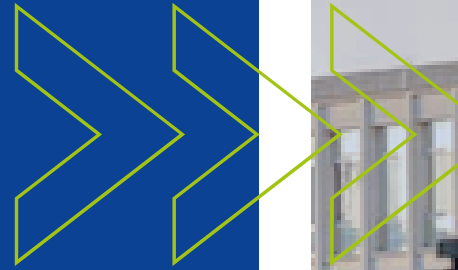


# MOBI-MIX Final Brochure

**Interreg**   
2 Seas Mers Zeeën  
**MOBI-MIX**  
European Regional Development Fund



# What is MOBI-MIX?



As public authorities strive to achieve a more sustainable, multimodal, and safe mobility system, car traffic still represents around 12% of the EU's total CO<sub>2</sub> emissions (EU Environment Agency 2018). New concepts and trends such as shared mobility, mobility hubs, and Mobility as a Service could contribute notably to reducing car usage and liberating some much-needed space in our cities. The first generation of shared mobility concepts has proven its attractiveness to users, but its quick implementation by the private sector has had substantial and unanticipated downsides, including short vehicle lifespans, safety concerns for citizens, and an overwhelming usage of public space. Many cities saw how these services were deployed in their neighbourhoods in a short time frame, leaving them unprepared and without enough knowledge and resources to support the implementation in a way that the new mobility solutions live up to their potential and have a beneficial impact on CO<sub>2</sub> reduction. As a result, for many European cities, shared mobility is no longer an if, but rather a how question.

During the past 3 years, the MOBI-MIX partnership has worked to better understand how to implement shared mobility, mobility hubs and Mobility as a Service (MaaS). Partners have experimented effectively and sustainably with a wide range of shared mobility solutions in 5 cities: Antwerp, Mechelen, Norfolk, Rotterdam, and Valenciennes. The main project aim has been to decarbonise road transport by reducing the use of the private car and their associated CO<sub>2</sub> emissions. The partnership also developed and sourced state-of-the-art public-private collaboration models for more effective implementation of these innovative solutions, produced a series of insight reports to guide policymakers through these services, and, finally, embedded all lessons learned in a comprehensive document that guides cities to implement effective and sustainable shared mobility measures.

# Objectives

## Title

## Description

**To strategically position the project in Europe – create visibility**

The MOBI-MIX cities worked to decarbonise road transport (cars in particular). Within the project, they facilitated the private sector to more effectively implement Shared Mobility solutions (e.g. e-bikes, e-scooters, shared mopeds, docked bikes, shared cars) and MaaS solutions (the integration of various forms of transport services into a single mobility service accessible on demand) to achieve a CO<sub>2</sub>-reduction in the urban transport of the cities.

**Share key insights with other cities in Europe**

To enable other stakeholders to learn from the insights of MOBI-MIX, key insights were published and made publicly available.

**Stimulate other cities to collaborate (transnationally) to more effectively implement shared mobility & MaaS in urban environments.**

Showing solution providers and cities the benefits of (transnational) public-private collaboration, might stimulate other cities and enterprises to do the same. Thus MOBI-MIX aimed to ensure a wider uptake of best practices across Europe and smoother implementation of Shared Mobility and MaaS from the private sector in the urban environments.

**Build an international network of relevant stakeholders**

The cities/public authorities within MOBI-MIX needed to attract private solution providers and experts to set up effective public-private collaboration and seamless integration of new mobility concepts in the urban environments. Communication activities have been instrumental to attract the right experts and solution providers.

# The Partnership

The MOBI-MIX partnership consists of the public authorities: Rotterdam (NL), Antwerp (BE), Mechelen (BE), Norfolk County Council (UK), and Valenciennes Métropole (FR) who jointly explored and demonstrated approaches to attract and implement sustainable, shared mobility solutions in their respective cities. The research institutions Gustave Eiffel University (FR) and Ghent University (BE) closely monitored and evaluated their success. The public authorities and universities were supported with specific expertise on public-private collaborations and policy development from CoMoUK (UK), POLIS (BE), Cambridge Cleantech (UK) and Transalley (FR).



Gemeente Rotterdam



STAD ANTWERPEN



MECHELEN



**POLIS**  
CITIES AND REGIONS FOR TRANSPORT INNOVATION



UNIVERSITEIT  
GENT



Université  
Gustave Eiffel



# The MOBI-MIX Final Event



MOBI-MIX's Final Conference was a joint event with the e-smartec project, marking a unique occasion to explore different yet complementary aspects of sustainable urban mobility. While the former aimed to decarbonise urban transport through the effective implementation of shared mobility and MaaS solutions, the latter sought to do so through a co-creative process that made use of marketing techniques to engage citizens in actively taking part in sustainable mobility policies.

The session thus brought together mobility experts across Europe to discuss what they have achieved within each of the projects, discussing lessons learned as they both aimed to enable behavioural change in urban mobility.

During the event, personal contributions were delivered from both public and private actors involved in the MOBI-MIX project.

**Right:** Image from joint e-smartec + MOBI-MIX panel discussion featuring representatives from City of Mechelen, Norfolk County and Region of Bratislava.





**Above:** Image from MOBI-MIX partner Rotterdam presenting the city's pilot.

Looking through topics such as data-based policymaking, how to undertake collaborations between the public and private sector and setting up shared mobility pilots, partners were able to provide relevant insights obtained by taking part in MOBI-MIX. A common theme that was echoed throughout the discussions was the significance of public-private partnerships: from a city's perspective, MOBI-MIX was essential to understand how to cooperate with public and shared mobility providers, and how they can deliver effective shared mobility services to citizens as a real travel alternative.

*For it to be as effective as possible, transport needs to involve public private partnerships.*

- Matthew Hayward,  
Project Manager, Norfolk  
County Council

Of course, this was not without its challenges. Honest conversations were had regarding the importance of mutual trust, such as recognising how private companies might not always be willing to provide their data unless there is a reciprocal understanding of how this information will be used by the receiving cities. Issues were also raised on standardisation and clarification for shared mobility, which is a relatively new realm that cities have started to grapple with.



Synergies were also explored in joint panel discussions with e-smartec, discussing lessons learned from public engagement and awareness-raising in shared mobility and how to further support their integration in sustainable mobility planning. Common links were found in addressing the unlikely users, where partners from both projects recognised the importance of ensuring the needs of everyone are being addressed when implementing new mobility measures.

Mutual challenges were also found in staffing and a difficult policy environment, where cities from both projects expressed hardships in finding the right staff and having enough political power to wield the necessary results for sustainable mobility planning. However, both recognised how the documents from the esmartec and MOBI-MIX projects were extremely useful in providing the needed support.

*At the beginning of MOBI-MIX, we had no shared mobility services. Now we are delivering a network of mobility hubs in our region and have had the chance to learn from other cities that were more advanced than us. This helped us get started.*

- Melina Guerras, Metropolitan Area of Valenciennes

**Right and below:** Images featuring panellists from the event



## Key learnings from the event

- The strong need for interactive governance between parking, charging infrastructure, public space for citizens, and mobility offerings. **(City of Rotterdam)**
- It is crucial that both parties involved are responsible in an effective public-private partnership, learning by doing is essential. **(City of Antwerp & Poppy)**
- Data collaboration creates important evidence for impacts as with the case of bike sharing which saw a 49% spike in bike share users cycling again (CoMoUK). Gathering user insights is also essential for the wider expansion of shared mobility **(Norfolk County Council)**.
- Funding can be both a blessing and a curse. Great to get started, but if the business case is not attractive, there can be little continuity. **(City of Mechelen)**.
- Walking, cycling, and public transport should be prioritised. For those 'remaining' trips that require a car, electric car sharing is the solution to keep the carbon footprint of driving a car as low as possible **(MyWheels)**.

# Cooperation Initiatives & Stakeholder Engagement



## From top to bottom:

Logos for Urbanism Next EU 2021, Autonomy, SOLUTIONSplus and eHubs.

*Credit belongs to the respective organisations*

Throughout the project MOBI-MIX collaborated with stakeholders to widen knowledge and share experiences within the realm of the project. The main cohesion during the project lifetime was the joint final event with the e-smartec project. Both projects aim to enable behavioural change in higher level mobility goals. The synergy between the projects is special, as both envision a low-carbon future for our cities and regions and, ultimately, our citizens — but approach it in different ways: on one hand, working to decarbonise road transport by effectively and flawlessly implementing innovative Shared Mobility and MaaS solutions, and on the other, building a co-creation an engagement process using the innovative tools of marketing throughout planning.

Collaboration with other projects also took place in the form of trainings, where MOBI-MIX joined forces with SOLUTIONSplus, an EU-funded project focused on the implementation of e-mobility. Throughout two days, the joint event gathered European frontrunners in the field of shared e-mobility, including 13 cities and local authorities and several public transport and micro-mobility operators, with the aim of exchanging experiences on shared e-mobility. The event put the



spotlight on cities, discussing topics such as public-private collaboration, data-sharing and how to integrate shared mobility in the wider public transport networks. The MOBI-MIX partners also actively collaborated with the eHubs project in the form of webinars, the first one focused on the planning and implementation of Mobility Hubs and the second one focused on stakeholder engagement and communication in shared mobility projects.

MOBI-MIX has been visible at various events showcasing project results and engaging in insightful discussions. MOBI-MIX participated in the Urbanism Next EU conference on the 11th of June. The panel discussed how public-private collaborations contribute to more effective integration of innovative mobility solutions. MOBI-MIX was also present at the Autonomy Digital 2021 POLIS panel discussing the potential of shared mobility and public-private partnerships. In 2022, the project shared a stand together with Dynaxibility and PAV at the EU flagship mobility event, the Urban Mobility Days taking place in Brno, Czech Republic. Finally, MOBI-MIX was featured at the annual POLIS Conference both in Gothenburg (2021) and in Brussels (2022), where the pilots' impact analysis results were presented.

For the uptake of shared mobility solutions in the demonstrator cities it was vital that the initiatives were visible, this required a high amount of promotion, local engagement and dissemination. The City of Mechelen as part of their cargo bike demonstrator within MOBI-MIX took on a widespread communication campaign. This campaign included multiple different methods of dissemination to ensure high levels of visibility and informing their target users which resulted in a high uptake of interest, with 400 citizens requesting the cargo bike service within the local targeted communities.



**Bottom:** Image from the Sharing Neighbourhoods pilot in Mechelen

*(Credit: City of Mechelen)*

# What are the MOBI-MIX outputs?

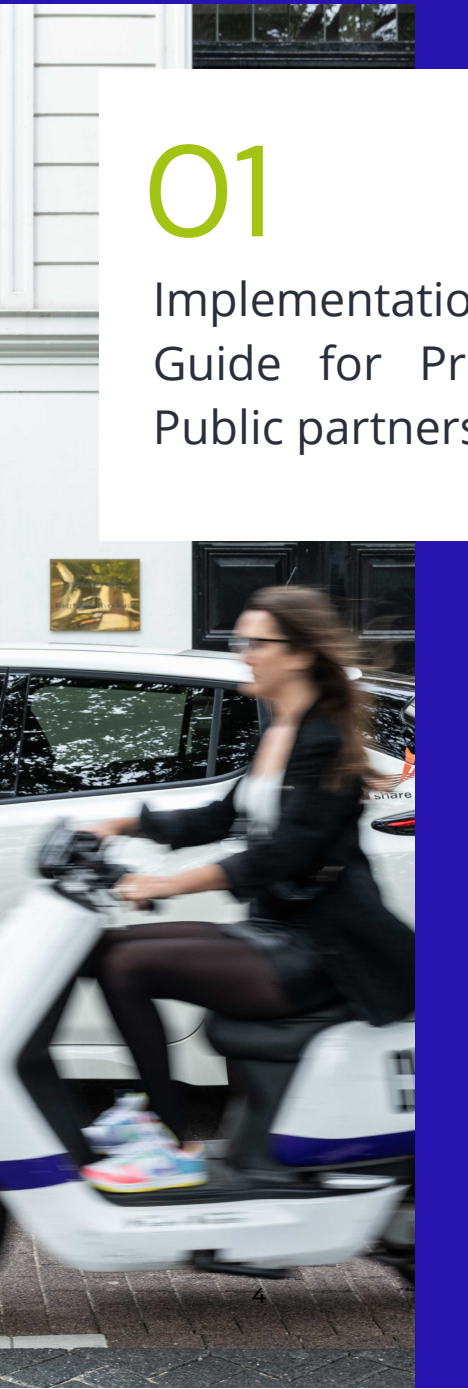


## 01

### Implementation Guide for Private- Public partnerships

The MOBI-MIX consortium, together with experts from Europe and the United States, developed the implementation guide to provide cities with tools and examples on how they can unlock the positive potential of Shared Mobility solutions by collaborating more effectively with private shared mobility providers. The reason to develop this guide is that the first generation of micro-mobility solutions in cities has not always led to the desired results for citizens, providers, and local authorities.

In many cases, mobility providers placed their vehicles on the street without consulting the local authorities. It was not long before undesirable side effects came to light, such as cluttering of vehicles, vandalism, and unsafe traffic situations. This had a negative impact on both providers and cities, showing that it is becoming increasingly important for cities and mobility providers to work together effectively to take advantage of new and innovative forms of mobility.





		Direct launch of RFP without negotiation 	Competitive procedure with negotiation 	Competitive dialogue 	Idea sourcing / design contest 	Innovation partnership 
High urgency/ speed to market 		++	+	+/-	-	--
Many resources and budget available 		--	+/-	++	+	++
Many suppliers available 		--	-	+	-	+/-
Highly innovative solution 		--	+	++	++	++
High complexity of challenge 		--	+/-	+	++	++
Need for more than 1 mobility provider 		+	+	++	+	+/-
High certainty of purchasing a final mobility solution 		++	+	+/-	--	+/-











The guide shows the different approaches cities can use to collaborate with mobility providers to sources, select and deploy shared mobility solutions in urban areas. Therefore, several procurement types are being evaluated on their effectiveness for the different characteristics of the specific mobility ambition and project. The types range from directly launching RFPs to developing innovation partnerships and depend on factors such as availability of resources, urgency, number of providers available, complexity of the challenge, etc.


Besides the type of mobility solution and deployment model, another important aspect is to design and choose a governance approach to manage the relationship between the public and private sector during the implementation of the mobility solution. Therefore, MOBI-MIX has developed a decision framework that supports cities in making an informed choice for a governance approach that simultaneously assesses the impact on the city's objectives and the business cases of mobility providers.



**Implementation guide for effective public-private collaboration in Smart Mobility**

with tools and examples for cities on how they can improve this collaboration.

**Top to bottom:** Procurement type matrix for MOBI-MIX;  
Cover of the Implementation guide.

**Access here** 

# 02

## MOBI-MIX Guide - Shared mobility, MaaS and mobility hubs. From vision to implementation

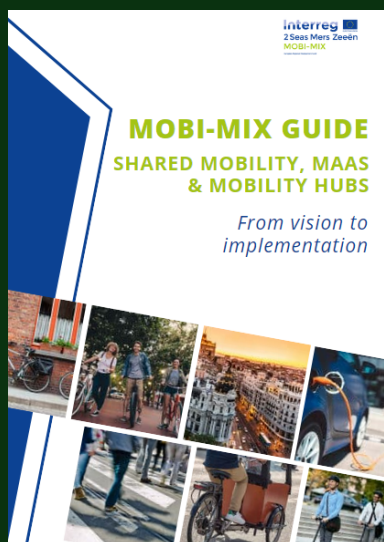


The MOBI-MIX Guide reflects all the knowledge gathered within the project. Instead of a blueprint, it offers mobility planners and policy makers brief guidance on aspects to consider in the implementation of shared mobility, MaaS and mobility hubs.

Since changing travel behaviours is a long and complex process, MOBI-MIX was based on a structured approach that accompanied cities throughout the entire journey. The structure of this guide matches the logic followed in the project: departing from the city's wider needs, developing a vision, designing solutions and governance models accordingly, monitoring and assessing their impacts closely, and using results to inform policies and mobility plans.

Overall, the scope of the MOBI-MIX guide is to:

- ✓ Highlight key aspects for mobility planners and policy makers to consider in the implementation of shared mobility, mobility hubs & MaaS solutions;
- ✓ Showcase results and lessons learned in the MOBI-MIX project;
- ✓ Highlight the connections between solution implementation and sustainable urban mobility planning at wider level;
- ✓ Map future needs and potential developmental directions in the post-COVID urban environment, including the potential synergies between shared mobility, MaaS & mobility hubs.



**Above:** Cover for the  
MOBI-MIX guide

**Access here**







We have learned that the context, as well as the nitty gritty aspects of implementation and collaboration can influence the successful uptake of solutions. For this reason, each chapter delves deeper into one of MOBI-MIX cities (Antwerp, Mechelen, Norfolk, Rotterdam, and Valenciennes), while also bringing practical examples from other European use cases (Amsterdam, Berlin, Bremen, Hamburg, Paris, and the Swiss railway company SBB).

The latter have been gathered throughout the project lifetime through desk research, interviews, and joint events with similar projects such as e-HUBS and SOLUTIONS+.

Each city will have its own departure point, local context, and specificities. Nonetheless, the steps in this guide, as well as the practical examples and learnings shared, will hopefully inspire and support more cities to adopt shared mobility, MaaS and mobility hubs. While private cars will not completely disappear, a more diverse and less carbon intensive transport offer can help European cities reach their climate and liveability goals.





# 03

## MOBI-MIX Impact Assessment

**Below:** Cover for the A1.3 report

**Access here**



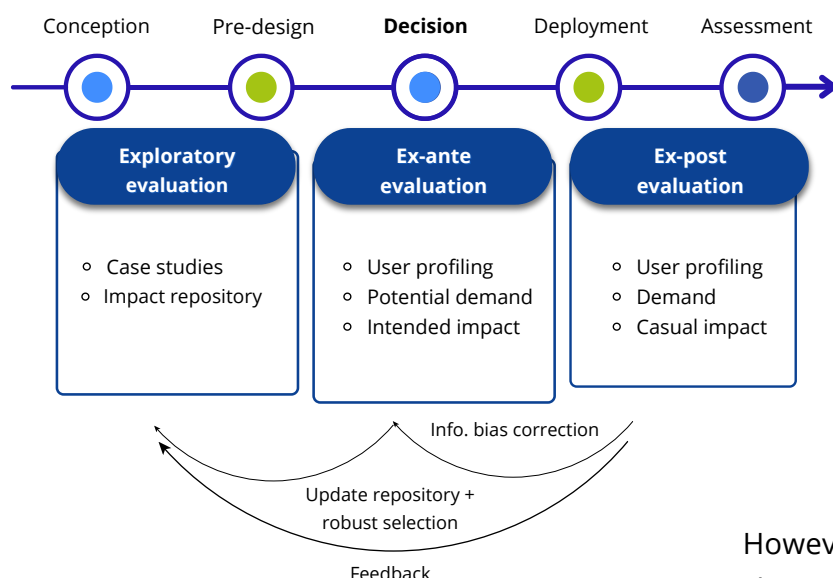
One of the major achievements of MOBI-MIX is the development of an impact assessment framework (MObility DEcisions framework – MODE) which can offer cities an understanding of real, causal impacts of mobility interventions. The framework is sequential, offering insights at three different stages, including pre-piloting when the amount of data available might be limited.

The ‘Exploratory analysis’ undertaken during the pilots ideation process is described in the A1.3 report, when no pilot-specific evidence was available. In this case, the impact assessment was preliminary conducted based on evidence provided by the review of available similar case studies. This was then adapted to some of the characteristics and attributes of both pilots and cities. Results obtained give a rough estimate of a short-term impact of 3.3M veh-km shifted away from private cars, and 495Tn CO2 per year, above the project target.

This analysis was further refined by building on the evidence gathered during the trial phase in each city. Specifically, two different impact assessment strategies were undertaken using surveys: ex-ante and ex-post (before and after pilot). ‘Ex-ante evaluation’ comes into play before the implementation of a specific shared mobility solution, and assesses the intended behavioural adaptation subjectively reported by potential users (including modal shift and car ownership). This offers pilot- and city-specific evidence about the prospective impact of the proposed solution. ‘Ex-post evaluation’ compares the pre- and post-pilot surveys users’ behaviour and attitudes at two different moments in time to assess the realised change (causal impact) introduced by the implemented shared mobility solution.

The ex-ante analysis confirmed to some extent the evidence extracted from the exploratory analysis, suggesting that there is some intended travel behaviour shift, away from cars towards other sustainable mobility options.

## PROJECT PHASES:



**Top to bottom:** Graph depicting evaluations during project phases;

Table depicting summary of CO2 emissions and car veh-km reduction

This means that shared mobility users report a willingness to substitute private car usage by the new mobility solution implemented in the city. Nonetheless, users also find it attractive to substitute part of the sustainable mobility trips they already do via walking or public transport. In the reviewed cases, car travel substitution is found to be larger than the substitution of other low carbon modes, so there is a net carbon reduction effect conditional on the carbon emissions assigned to the shared solution.

When moving to the analysis of the realised change (ex-post evaluation), it was observed that for most of the pilots there have been no detectable changes in travel behaviour based on respondents' travel diaries.

However, the analysis also showed some changes in attitudes towards decreased preference for cars, which could potentially transform into lower predilection for owning or buying a private car in the future.

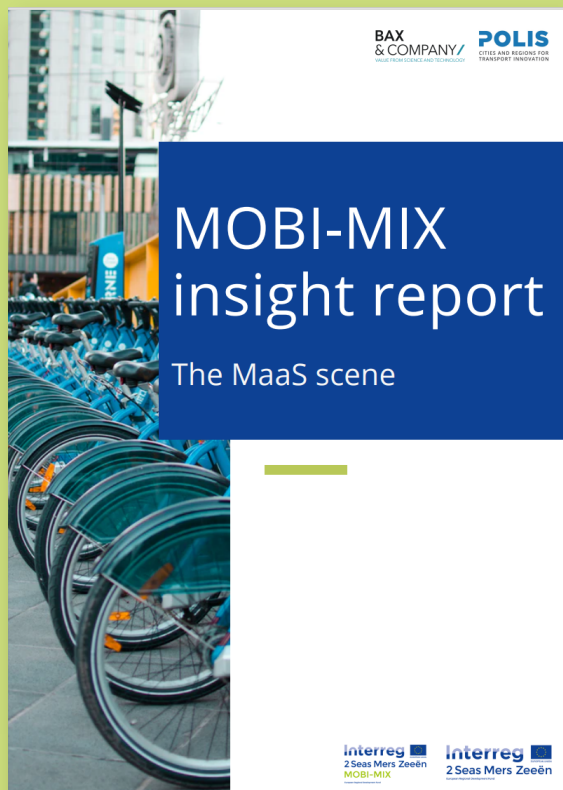
The table below summarises the CO2 and car veh-km reduction obtained in the MOBI-MIX pilots. Using the lower and upper figures from Norfolk (dependent on the e-scooter carbon emission contribution), the total reduction in the mid-term is between 225,51 – 399,91 CO2 tons/year and 2.456.416 car veh-km/year. This does not account for some of the smaller pilots where we have not collected sufficient data (e.g., Rotterdam station-based carsharing pilot, Mechelen Sharing Neighbourhoods pilot). Nonetheless, these figures are in line with the initial project objectives (reduction of 365 tons of CO2-emissions by avoiding/replacing 2.6M fossil-fuelled car-kilometres).

	Rotterdam	Norfolk e-scooters	Norfolk Mobihubs	Mechelen	Valenciennes	Antwerp	Total
CO2 tons/year	188	13,6 - 114	16 - 90	3,1	0,9	3,91	225,51 – 399,91
Car veh-km/year	1.360.000	490.000	360.000	12.400	215.000	19.016	2.456.416



# 04

## MOBI-MIX Insight Reports



### The MaaS scene

It is undeniable that MaaS offers an opportunity to approach mobility from the user's perspective. However, like other mobility solutions, its positive impacts are intricately connected to the quality of infrastructure, policy, and communication. The Mobility as a Service MOBI-MIX report compiles a state-of-the-art outlook on the potential impact of MaaS on urban environments based on a literature review carried by Ughent.

Additionally, drawing from previous European projects and publications, the insight report also features interviews with MaaS experts and practitioners from across Europe. The report starts with an overview of the MaaS ecosystem and its potential configurations. Before delving into the roles and interests of different stakeholders, as well as some crucial considerations that make MaaS affordable, resilient and sustainable. The final part contextualizes the Sustainable Urban Mobility Plans (SUMP) principles within MaaS, and offers some ways to analyse a city's readiness for MaaS. The final report was developed by POLIS together with Bax & Company.

**Above:** Cover for MOBI-MIX Insight Report #1

**Access here**



## Carsharing

The UGent provided input throughout gaining and providing insights on Carsharing and Mobility As A Service. An insight report could be developed for both of these topics, that summarised an extensive literature review and numerous interviews with local experts in different cities.

The report on Carsharing focused on the definition of carsharing and the different types; next the general advantages and disadvantages were discussed in detail. In the second part, four case studies were interviewed and reviewed. Further on, the impact of implementing carsharing, which is relevant for cities, was disseminated.

The MaaS report compiles a state of the art outlook on the potential impact of MaaS on urban environments. Since MaaS offers an opportunity to approach mobility from the user's perspective. Like other mobility solutions, its positive impacts are intricately connected to the quality of infrastructure, policy, and communication. Similar to the other reports, there was first an overview of the definition and types, which resulted in a discussion of multiple use cases and a further prospect of what to expect.

We brought the content of the carsharing and MaaSreport to the scientific community by publishing an article on this in 2021 (Storme et al., 2021).



**Above:** Cover for MOBI-MIX Insight Report #2

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## Mobility hubs

One of the main contributions of the Gustave Eiffel University is the investigation of the concept of "Mobility Hubs" through a literature review, discussions with experts and on-site visits. An insight report summarising this process, which aims to provide a comprehensive but detailed view of the topic and valuable guidance to cities, has been published.

The report focuses on the different definitions of "Mobility Hubs" and the debates they generate, while proposing a definition that allows a clear distinction with similar and existing concepts. It summarises the objectives mobility hubs can address, then details the different typologies of hubs in use, proposes guidelines for cities to better implement mobility hubs and looks at the most successful examples in Europe to finally provide several suggestions to cities.

Several presentations at national and international conferences such as "RST Journées Mobilité 2021", "Future Days 2021" or "TRA Transport Research Arena 2022", allowed to bring more attention to this topic and to disseminate the report. A book chapter and a scientific article will be published soon.

**Above:** Cover for MOBI-MIX Insight Report #3

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## Shared mobility data for policy making

As we move towards the digital economy and shared mobility permeated many cities across Europe, including the ones in MOBI-MIX, data from these services and other sources is being made available, and cities can make a great use of it. Bax & Company, together with POLIS, produced an insight report focused on the data stemming from shared mobility services and how it can be exploited for policy making. The report included a literature review and interviews with some cities and a data aggregator.

The first part focused on the distinction between data sharing and data reporting. Then, a description of several data acquisition models is presented, showing the pros and cons of each one of them. To continue, the current status of data sharing and reporting is described, describing the most common data standards as well as the regulations supporting data (mobility) flows within the EU.

To avoid sharing data for the sake of it and the hurdles this brings both to cities and providers, a chapter is dedicated to purposeful data sharing and successful use cases. However, even though the impact of data sharing and reporting is visible both in the short and in the long term, the number of use cases is still limited and the potential to exploit it is high. Some “use case libraries” are currently being developed (e.g., NUMO, CDS-M) and can bridge this gap, inspiring other cities and showing the benefits of data.

Finally, the last part includes policy actions and recommendations, both at European and regional/local level to move forward with data sharing and reporting, overcoming barriers and making use of the lessons learned.



**Above:** Cover for MOBI-MIX Insight Report #4

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# The MOBI-MIX Pilots








# Mechelen

## KEY FACTS

- 86.000 inhabitants
- Real mobility AAA-location due to its central position in Belgium
- Existing push strategy on shared mobility (ambition 2025: 500 shared bikes, 200 e-scooters, 350 cars and 7.000 car share users)
- Main public transport modes are bus and regional trains, with a bus network and a central train station
- City center is a full cycling zone with +170 cycling streets
- The ringroad was redesigned from a 2-way road to a 1-way road creating more place for active mobility, recreation and greenery.



## What are the main messages coming from Mechelen to other public authorities?

01

To create impact, you need to communicate on all levels (1 to 3) with a strong uniform visual and message. We implemented a city-wide communication campaign (1) of 2 years on shared mobility with the slogan 'sharing is for everyone'. Next to that there were incentives and promotions (2) and we even launched a campaign on neighbourhood level (3) with ambassadors having 1 to 1 contacts.

02

To really make measures work, flanking policy is needed to push into the right direction. A top-down approach (formulation policy) is as important as a bottom-up approach.



# What was the Mechelen pilot?

**CARGO BIKE SHARING SCHEME:** Thanks to MOBI-MIX the city of Mechelen was able to enlarge its shared mobility offer with shared cargo bikes. It was the missing part as Mechelen already has cars, bikes, and e-scooters. The initiative started very small with one bike in one neighbourhood as a pilot project. Then it was decided to upscale the project and a tender was launched in the market. The tender was granted to the Dutch company Cargoroo. The offer was enlarged to 9 shared cargo bikes spread over the city.

**SHARING NEIGHBOURHOODS:** A campaign was launched in one identified neighbourhood on shared mobility. People were invited to try-out all available shared mobility modes for two months for free, resulting in a universal transport allowance scheme. Workshops and one-on-one contacts with ambassadors were organised to persuade the people to start with shared mobility.

## KEY RESULTS

- The target for the cargo bike sharing scheme was to achieve 1 use/day/bike. At the end of the project time the city achieved 620 registered people for the system and a maximum use of 0,75 use/day/bike.
- Mechelen is convinced that with shared cargo bikes they are stimulating people to think about their mobility behaviour and are inciting them to do some trajectories with a cargo bike instead of a car.
- 21 families participated in the sharing neighbourhoods project. 4 of them have indicated that they will get rid of their private car. This is a success rate of 20%.

## NEXT STEPS

- There is the intention of enlarging the fleet of shared cargo bikes.
- Shared cargo bikes have become an inherent part of the shared mobility offer in the city.
- There is the intention of repeating the sharing neighbourhoods concept in another area.
- The actual legislative period runs until 2024 and (shared) mobility is one of the focus points. Mechelen will keep working hard on promoting shared mobility.








# Rotterdam

## KEY FACTS

- 665.000 inhabitants
- Port of Rotterdam: Biggest port of Europe
- More and more neighborhoods are limiting car traffic or even becoming car-free
- Transport modes: metro (5 lines), tram (8 lines), (water) taxi, shared bikes, e-cargo bikes, mopeds and cars
- Rotterdam has room for 7,500 shared vehicles: 3,000 (electric) bicycles, 3,000 electric mopeds and scooters, 1,000 electric scooters, 500 other (electric) shared vehicles such as cargobikes



What are the main messages coming from Rotterdam to other public authorities?

01

Stakeholder management and collaboration are crucial to make car sharing work in practice on the streets. Next to stakeholder management we also experienced the importance of telling the story (the 'why' behind car sharing). Why should the residents go for car sharing and what is their gain?

02

There is a need for dynamic and interconnected policy (and policymaking) to find adaptive car sharing (and other shared mobility modes) solutions.





# What was the Rotterdam pilot?

**FREE-FLOATING AS A FORM OF CARSHARING:** Rotterdam provided free-floating car sharing with a city wide-parking permit to start and stop trips everywhere in the city. The city, together with other Dutch cities, is currently running a pilot with a flexible parking permit for providers.

**STATION-BASED CARSHARING:** Implemented in the Kruisplein parking garage, located in the middle of the city centre. Station-based car-sharing, with assigned parking spots on the street, was already known in Rotterdam; however, learning how they can be deployed in strategic places such as garages, generated interesting insights on how to facilitate car sharing there as well.

**COOPERATIVE CARSHARING:** This initiative would have allowed citizens to cooperatively organise shared cars with neighbours. Unfortunately, this measure did not turn out well as it was difficult to organise enough people. Therefore, the city has reformulated this ambition and they will now be organising two Rotterdam Mobility Challenges in 2023.

## KEY RESULTS

Within the project, Rotterdam saw an increase in usage of shared cars and they would like to continue this trend. The city learned and developed alongside other European cities how to best organise shared mobility services. This was especially the case for e-scooters, which are not yet legally allowed to be driven on public roads in the Netherlands.

Some of Rotterdam's lessons learned are:

- Clear communication is half of the success: listen better to residents;
- Share the 'why' of shared mobility with visualisation and storytelling;
- Ensure diversity in supply and providers;
- Provide clear signage in parking garage;
- Make agreements to prevent charging stickiness;
- Good lessons take time;
- Bundle policy on shared mobility into one (dynamic) document.

## NEXT STEPS

- The MOBI-MIX insights are now being translated into a integral policy document on shared mobility, mobility hubs and MaaS in 2023.
- Rotterdam has made a dynamic document with an overview of the lessons learned. In this document, each lesson learned has an action holder, where it is stated whether it is already adapted in policy and what the status of the lesson is. In this way, the lessons learned are given shape and it is ensured that they are embedded in Rotterdam policy.



# Norfolk

## KEY FACTS

- 908,000 inhabitants with Norwich its only city, home to 117,000 jobs and more than 8,000 businesses- one the of the largest centres of employment in greater south-east England.
- Situated in the east of England with exceptional heritage and culture, unique landscapes and diverse wildlife habitats.
- Norwich is one of the fastest growing cities in the UK and contributes more than £3 billion per annum to the national economy.
- In Norwich, from the latest Census information, the highest levels of cycling to work is 16%.

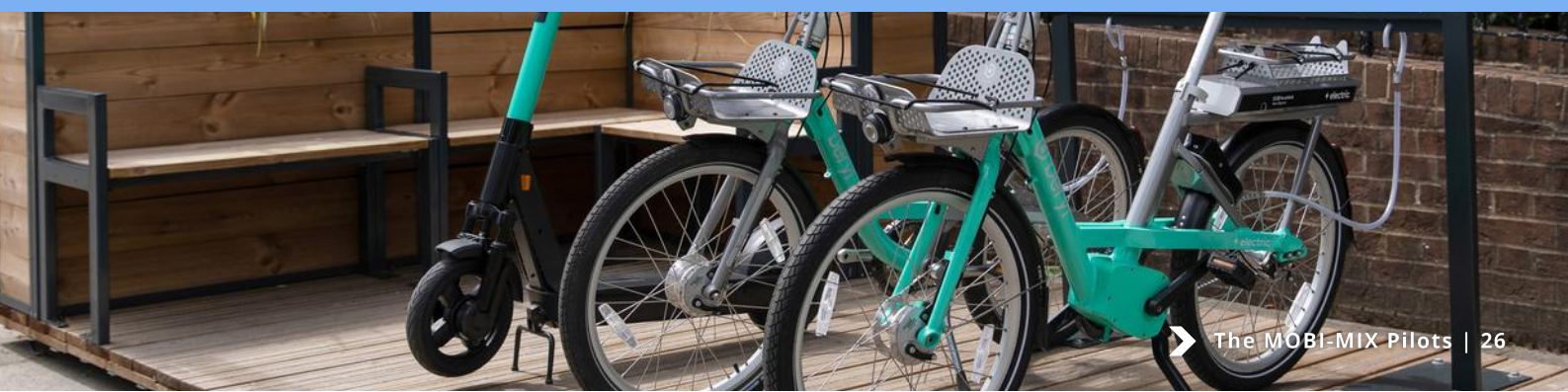
What are the main messages coming from Norfolk to other public authorities?

01

When looking at delivering shared mobility solutions, close engagement with the public and private partners can ensure that the solution meets long term strategic needs as well as short term commercial requirements.

02

To deliver a successful pilot, ensure even at the smallest scale, that it has to achieve a key user benefit to ensure useful data can be gathered, e.g. on a strategic route or fulfilling an immediate transport need. If this small scale pilot can be successful it is easier to expand and increase the pilot activity.



# What was the Norfolk pilot?

**E-SCOOTERS:** The MOBI-MIX pilot in Norwich consisted of a trial of e-scooters, delivered with bike and e-bike provider Beryl and currently has 250 e-scooters available to rent across the Beryl hubs in Norwich.

**MOBILITY HUBS:** The pilot also supported the delivery of the first mobility hubs in Norwich, with one at Norwich Train Station and another at Norwich Bus Station. Public engagement was also part of the process, through consultations on the walking & cycling strategy which touches upon the hubs as well.

## KEY RESULTS

- The e-scooter pilots have been very successful with over 400,000 trips taken on the scooters covering over 1.2 million Kms. They are keen to focus on trying to replace motor vehicle trips with scooter trips and currently 25% of trips would otherwise be on a motorised vehicle.
- With the development of the travel hubs it has created much improved active travel access to these sites. The most popular Beryl bay is at the Train Station and overall the amount of people using Beryl then public transport has increased from 26% to 52% over the last year.

## NEXT STEPS

Norfolk is already looking at opportunities to create more Travel Hubs across Norfolk and also expand the Beryl offer in Norwich, they look to create shared mobility opportunities in other Towns across Norfolk. They are looking to continue the e scooter pilot to at least 2024 and have extended the Beryl area to the neighbouring town of Wymondham, with further extensions also planned.



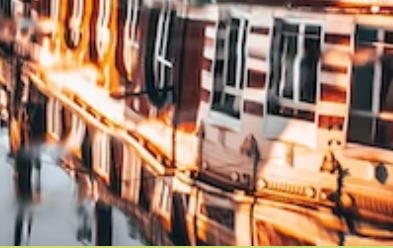




# Valenciennes

## KEY FACTS

- Valenciennes Metropole gathers 35 cities
- Urban area of 350,000 inhabitants
- A public transport network with 2 tram lines, 4 park-and-ride facilities, 36 bus lines and over 15 million passengers per year
- Predominant use of the private car for daily travel, with 65% of trips made by car in 2019
- Developing a local strategy for ecological transition and attractiveness supported by excellence and expertise in the fields of digital technology, transport and sustainable mobility



What are the main messages coming from Valenciennes to other public authorities?

01

Collaboration between stakeholders (local authorities, operators, users...) is key to the success of mobility hubs.

02

Experimentation has been a key factor in the process of local appropriation of the Mobility Hub concept.

03

Changing mobility behaviours is a long-term process and needs to be supported by communication, and incentives in particular.

04

Mobility hubs are a lever to increase complementarities between modes of transport and to (re)create physical, virtual and social connections.



# What was the Valenciennes pilot?

**MOBILITY HUBS:** Valenciennes Metropole developed two pilots of mobility hubs, one in the city centre (Nungesser station) and the other one on the University Campus. Each one is composed of several shared mobility services: public transport (tram and bus), shared bikes, electric charging stations, dedicated spaces for car sharing, car sharing service (Kinto by Toyota), repair stations, and a snack kiosk.

The two locations were identified based on an analysis of the public transport network and usage, the potential users, and some reports of the Development Council (composed of citizens of Valenciennes Métropole) and the University. Implemented on two park-and-ride facilities, they seemed to have the best potential for multimodality and last/first mile services.

## KEY RESULTS

- **A collective learning process:** MOBI-MIX was the opportunity to improve the coordination between the local transport and mobility stakeholders. Valenciennes Metropole created a committee gathering the transport authority, the Transalley Technopole, the University and the municipalities concerned by the project (Valenciennes and Famars). This space for discussions lead to a better understanding of the transport network, the opportunities and the issues to be addressed. It has become an important decision-making tool for the territory. The project also allowed them to explore what could be done legally and collectively regarding public-private partnerships, and how their ability to develop them in the future could be improved.
- **A sustainable change of the transport offer:** Thanks to MOBI-MIX, shared-mobility services were implemented in new areas of the territory. The deployment of mobility hubs has become part of the mobility strategy for the years to come and more shared-mobility services will be developed.

## NEXT STEPS


- After two years of work on shared mobility services, all the local stakeholders are convinced and keen to move forward. Valenciennes foresees to make permanent the spaces for discussions between all local mobility actors through regular committee meetings.
- The two pilots will run until Autumn 2023 and they are already planning to extend the network of mobility hubs with two or three other locations. In this regard, Valenciennes Metropole will attend to improve its capacity to create partnerships with private operators, and especially the local innovation players, incubated in Transalley for example. In addition, the tools for understanding the mobility practices and for assessing the usage must be consolidated and better shared.



# Antwerp

## KEY FACTS

- 531.862 inhabitants in the city, with 1.500.000 total in the functional Urban Area
- Second biggest port in Europe
- Antwerp has shared bikes, e-scooters, mopeds and car, besides a bus network and a central train station
- In 2020: city had 648 kilometres of cycle paths; charted 714 km of slow roads, where, motorised traffic is unwelcome, and allows vulnerable road users to walk or cycle in safety.
- In 2020, the city also had, e.g., 42 kilometres of pedestrian zones and another 48 kilometres of residential areas.



## What are the main messages coming from Antwerp to other public authorities?

01

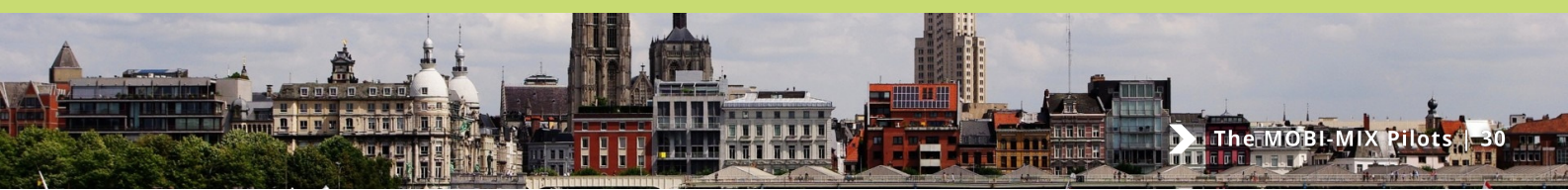
Shared mobility only works if it is set up as a logical system, by operating area, number of vehicles, etc. In Antwerp, with +500,000 inhabitants, we see that it is currently possible to organise multiple shared mobility services without financial intervention from the city. Electric shared bicycles and a 'dense urban bike sharing system with dockings' are currently exceptions to this. It is the electric component, the redistribution obligation and working with physical stations that make it difficult to operate break even.

02

Permits must be made flexible. The market is still in transition and new insights give a need for adjustment. A constructive dialogue between city and providers ensures a healthy business climate without excesses in the streets. The city also actively checks and takes action in case of repeated violations by providers.

03

The principle of Free Floating is gradually being abandoned: working with drop zones ensures more order on the street and makes it user-friendly and manageable.





## What was the Antwerp pilot?

**Mobility as a Service:** The objective was to learn if the introduction of a diverse (shared) mobility offer through a MaaS-app for employees implicated a model shift from less private car usage towards an uptake of more sustainable modes for transport. Three Business-to-Business MaaS apps were supported during the project.

A survey was held among the employees of 9 companies using the different apps. Results indicated a decrease of 30% for private car usage and an uptake of public transport. Especially for work related trips, shared mobility is frequently used. Based on this survey, MaaS gives a limited push to the use of shared mobility.

Most importantly, Antwerp thinks there is a need for a better range of public transport and shared mobility to make the switch to combined sustainable travel. A bonus budget is also a promising way to improve and stimulate the use of MaaS (and therefore sustainable mobility). The option to add a budget for family members would make a MaaS- app even more used.

## KEY RESULTS

- The demonstrators showed a clear potential for B2B-MaaS to contribute to a modal shift and CO2 reductions. However, it also became clear that it is still very complicated for all parties to correctly navigate contracts due to the complex fiscal (Belgian) framework for mobility budget or other mobility measures.
- The sector is still developing and finding its market share. The uncertainties due to COVID and the war in Ukraine made it even more complex to bring a complicated multi stakeholder product to the professional market. Despite these challenges, 2 out of 3 players have been able -in part thanks to the MOBI-MIX project- to expand their activities and get long-term contracts signed.
- All MaaS-providers who participated in the various pilots agreed that in the current market and with the current possibilities, there's no viable commercial market for B2C MaaS. All of the players active in Antwerp now focus on B2B MaaS or on the integration of MaaS into a wider B2C offering (eg. KBC-banking app. Mobility-as-a-Feature).

## NEXT STEPS

- Two of the three MaaS providers involved in the MOBI-MIX project will stay active in Antwerp. Although one of the MaaS providers is no longer active, new opportunities for similar combined offers are being looked into by another operator, thanks to the MOBI-MIX project.
- A key challenge for all mobility providers (MaaS and others) is the integration in backend HR-systems in order to facilitate the administration/payment of the mobility budget. Smart Ways to Antwerp stays committed to support all stakeholders. This will be done through networking, stimulating co-development of technical modules and project calls with limited financial support.



# Key insights



## Considerations of subsidies

As the capital for shared mobility providers is drying up, questions of how to support them are becoming increasingly important. In the MOBI-MIX governance approach framework, different ways to stimulate shared mobility providers have been explored. Depending on the goals of the city and the business case of the providers, targeted subsidies are one of the approaches cities can adopt to support providers financially.



## Data sharing

Data can be used to conduct impact assessments on the one hand, while informing policymakers on decision-making on the other hand. Insights on data sharing have led to new ideas in MOBI-MIX, such as the development of new business models for data sharing between shared mobility providers. Additionally, there is still a big digital divide between the public and the private sector in terms of capacities and skills for data intelligence, and future initiatives should focus on overcoming it.



## The role of shared mobility

Cities are continuously presented by the challenges of urban mobility, such as safety, environmental and spatial impacts. Discussions about the role of cars present more opportunities for shared mobility solutions. MOBI-MIX was a way to continue an ambition that a city had already started or to kick-start or fund an idea/ambition that a city already had.



## Legacy of MOBI-MIX

The various reports produced during the MOBI-MIX project position the partnership as thought leaders on shared-mobility concepts, while supporting cities with less experience in shared mobility to get started with implementing their first shared mobility services. Developed insights during the pilot, such as the set up of data-sharing agreements for specific shared mobility solutions, can be transferred and used for various shared mobility services moving forward.



## Behavioural assessments

By studying the behaviours and demographic characteristics of mobility users through the MODE framework, target areas where high ridership and modal shift can be expected are identified. Therefore, data-driven research can recommend public authorities which areas are more suitable to expand certain shared mobility services.



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