

Welcome to the eHUBS Project!

eHUBS Webinar
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Interreg

EUROPEAN UNION

North-West Europe

eHUBS

European Regional Development Fund

THEMATIC PRIORITY:



PROJECT
AREA



Project objectives: eHUBS will demonstrate that shared and electric shared mobility (e-bikes, e-scooters, e-cargobikes, and electric cars) are affordable and attractive alternatives to private cars. eHUBS will contribute to less emissions, less car use, and to the critical mass needed for the business case of electric and shared mobility

What are eHUBS?

- Physical clusters of shared and electric mobility modes
- Tailored to local conditions & needs: neighbourhoods, city centres (commercial, business, educational, cultural, tourist, etc.), or transfer locations
- Can be linked together in a network, as well as connected to the existing PT-network
- Integration with transport system through MaaS



What do eHUBS look like?

- On-street
- Bring together e-bikes, e-cargo bikes, e-scooters and/or e-cars and their charging infrastructure
- Can vary in size, type of location, and type of offer
 - Small, in residential areas
 - Bigger, close to stations & major public transport interchanges
- Always where supply and demand meet





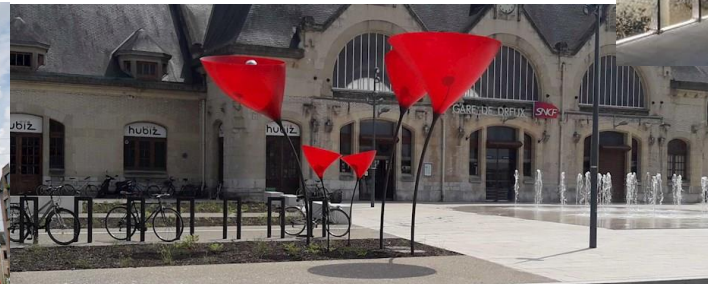
Why did we start eHUBS?



- Started the idea early 2018, approved January 2019
- Many fragmented and unimodal initiatives with shared and electric mobility using public space
- Approaches/rules/policies per city differ
- Several business cases from mobility providers, mostly enough volume is key for success; in need for public space
- eHUBS tries to solve the chicken and egg dilemma: the more eHUBS, the more public space is needed, but once in operation, fewer cars and less space required

eHUBS objectives

- 92 eHUBS in 7 pilot cities
- 2,400 Shared e-bikes, e-cargobikes and other LEV's, 670 shared EV's
- Toolkit for other cities to implement eHUBS in 20 more replication cities
- Modal shift and reduced CO₂



Partnership



**7 pilot cities, 2 e-mobility providers,
3 universities, 4 network organisations**

Shared mobility providers will be selected by the involved cities, mostly through tenders

Intermediary results

- State of the art report on shared e-mobility
- Heat maps based on data analysis
- Technical and functional requirements
- Joint methodology to select locations
- Strategic and operational plans per city
- Ten recommendations to stimulate the uptake of shared electric mobility hubs.
- Prototype of a Service Level Agreement
- Report identifying 5 prototypes of business models for eHUBS
- **Contribution to standard API (TOMP)**

Cities prepare for deployment

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- Lot of internal procedures (spatial, legal, procurement, adapting policies)
- Shared mobility providers contacted
- Locations determined in most cities
- Bottom up approach: up to citizens to suggest locations, some first neighbourhoods have submitted proposals, exact locations will be defined by citizens
- Contracts preparation with shared mobility providers
- Communication campaigns prepared
- First eHUBS will be in use as of June 2020, first ones in Nijmegen, shortly followed by Leuven
- Number of eHUBS will grow oncoming months
- Piloting until early 2022
- Project will end mid 2022

More information

Website: <https://www.nweurope.eu/projects/ehubs>

Linkedin: <https://www.linkedin.com/company/ehubs-nwe/>

Twitter: https://twitter.com/eHUBS_NWE

Newsletter: sign up!



Thank you!

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State of the art report

- Micromobility 1-3km, mostly 2km (e-cargo longer)
- Peak usage: e-bike: commuting
- User profile: Male (greater gender parity for e-scooters), young and middle-aged (25-40), frequent PT and bike users
- Factors influencing demand: price, availability, attitude, PT or own car, accessibility PT
- Impact: congestion, emissions, public space

Heat maps

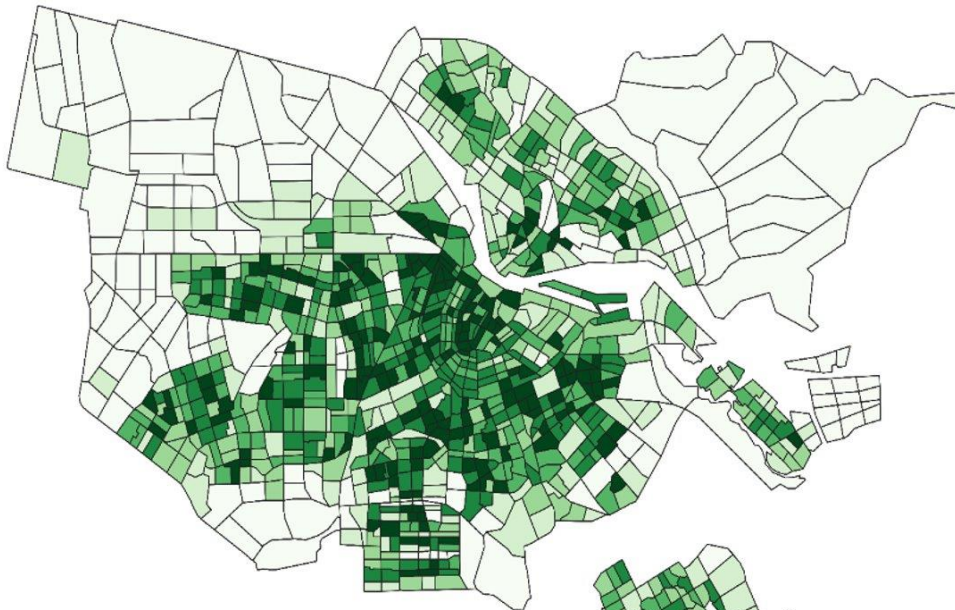
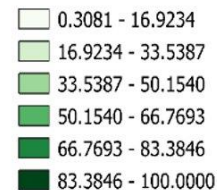


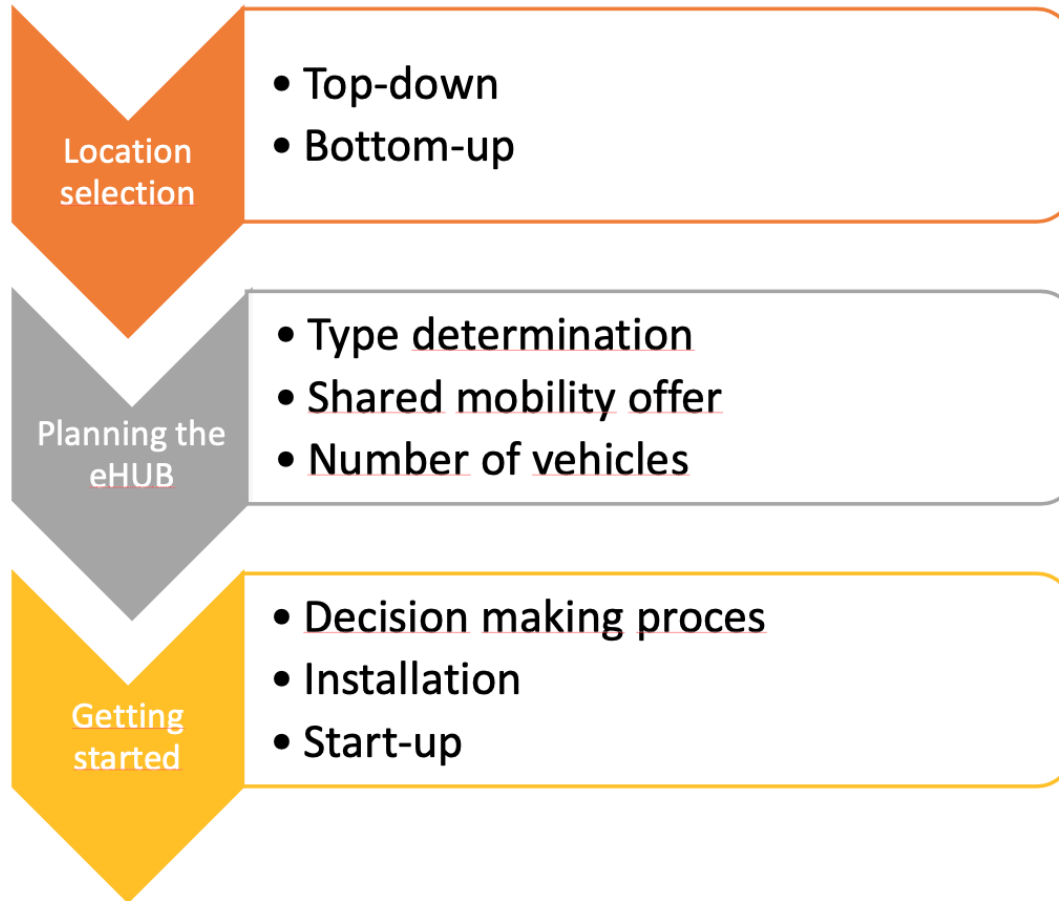
Table 11 Models used for calculating shared mobility potential score: Amsterdam

Variable	Operationalization	Unit	EV sharing	E-bike sharing
Population	Population density	Number per 0.01 km2	0.001	0.12
Gender	Percentage of male		5.414	
Age	Percentage of 15-65		1.781	
	percentage of older than 65		-0.476	
Income	Average income	Thousand euro		0.047
Bus stop	Bus stop density	Number per km2	0.252	
Metro/tram stop	Metro/tram stop density	Number per km2	0.387	
	Presence of metro/tram stop	Dummy variable (1 or 0)		0.82
Train station	Presence of train station	Dummy variable (1 or 0)	0.445	1.69
PT passengers	PT passenger density	Number per km2		0.0144
Secondary road length	Secondary road density	Km per km2	0.109	
Local road length	Local road density	Km per km2	1.23	
Bike path length	Bike network density	Km per km2		0.08
Workplace	Job density	Thousands per km2		0.03
Restaurant POI	Restaurant density	Number per km2		0.0045
University	Presence of university	Dummy variable (1 or 0)	0.144	
Shopping center	Presence of shopping center	Dummy variable (1 or 0)	0.226	
Recreational center	Presence of recreational center	Dummy variable (1 or 0)		1.15
Office area	Percentage of office area		1.416	

ehubs



Methodology



eHUBS Requirements



Definition of an eHUB with different types

Type 1: Interregional

Type 2: Regional

Type 3: Local / Neighbourhoods

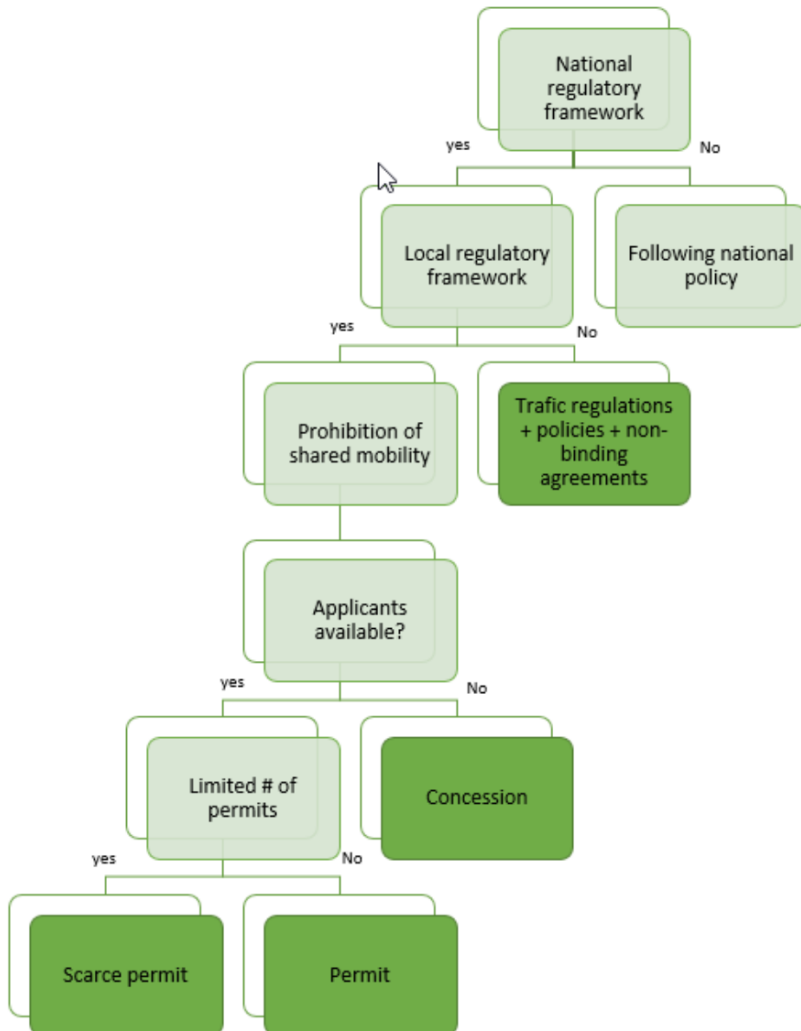
Per type what kind of vehicles

Look and feel of the eHUBS

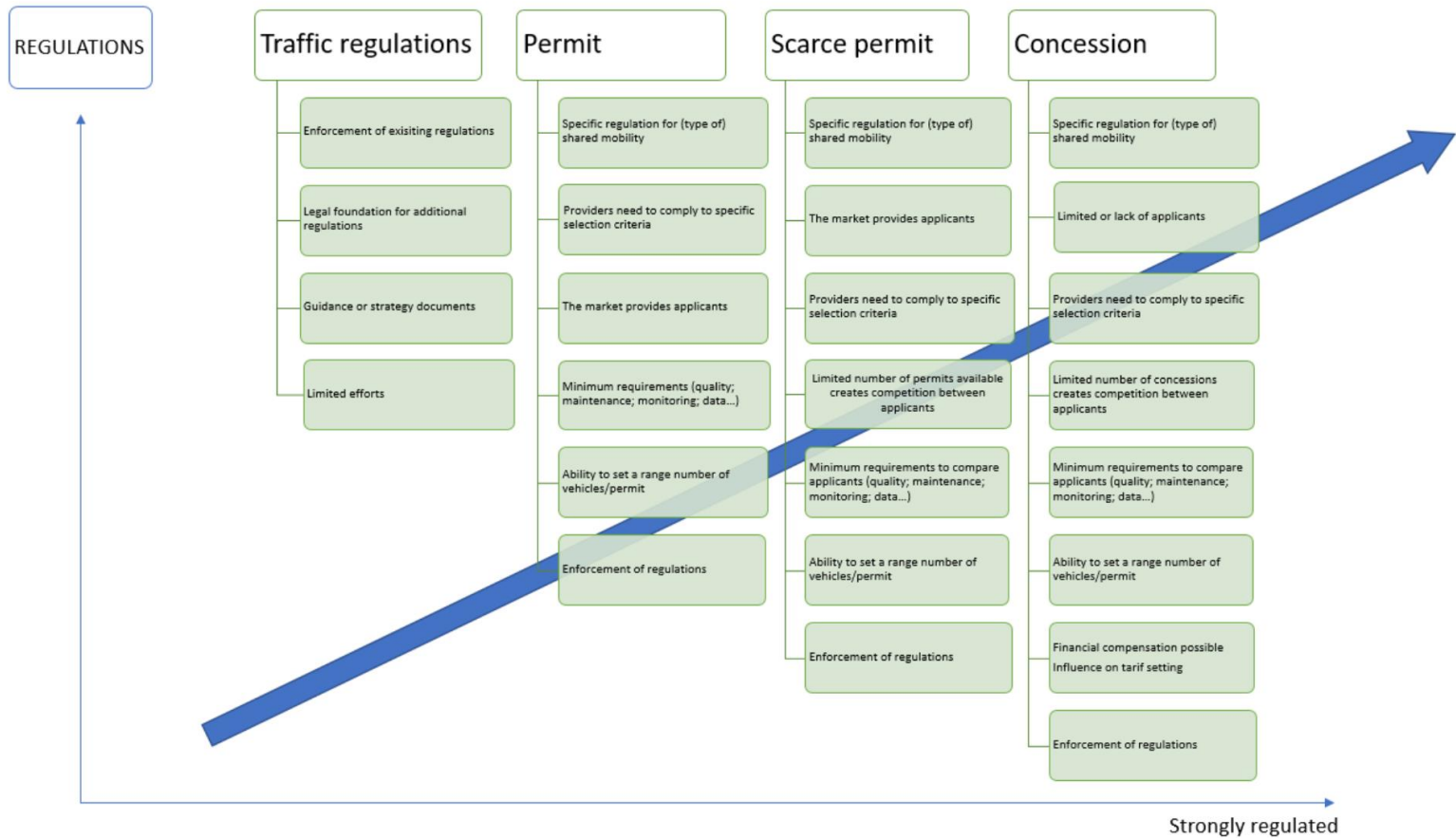
Infrastructure needed

Preferred services + additional services

SLA: choice model



SLA: Levels of regulation



Checklist for SLA

- Permit or concession or
- How many permits per vehicle type
- Minimum / maximum amount of vehicles
- Role of city (location, infra, communication)
- Selection criteria
- Quality of vehicles
- Maintenance
- Data (TOMP API!)

- Make people receptive to eHUBs before they encounter them.
- Optimize accessibility and minimize the hassle of using an eHUBs.
- Foster citizens belief in their ability to use eHUBs by providing them with the necessary knowledge and skills.
- Reach target group by overcoming attentional bias.
- Break existing habits and (car) routines through prompts, incentives or feedback.
- Design surroundings to stimulate use of eHUBs
- Frame eHUBs such that its associated with the needs and desires of target group.
- Optimise fluency of the messaging.
- Use social influence mechanisms to promote eHUBs.
- Invest in customer trust.

Business models

First-/Last mile network

- Fine mesh network
- Dense areas
- Commuters
- Availability is key
- Integrated within public transport
- Infrastructure for private vehicles

Local cluster network

- Centralising shared mobility modes
- Local neighbourhood hubs with additional services
- Can be difficult to sustain as there are not many trips during the day

Network connecting point-of-interests

- Create alternative transportation options towards highly congested/high demand areas
- Tourists, visitors
- Opportunity for cooperation with POI owner

Hybrid network

- Complementary network of shared mobility (freefloating + station-based)
- Centralising maintenance and redistribution
- In dense areas, there can be geofenced zones; in less dense areas there can be more flexibility

Closed network

- Ensured availability of shared mobility modes at business parks/real estate developments
- Opportunity of investment by private actor by reducing parking requirements

Poll questions

How many eHUBS will the project deliver with how many shared LEV's and EV's in how many cities?

Answers

- a. 10 eHUBS, 200 LEV's and 500 EV's, 10 cities
- b. 92 eHUBS, 2400 LEV's, 670 EV's, 7 cities
- c. 92 eHUBS, 4400 LEV's, 300 EV's, 15 cities
- d. 92 eHUBS, 2700 LEV's, 670 EV's, 6 cities

Poll questions

What will you get as a replication city?

Answers

- a. Workshop
- b. Toolkit
- c. Site visit
- d. All of the above