cities in motion

POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

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A CITY FOR WHOM?

Exclusive interviews with:

Koen Kennis, Stefaan Walgrave,
Lot van Hooijdonk, David Dessers,
Anne Goodchild, Christy Pearson

Featuring POLIS members:

Utrecht, Turku, Baden-Württemberg
Rotterdam, Viken, Gothenburg, Amsterdam

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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 some.

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

Contact **Alessia Giorgiutti**, POLIS' Communications Coordinator, or **Karen Vancluysen**, Secretary General of POLIS.

FOREWORD

Karen Vancluysen
Secretary General of POLIS Network

At its heart, a city is about people — creating spaces to live and work, and supporting communities and individuals to flourish. Transport is the key to enabling this, yet all too often, the needs and desires of communities and people do not underpin our urban mobility architecture.

So how do we begin to bridge this mismatch? This issue of **Cities in motion** assesses the current face of urban mobility and asks : **'A city for whom?'**

It is a critical question, which we do not regularly pause to deliberate. The historical lineage of this oversight is clear in our urban fabric ; from vast highways cutting through communities, minority groups underserved — if not completely omitted, to public transport services, air pollution costing thousands of lives each year, and traffic congestion racking up vast economic costs worldwide, particularly for local businesses.

When urban air pollution causes over 200,000 premature deaths each year in Europe ; **a city for whom?** When almost 20,000 people are killed on European roads each year ; **a city for whom?** When a disproportionate share of 20% of urban space is dedicated to cars, yet more than a quarter of low-income households do not even own a car ; **a city for whom?** When gender-based violence in public space is reported by over 70% of the population ; **a city for whom?**

The capacity for achieving decarbonisation and decongestion goals hinges on confronting this question.

Electrification, automation, and digitalisation may appear to be silver bullets to some, but the hard truth is that without accommodating everybody in the transition to sustainable mobility, and without creating a city around its people, we will fall way short of our targets. Technology will not solve that.

There is, however, hope on the horizon. The incredible changes taking place across our cities and regions demonstrate transformation is possible, but it does require decisive, bold, and sometimes radical action, engaging with local concerns, while championing evidence-based decision-making, and thinking more creatively.

This latest issue of Cities in motion shows how this can — and is being — done. We hear from cutting-edge projects which are reframing mobility as a 'right' to pioneer a public transport revolution ; we examine how data, digitalisation, and AI are rapidly revolutionising transport services, tracking the latest changes in MaaS, micromobility, and the **European Mobility Data Space**, and we look at how public policy can best harmonise these with inclusion and accessibility agendas. We look at the future of active travel, exploring how, after the **European Cycling Declaration**, we can capitalise on progress, translating principles and commitments into tangible action.

We also feature interviews with leading academics, including **Stefaan Walgrave** (University of Antwerp), **Romit Chowdhury** (Erasmus University College), and **Dr Sara Candiracci** from Arup, who provide evidence-based assessments of the key challenges — busting the age-old myth that sustainable mobility does not win elections.

The magazine illustrates how this is playing out on the ground. Europe's local decision-makers take us to the frontline of Europe's transport transformation with lessons for reconciling discord and pulling in the same direction. POLIS' outgoing President and Leuven's Deputy Mayor **David Dessers** and his counterpart in Utrecht, **Lot van Hooijdonk** — our incoming president, unite to examine shared aspirations, ideas, and practical strategies for fostering more sustainable transport within their cities. Meanwhile, Antwerp's Deputy Mayor **Koen Kennis** outlines how far the city's mobility landscape has come and what is on the horizon.

This latest issue thus brings together two pillars of POLIS work : the **Just Transition** and **leadership for change**. Throughout the issue, readers can view for themselves how when placed together, these essential ingredients can — and must — unite to support economic growth, climate objectives, social cohesion, and political unity, so that the answer to the question **'A city for whom?'** becomes **'A city for all'**.

We hope you enjoy it!

Karen Vancluysen
Secretary General of POLIS Network

INTERVIEW WITH
STEFAAN WALGRAVE

ELABORATED BY
QUAID CEY
KAREN VANCLUYSEN

WINNING WITH SUSTAINABLE MOBILITY

In preparation for the Annual POLIS Conference 2023, POLIS speaks with the Keynote Speaker of our **Closing Plenary**, Stefaan Walgrave, Professor of Political Science at the University of Antwerp, to explore the nexus between politics and urban mobility. He explains how policymakers' own ambitions as well as their perceptions of public opinion come together to shape sustainable mobility policies, and why conservative bias is relevant for tomorrow's transport.

The push (and pull) for sustainable urban mobility

Across Europe, sustainable mobility has become a hot topic amongst political leaders at the local, regional, and national levels. More than a few European cities are eager to lead the way, from Madrid, with its plan to make more than 450 hectares of the city centre nearly traffic-free, to Turku, the oldest city in Finland and the first to recast itself as a 'city designed for walkability.'

However, not everyone is as excited about sustainable mobility as the leaders advocating for change, and a campaign for safer, greener, and more inclusive transport is not always a ticket to electoral success.

To uncover the link between politics and sustainable mobility, we spoke with Stefaan Walgrave, Professor of Political Science at the University of Antwerp, who has spent years researching politicians' perceptions of public opinion. He reveals how conservative bias, violent protests, and the personal ideologies of today's urban leaders all play an important role in shaping sustainable mobility policies.

POLIS: Based on your past research, what kind of assumptions would you say European politicians most often make about the beliefs and expectations of the public?

Stefaan Walgrave: There is quite a big stream of research in political science claiming that politicians take their perceptions of public opinion — what people want, how they want policy to evolve — into account when making policy.

Representation is kind of a clash between [politicians'] own opinions and ideologies concerning many topics and their perception of public opinion, and they try to strike a balance between those two drivers.

We know – and there is some research clearly showing it — that politicians look behind their backs constantly and try to know if the public agrees with them. If not, they will refrain from taking a policy initiative, reframe it, or first try to convince the public of a certain position or stance on a policy before they actually enact it.

So, the perceptions of politicians on public opinion are really important in [determining] how policies come about, and there is no reason why the mobility domain would be different in this respect.

POLIS: When it comes to sustainable mobility, what beliefs do politicians hold about the public's opinion?

Walgrave: In general, I would expect that politicians overestimate the resistance to sustainable policy measures, including sustainable mobility policy measures. We call it the 'conservative bias' in the perceptions that politicians have concerning public opinion. We see it in environmental issues, migration issues, redistribution issues...

Very likely, sustainable mobility is also situated on the socio-cultural left-right cleavage, with right-wing parties more hesitant to enact sustainable mobility measures and left-wing or progressive parties much more willing to do so. Those who do, at least in Belgium, are the Green parties. If they are in power, they bring bikes in and they get rid of cars as much as possible in the city centres.

We have seen in the past that when there are new rules about getting rid of cars and giving more space to bikes, pedestrians and public transport, there is a protest. In Ghent, for example, the Greens installed a kind of fundamental change in the inner city traffic and this led to quite a massive protest. The same thing happened in Brussels; it happens all the time.

Cyclists navigating Ghent's inner city low-emission zone

©Stad Gent - Dienst Toerisme

Probably, politicians' expectations about protest are generalised to the entire population. Of course, politicians should probably care more about vocal minorities than they should about lukewarm majorities. If those who are in favour of sustainable mobility policies do not stand up, and do not defend the policy, then politicians are right to be afraid of the electoral punishment of the vocal minority, which will change its vote based on the issue that they find very important.

The estimations of politicians may be wrong initially, but when policies are decided, maybe they are right. As soon as a policy turns into actual policy and people are no longer allowed to park their cars in front of their homes in the inner city, the resistance comes. When it becomes practical, operational, and personal, then there is probably more resistance than there is on a principled level.

What I am saying is that politicians are definitely cynical about how citizens would react, and they might be correct when it comes to implementing the policy, but when they have to estimate non-contextualised support, as asked in a survey, politicians mostly likely grossly underestimate public support for sustainable mobility policies.

POLIS: When politicians campaign for sustainability or try to 'win with sustainable mobility,' what is it that they are actually promising to citizens? What changes can citizens expect?

Walgrave: If they take their conservative perception of public opinion into account, they would probably refrain from campaigning for sustainable mobility because they think it is an unpopular position. They would try to avoid adopting an unpopular opinion, at least in public.

The Greens in many countries say, 'We are on the defence. The majority of public opinion is right-wing, so we have to fight an uphill battle, and often we do not engage in the battle because we think it is a lost cause, so we do not even try.' Then the question is, 'How can actors convince citizens of the advantages of sustainable mobility?'

That is another matter. It is about how to sell, how to persuade, [how to convince people of] the advantages of sustainability. What I don't believe is that the argument of 'less is more' works: saying, 'Well, you will have less mobility, but cities will be safer.' I do not think people want less mobility. I don't think people want to give up mobility comfort for sustainability, so I think that, at least for me, the best argument is 'Nothing will change; you will have the same comfort, and on top of that, you will have a safer, cleaner environment to live in.'

I do not believe that people will change their lives, so it needs to be low-threshold, cheap, and comfortable, at least that's my opinion. It is a matter of introspection. When I look at my own behaviour, I consider myself to be totally environmentally friendly, but I will use my car so I can be back in an hour. I can bike, and biking is a good combination because you are getting exercise and being healthy, and, if you live close to the city, it is faster. But comfort is the crucial thing.

A biker enjoys a moment of low traffic in Leuven

Tobias Cornille, Unsplash

POLIS: What do the politicians stand to gain from campaigning for more sustainable mobility?

Walgrave: I think many of them truly believe that society would be better off with sustainable mobility – that cities would be more livable, safer, and healthier.

Political actors of course try to maximise their gains, for example, by winning popular support, but the gain is also in realising your dream, and I really do think that some politicians think they are making the world a better place by doing this. That is why they are in politics; that is the ideological reason.

Then there is the more extrinsic motivation or instrumental reason, which is knowing that they can win elections by pleasing the majority of the public. Of course, the progressive parties, who are more in favour of sustainability, do not have to please the public as a whole if they please their own voters, or their potential voters — the voters who are closest to them.

Maybe they can win the elections by implementing big changes in urban mobility. For them, it is probably less dangerous to do this than for a right-wing party that has supporters who, in reality, oppose those policies more.

Police on horseback monitor a peaceful protest against the '15 minute city' in Oxford, England

Sarah2, Shutterstock

Good Move, the mobility plan for a 'Brussels on a human scale.'

Pascal Smet

It is an estimation of one's electorate. To come back to your question, I think it is an ideological matter: an ideological win. In Ghent and Leuven, where the Greens were in power, mobility plans were introduced that made it more difficult to have a car, and notwithstanding the resistance, I think they are proud that they introduced this.

POLIS: Do you see this political backlash to sustainable mobility as a conflict between the interest of the city as a whole and the individual citizen?

Walgrave: I think so. With regard to inner cities, it is a conflict between the inner city inhabitants and the people who live around the city. It is a kind of conflict of interest between those who use the city as a hub – as a kind of service centre — and those who actually live in the city.

[Those who] live in the inner city have certain privileges: they can park their car in the centre, for instance, so they like the policy. Most of the protest, I guess, is from people who do not live in the city but use it as a sort of service or cultural hub.

There clearly must be tensions between those who are affected and those who are privileged. It is difficult for politicians to strike a balance.

POLIS: If policymakers frame sustainable mobility as something that can help people rather than restrict them, how do you think this changes the political discourse?

Walgrave: I think politicians try to develop those arguments, but I am not sure they are very successful.

With regard to sustainable mobility, maybe we see something similar to what we saw with other kinds of bioethical policy changes, such as in the areas of gay marriage, gay adoption, euthanasia, abortion, and so on. We see that the policies that were adopted in Parliament often were ahead of public opinion. The policies were more left-wing, more progressive, and at the time of voting, many people did not agree with the policy. But then, once the policy was implemented, people got used to it.

Policy can follow public opinion, or policy can precede public opinion — it can lead to public opinion. Regarding bioethical issues, we clearly saw the second pattern.

If you are optimistic, you could say that with sustainable urban mobility, we might see the same thing. People realise after a while, 'I was opposed to it in the beginning, but now that I look back on it, this is actually a better situation.'

It is also just a natural, reflexive resistance to change, whatever change there is. Politicians should overcome that conservative reflex that people have. I think the difficulty for politicians is to know when resistance will persist and is really deep-seated — when people feel that their liberty or their comfort is decreasing — and when the negative reaction is just a temporary resistance.

The conservative bias in public opinion perception — part of it, anyway — is simply the innate conservatism of people, and then of course there is the matter of real conservatism: that people ideologically do not want to change their lives. These two things are difficult to disentangle.

POLIS: For those who are ideologically resistant to changes in mobility planning, what do you think explains their aggressive reaction to the government's policies?

Walgrave: I think often mobility policy is a kind of symbol. It is related to people having the impression that they lose comfort, and that's a real thing, but then there's also [the fact that] many of those people feel left behind or not represented. They think politics is an elite thing, that they are not being heard, and that no one defends their interests.

I think that sustainable mobility policies are simply a case onto which the discontent with politics is projected. That's why the resistance is radical and sometimes even violent. It's not about mobility — it is about a more general idea or assessment: 'People like me, we don't have any power. We are constantly neglected. Politicians don't know what we want. They do not bother. They disregard us.'

Since mobility policies are something that is immediately felt and also physical — for example, road furniture is something that you can destroy — then the enemy is palpable and visible. You can punish it; you can set fire to it.

This is very different from a new policy on unemployment benefits, for instance. What can you do against that? Set fire to the unemployment benefits building?

The enemy [in the case of mobility policies] is immediate, so you can physically resist the new situation. It is a good enemy because it allows you to turn your dissatisfaction into action that is directly targeted at the thing you despise.

With traffic policy, you can resist by setting fire to a traffic camera. It's easier. The Gilets Jaunes attacked traffic cameras and traffic lights and occupied roundabouts. That makes mobility policy a good battlefield for people who feel left behind.

Yellow Vests light open fires on the Champs Elysees during a protest in Paris

gaston_fournier, Shutterstock

A Yellow Vest protestor poses in front of a destroyed speed camera in Lyon

Romain Lafabregue / AFP / Getty Images

POLIS: What kinds of challenges do you think politicians will face after they have 'won with sustainability'? Will they be able to deliver on the promises they made during their campaign, or will they need to adapt?

Walgrave: I think that probably in the long run, politicians do win with sustainable policies. Once people get over their cold-feet responses, once the policies are actually implemented, many people will probably agree after a while that this was the best choice and that their lives have become better and not worse.

I am not sure whether there are long-term consequences [for politicians]. The thing that I wonder is if, when politicians implement such policies against public resistance and then the policies later turn out to be successful and make the city better, there is an electoral reward for the politicians.

Most voters vote prospectively: they think about the promises that politicians make for the future. This we know from voter research. So, I wonder if politicians would really be rewarded for implementing such a policy. Even if most of the people in the city agree with them after a while, I think the electoral benefits will be rather small. Any good policy delivers few [electoral] benefits because people vote based more on what politicians promise to do in the future than what they say they have done in the past — it weighs heavier on citizens' considerations.

What politicians can be proud of is that they made the world a better place, they [stayed true to] their ideology, and they kept their promise. I think that is what is in it for politicians. It is more of a statesmanship idea — 'I did my part; I changed the world' — than an electoral reward.

Anspach Avenue: A highlight of Brussels' plans for sustainable mobility

Werner Lerooy, Shutterstock

Koen Kennis
Philippe Verhoeven

INTERVIEW WITH
KOEN KENNIS

ELABORATED BY
ISOBEL DUXFIELD
KAREN VANCLUYSEN

ANTWERP'S ADVANCE

POLIS speaks to Koen Kennis, Vice Mayor of Antwerp and panellist for our **Opening Plenary**, about the future of sustainable mobility, and how a city renowned for being a logistics and tourist hotspot is doubling down in sustainable transit.

POLIS: What are Antwerp's key goals when it comes to urban mobility?

Koen Kennis: Our main goal is to reach and maintain a modal shift, while at the same time keeping the city liveable, (and reachable) for all transport modes and in balance with its role as the economic powerhouse of Flanders and Belgium.

POLIS: What do you see as the key mobility challenges in Antwerp?

Kennis: Currently, the city is undertaking massive infrastructural works (the 'Big Link'). This is necessary for us to finally close the Antwerp ringway and make the city more liveable. These works will be finished in 2030 and include building a new crossing under the river Scheldt and more tunnelling underneath the docks. The ringway will be covered as much as possible, making way for extra green spaces. The city and its roads will change immensely. The key challenge is to keep the city reachable during these works which will last for several years.

POLIS: Antwerp is a forerunner when it comes to cooperating with shared mobility service providers from the private sector. How do you regulate as well as incentivize them and what is the role of the marketplace you have created?

Kennis: Shared mobility providers who wish to operate in Antwerp have to meet the conditions set out in our regulatory framework, containing a set of rules and standards (for example the specific number of vehicles per area permitted, and sharing of real-time and user data). By doing so we manage to avoid shared mobility interrupting or damaging mobility for the general public.

Furthermore, we make sure that their services are in line with the city's mobility policy. If operators do not respect the rules, we can limit the scope of their operations. Avoiding problems is the best way to create the necessary common ground between users and non-users.

The marketplace for mobility does not focus on shared mobility specifically but has a broader view. It aspires to activate all mobility players and even entrepreneurs and institutions alike, trigger them to come up with solutions for existing challenges, and work together, thus creating a viable mobility ecosystem in Antwerp.

Cycling Grote Markt

Frederik Beyens

POLIS: Antwerp is a major freight centre with the second largest port in Europe. In what ways have you been able to "clean up" logistics in the city? And what learnings may this have for other cities facing similar challenges?

Kennis: 'Cleaning up' logistics has been an ongoing process in Antwerp for many years now. Through piloting together with the sector, an ongoing dialogue with stakeholders and project call launches, we have been able to gain many useful insights throughout the years.

As a city, we have learned that it is important to have stakeholder support for city decisions, that testing on the field is of key importance, that freight is and will always be necessary for the city, that sustainable logistics also involves traffic safety, that connecting with other cities is of great value.

The city has had pilots on water-bound logistics, construction logistics, freight route planning, consolidation, and more.

In addition to these pilots, the city participated in many regional and European projects to learn even more. Last year, the city initiated the writing of a SULP (Sustainable Urban Logistics Plan), on data analysis and stakeholder sessions with sector representatives. The SULP will be ready by the beginning of next year, starting a new chapter in 'cleaning up' logistics in the city.

In perhaps a more literal sense of 'cleaning up', the city has been selected as a research city in a study initiated by the Flemish government on the introduction of zero-emission logistics in city centres.

POLIS: Antwerp also cooperates with surrounding regional authorities. In 2017 Antwerp reached an important milestone in its multimodal journey with the 'Alliance for the future', an agreement between different partners to offer better mobility options and improve life quality in the Antwerp region. What advice would you have to other municipalities for developing and sustaining such collaboration?

Kennis: Define a common goal and ensure it is shared by all relevant stakeholders. Set up the organisation accordingly to maximize societal added value. In Antwerp's case, the common goal is the ambition to build a city that people enjoy living in, work and do business in, and visit.

Within the city administration, several task forces were set up to tackle social challenges, turn them into opportunities and provide internal coordination. On a government level, the 'Alliance for the Future' foresees a tailor-made governance structure to manage the project. It consists of three levels:

- First level: the Regional Council brings together Mayors of the entire region with delegates from the Provinces and the Flemish parliament to decide on substantive proposals and advise the minister in spending within a multi-annual budget.
- Second level: the Working Community closely follows up the implementation of the Alliance for the Future and the translation to operational plans. The City of Antwerp and the civic movements are the main actors.
- Third level: the Working Platform brings together the major executive agencies, local government services, as well as the Belgian railways, the Flemish tram and bus company to provide for specific development and implementation of the various sub-projects.

Koen Kennis in Antwerp

Dirk Vermeiren

The three bodies work closely together. The idea of this unique structure, with a structural role for civic movements, is to proactively prevent conflicts and work in a problem-solving manner in the coming years.

It provides a long-term collaborative framework to jointly deal with the unforeseen and unplanned, which is unavoidable given the scale and timespan of the project.

POLIS: Behind these harder measures and infrastructure developments, 'mindset' change is essential for achieving the significant modal shifts required. In fact, 'Smart Ways to Antwerp' focuses on soft measures like communication supporting behavioural change, and encouraging citizens to recognise and adopt different ways of travel. What have been the main successes of this initiative? And what else does it have planned going forward?

Kennis: A modal shift in the broad sense of the word is taking place in Antwerp. Our latest trend report (published in May 2023) clearly shows a shift away from the car in both professional and recreational mobility, across all age groups.

The statistics show that all the efforts of the city, including the programme of Smart Ways to Antwerp (www.sna.be) are paying off. The multimodal route planner with turn-by-turn navigation is truly unique and gives travellers personalized, smart advice. With the employers' approach, we reach more than 150 employers in Antwerp, representing 71,000 employees.

The Marketplace for Mobility has 145 active partners. Smart Ways to Antwerp has grown into a high-quality source of information and a reliable partner in the mobility world.

POLIS: Active travel has played a growing role in Antwerp's mobility mix. Indeed, the city has an impressive web of cycle networks within the city, as well as connecting it to peripheral areas, and in 2022, for the first time, more residents opted for the bicycle than the car for their daily commute to work (42.6% bike versus 36.2% car). What is the secret to success here? (push and pull measures etc, success of public bike-sharing scheme)

Kennis: Safe infrastructure is key, as is the underlying logic of the network. Since 2013, the city of Antwerp invested a lot in defining and getting rid of missing links, making cycling the best, most logical and most fun option to get around the city. Expanding the network outside of the city boundaries was the next step. In the Antwerp Transport Region, consisting of 32 municipalities (1.1 million inhabitants) a network of 2,000+ shared e-bikes was installed, even expanding into neighbouring regions. To make the city attractive for pedestrians the historical city centre is turned into residential areas, and streets are refurbished for less, slow and local traffic. The use of shared mobility and public transport is also actively encouraged.

The integrated approach and the combination of a wide range of measures is what has led to these successful results.

Antwerp cycling along the Scheldt

Gianni Camilleri

POLIS: At the same time, road safety and protecting cyclists and pedestrians remains a key point to work on in many cities. How does Antwerp tackle this ongoing challenge?

Kennis: Safety comes first. As stated, optimizing our network in terms of safety and comfort is crucial. Updating existing bike lanes very often means broadening them, and building new bike lanes is done according to the recent standards. Accidents are intensively studied based on police reports and if needed urgent action is taken. Wherever possible traffic modes are separated physically in different lanes. Where not, appropriate measures are taken. This an ongoing process, aiming to improve our infrastructure for all transport modes.

POLIS: This year Antwerp joined POLIS, becoming one of many Belgian cities in the membership. How do you hope to use the membership to learn from others, and share your own experiences?

Kennis: Collaboration with POLIS matches with the ambition of Antwerp to be a leading European city in innovative, sustainable and smart mobility. With the recognition that the city has acquired in recent years through participation in various European projects (SCALE-UP, SPINE, PIONEERS, MOBI-MIX, FAST TRACK, LEAD) we can share experiences within the POLIS network, learn from other cities and address common issues on EU level.

POLIS: Antwerp has also been selected by the European Commission as one of the 100 Climate-Neutral and Smart cities. From that perspective, what do you expect Antwerp's mobility landscape will look like by 2030?

Kennis: A modal shift toward sustainable modes of transport for the city and the region. A fully completed Antwerp ring road, partly covered, with lots of new extra space for people walking and cycling. And more capacity for all transport modes to cross the river Scheldt, including a first bridge over the river (pedestrians and cyclists only).

POLIS ANNUAL CONFERENCE 2024

CITIES AND REGIONS FOR TRANSPORT INNOVATION

27-28 NOVEMBER 2024

KARLSRUHE (DE)

Baden-Württemberg
MINISTRY OF TRANSPORT

Karlsruhe

Mark your calendars for **27 and 28 November 2024** and join us in **Karlsruhe, Germany**, as we gather leaders, policymakers, and innovators from around Europe and beyond to explore innovative solutions for sustainable mobility.

Join POLIS and hosts **Baden-Württemberg** and **Karlsruhe** at #POLIS24!

ACCESS

Through the theme of Access, cities and regions cooperate to address challenges related to the accessibility of urban mobility, and the role of regulations, projects, and technologies in fostering improved access to the city for all.

Access in mobility encompasses themes that POLIS covers in two Working Groups — the Access Working Group and the Parking Working Group.

The **Access Working Group** covers a broad range of topics related to 'access', linked to social, economic, digital, physical, and regulatory aspects of transport and urban mobility. This includes the access of people or users to fair, affordable and efficient mobility (see the Just Transition Taskforce).

It also incorporates urban (vehicle) access regulations, enabled through local and regional ambitious projects and regulations, and increasingly enforced by technology like geofencing or Intelligent Speed Assistance (ISA).

In addition, the WG digs into the access of new mobility technologies into urban spaces, including Urban Air Mobility.

Through the **Parking Working Group**, POLIS facilitates coordination between authorities and professionals in charge of parking policy, on-street and off-street, public and private, and urban planning.

These activities are conducted in partnership with the European Parking Association, eCharge4Drivers project, Park4SUMP projects. The group also supports the Alliance for Parking Data Standards (APDS) and the bi-annual EPA Congress.

Find out more about the Access Working Group on our website!

Find out more about the Parking Working Group on our website!

UNLOCKING INCLUSIVITY

WRITTEN BY
CARLOTTA INSERRA

Mobilising shared mobility services for a more inclusive and accessible future for? Providers are leading the way!

In this article, we delve into interesting examples from industry leaders Lime, Uber, Nextbike, Dott, and Voi as they strive to make **transport services open to everyone**, regardless of their mobility challenges. We also turn to POLIS member **Mpact** for an additional perspective on their ongoing research to provide more **inclusive shared mobility services**.

Around 87 million people in the EU have some form of disability. Without accessible transport modes, people with different disabilities and health problems continuously face enormous obstacles: restricted travel options, limited leisure opportunities, and even reduced economic opportunities due to a lack of access to education and employment opportunities. While there have been many efforts across Europe to tackle this issue and make transport more accessible to people with specific mobility needs, many barriers still exist today across the entire mobility service offer.

Shared mobility is one of such services, and with its use having risen drastically over the last few years, it is surprising to see how there is little to no research regarding the shared mobility needs and preferences of people with disabilities in Europe. This makes it difficult for policymakers to design appropriate regulatory frameworks or for mobility providers to develop concrete solutions to foster systemic change towards inclusive shared mobility services. However, despite this gap in research, several shared mobility providers and organisations have already begun to address the need for more inclusivity and accessibility in their services. In this article, we review some of their efforts, looking at different examples from the private sector while also receiving an additional perspective from POLIS member Mpact, a non-profit organisation offering various shared mobility options.

SMARTHUBS event in Cureghem
Mpact

Accessible shared vehicles: providers take charge

To improve the accessibility of shared mobility services, it is crucial to understand users' requirements and needs. People with certain disabilities cannot use micromobility services, unless adaptative solutions are provided. It is therefore essential to begin from the design of the vehicles themselves, and how they can be put on offer in a way that actually works for those who they are meant to serve. So how are mobility providers doing this?

Lime began their accessibility journey by conducting surveys directly with their riders. The results from one of those, which received over 18,000 responses from over 80 cities around the world, showed that a significant number (8%) of Lime riders using their existing service identified themselves as having a permanent or temporary disability. To best address the needs of these users, Lime Assist was born: it is a programme aimed at providing access to different shared electric vehicles designed to meet a wide spectrum of abilities. These different vehicles include seated scooters with different accessibility options, such as a uniform sound to alert pedestrians of the vehicle's approach, customer service information displayed in braille and large font, and more.

Through Uber WAV, the ride-hailing service provides affordable rides in wheelchair-accessible vehicles where available. WAV driver-partners are certified by a third party in safely driving and assisting people with disabilities. Moreover, just this year Uber France presented ten measures to the government to improve care for visually impaired passengers and passengers in wheelchairs. The measures include Uber's 35,000 drivers having to watch a video explaining how to care for passengers with special needs and the use of an 'anti-discrimination button' in the event of a refusal of service on grounds of disability.

Nextbike by Tier launched two three-wheeler schemes in Europe, one in the Bizkaia region in Spain and the other in Buzau, Romania. These vehicles, namely tricycles, are particularly useful for users such as the elderly, people with balance disorders, and people with physical limitations or disabilities in general. They are integrated in the regular scheme and rentable via app or call.

The importance of partnerships

To make their services more accessible, some mobility providers have turned to adapted vehicle experts to learn how to bring such options within their own offering. In 2021, Dott partnered with Omni, a French start-up from the Ile-de-France region and winner of the Grand Prix of the Lépine competition for developing scooter-to-wheelchair adaptors. Through this partnership, Dott's e-scooters were designed to become compatible with wheelchairs, thus increasing the autonomy of wheelchair users and giving them access to shared micromobility options. In order to transform Dott's e-scooters into a vehicle suitable for everyday use by wheelchair users, the companies worked together to:

Woman utilising wheelchair adapted e-scooter through Dott pilot in Paris

Dott

Wheelchair accessible car

Shutterstock

- Lower handlebars, to the height of a person sitting in a wheelchair;
- Offset the handlebars for better comfort, avoiding pain in the arms and shoulders;
- Modify the speed controller, allowing a departure at 1km/h instead of 5km/h, given that people in wheelchairs cannot use their legs to start the e-scooter.

The prototype was successful, and Dott remains committed to regularly expanding their offering of accessible e-bikes, wheelchair-accessible scooters, and cargo bikes.

Voi did something similar by partnering with Klaxon Mobility, a company that specialises in creating devices that attach to manual wheelchairs, allowing users to move independently and with minimal effort. The company's Klick provides an added electric boost of flexibility and enabling them to travel longer distances over more varied terrain. Through this partnership, Voi will integrate Klaxon Mobility's wheelchair-accessible electric handbike into their fleet of shared micromobility offerings, expanding accessible transportation options and bringing micromobility to people with disabilities.

Beyond vehicles: social tariffs for shared mobility

When it comes to accessibility, socio-economic factors cannot be ignored. People with disabilities or with special mobility needs as a category are not a monolith: in fact, they often face challenges linked with other social characteristics beyond their main mobility barrier, which can still lead to shared mobility services being inaccessible to them.

With this in mind, shared mobility providers have also begun to implement social tariffs and discounts for their services in an effort to promote social inclusion. Bolt has launched a new 'Bolt for All' initiative to make micromobility more accessible for residents in Belgium, by offering a 50% discount on the per-minute rate of its scooters and bikes for any student, job seeker, or individual dependent on one of the 19 Brussels public social services centres (CPAS) – these include people with physical disabilities but also the elderly, children and youth, and more. Dott also offers solidarity and student tariffs for those who cannot afford the normal price: for example, in France and in the UK Dott offers up to a 75% solidarity discount similar to people with disabilities, students, emergency service workers, and more, following the local public transport's operation.

Lime's Access scheme in the UK in turn helps support lower income riders by providing their e-bike service at a significantly subsidised rate, allowing users to travel to important commitments, like job interviews and doctors' appointments, in an efficient and cost effective way.

Conclusion

In summary, addressing the accessibility needs of people with disabilities in shared mobility services is a pressing challenge. While there is a notable lack of research in this area, some providers have made considerable progress: Lime, Uber, Nextbike, Dott, and Voi have shown that various measures, such as exploring adaptative solutions, fostering partnerships with accessible vehicle experts, and offering social tariffs for their services can strongly enhance inclusivity.

While these efforts hold promise for a more accessible and equitable future in shared mobility, further avenues should consider: (1) including accessibility experts and users with special mobility needs throughout the entire shared mobility design process, as a collaborative approach is key to fostering truly inclusive solutions, and (2) engaging in dialogue with the public sector, to make sure investments are being made to improve the accessibility of transport-related infrastructure.

Member in the spotlight: Mpact

POLIS: How does Mpact understand accessibility in shared mobility? How do you implement it across the services you offer?

Mpact: To us, accessibility means first of all that you are able to participate in daily activities without having to own a (second) car. For example, our Mobitwin service allows more than 35.000 members, mostly older people, to visit relatives or to go to doctor's appointments thanks to a network of over 3.000 volunteer drivers. This is a convenient solution for (older) people living in the countryside, or for those who cannot afford a taxi.

Secondly, we make our services as inclusive as possible by continuously developing new mobility solutions. A good example is Cozywheels. Initially, this was a platform via which you could share your car with your neighbour. We expanded this service to an all-vehicle sharing platform. So now, you can for instance also share vehicles adapted to people who use a wheelchair. We are currently also further developing the Op Wielekes service, a network of bicycle libraries where you can rent a children's bike for a yearly fee, and exchange it for a larger bike when your child grows out of it. This optimises the use of resources and makes cycling much more affordable and hence accessible!

POLIS: Mpact is working on a number of European projects on this topic, such as Interreg North —Sea's Shared Mobility for ALL (SMALL). Can you tell us a little about your role and what has been your own approach within these projects to making shared mobility accessible to people with reduced mobility?

Mpact: Mpact is actively committed to enhancing shared mobility's accessibility for all, participating in several European projects aimed at inclusivity and equitable solutions. In the SMALL project, our goal is to co-create and adapt shared mobility solutions to cater to the needs of older people, children, and individuals with impairments, all while focusing on digital solutions, multimodality and working with volunteers/assistance. Volunteers and assistance play a vital role in our mission.

The SmartHubs project seeks to make mobility hubs as accessible as possible for vulnerable users. We have among others co-organised activities in Cureghem, a socially disadvantaged neighbourhood of Brussels, to design a mobility hub that is tailored to the residents' needs. In ShareDiMobiHub, we provide guidance to cities and regions in the North Sea area, emphasising the importance of inclusive mobility hubs and addressing the specific needs of vulnerable users.

Finally, in Belgium, we have recently launched the SMEP! (Shared Mobility Equity Principles), in which we combat gender inequality in shared mobility and public transport. Through research, guest lectures at universities, and a student challenge, we empower students to propose policies that foster inclusivity and equity in the realm of public transport.

Esen Köse

Project Manager
Mpact

Jelten Baguet

Project Manager
Mpact

POLIS: Can you tell us about a specific case where you implemented an accessible shared mobility service? How did you tackle the complexity of addressing the needs of people with reduced mobility, a category that is not so easy to define?

Mpact: Within the SMALL project, Mpact is exploring the potential of rickshaws for people with reduced mobility. Currently several rickshaw services are being offered across different cities in Flanders. Mpact is looking at the possibility of centralising and organising all these services in the region so that rides can be provided more efficiently and the service to the users can be improved.

Besides that, Mpact will also explore the idea of developing our Mobitwin service to include rickshaws (the service is currently purely car-based). We will capture the complexity of the target group by implementing a co-creation process. Despite the fact that rickshaws are already proving their worth in Flanders (e.g Fietstaxi service of the Fietsambassade Ghent), we cannot take it for granted that this would also automatically work for the current members of the Mobitwin service, who are used to car-based trips. Through co-creation, Mpact aims to understand the needs and the travel behaviour of this specific group of people and, where needed, improve the current service or include a new one to better fulfil the needs of the people involved.

Mobitwin service offered by Mpact

Mpact

FOCUS ON TEN-T

As the European Commission pushes forward with the revision of the **trans-European Transport (TEN-T) Network Regulation**, a transformative journey is underway to create a sustainable, efficient, and resilient European transport area.

Delve into the intricacies of this legislative evolution, where urban nodes emerge as pivotal players in the continent's transport landscape, driving economic growth, decarbonization, and connectivity.

WRITTEN BY
RAFFAELE VERGNANI

In December 2021, as part of the "Efficient and Green Mobility Package", the European Commission published the proposal for the revision of the trans-European Transport (TEN-T) Network Regulation (1315/2013). It aims to implement a European multimodal transport network with high-quality standards to strengthen the social, economic, and territorial cohesion of the European Union and contribute to the creation of a single European transport area that is sustainable, efficient, and resilient.

The revision responds to the need to adapt the TEN-T network policy to the many changes that have occurred over the last ten years, such as growing transport demand, geopolitical developments, and new mobility trends (liberalisation, interoperability, and technological innovation).

By 2030 the core network is expected to be completed, with the conclusion of an extended core network by 2040 and the comprehensive network finalised by 2050. By better-integrating rail, road and inland waterways, the current bottlenecks at national border crossings are expected to be removed, and connectivity throughout Europe will be future-proofed.

Nevertheless, as outlined by the Impact Assessment of the current TEN-T Directive, critical zones are not only identified at the cross-border level. For this reason, the Commission's proposal of the revised TEN-T Directive pays particular attention to the functional urban area dimension, since one of the main objectives of European transport policy is to ensure good connectivity between and within cities.

Redesigning the backbone

Urban nodes, which are defined as urban areas where various infrastructure components, such as ports, passenger terminals, airports, railway stations, bus terminals, and logistic platforms are interconnected with one another, are given more attention in the new legislation. In the Commission's revised TEN-T regulation, the number of urban nodes in the network would increase from 88 to approximately 430, giving more importance to cities in TEN-T network development.

'We are trying to bring urban nodes into mainstream urban and TEN-T policy. We also want to ensure a common approach across Europe, as they become ever more important locations in our transport systems. We have been talking for a long time about multi-modality, and it is urban nodes where this perhaps most prolific,' said Herald Ruijters, Director at the European Commission, DG MOVE.

The legislative process of the revised TEN-T directive is still ongoing at the time of writing. However, what is clear at this stage is that, when the revised regulation enters into force, it will require newly selected urban nodes to fulfil many requirements, summarised below (pending amendments that are possible from the EU legislators):

- Adopt a SUMP by 2025 and collect relevant data continuously across a wide range of sectors;
- Develop multimodal passenger hubs and appropriate connections with multimodal freight terminals by 2030;
- Have at least one multimodal passenger hub and one multimodal freight terminal by 2040.

Opportunities for cities and regions

In response to the TEN-T revision consultation, ERRIN and POLIS have teamed up and both laid out key messages for the common provisions on urban nodes and are based on the experiences of ERRIN and POLIS as regional and local actors in the implementation of the TEN-T regulation.

'Why should we consider urban nodes as the DNA of this regulation? 80% of journeys in Europe take place in urban nodes and generate 23% of all transport greenhouse gases, meaning that urban nodes are at the heart of decarbonisation,' said Françoise Guaspare, Senior Policy Advisor, Ile-de-France Europe (ERRIN Transport WG leader).

'As the number of urban nodes grows, it will make the TEN-T ever more important and present in the lives of all European cities, improving opportunities for European citizens. We are at a critical moment, where we have a real chance to shift in the right direction,' said Ivo Cré, Director of Policy and Projects, POLIS.

MOVE21

Urban node legislation will be essential in helping cities and regions achieve their ambitious goals for sustainable mobility by boosting economic growth and competitiveness.

However, understanding and navigating the implications of the new legislation will be a challenging process for many cities. Urban node classification comes with a range of requirements under the proposed revised legislation and those cities that are defined as urban nodes are asked to adapt their transport policies to meet additional requirements and regularly collect a wide range of data.

These issues are also tackled by the Horizon 2020 MOVE21 project, which is coordinated by the city of Oslo and sees POLIS amongst one of its partners.

Its Scan-Med Observatory aims to be an open platform that aims to gather a committed group of representatives from the local level located along the TEN-T Scandinavian–Mediterranean corridor which have been identified as urban nodes by the new revised TEN-T regulation. It will represent an opportunity for local authorities to debate and share views, challenges, concerns, needs, knowledge, ideas and best practices to bring the discussion on TEN-T and urban nodes to a more operative ground.

As stated by the Project Coordinator of MOVE21, 'These hubs and their connection to the TEN-T can represent a game-changer for transport in Europe but require vertical and horizontal policy coherence on local, national and EU levels. Horizontal and vertical regulation and policy goals exist in a sort of balance, but the pace of change can create policy incoherence and conflicts.'

Finally, to ensure greater clarity and transparency, it is essential to coordinate legislative changes with financing and funding programs (at national, regional, and European levels). Numerous cities and regions concurred, voicing their worries about the availability of such funding as well as the ambiguity surrounding the application process and eligibility requirements.

UPPER IN ACTION

Unleashing the Power of Public Transport

WRITTEN BY
ISOBEL DUXFIELD

If cities and regions are to meet climate and modal shift targets, public transport needs to be front and centre ; this is exactly what the **UPPER project** is on a mission to achieve!

While cities have undoubtedly been built around private cars, it is our public transport systems which have shaped the face and popular imagination of the metropolis. From Lisbon's sunny yellow trams to London's bright red double-decker bus, indeed, how many of us can identify a city solely from its metro map?

However, it is not just its iconism; public transport is the mainstay of many citizens' everyday mobility, with 60 billion passenger journeys made by public transport every year. Indeed, while the car may have become associated with personal 'freedom', it is public transport which is responsible for providing access to employment, education and healthcare, particularly for women — who account for over 50% of passengers — as well as more vulnerable user groups, for whom the car is an inaccessible and unaffordable alternative.

In addition, public transport serves as a significant source of employment throughout Europe, with a workforce of 2 million individuals employed at the local level alone.

Yet, over the next few years, public transport faces a major — perhaps unprecedented — battle. Services need to be more attractive, extensive and affordable; behind this, additional funding is urgently required, while the workforce faces a major skills shortage.

However, there is much cause for optimism. Innovative changes hold huge promise, with electrification, multimodal ticketing technology, and new public-private partnerships rapidly shifting, making urban public transport not just more affordable, but a quicker, more reliable, and more comfortable choice of transit.

This is where the UPPER project comes in.

The task for cities and regions now is harnessing this potential, and giving public transport the push it needs to accelerate at the speed required. Yet critically, the project anchors action in each city's unique local mobility milieu — bolstering their capacity to develop solutions which work for them.

After all, what works for Lisbon's undulating terrain, may not work for Leuven's flat Flemish fietsroutes!

'When it comes to collaboration, every city has its perspective. It is therefore essential to consider cities' unique approaches when coming together to implement the urban mobility framework,' asserted Tim Asperges, Expert-Advisor Mobility Policy, City of Leuven.

To achieve this, changing mindsets, improving urban mobility planning, enhancing road network management, and supporting democratic governance are critical. Constructed around these core issues, the UPPER project aims to strengthen the role of public transport as the cornerstone of sustainable and innovative mobility. The project will implement a combination of measures looking to push people out of private cars and to pull them closer to public transport in cities across Europe. At the heart of this is ensuring accessibility of services for all citizens, and enhancing the inclusivity of all modes of transit.

'UPPER strategies originate from a firm belief in Accessibility + Inclusiveness = Freedom. As such, the Mobility as a Right concept is embedded in the core of the UPPER communication strategy,' says Francesco Iacorossi, Project Coordinator, Eurocities.

'The representation of all segments of society is extremely important for the execution of UPPER's vision of public transport as a mode of transport for everyone, ensuring public transport opens up economic, social and political opportunities for citizens, and therefore increasing their quality of life.'

However, accelerating change demands a clear and comprehensive path forward, and urban mobility practitioners and decision-makers need practical assistance in planning and executing action — something UPPER aims to deliver.

Armed with a toolkit which includes a flexible software system for transport planning, travel demand modelling and network data management, data visualisation, engagement and analytics, as well as an extensive knowledge transfer platform — UPPER aims to be a one-stop-shop for all urban mobility case study information and guidance.

But what does this look like on the ground? How are UPPER cities — and regions — going about this? Here is a sneak peek of what the POLIS member cities in the project are doing...

Rome, Italy

The Italian Capital is home to 2,783,809 people, and over the last few years has become a frontrunner in urban mobility planning — particularly when it comes to active travel infrastructure and access regulations.

The Municipality of Rome's Sustainable Urban Mobility Plan (SUMP) was approved early last year and was followed by the adoption of the SUMP of the Metropolitan Area of Rome in December 2022. Amongst its ambitious goals, it aims to reduce private car ownership, congestion and air pollution, while improving multimodality, use of public transport and safety. A big concern for the municipality is Rome's high air pollution levels which are beyond the EU's threshold, including nitrogen dioxide and PM10 levels.

The Local Authority plans to introduce 100 km of new cycle lanes and local 30 km/h zones. This seeks to move beyond the temporary or 'pop-up' measures seen following the pandemic towards a 'transitory' approach, which embeds the cultural and behavioural change required for long-term modal shifts.

'Rome is at the centre of a real mobility revolution whose keywords are innovation, sustainability and new infrastructures. We want to be not only the Eternal City but also the city of the future,' said Eugenio Patanè, Councillor for Mobility, City of Rome, at POLIS' Political Group meeting in Brussels last year.

Île-de-France, France

Île-de-France — supported by Île-de-France Mobilités, the Paris Region Mobility Authority — has long been on a mission to design projects around the improvement of the public transport system, as well as place it firmly on the international policy agenda.

Versailles Grand Parc in the region is partnering with UPPER to implement a suite of measures in the locale to underpin public transport use for commuting and tourist travel.

A significant measure is the implementation of mobility credits as a payment method for public transport and micro-mobility services, allowing private companies in Versailles Grand Parc to provide their employees with mobility credits to pay for sustainable mobility modes.

This reflects Île-de-France's wider approach to a multi-modal, integrated mobility system, which is accelerating its concept of mobility as a service, partnering closely with local micromobility and shared mobility outlets to complement the public transport offer. Behind this is the region's aim to radically shift passengers' sentiments surrounding public transport, bridging the gap between perceived and actual quality of service.

Île-de-France is well versed in international cooperation like that provided by UPPER.

'Despite different types of governance and public transport systems, we share common objectives in terms of mobility, and we all face common issues, which the COVID-19 crisis has well highlighted,' said Laurent Probst, General Director of Île-de-France Mobilités, when welcoming other mobility leaders at a recent POLIS political group meeting in Paris. 'The short- and long-term challenges ahead are multiple and must be tackled together, from returning to normal transit ridership (pre-pandemic level) to combating climate change.'

UPPER Colleagues at Urban Mobility Days 2023 in Seville

Francesco Iacorossi

Lisbon, Portugal

From MOVE Lisboa to Mobility Strategy Vision 2030, a pedestrian access plan to tackling safety and security for women travelling across the city, Lisbon is fast making a name for itself for its development of public transport and accessible urban space.

In 2017 cars accounted for 46% of journeys, a figure they hope to cut to 34% by 2030. Lisbon is serious about this target, trialling motor vehicle restrictions in the city centre for 3 months this summer, as well as testing the superblock concept. However, in coordination with these measures, accessible and affordable public transport will be a critical part of achieving this goal. Indeed, Lisbon has already provided free access for children, students up to the age of 23 and seniors over 65 on the metro, public buses, most rail lines and the yellow trams.

Through UPPER the city aims to enhance the quality and efficiency of bus services in Lisbon by addressing perceived quality, effective communication, and system improvement. It focuses on improving the management of perceived quality, coordinating analysis among different operators, bridging the gap between customer and non-user opinions, and attracting new users through better communication and experimentation. The project will also support the city in coordinating traffic restrictions around schools and other facilities to promote safer and more active modes of transport

Budapest, Hungary

Budapest is not a new kid on the block when it comes to inclusive mobility design. Over the last few years, they have led the way in citizen-centred urbanism, and in the neighbourhood of Törökör, the EU-funded SUNRISE project proved the capacity for delivering results.

Within UPPER, the Hungarian capital is turning its sights to accessible digital services to complement and enhance its transport offering. The city aims to introduce a predictive travel planning option within the BudapestGO journey planner application, to provide a solution for managing a significant source of customer feedback.

'COVID presented additional and unpredictable challenges for our city. After many years of consistency, we have started to modernise, digitise and make BKK more customer-centric,' László Fendrik, previous acting CEO of the BKK Centre for Budapest Transport, told POLIS' Thinking Cities magazine.

With this product, it seeks to also brand and gather data for future Multimodal Mobility Packages in the BudapestGO app. Customers will be able to select discounted services, tickets, and travel products. BKK will collaborate with private transport service providers to test various discount offers, combining public transport fares with sustainable transport options.

Leuven, Belgium

Despite its relatively small size (just 100,000 inhabitants), Leuven punches way above its weight when it comes to sustainable mobility.

Located 30 km from the capital of Brussels, the city is embarking on a journey to become carbon-neutral by 2050, supported by a collaboration between residents, local authorities and the mobility sector.

Indeed, Leuven's efforts have gained it many awards, including European Capital of Innovation in 2020, the 'Best Open-Minded Destination in Europe', as well as the 2023 Public Space Award with their pioneering approach to redeveloping the land for active travel and public space.

Through UPPER, the city is building on its new circulation plan, to redesign the public bus system to create high-quality services and improve the transport axes throughout the city to facilitate the creation of separate bus lanes and prioritise traffic signals for public transport.

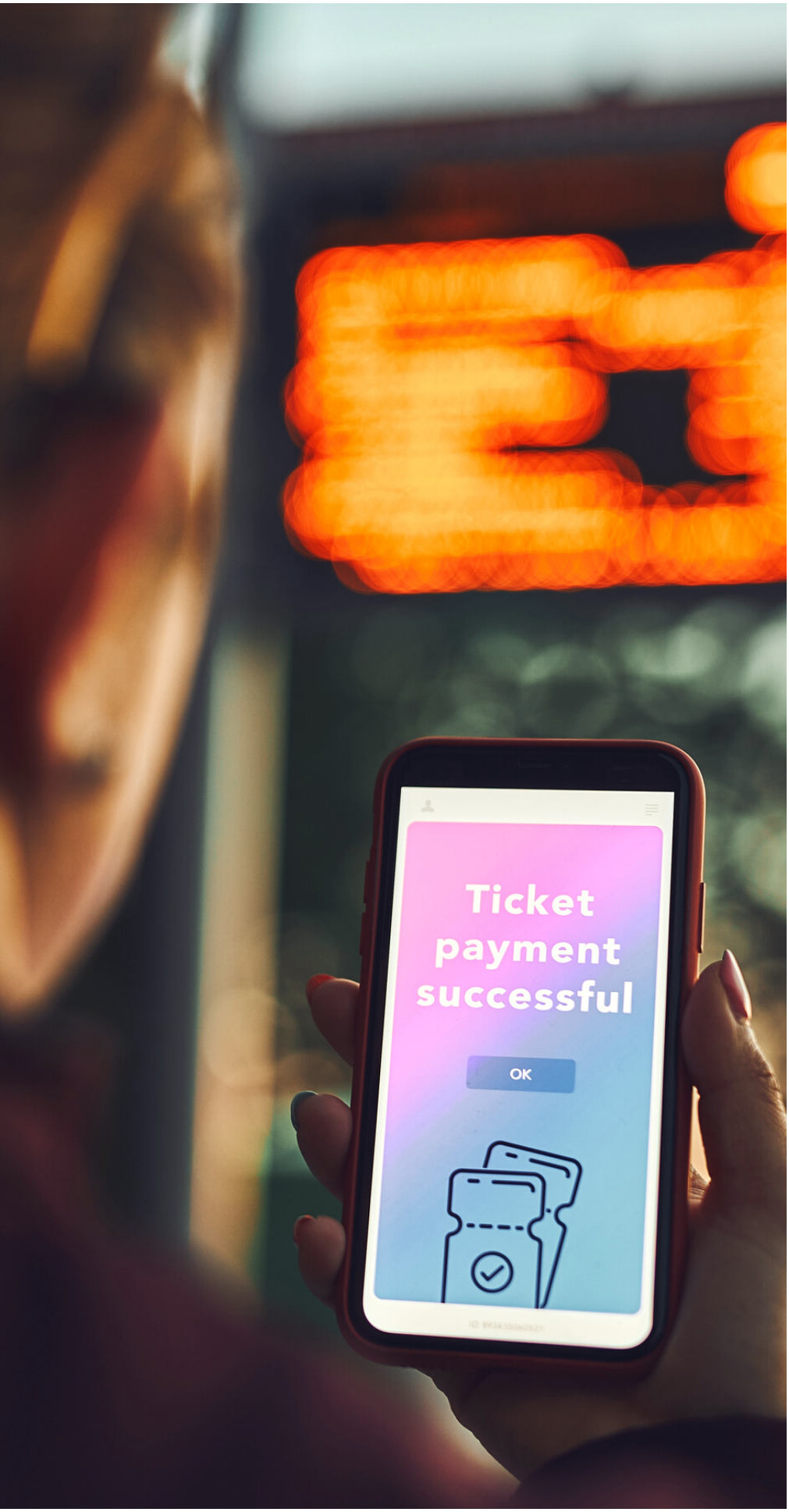
The city is also striving to embed a range of technological advancements in these changes, including integrated ticketing systems and MaaS applications to test smarter and more accessible incentives for targeted social groups.

Citizen engagement has long been at the heart of Leuven's approach to mobility planning.

'For people to connect with our policies, we must go beyond climate change and look at personal issues, as health and accessibility,' David Dessers, Vice Mayor, Mobility, Climate & Sustainability, City of Leuven, told POLIS Political Group meeting in Brussels last year.

David Dessers speaks at the POLIS Leadership Summit in Stockholm

Angela Zander



Thessaloniki, Greece

With 315,196 inhabitants, Thessaloniki is the second-largest city in Greece. The Greek city is well accustomed to responding to crisis and is leveraging this expertise through the project to respond to the urgency of climate adaptation.

The city is placing accessibility higher on the agenda. Here, with the support of the UPPER project, Thessaloniki is enhancing public transport in peripheral areas, exploring the potential of on-demand services in low-demand areas.

Supporting this the city is seeking to implement inclusive multimodal solutions based on already existing multimodal trip planners optimally combining car-sharing, bike-sharing, scooter-sharing and walking. As part of the UPPER project, this trip planner will be improved to address specific user needs and include public transport information.

Indeed, public transport in Thessaloniki is only in a few cases combined with other modes especially sustainable ones. This is attributed to the inadequate physical integration of transport modes, but also to the inadequate provision of information about real-time operation. As a result, within UPPER, the city will develop a digital service that will provide real-time information to travellers and integrate this service within an existing MaaS app.

Finally, to address public transport delays and service reliability, Thessaloniki plans measures to implement protected bus lanes, optimise route frequencies, and prioritise buses at traffic signals, thus further encouraging public transport usage over private cars.

CITY OF MEN
CITY OF WOMEN

Cities, whether by chance or choice, often contribute to gender disparities. The city, and thus, its mobility, becomes the ground on which to negotiate the pulls between public and private values, with traditional notions of masculinity and feminism fuelling patriarchal norms. What are cities doing around the world, and how can we ignite change? Join us as we decode the complexities of the **gendered city**.

FROM CONVERSATIONS WITH
ROMIT CHOWDHURY
SARA CANDIRACCI

ELABORATED BY
MARINA MARTÍN VILCHES

Cities are anything but neutral landscapes; they are intricate ecosystems that, among other things, mirror and sustain the diverse disparities present at different levels of everyday life. Women from diverse backgrounds face a myriad of challenges, from safety concerns to missed opportunities. Moreover, as Sara Candiracci, Associate Director at Arup, explains:

'When cities are largely designed without considering the diverse needs and insights of women of all ages and identities, it restricts their opportunities and negatively impacts the overall sustainable development of societies.'

Indeed, cities usually fall short in catering to women's needs, leaving billions underserved and at-risk. These urban shortcomings deepen gender disparities, placing women in situations men rarely encounter.

To fully decode the gendered city, we must recognize how traditional masculinity influences urban life, restricting access to public spaces for women and gender-nonconforming individuals.

Romit Chowdhury

Senior Lecturer in Sociology
Erasmus University College

A good start? Understanding the notion of 'masculinities', as explained by Romit Chowdhury, Senior lecturer in Sociology at the Erasmus University College in Rotterdam and author of 'City of Men: Masculinities and Everyday Morality on Public Transport':

''Masculinities' are those practices and speech acts through which people of all genders signify maleness. Much of what men do in the urban outdoors is related to what is expected from them as men in the private domain; men's morality sustains the patriarchal city.'

The (gender) mobility gap

Despite the common belief that mobility is gender-neutral and benefits everyone equally, the reality is far more complex. Transport is not exempt from the gender disparities ingrained in our society; it is fuelled by the same outdated notions, morals, and practices that perpetuate inequality.

'Mobility continues to be associated with men and masculinity while being place-bound is seen as a feminine attribute. This association is itself closely connected to publicness being related to men and the private domain being linked to women. Hence, women's mobility and presence in the public are seen as an anomaly,' continues Romit Chowdhury.

Women and men navigate transport differently, with distinct needs, expectations, and challenges. Women often juggle more intricate travel patterns, marked by multitasking and caregiving responsibilities. Safety is a top concern globally, and, as Sara Candiracci explains:

'Globally, personal safety is the most widespread concern for women when travelling. Women worry about their safety when travelling alone, at night, waiting in or moving through empty or isolated locations and in poorly lit or overcrowded transport spaces.'

Public transport creates a distinct landscape for understanding gender-based violence and harassment on a global scale. This issue is intertwined with diverse local perceptions of masculinity and femininity, deeply rooted in the cultural fabric of each nation, shaping the way people interact during their journeys. For instance, Romit Chowdhury sheds light on Japan and India, two countries he has extensively researched:

'Cultural ideas about good Japanese femininity make it difficult for them to protest when they face sexual assault on commuter trains. In Indian cities, conservative notions of the good Indian woman conditions respectability; those women who are seen by men as deserving of protection will be guarded; while those who go against societal expectations will be confronted with male rage.'

A glocal perspective

While gender equality remains an elusive goal worldwide, cities and citizens around the world are pushing for change via different initiatives. On Tokyo's commuter trains, Romit Chowdhury mentions:

'There is a growing trend among younger men to markedly hold on to the railings above with both hands while standing next to women; the idea is to signal to women that they have no intention of groping them. Women passengers notice these signs and allow themselves to relax.'

Also in Japan, where women face a higher risk of railway suicides, 11 train stations introduced calming blue lighting, resulting in an 84% decrease in suicides between 2000 and 2010. This innovative 'nudge technique' not only saved lives but also made cities more welcoming for women, highlighting the power of simple interventions.

In Europe, Vienna has been a trailblazer in 'gender mainstreaming' for almost

three decades. Back in 1992, Vienna's Aspern neighbourhood was meticulously designed around women's needs. These principles are now ingrained in policy, backed by penalties for non-compliance.

Now, other cities like Berlin, Barcelona, and Copenhagen are taking notes and starting to integrate gender mainstreaming into their urban planning, inspired by Vienna's success.

However, gender data gaps in transport act as roadblocks to effective, targeted solutions. Biased designs, shaped by male-dominated leadership, impact women disproportionately.

This inequity calls for research investment, illuminating the daily challenges women encounter. Diverse perspectives and enriched, gender-focused data are crucial assets for the future of travel behaviour. In Ireland, Sara Candiracci explains:

'We (Arup) undertook a study commissioned by Transport Infrastructure Ireland (Travelling in a Woman's Shoes); it helps identify the patterns, constraints and issues associated with women's mobility and the resultant social, societal, and economic repercussions of gender bias within the transport system.'

Time to act!

The goal is clear: create inclusive spaces where everyone can thrive, regardless of gender. To do this, we need to broaden the conversation and follow a holistic approach. Sara Candiracci says:

'The focus of interventions or debates on gender equity is normally on women's safety; this is extremely important, but it needs to be considered along with other topics to enhance their opportunities to thrive in life.'

Romit Chowdhury further adds: 'Safety is a tricky issue; it is often a form of protectionism. We need to talk about freedom! To do this, the role of pedagogy pedagogy and the space of the classroom in inspiring progressive social change need to be enhanced.'

To create thriving, inclusive cities, we must prioritize accessible mobility, inclusive public spaces, and women's leadership. Men's support in empowering women is essential for success.

As we navigate the gendered city, remember: collaboration, knowledge exchange, and inclusivity are our main tools. Break down barriers and weave gender responsiveness into city planning; together, we can create cities where every single voice matters.

Sara Candiracci
Associate Director
Arup

ENVIRONMENT AND HEALTH

Environment and Health in mobility encompasses themes that POLIS covers in two Working Groups - the Active Travel and Health Working Group and Clean Vehicles and Air Quality Working Group.

The Working Group on Active Travel and Health is dedicated to preserving walking, wheeling, and cycling as integral parts of mobility systems while considering interactions with urban planning, environment and health. The Working Group aims to foster discussions and exchanges on strategies and measures for prioritising active modes and enabling a more balanced distribution of public space for improved quality of life for everyone.

Furthermore, the Working Group also focus on capacity building for active modes, advancing the knowledge of the integration of health in urban and transport planning processes and ensuring that walking, wheeling, and cycling are accessible to all.

Through the Working Group, POLIS partners with WHO's Transport, Health and Environment Pan-European Programme (THE PEP) in the Partnership on Active Mobility, linking high-level strategy to regions and cities realities, the Transport Decarbonisation Alliance's Community of Interest on Active Travel and DUT Driving Urban Transitions.

The Clean Vehicles and Air Quality Working Group addresses major challenges related to air quality and current developments in the field of clean and sustainable transportation within our cities.

Through the Working Group, POLIS partners with the European Commission's Sustainable Transport Forum, Platform for Electromobility, the Advisory Group on Vehicle Emission Standards (AGVES), the Zero Pollution Stakeholder Platform and the 2Zero public-private partnership as an associate member.

Find out more about the Active Travel and Health Working Group on our website!

Find out more about the Clean Vehicles and Air Quality Working Group on our website!

CYCLING FORWARD

WRITTEN BY
ANDRÉIA LOPES AZEVEDO
MARINA MARTÍN VILCHES

Recently launched by the European Commission at Urban Mobility Days, the **EU Cycling Declaration** signifies a higher-level commitment to boosting cycling in Europe.

But what does this Declaration truly entail for European cities and regions, and how will it impact the broader landscape of active mobility? POLIS dives in!

Officially launched by the European Commission at the beginning of October amidst the bustling atmosphere of Urban Mobility Days in Seville (Spain), the EU Cycling Declaration stands as a groundbreaking commitment poised to transform the landscape of cycling in Europe.

While it still needs to be signed by the European Parliament, the European Council, and the European Commission, this Declaration already signifies a huge step forward in the right direction.

With its main principles divided into eight chapters and 36 concrete commitments, it positions cycling as an indispensable element in the trajectory toward decarbonising European cities - a very much needed step forward.

Doing it right!

The EU Cycling Declaration conveys a definitive message, acknowledging cycling as a standalone mode of transportation that deserves its rightful place in the realm of mobility planning.

Its fundamental principles address crucial aspects essential for the widespread adoption of cycling:

- Developing and strengthening cycling policies
- Encouraging inclusive, affordable, and healthy mobility
- Creating more and better cycling infrastructure
- Increasing investments and creating favourable conditions for cycling
- Supporting multimodality and cycling tourism
- Improving road safety and security
- Supporting quality green jobs and the development of a world-class European cycling industry
- Improving the collection of data on cycling

These principles and commitments go beyond boosting cycling infrastructure, mode share, or kilometres cycled; they are about doing it right. They aim to transform the way we view transportation, promoting equity, safety, comfort, sustainability, industry innovation, and professional and organisational capabilities.

Furthermore, the Declaration holds promise for more than just cycling. It opens doors to other needed improvements in various aspects of urban and active mobility, including walking, wheeling, intermodality, road safety, and quality of public spaces.

This collective vision urges us to fully embrace this multifaceted opportunity and commit ourselves to diligent efforts aimed at making active mobility a seamless, inclusive, and easily accessible choice for individuals of all backgrounds and abilities. In doing so, we are not merely advocating for a shift in transportation preferences but also catalysing a broader transformation in how people interact with their urban environments.

It is an invitation to create cities where active mobility isn't just an option, but a convenient and celebrated mode of transportation, making sustainable and healthy living accessible to all.

The beginning of a long path

The journey has just begun, and there's a significant amount of work ahead for European institutions, national governments, and regional and local authorities to translate the principles outlined in the Declaration into tangible action. It's crucial to recognise that while documents like this one are important, they alone cannot bring about the desired changes.

To unlock the full potential of cycling for citizens, cities, and industries, it's imperative for governance at various levels to seize the opportunities presented by the Declaration.

How? By properly structuring their actions, revising their budgets, and working in cooperation to promote the needed change that will support more sustainable and democratic transport modes!

The EU Cycling Declaration serves as a potent catalyst and tool for change. It can play a pivotal role in garnering political support for active transportation methods, regardless of the government level. Moreover, it acts as a mechanism to bolster climate-related initiatives by integrating transport into various policies and streamlining the planning and implementation processes for cities. This integration facilitates smoother access to European Instruments like the Social Climate Fund and the Cities Mission.

To effectively bring these aspirations to life, national governments must assume the role of facilitators for change within their regions and cities. How? By providing necessary funding, organisational frameworks, and resources; this includes prioritising cross-border cycling initiatives, addressing rural and isolated areas' needs, aligning budgets, and revising regulations. Encouraging collaboration and enhancing organisational structures among municipalities are crucial steps in realising the Declaration's objectives.

Final thoughts

POLIS joins the choir in praising the efforts of the EU Commission and actively shares its perceptions and recommendations to ensure that cities and regions can fully harness the growing momentum around cycling; this is a unique opportunity to foster consistent development of cycling across Europe by promoting collaboration and knowledge sharing among local and regional stakeholders.

Whether you are a frontrunner or a late bloomer, there's always room for progress.

Dive into the EU Cycling Declaration, craft your plans, and rethink affordability, accessibility, speed limits, and parking policies. Collaborate with local cycling startups, reimagine bike-sharing, and enhance street design and public spaces to make them more inviting and eco-friendly. Ensure that cycling and other active modes are accessible to all.

In the face of challenges, the EU Cycling Declaration illuminates a path of immense opportunity and momentum. As we embark on this transformative journey, let our focus be unwavering — on commitment, innovation funding, policy alignment, and empowering local authorities. Together, let's pedal towards a future where active mobility is accessible to all.

EVERY STEP COUNTS

Discover how user satisfaction is reshaping pedestrian indicators in Europe.

The **Walkability.App**, a user-friendly tool gathering data to enhance urban walkability, shows how user-driven insights are transforming city planning and sustainable mobility.

WRITTEN BY

JIM WALKER
CARLOS CAÑAS

Several years ago, the European Commission was seeking to establish a single indicator for measuring walking. At the time, 'Km of bike lane' served as the sole indicator for cycling, with an underlying assumption that 'Km of footpath' would serve as a fitting counterpart. However, critical questions arose regarding the connectivity and continuity of these lanes and paths, their utilisation by the public, and the quality of these pedestrian infrastructures. It became evident that these intricacies held significant importance.

Practical, affordable, and measurable indicators for walking have been in development ever since, spearheaded by the International Measuring Walking Group, which is coordinated by Daniel Sauter.

Sauter is also part of the team helping develop a pan-European Masterplan for Walking, set to be published by UNECE and WHO in 2024. During the team's recent meeting in Portugal, a fresh set of indicators was adopted. The new system encompasses measurements related to activity, safety, accessibility, comfort, and user satisfaction. Notably, in discussions with national governments, consensus was reached that if there were a single indicator for walking, it should prioritise user satisfaction.

The Walkability.App
Walk21 Foundation

The Walkability.App

Satisfaction is crucial as many walking environments are not necessarily safe, accessible, or comfortable, and it is the combination of these deficiencies that fundamentally encourages people to motorise (where there is an affordable alternative). To both keep people on their feet and encourage more people to walk more often and further, it is imperative to invest in positive pedestrian experiences. This investment will yield significant benefits in terms of improved mental and physical health, enhanced economic vitality and greater environmental sustainability.

To measure pedestrian satisfaction, the Walk21 Foundation has collaborated with researchers worldwide since 2017 to explore various approaches and tools. Seed funding from GIZ led to the development of a prototype, which was deployed in Lagos, Nigeria, and resulted in a new footpath and crossing being built based on the feedback of 2,000 local people. Further trials in Medellin and Dhaka also harnessed citizen-generated data to inspire government initiatives, which resulted in both a reduction in pedestrian fatalities and increased public contentment. The culmination of these efforts is the Walkability.App, a tool developed in partnership with academic experts from CEDEUS, supported by Alstom, and now available for download on Google and Apple stores.

The Walkability.App is a user-friendly mapping tool designed for pedestrians, allowing them to assess the walkability of their experiences in public spaces. This app is available for free, and while communities have the option to utilise it independently to bring attention to their concerns and trigger a response, it is currently primarily employed within project initiatives led by reserachers, NGOs, or city authorities.

A concise instructional video detailing the usage of the Walkability.App is available on YouTube. In practical terms, the app gathers data related to pedestrian characteristics, such as age, gender, and physical ability, as well as information about the walking context, like trip purpose, group size, and familiarity with the environment. It also records the perceived walkability of experiences, categorised as positive, with some concerns, or negative, and the environmental determinants influencing the experience, which are predefined into 12 categories. Additionally, the data is automatically geocoded, timestamped with the date and time of the report, and notes the prevailing weather conditions at that moment.

Revolutionising data collection

Data collected through the app is securely stored on a dedicated server and can be accessed via the Walkability.App web platform. The platform visualises this data geographically, and users can employ filters to explore any combination of variables. This allows for in-depth exploration, such as examining how different demographics, including women, people with disabilities, or the elderly, perceive public spaces. Users can also pinpoint areas where perceptions are positive and identify specific concerns related to factors like traffic speed, path quality, and safety.

The Walkability App has recently been applied in two distinct case studies, namely Dublin and Cairo. In Dublin, a report from Transport Infrastructure Ireland highlighted a gender disparity, where women were less likely to use the tram and more inclined to opt for driving compared to men. The app was instrumental in collecting over 800 experiences from women within tram catchment areas to identify what interventions could be made to support more sustainable transport choices. Notably, concerns centred around issues like extended wait times at traffic signals and insufficient crossing times, along with footpath quality.

In a similar vein, the study conducted in partnership with Transport for Cairo employed the app to evaluate the quality of public transport catchment areas. The findings indicated that time of day and gender played a significant role in shaping perceptions of walkability within the city. Additionally, the study highlighted differences in the design and management of station catchments between the historical downtown of Cairo and the newer developments on the outskirts of the city, which ultimately affected modal choices, offering valuable guidance for policymakers.

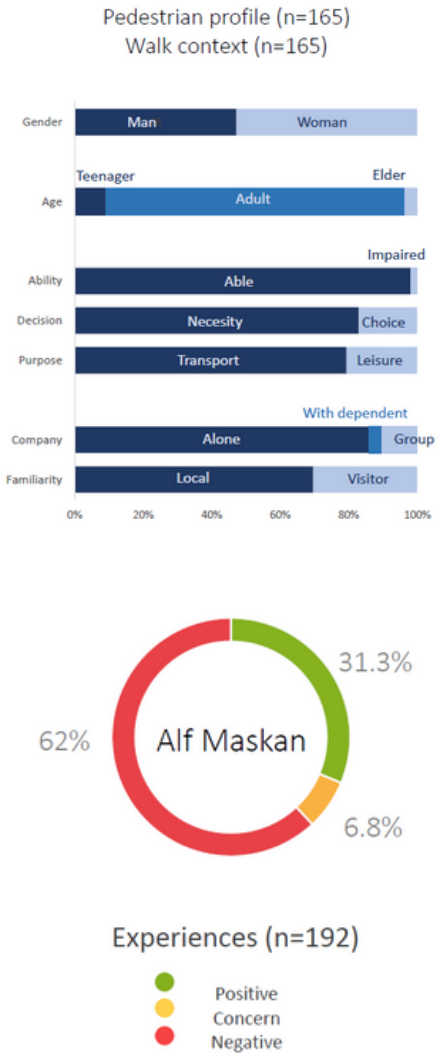
Carlos Canas, the Walkability expert at Walk21 and lead of the app, said:

'We can aggregate observations and calculate areas that are considered more pedestrian friendly as they are linked to positive experiences, and areas considered less pedestrian friendly due to some concerns and negative experiences. This helps identify and prioritise areas that require more attention and, crucially, to know what specific interventions are needed to improve their walkability.'

The Walkability.App is a valuable tool for cost-effective and straightforward data collection, enabling a better understanding of walkability in any given street, area, or neighbourhood. Significantly, it does not merely reflect the perspective of a single traffic planner or engineer, but, instead, encapsulates the collective experiences of the community.

And, of course, the Walkability App can also be used as a highly effective evaluation tool. A case in point is Lund, Sweden, for example, where it was recently employed to assess the before and after impact of temporary street interventions put in place for European Mobility Week. This approach enables a comprehensive understanding of how the perceived walkability of an area evolves following an intervention and identifies the groups that benefit the most from it. It facilitates both quantitative and qualitative measurements, allowing for a more robust assessment of the true impact of a project. In Lund, the expectation is that this evaluation will not only inform the development of a new walking policy, but also trigger permanent street transformations designed to enhance the pedestrian experience throughout the city.

'There are dozens of factors that impact every walking experience and several systems are offering to audit and assess up to 200 variables, but at some point,' says Jim Walker, Founder of Walk21, 'we need to be pragmatic, and allow citizens to share what matters where. Using the Walkabilty.App helps make the needs of all pedestrians more visible and makes it easier for governments to respond efficiently with targeted interventions that are more likely to be effective.'



Walkability.App data - Alf Maskan, Cairo

Walk21 Foundation

BIKE-SHARING IS CARING

INTERVIEW WITH
BENOIT YAMEUNDJEU

ELABORATED BY
ALESSIA GIORGIUTTI

Discover how Fifteen is reshaping the future of **bike-sharing schemes**, making them more accessible, sustainable, and user-friendly. Learn about their insights, innovative solutions, and global impact, and see how they are revolutionising the way we think about urban mobility

Fifteen is reshaping the future of bike-sharing schemes

Fifteen

POLIS: What fundamental steps should a city undertake when initiating a bike-sharing service?

Benoit Yameundjeu: There are two types of bike-sharing services: subsidised and non-subsidised. We strongly believe in the subsidised model because it ensures affordability for the population and allows us to serve less densely populated areas that may be less attractive to private operators.

When preparing for a publicly subsidised bike-sharing service, it is essential to assess the mobility needs of the population. This can be achieved through surveys and public debates moderated by the city. Nowadays, offering both short-term and long-term bike rentals to the public is a key trend to watch out for to increase the use of cycling as a mode of transport.

We also recommend reaching out to other cities that have experience with such initiatives and consulting with experts in the field, like Fifteen. It is not only important to understand the available solutions and technologies, but also to help the city refine its specific requirements. Our role involves providing each city with precise recommendations regarding the bike-sharing scheme that will work best for them, including the number of bikes and stations, as well as optimal locations based on the city's data.

Zoov, a shared bikes system combining short and long term rental in the Paris Region
Fifteen

Benoit Yameundjeu

CEO
Fifteen

POLIS: What constitutes an Augmented Bike Network, and how does Fifteen strategically leverage or create such networks?

Yameundjeu: Having provided and operated bike-sharing schemes in cities around the world for 15 years, we have gained two crucial insights.

Our first insight is that within a given region, people have varying needs and expectations when it comes to renting a bike. For instance, someone living in the city may be content with a traditional bike-sharing program. In contrast, individuals in less densely populated areas may prefer monthly bike rentals. Alternatively, those using the train for their daily commute might find a last-mile bike-sharing solution appealing. The reality is that many urban areas face these diverse needs but often lack an efficient solution to address them simultaneously.

The second insight is that any urban area can meet one or all of these needs at the same time using a single technology, thanks to high-quality electric bikes and a seamless app-based rental experience.

This is the essence of Augmented Bike Networks: a new generation of bike-sharing schemes tailored to every need, enabling cities and regions to dream big and progress at their own pace. Some cities may want to combine short-term bike-sharing and long-term rentals from day one, while others may initially start with bike-sharing and gradually add other rental options. Since everything is based on the same hardware, adding complementary rental options is effortless for the city. Taking an example of a medium-sized urban area, for example, the city and surrounding villages of Auxerre in France, the results are impressive, with 41% of bike-sharing trips and 80% of long-term rental bike trips replacing trips that would have been otherwise undertaken by car.

POLIS: Among the services offered to cities, including short and long-term e-bike rentals and bike-sharing solutions, what is the methodology for determining the optimal scale of service for a given city?

Yameundjeu: From the very beginning, we recognised that while cities may have some ideas in mind, they also seek guidance to help them design a scheme that truly suits their needs. This is why we have established an in-house team comprising Data Analysts and Urbanists. Their primary role is to provide each city with a comprehensive understanding of its territory and deliver recommendations for the most suitable scheme.

POLIS: Could you provide detailed insights into Fifteen's short-term rental solutions in key locations like Paris, Marseille, Epinal, and Vancouver? Additionally, could you please tell us more about the long-term rental options available in the Auxerre area?

Yameundjeu: In Paris, since 2017 we have been offering Europe's largest bike-sharing scheme, which we take pride in. As we all know, the adoption of cycling in the French capital continues to rise, with Vélib shared bikes bearing witness to this trend. The scheme, consisting of 20,000 bikes, routinely records over 200,000 rides per day. In Paris and Vancouver, the introduction of electric bikes has played a pivotal role in attracting more people to cycling.

While in the past, the focus was primarily on the city centre, the perspective has expanded to encompass entire urban areas, sometimes extending to an entire region. This shift is precisely what we're observing with our newest public partners.

In an urban area like Epinal, which includes a city centre of 30,000 inhabitants and surrounding villages, the goal was to provide a solution accessible to anyone in the area. To achieve this, it was decided to cater to all needs by installing bike-sharing stations in every municipality and enabling people to rent bikes for periods ranging from a few hours to a full day. The results are impressive, with electric bikes registering up to seven rides per day.

The urban area of Auxerre (70,000 inhabitants) also serves as a great example. Here, people can easily pick up a bike at a self-serve station and rent it for as long as they like. The service covers 29 municipalities and has exceeded our initial forecasts.

Above all, we take pride in helping decision-makers take the first step. While cities like Amsterdam and Copenhagen set excellent examples as cycling cities, the goal may seem challenging for some cities, but it is attainable. In Marseille, France's second most populated city, the introduction of a fully electric bike-sharing scheme has yielded unexpected results in terms of ridership. In just three months, the new bike-sharing scheme recorded twice as many rides per day as the previous mechanical scheme.

2.000 shared ebikes in Marseille

Fifteen

POLIS: How does Fifteen actively contribute to intermodality, and could you elaborate on your involvement in intermodal projects within Greater Paris and Nouvelle-Aquitaine?

Yameundjeu: We firmly believe in the potential of combining train and bike-sharing services to decarbonise longer journeys. To compete with the convenience of using a car, we focus on ensuring that the user experience is as seamless and comfortable as possible. This involves placing bike-sharing stations right at the entrances of train stations, offering an easy-to-use application, and providing affordable fares for the combined use of trains and bikes.

Obviously, OV-Fiets in the Netherlands and Blue-Bike in Belgium are important benchmarks for us. Our goal is to take these schemes a step further. Through our Augmented Bike Network framework, we are introducing a scheme in the Nouvelle-Aquitaine region that allows citizens to rent a bike for a single trip within specific city centres or an entire day at any of the 8 train stations along a regional train line.

POLIS: Can you elucidate the methods Fifteen employs to design bike networks that are both inclusive and accessible, especially in less densely populated areas and communities?

Yameundjeu: The goal of the Augmented Bike Network is to ensure that public bike rental schemes are accessible to all.

First and foremost, we achieve this by making our schemes as user-friendly and convenient as possible. This involves designing bikes with frames that are easy to step through, utilising torque sensor technology to eliminate the need for gear shifting, and providing user-friendly bike rental apps.

Secondly, we ensure that our schemes are accessible to all communities by making them available in every neighbourhood. This is made possible by using lightweight and compact stations that can accommodate up to 10 bikes in the space of a single-car parking spot. These stations are also easier to install and more cost-effective for all cities.

Once the scheme is operational, we closely monitor how the service is adopted by the population and assist cities in launching initiatives that position the scheme as a valuable solution for everyone.

POLIS: What specific measures has Fifteen implemented to uphold the environmental sustainability of its bike network concerning its ecological impact?

Yameundjeu: We assess Fifteen's impact in terms of overall CO2 emissions by comparing the emissions generated by our activities with the emissions saved when people use our schemes. To maximise our positive impact, we address both ends of the equation.

In terms of emissions reduction, our efforts are centred on our goal of implementing and operating schemes that serve the population where bike trips have the greatest potential to replace car trips.

As for our emissions as a company, our primary focus is on reducing emissions associated with the manufacturing of our hardware and the actual operation of the schemes. To minimise CO2 emissions related to manufacturing, we have established a bike assembly line in France, for instance. To decrease emissions tied to operations, we are continually enhancing our hardware and software to ensure that each bike has a longer useful life. Additionally, we are using connectivity to make daily operations as efficient as possible, ultimately reducing the need for on-site trips for repairs.

POLIS: In the context of city bike-sharing schemes, how does Fifteen assist municipalities in safeguarding against issues like vandalism and bike abandonment/ dumping?

Yameundjeu: Traditional bike-sharing schemes have often placed too much emphasis on combating vandalism, sometimes at the expense of the user experience. This infrastructure may have served its purpose in the past when fleets were not connected, but times have changed.

At Fifteen, we harness the full potential of technology and connectivity to prevent misuse effectively.

Most importantly, as our connected bikes secure themselves with a motor-lock and always-active geolocation, we were able to completely reinvent the concept of the bike-sharing station — making it lighter, more compact, and easier to implement for municipalities.

This technology has been successfully deployed in over 10 cities in the past two years, proving to be a crucial element in bringing bike rental schemes to neighbourhoods of all types.

Velo Modalis, the first bike+train service in France

Fifteen

SCHOOL RUN OF FUN

Explore how **Turku**, Finland, is revolutionising school travel to enhance children's well-being, learning capabilities, and environmental sustainability.

Discover their holistic approach to foster **cycling skills**, motivate parents and kids, and create a culture of active and sustainable mobility from an early age.

WRITTEN BY
ANNA-KAISA MONTONEN

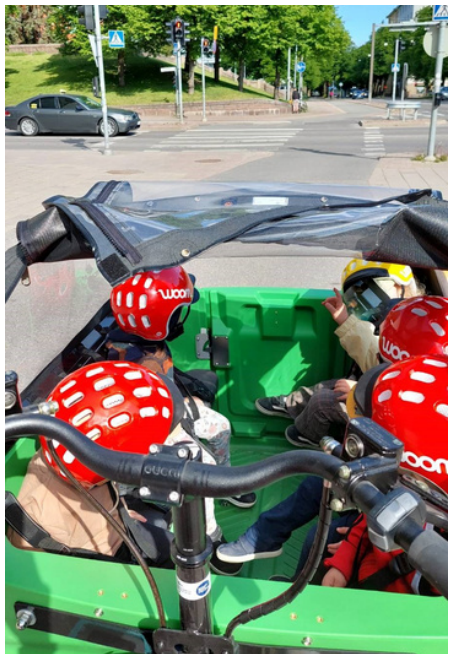
Turku, Finland, is turning a new leaf with the groundbreaking Horizon 2020 SCALE-UP project — an innovative effort that is all about reimagining how kids get to school and kindergarten. By promoting sustainable and active mobility, the city is not only working towards its 2029 climate neutrality goal, but also improving children and parents' health and learning. This shift in mobility is not just a local change, but it is a city-wide and cross-cutting effort connecting several administrative levels. After a successful test run from 2022 to 2023 in six educational units, the so-called activation model is now expanding to five more, revolutionising the way Turku's families do the school run.

Where to start

According to a yearly national health promotion study, only 42.6% of children in Turku in 5th grade report meeting daily physical activity recommendations. Additionally, when it comes to school trips in pilot schools, just 51.96 % of students are using active modes of transport, and 15 % opt for the bus. For parents who take the car, the median distance to the school is 1.5 km, and the primary reasons reported for them to drive are weather-related, being in a hurry, or convenience. Surprisingly, none of the respondents mentioned safety as a concern, which suggests that car users might be underrepresented in the survey, as this reason has been frequently brought up by parents.

Within the SCALE-UP holistic activation model, all sustainable transport modes are being promoted, but cycling is getting some extra attention, as we are more and more learning that the ability to cycle can no longer be taken for granted.

Recent research shows that children in Finland learn to cycle at the age of 4.8 (Cordovil et al. 2022), but what the research does not say, is how polarised the phenomenon is. During the planning process, the research team learned that there are schools and areas in Turku where many children are unable to cycle, with skill levels varying a lot among those who could — In collaboration with Turku University of Applied Sciences, a cycling skills test was conducted twice on a dedicated track adapted from the studies of Ducheyne et al (2013) and Papanikolaou & Adamakis (2020) to objectively measure the cycling skill levels of 257 children based on seven subskills/tasks.



Daycare children on a traffic adventure with the bicyclebus e-cargo bike

City of Turku

Awareness raising, skill development, and joy of everyday movement

Throughout the planning process of the activation model, several key questions emerged:

- Are children capable of safely cycling in traffic or do parents have the skill and will to teach and encourage their children to walk or cycle to school?
- Do families, friends, and friends of families offer social support for choosing a bike or bus instead of a car?
- Do all children have access to bicycles, or do our physical surroundings facilitate safe and pleasant active trips to daycares and schools?
- Are we encouraging citizens to choose the potentially more time-consuming or more physically effort-demanding alternatives of travelling?
- Perhaps most importantly, do people stop to think about their daily habits and choices for commuting?

These questions stem from the COM-B-model (Michie, van Stralen, & West 2011), which is widely used in the planning of health behaviour interventions, hereby adapted to the context of mobility. According to this model, for a targeted behaviour to occur, one must have (1) (physical and psychological) capabilities, (2) (social and physical) opportunities, and (3) motivation.

A model for all children

During the scaling-up phase of the model, efficiency, with limited employee resources, became a priority. For daycares, the focus was raising awareness among personnel and parents, along with providing kick bikes, children's bikes, and other cycle services.

Information on the development of cycling skills, the importance of everyday movement, and available services was offered through handouts and healthcare channels, as well as at events held at daycares. Also, giving children a chance to be heard in the process allowed them to transform the narrative and perspective on their daily trip to daycare from a routine chore to an exciting adventure.

In the pre-school year and up until 3rd grade, parents proved to increasingly be thinking about various and alternative travel methods to school, emphasising safe traffic skills, the relevance of active travel for learning, and overall health. Children received worksheets that took into account their neighbourhood's built environment, and discussions with parents on safe and sustainable school trips were conducted at parents' events.

With older children, Turku's model showed that the emphasis should shift towards motivating them to actively travel. Moreover, not only do children need motivation, but also the parents need reassurance and tools to motivate them to embrace active mobility. Within the frame of the project, a two-week nudge campaign yielded positive results, increasing peer support even among 6th graders and inspiring school personnel to opt for more sustainable modes for commuting, too.

Moreover, cycling services were extended to all participating units, with city employment services handling bike delivery and bike rotation to schools when needed, as well as maintenance, and in collaboration with Turku's sports services, cycling lessons were incorporated into schooldays and teachers were encouraged to use bikes in schools.

Additionally, within the already mentioned cycling skills test conducted in collaboration with Turku University of Applied Sciences, individual scores were not disclosed to families, but children were provided with a skills card to self-assess their perceptions of the measured subskills, emphasising

Skills card for cycling with all the provided measurement points

City of Turku

knowledge enhancement and cultivating positive feelings towards cycling. The card included training tips and a diary, encouraging children to share their progress with parents, who also received detailed descriptions of the subskills and their importance.

During the subsequent training period, children engaged in either independent training or structured lessons, with the initiative concluding with a repetition of the skills test and a post-cycling questionnaire, gauging enthusiasm toward cycling and evaluating the impact of the track, skills card, and training on the participants' overall engagement and lesson participation.

Scaling up

Final results, such as the effects of this model on the modal split, will be analysed by the end of 2023.

However, results regarding cycling skills and feedback from personnel and parents are already promising. During the process, parents have gained knowledge of different aspects of the skill of cycling as well as the confidence to allow their children to cycle. Instead of focusing on personal cycling skills results, our research shifted the attention to their children's experience.

It was surprising that the field testing of children's cycling simultaneously acted as an inspiring and motivating experience for them, as 87% of them felt more motivated to cycle due to the testing and the skills card distributed afterwards. What the research has failed to explore was whether the repetition of the cycling track and knowledge of the skills being monitored were responsible for such a significant increase in motivation to cycle, or whether the same impact would have occurred without the repetition or monitoring.

The research also failed to determine whether the objectively measured skill of cycling correlated with a parent's perception of the safety of allowing their children to cycle.

Researching a model for children with children can be fun

City of Turku

In the case of a city trying to bring about change across an entire group rather than just individuals, Turku's research needed to investigate the different levels of actors and existing structures or services, such as daycare and school personnel, sports services, and other sectors in a city organisation. Do they possess the necessary capabilities, opportunities, and motivations? Daycares and schools serve as ideal venues for levelling the playing field when it comes to children's skills, given that the majority of children attend daycare, and education is compulsory. However, in the absence of guiding documents for teaching cycling skills or promoting sustainable mobility within these institutions, there is a need for internal motivation among the staff or, correspondingly, adequate resourcing, coordination, and planning from external sources.

FIGHTING FOR CLEAN AIR

WRITTEN BY
PEDRO GOMES
QUAID CEY

Air pollution remains the **number one** environmental health risk in Europe, and the current lack of alignment between Europe's air quality standards and emissions standards for road vehicles is a major obstacle to ensuring a healthy living environment. POLIS explains why strong **Euro 7 emission standards** are not only feasible, but direly needed.

In Europe, air pollution leads to frighteningly high levels of premature death every year. In 2020 alone, exposure to excessive air pollution caused an estimated 311,000 premature deaths in the 27 EU Member States (EU-27), making it Europe's number one environmental health risk. These pollutants are linked to asthma, heart disease, and stroke.

Road transport-related emissions in particular are a primary culprit, accounting for an estimated public healthcare cost of more than 1,200 € per inhabitant per year.

It is no coincidence, then, that NGOs and citizen groups are calling for drastic reductions in emissions from road vehicles with internal combustion engines (ICEs). Despite a promising future for electric vehicles (EVs) thanks to the EU's ban on ICEs starting in 2035, the simple fact is that gasoline and diesel cars will not disappear overnight.

Indeed, they are likely to circulate on Europe's roads for decades after the 2035 cutoff given the average lifespan of today's vehicles. With the uptake of EVs proceeding at varying rates across the EU-27, countries on a slower track toward electrification will therefore also be the ones to suffer the most from lax restrictions on pollutant emissions.

Even with a swift transition, electromobility will not be the 'silver bullet' that will eliminate air pollution from cars.

Although electric vehicles do not produce tailpipe emissions, they contribute to non-exhaust-related air pollution due to road and tire abrasion and brake wear. Moreover, electromobility alone will not reduce traffic congestion, nor will it necessarily improve road safety in urban areas.

Supporting cities at the EU level

Under the European Green Deal's Zero Pollution Action Plan, the European Commission (EC) set a 2030 goal of limiting the number of premature deaths caused by particulate matter (PM) 2.5 by at least 55% compared with 2005 levels. One of the key policy tools to achieve this reduction was the proposed revision of the Ambient Air Quality Directive (AAQD), aligning the air quality standards more closely with the recommendations of the World Health Organisation (WHO). This revision was long overdue and carries implications for more than just public health – it is also a call for greater social justice, as air pollution disproportionally affects Europe's most socio-economically vulnerable citizens.

However, compliance with stricter air quality standards will bring added challenges for cities and regions. Even though urban air quality has been steadily increasing across Europe, safe pollution levels are still far off: in 2021, 97% of the urban population in the EU was exposed to concentrations of fine particulate matter above the health-based guideline level set by the WHO. This is particularly a concern in Southern and Eastern European cities.

EV deployment in the EU is expected to increase substantially by 2030

Andrew Roberts, Unsplash

Air pollution resulting from road transport can be tackled upstream, for example by reducing vehicle tailpipe emissions, or downstream, by establishing Urban Vehicle Access Regulations (UVAR) that either reduce the overall number of vehicles in circulation or put targeted restrictions on highly pollutant vehicles.

Air pollution has especially harmful impacts on vulnerable groups, such as newborns

AlyoshinE, Shutterstock

Some examples are Low and Zero Emission Zones (LEZ/ZEZ), low-traffic neighbourhoods (LTN), and congestion charging schemes. Both upstream and downstream measures should be a priority, however, they fall under the competencies of different authorities. Legislation that regulates pollutant emissions is mostly approved at the EU or national level, whereas access regulations are primarily within the jurisdiction of local or regional authorities.

To effectively curb air pollution, there should be an alignment between air quality standards and the policy tools that enable cities to meet those requirements (ie emissions regulations). In the absence of such an alignment, cities are left alone to adopt and implement the necessary (but not always popular) measures to curb air pollution.

Street sign marks an ultra-low emission zone (ULEZ) in London

Lorna Roberts, Shutterstock

Dwindling ambition for a strong Euro 7

A promise of change came in 2022 when the European Commission (EC) published its Euro 7 legislative proposal. In the proposal, the EC called for the EU to revive its rules for type-approval and market surveillance of motor vehicles by setting more stringent limits on pollutant emissions from road transport.

Despite the inclusion of several much-needed provisions, including extended durability requirements and limits on non-exhaust emissions from brakes and tires, the Euro 7 proposal has notable shortcomings. In particular, it fails to set stricter tailpipe emissions regulations for both light and heavy-duty vehicles. As such, it represents a missed opportunity to match the ambition of the revised AAQD.

To add insult to injury, the Council of the EU reached an agreement on the Euro 7 proposal that further undermines its ambition. As many had feared, the Council opted to keep the current Euro 6 exhaust limits for light-duty vehicles and set lax restrictions on heavy-duty vehicles. Worse yet, the Council proposed a delay in the implementation of Euro 7, leaving Europe's cities and regions to fight for cleaner air on their own in the meantime.

Unsurprisingly, the Council's position was met with outrage from those who say that the EU is doing too little to curb pollution from cars. This was aptly expressed by EURACTIV's Editor of Transport Sean Goulding Carroll, who wrote that in a 'choice between economic strength or health,' the Council decided to prioritise the economic interests of the automotive industry over the European public's demands for a cleaner living environment.

For weeks after the Council announced its position, NGOs waited with bated breath, hoping for more ambition from the European Parliament (EP). Their wishes, however, went unanswered: the Parliamentary Committee on the Environment, Public Health and Food Safety (ENVI) revealed that Euro 7 would go forward in its watered-down form.

Among other things, ENVI set a longer timeline for the implementation of new emissions standards for heavy-duty vehicles and limited vehicle testing requirements.

Speaking for ENVI, Rapporteur Alexandr Vondra (CZ) of the European Conservatives and Reformists Group (ECR) said: 'We have successfully struck a balance between environmental goals and the vital interests of manufacturers. It would be counterproductive to implement environmental policies that harm both Europe's industry and its citizens.' Needless to say, others saw things a bit differently.

NGOs speak up

This is not the first time that Euro 7 has cropped up in the debate on sustainable mobility, nor is likely to be the last. Ever since the EC's initial proposal in November 2022, the future of Europe's air quality regulations has hung in the balance, and more than one organisation has had something to say about it.

Benjamin Krieger, Secretary General of the European Association of Automotive Suppliers (CLEPA), remarked: 'Latest stage Euro 6 vehicles perform well on pollutant emissions. Nevertheless, despite progress on e-mobility, the EU is projected to sell 100 million conventionally powered cars in the next decade and those need to be further improved. Euro 7 as the Commission proposed would have been technically and economically feasible with certain safeguards. Europe should not lag behind China and the US, who have both set ambitious targets on pollutant emissions.'

Even before a decision had been made about the future of Euro 7, POLIS and Eurocities — two of Europe's leading networks of cities and regions working toward sustainable mobility — had joined forces to pen a joint letter, demanding that the Euro 7 emission standards be reinforced.

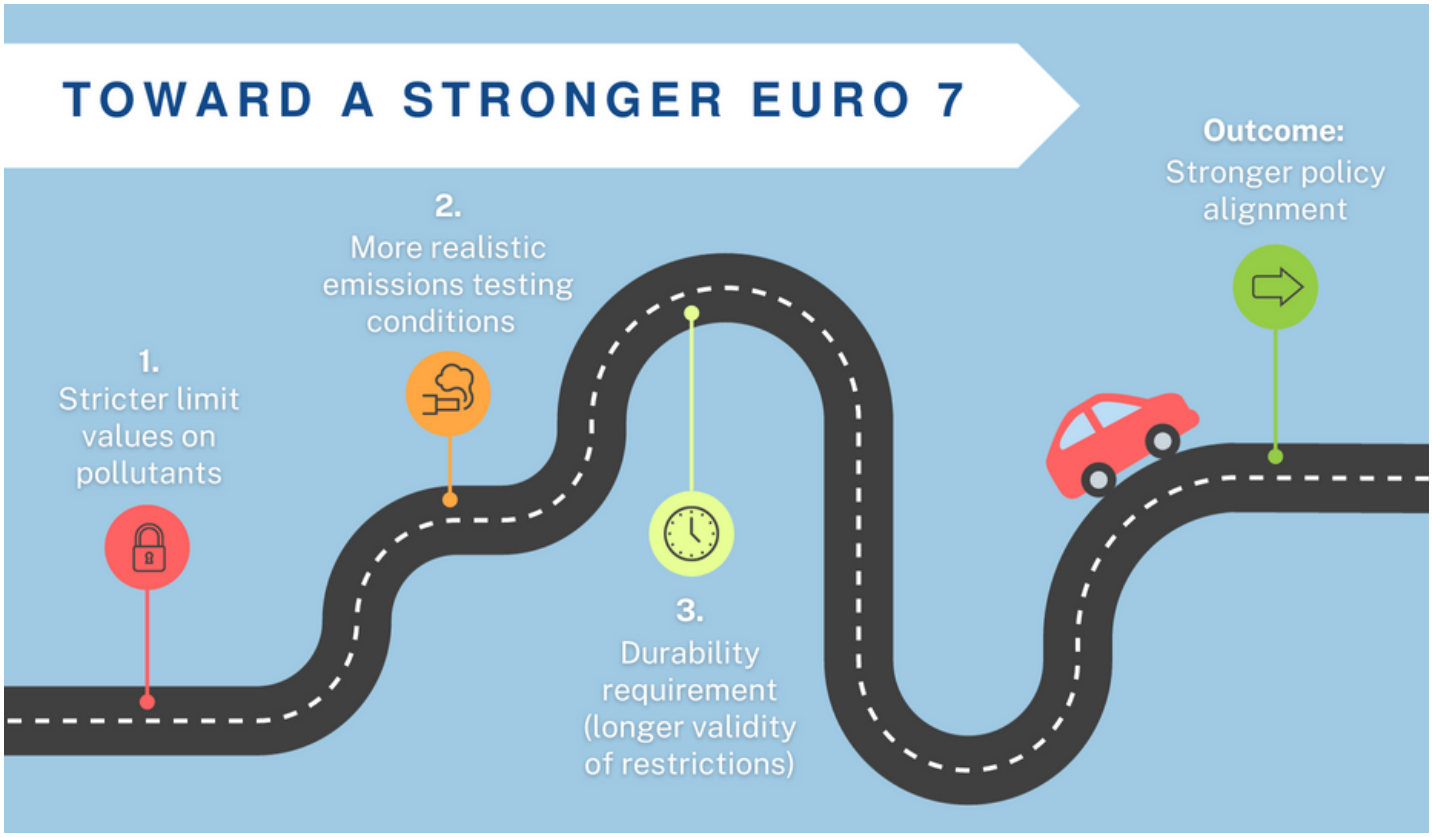
When the Council's decision arrived several months later, they released a follow-up report reminding policymakers of Euro 7's importance and needed changes to the legislative proposal. Their report became all the more relevant when ENVI clarified its position in October, and when a coalition of European cities signed a petition asking the EP to reconsider the negative impacts of its decision for local authorities.

On behalf of their member, POLIS and Eurocities co-authored a report in September 2023, in which they made clear why an ambitious version of the Euro 7 proposal might be the EU's best (and last) chance to prevent road transport-related air pollution from severely impacting public health.

They emphasised that vehicles with internal combustions engines (ICEs) will continue to circulate on European roads for decades to come, even after electric vehicles become the new status quo. Without better regulations at the EU level, they warned, today's emissions will become tomorrow's health crisis.

Backing the Clean Vehicles and Air Quality Working Group who co-authored the report, Secretary General of POLIS Karen Vancluysen said: 'Our cities need fewer, but also cleaner cars. While electromobility is quickly becoming a reality in Europe, it is not a silver bullet. Without proper policy tools like an ambitious Euro 7 in place, cities and regions will not be able to properly safeguard the health of their citizens and their right to clean air — this remains a major health challenge.'

Euro 7 Joint Report
POLIS & Eurocities



The roadmap to a better Euro 7

Prepared by Quaid Cey

What is needed?

Despite the automotive industry's complaints that stricter regulation would do little more than draw funding away from innovation in electric vehicles, strong Euro 7 standards are a must. Not only are they vital to achieving the 2030 goals of the European Green Deal's zero pollution action plan, but they would also help bring the EU's air quality standards in line with the 2021 recommendations of the World Health Organization (WHO).

While the European Parliament (EP) made progress to tighten the 2035 limits on air pollutants and harmonise air quality indices across the EU this September, these efforts are not enough on their own to address a major culprit: pollution from vehicles running on ICEs.

A comprehensive strategy that safeguards urban citizens' right to clean air while holding the automotive industry accountable for the public's health is yet to be achieved, and without it, the EU risks letting go of perhaps its greatest opportunity to combat road-traffic-related air pollution.

That is why the Clean Vehicles and Air Quality Working Group at POLIS, together with Eurocities, has set out in writing exactly what kind of Euro 7 standards citizens should expect:

- Stricter limit values for pollutant emissions sufficient to meet the standards of the revised AAQD: When discussing air pollution, it is important to focus on regulated pollutants like carbon monoxide (C0), nitrogen dioxide (NO2), and particulate matter (PM), which pose a threat to human health. For many years, EU air quality standards have set high (ie lenient) limits on these pollutants. By allowing manufacturers to introduce more ICE vehicles to the European market that fail to meet the strict air quality standards recommended by the WHO, the EU is therefore prioritising the interests of the automotive industry over public health. Moving forward, the Euro 7 emission standards should be aligned with more ambitious air quality standards.

NGOs in Brussels count on the EU to enact much-needed legislative changes

Christian Lue/Unsplash

- An EU-wide requirement for emissions testing conditions to match actual car usage in European cities: Lab testing conditions often fail to reflect the reality of car usage and driving behaviour in European cities. For example, they may not fully consider the effects of seasonal temperature differences or typical city driving profiles on the efficiency of mechanisms like after-treatment systems, which help to limit harmful exhaust emissions from ICE engines. Consequently, a vehicle that is compliant with EU emissions regulations (on paper, at least) may emit far more pollutant particles than expected when it hits European streets.
- Finally, a longer period of validity for emissions restrictions on ICE vehicles to reflect their actual lifespans, including on the second-hand market: Another problem with existing restrictions on vehicle type approval is that they do not follow vehicles across their entire lifespan. While a vehicle may be up to standard when it is first introduced to the market, years of usage can hamper its efficiency, meaning that it could produce sub-standard levels of pollutant emissions at a later stage. This problem is particularly felt in second-hand markets, many of which are in Eastern Europe. To prevent Eastern European countries from becoming a dumping ground for highly pollutant vehicles, the EU must ensure that the Euro 7 emissions restrictions cover vehicles for the full duration of their usage, which may extend up to 15 years.

No air to waste

The window of opportunity to curb toxic emissions is growing smaller every day. To achieve cleaner air for citizens, Europe needs to establish a coherent policy framework for the mitigation of air pollution. The current legislation simply is not enough: major shortcomings include the lack of ambition on Euro 7 and the inclusion of e-fuels in the proposed CO2 standards of cars and vans.

While the direction of the Euro 7 standards appears every day less like that envisioned by POLIS and many other mobility stakeholders, citizens and their representatives must continue to advocate for change. Moving forward, one thing remains clear: stricter standards are not only technically and economically feasible — they are essential for public health.

GOVERNANCE AND INTEGRATION

Governance and Integration revolve around the key challenges faced by local and regional authorities when developing policies and strategies to accelerate the shift to sustainable urban mobility, improve equity and safeguard the public interest, and deal with cutting-edge innovation.

The work of POLIS on the matter is done through the Governance and Integration Working Group, covering a broad range of topics related to shared micromobility services, the future of public transport, Mobility as a Service (MaaS), public/private engagement, gender and labour perspectives in urban mobility, tourism and transport, transition management, leadership of change, and policy nudging for behaviour changes.

This pillar also includes three other Working Groups - the Urban Freight Working Group, the Small and Medium-sized Cities Platform, and the Regions Working Group.

The Urban Freight Working Group is engaged in peer-to-peer exchange to share best practice on sustainable urban freight solutions and city logistics, in partnership with technology platform ALICE, which brings the logistics stakeholders around the table.

The Small and Medium-sized Cities Platform (SMC Platform) aims to raise the profile of small and medium-sized cities in the EU as living laboratories for transport innovation.

The Regions Working Group explores leading mobility themes with a focus on regional governance approaches, challenges, and solutions.

Find out more about the Governance and Integration Working Group on our website!

Find out more about the Urban Freight Working Group on our website!

Find out more about the SMC Platform on our website!

Find out more about the Regions Working Group on our website!

CITIES IN DIALOGUE

We sat down with outgoing and incoming POLIS Presidents David Dessers, **City of Leuven**, and Lot van Hooijdonk, **City of Utrecht** to learn more about their mobility aspirations. From Utrecht's world-renowned cycling policies to Leuven's pioneering shared mobility initiatives, the two Mission Cities reveal all of their sustainable mobility strategies for the future.

In a cross-border dialogue, David Dessers (City of Leuven) and Lot van Hooijdonk (City of Utrecht), outgoing and incoming POLIS Presidents, respectively, reveal to us their unique perspectives on sustainable urban mobility. With a shared commitment to becoming climate-neutral cities by 2030, they tell us more about their aspirations, ideas, and practical strategies for fostering more sustainable transport within their cities. From Utrecht's renowned cycling policies to Leuven's pioneering shared mobility initiatives, this interview unveils the dynamic strategies behind their mobility transformations. They also share insights from their past or future POLIS presidency with some food for thought for the road ahead.

Leuven and Utrecht in pictures

In order, from top to bottom:
Grote Markt, Leuven / Michel Vaerewijck
Cyclists in Utrecht / Tom Philip Janssen
Bicycle parking in Leuven / KEV&CAM
Bicycle parking in Utrecht / Tom Philip Janssen

ELABORATED BY
CARLOTTA INSERRA

David Dessers

Deputy Mayor for Mobility Climate and Sustainability, Agriculture and Consumption
City of Leuven

Cyclists in Leuven
Jan Crab

POLIS: You will soon be visiting each other's cities and exploring their respective transport systems: what are you most curious about? Are there any characteristics you are interested in and would like to implement in your city?

David Dessers (Leuven): As Leuven and Utrecht have a large number of cyclists, we both face the challenge of providing enough adequate bicycle parking facilities. Utrecht has made substantial investments in constructing large, secure bicycle sheds throughout its city centre, so I wonder, how does this system operate for users and what incentives encourage residents to utilise these facilities? Furthermore, how does Utrecht garner support from higher authorities with differing visions regarding their plans for investing in the 10-minute city concept? Lastly, Utrecht has outlined a comprehensive vision, a 'barcode', which defines the desired urban landscape. How has this vision been formulated and addressed and how will it be used in shaping the city's future? These are some of the most interesting measures we have noticed, which we look forward to knowing more about.

Lot van Hooijdonk (Utrecht): We are most curious about the implementation timeline for the new mobility measures: Leuven is much smaller than Utrecht, but has built extraordinary cycling infrastructure you would not expect in a small city. It encompasses interesting actions such as underpasses under roads, bridges over railway yards, and a free-to-use bike garage under its traffic calmed main street. We would also like to find out which obstacles had to be tackled by the administration to implement their measures to transform the city.

POLIS: Utrecht and Leuven are both part of the EU Cities Mission to deliver 100 climate-neutral and smart cities by 2030. How do you aim to meet this ambitious goal, specifically when it comes to decarbonising your mobility systems?

Dessers (Leuven): At the core of mobility lies the concept of modal shift. The mobility initiatives within our Climate City Contract are designed to encourage and expedite this change. One example is our substantial expansion of shared mobility services. By 2023, our goal is to have 30,000 car-sharing users, with an annual growth rate of 20% in the number of shared bicycles.

Infrastructure is another key focus. We aim to accelerate the development of the regional cycle route network, providing safe and comfortable cycling routes. Additionally, we plan to transform the Leuven Ring road into a multimodal hub. Leuven is also committed to the ongoing enhancement of a high-quality public transport network in collaboration with De Lijn.

An essential principle underpinning our mobility projects is the assurance that everyone, including individuals in vulnerable situations, should have access to sustainable transportation options without facing physical, financial, or practical barriers.

van Hooijdonk (Utrecht): Our mobility policy is that our streets and city have to be healthy, attractive, and accessible for everyone. That means we aim for (1) more space and priority for walking and cycling; (2) upscaling public transport; (3) no increased car traffic; (4) strict parking policies; and (5) a shift towards shared mobility and mobility as a service.

The result is fewer vehicles circulating and reduced emissions. On top of that, we aim to electrify the cars that do remain. We have low-emission zones focusing on goods transport, and the next step will be to implement this measure for cars in general. At the same time, we are also analysing if more measures are needed to meet our climate goals.

POLIS: When it comes to innovation in mobility, Leuven instantly comes to mind, being named the European Capital of Innovation in 2020 by the European Commission. Indeed, one can refer to the many eHUBS you have implemented throughout the city to foster sustainable multimodal shared mobility for example. What other innovative mobility actions do you have planned?

Dessers (Leuven): The City of Leuven is taking a pioneering role in what is referred to as a 'data-driven' policy, which is employed in the preparation of policy decisions, citizen engagement, and the management of various mobility services. Data plays a crucial role: our shared mobility services can expand only if the operators can demonstrate that the current shared mobility modes are used adequately.

Through the WeCount citizen science initiative, residents in Leuven can affix a sensor to their windows to collect real-time traffic data, which is made available to everyone as open data. We hope that by involving our citizens in data collection, changes in traffic circulation other mobility issues become less sensitive. Currently, there are over 150 WeCount sensors throughout Leuven, and the data is utilised in citizen consultations and participation in local mobility plans.

Leuven is also serving as a living lab in the realm of smart city logistics. Key initiatives such as Flex Curb Management, Dynamic Access Control (UVARs), and the We.Deliver platform, which supports local shopkeepers with local e-commerce solutions, are significant step toward optimising the utilisation of our valuable public space.

POLIS: Utrecht stands out for its impressive bicycle use, so much so that it was named the world's most bicycle-friendly city by the Global Bicycle Cities Index just last year. How have you been building on this impressive achievement? What is next in your sustainable urban mobility priorities?

van Hooijdonk (Utrecht): We are happy with the high use of cycling, but sometimes in the old medieval town implementing policies for it is a challenge, due to the large number of parked bicycles and cyclists. It is a nice challenge to have, of course, but it marks the next level of urban mobility: we will therefore invest more in walking and effective public transport. In future residential developments, like Merwede and Cartesius, we are planning the space between buildings as a space for people and more greenery. Mobility also has a place here, of course, but we will prioritise walking above all other modes. It is also worth noting that we are building more cycling infrastructure to better distribute the number of cyclists.

Lot van Hooijdonk

Deputy Mayor for Mobility
City of Utrecht

POLIS: David, as the outgoing POLIS President, could you tell us a bit more about your overall experience in this position? What have you learned from it, and what advice would you give to your successor, Utrecht?

Dessers (Leuven): Over the past two years, it has been a genuine honour to be a part of the dynamics, ambitions, and inspirations of numerous European cities and regions within the POLIS family. Additionally, the high-level exchange of ideas and positions among the political leaders in the POLIS network has provided significant added value to me. As Deputy Mayor of a mid-sized city, it was very special to take over the presidency, and for me, it was quite a challenge to work in that international context. As Utrecht assumes the presidency of POLIS, I can only advise them to savour every moment from the very beginning. I am confident that Utrecht is a true frontrunner in various aspects of urban mobility, making it exceptionally well-suited to take on the role of president within the POLIS network.

POLIS: Lot, as the incoming POLIS President, what are some of your expectations and priorities for this role? What would you like to share with the other members, and what do you wish to learn from them?

van Hooijdonk (Utrecht): As POLIS President, we want to develop the recent European Cycling Declaration into effective regulations for more investments in urban spaces for people. Further down the line, we would like to further strengthen the network and the impact we can personally have to become more sustainable in our travel behaviour. What are other members doing to become sustainable?

It is only by learning from other cities and regions' experiences that we can fully understand the challenges and weaknesses of our current transport systems.

POLIS: Thank you for sharing your experiences and ambitions! David, it was a pleasure and honour to have you as our president over the past two years, and Lot, we are very excited to embark on the presidency adventure with you and your city for the coming two years.

Cyclists in Utrecht
Tom Philip Janssen

ROTTERDAM ROADMAP

WRITTEN BY
TIM SJOUKE
JOS STRENG

Rotterdam has been at the forefront of sustainable city logistics for nearly a decade. Since the Green Deal City Logistics Rotterdam in 2014, the City has worked diligently towards the implementation of a Zero Emission Zone for city logistics in 2025.

This illustrates Rotterdam's commitment to combatting climate change, reducing air pollution, and creating a cleaner, healthier urban environment for residents and visitors.

Rotterdam's commitment to sustainable city logistics extends beyond policy and planning — it is founded on a robust community of stakeholders dedicated towards that common goal. The heart of this community is the Logistiek010 platform. This is a dynamic hub where over 2,800 organisations converge to share knowledge, exchange best practices, and collaboratively advance towards sustainable city logistics. Most community members are companies shipping, receiving, or transporting goods, but also governments, educational institutions, vehicle manufacturers, and financial service providers.

Moreover, the Ecostars program serves as a testament to Rotterdam's inclusive strategy, motivating and supporting more than 1000 SMEs to transition toward a more environmentally conscious business model. This includes the shift toward emission-free transport and on top of that the exploration of ways to achieve a more efficient modus operandi.

Additionally, the Covenant ZECL serves as a guiding agreement that unites various entities in their pursuit of zero-emission urban logistics, fostering collaboration and accountability. This illustrates how Rotterdam tries to unite its diverse stakeholders in putting a joint vision of sustainable logistics into practice.

National Policy Framework

The local effort (with urban air quality as the main driver for change) got an important boost when the Dutch National Climate Agreement was established in 2018 and CO2 emissions by freight traffic entered into the equation. Over a hundred parties committed to implementing Zero-Emission Zones for city logistics by the year 2025.

A nationwide implementation plan (UAS) for the coordinated and harmonised introduction of Zero Emission Zones for urban logistics in 30 to 40 cities in the Netherlands was put into action. Led by the Ministry of Infrastructure and Water Management, several working groups address specific aspects of the UAS. Rotterdam actively participates in most of those.

Current and aspiring EV-drivers share their preferred locations for implementing public, fast-charging infrastructure

City of Rotterdam

Roadmap, covenant, and monitor

The way Rotterdam shaped its Roadmap ZECL (2019) and subsequent Covenant ZECL (2020) structures the interaction between all parties involved. Its role as Covenant secretary puts Rotterdam in a position to efficiently gather essential insights via monitoring and research. This provides the basis for the development and implementation of effective flanking policies aimed at helping stakeholders in the required transition. Additionally, an extensive communication and community-building campaign is carried out through its rapidly growing platform Logistiek010.

With approximately one year remaining until the implementation of access restrictions, the time is right to evaluate the outcomes of the covenant signed three years ago, involving 56 stakeholders. Over time, the covenant has grown to 75 partners, all of whom have formulated numerous actions to accelerate the transition. Altogether, the covenant currently includes over 400 distinct actions, measures, pilot projects and initiatives, each of which the partners provide frequent progress updates for, which are consolidated into the annual State of ZECL report.

Addressing new challenges

In the inaugural edition of the State of ZECL, it was noted that numerous actions deemed innovative in 2020 had already evolved into standard practices by 2021. In the 2022 edition, many initiatives reached a level of maturity, yet certain challenges persisted, prompting the city of Rotterdam to initiate new and targeted efforts in response.

A primary issue is that the introduction of the ZE-zone raises many questions for small and medium-sized enterprises. The Ecostars program, tailored to assist these SMEs, is highly valued by many stakeholders because of its approach. A nice spin-off is that witnessing other entrepreneurs take progressive actions provides concrete inspiration for their peers.

While SMEs and self-employed individuals typically exhibit a more conservative approach, they tend to respond positively when allowed to try out an LEV or electric delivery van. The

try-out arrangement, which is part of the Ecostars program, has therefore been actively promoted at the Plug In 010 event held on 30 March 2023. It was well attended by the target group of SMEs (over 50% of the 400 visitors). At the event, local business owners could explore and test a wide range of these vehicles.

Inspiring synergies

Covenant partners adapt their business strategies to zero-emission urban logistics and wider societal shifts in various ways. Some broaden their horizons and explore new paths, while others focus on their distinct areas of expertise and strengths. The Covenant ZECL serves as a catalyst, facilitating connections among forward-thinking entrepreneurs, and encouraging them to embark on innovative ventures. Rotterdam has launched the local Lab ZES subsidy program to support these initiatives.

Consequently, on a small scale, there is a lot of experimentation with new concepts. Often, the required transition can be achieved within a company's operations. However, there are also an increasing number of service providers who can play a role in this. Hubs are frequently mentioned as a solution to logistical challenges. In practice, it is challenging for new initiatives to gain traction. Achieving the critical revenue volume necessary to make the hub concept a profitable business model is difficult. Companies operating within existing flows and/or partnerships are currently more successful.

In various instances, Rotterdam takes on a supportive role in mobilizing the necessary partners and processes for these new concepts. While some of these initiatives naturally gain momentum independently, others require specific assistance from the city. This is particularly the case in white-label asset-sharing initiatives that take place in public spaces.

In other cases, stakeholders proactively engage the city in the initiation of new projects. This is exemplified by the Advisory Board on City Logistics, which offers both solicited and unsolicited advice to the city and was established through the joint efforts of three prominent industry associations. To date, it has been highly effective in providing the city with valuable, direct insights across various policy domains. It has also contributed to the launching of a research pilot, exploring the efficiency gain potential in making better use of time windows for delivery in pedestrian areas.

Moreover, numerous thematic working groups and initiatives have been established to i.e. support SMEs, facilitate the sharing of logistical data, and develop policy tools such as logistical simulation models. Additionally, addressing the energy supply necessary to power this transition has its dedicated thematic working group, along with multiple projects aimed at assisting businesses in realising and potentially sharing their charging infrastructure.

Local business owners attending the annual Plug-In 010 event

City of Rotterdam

Data collection and analysis

Rotterdam's systematic engagement with logistics stakeholders in the development and assessment of urban freight policies yields valuable, in-depth insights into the functioning of the urban logistics ecosystem. This engagement with 75 covenant partners and their implementation of over 400 actions brings together perspectives from experienced pioneers. Additionally, the Ecostars program has provided a database comprising information on over 1000 companies (mainly SMEs), their profiles, and their perspectives on this transition. Meanwhile, the Logistics010 community, consisting of over 2,800 companies and organizations, not only stays informed but is also regularly consulted for their input on relevant topics.

This information is supplemented by traffic monitoring data. Within the mobility department, the logistics team collaborates closely with the data and modelling cluster. A joint effort is made to improve the collected data in such a way that freight traffic is adequately represented within traffic models. These insights and tools are subsequently shared with national and regional partners to support their policy development efforts. This is particularly relevant given that all 29 announced zero-emission zones (ZEZ) follow uniform access regulations and a centralised exemption scheme applicable to all Dutch cities.

Lessons learned

The lessons learned, especially in the three years since the signing of the Covenant, are endless. If there is one thing to take away it is that, although the personal approach is time-consuming, it pays off in support, both politically and with the target group.

A local entrepreneur stays informed about the upcoming ZEZ and receives personalised advice on navigating the way forward

City of Rotterdam

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BEYOND AUTOMATION

WRITTEN BY
MANON COYNE
DZVENYSLAVA TYSLYUKEVYCH

From self-driving cars to drone delivery services, advances in technology are **changing the face of transportation**.

However, these advances also transform companies' business models, affecting the role of workers in the mobility ecosystem. If the latter remain essential to provide human services to human beings, we must re-think their place and prepare accordingly.

Cities, regions, and industry partners will need new competencies along with new technologies to achieve sustainable mobility goals, but the way to obtain these competencies is still unclear. Local authorities and academia have a key role to play, but the Valencian public transport operator EMT showed in the WE-TRANSFORM project that transport companies are actually in the best position to anticipate and embrace innovations. As EMT Project Manager Luis Roda says, 'Automation and digitalisation are not a must: they must serve people who go from A to B'.

In Valencia, public transport is continuously adapting to leverage the opportunities presented by data sharing and vehicle connectivity, resulting in a significant boost in operational efficiency over the past decade. But how do they ensure widespread adoption and proper utilisation of these innovations?

EMT believes in enhancing service quality alongside improving working conditions. This includes equipping drivers with the necessary skills to operate various bus types efficiently. The company provides 20 hours of training to all employees, which is completed outside of working hours, and to compensate for this commitment, workers receive additional holidays. The theoretical aspect of driving is covered through online courses and accessible documentation, and trainees receive comprehensive education on driving under different conditions, such as extended hours, time constraints, traffic stress, and honing particular social competencies.

Honing human skills in an automated, digitalised world

As bus trips are increasingly changed and influenced by automation and digitalisation, the assistance of EMT employees becomes more and more important.

This is particularly true for passengers who encounter difficulties, such as not being able to pay for tickets online, lacking an understanding of the Spanish language, or struggling to find information about schedules and bus stop locations — EMT employees play a vital role in helping these passengers navigate and enjoy their bus journeys.

Social skills are therefore a key aspect of the company's training program, as Luis Roda noticed in a WE-TRANSFORM webinar organised within the POLIS Just Transition series:

'Users have become part of the transport workforce, self-providing services with new tools like journey planning apps and tickets machines. The transport workers' role is to support this new type of workforce, and transport companies must provide the adapted training opportunities with the trainer reskilling programs'.

Effective planning is crucial for fostering the acquisition of appropriate skills for emerging transport services, all while upholding job quality and ensuring satisfactory working conditions.

In Spain, relevant training obligations are legally mandated in the workplace, and public procurement initiatives provide support to companies in this regard. Moreover, a comprehensive framework exists for teleworkers' working conditions, along with regulations pertaining to information security and data protection. However, Luis Roda emphasises the need for European Union support and harmonisation, and even advocates for a global approach to address this challenge.

More than reskilling

In addition to reskilling and incorporating innovative practices into transport services, the effective management and organisation of new transport systems also demand careful preparation.

As emphasized by a French autonomous shuttle operator in discussions with WE-TRANSFORM partners, the younger generation of workers no longer accepts traditional work constraints. Today's managers are adopting a more human approach, leveraging digital tools to enhance flexibility in workforce management. A prime example of this can be seen at SNCF, the French national railway operator, where software enables employees to have greater autonomy in selecting their work hours and exchanging shifts with their colleagues.

Innovations in the transport sector are not only aimed at improving efficiency but also addressing the current shortage of skilled professionals. Meanwhile, they contribute to the improvement of working conditions with a reduction of physically arduous or hectic tasks, as observed with the automation of metro lines in Paris, for example. Fostering the digital integration of workers also creates both a sense of belonging and social recognition, which plays a crucial role in instilling job pride and enthusiasm among workers. By leveraging these technological advancements, the industry aims to make transport labour more attractive and ultimately compensate for the shortage of professionals in specific fields.

EMT bus in Valencia
ilolab, Shutterstock

SNCF worker at Gare de Bercy
Alexandros Michailidis, Shutterstock

Ticket vending machines in Paris
Ekaterina Pokrovsky, Shutterstock

When that pizza delivery makes you question everything

While digitalisation has brought advancements — especially for delivery services, it has also given rise to precarious employment within the platform economy.

A growing number of gig workers find themselves compelled to transport goods regardless of weather conditions and at the behest of client demands, often compromising their safety on the roads. Unfortunately, these workers often lack alternative job opportunities due to the specific certifications required or the need for task flexibility only found in this type of work.

Recognising these issues, stakeholders participating in a WE-TRANSFORM focus group discussion in 2022 concluded that the concept of work needs to be reevaluated. It calls for establishing standards and regulations that prioritise the well-being of workers while providing more convenient options for both workers and customers or users. As the digital delivery landscape evolves, it is crucial to address these concerns and create a more equitable and sustainable approach to work within this industry.

Car manufacturers getting it right

Some car manufacturers have improved factory environments to enable workers to focus on ergonomic tasks, while robots handle more challenging aspects and software streamlines monitoring processes[1]. These developments have sparked constructive dialogues between companies and unions, allowing them to determine where digital and mechanical support is most beneficial. However, both managers and workers have raised issues about the proliferation of digital systems without adequate connectivity, resulting in time-consuming interactions with robots, chatbots, and apps: connecting systems with self-explanatory and intuitive features is crucial to foster innovation uptake among transport workers.

On the other hand, automation has introduced a lack of ownership in the production chain of vehicles, leading to diminished interest in tasks and a potential decline in overall quality. While digital services may partially compensate for these downsides, they do not necessarily improve workers' conditions. Furthermore, the prices of technology can influence salary levels: if a robot is capable of performing the same tasks as an employee in a cheaper way, companies may be inclined to reduce wages or even lay off workers in favour of automation — a scenario that would, however, become viable only when AI and robotics reach a significantly higher level of automation and precision.

Balancing the benefits and challenges posed by automation and digitalisation requires careful consideration of their impact on transport workers. Prioritising connected systems with intuitive interfaces, addressing concerns about task ownership and work quality, and ensuring fair compensation amid evolving technology will be crucial to fostering a positive and sustainable environment for transport labour.

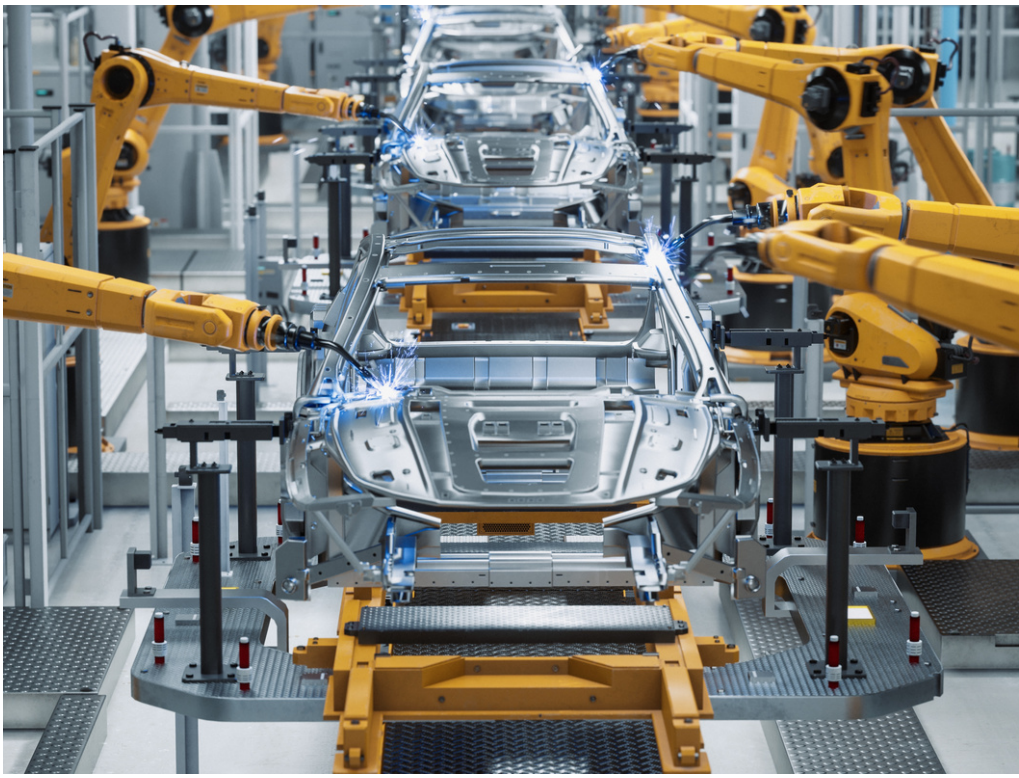
[1] Interviews conducted in the framework of WE-TRANSFORM Deliverable 4.1

What's left to say

To fully grasp the multidimensional nature of mobility transformation, including the impacts of automation and digitalization, a comprehensive approach is essential. This approach should encompass all transport modes and sectors, such as planning, services, and industry, as well as consider all types and levels of jobs involved.

A European perspective is necessary to address diverse regulations and provide the required human and financial support. Simultaneously, a local perspective is crucial because users are geographically defined and play a significant role in shaping how innovation affects transport jobs. Moreover, transport workers are also citizens, and local authorities hold the responsibility for transport services.

In pursuit of these goals, the WE-TRANSFORM project engages stakeholders through focused discussions to develop an agenda with actionable recommendations across different policy levels. Together, we can work towards a comprehensive and sustainable future of mobility.



THE POWER OF THE CURB

Discover how cities can enhance freight planning, reduce environmental impact, and harness the potential of innovative strategies like cargo bikes.

Dr. Anne Goodchild shares insights from Seattle, explores global applicability, and discusses the crucial role of data in shaping the future of **urban logistics** in the US, as well as Europe.

INTERVIEW WITH
ANNE GOODCHILD

ELABORATED BY
RAFFAELE VERGNANI

Dr. Anne Goodchild inaugurates the Urban Freight Lab's Seattle zero-emissions Neighborhood Delivery Hub

Urban Freight Lab

Dr. Anne Goodchild

Professor of Civil & Environmental Engineering and Founding Director
Urban Freight Lab
at the University of Washington

POLIS: Often, we talk about urban space in relation to passenger mobility. How can/should cities be approaching this when it comes to logistics?

Anne Goodchild: Cities should be thinking about logistics as an important function that must be considered and accommodated in urban spaces. Currently, most cities lack programming, knowledge, and resources to carry out urban freight planning. Cities should be building capacity for freight planning through staffing, engagement activities, and building programs for data collection and infrastructure development. With the right approaches, cities can reduce the externalities of urban logistics and support more sustainable practices. By developing a better understanding of urban logistics activity and planning for logistics activities in urban space, cities can improve access to goods and services for their residents, and help make cities more livable.

Research from the Urban Freight Lab has evaluated some practices with the potential to reduce the impact of urban logistics. This includes common carrier lockers, green curbs, microhubs, and cargo bike delivery. Through pilot studies, empirical data collection, and robust experiments, the work has shown the potential for these types of municipally supported strategies to reduce impacts on neighbourhoods while also providing opportunities for the industrial sector. For example, in our experiments, cargo bikes can reduce emissions from regional facilities by about one-third. Of course, the impact of each of these strategies depends on local conditions and local behaviour. However, municipalities can have a positive impact.

POLIS: In your research study you investigated an unexplored relationship between curb activity and establishment type: what are the main findings from your work conducted in Seattle?

Goodchild: In our study, we compared two datasets from Seattle, a) curb events measured by sensors and b) freight trip generation estimated by an establishment survey. Blocks receive about 500 vehicles per week according to the curb sensors (although there is a high variance). The mean number of trips per establishment per week is about 10 (again, there is a very high variance). Each additional weekly freight trip associated with the total group of properties on a given blockface will result in significantly more parking events per week on the same blockface. On average, about 8 times more, but for some establishment types this can be 10-20 times more. In short, there is not a one-on-one relationship between the freight trip generation and the observed curb use. Given the data collected, FTG underestimated commercial curb use; the estimated FTG contributes, on average, 24% to the observed parking events at commercial curb spaces. This means that trip generation estimates undercount curb events by almost an order of magnitude. Freight trip generation estimates cannot be used as curb even generators.

POLIS: Are your model and approach applicable also to a European context (for instance, to denser settlements with different regulations than the ones applied to American cities)?

Goodchild: I certainly expect that parking events at the curb will be larger than the number of expected freight trips generated. However, the nature of this difference should be further studied. More experiments should be conducted – in North America, Europe, and other regions, to evaluate the relationship and how this might vary for different built environments and transport patterns.

We are confident that the difference between FTG and curb events is not unique to Seattle.

POLIS: Data and knowledge are essential to improve logistics planning. What are the main challenges for data collection and deployment for cities today?

Goodchild: Although we have the possibility of much data being made available through sensors and digital systems, installing sensors, acquiring, managing, and interpreting data, are still very costly. All cities are resource-constrained and are allocating those resources across competing demands.
In addition, as mentioned above, many cities do not have sufficient capacity to do urban freight planning, nor do they have the knowledge and expertise in-house. This puts freight planning at a disadvantage when compared with other modes.

An alternative pathway is to obtain data directly from private carriers and operators, instead of cities using their sensors and installing equipment, but this has proven to be very difficult to arrange contractually and there are limited examples of how this strategy can work consistently.

Another challenge for cities is the absence of mature solutions and data programs to collect this data. For example, there is still a need for experimentation with algorithms to turn sensor events into parking events, and many cities do not have programs for urban freight data collection as they do with passenger transport.

POLIS: Public administrations need to develop new skills and keep up with recent technology developments. How can the research and academic sector be of support to local authorities to gather, handle, analyse data and make actionable decisions from it?

Goodchild: Cities are struggling to respond to the requests that technology companies make for consideration of their products. They are not staffed with the resources for this activity.

At the Urban Freight Lab (UFL) we have met this need by holding an annual Tech Day – where researchers in the academic sector review and assess new technologies to address a specific city challenge. Researchers select the most promising technologies and arrange for these to be presented to city staff, venture capital, and industrial experts.

Research institutes can also play a role in providing the capacity and skills to gather, handle, and analyse data. Working closely with cities this can be designed to support decision-making, filling distinct gaps that currently exist in city government.

POLIS: What are the next steps of your research?

Goodchild: We have several ideas to extend our work comparing FTG estimates to curb events.

One would be to expand and validate the models we have created by collecting more data across different cities and urban forms. This would also expand the predictive ability of the model.

The second would be to integrate freight with other curb uses, including TNCs, passenger parking, and more.

ALL HANDS ON DECK

WRITTEN BY
WOLF ENGELBACH
CHRISTOPH ERDMENGER
BERTHOLD FRIESS
MIRIAM KOCH
EUGENIA KOLB

Train station
Baden-Württemberg

Cooperation between local authorities and the private sector will be essential for achieving climate neutrality targets. **Baden-Württemberg** reveals how they are encouraging employers and commercial vehicle operators to take bolder steps towards sustainable mobility.

Baden-Württemberg is committed to achieving a 55% reduction in emissions from the transport sector by 2030, in comparison to 1990 levels, ultimately aiming for climate neutrality by 2040. Although these targets are ambitious, particularly given that the mobility sector accounts for approximately one-third of the region's total emissions, Baden-Württemberg is tackling this challenge with enthusiasm. The region's approach to meeting these goals offers valuable lessons for others endeavouring to pursue similar objectives.

The Mobility and Climate Concept

Based on scientific modelling and a range of studies, the Ministry of Transport of Baden-Württemberg has specified several key targets for the mobility sector, including an increase in renewably powered vehicles for passenger and freight, as well as a doubling in public transport usage, a rise in active travel, and major cuts in car traffic.

Each of these goals cannot be achieved without the other, and require collaboration between local, state, federal, and EU levels, and the specific avenues for cooperation are currently being set out in the Mobility and Climate Concept of the State of Baden-Württemberg. The Concept defines clearly how states and municipalities share financial and political responsibilities for implementing each of the nearly 30 climate protection measures and must work together to define milestones as well as indicators to keep track of implementation progress and mobility effects.

The Mobility and Climate Concept in addition aims to assure mobility for all, regardless of income, disabilities, age, socio-economic background or gender, through the design of suitable measures. It looks at compliance with the different mobility requirements in urban and rural areas and systematically reflects an economically efficient use of public and private funds. The state also supports municipalities by offering a climate bonus to particularly climate-friendly infrastructure projects that are part of ambitious climate mobility plans.

However, governments cannot solve all transformation challenges. Cooperation with the private sector is equally critical for reaching these targets, working with organisations to shift commuting habits, encouraging greener business travel, and revisiting their corporate fleet policies. Indeed, the Ministry of Transport launched two specific alliances with companies, employees and their associations.

Sustainable mobility at work

One-third of all traffic in the region is related to commuting and business travel, with an overwhelming volume of this from private car travel.

Therefore, implementing sustainable mobility in working environments requires support from companies, employees, and associations. From the employer side, each company is being asked to more concertedly pursue and implement conditions for electric cars, bikes, and public transport. They can do so by, for instance, advocating to the municipalities and transport operators for adequate infrastructure and services.

Launch event of the alliance "Climate-neutral commercial vehicles"
Baden-Württemberg

In July 2023, companies, associations, and the Ministry of Transport signed an agreement for sustainable mobility at work. It sets clear common targets to have visible outcomes in 2027, chasing climate-neutral commuting and business trips. Core measures include:

- Preparations for charging infrastructures to purchase solely climate-neutral cars in 2027;
- Seek to implement a mobility budget instead of providing company cars for private usage;
- Initiate mobility surveys and housing analysis as well as dialogues with employees and their representatives, municipalities and transport operators to make buses and trains much more attractive;
- Provide each company location with adequate high-quality bike parking facilities and improve other conditions for biking as well as walking.

Moreover, the agreement lists individual contributions by companies such as Robert Bosch, SAP, Roche Diagnostics, Schwarz Mobility Solutions, Vetter Pharma-Fertigung, and two large clinics, as well as several company representations and trade unions, mobility associations and transport operators, each of them with specific measures. A follow-up process is also designed to foster exchange about the identified core activities and to motivate additional companies to join.

Climate-neutral commercial vehicles

Freight transport on roads accounts for one-third of the traffic-based carbon emissions in Baden-Württemberg. New climate-neural light and medium-duty commercial vehicles are a high investment for companies that own, operate, or order such fleets. Therefore, businesses require a reliable planning perspective, to implement and operate infrastructure and vehicles.

Companies and their associations expect — and need — the local, regional and federal governments to act towards reliable electric infrastructure and fast planning processes, with coordination between municipal departments. Moreover, they are interested in a visible presence in discussions with vehicle manufacturers. In particular, the federal government also request bold action through funding schemes to cover part of additional costs for climate-neutral vehicles, and Baden-Württemberg intends to provide supplement funding for such extra efforts that are not covered yet.

In September 2023, a cooperation agreement between Baden-Württemberg and purchasers of commercial vehicles was signed, which stipulates that 50% of all light and medium-duty commercial vehicles up to 12 tons will be operated with clean fuels by 2030. The associated partners, initially supported by governmental funding, promise to take the necessary steps themselves. They moreover act as advocates and supporters for this target and the relevant actions within their ecosystems, e.g. towards their members in the case of the associations.

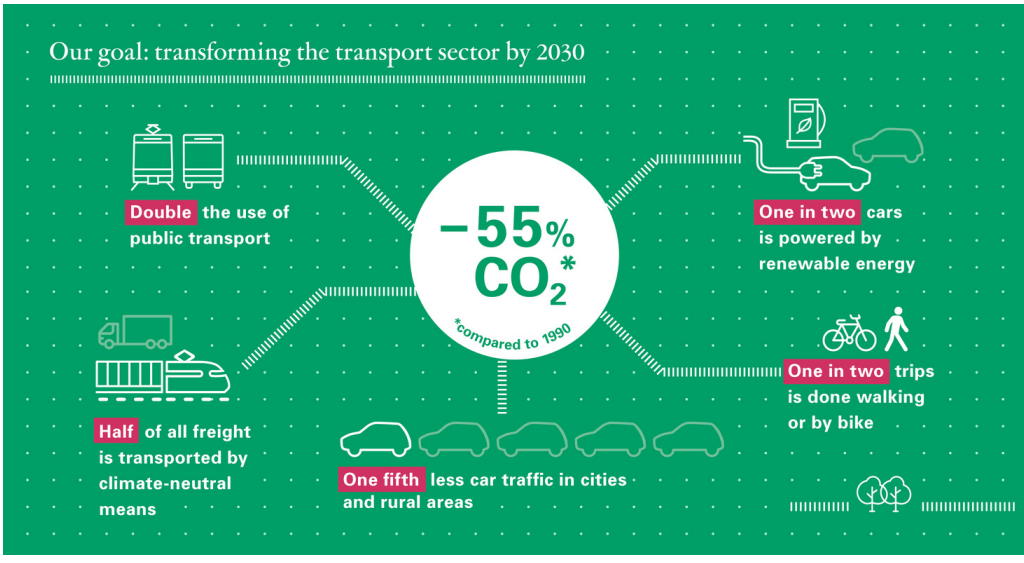
The alliance focuses on regional transport. Here, as a region, Baden-Württemberg is in an apt position to help companies make practical changes in implementing electric infrastructure in and around offices and industrial areas. Since 2017, Baden-Württemberg's government has coordinated a dialogue with the private sector, society, and academia, on the transformation of the automotive industry, which has provided a springboard for closer collaboration with vehicle manufacturers, electricity networks and charging infrastructure suppliers.

In the agreement, some companies including Amazon, DPD, Hermes, Sixt, and a regional newspaper distributer (SV-Group) have set even more ambitious individual targets for the speed of transforming their fleets towards climate-neutral commercial vehicles.

Companies and their associations support the Ministry of Transport in these two new alliances and thus are accelerating the shift to more sustainable passenger and commercial vehicles — above and beyond EU regulation. The associations help the region to understand and address the pinch points for the shift to cleaner vehicles and infrastructure requirements. However, critical challenges remain, and improvements in energy grids, land-use options, connected charging infrastructure, and more, demand inputs from national and international actors. The collaboration must continue!

Targets for the transformation of the transport sector in Baden-Württemberg

Baden-Württemberg



EQUAL ACCESS TO EV CHARGING STATIONS

WRITTEN BY
SANTOSH RAO DANDA

Uber shares insights on how to optimise charging infrastructure through the lens of ride-hailing. Data shows a startling gap between charging supply and demand, notably in suburban areas. Explore how public-private partnerships and a demand-driven approach, can drive a more equitable, sustainable, and inviting future.

In the bustling heart of the late 19th century's industrial revolution, a technological solution began to reshape our streets: the automobile. Once a luxury reserved for the urban elite few, cars eventually spread to the wider society, driven by the dual engines of mass production and the widespread availability of gas stations.

It is remarkable how this transformation not only revolutionised transport, but also influenced urban planning, architecture, and even social norms.

Nowadays, the environmental revolution and the urgency to address climate change force us to rethink this paradigm: climate change is upon us, propelling the move from combustion engines to more sustainable options, amongst which we find electric vehicles. Sunday trips to gas stations may soon be gone; the future, this time, might (or shall) be powered by the widespread availability of charging stations, thus ensuring that charging stations are not only available everywhere, but also accessible to all. However, reality paints a different picture.

Ironically, just as cars were once the privilege of the wealthy in urban centres, today's EV charging stations are similarly concentrated in these areas, leaving many without access.

It is not just an inconvenience; it is an issue of social equity.

The ride-hailing example

Let us consider the case of ride-hailing drivers. These professionals transport numerous passengers in one day and cover 250 to 300 km daily on average. One of the key challenges for drivers to transition to electric vehicles is the low and unequal deployment of charging points: it is indeed estimated that ride-hailing drivers need to charge their cars at home overnight and sometimes stop once or twice during the day. As they need to stop driving and working to recharge their cars, which implicates halting the generation of earnings, having an easily accessible charging station wherever they stop would be crucial. Unfortunately, this is not the case today: the current setup effectively penalises those who are looking to make a greener choice.

Using public data on charging locations and its insights, Uber has been able to identify gaps in charging infrastructure and the result is clear: there is a shortage of chargers where ride-hail drivers live and work.

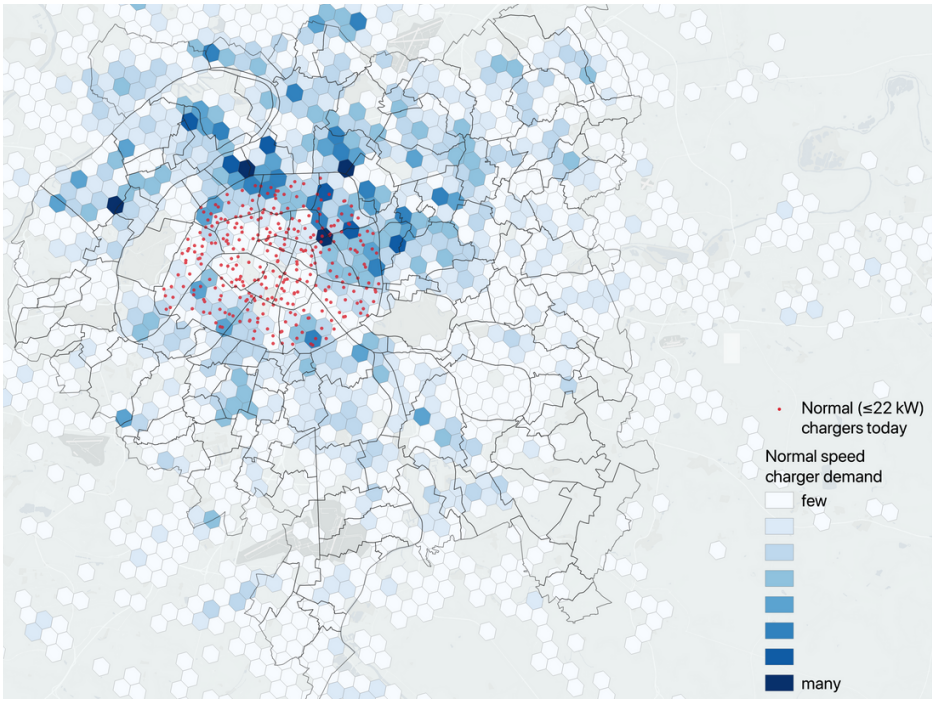
This is not just a problem for Uber, as it is also a bottleneck that potentially slows down the mass adoption of electric vehicles and hinders the progress towards the EU's sustainability goals.

In Paris, for instance, in the areas where most drivers live, there is a notable scarcity of public and residential charging stations. On the contrary, the majority of charging stations are in the city centre, yet less than 15% of ride-hailing drivers live there. This disparity is even more striking considering that 65% of Parisians in the city centre do not own a car, while a significant portion of suburban residents rely on one or even two vehicles, largely due to the lack of access to public transport.

In contrast, in Amsterdam, more than 50,000 affordable charging stations have been deployed over the past years, mostly boosted by the 'right to charge' policy. Thanks to this demand-driven approach, charging stations were deployed where they were most needed, benefitting everyone: providers, users, and public authorities.

Incorporating a demand-driven approach, not only leads to better use, but also maximizes the positive environmental impact of every charging station.

Visualisation of availability of charging stations in the Paris Region



Charging stations for all

If we are serious about the environmental revolution in the ride-hailing sector, we need to accelerate the fair deployment of charging stations in low-income areas. And this can only be achieved as a collective effort involving public authorities, charging operators, mobility players, and individuals.

Public-private partnerships could be the cornerstone of this much-needed revolution. The same goes for promoting significant investments in charging infrastructure in areas where high-mileage drivers live. Companies like Uber are ready to collaborate, providing data to ensure optimal station placement. Alongside this, Uber hopes to see increased financial support for at-home charging installations, especially targeting professionals who heavily rely on EVs – ride-hailing and taxi drivers, but also truck drivers or delivery operators.

Beyond the need to make charging stations available everywhere and to all, we should also reflect on the positive socio-economic impact that charging stations will likely have on cities and communities. The benefits can extend far beyond reduced carbon emissions and can serve as catalysts for community development.

Gas stations are embedded in our minds as places where we would go as families to tank the car and, at the same time, succumb to the temptation to buy biscuits or a soda at the shop.

Similarly, charging stations could become places where we come not only to recharge cars, but also community spaces where sustainability meets daily life – a unique occasion to stop by the coffee shop around the corner, do groceries, or have a quick walk in a park nearby.

Charging stations can be designed to be far more inviting than traditional gas stations: no more terrible smells, oil puddles, blackened fingers, or grey walls, but wide open spaces that are completely integrated into urban landscapes and surrounded by nature.

The rollout of this new charging infrastructure would not just be a technical shift. It would represent a transformational opportunity to reshape our urban environments and lifestyle choices for the better. It would be an invite to reconsider what sustainability can look like in our day-to-day activities, as well as how we interact with the world around us – a chance to seize the moment and create not just a network of charging stations, but a blueprint for a more sustainable, equitable, and vibrant future.

A VISION THAT SPANS AN OCEAN

Digitalised mobility in the US and Europe

Cities and organisations in the **United States** and **Europe** explain their common vision for digitalised mobility with concern for efficiency, security, transparency, and standardisation in mind.

FROM CONVERSATIONS WITH
ANDREW GLASS HASTINGS
CONNIE LLANOS
GEMMA SCHEPERS
MARTIN LEFRANCQ
IVO CRÉ

ELABORATED BY
QUAID CEY

What will the city of tomorrow look like? More and more often, the answer of mobility experts seems the same: cities will digitalise their transport infrastructure. In other words, they will continue to 'transform elements of the physical world into bytes' so that digital technologies become an essential component of urban transport, logistics, and day-to-day life. In this transition, concepts like data-sharing, automation, artificial intelligence, and data-oriented decision-making will become increasingly relevant.

But how will communities around the world experience the progress toward digitalised mobility differently? With communities across Europe moving at varying rates toward their version of the 'smart city', differences between continents are likely to be just as pronounced.

POLIS reached out to mobility leaders from the US and Europe to learn more about the promises that digitisation holds for tomorrow's urban transport, as well as the barriers to a truly data-driven mobility system. As it turns out, there is far more that connects than divides them in their development of an efficient, secure, and transparent protocol for mobility digitalisation.

An automated bus navigates narrow city streets
Suwin, Shutterstock

Andrew Glass Hastings

Executive Director
Open Mobility Foundation

Smart streets and curbs: A lesson from the US

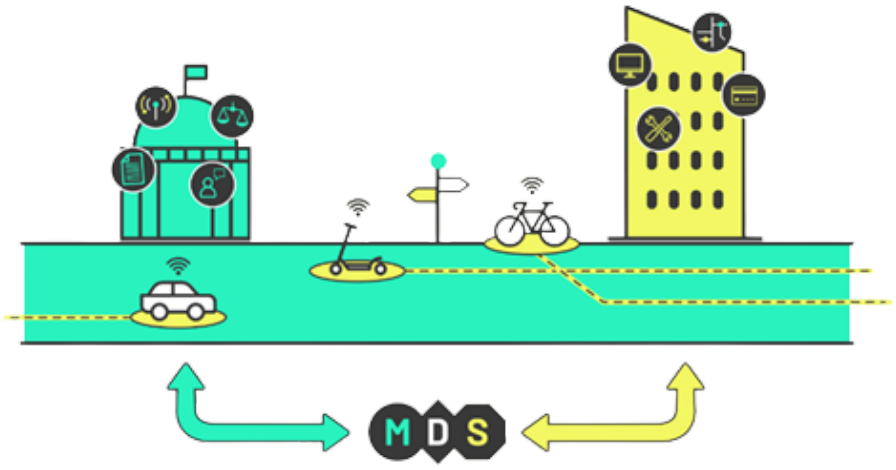
To start things off, POLIS spoke to Andrew Glass Hastings, Executive Director of the Open Mobility Foundation (OMF), a US-based foundation working at the forefront of open-source mobility. A newcomer to the POLIS network, the OMF stands out as a pioneer in the domain of mobility digitalisation. 'The idea behind the OMF is to convene a public-private set of stakeholders – bringing cities, regional public agencies, and other agencies together with technology companies and mobility operators – to co-create open-source data standards and steward them so that they continue to meet the needs that cities face as transportation continues to digitise,' Andrew informed POLIS.

Much of the OMF's work has centred on developing and implementing the Mobility Data Specification (MDS) – a digital tool that enables data-sharing between local authorities and transport providers of all kinds, from e-scooters and bike-sharing companies to public transport operators. Retracing the history of the MDS, Andrew explained: 'The original focus of MDS was on micromobility – shared bikes and scooters. More recently, with the introduction of MDS 2.0, the MDS includes more modes of shared mobility, such as taxis, car-shares, services like Lyft and Uber, autonomous vehicles and robo-taxi services, and even things like sidewalk delivery robots.'

On its website, OMF publishes a list of case studies showing how the MDS enhances urban transport management and policymaking, such as in infrastructure planning, dynamic pricing for parking, street lighting improvements, digital twinning of preferred parking zones, and car usage reduction analysis. Many of the cities that have deployed the MDS are already experiencing these benefits firsthand. From equitable access improvements to reduced congestion and finer-tuned safety measures, the MDS offers cities new ways to learn from mobility data and develop effective policy responses.

But MDS is not the only project that OMF has been working on: the organisation has also been active in the rollout of the Curb Data Specification (CDS), a digital tool that helps cities make more efficient and dynamic use of their curb spaces, starting with loading zones. Andrew told POLIS: 'Public space – curbs, in particular – have been managed by cities for decades, but they have been managed in an analogue format. In stewarding CDS, we are enabling cities to code their curb, so to speak, and to do that in a way that is consistent across cities in North America, Europe, and around the world, so that everyone is doing this in the same language.'

Thanks to its flexibility, the CDS can help to promote sustainability, safety, and accessibility in various ways. For example, cities can use the CDS to provide real-time data on curb status and analyse curb usage in the long term, both of which help authorities to optimise



The MDS bridges the gaps between cities and transport operators

Open Mobility Foundatio

efficiency and fine-tune their policy objectives. Another application of CDS is the publication of loading zone rules and locations online and in a machine-readable format, something that will become ever more valuable as automated vehicles (AV) are deployed for deliveries.

This is one of the future applications that Andrew is most enthusiastic about: 'Digital infrastructure can help AVs, which are essentially driving computers, to access all information on curb rules and regulations, even around things like dedicated curb space for AVs for pick-up and drop-off. Thinking about the future, AVs are certainly one of the areas of focus for both the MDS and the CDS,' he told POLIS.

Starting local: The city that dared to go digital

One of the cities in the US that has been active in the area of digitalised mobility is Los Angeles. Connie Llanos, consultant, strategist, and former Interim General Manager for the Los Angeles Department of Transportation (LADOT), told POLIS: 'In Los Angeles, we've been an epicentre for transport innovation, and we welcomed this as a way to give our more than 4 million residents more choices for how they get to where they need to go.'

Since the beginning of the OMF, the City of Los Angeles has played a starring role in the development of new codes and tools essential for digitalised mobility. It was Los Angeles that lent the OMF their open-source code base for a mobility data platform: the MDS.

'New modes of transportation are nearly impossible to manage when mobility providers are using digital tools and cities are on analogue systems. Digital tools like MDS and CDS give cities a way to say 'yes' to innovation without compromising their core responsibility to manage the public right of way,' Connie explained.

Reflecting on the progress that the city has made with digitalised mobility, she added: 'In LA, MDS provided the tools to manage one of the largest dockless scooter programs in the US, with more than 30,000 permitted vehicles operating on city streets. This has been a great way to provide millions of Angelenos with a cleaner alternative to a single occupancy vehicle, and we were even been able to drive some of that growth into disadvantaged areas of the city that historically had fewer transportation options. Making sure we were meeting safety, equity and accessibility goals was only possible when we had the digital tools to measure and manage fleets.'

Dutch ambition meets shared mobility

On the other side of the Atlantic, one country has taken its reputation for innovation to the next level: the Netherlands is paving the way for safer, more efficient digitalised mobility in Europe.

Building on the work of the OMF in the US, the cities of Amsterdam, Utrecht, Groningen, Eindhoven, and Rotterdam, together with the Dutch Ministry of Infrastructure and Water Management, have developed a (shared) mobility data standard that leverages the advantages and mitigates the risks of mobility data exchange. They're calling it the CDS-M: City Data Specification – Mobility.

Gemma Schepers, Smart Mobility Project Manager for the City of Amsterdam, told POLIS why the CDS-M is needed: 'Transport is becoming smarter and smarter, and data exchange has become an important part of the mobility chain. Municipalities, provinces and the national government request data from mobility providers to monitor, learn, and manage public space. But there is no uniform standard for the exchange of that data: different governments set different requirements for mobility providers. This can be done more effectively and efficiently by developing a single, uniform City Data Specification - Mobility (CDS-M).'

Connie Llanos

Former Interim General Manager
Los Angeles Department of Transportation

Dockless scooter parked on a Los Angeles sidewalk

Juliette Contin, Unsplash

The Felyx e-scooter: a new way to get around in Amsterdam

Bjoern Wylezich, Shutterstock

Gemma Schepers

Project Manager Smart Mobility
Gemeente Amsterdam

Recognising the many challenges with data-driven mobility, from the hacking of transport systems to breaches of transport users' privacy, the mobility leaders behind the CDS-M have developed guidelines for safe data management. In their Manual for the Secure Exchange of Shared Mobility Data, they provide a roadmap for other cities to follow as they integrate data-sharing tools into their transport operations.

Like the MDS, the CDS-M is compliant with the General Data Protection Regulation (GDPR), which sets limits on data collection, storage, and processing in the EU. Following one of the foundational principles of the GDPR – data minimisation – the motto of the CDS-M can be summarised in three words: 'Less is more.'

Rather than hoarding data on the off chance that it might prove useful later on, the architects of the CDS-M advocate for a targeted approach. They recommend that cities identify the urban mobility change at hand and then decide – with the experiences and insights of other cities as their North Star – exactly what data they need to tackle each problem effectively. By keeping data collection and sharing to the minimum required, ensuring that data is only used for agreed-upon purposes, and enabling cities to learn from each other, CDS-M allows city leaders to make their transport ecosystem more functional without compromising the trust of their citizens.

Gemma is hopeful that other cities in the Netherlands and around Europe will soon recognise the benefits of secure mobility data management and follow the example set by Amsterdam, Utrecht, Groningen, Eindhoven, and Rotterdam. She explained: 'Shared mobility is being used in more and more cities as a sustainable alternative to traditional forms of transport. A lot of data is retrieved about the use of shared mobility. This has the advantage that policy can be made based on actual usage, rather than assumptions about it. But sharing data also entails several risks, and that is why it is important that the exchange of shared mobility data is secure, effective and complies with the legal requirements in this area. In practice, the municipalities of Amsterdam, Utrecht, Groningen, Eindhoven and Rotterdam have developed a working method that meets these requirements: CDS-M. This method is publicly available and can be applied to all governments where shared mobility is used.'

Brussels boosts digital governance

Just over 200 kilometres south of Amsterdam, another POLIS Member is making the move toward digitised mobility: Brussels.

Brussels Mobility, the regional authority of Brussels-Capital for equipment, infrastructure, and mobility issues, has been active in promoting future-forward transport in and around the city. With their 2020-2030 mobility plan – Good Move – the Brussels Government aims to boost urban life quality and citizen safety by seamlessly integrating different transport modes, making active and shared transport more accessible to all, enhancing the efficiency of public transport, and managing traffic flow in key neighbourhoods. Thanks to strong stakeholder involvement during the design phase of the mobility plan, targeted measures have been adopted with a focus on bringing new, sustainable, and convenient travel options closer to citizens.

Mobility data is an essential component of Good Move, both because it helps to bridge the gaps between administrators, transport providers, and citizens, and because it allows Brussels Mobility to monitor the success of the programme. In particular, the exchange and instrumentalisation of data on shared mobility have proven essential for optimising multimodal traffic management.

Martin Lefrancq, New Mobility Policy Advisor at Brussels Mobility, told POLIS: 'The recent review of regulations for shared micromobility allowed us to dive deep in the digital governance of these services. We approached the problem with these basic principles of mobility data flows in mind: data sharing between stakeholders of the Mobility-as-a-Service (MaaS) ecosystem on the one hand, and data reporting to the authority for planning and enforcement purposes on the other. In addition, we created interoperable digital regulations mirroring the physical ones, so that providers can turn them into reality in their system, hopefully making shared micromobility a reliable and efficiently integrated service in Brussels' transport offer. And this is just a first step as we are looking to replicate that for other services as well.'

From electric bikes and scooters to shared cars and vans, cargo bikes, and public transport, the Belgian capital continues to expand its mobility offer, with a focus on low-emission, shared, and active transport. By simultaneously moving in the direction of data-driven management, the city can ensure that the new transport modes and technologies are properly accounted for and regulated, in turn making them benefactors rather than deterrents for Brussels' evolving mobility ecosystem.

Understanding differences and overcoming shared obstacles

Based on the experiences of the OMF and the cities of Los Angeles, Amsterdam, and Brussels, it appears that mobility leaders in the US and Europe share a common vision for digitalised mobility and an understanding of the advantages it offers. As Gemma Schepers told POLIS: 'There are a lot of similarities between the European and American cities. All cities need data to get better insights into traffic flows in cities, and we all work in bureaucratic organisations. The use cases and problem questions that cities have are very universal.'

While their objectives may be similar, there are key contextual differences — mainly regulatory — that bear noting. Andrew Glass Hastings reminded POLIS that 'because the US has been left to a very decentralised, fragmented approach, without a national framework or strategy around data and digital infrastructure, it's really hard to avoid the proprietary nature of technology players, who in the US tend to develop a technology and keep it in their black box.'

Lower traffic flow and safer streets in Brussels: two important goals of Good Move

François Genon, Unsplash

Martin Lefrancq

New Mobility Policy Advisor
Brussels Mobility

Ivo Cré

Director of Policy and Projects and Coordinator Access Working Group
POLIS

'Because of the policy guidance and the policy position of the EU,' he added, 'I see much less of that happening, which will ultimately serve the interests of cities and the public as we continue along this trend of mobility digitisation.'

While Europe's data privacy regulations could be a boon for mobility digitalisation, readiness to pursue new and unfamiliar methods of urban management may be lower amongst European leaders.

According to Ivo Cré, Director of Policy and Projects and Coordinator of the Access Working Group at POLIS, Europe's progress toward dynamic curbside management (DCM) is a case in point: 'Europe is slowly discovering the potential of curbside management, and initial experiences are being established in POLIS-involved European Research and Innovation projects, such as DISCO. The situation in Europe, however, is different from that of the US. It remains difficult for European cities to leave the stable parking system – with its procedures, regulations, and associated revenue – aside in favour of dynamic space use involving different stakeholders and service and business models. I am convinced that Europe's cities will make the switch, but that it will be a different – a European – approach.' These differences point to some of the obstacles standing in the way of data-driven mobility, which cities in the US and Europe experience to varying degrees.

One of the most glaring issues, Andrew notes, is capacity-building for local governments: 'If we want to put government and technology on equal footing,' he commented, 'we need to be able to resource local government actors so that they know how to do so. We need to build the workforce not just so that technology companies can continue to innovate, but also for the local government teams to be able to partner up and manage this digital transformation.'

Gemma pointed out that this a problem not only in the US but also on the other side of the pond: 'The majority of our civil servants don't always have the time and capacity to organise all that is needed to work with data. Every city is trying to reinvent the wheel, which costs lots of time. That is why the Netherlands decided to make the 'Dutch Profile' – a means for all cities and mobility providers to work in the same way when it comes to data exchange – to relieve civil servants of some of their work. This is what we should organize in Europe.'

Andrew also highlighted another, related issue, and one that must be addressed if cities in the US and Europe are to deploy tools like the MDS, CDS, and CDS-M sustainably: citizen mistrust.

'None of this can be done in a vacuum,' he told POLIS. 'One of the aspects of capacity-building for local governments that are most critical is making sure that the public understands what is happening and how they can benefit from it, and that it's not an experiment on them but something that will make it safer, healthier, and easier to move around their communities. It's not enough for the government to be talking to itself or talking to technology partners: we've got to relate this to the average person on the street.'

Conclusions

Though they find themselves on opposite sides of the ocean, one goal sits close to home for mobility leaders in both the US and Europe: implementing a standardised toolkit for digitalised mobility that balances efficiency, security, and transparency.

With standardised, GDPR-compliant tools that bridge the gaps between local authorities and service providers while meeting the needs of citizens, cities in the US and Europe strive to optimise traffic management and use of public space.

What remains to be seen is whether their ocean-spanning ambition can hold ground in the rest of Europe, and what new challenges and solutions might arise as digitalised mobility advances.

SAFETY AND SECURITY

How can we make urban mobility networks safe for all users? Our work on Safety and Security, done by the Safety and Security Working Group, answers this question and many more.

The Working Group addresses street and road safety, with a particular focus on protecting those who walk, cycle, or use public transport or shared micromobility vehicles. It also addresses the security of urban mobility networks, focusing on protecting users of transport infrastructure from gender-based sexual harassment, violent crime, and terrorist acts.

The topics being discussed in the Safety and Security Working Group go from the New Paradigm for Safe City Streets to the Safe System and the Vision Zero approaches, from speed management and traffic calming principles, methods, strategies, and solutions; to improvements in vehicle design (eg direct vision for trucks) and performance (eg Intelligent Speed Assistance Systems and Autonomous Vehicles).

The Working Group also investigates Crime Prevention Through Environmental Design (CPTED), applied to public transport stops, stations, and connecting hubs and pedestrian paths, gender-based sexual violence in public transport and public spaces, and risk Management principles and methods.

Find out more about the Safety and Security Working Group on our website!

CATCH MY BIKE IF YOU CAN

WRITTEN BY
TITUS VENVERLOO
FÁBIO DUARTE

The past five decades have seen an upsurge in cycling in **Amsterdam**. As more and more residents have traded four wheels in for two, however, another trend has emerged : **bike theft**. With the annual value of the stolen bicycle market as high as **600 million euros**, stricter — and smarter — law enforcement is needed.

Since the 1970s, when Amsterdam embraced a non-car-centric approach to urban development, cycling has witnessed remarkable growth, with the vast expanse of bicycles populating the urban landscape of the Dutch capital becoming an impressive and instantly recognisable sight: truly, it is no surprise that Amsterdam is often perceived as the 'Cycling Capital of the World'. Bicycles have served as its primary mode of transport for decades and the city has long been a commendable example for many other urban areas embracing active mobility to increase the health and general liveability of their citizens and reduce air and noise pollution.

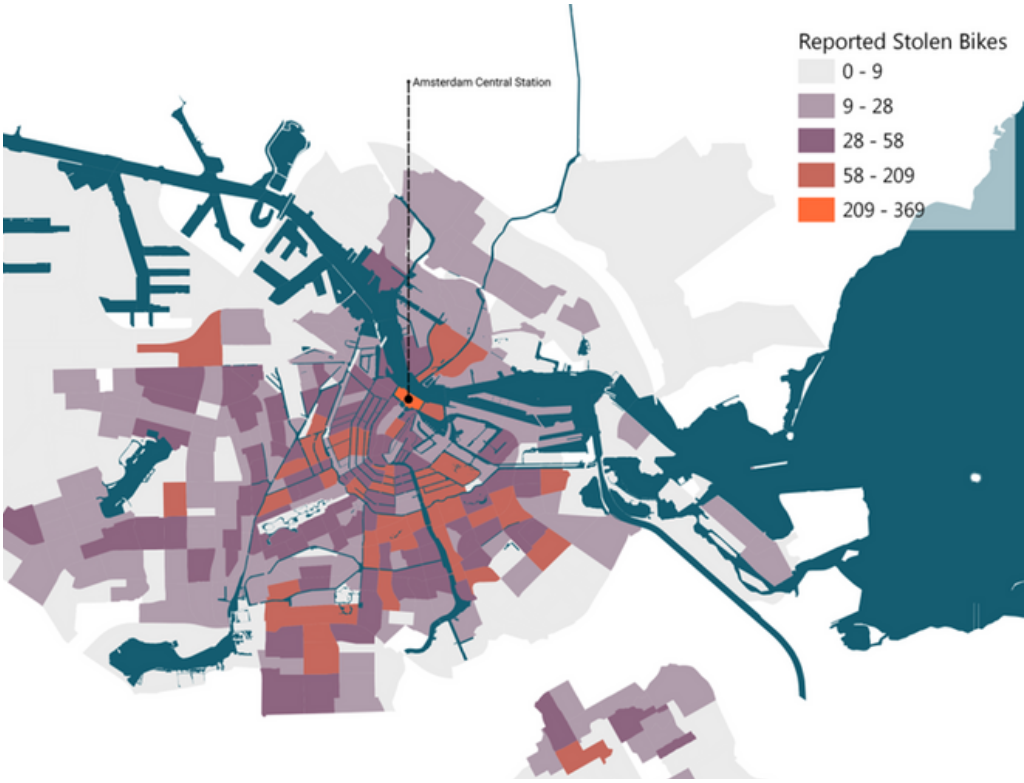
Yet, all that glitter is not gold, and Amsterdam still grapples with one particular, annoying, and inconvenient struggle: the exorbitant number of bike thefts.

Toward a systematic response

One of the significant challenges in addressing bicycle theft lies in the prevailing perception that it is a low priority for law enforcement, which means that it is not tackled with a systematic approach. Citizens, police, and other governmental agencies see bicycle theft as incidental – an isolated issue, really, making it difficult to see the bigger picture and broader scope of the problem.

Nevertheless, the issue holds societal relevance, as evidenced by the fact that in the Netherlands alone, the annual value of the stolen bicycle market is estimated to be approximately 600 million euros.

Still, much like with other crimes, the problem analysis heavily relies on static data provided by various institutions and organisations focused on urban safety. Based on the reported data, we have learned that 14% of Amsterdammers are willing to report a stolen bicycle, 18% of them fell victim to bicycle theft in 2019, 11,000 stolen bicycles are yearly reported, and the estimated total number of bicycle thefts in Amsterdam reaches 80,000 per year. Furthermore, we have (limited) insight into the geographical distribution of bicycle theft within the city, with Amsterdam's central train station emerging as a significant hotspot.

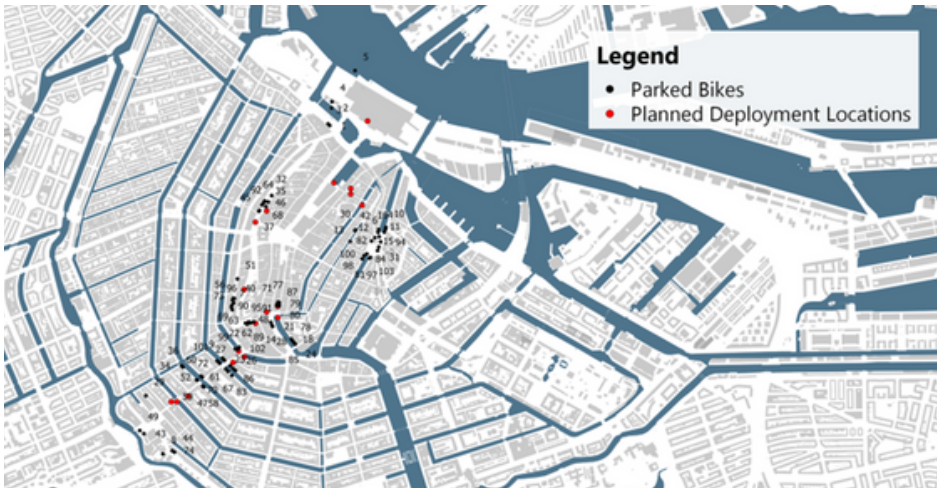


Reported bike thefts per neighbourhood in Amsterdam (2019)

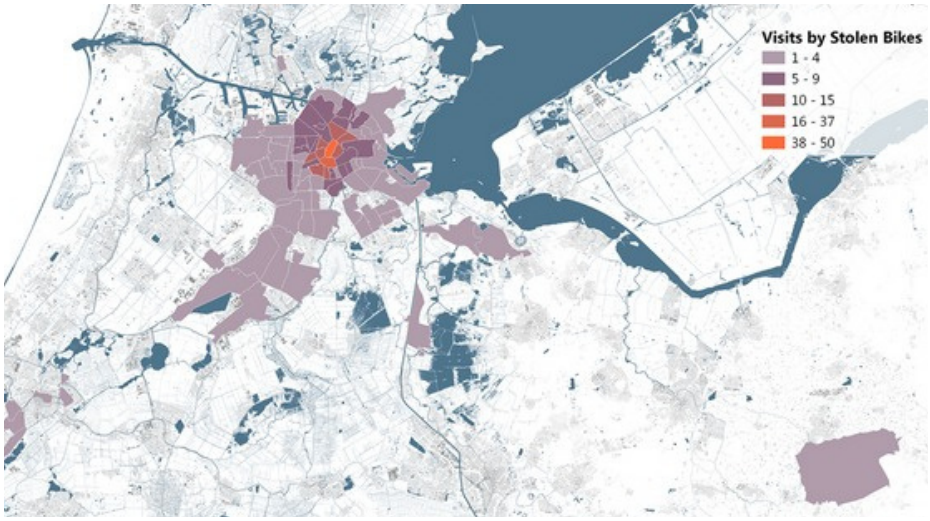
However, this information tells us very little about other interesting aspects of this issue, such as the fate of stolen bicycles, the intricacies of their theft network, and, more broadly, their destination once stolen.

Within the framework of the MIT Senseable Amsterdam Laboratory's research, it is shown that the use of digital technologies enables a more in-depth analysis of specific crimes across time and space. To address the question regarding the destination of stolen bicycles, the MIT SAL designed an unprecedented, yet very straightforward methodology by strategically placing 100 securely locked bicycles, each equipped with location sensors, in main bicycle theft hotspots in Amsterdam. Subsequently, the Laboratory closely monitored the movements and whereabouts of these traceable bikes.

Between 1 June and 30 November 2021, the 100 deployed bicycles were meticoulously tracked. During this timeframe, 70 of them were classified as stolen. Each of the 70 stolen bicycles provided a unique insight into the dynamics of bicycle theft, gradually unveiling the spatial and temporal patterns of such crimes in Amsterdam.



Planned deployment and realised parking locations of the 100 bikes



Visits of stolen bikes to 4-digit postal code

Where do our stolen bikes go?

Through this method, the MIT SAL created a promising dataset detailing the movements of stolen bicycles. This dataset, however, comes with the challenge of determining the most effective analyses to extract information from it: from simple exploratory plots to hierarchical clustering and graph-based analyses, the MIT SAL's work encompassed various analytical approaches and techniques.

Our analyses have revealed that stolen bicycles typically spend a relatively brief period in purloined status before swiftly returning to regular usage within the city. They also do not travel very far: most remain in close proximity to Amsterdam, almost as if they were part of a circular economy of stolen goods.

This observation stands in stark contrast to numerous theories encountered in the MIT SAL literature review for the research article 'Tracking stolen bikes in Amsterdam', which suggested cross-city and cross-country transport of stolen bicycles.

Furthermore, by employing graph-based network analyses, the research could identify storage locations and travel patterns that would not occur randomly: hence, the deduction is that approximately 30% of the stolen bicycles are stolen in an organised way, while the remaining 70% follows patterns that indicate a swift resale or immediate integration into regular use.

The approach of the MIT SAL contributes to the advancement of urban criminology literature by leveraging ubiquitous sensing technologies, thus offering a wealth of detailed spatial and temporal information about bicycle theft, human mobility patterns, and explanatory variables that transcend conventional socio-demographic neighbourhood analyses.

Areas with few functions and amenities but high importance for the movement of stolen bikes

With the rise of bicycles in cities going hand in hand with the surge of theft, tracking technology can be a great asset to increase safety, inform policymaking, and shape law enforcement strategies and practices on a global scale.

The integration of affordable and readily available digital technologies enables new research into this field and can provide municipalities with opportunities to reduce crime rates while pursuing an active and clean transport agenda.

SAFETY FIRST

INTERVIEW WITH
CHRISTY PEARSON

ELABORATED BY
ALESSIA GIORGIUTTI

Uncover the innovative safety technologies and approaches that set **Voi** apart in the dynamic world of **micromobility**. Explore how Voi collaborates with local authorities, harnesses data analytics, and engages stakeholders to enhance **safety for riders and other road users**.

Safety event in Stockholm
Voi

POLIS: In the rapidly evolving landscape of micromobility, how do major players in the industry differentiate their safety initiatives, and what unique safety technologies or approaches does Voi bring to the table?

Christy Pearson: In recent years, we have observed that operators tend to draw inspiration from each other's safety initiatives. This not only elevates the overall safety standards across the industry but also fosters healthy competition that pushes the boundaries of innovation in safety. Operators are particularly motivated to outperform their peers to secure operating licenses in cities through competitive tenders.

As the industry has matured, we have noticed a shift in focus. It has moved from merely promoting cutting-edge technology to prioritising the assurance of cities that they are choosing responsible partners with a strong track record of compliance. For instance, there's a growing expectation for operators to implement robust internal procedures that ensure the safety of riders, other road users, and employees. This is where operators can distinguish themselves.

Furthermore, operators can set themselves apart through transparency and accountability in their operational setups, reporting procedures, and data-sharing practices.

Christy Pearson

Director of Central Policy
Voi

However, it is important to note that this shift in focus does not mean operators have ceased their efforts on differentiation with inspiring safety initiatives. One noteworthy example from Voi is our recently launched traffic education platform, RideSafe Academy. Traffic rules education is essential for enhancing safety for both riders and non-users, and Voi is committed to playing its part. We had a previous safety education platform that has already benefited over 600,000 users since its launch in 2019. Compared to the older platform, RideSafe Academy is now accessible to everyone, regardless of whether you have a Voi account.

POLIS: Micromobility services involve collaboration with local authorities and municipalities. How do companies like Voi navigate these partnerships to collectively address safety concerns?

Pearson: Effective cross-sector collaboration is essential for unlocking the full potential of shared micromobility. We maintain close partnerships with local authorities and municipalities, not only to ensure compliance with local regulations but also to work with them to enhance service and parking design.

One area where we envision deeper public-private collaboration is in data sharing to facilitate the creation of safer cities. We firmly believe that the data collected from our connected vehicles can offer tremendous benefits for urban planning. As an example, in Oslo, we share data related to accident locations and other vehicle sensor data with the Norwegian Institute of Transport Economics. They leverage this information to analyse accident-prone locations. Furthermore, we increasingly collaborate with partner companies and researchers to explore how vehicle sensor data can be utilised to assess street conditions.

We use insights derived from this data on road conditions and accident-prone areas to build safety features, such as in-app navigation guiding users to safer routes. However, we believe it is even more advantageous if these insights are utilised to make streets safer. To maximise the value of this data, we must understand how cities can best leverage it. Additionally, the more cities understand the capabilities of operators, the better equipped they will be to request data, particularly through tender processes.

This example is just one illustration of how the value of shared micromobility can be enhanced through deepened cross-sector collaboration and a willingness to learn from each other. By fostering a mutual understanding, we can collaboratively work towards making cities safer and more sustainable.

Hazardous areas for road users in Oslo

Voi

POLIS: How do you leverage data analytics to proactively identify safety trends and implement preventive measures in your operations?

Pearson: Our teams diligently analyse data on a daily basis from a wide array of sources to identify safety trends and potential risks. Based on these insights, we develop features aimed at enhancing safety for both our users and our internal safety practices. For instance, we have internally implemented features that allow us to predict vehicle maintenance needs by leveraging data derived from over 200 million rides.

This feature empowers our on-the-ground teams to identify vehicles that require attention before they break down. This is not just crucial for ensuring that our vehicles are safe every time they are used; it also plays a vital role in reducing the wear and tear associated with repairing broken vehicles.

At Voi, we have established a multi-functioning safety detection working group. This group examines data, and trends, and conducts additional research to gain a deeper understanding of safety risks within our service. They collaborate on identifying actions to mitigate these risks and provide regular reports to a Safety Committee, which convenes at least once a month to make decisions regarding these actions. This structured process ensures that safety remains a top priority in our product and operational development efforts.

POLIS: How does Voi actively engage with these different road users and incorporate their feedback into safety enhancements?

Pearson: We actively seek engagement with various associations across different markets to incorporate their feedback and make our services more inclusive. For instance, over the years, we have collaborated with visually impaired associations in several countries to enhance parking facilities that cater to their specific needs. In the UK, we partnered with the Royal National Institute for Blind People to develop specialised parking racks. Similarly, in Norway and Sweden, we have worked closely with national visually impaired associations to create guidelines on the placement of parking spots for micromobility, ensuring the safety of vulnerable road users.

Beyond our work with associations to mitigate negative impacts, we also collaborate with other organisations to advocate for improved bike infrastructure and speed management for heavy vehicles. While we recognise the challenges shared micromobility may pose for vulnerable road users, it's essential to remember that the underlying issue is the excessive space consumption by cars in our cities. Cities must invest in good bike infrastructure to promote sustainable mobility, and it's crucial that as many people and organisations as possible express support for policymakers to take action.

Voi's updated RideSafe Academy, now available for everyone

Voi

TRAFFIC EFFICIENCY

Discussing Traffic Efficiency means addressing the broad subject of multimodal network management from both a strategic and technical perspective.

The Traffic Efficiency Working Group's main purpose is to enable knowledge sharing and reflection about current transport practice, new developments and evolving European policy related to network management, Intelligent Transport Systems (ITS) and data.

Working Group meetings have mainly drawn upon POLIS' experience and knowledge in ITS, which has been at the heart of POLIS activities since the creation of the network. The Working Group has focused in the recent past on issues such as multi-modal network management, data and digitalisation, automation, C-ITS, MaaS and European ITS/data policy.
Through the Working Group, POLIS partners with the EU's CCAM platform, CCAM research partnership, POLIS-ACEA CCAM infrastructure dialogue, International Transport Forum CCAM infrastructure WG, and Movin'On communities of interest.

Find out more about the Traffic Efficiency Working Group on our website!

MAASSIVE PROMISES

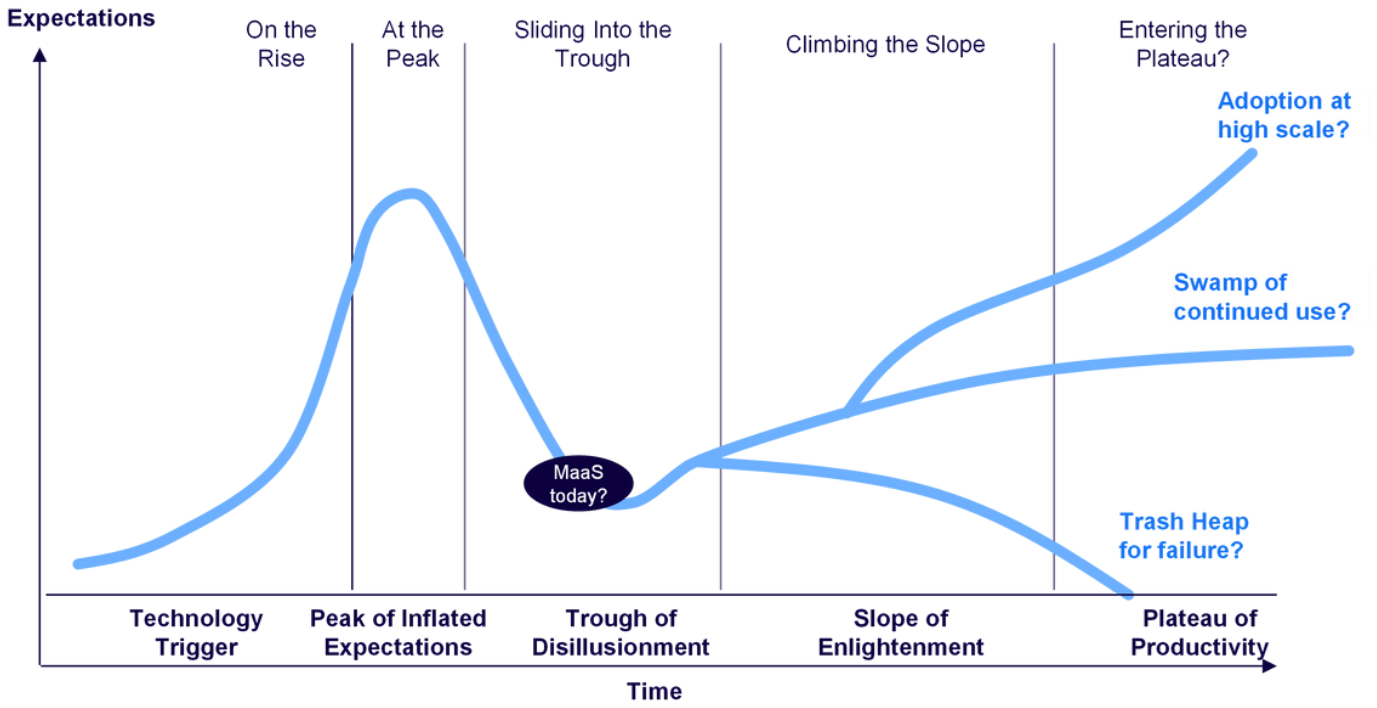
Mobility-as-a-Service (MaaS) has the potential to deliver more sustainable, resilient and human-centric mobility for the world. Yet despite some encouraging progress, significant barriers remain. Based on their experience, **Arthur D. Little**, **RISE**, Research Institutes of Sweden, and the **City of Gothenburg** take a fresh look at the barriers and what cities can do to overcome them.

Mobility-as-a-Service (MaaS) aims to encourage the usage of more sustainable transport modes, away from individual cars 'by default'. MaaS promises to provide seamless access to a wide array of mobility options to meet differing needs and to increase simplicity and convenience in planning, booking, payment, getting information and accessing services for all passengers. From the perspective of cities and authorities, as well as encouraging more sustainable mobility patterns and improving accessibility, MaaS could allow system-level optimisation of flows and assets. For mobility service providers (MSPs), a MaaS framework could help to better engage with customers, understand needs, tailor offerings, and reduce customer acquisition costs.

The last few years have seen some encouraging developments in the progress towards MaaS, but significant barriers remain towards adoption and — more importantly — towards achieving measurable impact.

WRITTEN BY

FRANCOIS-JOSEPH VAN AUDENHOVE
HANS ARBY



Where is MaaS now on the Gartner group's technology hype cycle?
Arthur D. Little

Where are we with MaaS today?

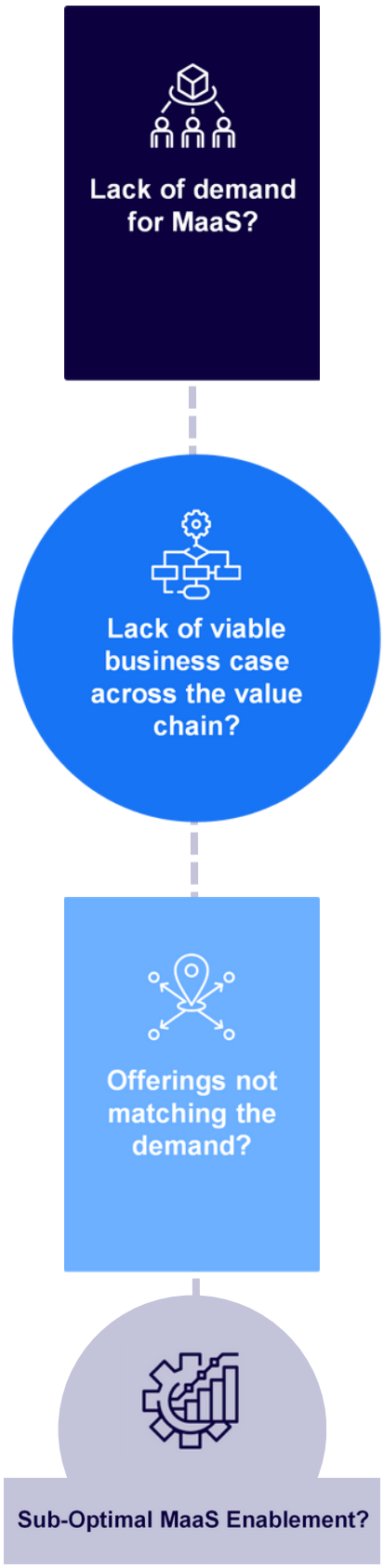
In practice, many MaaS implementations to date have been limited to 'one size fits all' travel planners (i.e., not focused on specific use-cases), with only a limited number of MSPs being fully integrated in terms of ticketing and payment, and others only partly integrated.

However, we are seeing some interesting trends, including a general move from Business To Business-to-Customer (B2C) models, financed with private capital, towards Government-to-Customer (G2C), led by public transport authorities or operators. And, while most G2C schemes are still 'walled gardens' in terms of data sharing, there are signs of a shift towards open public MaaS platforms accessible to third parties, as pioneered in Vienna (Upstream), now being applied in the Netherlands (Rivier) and possibly later in Brussels.

Business-to-Employee (B2E) models have seen some positive evolution over the past two years, especially in Western and Central Europe triggered by fiscal incentives, and several vendors and B2C players, including MaaS Global, are pivoting to this model.

We are also seeing a rise in MaaS B2C models targeting specific use cases with better returns, such as Tourist MaaS (e.g., Alpine Pearls) and Rail/Aviation MaaS (e.g., Doco by Renfe in Spain or AurAsia MaaS by Malaysian airline). A further B2C variant is where mobility services are offered as an integrated feature of another set of services, such as insurance, rent (Business to Tenant) or banking – sometimes called 'Mobility-as-a-Feature', or within SuperApps. There are also some promising Rural MaaS applications which focus on accessibility, for which the business case is more about cost savings for regional authorities rather than new revenue streams.

There have been positive efforts to evolve regulations, standards and codes of practices to accelerate MaaS deployment and ease management of relationships across different stakeholders, for example in Europe MMTIS and MDMS. However, overall, scaling up has been slow and 'MaaS-powered trips' still represent a tiny proportion of all mobility trips worldwide. We have to conclude that up to now, MaaS has not delivered on its promise. In terms of the Gartner hype curve, we are probably close to the 'trough of disillusionment'. Whether, and how, we can climb the 'slope of enlightenment' is the key question.



Why is MaaS not delivering on promises – Possible root causes?

Arthur D. Little

The root causes of the lack of progress

When attempting to verify the impact of MaaS, we run into two problems: 1) lack of large-scale implementations to date, and 2) lack of proper evaluation of most pilots and services in operations that are not sharing data. Through our experience as strategy consultants advising cities and operators and as entrepreneurs driving MaaS deployments, we have tried to analyse possible root causes for MaaS falling short on of its promise.

We see these falling into four categories:

- Lack of demand: Demand for good public transport is high but does not cover all the needs of users, such as door-to-door. Another rare example with high demand – and willingness to pay– is micromobility, especially e-scooters, e-bikes and bikes. While the percentage of intermodal trips in cities (i.e., using different modes in one journey) is typically less than 5%, excluding walking, there seems to be a good demand for 'multimodal life' – that is, using different modes for different journeys - which MaaS can facilitate.
- Offerings not matching demand: Here, one of the main failings is insufficient investment in the necessary physical solutions and infrastructures to provide the required service and customer experience, in addition to the digital components of MaaS. A second issue is that the accessibility, reliability, relevance and pricing of the included mobility services themselves are often not attractive enough, and a MaaS offer can only be so much more attractive than its components. Finally, MaaS offerings are often insufficiently matching specific use cases of customers.
- Suboptimal enablement: The lack of collaboration between traditional Public Transport Operators, MaaS providers and third-party MSPs acts as a major barrier to the acceleration of MaaS deployment. Few PTOs have opened their systems for third-party ticket reselling, and even fewer allow reselling of monthly passes or flexible tickets/subscriptions. Current regulations to support such collaboration are still insufficient.
- Lack of viable business cases: Apart from specific use cases, the business case for MaaS operators is challenging due to low margins and difficulties in building sufficient volume. The lack of volume and high competitive intensity are also making it challenging for MaaS vendors, limiting their ability to invest. Apart from micro-mobility players, most MSPs don't see the value in being integrated into MaaS services, involving having to give up precious margins, while the current MaaS scope does not necessarily cover their customers' needs. Money is to be found in the economy of car ownership, which is something that MaaS still needs to tap into. Subscription-based services can create more value for all parties, but it is a hard sell.

What cities and authorities can do

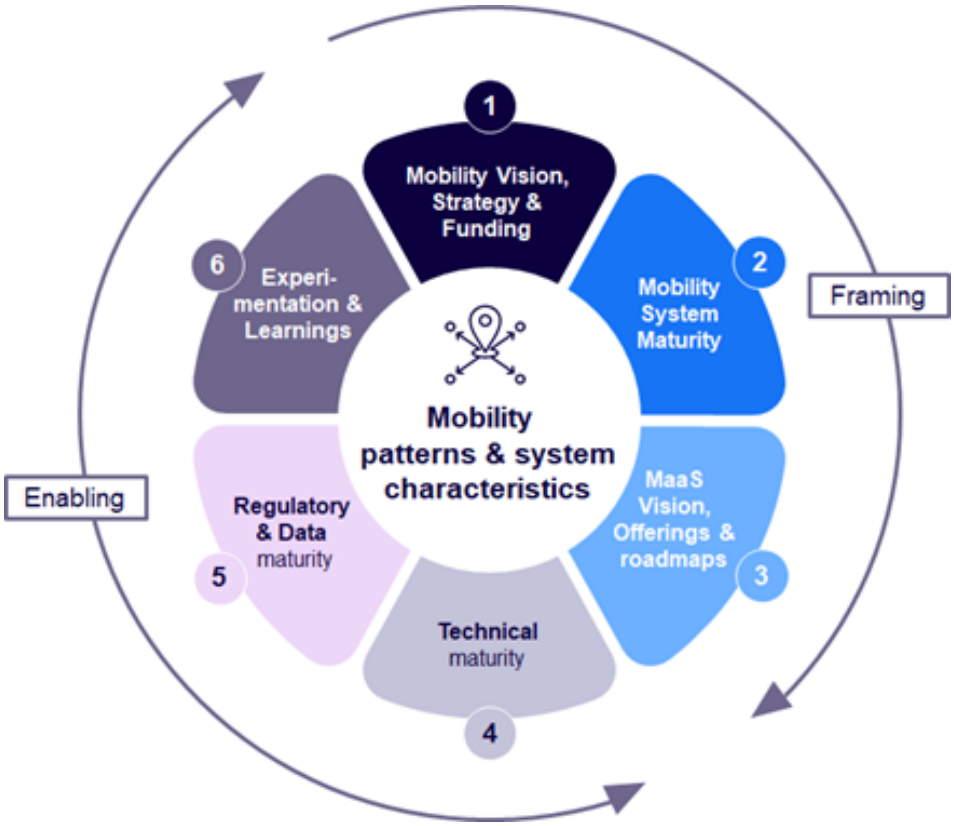
Moving ahead requires a more comprehensive approach to frame and enable a virtuous mobility system powered by MaaS, as well as increased collaboration between public and private stakeholders.

While cities and authorities cannot bring about such a system on their own, they have a key role in setting priorities to help fully extract value at the system level. Working out how to prioritize efforts in a tight funding environment is difficult. The 'MaaS 360°' framework identifies six dimensions to address which together can drive progress.

- Framing dimensions: i.e., review mobility vision, strategy and funding considering mobility patterns and system characteristics, create the right conditions for MSPs, invest in infrastructures, and promote/ensure progressive deployment of MaaS offerings that cater to relevant customer use cases.
- Enabling dimensions: i.e., technical development and support to integration, improve regulations to trigger open collaboration across actors and incentivize more sustainable behaviours, and ensure learnings from experimentation are extracted and shared to foster continuous improvement.

Conclusions

In conclusion, while MaaS has not yet delivered on its promise, it is a journey and there are huge benefits ahead that justify continuous efforts. As with most innovations, first steps are taken by targeted use cases, not with 'one size fits all' offerings. Moving ahead requires a more comprehensive approach to frame and enable a virtuous mobility system powered by MaaS, as well as increased collaboration between public and private stakeholders. Cities, transport authorities and PTOs have a significant role to play in unlocking the full potential and extracting value at system level.



Arthur D. Little's MaaS 360° review framework

Arthur D. Little

Do you wish to get more information on the article?

Contact **François-Joseph Van Audenhove**, Managing Partner at Arthur D. Little (vanaudenhove.f@adlittle.com), and **Hans Arby**, Senior Researcher RISE and City of Gothenburg (hans.arby@ri.se)

A SPACE FOR DATA

WRITTEN BY
THOMAS GEIER

Explore the concept of Data Spaces and their role in the **European Mobility Data Space** (EMDS), driving innovation, trust, and data sharing across sectors. Uncover the state of play of EMDS, its benefits for local authorities, and the potential it holds for reshaping data management and collaboration in the mobility ecosystem.

The Data Space concept is a central component of the EU's Digital Europe Strategy to enable innovation and development through better data and more data sharing throughout the economy. With the development of the European Mobility Data Space (EMDS) underway, the concept is becoming a hot topic in the mobility policy debate.

Train station
Baden-Württemberg

Just another platform? – Data spaces compared to existing platforms and ecosystems

A data space is a federated data ecosystem. This means that data generally remains with the data owner and is not transferred to a central database or data lake as is often the case in contemporary data sharing ecosystems and platforms. Rather, the data space ensures that data that exists within the realm of participating organisations becomes finable using a catalogue function.

Central to the concept of data spaces is the notion of data sovereignty, where one retains control over one's data even when it is shared with others. Data owners are enabled to state clear conditions and usage terms for their data.

These conditions may vary between different data (re)users: a public authority may act on different conditions to access data of mobility service providers than a competing commercial mobility app provider that re-sells transport services to end users.

The sharing of data requires trust and data spaces create such a trust framework through strict identity management. The identity of each data provider, intermediary and data user participating in the data space is known and validated. The validated identities also lead to an assurance of the quality of the data made available in the data space, as poor quality or wrongly described data sets will have an impact on an organisation's reputation.

There is a clear understanding of the provenance of data and a detailed accounting of how data is accessed and (re)used by participants, enabling a technical usage control mechanism that enforces the conditions set by data owners and in turn increases trust.

One of the most important aspects of a data space is the use of common semantics. Data must be trusted to show what it is described to show and must become interoperable across organisations.

The development of common European data spaces is thus also an investment in the standardisation of (meta)data, that will eventually allow for better collaboration within sectors, greater cross-sector understanding and fairer competition in the market of software and data services, as the use of proprietary data standards and vendor lock-in is reduced.

How far is this development? — The state of play of the European Mobility Data Space

Currently, several preparation projects are underway within different sectorial domains, including tourism, smart communities and agriculture. The mobility data space preparatory action, titled PrepDSpace4Mobility, was finalised in October 2023 and delivered a vast inventory of currently active data ecosystems related to logistics, personal mobility and infrastructure. This inventory was the basis for the investigation of the functions - referred to as building blocks – that are considered sector-specific to the mobility data space.

In addition to the sector-specific workstreams, two horizontal actions focus on overarching aspects common to all data spaces: The Data Spaces Support Centre (DSSC) looks at building blocks that are necessary in all sectorial data spaces, for example, the identification and trust framework or smart contract mechanisms. The SIMPL project prepares the development of the technical infrastructure components that will allow organisations to connect to data spaces. Ideally, these horizontal efforts will enable interoperability and collaboration across sectors.

All of these actions play into the deployment of the European Mobility Data Space. A large next step will be taken by a first deployment project - deployEMDS which is co-funded by the EU and will deploy the mobility data space framework with local, regional and transport authorities in nine regions across Europe.

So, what is in it for local authorities? — Expected benefits of the European Mobility Data Space

The potential benefits of the mobility data space concept on local and regional authorities are at least two-fold: On the one hand, the overall framework and common semantics for data management that is brought about by the data spaces concept will act as a guide to local and regional authorities with regards to their data capabilities and data related aspects in their contracting and procurement. Data management may become less ambiguous and the use of proprietary data systems that are expensive, stifle development and create dependencies on specific suppliers is reduced.

Secondly, exchanging meaningful data and information becomes easier, less complex and cheaper. As data is findable and accessible under user-specific conditions, authorities can make use of their public sector status and access data that is of value for planning and regulatory purposes but is currently not accessible due to concerns of commercial sensitivity. Like any participant in the data space, local authorities would be able to identify the users of their data and better collaborate with organisations that deliver public policy outcomes.

The use cases that may be facilitated by the trusted sharing of data by sovereign data owners are countless and the nature of the data space as a generic infrastructure is expected to spark innovations through combinations of data and services.

LinkedIn posts promoting the work onf the EMDS, PrepDSpace4Mobility

PrepDSpace4Mobility

For authorities, the reporting of mobility data, like the actual usage of car-sharing or micromobility vehicles in a city to inform planning, regulation and licencing of operators, but also the active push of regulation in machine-readable formats to influence drivers, like speed limits, urban vehicle access regulations (UVARs) or dynamic allocation of public space to parking, delivery vehicles, market stands or restaurant terraces may be an interesting use case. For transport authorities, the most interesting use case may be the opening of ticketing and sales channels to third parties, and the integration of mobility services into a public transport-driven Mobility as a Service application.

The data space concept promises all of that without the need for a central — and thus controversial and expensive — platform and yet still ensuring that the organisations that bear the real-world risks and responsibilities remain sovereign over their data and the conditions for its use by others without limiting data access per se.

VIKEN BEATS THE RUSH

WRITTEN BY
JULIJA GLISOVIC

How to use the available area smartly to enable **priority of public transport** without building a new physical public transport lane?

Viken County Council is working on a pilot project to answer this questions!

In Viken County Council, Norway, various areas have long grappled with traffic challenges, especially during the morning and afternoon rush hours. While the temptation to forge new public transport lanes looms large, the path to practicality and cost-effectiveness lies elsewhere. For this reason, Viken County Council is on a mission to explore innovative strategies that make the most of the existing infrastructure while prioritising public transport. The Council aims to gain hands-on experience by experimenting with various traffic management techniques to enhance bus accessibility without the need for costly new lanes. One intriguing approach under consideration is a signal-controlled bus lane, allowing buses to efficiently bypass car queues by using the opposite lane. This initiative is all about finding smarter ways to keep traffic flowing smoothly during peak hours.

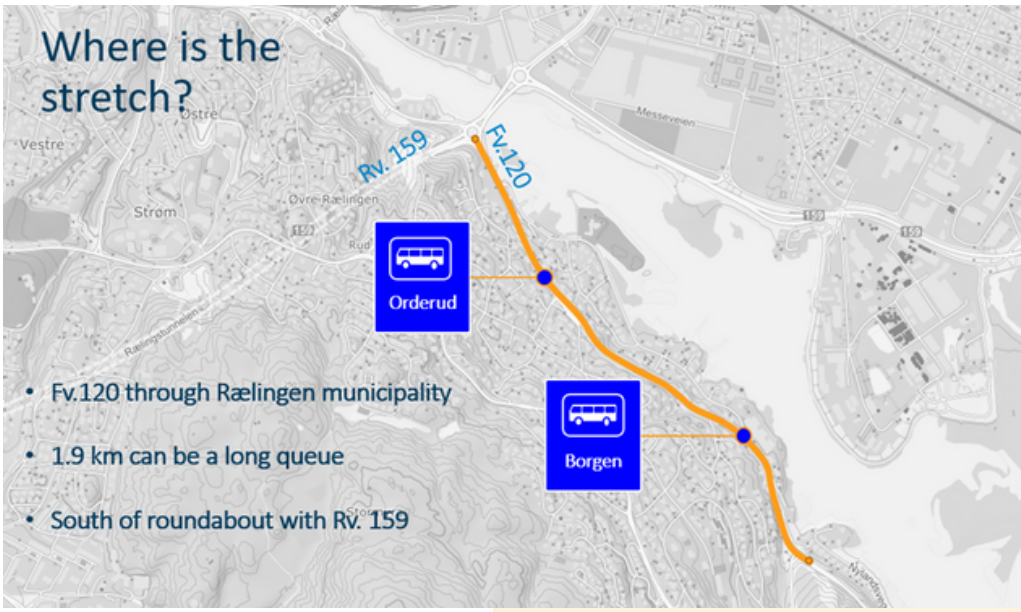
Morning rush hour on Nedre Rælingsvei Street

Ellen Patricia Coats, Viken County Council

Tackling bottlenecks in Rælingen

One significant challenge regarding bus delays is found in Rælingen municipality. Consequently, Viken County Council intends to conduct a pilot project on a section of Route 120, specifically Nedre Rælingsvei Street. While the project is in the municipality of Rælingen, it also has an impact on the municipality of Lillestrøm, in proximity to the Norwegian capital Oslo. The roundabout connecting National Road 159 and County Road 120 is a capacity bottleneck for Route 120, leading to traffic queues and complications related to bus priority during the morning rush hour. These issues result in bus delays of up to 10 minutes during the morning rush, as buses travel slowly among other private vehicles. Given that the challenge primarily occurs during the two-hour morning rush, Viken believes that the proposed solution has the potential to be highly beneficial and sustainable.

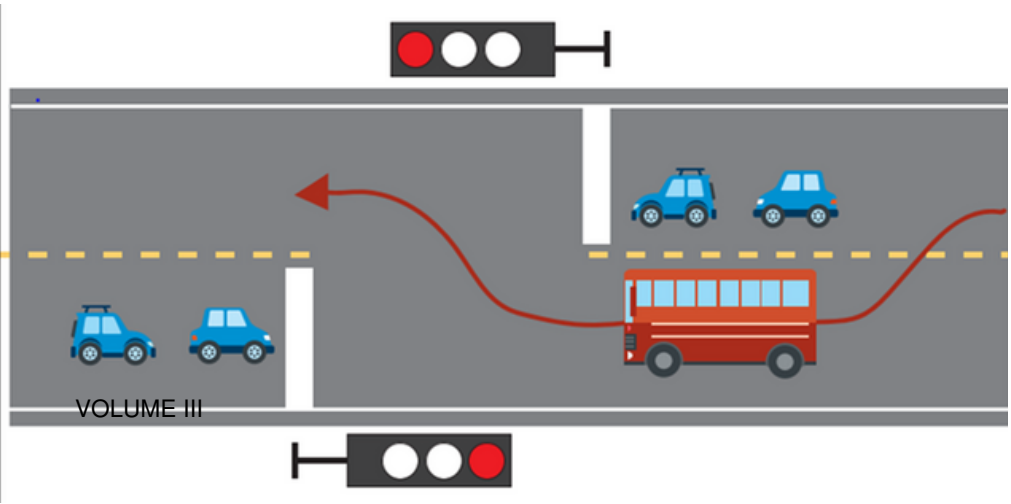
The concept for this measure involves the establishment of a system on a section preceding the bottleneck. With the aid of traffic signals, it halts car traffic in both directions when a bus approaches the bottleneck. Once the oncoming lane is clear of cars, the bus is redirected into this lane, bypasses the queue of cars on this segment, then returns to its regular lane and proceeds towards the bottleneck. Road users are informed about the system through variable or permanent signs. The proposal for a trial project pertains to a segment situated between the Borgen and Orderud stops. This segment spans 170 metres, allowing the bus to drive past 15-20 cars.



The way ahead

For the first time in Norway, this concept will be tested; therefore, the newly proposed signs, signals, and traffic regulations must be developed in cooperation with the NPRA (Norwegian Public Roads Administration). The project concept was prepared in cooperation with the NTNU (Norwegian University of Science and Technology) as well as Sweco consultancy.

To ensure thorough preparation for the pilot project, Viken County Council addressed crucial phases, including transport analysis (Aimsun) and manual mapping testing, among others. Both studies indicated that the consequences are minimal for both traffic participants travelling in the opposite direction and those travelling in the bus' direction. It is crucial to emphasise that, for this project, the traffic in the opposite direction should not be so frequent that there would be significant consequences.



As part of the initiative's planning, concept testing was carried out using manual traffic control instead of road traffic signalling systems. The test was conducted in June 2021 and was executed without creating hazardous traffic situations. Traffic participants adhered to manual traffic control, with bus drivers being informed of the test in advance.

Additional test results include:

- Effective compression of the traffic queue that the bus passed, reducing the queue by 15-20 cars on the designated route;
- Minimal queuing in the opposite direction from Lillestrøm at the 'red light';
- The average duration of the 'red light' was approximately 01:45 (mm:ss) with bus priority;
- Prioritization led to relatively long queues forming upstream of the 'stopping point' several times;
- Traffic analysis and real-time data comparison during the test phase demonstrated time savings of one to two minutes on this short 170-metre section.

The pilot project is scheduled to commence in 2024 and will span one year. During the pilot phase, an external evaluation will be conducted to determine if the project aligns with expected outcomes and if permanent operation is justified. This will enable the project's escalation and industrialisation.

Conclusions

The implementation of proactive traffic management opens the door to exploring innovative, cost-efficient technological solutions in smaller urban areas. Prioritising buses emerges as a game-changer, substantially elevating the accessibility and desirability of public transport, thus positioning it as a formidable contender against private car usage. This strategic approach, combining bus prioritisation with proactive traffic management, not only streamlines infrastructure requirements but also trims expenses, including ongoing service and maintenance.

Beyond cost savings, this approach is a catalyst for reshaping travel habits and behaviour, promoting increased reliance on public transport, cycling, and pedestrian commuting. The cumulative impact of these changes is a remarkable enhancement in overall mobility and an upswing in bus accessibility.

Should the pilot project validate the insights from prior research, it holds the promise of extending this concept to other areas grappling with similar transport challenges. This sets the stage for a comprehensive, efficient solution that not only spurs mobility but also trims maintenance costs and curbs environmental pollution.

In essence, it is a journey towards a brighter, cleaner, and more accessible future of transport.

The current section of Nedre Rælingsvei Street features a physically separated pedestrian and bicycle path, enhancing the safety of road users in the pilot

Julija Glisovic, Viken County Council

Successful testing with manual routing in June 2021

Gry Norderhaug Løvhaugen

Editors

Alessia Giorgiutti

Communications Coordinator

Alessia coordinates POLIS' corporate communications and magazine and has been involved in several EU-funded projects as a Communications Manager. She currently supports other managers and officers on tasks related to content production and communication for their projects. Her work focuses on making accessible and inclusive content about transport, as well as highlighting the experiences of marginalised users.

Contributed articles:
'Bike-Sharing is Caring'
'Safety First'

Isobel Duxfield

Communications & Membership Manager

Isobel Duxfield is Communications and Membership Manager at POLIS and leads the SMC Platform and Regions Working Group. She completed her MPhil in Gender Studies at the University of Cambridge, where she researched gender and cycling. She managed the SUM4All project and has published academic work on gender, active mobility, and domestic violence prevention.

Contributed articles:
'Antwerp's Advance'
'Upper in Action'

Marina Martín Vilches

Project & Communications Officer

Marina Martín Vilches is Project and Communications Officer at POLIS Network. Specialised in urban governance, she currently provides support for POLIS' corporate communications with a focus on social media and works on electromobility projects. She is passionate about active travel, inclusive mobility, and innovative governance approaches.

Contributed articles:
'City of Men, City of Women'
'Cycling Forward'

Carlotta Inserra

Project & Communications Officer

Carlotta works on POLIS' corporate communications and magazine and is involved in sustainable urban mobility projects focusing on inclusive transport and accessible shared mobility services (ELABORATOR, SMALL), greener living spaces in the Mediterranean (Green Living Areas), and sustainable urban logistics (DISCO).

Contributed articles:
'Unlocking Inclusivity'
'Cities in Dialogue'

Quaid Cey

Communications Assistant

As part of the communications team, Quaid produces news and social media content, promotes POLIS events and campaigns, and contributes to the publication of Cities in motion. He has a BA in Liberal Arts & Sciences from the University of Maastricht (UM) and an MA in Communication Studies from the Vrije Universiteit Brussel (VUB).

Contributed articles:
'Winning with Sustainable Mobility',
'Fighting for Clean Air',
'A Vision that Spans an Ocean'

Karen Vancluysen

Secretary General

Karen 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.

Contributed articles:
'Antwerp's Advance'
'Winning with Sustainable Mobility'

Contributors

In alphabetical order:

Anna-Kaisa Montonen

Project Coordinator,
City of Turku

Anna-Kaisa approaches the sustainable mobility scene from a background in physical activity and health promotion. Through her work, she aims to bring both carbon neutrality and citizen wellbeing to the forefront. She believes that a healthy, active lifestyle is a precursor to sustainability.

Contributed articles:
'School Run of Fun'

Andrew Glass Hastings

Executive Director,
Open Mobility Foundation

Andrew has extensive experience working at the intersection of the public and private sectors. He leads a unique public/private partnership, through which cities and companies collaborate in real-time to produce the open-source data standards and software tools that cities need to digitise their infrastructure and manage all forms of mobility.

Contributed articles:
'A Vision that Spans an Ocean'

Anne Goodchild

Founding Director, University of Washington Urban Freight Lab

Anne is a Professor of Civil and Environmental Engineering and leads the University of Washington's research in the area of supply chain, logistics, and freight transport. Her research has resulted in almost 100 novel publications and earned her several awards, inlcuding the 2021 PacTrans Outstanding Researcher Award and the Transportation Club of Seattle's 2017 Person of the Year Award.

Contributed articles:
'The Power of the Curb'

Andréia Lopes Azevedo

Project Manager,
POLIS Network

Andréia is the Active Travel & Health coordinator and Project Manager at POLIS Network. With a background in urban planning, integrated urbanism, sustainable design and architecture, she has extensive experience working on different mobility-related projects in Brazil and Europe. Her work has always focused on sustainable cities and mobility.

Contributed articles:
'Cycling Forward'

Benoit Yameudjeu

CEO,
Fifteen

Trained at the Ecole des Ponts et Chaussées, Benoît began his career at Renault and Bouygues. He then joined the Boston Consulting Group before becoming Managing Director France of AUTO1 Group. Benoît led the creation of Fifteen in March 2021. Today, his goal is to make Fifteen the reference for public bike services in European cities of all sizes.

Contributed articles:
'Bike-Sharing is Caring'

Berthold Frieß

Director General & Permanent Representative of the Minister,
Ministry of Transport Baden-Württemberg

Berthold is in charge of the internal organisation and inter-ministerial cooperation at the Ministry of Transport. Until 2021 he was Director of the State Parliament of Baden-Württemberg.

Contributed articles:
'All Hands on Deck'

Carlos Cañas

Technical Expert,
Walk21

Carlos is a geographer and doctoral student on walkability at the Institute for Climate Change and Sustainable Development, University of Malta. He is currently working at Walk21 as a technical expert on different projects, including the Walkability App. Carlos founded Walking Malta, a community research project that applies Citizen Science principles to walkability research and policy.

Contributed articles:
'Every Step Counts'

Christoph Erdmenger

Head of Department, Ministry of Transport Baden-Württemberg

·Christoph is responsible for climate protection, traffic safety, and the reduction of noise and air pollution. He supports the uptake of electric mobility in cars and commercial vehicles and also fosters walking and biking strategies, funding, and infrastructure.

Contributed articles:
'All Hands on Deck'

Christy Pearson

Director of Central Policy,
Voi

Christy is the Director of Central Policy for Voi, a micromobility operator based in Sweden. In her role, she focuses on how micromobility operators can work collaboratively with cities to improve safety, parking, sustainability and public transport connectivity. She is passionate about inclusivity, in particular gender equity of transport services.

Contributed articles:
'Safety First'

Connie Llanos

Former Interim General Manager, Los Angeles Department of Transportation

Connie has experience working at the intersection of strategy, communications, and policy. She recently served as Interim General Manager of the LA Department of Transportation, where she led initiatives on pandemic response, Olympics planning, and transport innovation. A former journalist and strategist for elected officials and Fortune 500 companies, she now leads Cielo Strategic Communications.

Contributed articles:
'A Vision that Spans an Ocean'

David Dessers

Deputy Mayor,
City of Leuven

David is a Flemish politician from Groen, and currently serves as Deputy Mayor of Leuven. Before becoming Deputy Mayor, he was known for his climate activism and engagement in the North-South movement. Dessers was first elected as city councilor in 2012. Since 2019 he is deputy mayor for mobility, climate and sustainability, agriculture, and food.

Contributed articles:
'Cities in Dialogue'

Dzvenyslava Tyslyukevych

Former Project Officer,
POLIS Network

At POLIS, Dzvenyslava focused on urban transport innovations. Her project work covered issues including multimodal shared mobility hubs, accessibility and inclusivity of shared transport services, public transport innovation and adaptability, and the implications of automation and digitalisation on the transport workforce and sector as a whole.

Contributed articles:
'Beyond Automation'

Esen Köse

Project Manager,
Mpact

Esen is experienced in making shared, new, and sustainable mobility more accessible for all. She developed skills in European projects by creating awareness of automated transport, co-creation in shared mobility, and youth participation. She is also actively involved in the roll-out of the '30 Dagen Minder Wagen' campaign in Flanders.

Contributed articles:
'Unlocking Inclusivity'

Eugenia Kolb

Policy Advisor, Ministry of Transport Baden-Württemberg

Eugenia is responsible for cross-border cooperation with a focus on France at the Ministry of Transport. Previously, she advised municipalities on the implementation of Sustainable Urban Mobility Plans.

Contributed articles:
'All Hands on Deck'

Fábio Duarte

Principal Research Scientist,
MIT Senseable City Lab

Fábio is a lecturer at MIT, Head of Research Initiatives in the Center for Real Estate, and Principal Research Scientist at the MIT Senseable City Lab. Duarte has a background in urban planning and a PhD in communication and technology from the Universidade de São Paulo, Brazil.

Contributed articles:
'Catch My Bike If You Can'

Francois-Joseph Van Audenhove

Managing Partner, Global Head of Travel & Transportation, Arthur D. Little

François-Joseph is a Managing Partner and Global Head of Travel and Transportation at Arthur D. Little Strategy Consultancy. He heads the Future of Mobility Lab, Arthur D. Little's think tank on mobility futures. He is based in Brussels.

Contributed articles:
'MaaSsive Promises'

Gemma Schepers

Smart Mobility Project Manager, City of Amsterdam

Gemma works for the Innovation Office (CTO) of the City of Amsterdam. Together with the CTO team, she manages short-term experiments in living labs that involve citizens and the private sector. Currently, she is focused on smart mobility and the digital transition, with an emphasis on cyber security, secure data exchange, and privacy.

Contributed articles:
'A Vision that Spans an Ocean'

Hans Arby

Senior Researcher, RISE, Member of the City Development Board and City Council, City of Gothenburg

Hans Arby is a Senior Researcher at RISE, Research Institutes of Sweden, Member of the City Development Board in Gothenburg, and a Senior Advisor at Arthur D. Little. Hans was the founder of UbiGo, piloted in Gothenburg in 2013-14 and as a commercial service in Stockholm in 2019-2021.

Contributed articles:
'MaaSsive Promises'

Jelten Baguet

Project Manager, Mpact

Jelten is a project manager for Mpact and participates in various European and Belgian projects related to mobility hubs and shared mobility. Having an academic background, he focuses primarily on research related to the accessibility of shared mobility.

Contributed articles:
'Unlocking Inclusivity'

Jim Walker

Director, Walk21

Jim founded Walk21 in the year 2000 and has, for more than 20 years, championed a global network to develop research, projects and policies so that people can walk in safe, attractive and accessible environments. He is currently helping develop an Active Mobility plan for Africa and a Walking Masterplan for the pan-European region.

Contributed articles:
'Every Step Counts'

Jos Streng

BuyZET Project, Traffic and Transport Department, City of Rotterdam

Jos graduated as a hydrologist from the Agricultural University of Wageningen. Following the global urbanisation trend, his attention shifted from rural to urban areas, and from the flow of water to the flow of traffic. Within the mobility department's logistic cluster, his focus is on research, policy development and collaboration at the national and international levels.

Contributed articles:
'Rotterdam Roadmap'

Julija Glisovic

Special Adviser Transport of the Future, Viken County Council

Julija has a master's degree in traffic and transport. For the last ten years, she has been working in the public sector in Norway with ITS (intelligent transport systems). Her areas of interest are innovation and development in the transport sector. She leads the project 'Proactive Traffic Management.'

Contributed articles:
'Viken Beats the Rush'

Koen Kennis

Vice Mayor, City of Antwerp

Koen is the Vice Mayor of the City of Antwerp, responsible for mobility, tourism, finances, retail, and decentralisation. He also serves as the Chairman of the Antwerp Transport Region.

Contributed articles:
'Antwerp's Advance'

Laura Babío Somoza

Project Manager, POLIS Network

Laura works on digitalisation, data, automation and ITS within the DeployEMDS, MobiDataLab, DIT4TraM and UPPER projects. She has also completed other EU-funded projects at POLIS, such as PAV, MOBI-MIX, Dynaxibility4CE, and e-smartec. She co-coordinates the actions of the Working Group on Mobility & Traffic Efficiency and leads the Just Transition Taskforce.

Contributed articles:
'Upper in Action'

Lot van Hooijdonk

Deputy Mayor,
City of Utrecht

Lot has been an alderman in Utrecht since 2014. Her portfolio includes mobility, energy, and the spatial projects 'Lunetten-Koningsweg' and 'Overvecht.' During her time as Deputy Mayor for Mobility, she has put Utrecht on the map as a cycling city and accelerated plans for natural gas-free neighbourhoods and sustainable energy generation.

Contributed articles:
'Cities in Dialogue'

Manon Coyne

Junior Project Manager,
POLIS Network

Manon works on urban transport innovations from a social and operational perspective, investigating air quality challenges and solutions, public transport improvement, and technology solutions with their implications for decision-makers, transport workers, and users. She is involved in several EU-funded projects, including WE-TRANSFORM, UPPER, MAIA, MUSE, and MobiDataLab.

Contributed articles:
'Beyond Automation'

Martin Lefrancq

New Mobility Policy Advisor,
Brussels Mobility

Martin is the New Mobility Policy Advisor at Brussels Mobility. He is involved in all things shared-, micro-, and e-mobility, as well as Mobility-as-a-Service (MaaS) policy. Currently, he is working on a comprehensive regulatory framework and data governance for the Brussels' MaaS ecosystem to facilitate innovative mobility solutions and a more efficient transport system.

Contributed articles:
'A Vision that Spans an Ocean'

Miriam Koch

Policy Advisor, Ministry of Transport
Baden-Württemberg

Miriam is responsible for stakeholder management and participation processes on the 'Mobility and Climate Concept.' Before joining the Ministry of Transport in 2022, she worked in the representation of interests for an association in Baden-Württemberg.

Contributed articles:
'All Hands on Deck'

Pedro Gomes

Project Manager,
POLIS Network

Pedro leads POLIS' Clean Vehicles and Air Quality Working Group and manages several EU-funded projects, including APOLLO, CleanMobilEnergy, eCharge4Drivers, SOLUTIONSplus, and EAFO3.0. He holds an MSc in Environmental Management Systems and has experience conducting research on energy efficiency, GHG emission mitigation, and sustainable mobility.

Contributed articles:
'Fighting for Clean Air'

Raffaele Vergnani

Project Manager,
POLIS Network

Raffaele is a Project Manager at POLIS and the coordinator of the POLIS Urban Freight Working Group. He is currently involved in Horizon Europe projects focusing on urban freight and multimodal hubs, such as MOVE21, GREEN-LOG, and DISCO. He has also been involved in more than 10 studies commissioned by the EU Commission and the TRAN Committee of the European Parliament.

Contributed articles:
'Focus on TEN-T'

Romit Chowdhury

Senior Lecturer in Sociology,
Erasmus University College

Romit Chowdhury is a Senior Lecturer in Sociology at Erasmus University College in Rotterdam. He is also the author of 'City of Men: Masculinities and Everyday Morality on Public Transport.'

Contributed articles:
'City of Men, City of Women'

Santosh Rao Danda

Global Sustainable Mobility Lead,
Uber

Santosh is the Global Lead for Sustainability on Mobility at Uber. He is responsible for Uber's progress on Sustainability on the Mobility side of the business. Previously, he was an Applied Scientist on Uber's Research and Economics team focusing on urban mobility. He is based in Amsterdam.

Contributed articles:
'Equal Access to EV Charging Stations'

Sara Candiracci

Associate Director,
Arup

Sara is an Associate Director in Arup's Cities, Planning and Design team in Milan, and the Global Leader for Social Value and Equity. With more than two decades of experience as an urban planner, researcher, and international development expert, Sara has been at the forefront of designing and leading projects and programs focused on creating more equitable, inclusive, healthy and resilient cities.

Contributed articles:
'City of Men, City of Women'

Stefaan Walgrave

Professor of Political Science,
University of Antwerp

Stefaan Walgrave has a PhD in Social Sciences and currently works as a professor at the University of Antwerp. As a researcher within the University of Antwerp's Department of Political Science, he has expertise in political processes, mass media, elections, and social movements. He has conducted extensive research on politicians' perceptions of public opinion.

Contributed articles:
'Winning with Sustainable Mobility'

Thomas Geier

Policy Advisor,
EMTA

Thomas is policy advisor with EMTA, the association of Europe's metropolitan transport authorities. He is seconded to EMTA from VOR - the public transport authority for the States of Vienna, Lower Austria and Burgenland in Austria, where he works on strategic digitalisation and innovation projects.

Contributed articles:
'A Space for Data'

Tim Sjouke

Advisor Zero Emission Urban
Logistics, City of Rotterdam

Tim graduated from the Rotterdam University of Applied Sciences as a Civil Engineer, specialising in infrastructure and mobility. After a traineeship at the city of Rotterdam, he started working on the introduction of the zero-emission zone for city logistics. His mission is to achieve inclusive and data-driven policymaking.

Contributed articles:
'Rotterdam Roadmap'

Titus Venverloo

Lead Senseable Amsterdam Lab, MIT
Senseable City Lab & AMS Institute

Titus leads the MIT Senseable Amsterdam Laboratory, a research initiative between the Massachusetts Institute of Technology and AMS Institute. Venverloo has an interdisciplinary background in urban engineering and technology.

Contributed articles:
'Catch My Bike If You Can'

Wolf Engelbach

Head of Unit, Ministry of Transport
Baden-Württemberg

Wolf studied spatial planning and managed European and national research projects for about 20 years. Since 2017 he has worked at the Ministry of Transport, initially on digitalisation and climate projection. He is now in charge of European affairs and the 'Mobility and Climate Concept' in Baden-Württemberg.

Contributed articles:
'All Hands On Deck'

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