over time.

A change in perspective

As mobility hubs continue to gain attention across Europe, Mediterranean cities have an opportunity to lead by redefining the existing models. This begins with a change in perspective, moving from infrastructure to experience, from centralised hubs to neighbourhood networks, and from fixed planning to iterative development.

Mobility hubs, when designed as real places for all, can do more than connect modes: they can support more liveable, resilient urban environments that reflect how people actually move and interact.

Bus in the island of Gozo, Malta

Caron Badkin, Shutterstock



CONNECTING BEYOND BORDERS

North-Rhine Westphalia (NRW), Germany's most populous State and one of Europe's key logistics hubs, sits at the heart of major national and European mobility networks.

NRW's State Secretary Viktor Haase shares the region's ambitious plans to make sustainable transport a reality.

POLIS: North Rhine-Westphalia (NRW) is Germany's most populous State and one of Europe's key industrial and logistics regions. What are the Ministry's top priorities for sustainable mobility today, and where do you see the greatest potential to accelerate change at a regional level?

Viktor Haase: Our goal is to foster a mobility transition towards sustainable, climate-friendly, and connected transport that is also simple and accessible to all. Public transport and cycling are the backbone of this transition.

INTERVIEW WITH
VIKTOR HAASE

ELABORATED BY
CARLOTTA INSERRA

Mobility station in Cologne, NRW
Smilla Dankert/Zukunftsnetz Mobilität NRW





Viktor Haase

State Secretary
Ministry of the Environment, Nature,
and Transport of the State of North
Rhine-Westphalia

Through network expansion measures, the reactivation of rail lines, and the introduction of new express bus services, we want to make public transport more efficient and reliable, with an overall aim to significantly increase its modal share by 2040. To facilitate this, a major structural step is currently underway: we are integrating the three existing transport associations into one organisation, to allow regional rail transport to be planned and delivered more efficiently in the future.

We are also investing heavily in cycling and in improving the connectivity of our services. Over five years, we plan to build 1,000 km of new cycle paths and aim to raise the modal share to 25%, while simultaneously expanding shared mobility schemes and integrating them into the fare system. To support these changes across the State, we have established Zukunftsnetz Mobilität NRW, a network for local authorities implementing mobility management. Regional cooperation, including across borders, is vital: mobility does not stop at administrative boundaries.

POLIS: NRW includes dense metropolitan centres alongside peri-urban and rural areas with very different mobility needs. How is the Ministry working to ensure that sustainable transport becomes a realistic everyday option across the whole State, and not only in the larger cities?

VH: With 27 cities recognised as urban nodes, some may consider NRW as one large metropolitan region. However, we also have rural areas with specific mobility challenges.

Improving public transport and rail infrastructure is an essential aspect of meeting these challenges, with a focus on improving system efficiency, accessibility, and integration of different modes. Indeed, this also means improving everyday conditions for active travel and making it easier to switch between modes, whether in a city centre or in a smaller municipality.

To achieve this, we are developing up to 1,000 mobility stations across the State, creating hubs that make it easier to combine different modes of transport and that are aligned with our mission to improve biking and walking infrastructure.

On-demand mobility services have also become increasingly important. That is why we are now funding new schemes and have launched a state-wide digital backend system to improve connectivity in underserved areas.

Digitalisation is another key pillar of our approach. In line with EU requirements on mobility data and accessibility standards, we are working to make mobility services more integrated and accessible—this effort is strongly supported by the Mobidrom, a newly established state-owned organisation that aggregates and provides mobility data on a non-discriminatory basis.

Making the system truly user-friendly also requires simpler ticketing. With the electronic fare system eezy.nrw, we have removed tariff barriers across the State, making public transport more seamless.

POLIS: NRW sits at the heart of several Trans-European Transport Network (TEN-T) corridors. How is the Ministry ensuring that TEN-T investments strengthen both long-distance connectivity and regional accessibility, including local rail and multimodal connections?

VH: NRW sits at the heart of Europe, and that is reflected in the TEN-T network, with two corridors running directly through our State.

In Germany, the federal government is primarily responsible for long-distance rail, road, and inland waterways, and therefore for the core TEN-T infrastructure. However, we work closely with the federal level to ensure that corridor investments also deliver real benefits for NRW.

This includes major projects such as the upgrade of the Betuwe rail line towards the Netherlands and improvements to navigation on the Rhine.

Our objective is to ensure long-distance, regional, and local mobility networks are fully aligned, providing seamless connections to our residents and boosting the efficiency of our economy. In this context, NRW's urban nodes are becoming increasingly important.

With more than one-third of all urban nodes in Germany, NRW is supporting significantly the development of Sustainable Urban Mobility Plans (SUMP). Strengthening multimodal hubs for both passengers and goods enhances TEN-T corridors' efficiency while developing a more integrated and sustainable urban and regional mobility system. Ultimately, the success of TEN-T depends on strong local and regional implementation, and targeted EU funding under the next Multiannual Financial Framework will be crucial to make these ambitions real.

POLIS: NRW has reinforced the long-standing cooperation with Dutch provinces and fellow POLIS members Gelderland, Noord-Brabant, Limburg, Overijssel, and Zuid-Holland in June 2025. What are the main priorities of this collaboration, and what improvements are already in motion for cross-border commuters and travellers?

VH: Cross-border mobility is part of everyday life in our region. People regularly commute, study, shop, and travel between NRW and the Netherlands. That is why we have been working closely with our Dutch neighbours for around 20 years through a structured cooperation framework known as Mobility NL-NRW.

This cooperation is built on a shared understanding of what needs to be improved and relies on a collaborative

working environment, including dedicated working groups. Initially, our efforts focused on issues with a direct impact on daily cross-border mobility, such as improving cycling connections, strengthening public transport links, and developing digital solutions that make travelling easier.

Over time, however, the scope of this collaboration has expanded beyond regional mobility needs. Today, it also supports broader corridor development and contributes to the implementation of TEN-T regulation and SUMP requirements for urban nodes. Examples include the Three-Country-Train (Liège-Maastricht-Aachen-Express), the cross-border digital ticketing service easyConnect, and the cooperation on the Rhine Shipping Corridor, related to harbour development and multimodal freight hubs.

Looking ahead, our cooperation increasingly connects European policy and local implementation. This year, we initiated a work process on urban nodes and SUMP with a cross-border conference in February 2026, bringing together all 53 urban nodes from NRW and the Netherlands. This event was a shining example of the importance of connecting European objectives with urban and regional mobility developments.

Three-Country Train on the line Aachen (Germany), Maastricht (Netherlands), and Liège (Belgium)

Jens Borgdorff, YouTube





*Pedestrian and bicycle path
in Minden, NRW
Heidi Petrich, Shutterstock*

POLIS: As one of Europe's largest logistics regions, NRW has a central role in the freight transition. How is the region working to decarbonise freight transport, particularly in shifting flows to rail and inland waterways, and accelerating zero-emission solutions for road freight?

VH: As one of Europe's key logistics hubs, NRW is committed to transforming freight transport by strengthening climate-friendly rail and waterway modes.

Through the initiative 'Prospects for sustainable inland navigation on the Rhine 2030', in collaboration with around 100 partners on both sides of the border, we plan to boost inland waterway transport by modernising ports, targeting new markets, and accelerating the uptake of innovative propulsion and digital solutions. Concrete measures are planned for implementation by 2030.

Rail freight is another major focus. NRW is one of the most active federal states in this field, and we are investing strongly in infrastructure, particularly by promoting non-federal railways.

Since 2018, we have invested around €50 million, supporting municipal rail freight companies through approximately 200 measures, ranging from improved track connections to stronger intermodal interfaces. To ensure that future investments are well-targeted, we are currently conducting a state-wide assessment of freight flows, capacities, infrastructure, and track connections. This will form the basis for further concrete measures to be taken.

At the same time, road freight remains essential, especially for last-mile delivery. That is why we are also supporting the shift towards electric trucks through investments in vehicle procurement and depot charging infrastructure. This contributes to our climate targets and offers opportunities for economic growth and competitiveness in the logistics sector.

POLIS: Being a new member, how do you see NRW positioning itself within European mobility discussions? Which areas are you most interested in learning from other cities and regions, and where can NRW take a leading role in sharing experience and shaping future solutions?

VH: POLIS offers a valuable platform for exchanging experience and learning from others, especially on topics such as integrated mobility planning, multimodal hubs, digitalisation, and the deployment of innovative public transport solutions. In return, NRW contributes its own experience, particularly in supporting local authorities through funding schemes and advisory programmes.

This is reflected in our close collaboration with neighbouring Dutch provinces, which are also fellow POLIS members, and highlights what can be achieved when regions work together towards a shared vision for sustainable mobility within existing governance frameworks.

Looking ahead, we also aim to support POLIS in strengthening the role of cities and regions in EU policy discussions. Debates on the next Multiannual Financial Framework show that urban and regional interests are often underrepresented, yet it is cities and regions that are expected to deliver many of the EU's transport and climate objectives in practice.

For this reason, we see POLIS as a key platform to ensure that the role of urban nodes, the importance of SUMPs, and the need for adequate financial support are properly recognised. Our goal is to work with the POLIS community to ensure that European mobility policy is not only ambitious on paper, but also deliverable on the ground.

MOBILITY HAVEN

INTERVIEW WITH
ANJES TJARKS

ELABORATED BY
CARLOTTA INSERRA

Hamburg is advancing one of Europe's most integrated approaches to sustainable urban mobility. Dr Anjes Tjarks, Hamburg's Senator for Transport and Mobility Transition, shares how the city is accelerating its mobility transition through public transport uptake, autonomous mobility pilots, and a fully **integrated mobility ecosystem**.

Hamburg, Germany

Werner Spremberg, Shutterstock

POLIS: Hamburg is widely recognised for its integrated approach to sustainable mobility, combining strong public transport, digital innovation, and ambitious climate goals. What are currently the key priorities driving Hamburg's mobility transition?

Anjes Tjarks: To reach Hamburg's ambitious climate and mobility transition goals, we identified electrification as one of our top priorities. Already, 37% of our bus fleet is fully electric, with the taxi sector following suit, as nearly 750 taxis currently run on fully electric drivetrains. This means one in four taxis is now emission-free.

The shift is equally visible in private transport. In the first quarter of 2026, 16.4% of all newly registered passenger cars in Hamburg were fully electric, with a further 15.4% being plug-in hybrids. Therefore, nearly one in three new cars is now at least partially electric—a number that would have seemed ambitious just a few years ago. To further boost these efforts, the city is also adding 10,000 new charging stations by 2030 while maintaining free parking for clean vehicles with an E-license plate.

At the same time, electrification alone will not deliver a successful mobility transition. We also need to make public transport, cycling, and walking more attractive, so that sustainable mobility becomes the natural choice for everyday travel.

POLIS: Alongside electrification, Hamburg has also focused strongly on safety and the overall passenger experience. Why has this become such an important part of the mobility transition?

AT: To achieve our mobility and climate goals while keeping Hamburg liveable, people must both be safe and feel safe when using public transport. Although crime numbers in Hamburg have declined,

many passengers still report concerns about personal security, particularly at stations and during late-night travel.

Our focus has therefore been to implement a variety of measures that improve both factual security and the feeling of safety. These include increasing the number of security staff, introducing a 'way-home-phone' service for people travelling alone, and enabling buses to stop between stations after dark. In addition, we have improved the visibility of security buttons at stations and launched a campaign on getting home safely, including workshops with passengers to better understand their safety and security needs. We are also investing in station improvements, especially in areas where people tend to feel most uncomfortable, by improving lighting, visibility, and orientation throughout the network.

POLIS: The Germany Ticket (Deutschlandticket) is performing extremely well in Hamburg. Why is that and what do you see for its future?

AT: Since its introduction, Hamburg's transport authority hvv has sold more Germany Tickets per capita than any other state or city in Germany. We believe this success is largely due to its seamless integration into our mobility app, hvv switch, and the flexibility to purchase the ticket at any time of the month, paying only for the remaining days.

POLIS: Hamburg is increasingly positioning itself as one of Europe's leading testbeds for autonomous driving to strengthen public transport. Which concrete use cases do you see as most realistic in the short to medium term, and what conditions need to be in place to scale them responsibly?

AT: Hamburg is a particularly compelling case, because we are not merely experimenting with autonomous vehicle



Anjes Tjarks

Minister of Transport
and Mobility Transition
Free and Hanseatic City of Hamburg

technology in isolation, but are actively working to integrate it into the existing public transport network. This sets us apart from many other cities pursuing similar ambitions.

From top to bottom:

HOLON autonomous vehicle

Thies Raetzke

MOIA, the on-demand ridepooling service

MOIA GmbH

Two projects are especially worth highlighting: ALIKE is testing roboshuttles and robomidibuses on actual public transit lines, with at least three roboshuttles and

eight robomidibuses planned for operation by 2027.

Full transition into regular service is expected between 2028 and 2029, followed by gradual fleet scaling. AHOI takes a complementary approach, focusing on on-demand mobility through a mixed fleet of autonomous and manually driven vehicles. With up to 48 vehicles, it is set to become one of the largest mixed-fleet on-demand operations in Europe, beginning with a closed pilot user group in 2027 before transitioning to broader operations.

In the short to medium term, these two models—the fixed-route shuttle services and the flexible on-demand rides—are the most realistic applications, particularly in areas where conventional bus lines are inefficient or difficult to operate.

Scaling them responsibly, however, requires more than technical readiness. A regulatory framework that enables the gradual removal of safety drivers is essential, as is the underlying digital infrastructure, including connectivity, data systems, and real-time operations.

Equally important is public trust: our approach of starting with closed pilot groups reflects the understanding of building confidence step by step. Ultimately, we recognise that the technical challenge, while significant, is only one part of the equation.

POLIS: A key question for autonomous driving and on-demand vehicles is how it connects to the existing mobility system. How is Hamburg approaching the integration into its wider transport and urban planning?

AT: Integration is at the core of our approach. A shining example is the collaboration between MOIA, an on-demand ridepooling service, and hvv hop, a flexible minibus service operated by our local public transport provider.





Both are designed to complement our existing network and strengthen intermodality across the city.

Central to this is the hvv switch app, which brings together booking and payment for a wide range of mobility services, including MOIA, as well as buses, trains, and ferries.

By integrating these options into a single platform, it makes multimodal journeys far simpler for residents and visitors alike, while supporting Hamburg's goals of reducing private car use, lowering emissions, and extending the benefits of new mobility solutions across the city.

POLIS: How is Hamburg approaching community engagement and trust-building to ensure that autonomous vehicles are not only technically viable but also welcomed by residents and seen as adding social value?

AT: We recognise that the successful introduction of autonomous vehicles does not depend solely on technical readiness, but also on public acceptance and trust.

To address this, we actively involve residents and stakeholders throughout the development and rollout of new mobility solutions. A key part of this is transparent communication and regular public information campaigns. We organise events, workshops, and test rides with autonomous shuttles, where residents can experience the technology firsthand, ask questions, and provide feedback. These initiatives help demystify autonomous vehicles and address concerns related to safety, accessibility, and data privacy.

Additionally, we collaborate with local communities, advocacy groups, and research institutions to ensure that the deployment of autonomous vehicles aligns with our broader social and environmental goals. Through projects like AHOI and ALIKE, we actively gather feedback from diverse groups, with the aim of designing services that are inclusive and responsive to the needs of all residents.

Through these efforts, we are building trust and fostering a sense of ownership among citizens, ensuring that autonomous vehicles are seen as a valuable addition to our city's mobility landscape that contributes to social well-being and quality of urban life.

Daimler eCitaro in Hamburg, Germany
HOCHBAHN

WHEELS KEEP TURNING

WRITTEN BY
PAULINE CHARRIER
JULIA TEGELBERG
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Shared micromobility and urban resilience under pressure

When strikes, roadworks, or major events put pressure on urban transport, people still need to move.

Recent public transport strikes in **Brussels** and **London** show how **shared micromobility** can help cities absorb disruption, prevent short trips from shifting to cars and keep networks resilient.

Cities often judge transport systems by how well they work on an ordinary day. The real test comes when conditions are anything but ordinary.

A public transport strike, planned engineering works, road closures, a major event that compresses thousands of journeys into a few hours, a station closure that interrupts a familiar commute: these are the moments that reveal whether a city's mobility system is genuinely resilient, or simply efficient when everything goes to plan.

Recent public transport strikes in Brussels and London offer a clear lesson. In both cities, disruption to core public transport services was followed by a sharp rise in shared micromobility use.



Riders using Voi e-bikes and e-scooters as everyday transport
Voi Technology

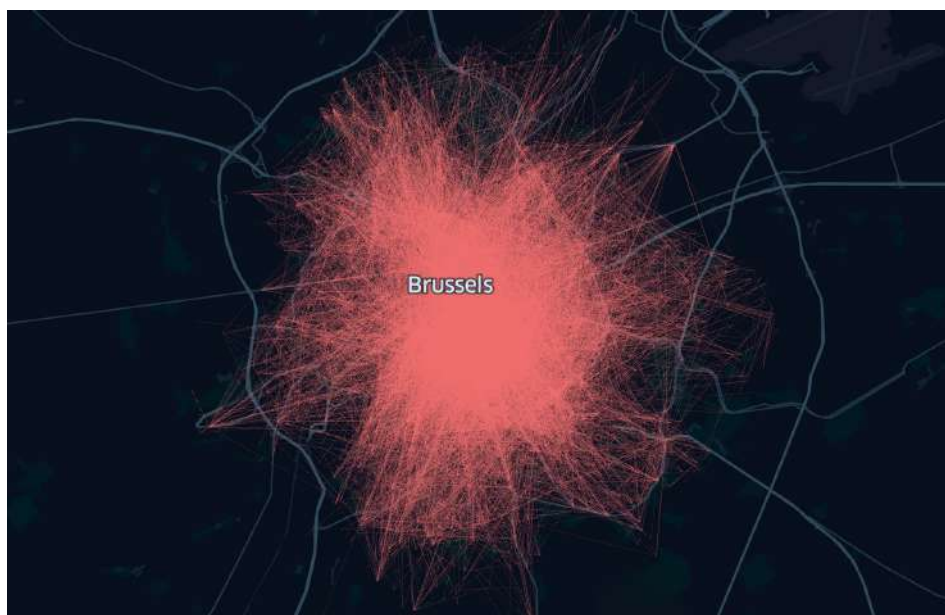
This was not just a temporary increase in trips, and showed that, when parts of the transport network fail or come under pressure, shared e-bikes and e-scooters can help absorb demand quickly and at scale. This is not an argument that shared micromobility can or should replace public transport. Public transport remains the backbone of urban mobility. But a backbone alone is not enough. Cities also need flexibility; they need modes that can absorb pressure when fixed route systems are disrupted, and that can offer residents a practical alternative before they default to private cars.

That last point is crucial. When a metro line is down, buses are cancelled, roads are blocked, or a station is closed, the risk is not only inconvenience: it is that people fall back on the least efficient option available—namely, driving. For cities trying to cut congestion, improve air quality, and reduce dependence on private vehicles, that is a serious policy problem.

Shared micromobility can help solve it. It gives people another way to move when the system is under strain, while also helping prevent short urban journeys from shifting back into cars, taxis, or ride-hailing. In that sense, its value goes beyond supporting public transport, because it also supports wider city goals around congestion, emissions, and street space.

Voi trip patterns in Brussels during public transport disruption

Voi Technology



The old 'first and last mile' label no longer captures the full picture. In disruption scenarios, shared micromobility is doing something bigger. It keeps cities moving.

Disruption reveals infrastructure

The clearest example came in Brussels in the week of 24-26 November 2025, when a three-day public transport strike from Monday to Wednesday severely disrupted metro, tram, and bus services across the city, leaving many residents without the network they normally relied on.

The response was immediate. On the first day of the strike, Voi's e-bike rides increased by 40%. On the second day, they were 100% above an average day. By the third day, they were up 120%.

Those numbers matter because of what they reveal. This was not a small behavioural shift at the margins of the system; it was a significant transfer of demand. As the disruption continued, demand did not fade. It grew. That suggests people were not making novelty trips or reacting out of curiosity, but finding a practical transport option and relying on it.

An earlier strike in Brussels in 2025 pointed in the same direction, leading to record-breaking ride numbers across the wider shared micromobility ecosystem. Together, these moments show that micromobility is no longer something 'nice to have': when traditional transport stalls, shared micromobility can take the load, and it can do so not marginally, but materially.

The spatial dimension matters, too. Disruption patterns are not limited to leisure routes or city centre journeys. Geospatial data shows riders connecting outer districts to transit hubs, filling first and last mile gaps, and moving across the city in ways that reflect the full complexity of urban life. The geography of this demand looks far more like critical infrastructure than a convenience service.

London confirmed the same pattern in a different urban context. On 22 April 2026, during the first day of a 24-hour Tube strike by RMT drivers, Voi saw record-breaking demand in London. Rides rose by more than 51% compared with the previous week, riders increased by 53%, and new user registrations jumped by 110%.

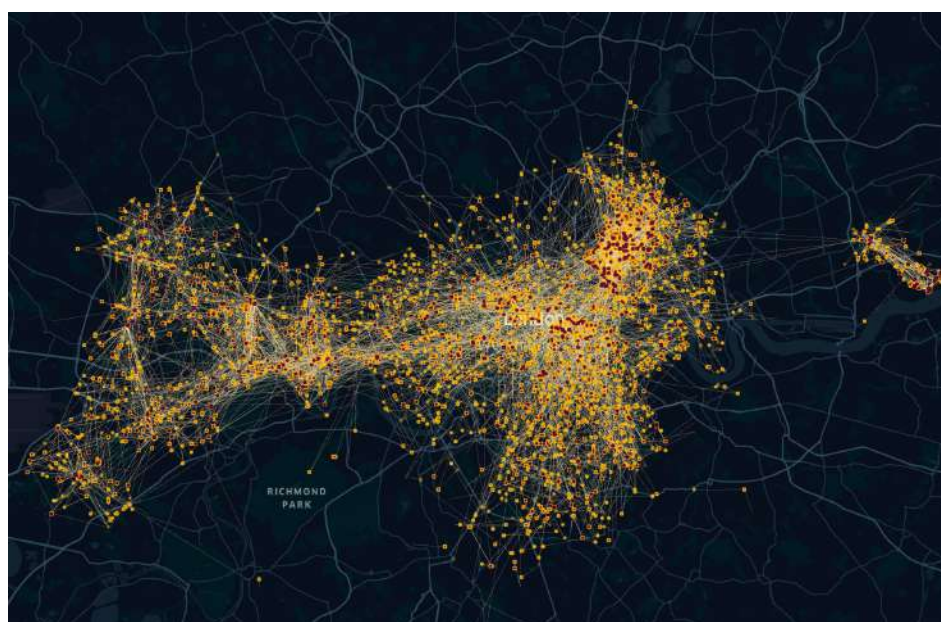
That final figure is especially important. The surge was not only driven by existing users riding more often: it actually brought new people into the system at speed. Faced with disruption to one of Europe's largest public transport networks, many Londoners were willing to change their behaviour quickly and use a shared mobility option they might otherwise have overlooked.

This has clear policy implications. It suggests shared micromobility is not limited to a fixed or niche user base. When the need is there, it can absorb new demand quickly and provide a practical fallback when usual services fall short.

From reactive response to proactive planning

The lesson from Brussels and London is larger than strikes. The same logic applies when maintenance shuts a station, roadworks create local bottlenecks, a bridge closure diverts traffic, major infrastructure works disrupt a corridor for weeks, or large events such as festivals and football matches compress thousands of journeys into a short time window. The immediate cause may differ, but the policy challenge is the same. How does a city maintain mobility without pushing more people back into cars?

Public transport cannot answer that question alone, because disruption often affects public transport itself. Cities need another layer of capacity that is flexible, visible, and ready to be deployed. Shared micromobility can be exactly that, but only if cities and operators plan for it together.



Major events show how this works when pressure is predictable, and Stockholm offers a clear example. On 31 March 2026, the day of a World Cup qualifier, the city accounted for 10% of all Voi trips across 130 European cities. This was more than a simple surge in demand; it demonstrated what micromobility can do when operators know pressure is coming and can prepare in advance.

Vehicles can be positioned close to stadiums, stations, and event corridors. Operational teams can be deployed in advance. Fleet availability can be managed in real time. Parking arrangements can be adapted where necessary, so that additional demand does not create unnecessary clutter or conflict on pavements.

The same approach can be applied to planned public transport works, roadworks, large cultural events, demonstrations, temporary street closures, and severe weather disruption. Cities often have advanced knowledge of these pressures. If shared micromobility is treated as part of the transport system, rather than as an external consumer service, it can be integrated into the response.

That means sharing information earlier, including operators in disruption planning, and identifying key corridors where additional micromobility capacity could

Shared micromobility demand across London during Tube strike disruption

Voi Technology



Riders using Voi e-bikes as part of their daily journeys in a tram-served corridor

Voi Technology

prevent short journeys from shifting into cars. It also means building regulatory frameworks that allow operators to respond quickly when demand moves.

Overly fragmented or temporary regulation can limit this potential. If fleet caps, parking rules or operating areas are too rigid, cities may restrict the very flexibility they need during moments of pressure. Good regulation should still protect safety, accessibility, and public space. But it should also recognise that flexible shared mobility can support wider public goals when properly managed.

This is where collaboration becomes essential. Operators bring real-time data, operational capacity, and experience of demand patterns.

Cities bring knowledge of planned works, public transport pressures, traffic management, and local priorities. Used together, those strengths can turn shared micromobility from a reactive fallback into a planned resilience tool.

Regulate for the role

The policy challenge is not whether shared micromobility influences urban mobility: the evidence increasingly suggests that it does. The question is how cities should regulate it.

Brussels recently brought that question from and centre by deciding not to renew licences for shared e-scooter operators from 2027. The decision follows a period of rapid growth in e-scooter use, alongside ongoing concerns around safety incidents, pavement obstruction, and enforcement in densely used public spaces. Shared bicycles and e-bikes will remain part of the city's mobility offer.

This matters because the evidence from Brussels and London shows that shared micromobility should not be merely seen as a consumer service sitting outside the transport system. When networks are disrupted, it absorbs demand, supports public transport, connects areas that still need to function, and reduces the likelihood of people falling back on private cars.

Cities increasingly talk about resilience, but resilience is not an abstract ambition. It is the practical ability to keep people moving when conditions are difficult. Shared micromobility is already contributing to that task.

The policy challenge is to recognise its role and regulate accordingly. That does not mean giving operators a free hand: it means designing partnerships, data sharing processes, and operational rules that allow micromobility to support the network when pressure rises.

Once a mode becomes part of how cities cope with disruption, it is no longer peripheral: it is part of the network.

PLAY POLICY

WRITTEN BY
CARLOTTA INSERRA

Videogames supporting inclusive urban planning



*Young woman plays game on her phone
m-art, Adobe Stock*

What if cities could gather meaningful input on mobility and climate decisions from millions of citizens through the games they already play?

The **GREAT Project** explores how videogames can turn everyday digital activity into a powerful, inclusive tool for shaping sustainable urban transport policy.

When it comes to sustainable mobility, reducing car dependency, improving public transport, and reclaiming public space are just some of the top priorities facing cities and regions across Europe and beyond. Yet, even when technical solutions are well understood, implementation remains difficult. Mobility plans frequently stall because public engagement is slow, participation is limited to a small and familiar group of voices, and decision-makers struggle to understand what citizens truly prioritise.

Despite the rise in co-creation and participatory planning, a persistent issue remains: those most affected by urban planning decisions are often the least represented in formal consultation processes. Young people, low-income residents, and those with limited time or confidence to engage with formal



In-game notification redirects users to Play2Act survey

Planet Play

institutions remain underrepresented, even though they are often the most dependent on affordable public transport and safe active travel options.

But what if cities and regions could consult citizens of all ages and backgrounds about cleaner transport choices at the scale and speed required by the climate transition? And what if the challenge is not a lack of interest in urban planning and sustainable mobility, but rather a lack of accessible channels for people to make their voices heard?

The GREAT Project (Gamification for Real-world Environment and climate Action Training), set out to explore a different route to participation. Its starting point was a democratic challenge: large parts of society are not involved in planning processes at all, either because they do not vote, cannot vote, do not feel represented, or simply do not engage with formal consultation channels. At the same time, gaming is one of the most widespread forms of everyday digital participation in the world, with billions of people playing regularly.

GREAT's core idea was to connect these two realities by using videogames as a civic channel—one capable of reaching citizens at scale, gathering structured input on climate priorities, and generating evidence that can support policy decisions.

A scalable channel for climate engagement

Mobility is where climate policy becomes tangible. Decisions about bus lanes, cycling infrastructure, pedestrianisation, parking reform, or low-emission zones involve direct trade-offs between space, convenience, cost, and fairness. For city leaders, the challenge is not only selecting interventions but also building legitimacy early enough to implement them successfully.

GREAT tested whether games could support this process by embedding civic questions into platforms people already use. Working with [PlanetPlay](#), a not-for-profit gaming platform where users' playing experience supports climate action, the project integrated short survey experiences into popular mobile games. Instead of requiring citizens to attend meetings or complete consultation forms, participation was embedded into everyday digital activity.

The results were striking. [GREAT's in-game survey campaign, titled Play2Act](#), reached around 130 million people, with over one million actively engaging and roughly 200,000 completing full responses. The project generated data from almost every country in the world, and crucially reached many citizens under the age of 18— an audience almost entirely absent from most traditional consultation processes.

This scale is not only impressive but policy-relevant. Cities are making urgent decisions on transport infrastructure while working toward European climate targets, yet often with limited insight into how different groups experience mobility systems or which measures they are likely to accept.

Game-based engagement offers a way to close this gap by generating large datasets quickly and cost-effectively. Through Play2Act, GREAT documented how game-based survey campaigns can capture public opinion across global audiences at a scale that traditional

consultations rarely achieve, while also enabling analysis by age, geography, education level, and gender. For cities and regions, this demonstrates that citizen engagement can be both faster and broader than the small samples typically used to inform mobility policy.

How games can help with urban trade-offs

Mobility planning is defined by compromise. Expanding cycling infrastructure may require reallocating road space, improving bus reliability may require dedicated lanes, and reducing traffic in city centres may affect access for businesses and commuters. Even when policies are technically sound, backlash often emerges when people feel change is imposed without dialogue.

GREAT's approach argues that games are uniquely suited to addressing this challenge. Rather than asking citizens to react to a finished proposal, game-based participation can place them inside simplified decision scenarios and capture how they weigh competing outcomes such as safety, affordability, emissions, accessibility, or comfort. In this way, games make policy trade-offs more visible and understandable.

For cities developing sustainable urban mobility plans, this offers a key advantage: games can help test policy acceptance early, identify where opposition is likely to emerge, and reveal what conditions citizens expect before supporting change.

From global surveys to local urban insight

While the global campaigns demonstrated scale, GREAT also tested how game-based engagement performs in specific local contexts.

[Rooftops Reimagined, a case study in Cyprus, used game-based methods to](#)

[explore barriers to adopting greener rooftops and climate-resilient building strategies.](#) Although not directly focused on mobility, the findings are highly relevant: participants did not reject the concept of green infrastructure outright. Instead, they raised practical concerns around maintenance responsibilities, costs, and governance. Many emphasised the need for clearer long-term planning and accountability.

This insight translates to transport policy: citizens may support cycling infrastructure, but lose confidence if maintenance is poor, or they may support public transport investment but remain sceptical if service quality does not improve.

The key lesson is that public support is often conditional. Game-based engagement helps uncover these conditions early, shifting consultation from simple approval measurement to more actionable governance insight. These findings were translated into policy briefs and reports designed for decision-makers.

Can cities trust the data?

For many public authorities, the central question is legitimacy: engagement only matters if decision-makers trust the results enough to use them.

GREAT addressed this through a structured methodology. The project's analysis of the Play2Act campaigns included mechanisms to identify unreliable responses and filter out random or low-quality inputs. Large sample sizes also enabled more robust interpretation than traditional consultations, which often rely on small, unrepresentative datasets.

Secondly, the project prioritised transparency. [Methods and results were made openly accessible through Zenodo,](#) allowing external scrutiny and reuse. This also enhances transferability: cities can examine methods, adapt question formats, and replicate campaigns for local needs rather than relying on closed systems.

GREAT project toolkit
GREAT project



Reaching the people consultations miss

If there is one area where GREAT's model stands out, it is inclusion. Traditional consultations often skew towards older residents, homeowners, and those already engaged in politics. GREAT sought harder to reach groups such as young people, people with disabilities, and those who may not normally participate in planning processes.

What they saw is that embedding engagement into games expands the pool of participants dramatically. It also reaches citizens who would never attend a town hall meeting or respond to a municipal survey link. In later Play2Act survey iterations, GREAT also improved gender balance and successfully engaged more participants who identified as women.

However, the project does not claim to solve all participation gaps. Digital inequality remains a real limitation. Some citizens lack access to devices or cannot participate through gaming environments. GREAT's conclusion is pragmatic: game-based participation can widen inclusion significantly, but cities must still combine it with other methods to avoid replacing one exclusion barrier with another.

What cities can do next

GREAT did not stop at research findings. It produced practical tools designed for replication, including a toolkit outlining how to design and run game-based engagement processes: how to frame questions, select platforms, interpret results, and communicate findings back to stakeholders.

For cities and regions, the entry point is straightforward. A municipality could pilot a six-month experiment focused on a concrete mobility challenge, using existing game-based formats and a structured reporting framework. The advantage?

Speed, as policymakers rarely have time for long consultation cycles, and traditional engagement often produces limited datasets. Game-based approaches offer a way to collect large volumes of citizen input quickly, cost-efficiently, and with relatively low administrative burden.

A lesson for urban leaders

GREAT's key takeaway is that participation can be redesigned. Videogames can function as a legitimate engagement channel, generating large-scale datasets, revealing implementation barriers, and reaching audiences missed by conventional methods. For cities advancing clean mobility policies, this does not replace formal planning or democratic processes, but it strengthens them by improving speed, reach, and insight.

As Europe's mobility transition accelerates, the challenge is no longer whether citizens should be involved, but whether institutions are willing to engage them in the spaces they already inhabit. GREAT suggests that one answer may already be in millions of pockets, on the home screen, inside a game.



***Top to bottom:
Rooftops Reimagined
event in Nicosia, Cyprus
Frederick University Cyprus***

SAFETY AND SECURITY

The Safety & Security pillar addresses the critical need to protect all mobility users, especially vulnerable groups, by advancing road safety and ensuring secure transport environments. It supports cities and regions in implementing effective strategies that reduce accidents, prevent violence, and enhance resilience against climate impacts.

The Safety & Security Working Group focuses on protecting vulnerable urban mobility users—pedestrians, cyclists, public transport, and shared micromobility riders—by advancing road safety and transport security. It promotes frameworks like Vision Zero and New Paradigm for Safe City Streets, integrates safety with sustainable mobility, and addresses emerging vehicle technologies. The group also tackles transport security issues, including gender-based violence and climate resilience of infrastructure, supporting safer, more secure urban transport systems.



NIGHT OWL

WRITTEN BY
ALESSIA GIORGIUTTI

Where does the city go when it shifts into lower gear? It moves differently, through fewer lines but higher stakes, and across Europe, night buses, rail, and shared services quietly sustain **urban continuity after dark**, until the sunrise comes.

A bus shelter at night
a_da, Shutterstock

A German proof

Few urban experiences are more universal than waiting at a bus stop after a night out for what feels like hours, missing the last metro train of the evening, or sprinting to catch a late tram, only to squeeze inside at the very last second and cling to the handrails as if your life depended on it, every available inch of space already being claimed, as though the entire city decided to board at once with you.

Yet, night mobility is not only about nightlife nostalgia: it is about nurses and doctors finishing late shifts, hospitality workers returning home after midnight, students crossing the city after late cram sessions, and residents without access to private vehicles. While most urban transport systems are designed around daytime demand, cities continue to function well after sunset, their heartbeat going deep, life pulsing through fewer corridors and essential arteries, thinning out across the wider network; urban life continues at a slower pace, and transport quality reflects how inclusive, safe, and economically resilient the city is.

Across Europe, cities are increasingly experimenting with night mobility as part of modern urban transport strategy. Some metropolitan areas have expanded night bus systems, others have introduced shared taxi schemes, while several maintain overnight tram, rail, or metro operations during weekends.

Transport systems, however, remain largely structured around daytime commuting patterns, creating gaps in accessibility and uneven outcomes for those reliant on public transit.

Research conducted by the German automobile association ADAC assessed how reliably public transport connects 20 German cities with their surrounding commuter areas at night, focusing on weekend journeys from central urban hubs to nearby destinations. Results show mixed performance: half of the cities were rated 'very good' or 'good', several were assessed as limited or incomplete, and a few could not be fully evaluated due to shortcomings in electronic timetable information. Overall, most cities still offered broad late-evening connections, but reliability and coverage declined unevenly after midnight.

Across the 17 fully evaluated cities, most destinations remained reachable within the tested time windows, and nearly two-thirds of routes required no transfers. However, performance varied strongly by time slot: the window between 23:30 and 00:30 showed more restricted access than the later window between 00:30 and 02:30, where connections were more extensive. Travel times were often efficient where services existed, but consistency remained uneven across cities and corridors.

A key structural weakness identified in 13 of the 20 cities concerned electronic timetable systems, which in several cases failed to display night or replacement services or made post-midnight journey planning difficult. These digital gaps reduced transparency precisely when users depended most on accurate information.

In terms of system quality, larger metropolitan areas such as Stuttgart and Frankfurt, within the FrankfurtRhineMain region, generally performed better due to denser rail networks, higher frequency, and stronger multimodal integration. Smaller and medium-sized cities relied more heavily on fragmented night bus systems with limited suburban reach.

Where standard tickets remained valid on night services, accessibility and satisfaction were higher; where separate

Information panel at station in Berlin

bk.photo_o, Shutterstock



fares or restrictions applied, usage was more constrained. Combined with weaker digital systems and uneven interchange design, this disproportionately affected shift workers, young passengers, and residents without private transport options.

The Night-Time Economy

Night transport is tightly linked to cultural and service economies. Restaurants, bars, music venues, theatres, and cultural spaces depend on workers and visitors being able to travel safely and affordably after regular transit services end.

Tallinn illustrates this relationship clearly. Its night bus network operates on Friday and Saturday nights between 00:30 and 03:30. After a successful pilot phase, the city expanded the system to six routes connecting the city centre with suburban districts, strengthening access to nightlife while reinforcing links with peripheral neighbourhoods.

Ireland presents a more layered model. Dublin operates multiple twenty-four-hour bus routes, while smaller towns such as Sligo, Kilkenny, and Drogheda have expanded late services under the National Transport Authority's Night-Time Economy programme. In rural areas such as Sligo, Buncrana, and Longford, the 'One @ One' pilot introduces scheduled 1am departures on selected weekends and cultural events, addressing gaps in safe late-night return travel and testing demand in lower-density contexts. Together, these initiatives frame night mobility as infrastructure linked to accessibility, safety, and economic activity rather than a supplementary service.

'Cities After Dark'

Night mobility also shapes cultural access and tourism distribution. Central districts often concentrate visitors, while peripheral neighbourhoods remain disconnected after dark. Extending transport beyond the core redistributes activity and broadens access to cultural life.



*Woman on a night bus
light poet, Shutterstock*

Night mobility also shapes cultural access and tourism distribution. Central districts often concentrate visitors, while peripheral neighbourhoods remain disconnected after dark. Extending transport beyond the core redistributes activity and broadens access to cultural life.

The URBACT 'Cities After Dark' network examined how mobility interventions can improve access to evening activity by strengthening links between centres and outskirts and reducing reliance on private vehicles.

In Genoa, improved night connections enabled the historic Villa Bombrini to host evening events such as guided tours, concerts, and community gatherings, demonstrating how transport infrastructure can activate cultural spaces otherwise difficult to access at night.

In Zadar, a circular night bus line was introduced as a weekend pilot during the Advent period, operating late-night departures to connect peripheral neighbourhoods with central areas. The measure tested demand for after-hours services, improved accessibility during peak night-time activity, and reduced reliance on private cars for late returns.

This is about inclusion

A central rationale for nocturnal transport lies in employment access. Many essential workers operate outside standard daytime schedules, including healthcare staff, cleaners, maintenance workers, emergency responders, and hospitality employees. Night mobility therefore functions as a structural condition of labour market participation, particularly for those in peripheral or suburban areas with limited alternatives. Across night-time economies, availability and reliability of late services directly shape access to jobs, income stability, and spatial distribution of opportunity.

In Sofia, the introduction of a night bus system in 2018 improved access between residential districts and central employment zones, where much of the city's night-time hospitality and service work is concentrated.

Night tram in Sofia, Bulgaria

Dina Rogatnykh, Shutterstock



However, its radial structure and centralised interchange system meant connectivity was strongest for centre-oriented journeys, while cross-peripheral travel remained limited. This produced uneven accessibility outcomes, improving access to some employment locations while leaving others harder to reach, particularly for workers outside central transfer patterns.

A related dimension of inclusion emerges through gendered patterns of night mobility. Rather than being defined solely by individual behaviour, nocturnal mobility reflects broader social relations that structure movement and access. Safety concerns, including poorly lit stops, long waiting times, and isolated walking routes, remain central. However, gendered mobility extends beyond vulnerability alone: care responsibilities, household organisation, and unequal access to daytime opportunities can increase night travel for some women while simultaneously constraining autonomy and modal choice.

In Bologna, these questions are addressed through the Nottambula initiative, which organises escorted group walks led by trained street hosts accompanying participants to transport hubs. Rather than altering the transport network itself, the intervention targets social conditions of mobility, reducing perceived risk and expanding the conditions under which night travel becomes viable. This highlights how inclusion is shaped not only by service coverage, but also by relational and environmental factors.

In Sofia, by contrast, these gendered dimensions were not explicitly integrated into system design or evaluation, which remained focused on operational and financial criteria. As a result, differentiated access, including how network structure affects women's access to night-time employment and safe return journeys, remained largely implicit. The outcome is a service that improves aggregate connectivity while producing uneven effects across user groups depending on location, timing, and access to alternatives.

Overcoming the car

When public options are infrequent or absent, private vehicles become the default mode after dark, contributing to congestion, emissions, noise, and risks associated with driving under the influence.

Across Europe, cities are testing alternatives that extend shared mobility into nocturnal hours. In Treviso, the MOM+ on-demand bus system enables passengers to book rides between 20:30 and midnight via app or phone, responding flexibly to dispersed demand patterns.

In Brussels, the Collecto shared taxi service operates nightly between 23:00 and 06:00, allowing passengers to share rides along similar routes at a lower cost. Rather than replacing fixed-route transit, these systems complement night buses and reflect a broader shift toward hybrid mobility models combining flexibility, affordability, and reduced car reliance.

Alongside these demand-responsive models, many cities continue to rely on structured overnight networks. Berlin operates continuous MetroBus and MetroTram services throughout the week, with U-Bahn and S-Bahn running through the night on weekends, creating near-continuous coverage. London maintains an extensive night bus network alongside the Night Tube on key lines. In Prague, night tram routes are organised around coordinated interchange hubs, ensuring predictable transfers across the network, a model echoed in Warsaw and Bratislava, where centralised night nodes structure mobility flows.

In Budapest, the night transport system is being restructured to function more explicitly as a metropolitan network, with stronger alignment between night buses, extended metro operations, and regional Volán services. The redesign prioritises direct cross-city links from central hubs such as Deák Ferenc Square to outer districts and surrounding towns, alongside higher frequencies on key suburban corridors. Rather than adding new modes, the approach focuses on reconfiguring



Bus 922B at the Széll Kálmán tér terminus on the Budakeszi line
Credit: Györkös Attila, CC BY-SA 4.0

existing services to reduce transfers and better reflect the city's expanded residential geography across the wider metropolitan area.

Taken together, these examples show that even limited night services can produce measurable social and economic benefits.

Where the city's heart beats

Night mobility should be treated as a distinct planning field rather than a residual extension of daytime systems. It determines access to work, safety, and opportunity, while exposing how strongly mobility depends on network design, proximity, and alternatives when standard services recede.

As urban life becomes more flexible and less tied to fixed schedules, pressure on cities to provide reliable twenty-four-hour mobility will increase.

A contemporary city is ultimately judged not by how it performs at peak hours, but by whether it remains genuinely connected throughout the day. Night-time transport is one of the clearest expressions of that continuity, revealing how inclusive and functional urban life remains once the daytime system steps back.

20/20 VISION ON VISION ZERO

INTERVIEW WITH
SEB DANCE

ELABORATED BY
ALESSIA GIORGIUTTI

London is often cast as a **Vision Zero** leader, but what does leadership feel like from the inside?

Seb Dance unpacks a city still pushing forward, from SUV risks and 20mph streets to data gaps, borough politics, and shifting behaviour.

POLIS: London is often described as a leading city on Vision Zero and urban mobility. That said, leadership can be a difficult label from the inside. How has the approach evolved in recent years, and what does success look like for a city already so far ahead?

Seb Dance: It is good to be seen as a city that is ahead: we do not always feel that way because we are quite self-critical. We are proud that fatalities and serious injuries are declining, but we need to go further.

The latest iteration of the plan builds on what has worked, using data both to reinforce success and identify where more action is needed. A clear example is oversized vehicles, which were not



*20 mph street in London
Nick Beer, Shutterstock*



Seb Dance

Deputy Mayor of London for Transport
Greater London Authority
& Transport for London

part of the original 2018 Vision Zero plan. We now know that collisions involving Sports Utility Vehicles are far more likely to result in serious injury or death, particularly for children. They also raise issues of space and equity in the public realm—a new area of focus.

POLIS: That feels like a fairly significant shift from earlier thinking. What triggered that change in focus?

SD: As we learn more from data, we adjust our approach accordingly.

POLIS: So there is both a learning element and a systems adjustment happening in parallel?

SD: We also continue to learn from other cities. Governance differs everywhere, but there is value in understanding what can be adapted.

Speed reduction has been one of the most effective interventions. Lowering limits to 20 miles per hour (approximately 30 kilometres per hour) has delivered major safety benefits without meaningfully affecting journey times.

Average urban speeds are still below 30 kilometres per hour, so the gains are clear.

The shift has not only been about policy but mindset: working more closely with boroughs on street design, running driver campaigns, and making clear this is about appropriate urban speed, not inconvenience.

POLIS: And beyond street design and speed, where else has that practical learning been applied?

SD: We have also expanded engagement with freight operators, delivery services, and micromobility providers, alongside manufacturers of bicycles, scooters, and Heavy Goods Vehicles (HGVs). The Direct Vision Standard for HGVs is a strong example. It initially faced resistance on cost grounds, but has since gained broad acceptance and influenced policy beyond London, including at the European Union level.

Ultimately, no one wants their workforce involved in a serious Road Traffic Collision. That recognition has helped build wider support. Still, too many people are injured or killed. These incidents are preventable, and it is our responsibility to design systems that reduce that risk.



*20 mph street with double-decker
and delivery van in London*
Gints Ivuskans, Shutterstock



Pedestrian crossing in London

Andriy Blokhin, Shutterstock

POLIS: You have emphasised the role of data. Where are the gaps still emerging?

SD: Bus safety is one area where progress has lagged, although identifying that has helped accelerate action.

More broadly, we take a wide view of data. Even incidents not directly caused by operations, such as passenger slips, are recorded. Early on, we made a deliberate decision to take responsibility for the full system rather than narrowing accountability.

Otherwise, you lose the full picture. A paving issue, for example, may sit with a borough, but it still forms part of the wider safety environment.

The bigger challenge is governance. Around 95% of London's streets are managed by 33 boroughs, so we work with 33 local authorities. That makes coordination essential.

On top of that, multiple police forces, such as the Metropolitan Police Service, the City of London Police, and the British Transport Police are involved, and that creates a complex data landscape.

POLIS: In practice, you are dealing with overlapping systems rather than a single unified one?

SD: It is complex, but Transport for London is the coordinating body that brings it together.

We have a shared commitment, and stakeholders trust that there is a citywide authority taking responsibility, which makes data sharing more natural than it would otherwise be. By taking on responsibility in areas some might see as beyond our strict remit, we are ultimately helping the system function more effectively.

POLIS: If you step back from institutions for a moment, how much of this is shaped by lived experience and feedback from people affected?

SD: We run a Road Victim Support Service within Transport for London, working with police services depending on the incident, and signposting people to support organisations.

Some people do not want to engage, which is understandable given the trauma involved, but many do, and those conversations are extremely valuable and often reveal how uneven experience is across time, place, and demographic groups. That challenges assumptions and improves understanding significantly.

POLIS: If you had to isolate one policy lever that has had the most visible impact, what would it be?

SD: If I had to pick one, we would not have Vision Zero, because all of them are necessary.

But in terms of impact, speed reduction has been the most significant in recent years: the difference between 30 and 20 miles per hour is small in journey time but substantial in safety terms.

That said, it only works alongside street design. You cannot separate the two: a road designed for higher speeds undermines lower limits, while a well-designed street makes safer speeds feel natural.

POLIS: At borough level, is there variation in how this agenda is received, or is it broadly aligned now?

SD: I would not single any out, but overall, there is strong alignment across boroughs, regardless of political differences. However, in some cases, narratives framed around a 'war on motorists' can make progress more difficult.

Our focus is not on restricting drivers, but on ensuring all road users understand their responsibilities: different users carry different levels of risk, and that needs to be reflected in both policy and behaviour.

POLIS: There is also a sense that these categories are more fluid than they are often presented.

SD: Yes. It is about recognising that people move between roles. As my mum once put it, 'a pedestrian is just a motorist who has found somewhere to park'.

POLIS: Wisely said! And that idea of fluidity is interesting, especially when you look at the next phase of delivery. What needs to shift to accelerate progress?

SD: Our long-term goal is for 80% of journeys to be made by public transport or active travel by 2041. For this to happen, mode share is central. When walking, cycling, and public transport become the default, the system becomes more intuitive for everyone.

We have made progress among London residents, but challenges remain for those commuting into the city, which means that strengthening connections between outer areas is particularly important. The Superloop bus network is one example, connecting outer London town centres and significantly increasing ridership.

Superloop's stop at Hatton Cross Station

W223





POLIS: If we zoom out to the wider European context, which cities have been most influential in shaping London's approach?

SD: Many cities offer inspiration: Oslo stands out for safety outcomes, Copenhagen for zero-emission buses and high safety standards, and Berlin for its continued expansion of the tram network. Brussels is also making progress in reallocating space toward pedestrians and cyclists.

What has shifted more broadly is that this is no longer a fringe debate. The assumption that road deaths are inevitable is increasingly being replaced by the idea that they are preventable through design..

POLIS: Finally, stepping back from specific measures, what do you think London brings to this global conversation?

SD: London shows that even a large, complex city can deliver Vision Zero: here, reductions in deaths and serious injuries have been made possible across very different environments, from dense urban centres to suburban roads.

More importantly, we have learned the value of designing systems around how people actually behave, rather than how we think they should behave, and that requires responsibility, partnership, and a willingness to work across institutional boundaries.

At its core, this is something everyone agrees on: nobody should die on our roads.

20 mph sign in London

chrisdorney, Shutterstock

SMART MOBILITY

The Smart Mobility pillar focuses on the strategic and technical challenges of managing multimodal urban transport networks. It drives knowledge exchange on digitalisation, automation, data governance, connectivity, and the role of artificial intelligence in mobility operations.

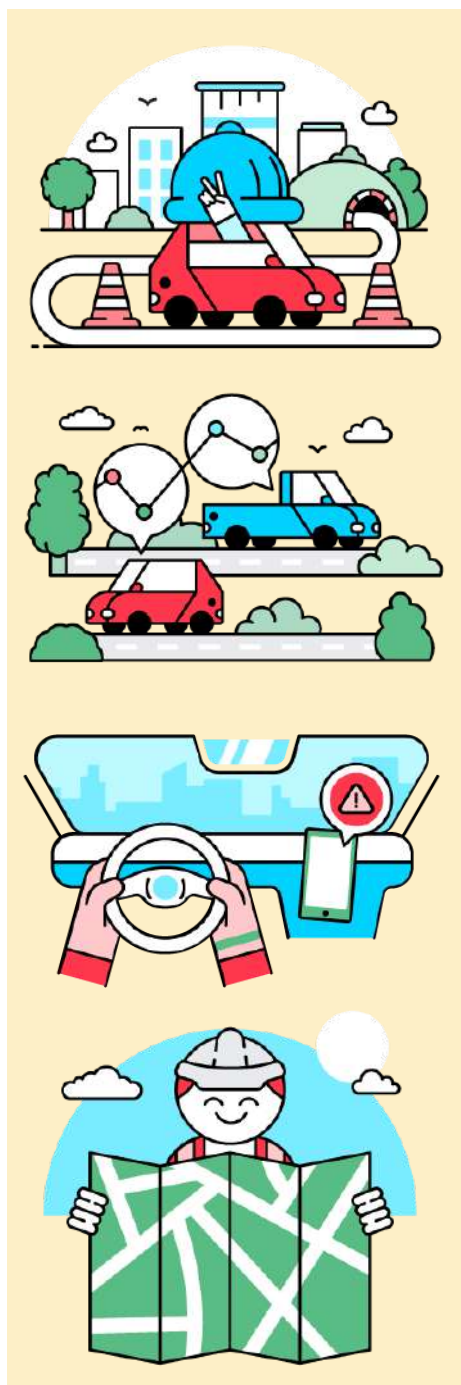
The Smart Mobility & Traffic Systems Working Group supports cities and regions by providing a platform for exchange, learning, and joint reflection on emerging trends and European policy developments. Its work spans Intelligent Transport Systems (ITS), cooperative ITS, multimodal traffic management, the digitalisation of infrastructure and regulations, the use and governance of mobility data, and the integration of new technologies to optimise road space and support local policy goals. The group collaborates with key platforms and projects to help members strengthen their capacity to manage increasingly complex transport systems in a digital and automated environment.



UNTANGLING THE ROAD AHEAD

How Waze scaled real-time road data with Gemini AI

WRITTEN BY
DAYA SHERMAN



A closed road is easy to understand. The data describing it is not always so simple.

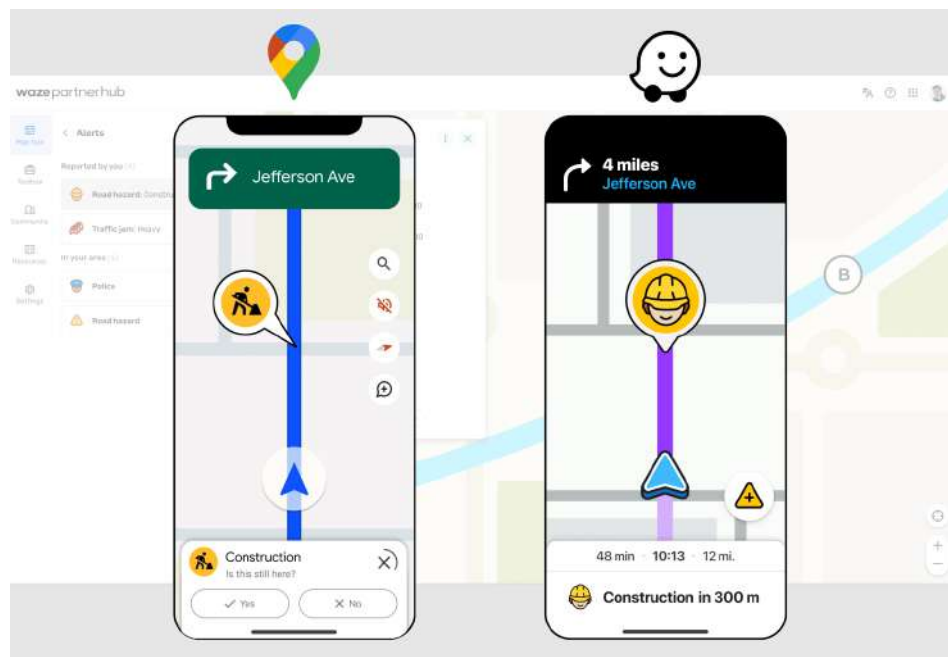
With **Gemini Enterprise Agent Platform**, Waze found a faster way to interpret complex DATEX II feeds, turning weeks of specialised engineering work into minutes and helping partners get road disruption updates into **Waze** and **Google Maps** faster.

Road disruption data sounds simple at first. A road is closed. A lane is blocked. There are roadworks, flooding, an accident, or another event affecting traffic. That information needs to reach navigation platforms quickly, so drivers can be warned and routed around the disruption.

But behind that simple idea is a much more complicated data challenge. Different road authorities, municipalities, and mobility partners often describe disruptions in different ways: some use different systems; some follow the same standard, but implement it differently. And when the goal is to bring that information into Waze and Google Maps, consistency matters.



Waze for Cities
Waze for Cities



Waze Partner Hub

Waze for Cities

This is also where Waze for Cities plays an important role. The programme helps public agencies, road authorities, and mobility partners share authoritative road information, including closures, hazards, and traffic updates, with drivers across Waze and Google Maps. For that data to be useful at scale, it needs to move from partner systems into navigation experiences quickly, accurately, and reliably.

At Waze, Gemini was used in a focused, practical way: not to replace the existing data pipeline, but to remove one of the main bottlenecks—understanding how each partner represented road disruption data inside DATEX II.

DATEX II is more than a European standard for sharing traffic and road event information. It is central to road safety and real-time traffic information exchange under EU SRTI and RTTI regulations, supporting harmonised data sharing through National Access Points and related profiles. Its flexibility supports events from roadworks and closures to accidents, hazards, restrictions, and general road information.

That flexibility is useful for data providers. For downstream systems, however, it creates an information stream that cannot always be interpreted through a single deterministic set of rules.

One standard, many interpretations

The same real-world event can be represented in several valid ways. Location details, coordinates, directionality, affected lanes, time windows, and event metadata can all vary depending on how the feed was implemented.

Before this feature, onboarding a new DATEX II XML feed required the operations team to inspect the feed manually, understand how that partner structured the data, identify the relevant fields and configure custom logic so the feed could be transformed into the format Waze expects. In some cases, this took weeks of specialised engineering effort because DATEX II's flexibility required feed-by-feed analysis, configuration and validation.

Waze needed a better way.

Why Gemini was the right fit

This was a good use case for Gemini because the problem was not simply converting one fixed schema into another. The challenge was interpretation: understanding how a specific partner used DATEX II, then turning that into a consistent Waze-ready structure.

For example, two partners may describe the same road closure but provide the geometry differently. One might include a polyline (an ordered collection of paths) in a dedicated field, while another might spread the same information across multiple fields. Both can be valid DATEX II implementations, but both need to become the same Waze-ready update structure.

Gemini helps bridge that gap. The feature analyses the incoming DATEX II XML feed, identifies how disruption information is represented and produces a converted

feed file in the Waze structure. It supports key elements such as disruption type, location, start and end times, affected roads, directions, lanes, and partner-specific structures.

The breakthrough was not using Gemini to replace the existing pipeline; it was using Gemini where it made the most sense: the interpretation layer between flexible partner feeds and the consistent structure Waze needs.

From manual mapping to faster validation

With the Gemini-assisted workflow, feeds can be converted into the Waze structure within minutes, allowing the focus to shift to reviewing and validating the output. Instead of spending most of the effort on repetitive feed investigation, attention can be directed toward quality control, exceptions, and cases requiring human judgment. The feature was tested through an iterative, cross-functional framework designed to expedite feed onboarding while maintaining high levels of precision, combining prompt improvements, golden-set evaluation, and rigorous human validation.

A vital part of this human-in-the-loop validation was the Waze Map Editor community, a global network of dedicated volunteer experts who manually maintain and update the map. As the feature rolled out, editors helped validate that AI-interpreted closures reflected real-world conditions, preserving the local nuance needed to keep the map reliable.

It is a practical example of Waze operating at the intersection of people and technology: Gemini handles complex data translation at speed, while community expertise helps ensure the map remains trusted by drivers.

Initial launch results were promising: onboarding moved from weeks of specialised engineering effort to a

streamlined process that can take minutes. The feature also had a substantial impact on processed feed coverage, translation accuracy and authoritative closure contributions. Most importantly, it increased Waze's ability to turn partner-provided DATEX II feeds into reliable road closures across both Waze and Google Maps.

Practical technology, real impact

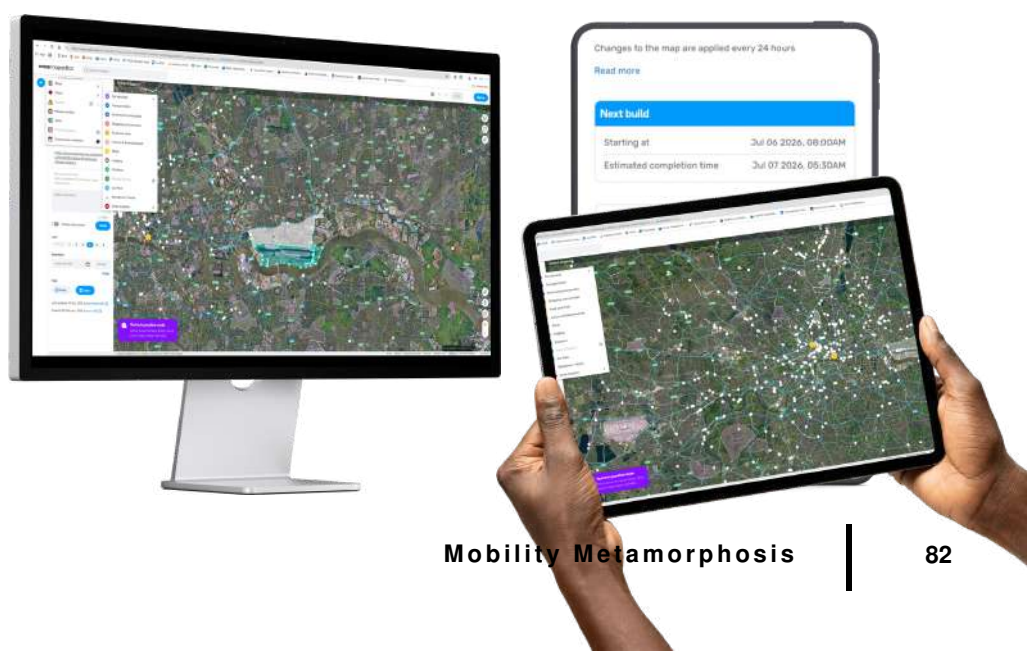
This Gemini use case solves a specific operational bottleneck: taking complex partner feeds and turning them into reliable updates that can help drivers.

While the feature was built around a Waze operational workflow, its impact is broader. Cleaner, faster and more reliable partner closure data strengthens the wider Google Geo ecosystem, helping road disruption information support navigation experiences across Waze and Google Maps.

For cities, that means authoritative closure data can reach drivers with less delay during roadworks, major events, emergency closures, and temporary restrictions. For drivers, it means better information, earlier.

When closure information moves faster and more reliably, everyone benefits: cities, partners, operations teams and, most importantly, drivers on the road.

Waze Map Editor
Waze for Cities



WHO DRIVES AUTOMATION?

Driverless vehicles, but not driverless policy

WRITTEN BY
REVEKKA VOULTSINO

Automated vehicles are leaving the testing phase and entering real city streets across Europe.

As this shift accelerates, cities warn that the real question is not whether automation arrives, but whether it will serve public transport, reduce congestion, and improve accessibility, or quietly reshape urban mobility around private interests.

*The WeRide autonomous
bus shuttle in Leuven, Belgium*
Alessia Giorgiutti, POLIS

Automated mobility is no longer merely the ‘technology of the future’. After years of development through research projects, pilot schemes, and experimental deployments, the mobility pace has picked up, and automated vehicles (AVs) are increasingly being introduced into real-world transport systems. Across Europe and beyond, public and private actors are accelerating efforts to integrate automated mobility services into urban environments.

This transition comes at a time when cities and public authorities face growing pressure to provide public transport systems that are safer, more sustainable, efficient, and accessible for everyone. In this context, the deployment of AVs should not be viewed as an end goal, but rather to advance broader public objectives, such as sustainability, accessibility, and social inclusion.

Then, a critical question emerges: how can cities ensure that these technologies are deployed and operated in the public interest?

This question is at the core of [the new joint charter by POLIS and Eurocities](#), which sets out a common direction for automated mobility in Europe—one where automation strengthens public transport, supports broader societal goals, and is shaped around the needs and responsibilities of cities. Bringing together a shared position from cities and regions across Europe, the Charter translates these ambitions into a set of practical principles for deployment.

Why getting automation right matters for cities

Cities face growing pressure to reduce emissions and congestion while improving accessibility, efficiency, and the quality of public transport. In this context, automated mobility is increasingly presented as a tool that could help address some of these challenges. If deployed well, it could contribute to safer roads, more flexible transport services, improved connectivity



—particularly in areas where existing transport options remain limited, and more efficient urban logistics operations.

Autonomous car with HUD (Head Up Display)

Scharfsinn, Shutterstock

However, the benefits of automation are not guaranteed. Without clear public direction, automated mobility could also generate unintended consequences, including increased congestion, higher numbers of empty vehicle kilometers travelled, and even greater pressure on already limited public space. Questions of accessibility, affordability, and public trust further shape whether these technologies will deliver meaningful public value, thus becoming more widely accepted.

As automated mobility gradually moves from pilot experimentation to large(r)-scale deployment, cities’ concerns emerge, and implications extend beyond any technological aspect. Indeed, automated vehicles have the potential to reshape traffic circulation, parking demand, curbside management, and the use of public space. For cities, the real challenge is therefore not whether to adopt automation, but how to govern and integrate it into existing transport systems in ways that support broader goals of sustainability, accessibility, and quality of life.

What good deployment should look like

In practice, the value of automated mobility is not determined by the sophistication of the technology itself, but by whether it meaningfully improves how transport operates within cities. Its success ultimately depends on whether it contributes to existing urban mobility goals.

For many cities, this means strengthening public transport and sharing mobility rather than increasing reliance on private cars. When appropriately integrated, automated services can reinforce first- and last-mile connections, improve accessibility in underserved areas, and complement existing public transport networks.

This approach also applies to the broader Cooperative, connected and automated mobility (CCAM) ecosystem, which includes not only automated vehicles, but also the infrastructure, digital systems, and policy frameworks required to embed automation within urban mobility networks.

A central requirement is then integration. AV solutions should operate within existing urban environments, alongside pedestrians, cyclists, and public transport, rather than prompting a redesign of public space around their needs.

This approach is already being explored in practice. In Leuven, the deployment of autonomous public shuttles has begun along a pilot route of approximately 4 kilometres between Leuven Station, Heverlee, and the Haasrode research area. Rather than operating as a standalone service, the shuttles are integrated into the existing public transport network, showing how automation can reinforce (and not replace) first- and last-mile connectivity. Moreover, it illustrates how automated services can be deployed to address a specific mobility need, rather than introducing automation for its own sake.

Europe can shape a different path

As automated mobility expands, cities will need the appropriate tools to manage its impacts. The ability to apply operational rules, access restrictions, and traffic management measures will be crucial to prevent increased traffic congestion, unnecessary vehicle trips, and additional pressure on public space. Access to reliable operational, traffic, and safety data will be equally important, enabling cities to evaluate the real impact of automated mobility services and make informed policy decisions about their management. At the same time, transparency, cybersecurity, privacy protection, and public engagement will remain critical for building reliable and trustworthy CCAM systems.

This approach is already visible in Oslo, where public transport authority Ruter has explored automated mobility primarily as an on-demand complement to existing public transport services. Rather than replacing high-capacity transit, automated services have been considered for first and last-mile connections and areas with limited transport options, demonstrating how automation can be used selectively where it adds values, rather than being applied across an entire network.

A new model for automated mobility

The question is no longer whether automation will reach cities, but under which conditions and according to whose priorities it will be integrated and governed. Europe now has an opportunity to pursue a model that prioritises public transport, shared mobility, and sustainability over car-centric deployment strategies.

Ultimately, the future of automated mobility will not be defined by technology alone, but by the ability of public authorities to steer its deployment in the public interest.

The autonomous public transport shuttle in Leuven, Belgium

Alessia Giorgiutti, POLIS

Ukeje from Romsås, who uses the Ruter autonomous car for commuting

Ruter



Editors

Alessia Giorgiutti

Communications & Membership Lead
& Co-Coordinator Just Transition

Giorgiutti coordinates POLIS' corporate communications and magazine, has worked in several EU-funded projects, and supports the POLIS staff in all things communications (and has been doing so for the past 7 years!). Her work focuses on making accessible and inclusive content about transport, as well as highlighting the experiences of marginalised users.

Contributed articles:

'In the Train of Thought', 'Night Owl', 'Designed to Deliver', '20/20 Vision on Vision Zero'

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Project & Communications Officer

Mecatti's role at POLIS is divided between projects and the Comms team. She holds a BA in Politics, Philosophy and Economics and an MA in Communications and New Media. Passionate about social inclusion, when she is not busy working on active mobility, she plays guitar and edits podcasts.

Contributed articles:

'Over Capacity, Under Control'

Carlotta Inserra

Membership & Communications
Manager

Inserra is the main point of contact for the network's expanding membership, where she oversees and supports members' engagement and promotes POLIS' Working Group activities. She also contributes to the Interreg SMALL project, where she channels her commitment to inclusive and accessible sustainable mobility for all.

Contributed articles:

'Leadership That Gets It Done', 'Mobility Haven', 'Play Policy', 'Connecting Beyond Borders'

Karen Vancluysen

Secretary General

Vancluysen was appointed as Secretary General of POLIS in September 2014, after having been the network's Research Director for 8 years. Since 1998, she has been involved in urban mobility networking, innovation, and policy activities as well as a wide range of European urban transport research projects.

Vittoria Maddalena

Project & Communications Officer

Maddalena is involved in several projects, covering a wide range of topics from electric mobility to active travel, as well as supporting POLIS' communications activities. She holds a BA in Political Sciences from the University of Padova and an MA in European Studies from KU Leuven. She is passionate about decarbonisation, electromobility, and the green transition.

Contributed articles:

'Un(Equal) Cycling'

Contributors

In alphabetical order:

Anjes Tjarks

Minister of Transport and Mobility
Transition, Free and Hanseatic City of
Hamburg

Tjarks is focused on promoting greener, sustainable, and efficient mobility in the city of Hamburg and beyond. He served in the Hamburg Parliament from 2011 to 2020 as spokesperson for economic policy and, from 2015 onwards, chair of the Green parliamentary group. He holds a PhD in Political Science and Cognitive Linguistics and studied Education, English, and Social Sciences.

Contributed articles:
'Mobility Haven'

Annette Krüger

Project Manager and Co-Founder,
YallaFAHR#BIKEYGEES e.V.

Krüger is a lifelong human rights activist, social media creator, and event manager (Berlin Lesbian and Gay City Festival (2011–2024)). She co-founded #BIKEYGEES e.V. in 2015. She is firmly convinced that together we can make the world a better place visibly and sustainably, and that everyone can play their part in it.

Contributed articles:
'Un(Equal) Cycling'

Ben Luoma

Project Manager & Regions Working
Group Co-Manager, POLIS

Besides being a keen 'bikepacker', Luoma is the Regions Working Group Co-Manager and works on multiple projects related to sustainable mobility, including the European Urban Mobility Observatory. A development economist by training, he has spent the past six years working on cycling and sustainable mobility in Brussels.

Contributed articles:
'Cycling Lifelines'

Cristina Núñez

Strategy Director,
NECSTouR

Expert in regional development, public policy and EU funding, with more than 15 years of experience leading European networks and interregional projects. Núñez specialises in sustainable tourism, EU public affairs, fundraising, stakeholder engagement, and strategy development across multi-level governance.

Contributed articles:
'Over Capacity, Under Control'

Dario Bertocchi

Post-doc Research Fellow,
University of Udine

Bertocchi is an Assistant Professor of Geography at the University of Udine and teaches at Modul University Vienna, IMC Krems University of Applied Sciences, and Ca' Foscari University of Venice. His research explores tourist and resident behaviour through big data from social media and mobile networks, supporting sustainable tourism planning and mobility management, including in complex destinations such as Venice.

Contributed articles:
'How Much Do We Move?'

Daya Sherman

Product Manager,
Google/Waze

Sherman focuses on leveraging advanced AI technologies to optimise real-time road data and navigation pipelines. With extensive experience in mobility systems and public agency partnerships, she works at the intersection of technology and community to deliver fast, reliable traffic updates to millions of drivers globally on Waze and Google Maps.

Contributed articles:
'Untangling the Road Ahead'

Eugenio Patanè

Deputy Mayor for Mobility,
City of Rome

A lawyer by training, Patanè has served in Rome's City Council, the Lazio Regional Council—where he chaired the Committee on Infrastructure, Public Works, Mobility and Transport—and now leads the mobility transformation of one of Europe's largest municipal territories, covering public transport, tram network renewal, cycling infrastructure, road safety, and access regulation.

Contributed articles:

'Over Capacity, Under Control'

Jorge Manso García

Policy & Project Manager,
POLIS

Manso García focuses on new mobility services, the future of the transport workforce, and urban policy innovation. He contributes to projects like SMAPE, BIO-INTEL-MOB, SUM, and RESKILLING, exploring how public authorities can adapt to technological change while keeping mobility fair, flexible, and people-focused. He also supports POLIS' advocacy and strategy work on just mobility systems.

Contributed articles:

'Striving Together'

Martina Hertel

Research Associate, German Institute
of Urban Affairs (Difu)

Hertel studied Geography and Cartography at the Free University of Berlin and Transport Sciences at the Technical University of Berlin. Since the mid-1990s, she has worked on numerous projects in the field of transport planning, and as of 2011, she has been at Difu, focusing on shared mobility, cycling, and walking, as well as SUMP's and parking management. She is involved in national and international projects.

Contributed articles:

'Un(Equal) Cycling'

Francesco Bruzzone

Post-doc Research Fellow,
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Bruzzone is a Research Fellow in transport planning and focuses on urban mobility, parking management and sustainable transport systems. He works on EU-funded projects and applies GIS and data standards to analyse accessibility, cycling and public modes potential and multimodal networks in Italian and European cities.

Contributed articles:

'How Much Do We Move?'

Julia Tegelberg

Policy Manager,
Voi Technology

Tegelberg is a policy professional working at the intersection of regulation, economics, and strategy in the mobility sector, with a background in new business development. She analyses how evolving regulatory frameworks and market conditions influence expansion, positioning and long-term strategy.

Contributed articles:

'Wheels Keep Turning'

Masayuki Saotome

Business Unit President -
Transportation, Mitsubishi Electric
Europe

Saotome is a senior executive at Mitsubishi Electric Europe, overseeing transportation and infrastructure business development across Europe. With extensive international experience in rail systems and sustainable urban mobility, he focuses on integrating mobility, energy, and digital innovation to promote greener, more resilient cities through public-private partnerships.

Contributed articles:

'In the Train of Thought'

Françoise Guaspere

Senior Policy Advisor, Île-de-France
Region, Penholder of the European
Commission Expert Group on Urban
Mobility Guidance Report on the
Tourism and Mobility Nexus

Guaspere is a long-standing member of POLIS' Management Committee and provides extensive expertise in the intersection of mobility, tourism, and regional policy.

Contributed articles:

'Over Capacity, Under Control'

María José Aparicio Sanchiz

General Mobility Coordinator,
Madrid City Council

Aparicio Sanchiz is a Law graduate and holds an MA in Accessibility and Smart City. She held various positions in the Directorate General of Traffic: Head of the Drivers Area, Deputy Director of Road Training, and Deputy Director General of Training and Road Education.

Contributed articles:

'Current of Change'

Panagiotis Papantoniou

Associate Professor,
University of West Attica

Papantoniou is an Associate Professor at the Department of Surveying and Geoinformatics Engineering at the University of West Attica. He has over 15 years of experience in the transport sector as an engineer, academic, advisor, and decision maker. His expertise focuses on road safety, intelligent transport systems, and urban mobility, with extensive involvement in several European research projects.

Contributed articles:

'More Than a Stop'

Paulina Charrier

Senior Market Development Manager,
Voi Technology

Charrier is a senior commercial leader with extensive experience in market expansion and strategic partnerships. She leads end-to-end market entry and commercial collaborations, previously managing partner operations to enhance onboarding and revenue while promoting intermodality between micromobility and public transport. Before joining Voi, she worked on mobility and innovation at the French Ministry of Economy and the City of Paris.

Contributed articles:

'Wheels Keep Turning'

Seb Dance

Deputy Mayor of London for Transport,
Greater London Authority & Transport
for London

Dance previously served as Member of the European Parliament for London (2014–2020), where he was Vice Chair of the Environment Committee and S&D Coordinator on vehicle emissions and air quality. He worked at ActionAid UK and as Special Adviser to the Secretary of State for Northern Ireland. He is now Deputy Mayor for Transport in London.

Contributed articles:

'20/20 Vision on Vision Zero'

Vasiliki Amprasi

Research Associate,
University of West Attica

Amprasi is a Civil and Transportation Engineer, holding a Diploma (MEng) and a MSc with full scholarship. She is a Research Associate at the University of West Attica, also working as a freelance transportation consultant. Having experience in European and national projects, her work focuses on sustainable mobility, integrated urban planning and participatory processes.

Contributed articles:

'More Than a Stop'

Pedro Gomes

Clean Vehicles & Air Quality Cluster
Lead, POLIS

Gomes holds an MSc in Environmental Management Systems and a BSc in Environmental Engineering. He supports POLIS members with policies such as AFIR, EPBD, CO₂ standards, the Clean Vehicles Directive, and the Ambient Air Quality Directive, while managing several EU-funded projects. Previously, he worked at NOVA University and AGENEAL, the Local Energy Management Agency of Almada.

Contributed articles:

'Current of Change'

Silvio Nocera

Full Professor of Transport Engineering
and Planning, Iuav University of Venice

Nocera's research covers economic evaluation of transport systems, external costs of mobility, high-speed rail, and active travel, with a strong focus on carbon emissions and sustainability. Ranked among the top 2% most cited scholars in 'Logistics & Transportation', he advises major EU-funded projects.

Contributed articles:

'How Much Do We Move?'

Viktor Haase

State Secretary, Ministry of the
Environment, Nature and Transport,
State of North Rhine-Westphalia

Haase has served as State Secretary since 30 June 2022, when responsibilities for Transport and Environmental Protection were merged under the new government. As a biologist specialising in sustainability, he previously led the Department on Sustainable Development and Climate Change from 2014 to 2022.

Contributed articles:

'Connecting Beyond Borders'

Revekka Voultsinou

Smart Mobility and Traffic Systems
Intern, POLIS

Voultsinou is currently completing her Integrated Master's degree in Civil Engineering at Aristotle University of Thessaloniki, specialising in Transport and Project Management. Her work explores the intersection of sustainable urban mobility, public transport, and policy frameworks, shaping the deployment of emerging mobility technologies.

Contributed articles:

'Who Drives Automation?'

Sofie Cederberg

Senior Communications Manager,
Voi Technology

Joining just after the company's founding in 2019, Cederberg has grown alongside Voi ever since, building expert, hands-on knowledge of communications and media relations in the European shared micromobility field.

Contributed articles:

'Wheels Keep Turning'

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