Interreg

EUROPEAN UNION

North-West Europe

eHubs

European Regional Development Fund

THEMATIC PRIORITY:

LOW CARBON

eHUBS - Smart Shared Green Mobility Hubs

A Blueprint for City Planners

Table of contents

Editorial

In an era marked by rapidly increasing urbanization and the urgent need to combat climate change, the demand for scalable solutions and cross-border knowledge exchange is higher than ever. In 2018, the INTERREG project „eHUBS“ set out to pilot hubs for shared and electric mobility (eHUBS) across ten cities and regions in North-West Europe as a means to tackle the negative effects of car-centric mobility. The eHUBS consortium comprises local authorities, mobility service providers and transport operators as well as research institutions and regional network institutions. This multidisciplinary approach allows for a a comprehensive and co-creative approach to investigate the potential and the challenges of shared mobility hubs and to address important questions like: What are the success factors of shared mobility hubs? How to identify suitable locations? How to create viable business models for mobility hubs?

In order to gain a comprehensive understanding of the potentials and challenges of shared mobility, a diverse group of cities was chosen to pilot eHUBS: Small municipalities like Dreux or Kempten, bigger cities like Dublin or Amsterdam, bike-friendly cities like Nijmegen as well as car-centric cities like Manchester. Despite their differences, these cities share a vision of clean and efficient transport and liveable urban spaces and have thus introduced new and alternative modes of transportation such as shared e-bikes and e-cargo bikes thanks to the eHUBS project.

This document serves as a blueprint for all other European cities that would like to venture into shared mobility hubs to transform their transportation systems. They should profit from the eHUBS project by learning from the experiences of the pilot cities and the insights gained from research and net-work partners. The blueprint was originally designed as a free E-Learning online course and comprises ten modules about implementation, operation and evaluation of shared mobility hubs. This document represents a synopsis of the online course.

However, the work is not yet done here and there is still a lot to learn about Shared Mobility and Shared Mobility hubs in particular. We therefore encourage the reader to join us in a discussion about the future of urban mobility. We appreciate any kind of feedback or suggestions and are open to possible collaborations. Only in a collective effort we can change Europe’s cities and region for the better of the people and the planet.

Nicolai Harnisch

Leiter

Venetzte Mobilität | Projektmanager

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Chapter 1

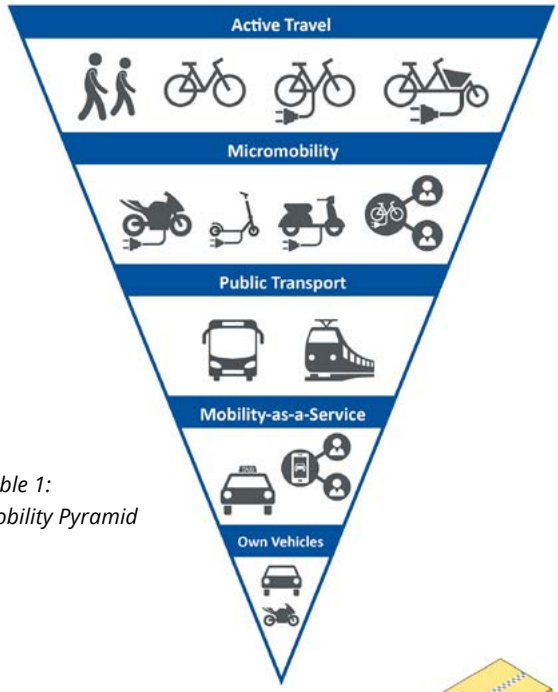


Table 1:
Mobility Pyramid

Introduction

Many cities all over the world aim to reduce the emission of CO_2 and toxic gases as well as microparticles that come from the use of cars with combustion engines. Furthermore, a lot of public space in cities is dedicated to car parking. Though most private cars are used for less than an hour per day, they dominate the shape of public space. Hence, mobility options with less impact on the environment and public space should be preferred (see table 1).

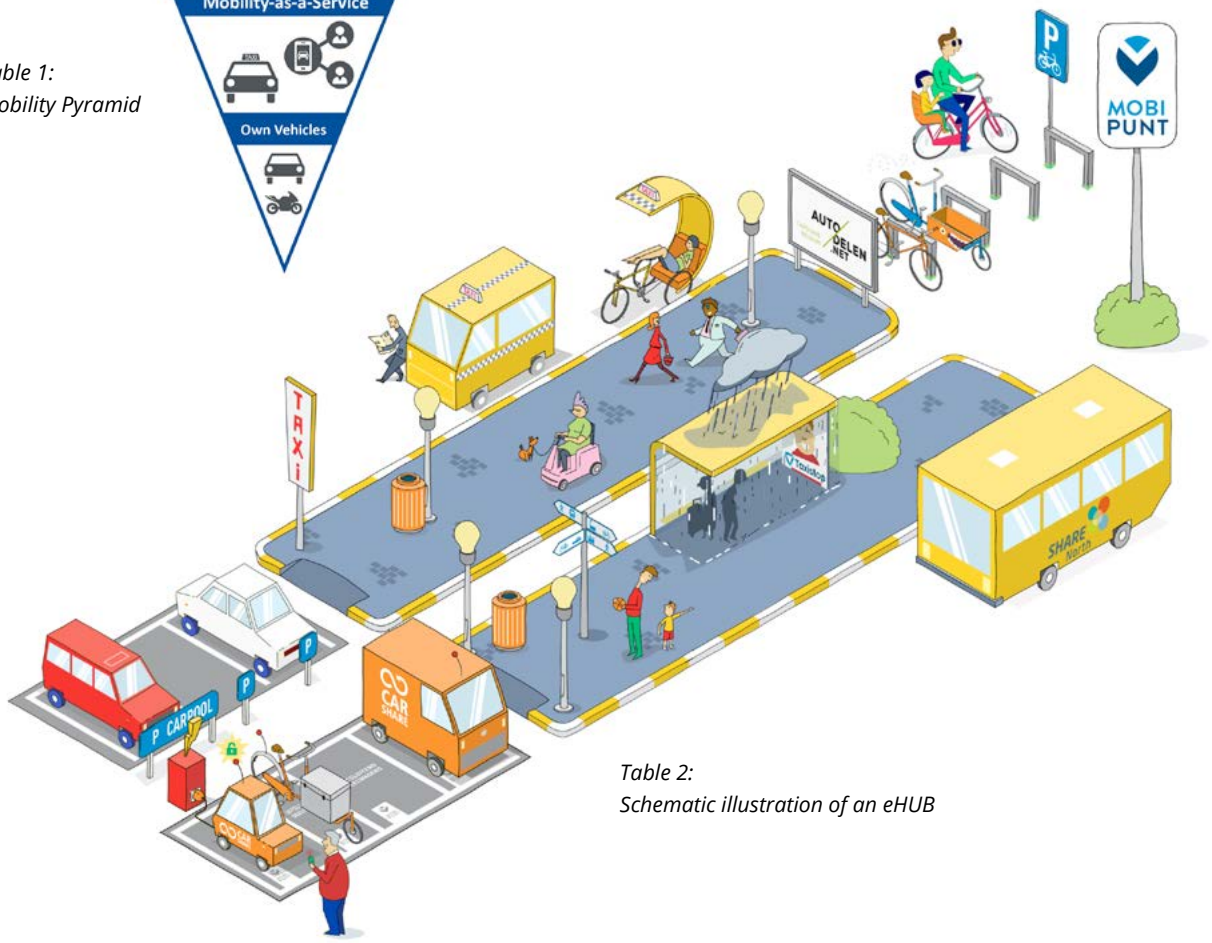


Table 2:
Schematic illustration of an eHUB

Shared Mobility can optimize the usage of vehicles placed in urban areas by reducing the number of vehicles in a city while maintaining convenient mobility options for its inhabitants. This way, Shared Mobility can reduce car dependency and make a positive contribution to CO_2-emissions and the use of public space. However, it is important for local authorities to manage their Shared Mobility offers thoughtfully to make sure they unfold their potential.

This is where eHUBS enter the scene! eMobility hubs, in short eHUBS, are on-street locations that combine shared (e-)bikes, (e-)cargo bikes, (e-)scooters, and (e-)cars, offering users a wide range of transport modalities according to their needs. eHUBS can vary in size, type of location, and type of offer. They can be small and located in residential areas, with just one or two parking spots, or bigger and positioned close to major public transport interchanges. They may also offer additional services such as bike racks, Wi-Fi hotspots or bike repair stations.

"Our overall goals in terms of mobility policy are sustainable, active and space efficient modes of transport. The eHUBS project fits well with all of these goals. The goals of the eHUBS project can however be viewed as a two-step process: first, we want to stimulate the use of shared mobility, getting the eHUBS to be well known and well used, and secondly, we will aim at getting specific target groups to use the eHUBS. More specifically, this means getting car drivers out of their cars and onto shared (cargo-)bikes or shared cars. Don't try to build your vision around eHUBS, but see whether eHUBS fit within your vision and only commit to eHUBS if the answer is 'yes'". (City of Nijmegen)

Nijmegen

eHUBS can make a positive contribution to urban development. They enable individual mobility while reducing car dependency and promoting active modes such as bikes or cargo bikes. Bundling different offers at one eHUB also prevents urban clutter and inappropriate parking of vehicles. At the same time, dedicated parking spots (i.e. eHUBS) can increase the reliability of Shared Mobility. Finally, eHUBS can also be beneficial for public transport, as they – when located accordingly – can offer options for the first and last mile and hence increase the catchment area of public transport (see table 2).

However, eHUBS are not an end in themselves. They have the potential to change public space for the better, but only if they are part of a holistic mobility strategy with clearly defined goals.

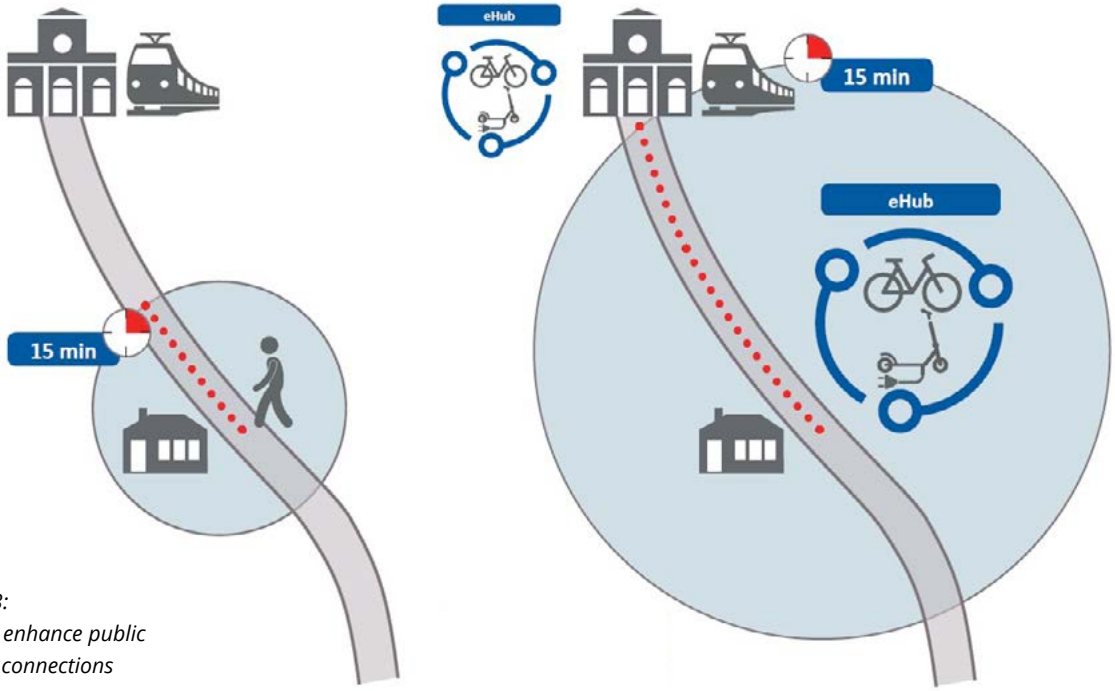


Table 3:
eHUBS enhance public transit connections

Learn more about eHUBS:
The eHUBS blueprint as a free e-learning course

Click on the monitor to watch the full video on vimeo.

Chapter 2

Setting up eHUBS

In general, eHUBS can be installed in different sizes and combinations of mobility options, according to the local spatial context. For the pilot cities in the eHUBS project, three different types of eHUBs were theoretically defined, based on their position within the local transportation network:

1 Interregional eHUB

This type of eHUB is passed by a huge number of people during their travel or way to work. It offers many different transport options that give the possibility to change from short- to long-range transport modes and vice versa. An example of an interregional eHUB could be a train station that combines a large range of bus, tram, metro local, and intercity trains with a variety of (electric) shared mobility options for the last mile of travel.

2 Regional eHUB

This type of eHUB is defined by mid-range distances that can be covered with the offered public transportation connections. They often emerge as a combination of a local train station and park-and-ride facilities that include shared mobility services for the first or last mile of travel.

3 Local / Neighbourhood eHUB

This type of eHUB is characterized as an access point for first/last mile mobility. It is located in close range to specific arrival or departure points like residential areas or office buildings. The idea of the local eHUB is to reduce parking pressure and promote the use of micro-mobility and shared vehicles as an alternative to privately owned cars.

ehub type / characteristics	1 - Interregional	2 - Regional (central / peripheral)	3 - Local / Neighbourhood
Available Transport Connections	IC & local trains, metro, tram, bus	local trains, PT, car park	(PT), first / last mile
Inbound distance	●●●	●●○	●○○
Outbound distance	●○○	●○○	●○○
Shared ehub modes	●●●	●●○	●○○
	●●●	●●●	●●○
	●○○	●○○ / ●●○	●●○
P	●○○	●○○ / ●●●	●●○

Table 1: eHUB types and characteristics

Since each of the three types of eHUBS caters to different user groups and serves different kinds of use cases, their design and equipment should be planned accordingly, both in terms of mobility services (table 1) and additional features (table 2).

services / ehub type	Preferred	Possible
1 - Interregional	Ticketing Indoor waiting PT Information Information on other means of transport Taxi Lockers Cash maschine	Kiss & Ride Bike repair staffed service Smartphone charging Water Wifi
2 - Regional (central / peripheral)	Ticketing machine Covered waiting area PT Information Information on other means of transport	Kiss & Ride Taxi Unattended bike repair service Cash machine Water
3 - Local / Neighbourhood	bench	Ticketing machine Covered waiting area Unattended bike repair stand water

Table 2: eHUB types and additional services

Click here and watch the video

Click here and read more

Chapter 3

Location Selection

When it comes to assessing the quantity and the location of eHUBS, the pilot cities have followed different approaches. Some leaned more towards a data-driven approach, others engaged more actively with stakeholders such as the residents in a co-creative process. Overall, the process of selecting the right amount and the location of eHUBS can be divided into three categories: bottom-up, top-down or mixed.

The bottom-up approach

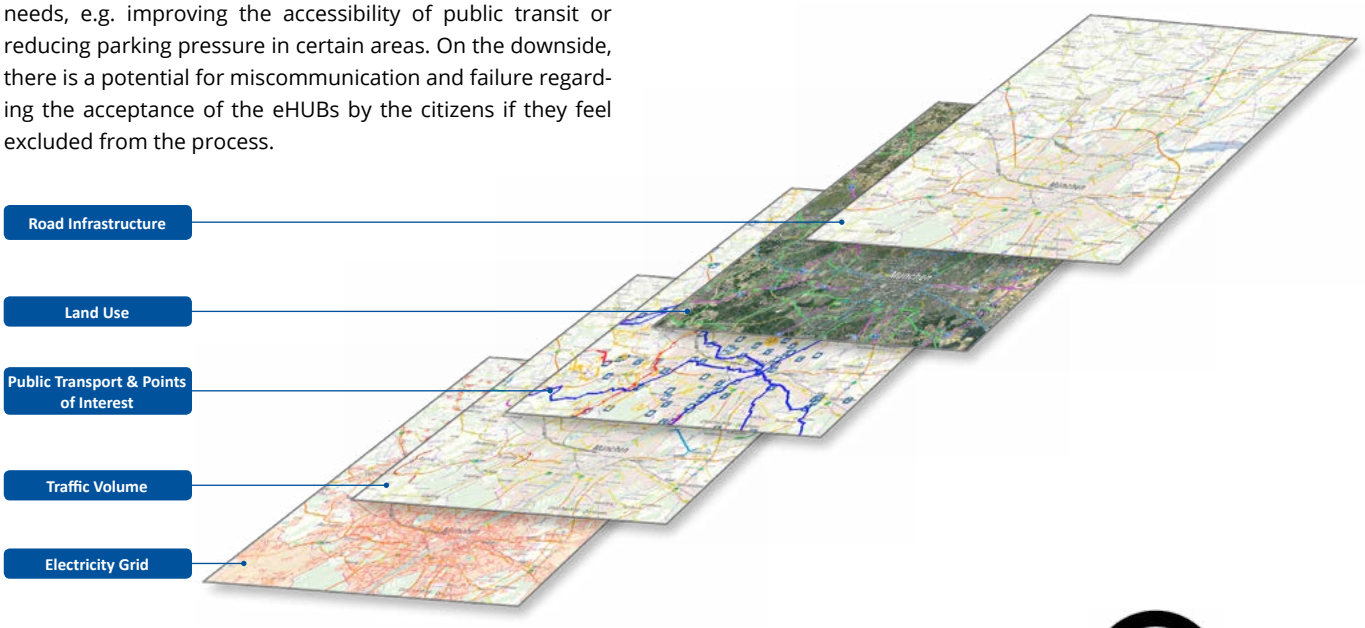
This approach is based on extensive involvement of the local residents. The focus lies on creating eHUBS in places where the potential users themselves expect to really need them. The bottom-up approach has the benefit of „naturally" creating interest as the potential users themselves get to propose locations and service offerings of the eHUBS.

The top-down approach

The top-down approach represents a data-led approach to planning eHUBS that takes into account several demographic (population density, age, average income) and spatial indicators for the the location selection process (see table 3). This allows local authorities to tailor the eHUB network to specific needs, e.g. improving the accessibility of public transit or reducing parking pressure in certain areas. On the downside, there is a potential for miscommunication and failure regarding the acceptance of the eHUBs by the citizens if they feel excluded from the process.

The mixed-approach

There is a lot of space for mixed methods that combine the strengths and/or validate the results created with one of the methods. For instance, you could use the mixed-approach to validate locations selected in a top-down process by presenting them to potential users in the neighbourhoods to receive feedback. You could as well use different approaches for a specific eHUB type (interregional/regional -> top-down --- neighbourhood/local -> bottom-up) or define some ‚must be' locations that are important for the overall mobility strategy and complement them with locations chosen by residents.
Naturally, there are always limiting factors like budget or availability of vehicles, regardless of the chosen approach.



"The approach taken was mainly a top-down approach where, by using information from the University of Delft and guidance from Manchester and Bury council and the mobility providers, potential locations were shortlisted. Following this, a consultation process took place with local councillors, ward members and members of the public who owned houses near the eHUB to get their feedback. Relying on a data-led approach to initially shortlist areas has the potential for acceptance of the vehicles. It is important to engage with citizens once you have a shortlist of potential locations that have been agreed on by the local authorities and mobility providers." (Transport for Greater Manchester)

Chapter 4

Procuring Shared Mobility Services

The procurement of Shared Mobility services is a crucial step in the implementation of eHUBS. Since Shared Mobility is a relatively new market and there is little experience that cities can rely on, each city has to find an individual approach to the procurement process. Naturally, the entire procurement process depends a lot on the size of the city, its budget and the services it tenders for. Generally, the total sum may easily exceed the treshold of European public procurement which can result in a long and tedious process.
In addition to that, the Interreg Project **Mobi-Mix** has identified several different approaches toward procurement based on a number of external factors.

The procurement matrix	Direct launch of RIP 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	+ +	+	+ / –	– –	+ / –
	Solution driven				
					Challenge driven

+ + very suitable + adequate + / – neutral – not suitable – – not suitable at all

Table 1: Procurement options for shared mobility providers (based on the Mobi-Mix Smart Mobility Guide)

Regardless of the procurement type you follow, it is worth noting that tendering is a complicated and complex issue. It is therefore highly recommendable to have the right expertise on board and appoint a procurement officer for the project team. When drafting the tender, it is important to sharpen the service level criteria in terms of quality, maintenance, monitoring, data sharing, third-party cooperation, and others. The tender should also include a detailed description of the desired services, as well as a clear definition of the responsibilities both of the city and of the Mobility Service Provider.

"We designed a framework contract for all mobility providers. Those who comply with our basic demands can apply for the tendering process. To get an idea of our demands as a city, I cite the following 1: all shared mobility providers should be electric 2: all shared mobility providers should be allowed on the Dutch roads 3: all shared mobility providers will share data with us (through CDS-M API) 4: all shared mobility providers will implement TOMP-API after we checked if the mobility providers comply with our set of demands to become part of the Menu Card eHUBS. After we've received a request for a BuurtHub in a new neighbourhood and we've checked all the formal boxes, we ask the mobility providers whether they are interested or not. The mobility providers who have shown interest become available for citizens to vote for (beside the option to vote for the transportation modes). Sometimes we also ask them to vote for their preferred location." (City of Amsterdam)

Click here and read more
Prototype Service Level Agreement

Chapter 5

Business Models for eHUBS

The eHUBS project has identified five business models for eHUBS

- **First/Last mile network:**
  Aims to improve the accessibility of public transit by offering last mile connections

- **Clustered shared mobility:**
  Aims at centralizing shared mobility services to create a recognizable place for shared mobility options and thereby stimulating their uptake

- **Point-of-Interest network (POI):**
  Seeks to provide convenient access to different POIs, thereby reducing parking pressure and congestion

- **Closed Network:**
  Caters to dedicated groups, e.g. employees at a business park or university students.

- **Hybrid Network:**
  Network of eHUBS providing extensive shared mobility modes (free-floating and stationbased). Aims to increase area covered by shared mobility services.

In case the business model doesn't work out as anticipated, it is always possible to alter the existing business model. In that case, it can help to be flexible both in terms of planning and infrastructure to respond to the circumstances and incrementally improve an eHUBS network. For example, virtual hubs or drop-off zones can be of added value: they help to make an eHUB network denser and are very flexible to implement and adjust.

Due to the nature of the Shared Mobility market (high volumes – low margins), small and medium-sized cities are faced with the **challenge of providing viable business opportunities** for Shared Mobility providers as the expected demand is lower. Naturally, it is not the cities' responsibility to ensure profitability for providers, but in order to facilitate Shared Mobility as an alternative mode of transport, small and medium-sized cities should expect to possibly have to (largely) **subsidize** the eHUBS services.

Small municipalities should expect to receive **little feedback for their tenders** and should plan their schedule accordingly. Since many shared mobility providers are start-ups that operate in a highly competitive market, it is not guaranteed that they will last when the market consolidates. Hence you should take into account that **operators might go bankrupt** and cease operations which puts you at financial risk and your residents at risk of losing a mobility offer. In fact, this is exactly what happened to pilot city Inverness which led to a postponement of the deployment of eHUBS. Therefore, you should do your best to examine the market and the financial situation of each provider as diligently as possible. In some cases, it might be worth considering operating your fleet yourself.

Click here and watch the video
Five prototypes of business models

Click here and read more
Scientific Paper on business models for eHUBS

Chapter 6

Digital Integration

For an eHUBS project integrating the new services into a digital data infrastructure is as important as installing the eHUBS themselves. Digital access to shared vehicles is an important requirement to ensure a good user-experience and acceptance of the eHUBS. But integration goes beyond that point. For municipalities, getting exact information about their transport infrastructure is key knowledge in order to make data-based decisions on future developments in the local mobility system.

Within the eHUBS project, two open-source data frameworks have been created by the project partners Amsterdam and Mpact and were considered data exchange standards: The City Data Standard – Mobility (CDS-M) and the TOMP-API (Transport Operator Mobility-as-a-Service Application Programming Interface).

TOMP-API

An API consists of a set of rules and standards that enables data to be transferred between different parties in a standardized way. The data exchange is a mandatory link that has to be established between transport operators and mobility-as-a-service (MaaS) providers. In a multi-modal mobility system, a whole lot of different services should be integrated. As a result, the use of different services is easy for potential users as they can book different services via one application.

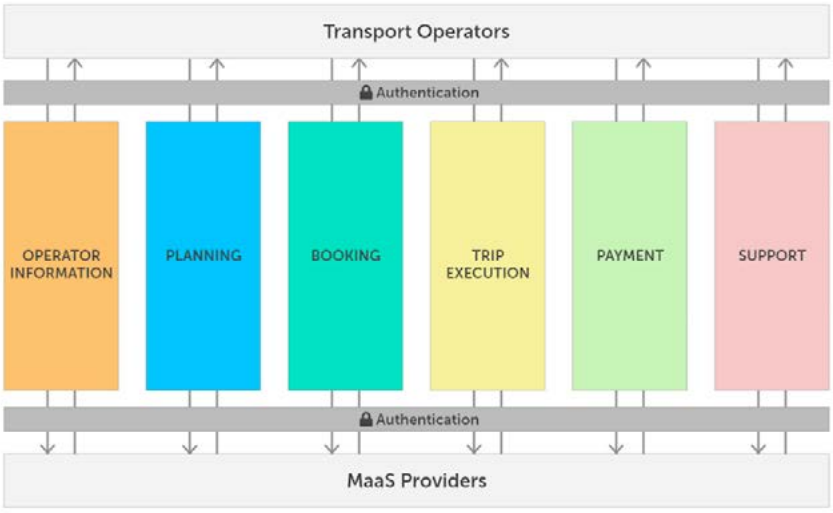


Table 1: TOMP-API

The TOMP-API framework is an open-source data-exchange project (work in progress) that aims to cover all the different stages of a trip made by a user and every usable mobility mode. The TOMP-API consists of six separate modules that can be combined for each individual use case.

Within the eHUBS project, the TOMP-API was used to create an eHUBS KIOSK, a platform that can be accessed at the eHUBS and assists the user in planning a shared mobility trip. For this use case, the modules Operator Information and Planning are needed, and the relevant data must be exchanged.

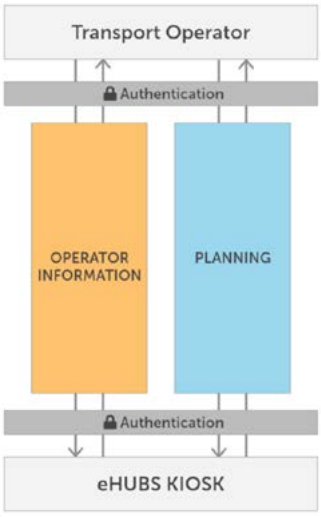


Table 2: TOMP-API modules

The Kiosk is an application that can be accessed from an info screen placed at an eHUB, e.g. as part of a totem. On the screen, as displayed in the pictures below, the users get information on mobility options near the eHUB and the shared mobility vehicles of the eHUB itself. In addition, information about the weather, POIs, or recent events in the municipality and more can be provided.

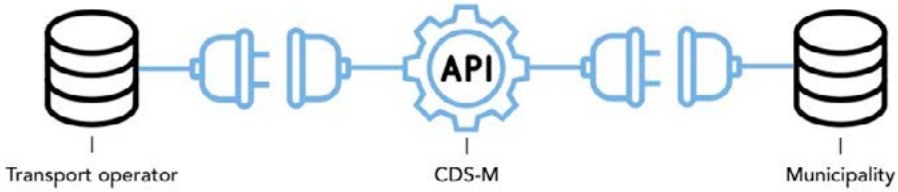
Table 3: Schematic illustration of a Shared Mobility Kiosk

CDS-M

Currently, there is a broad variety of data standards for the exchange of data between municipalities and mobility operators. As mentioned above, having a clear idea about the mobility behaviour of your citizens is important to design infrastructural changes in accordance with the needs of the citizens.
Like the TOMP-API, the City Data Standard (CDS-M) was created to fit the requirements of a transport system that includes Mobility-as-a-Service. The CDS-M is a data exchange standard that was created with a focus on the metrics that municipalities need and sets of "must-haves" of data that a transport operator/Shared mobility provider must share. The aim is to create a European data standard for MaaS. The City Data Standard for Mobility will eventually become a menu of data items that cities can request from mobility operators in line with a validated data standard.

The data, structured with the CDS-M, consists of two main parts, the metadata, and the body containing several measurements which are anonymized to protect the privacy of users. The metadata contains general properties about the data provider (transport operator). CDS-M will define mandatory properties but will leave room for optional properties that can be adjusted to the actual use case. The figure below displays the CDS-M Data Structure.
The body consists of a number of measurements, each having a location and time interval, e.g. trip information such as distance, trip time, etc., but also data about the shared vehicle fleet (vehicles in use, vehicles available, etc.). Also, there can be metrics added to the data batch that are required by your municipality.
There is a lot of analysis that can be done with the data. This includes the use of parking space, car reduction, demand for public space, modality-specific route development, clustering, curbside management, and many more. More information on the CDS-M can be found in the download section.
As the CDS-M is intended to be a European standard for MaaS-data exchange, every municipality is welcome to participate in the process and choose CDS-M as the working data framework.

Table 4: CDS-M



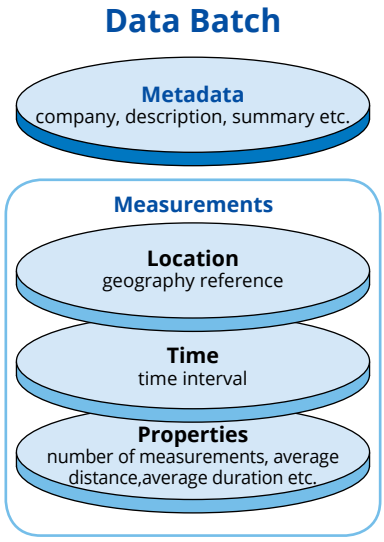


Table 5: Data batch according to CDS-M

Click here and watch the video
Webinar on CDS-M and TOMP-API by mpact

Click here and read more
Information on the CDS-M by the City of Amsterdam

Click here and read more
Information on the TOMP-API

Chapter 7

Operation & Maintenance

The extent to which you are involved in the operation and maintenance of your eHUBS project depends on the business model and the service level agreement with the providers. In any case, high-quality vehicles and service are an important prerequisite for the success of eHUBS. It is therefore recommended to pay attention to the robustness and resistance of the vehicles and infrastructure, even more so since the vehicles will be placed in public spaces, often without supervision or cover, and used by many different people throughout the day – even ones that don't treat the vehicles carefully. Hence, corrosion, theft, and vandalism pose potential risks. Since many of the shared mobility providers are start-ups, it is especially important to look closely at the quality of their products.

The pilot cities in the eHUBS project faced some unforeseen problems, especially regarding vandalism and damage done to the vehicles. There are some conclusions that can be drawn from their experiences. One is that social control is an essential factor, meaning that in highly frequented locations with good lighting vandalism tends to be less of a problem. The same applies to neighbourhoods that have been active in the deployment of eHUBS. It is therefore advisable to involve residents and other stakeholders from the beginning. Nevertheless, some pilot cities faced serious problems with vandalism and theft, forcing them to install Sheffield stands and (decoys of) CCTV systems. In some cases, vandalism-prone locations were shut down.

The cargo bikes are secured in docking stations and the eHUB is easily visible from the street

"Engage early with key stakeholders to help identify areas of anti-social behaviour. Having the input of the police from the early stages has also been very beneficial. Recruiting ambassadors to look after the mobility modes in return for free credits. Regular meetings with mobility providers and operators to understand if there are any issues with theft and vandalism. Regular spot checks to make sure the vehicles are ok."
(Transport for Greater Manchester)

Chapter 8

Monitoring and Evaluating the Uptake

The eHUBS process doesn't finish after putting the eHUBS in place. It is necessary to evaluate the performance of the hubs and take action according to the results: have we met our goals? What can be improved? How to tackle eHUBS that are not working as expected?

In terms of performance evaluation, the quality aspect is considered an important factor. As Shared Mobility is still a rather new phenomenon in many places and potential users need to become acquainted with the functionalities of eHUBS, the threshold for their (first) use must be as low as possible and the user experience as hassle-free and pleasant as possible. Therefore, quality of services and user satisfaction are the driving forces of the eHUBS and must be diligently monitored and continually improved. There are several service quality criteria that should be taken into account and assessed regularly:

Availability of the vehicles.
In order for eHUBS to be a real alternative to private cars, they need to be reliable without the need to plan trips ahead. Therefore, the availability of the vehicles must be ensured.

Quality of the vehicles.
Make sure that the vehicles at your eHUBS are robust and yet ensure a pleasant travel experience. If users find their ride to be too tedious, inconvenient, or uncomfortable, they are very unlikely to return to an eHUB.

Cleanliness of the vehicles.
Especially since COVID-19, users have higher expectations in terms of cleanliness and hygiene. Also, nobody would like to sit and ride around in another person's junk.

Safety of the vehicles.
Make sure that the vehicles are in a safe condition and that critical parts (brakes, lights, etc.) are regularly checked.

Proximity of the eHUBS/vehicles.
eHUBS can only be a real alternative to private cars if they serve specific travel needs, e.g. access to public transport modes. The location of the eHUBS should therefore be continuously monitored.

Easy Access.
The booking and payment process should be as transparent and hassle-free as possible to ensure a seamless travel experience. The digital integration of the eHUBS transport modes in terms of Mobility-as-a-Service can play an important role here.

Most of the above-mentioned indicators are the responsibility of the mobility service providers and should therefore be part of the service level agreement. However, it is advisable to regularly assess whether the current equipment of the eHUBS meets the needs and wishes of the users or whether certain transport modes should be added or replaced. One way to do so is to analyse the data of the mobility service providers.

Table 1:
The eHUBs process

Another way to gain insights are user surveys. Depending on the information you would like to collect, they could either follow a quantitative or a qualitative approach. In general terms, quantitative surveys are more suitable if you would like to gain representative insights on user habits, qualitative surveys are more suitable if you want to learn more about the motives for (not) using eHUBS or if you want to gather detailed feedback. Additionally, it is possible to test and validate certain modifications to the eHUBS – e.g. in terms of visibility or recognizability – by creating a „control-hub" without any interventions and analyse the usage of both eHUBS.
It is advisable to monitor the development of the modal split and ask study participants which means of transport they would have chosen instead of eHUBS. With this information, it is possible to calculate the savings in CO_2-emissions.

Click here and read more
Methodology to calculate
CO_2-emissions

Chapter 9

Communication & User Engagement

Travel routines and mobility patterns are habitual behaviour rather than conscious choices. Only few people decide which mobility option to choose for every trip they make. We usually stick to our long-established habits – and those are very hard to alter. eHUBS aim at replacing car trips and car-dependencies to create cleaner, greener and healthier cities that provide more (public) space for their citizens.

But how can car drivers be motivated to change their transport choices? What are the motives for and the barriers against trying out a vehicle from an eHUB? In general, the research suggests that car owners view the prospect of having eHUBS in their city positively. However, they show little interest in using them themselves, simply because they don't see a reason to do so, as they are satisfied with their current travel behaviour: using their own car.

To make eHUBS attractive for car owners, policymakers and shared mobility providers face the challenge of altering car owners' cost-benefit analysis of their preferred mode of transport. Simply put, the chance of car owners altering their travel behaviour increases as the perceived benefits of using shared electric mobility go up and their perceived costs of shared electric mobility go down, or vice versa.

There are several ways to engage potential eHUBS users and to address their cost-benefit analysis: The reasons that establish this perception can, by and large, be categorized as **gain-focused**, **hedonic** and **normative** motives.

Gain motive:
Car owners are more likely to try eHUBS when they believe that this will improve their personal situation, e.g. by renting a shared vehicle when their own car is not available at the moment.

Hedonic motive:
This motive correlates, among other things, to how much fun it is to use the shared modes of eHUBs.

Normative motive:
Many car owners acknowledge the advantages for the environment of shared e-mobility in comparison to their private (conventional) cars.

These motives can feed into a communication/user-engagement strategy for eHUBS. Firstly, regarding the **gain motive**, car owners are more likely to try eHUBS when they believe that this will improve their personal situation. A gain motive can be reinforced both financially and practically. With regard to the financial aspect, introductory discounts could lower the threshold for the first use. In addition, car owners should be made aware of the true price of owning and using a private car as opposed to renting a vehicle from an eHUB. Car owners tend to underestimate the costs associated with owning a car (fuel, parking, insurance, taxes, maintenance). Adressing the financial aspect might convince car-owners to use a shared vehicle, especially those who scarcely use their private car.

eHUBS partner HITRANS in Scotland has added shared mobility offerings to its existing brand. This makes it easy for customers to get started with the new offers.

Regarding the practical aspect, the expected and experienced hassle can be a barrier for car owners to trying out eHUBs. To increase the chance of a car owner trying a vehicle from an eHUB, reduce the expected hassle by ensuring that trying out shared mobility is as easy and enjoyable as possible. Hence, it is crucial to simplify the registration, offer a clear and accessible step-by-step manual on how to get started, and provide information on questions that customers may have. Also, emphasizing the practical benefits of eHUBS and not being subject to the obligations associated with car ownership (e.g. parking pressure, periodic vehicle inspection) might be useful.

Secondly, regarding the **hedonic motive**, car owners are more likely to try eHUBS when they associate trying out with positive feelings or pleasure. Therefore, it is important to ensure that using shared mobility is an enjoyable and pleasant experience. Many car owners might be curious to find out what it is like to drive an electric vehicle or to try using shared mobility. Communication to car owners about eHUBS could tap into this curiosity and contain messaging that is focused on the fun of trying something new. In addition, the hedonic motive can be made more salient by trying out eHUBS at events that people like, for example by making suggestions of fun places to go and see on the first ride (e.g. going on an e-cargo bike to the beach or taking an e-bike outside the city to cycle through a nature reserve).

Third, regarding the **normative motive**, car owners are more likely to try eHUBS when they believe that it will be beneficial to others/society. Emphasising the environmental benefits of eHUBS creates positive associations. Showing how the uptake of eHUBS by car owners may result in cleaner air, less pollution, less traffic congestion and a smaller contribution to climate change will increase the appeal of trying out an eHUB.

These motives help stimulating the uptake of eHUBS. Additionally, there are several steps to follow to set-up a successful communication campaign.

1 Recognizability

The first stage consists of creating a recognizable brand around the eHUBS concept. This means establishing a brand identity, i.e. having a recognizable logo, using matching colours and fonts. The purpose of this stage is to create a range of consistent communication and branding tools so that target groups immediately identify and recognise the eHUBS brand and what it stands for. For example, the City of Nijmegen created a brand identity for their eHUBS in four steps:

- Creating a logo that is easily recognized

- Using filters of these colours to show the shared mobility modes are connected to the eHUBS initiative

- Choosing matching colours that strengthen the message

- Creating features supporting the eHUBS setting

2 Raising Awareness – inform about the eHUBS concept

After creating the brand identity, it is important to make the users aware of the eHUBS concept, so that they will become interested in its services and eventually consider using them. At this stage, it is necessary to identify the target groups you want to reach, so that the communication interventions are adapted to their specific needs. Various interventions are possible, ranging from social media posts to large advertising campaigns.

Intervention	Target group/area
Social media posts (advertised)	Specific target groups (e.g. residents of a certain neighbourhood/young people/people interested in environmental organisations)
Social media posts (non-advertised)	General public, people following the authority's social media channels
Press Releases	In local, regional or national press, general public
Information leaflets	At specific neighbourhoods/During specific events
Dedicated website or webpage	General public
Large advertisement campaign (e.g. billboards)	General public

3 Gaining interest

The third phase consists of illustrating potential use cases for eHUBS for specific target groups. The aim of the interventions related to this stage is to trigger people's interest so that they start to make use of eHUBS services. The interventions should show why the services could be useful for a particular user group, which benefits they will bring, and which inconveniences they can eliminate. At this stage, it is advisable to instruct possible users on how to use the transport modes available at eHUBS, e.g. through try-out days or explanatory videos.

Click here to watch the video
Webinar on behavioural change at electric mobility hubs

Click here to watch the video
Webinar on successful communication campaigns for eHUBS

Click here and read more
Toolkit: Behavioural knowledge for the promotion of electric shared transport

Click here and read more
Project deliverable: eHUB Brand Campaign Materials

Chapter 10

Policy Recommendations

The policy framework for Shared Mobility should serve two purposes: It should **enable** Shared Mobility Providers to operate in a certain area and thus provide sustainable travel options. On the other hand, it should focus on **discouraging** the use of privately owned cars and dissuade people from purchasing cars in the future. The creation of alternative mobility offers alone does not necessarily lead to a reduction of undesired mobility, i.e. individual car use. Of course, in order for eHUBS to have a positive effect on the modal split and consequently on CO_2 reduction, use of public space as well as other negative externalities of car-centric mobility, the alternative mobility choices must be as attractive, accessible and affordable as possible. However, a regulatory framework for eHUBS cannot only concentrate on providing favourable conditions for shared mobility services, but it should also incorporate measures that reduce the convenience of private car use and ownership. Car use must become less attractive in order to prompt a behavioural change in terms of mobility choices. Thus, a mix of „carrot-and-stick" or „push and pull" measures is desirable.

Car-free neighborhoods offer a higher quality of life for their residents

Therefore, the regulatory framework for eHUBS should be designed according to policy objectives regarding (shared) mobility as well as liveability and sustainability. The regulations can be related to infrastructure adaptations, data sharing, use of public space, geo-fencing, free parking permits and service level requirements. Most of these measures are directly targeted at shared services and in many cases should be part of the **service level agreement** between the mobility service provider and the local authority (or responsible entity for the deployment of eHUBS).

Next to that, several **flanking policies** can have a positive indirect impact on Shared Mobility and eHUBS. On a local level, **regulating parking spaces** can be a significant lever for Shared Mobility. As long as parking private cars is as affordable and convenient as it still is in many places, there is little incentive for car owners to dismiss their cars and consider alternative modes of transport. Consequently, **reducing parking spots, putting prices on parking spots, or raising the prices where fees are already in place** makes car travel both more tedious, expensive and less attractive. In the same vein, local authorities could **limit the parking permits for residents or raise the costs of residential parking permits** to make people reconsider their car possession.

Related to that, another way to encourage the use of Shared Mobility Services and eHUBS respectively could be achieved by reallocating public space. This could entail **creating car-free or car-restricted areas** and hence make car trips more inconvenient. On the other hand, safety concerns are an important reason for people not to use micromobility options. **Extending or improving the local bicycle infrastructure** can have a positive impact on the perception of micromobility as users feel more safe and more confident on the road.

Generally, regulations should be discussed that require the car user to **pay the true cost of using a car** (use of public space, emissions, noise, etc.) by implementing measures like road pricing or city tolls. Furthermore, in certain countries, the car is part of the remuneration of employees as employers can offer it as a fiscal benefit. This does not provoke people to think about their car ownership and use, as it is paid for by the employer. On the contrary, this can provoke the purchase of bigger and more energy-consuming cars that one would otherwise not want to afford. In a broader perspective, these situations still account for high car use and ownership on a national level which leads to an unfavourable position for alternatives such as shared mobility and public transport.

Summary

1. Start with a pilot

A pilot can allow regulatory flexibility and make it easier to communicate with the public. However, once people become accustomed to eHUBS, dismantling them after a pilot can cause irritation.

2. Engage with potential users

Go out and talk to potential user groups in the vicinity of a potential eHUB! They know best what kind of mobility offer they need and what problems need to be solved.

3. Cooperate with Mobility Service Providers

Don't shy away from engaging with Mobility Service Providers. They know their products best and know what works well and what does not.

4. Engage with other Stakeholders

Try to get other Stakeholders (e.g. employers, local businesses, public transport authorities, universities) on board as they can provide significant leverage with regard to the uptake of your eHUBS.

5. Digital Integration is key!

Seamless and hassle-free mobility experiences are essential to bring about a behavioral change. Providing a digitally integrated mobility offer is an important piece of the puzzle and a key enabler for multimodal and intermodal travel. Also, in order to make informed decisions, having access to the right data is indispensable!

6. Changing mobility behaviour is hard!

For car drivers to change their mobility behaviour providing alternatives may not be enough. Consider other measures to discourage car use.

7. Invest in Usability

Potential users, especially habitual car users, will only consider eHUBS a useful mobility alternative if their (first) use is convenient and hassle-free. Therefore, you shouldn't underestimate the importance of UI/UX Design.

8. Make it visible

Try to create a recognisable brand or use an established one. This makes it easier for potential users to understand what they are dealing with and how to use your eHUBS.

9. Deploying eHUBS might take more time than you'd expect

Make sure to allow enough time in your action plan for stakeholder management and other participatory processes. Also, many value chains are still disrupted and the delivery of essential parts of your eHUBS – especially the vehicles – can take a lot longer than usual.

10. eHUBS can be a tool! They are not an end in themselves.

eHUBS may be the right tool to achive your policy goals, but they may as well be counter-productive if „clean trips" (walking, cycling, public transport) are replaced by „dirtier" trips (e-Scooters, e-Cars). It is important to monitor your eHUBS closely and check them critically.

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