Welcome to

1 & 2 April 2025 Brussels

Newt steps towards cities as green and connected nodes for urban mobility

SCALE-UP
User-Centric & Data Driven Solutions for Connected Urban Poles

MOVE 21

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

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Welcome from Yannick Bousse, CINEA

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MOVE21 and SCALE-UP Joint Final Event
Welcome to the second day

Yannick Bousse, Project Adviser, CINEA

Wednesday 2 April 2025

European Commission

ACHIEVING THE EXPECTED IMPACTS

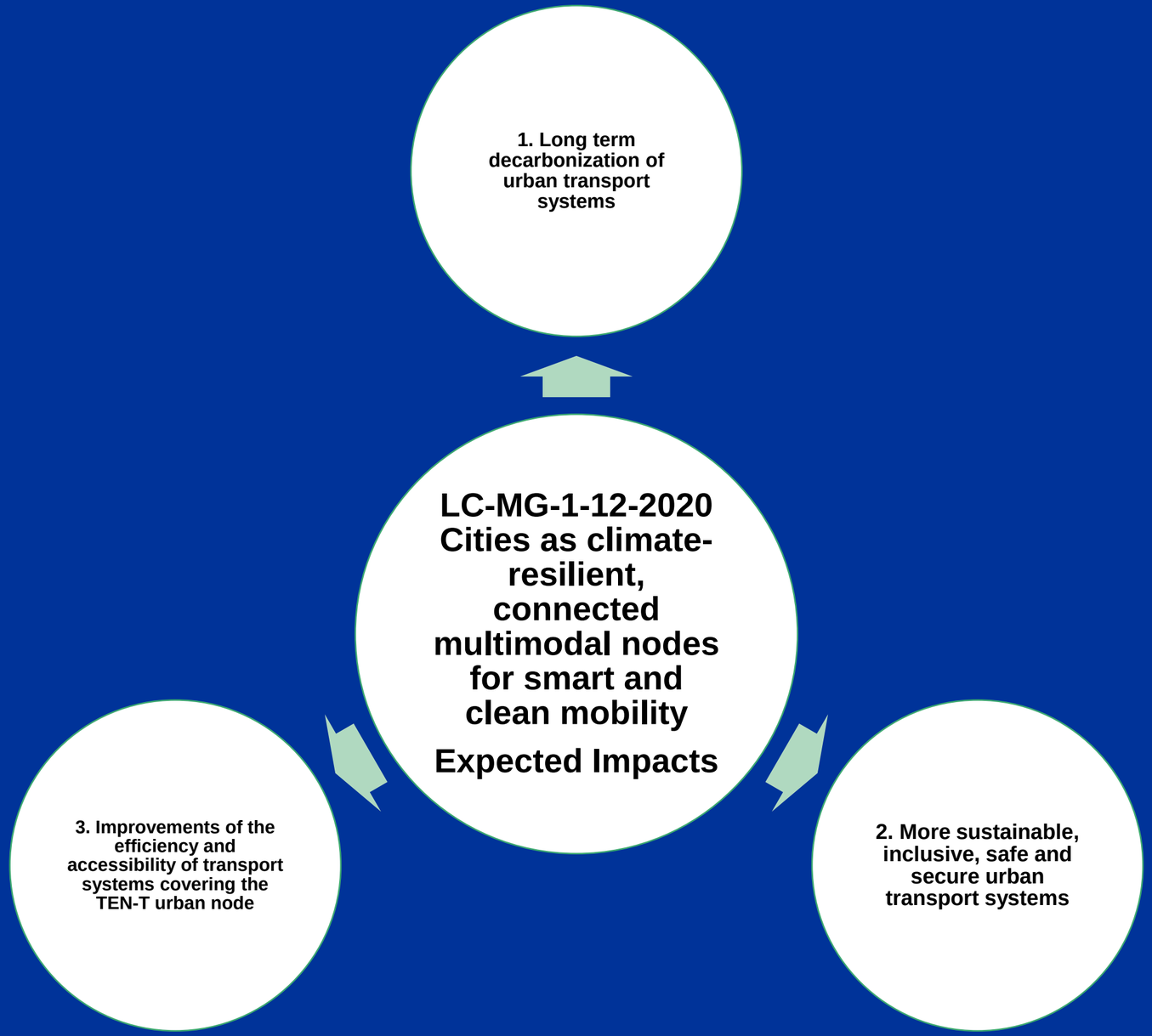
LESSONS LEARNED

FUTURE RESEARCH AND INNOVATION FOR MULTIMODAL NODES

ACHIEVING THE EXPECTED IMPACTS

Cities as climate-resilient, connected multimodal nodes for smart and clean mobility

LC-MG-1-12-2020


1. Long term decarbonization of urban transport systems
LC-MG-1-12-2020 Cities as climate-resilient, connected multimodal nodes for smart and clean mobility
Expected Impacts
3. Improvements of the efficiency and accessibility of transport systems covering the TEN-T urban node
2. More sustainable, inclusive, safe and secure urban transport systems

1. LONG TERM DECARBONIZATION OF URBAN TRANSPORT SYSTEMS

SCALE-UP

- Improved integration and increased usage of multimodal hubs.
- Reducing car dependency by **33% to 42%** of users that would have otherwise traveled by car.

MOVE21

- **13-18%** reduction in CO_2 emissions.
- **12-16%** reduction on in NOx emissions.
- **8-12%** reduction in PM2.5 air pollution.
- More than **100** innovations upscaled across different categories (such as technological, social, business, governance, service).

2. MORE SUSTAINABLE, INCLUSIVE, SAFE AND SECURE URBAN TRANSPORT SYSTEMS

SCALE-UP

- **5%** increase in trips due to Functional Urban Area wide bike-sharing system.
- **4%** decrease in car use for school commutes.
- **77% to 81%** satisfaction with implementation and expansion of pedestrianised zones.

MOVE21

- A modal shift to sustainable modes of **18 - 21%**.
- Public Transport increase **3 - 6%**.

3. IMPROVEMENTS OF THE EFFICIENCY AND ACCESSIBILITY OF TRANSPORT SYSTEMS COVERING THE TEN-T URBAN NODE

SCALE-UP

- Upscaling of multilevel governance by implementing regional SUMPs.

MOVE21

- New micro mobility hubs created.
- Improvements in existing multimodal hubs.
- New public-private collaboration schemes.

LESSONS LEARNED

LESSONS LEARNED SCALE-UP

- Showed the importance of integrating different layers of a multi-modal mobility system (Physical, Data and Human).
- Showed how solutions on city level can be scaled-up to a Functional Urban Area, and other nodes on the TEN-T network.
- Showed the importance and impact of a city-led project on urban nodes policies on local, regional, national and European level.

LESSONS LEARNED MOVE21

- Demonstrated the potential for reducing GHG emissions and increasing the modal share of sustainable modes, if measures are upscaled.
- Through private-public and public-public collaborations, mobility hubs have included socio-economic services and more sustainable modes.
- Policy impacts on local, regional and national levels in line with the New Urban Mobility Framework.

FUTURE RESEARCH AND INNOVATION FOR MULTIMODAL NODES

FUTURE RESEARCH AND INNOVATION FOR MULTIMODAL NODES

Multimodality

- Increasing the **inclusivity and accessibility** of multimodal hubs with end-users in mind.
- Increasing the **climate resilience** of multimodal passenger hub infrastructures and services.

Behavioural Change

- Highlighting the importance and potential of **active modes**, such as cycling and walking, that also contribute to **health benefits**, such as fighting cancer.
- **Innovative procurement** as a tool for changing transport behaviours.

FUTURE RESEARCH AND INNOVATION FOR MULTIMODAL NODES

Urban Nodes

- Improving the transport offer in **peri-urban areas**.

Transport planning and skills

- Re-assessing **needed skills for future transport and land use planners** with greater focus on interdisciplinarity.

Thank you

Yannick BOUSSE, yannick.bousse@ec.europa.eu

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Next steps towards cities as green and connected nodes for urban mobility

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Data and digital integration

Stijn Vernaillen, City of Antwerp

Jan Buytaert, Port of Antwerp-Bruges

Tariq van Rooijen, TNO

Nuno Bunto, CTO, MIXMOVE

Kristian Brink, CEO, Urban Sharing

Stella Aaltonen, Project Manager, City of Turku

Soledad Pérez-Galdós, Head of CRTM Innovation Center, CRTM

Moderated by:

Jorge Alfonos Kurano, Project Manager, Universidad Politecnica de Madrid

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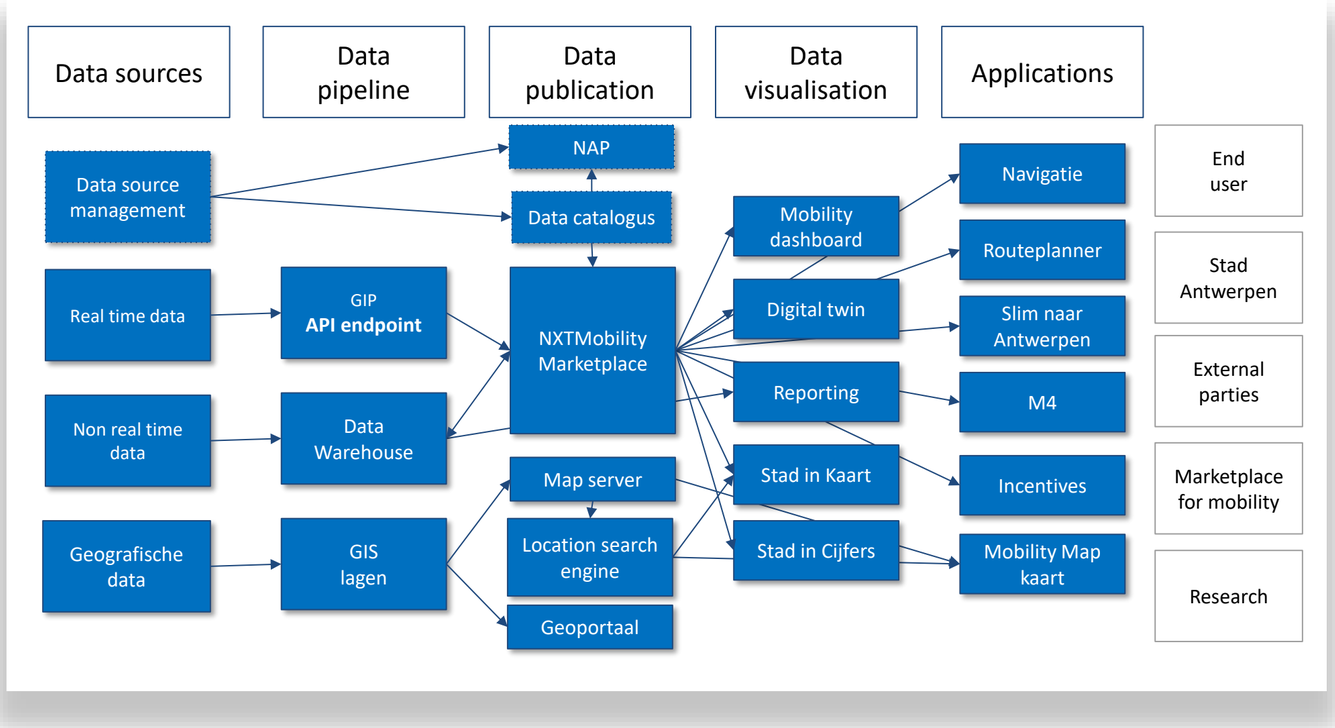
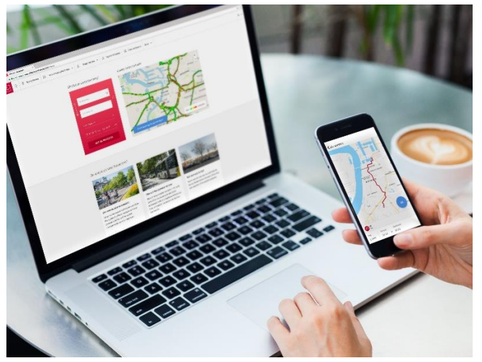
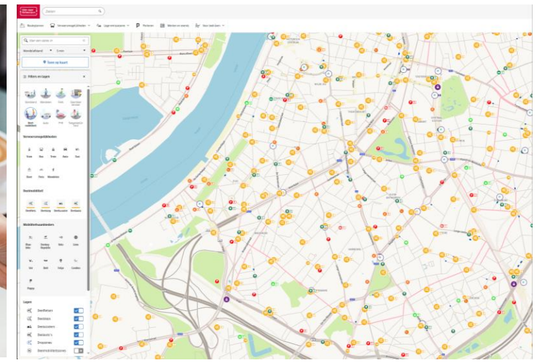
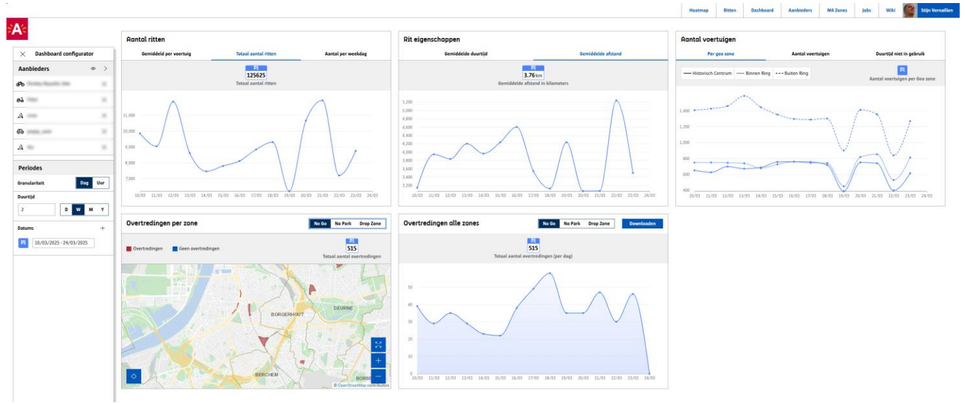
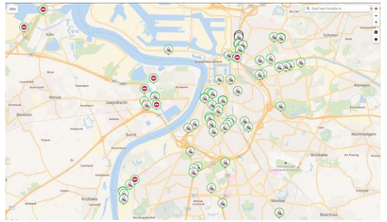
Opportunities & lessons learned











Custom development + inhouse knowledge = freedom of implementation

Freedom to scale and collaborate

Lower dependence on big tech players

Potential for Eurostack?

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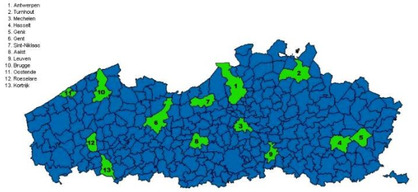
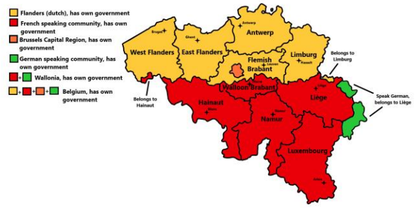
Challenges & pitfalls

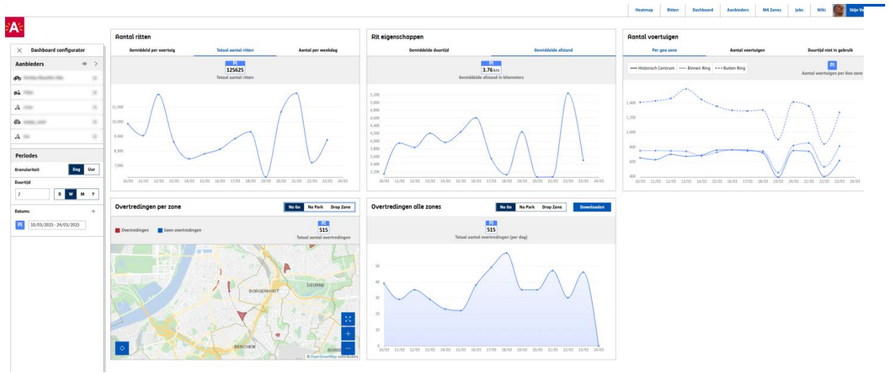
Different requirements per city/region/…

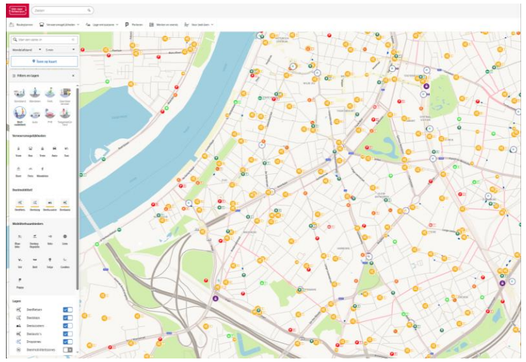




Simplicity vs high detail

Different purpose, different needs





Perceived correctness

Data is indicative, not necessary reality

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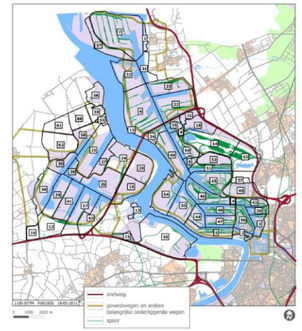
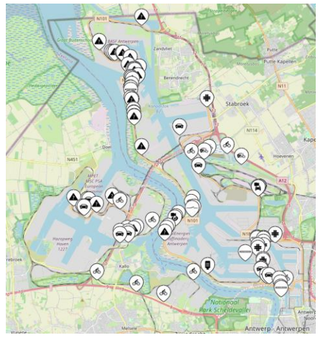
There is a lot of mobility data out there



Port of Antwerp Bruges



lantis bouwen aan verbinding

AGENTSCHAP WEGEN & VERKEER

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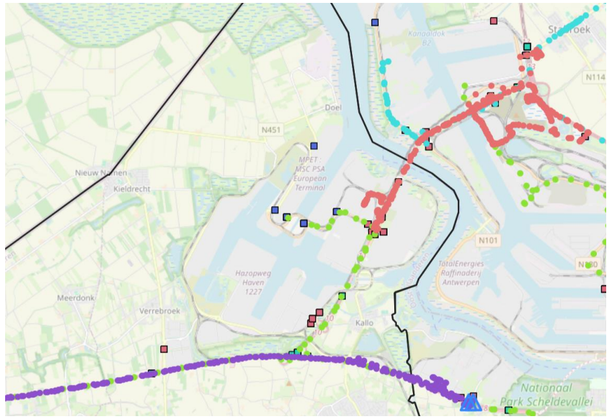
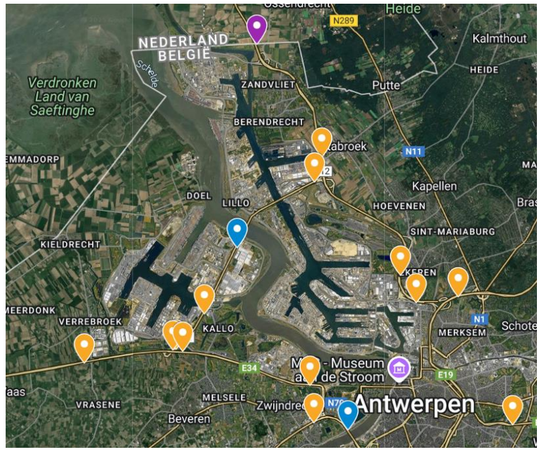
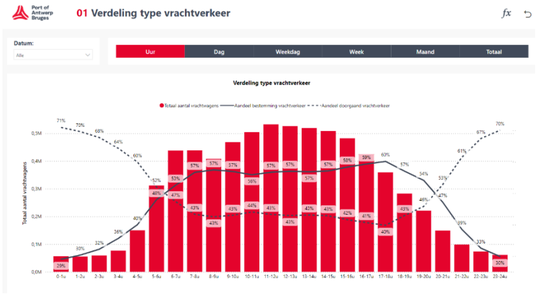
Challenges

- Willingness to share
- Data quality
- Definitions
- Legislation







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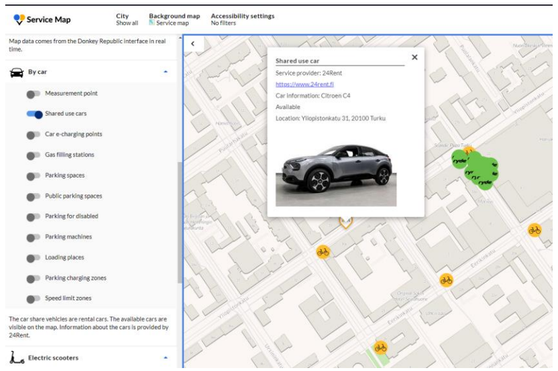
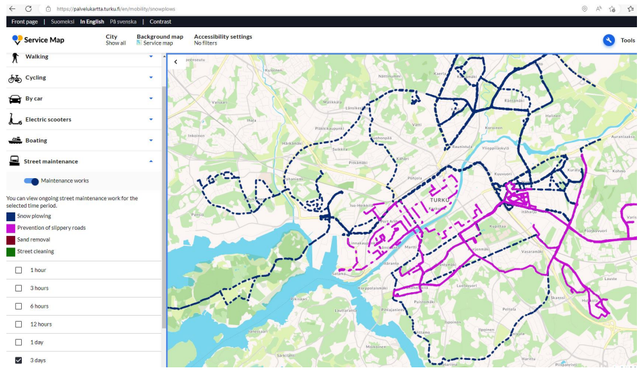


Multimodality



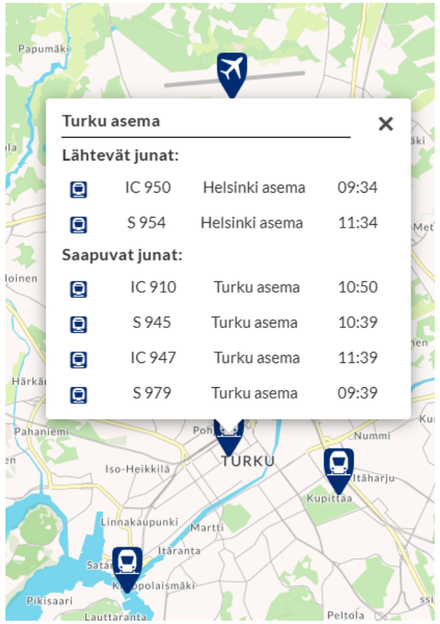
Real time data

Open source code
Open data

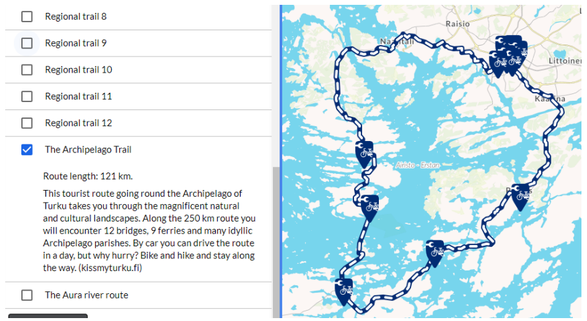
https://github.com/City-of-Turku/smbackend

Now, forever, Turku.

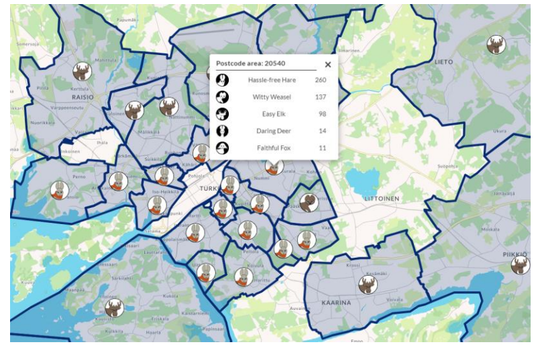
Mobility map



Timetables



Services, routes



Questionnaires,
animal test results

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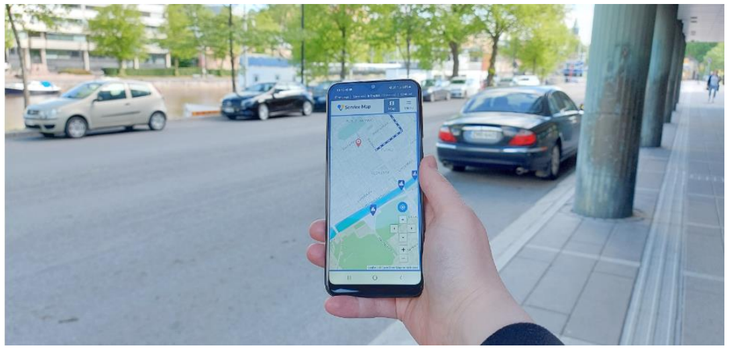
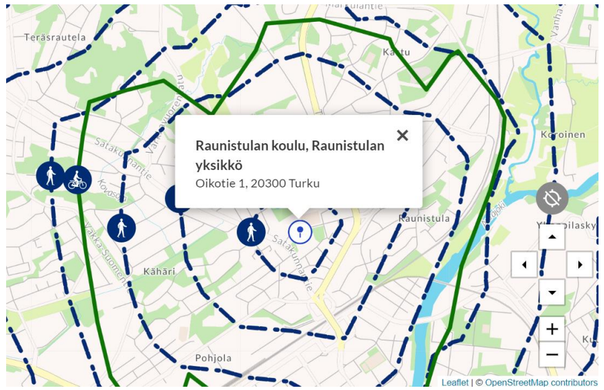
Challenges

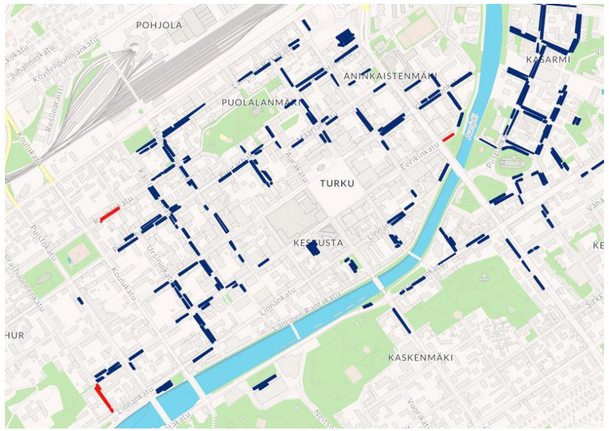
- Data needs
- Idea of one map solves it all
- Data quality
- Service providers willingness to share
- User-friendliness



User in focus



School accessibility



Real time street parking

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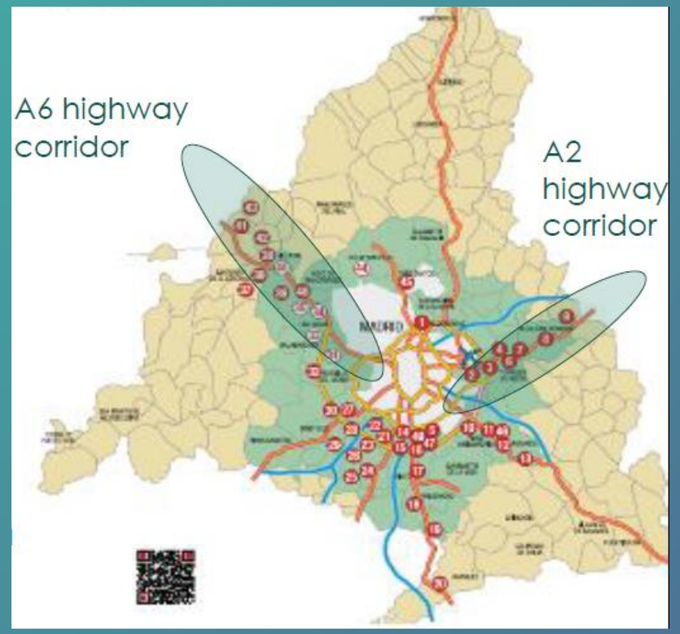
Next steps towards cities as green and connected nodes for urban mobility

“Data & Digital integration ”

M4: Data driven mobility management and MaaS in the Madrid metropolitan area

Measure objective: **create and test a MaaS app** in the Madrid Region as a pilot in collaboration with the technology partner **HaCon**, who developed the app and **UPM** leading and evaluating the trial with 200 selected participants.

GOAL: promote alternative means of transport among car drivers from peripheral areas and foster modal shift from the private car to public transport and shared modes.
USER OBJETIVE: commuters from peripheral areas who make their trip fro home to work in private vehicle.



Proveedores

- Transporte Público
  - Metro de Madrid
  - Renfe Cercanías
  - EMT
  - CRTM
  - Metro Ligero
  - BiciMad
  - P&R
- Privados
  - Zity
  - Free Now

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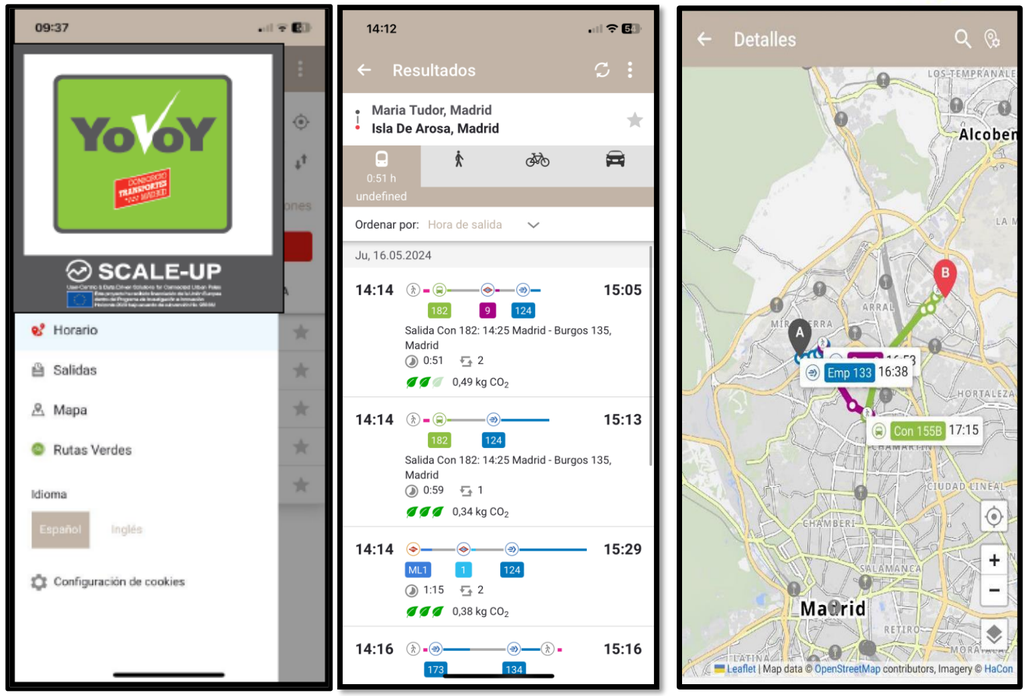
DATA INTEGRATION GOOD PRACTICES

- Existence of the **regional transport authority** (CRTM) to negotiate **phased integration** (static to partial real-time coverage) from various private operators.
- All **PT operator information** in the region available, 70% mobility operators.
- **90%** users have Mpass (transport card) for all PT modes e
- **Route planner** that unifies static/real-time data from multiple modes
- **Multimodal trips**: combinig PT modes with walking, cycling, or car and park&ride options



LESSONS LEARNED

- **Integrated payments** and **real time information** in future deployment
- **Reliable** cartographic and route information. Importance o **accurate transport information** (lines, timetables, stops)
- Clarity, **easy to use** and understand, friendly
- **Customizable** features available
- **Importance of field trial & Incentivise end users**

TEST PLAN: 200 participants for 2 survey rounds (before/after effect of app use). 10-15 participantes for Focus Group

FIELD TRAIL: first case when a new travel app is tėsted in peripheral areas among **regular car users.**

RESULTS & KPI´s: frequency of car use has decreased significantly after the pilot

- Participants (75%) used the app to check PT schedule and (91%) used the app to combine PT modes.
- Users search **for fast and direct options.** The **price is not as important, users can pay more if it is fast and direct.**
- Sustainability is not a concern

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Key results and reflections on KPIs

Annika Kunnasvirta,
Turku University of Applied Sciences

Anna Ibraeva,
Universidad Politécnica de Madrid

Freya Vandaele
Traject

Julia Peleikis City of Hamburg

Suzanne Green City of Gothenburg

Ragnhild Dahl Wikstrøm
City of Oslo

Moderated by:

Evelyn De Wachter, TML

Dr Maria Morfoulaki, CERTH

Dr. Kornilia Maria Kotoula, CERTH

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Unlocking Green Mobility Key Results and Monitoring Insights

Beyond numbers: Understanding the impact of MOVE21
Multimodal Hubs in Strengthening Sustainable Urban Mobility

Dr. Kornilia Maria Kotoula & Dr Maria Morfoulaki, CERTH/HIT

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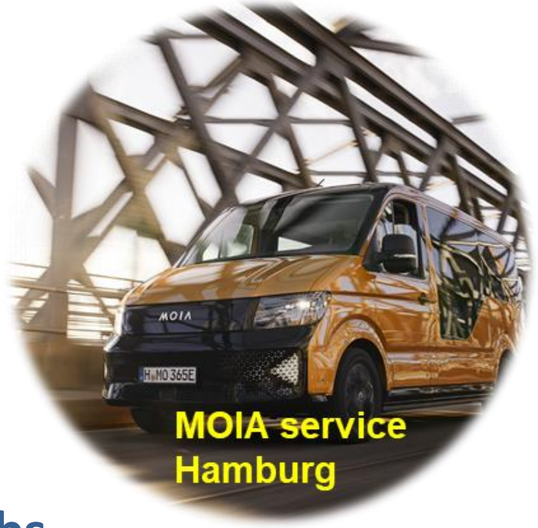
MOVE21 innovative solutions at a glance

Combination of passenger and freight mobility services



Implementation of mobility hubs

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MOVE21 innovative solutions at a glance

Implementation of neighbourhood hubs, micro depots & automated micro hubs for goods' deliveries

Establishment of Mobility Hotels

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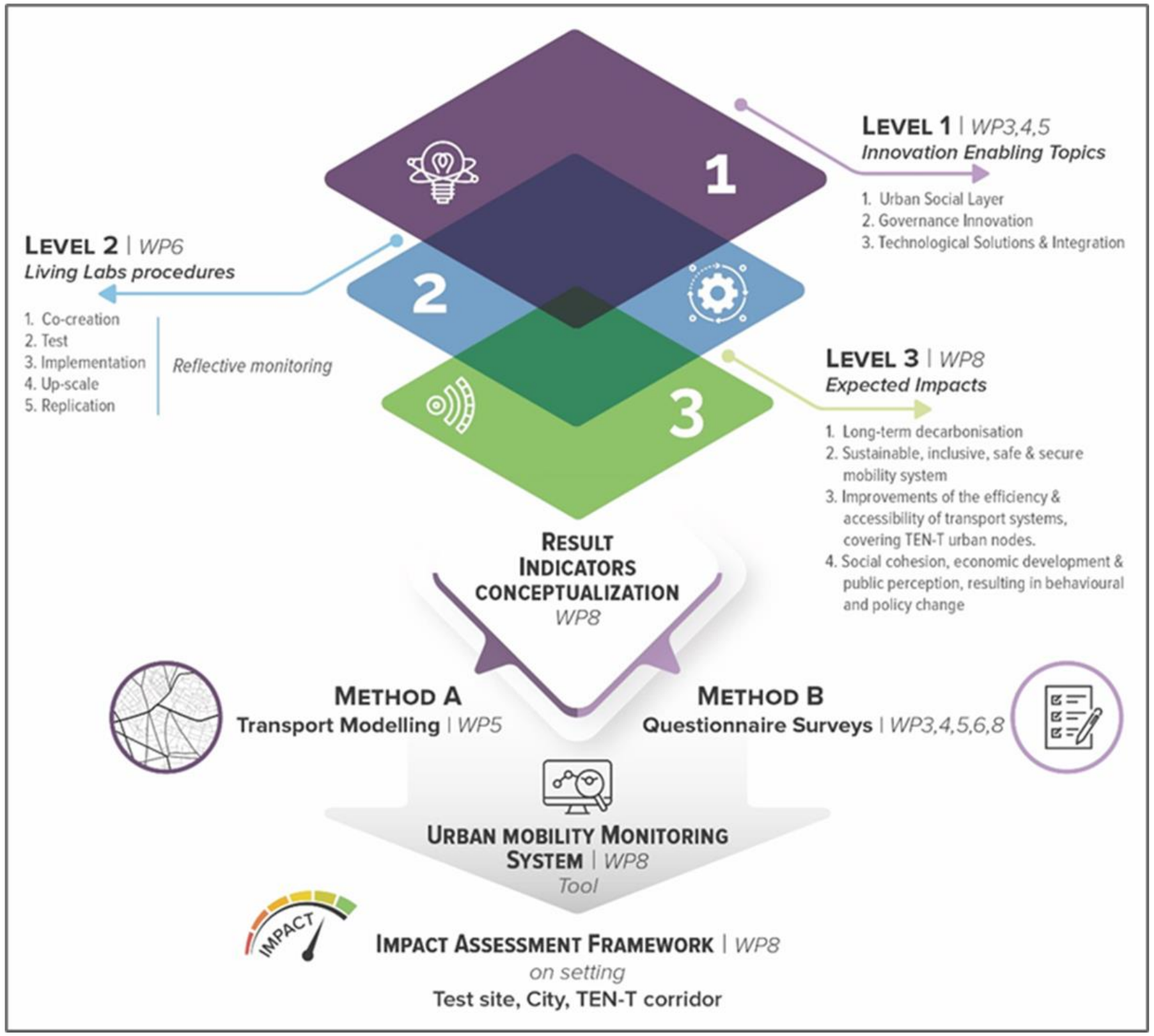
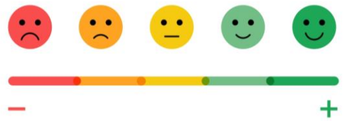
* Impact Assessment Methodological Approach



** Monitoring and Calculating tools

- Qualitative Questionnaire Surveys to cities' representatives



- Quantitative Questionnaire Surveys to real and possible end users of hubs
- Quantitative Questionnaire Surveys to freight operators
- Quantified Outcomes of measures implementation (Logbooks)

- Digital Twins simulation model
- Multinomial Logit model

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*** Basic MOVE21 KPIs

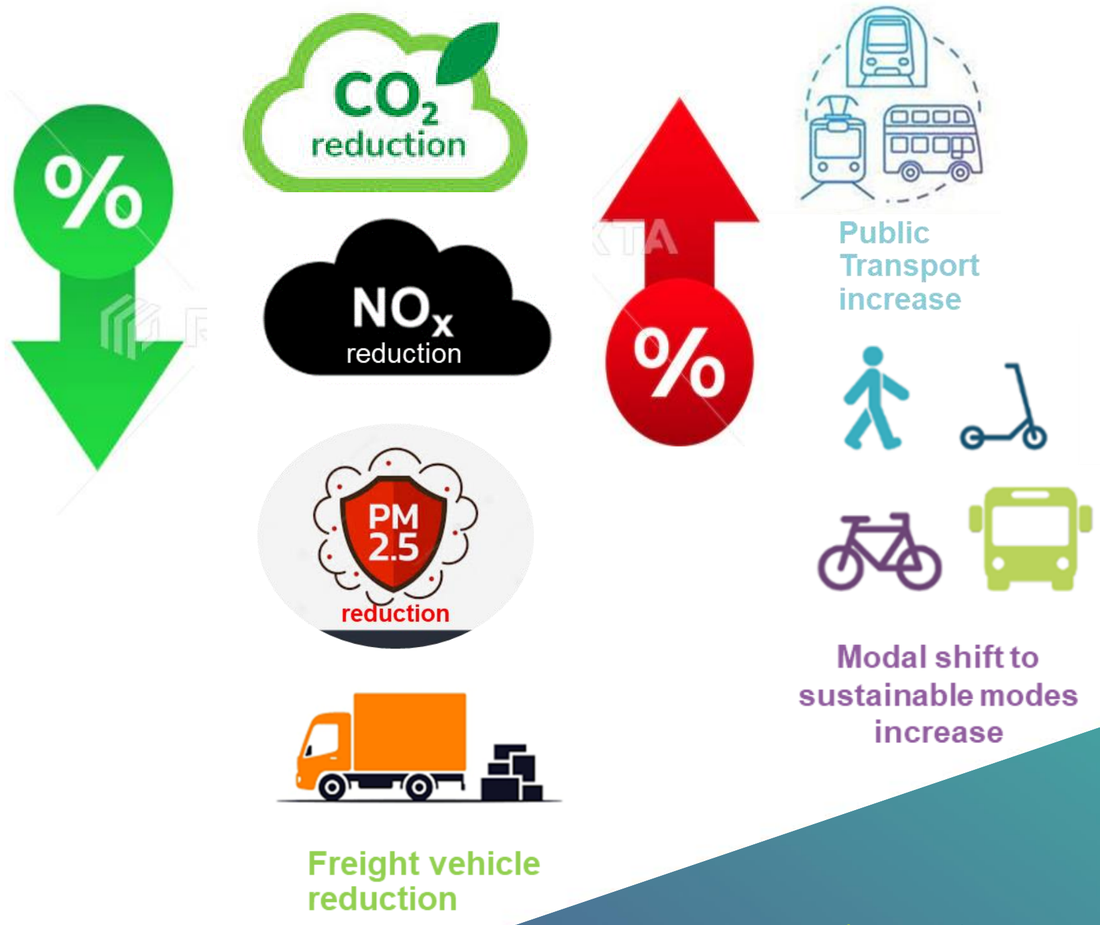
LEVEL 1
INNOVATION-ENABLING TOPICS

- No of MOVE21 Social Innovations
- No of MOVE21 Governance Innovations
- No of MOVE21 Technological Innovations
- No of MOVE21 Service Innovations

LEVEL 2
LL & RC PROCEDURES

- No of Policy Decisions
- No of Governance Decisions
- No of MOVE21 Business Models
- No of New Collaboration Schemes
- No of Strategic Plans

LEVEL 3
IMPACT-ORIENTED RESULT INDICATORS



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Next steps towards cities as green and connected nodes for urban mobility

SCALE-UP
User-Centric & Data Driven Solutions for Connected Urban Poles

MOVE 21

* LIVING LABS
11 MOVE21 measures - 36 solutions - 75 innovations

LEVEL 1
19 Social Innovations
10 Technological Innovations
15 Service Innovations
14 Governance Innovations
13 Business models innovations
4 Interoperable systems

LEVEL 2
20 Collaboration schemes
10 Business Models
4 New or updated policy decisions
27 Commercial decisions
40 Administrative decisions
10 Strategic Plans

** REPLICATOR CITIES
12 MOVE21 measures replicated - 23 solutions - 52 innovations

LEVEL 1
12 Social Innovations
4 Technological Innovations
10 Service Innovations
12 Governance Innovations
12 Business models innovations
2 Interoperable systems

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Next steps towards cities as green and connected nodes for urban mobility

*** Environmental and traffic impacts - Level 3

Results are based on data collected through QSs to users and possible hubs' users of three MOVE21 hubs

- Similar concept for the hubs
- Similar provision of services
- Different characteristics and needs

Klippan, Gothenburg

- located in urban area, 2km from city centre
- frequent and well-connected PT service
- residents can use micro mobility services
- transfer point for people commuting to peri urban areas

Kaltenkircher Platz, Hamburg

- located near residential area and the Kaltenricher PT stop of high frequent bus line
- improved walkways and additional infrastructure facilitate seamless transfers to PT
- residents can use shared mobility services
- transfer point for people commuting to peri urban areas

Urban city centers

Primary goal: to encourage residents reduce private vehicle use and swift towards multimodal transport options

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*** Environmental and traffic impacts – Level 3

Results are based on data collected through QSs to users and possible hubs' users of three MOVE21 hubs

- Similar concept for the hubs
- Similar provision of services
- Different characteristics and needs

Groruddalen, Oslo

- located over 10 km from the city centre
- limited access to the PT network
- residents walk more than 15 min to reach a PT stop
- car dependency is higher compared to the Oslo municipal average

Suburban areas

Primary goal: facilitate a modal shift by offering P&R and B&R services

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MOVE 21

*** Environmental and traffic impacts - Level 3

Results are based on data collected through QSs to freight operators and DT simulation results

Holstenstraße, Hamburg

- Multi functional-neighbourhood hub
- combining social uses with commercial logistics
- social kiosk for food donations hot meals and clothing
- consultancy kiosk
- logistic micro depot – transhipment point for parcel shipments transported on the “last mile” using cargo bikes

KAIA Mobility Hotel, Oslo

- situated in an area designated as a future zero-emission zone
- one-stop shop for vehicle purchase, financing, service and maintenance
- battery swapping station
- small-scale warehouse

Nordstan Mobility Hotel, Gothenburg

- Situated in the shopping center in the heart of central Gothenburg
- zero-emission micromobility hub with multiple functions
- shared fleet of vehicles and bikes for service providers,
- battery swap station for micromobility operators
- Cargo bike hub with consolidation of goods and last mile delivery

Primary goal: to facilitate and enable greener urban logistics in the centre of the cities

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MOVE 21

*** Environmental and traffic impacts - Level 3

13% Oslo
16% Gothenburg
18% Hamburg

12% Oslo
14% Gothenburg
16% Hamburg

Public Transport increase

3% Oslo
5% Gothenburg
6% Hamburg

Modal shift to sustainable modes increase

18% - 21%

Freight vehicle reduction

12.5% Oslo
14% Gothenburg
10% Hamburg

12% Oslo
12% Hamburg
8% Gothenburg

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MOVE 21

Multimodal hubs' main impact on Sustainable Urban Mobility

MOVE21 demonstrates that a transformative effect can be achieved on urban mobility, logistics, and environmental sustainability.

- Multimodal mobility hubs implementation and operation
- Digital integration
- Sustainable logistics solutions

in MOVE21 cities, revealed a significant contribution in

- reducing emissions
- optimizing transport efficiency
- fostering socio-economic growth

MOVE21 main passenger mobility measures evaluated and appear to have the potential to generate the aforementioned impact, focus on the introduction of multimodal hubs in areas where residents from rural and interurban areas can access services such as Park & Ride, Park & Bike, or Bike & Ride

Similarly, freight and urban logistics efficiency can be significantly enhanced through the introduction of innovative logistics solutions.

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MOVE 21

SCALE-UP integrated evaluation findings

User-Centric & Data Driven Solutions for Connected Urban Poles

Evelyn De Wachter & Dirk Engels
Transport & Mobility Leuven (TML)

Freya Vandaele & Celine De Bock, Traject
Mari Luz Brownrigg-Gleeson & Anna Ibraeva, UPM
Annika Kunnasvirta & Katariina Kiviluoto, TUAS

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MOVE 21

3 urban nodes: Antwerp (BE), Madrid (ES), Turku (FI)

28 mobility measures in 5 intervention fields

- MULTIMODAL
- DATA
- CLEAN, SAFE, INCLUSIVE
- BEHAVIOUR
- GOVERNANCE

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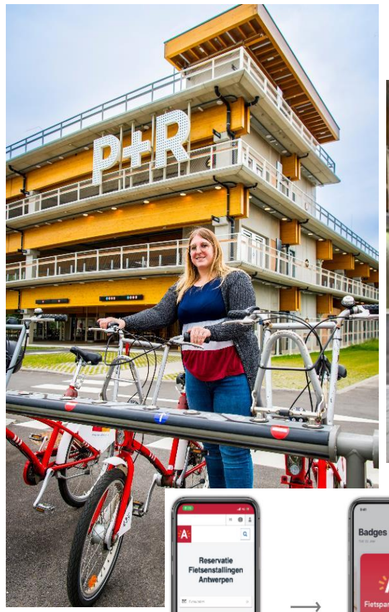
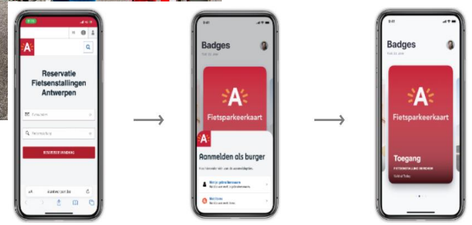
Multimodal

Network of multimodal hubs in the Antwerp FUA





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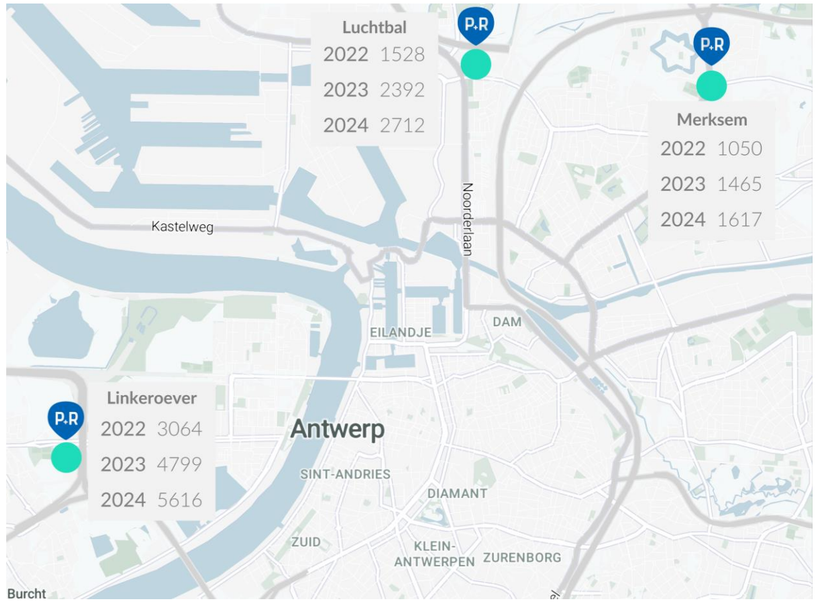
Multimodal

Network of multimodal hubs in the Antwerp FUA

Average number of users per week



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MOVE 21

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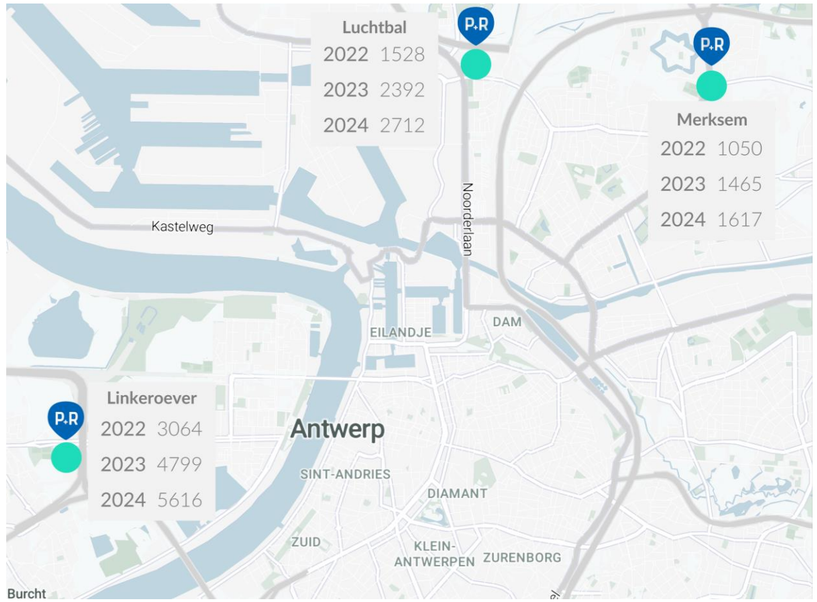

P&Rs Madrid region

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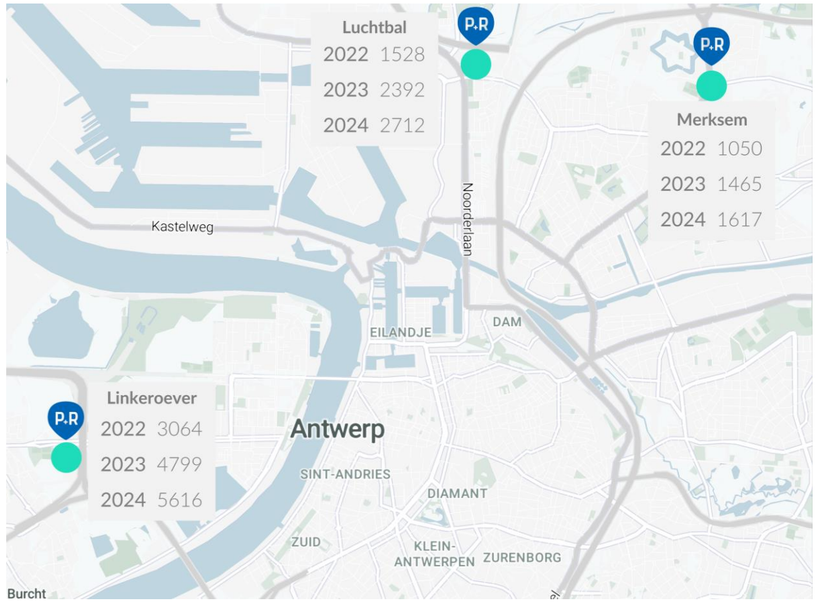
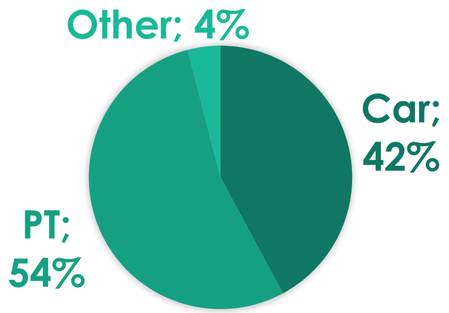


P&Rs Madrid region

Mode substitution P&R



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MOVE 21

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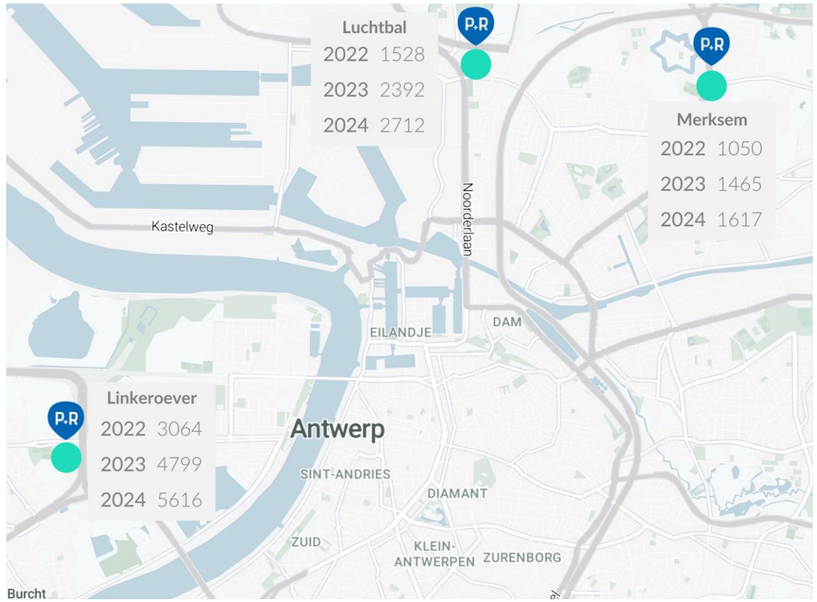

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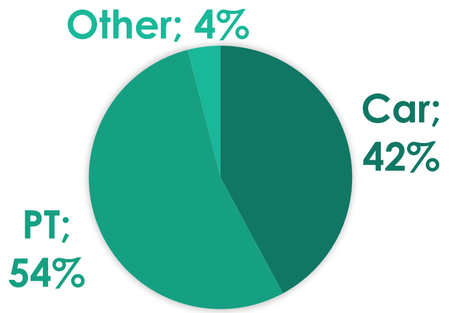

Canalejas logistics hub

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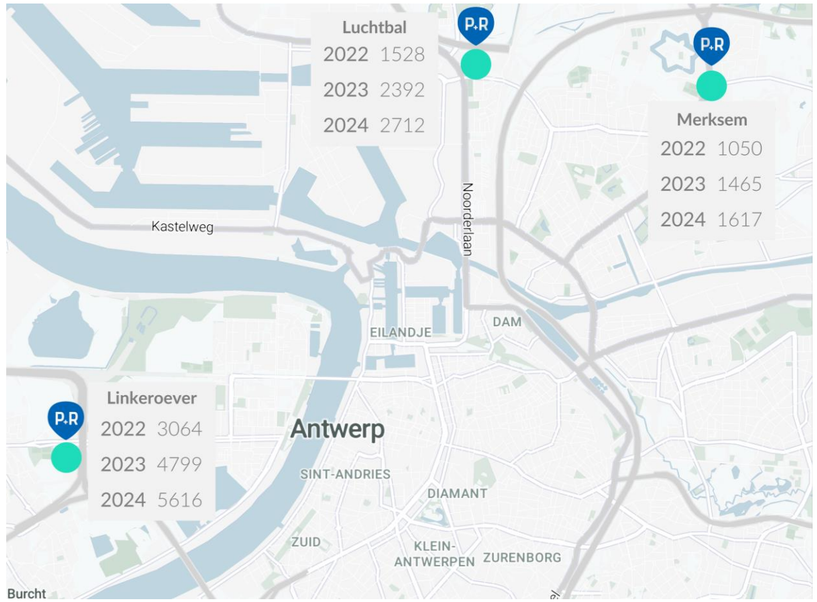
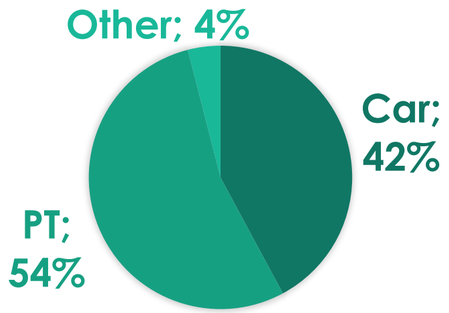


P&Rs Madrid region

Mode substitution P&R



Canalejas logistics hub

1 year = 103 tonnes of CO_2 avoided

= 22 cars off the road

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Multimodal

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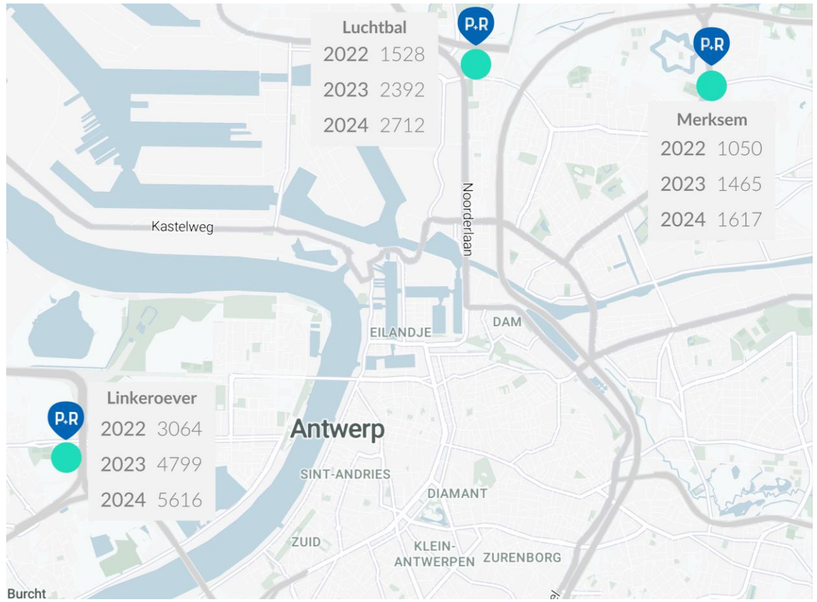
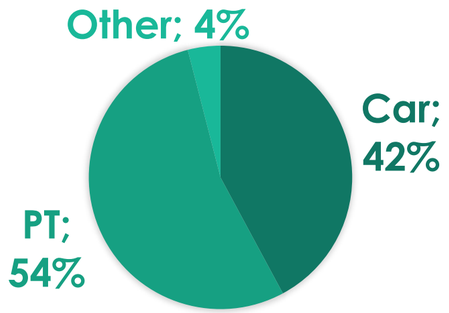


P&Rs Madrid region

Mode substitution P&R



Canalejas logistics hub

1 year = 103 tonnes of CO_2 avoided

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New mobility services in Turku region

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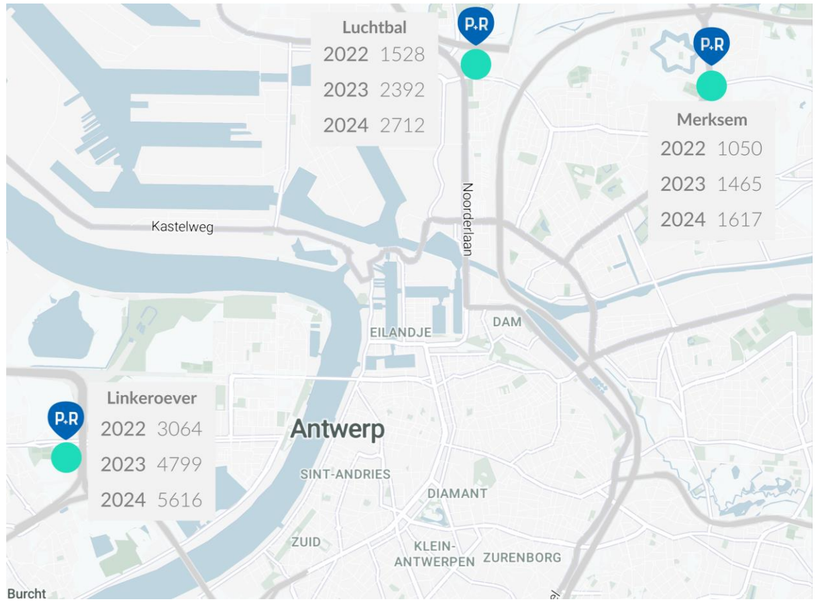
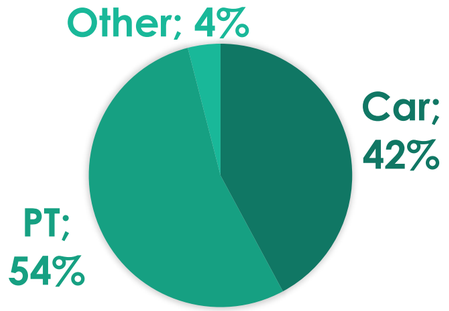


P&Rs Madrid region

Mode substitution P&R



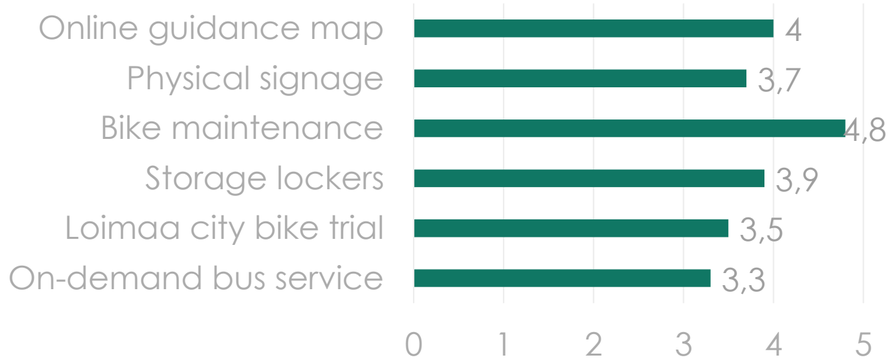
Canalejas logistics hub

1 year = 103 tonnes of CO_2 avoided

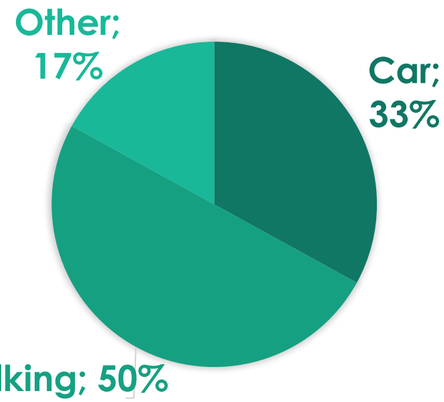
= 22 cars off the road

New mobility services in Turku region

Satisfaction with mobility services



Mode substitution Loimaa city bikes



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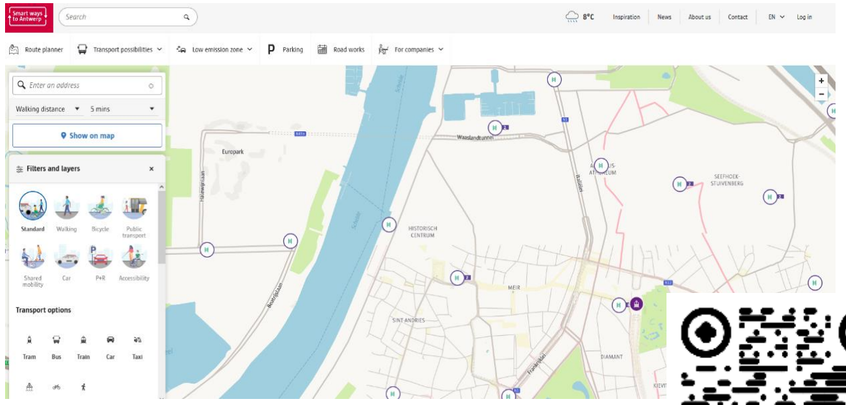
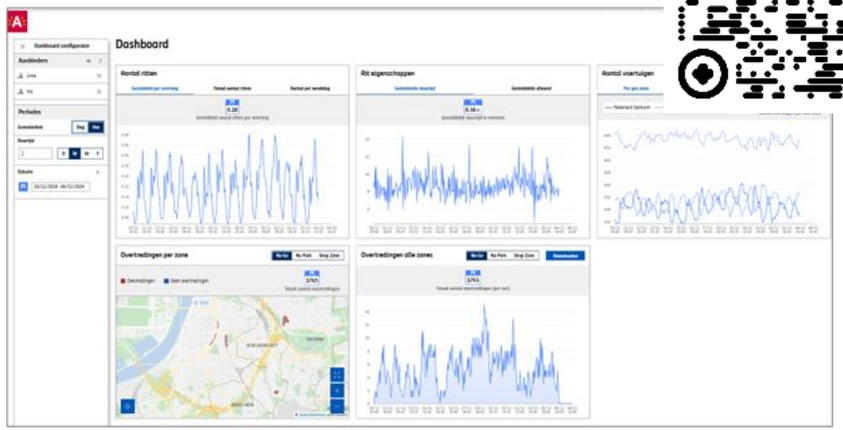
MOVE 21

Data

Management tool for Multi Modal Mobility





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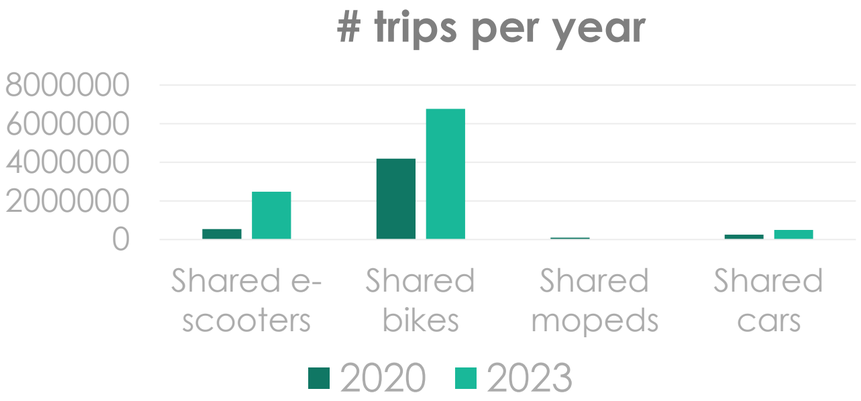
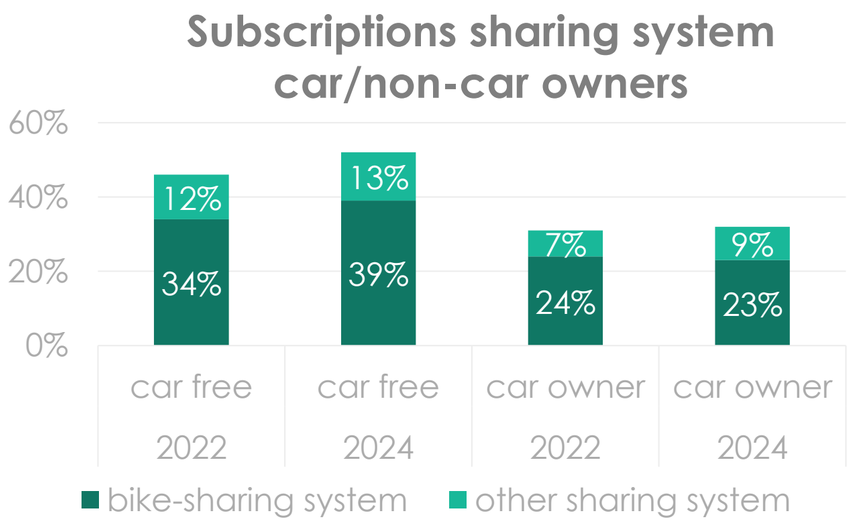
Management tool for Multi Modal Mobility





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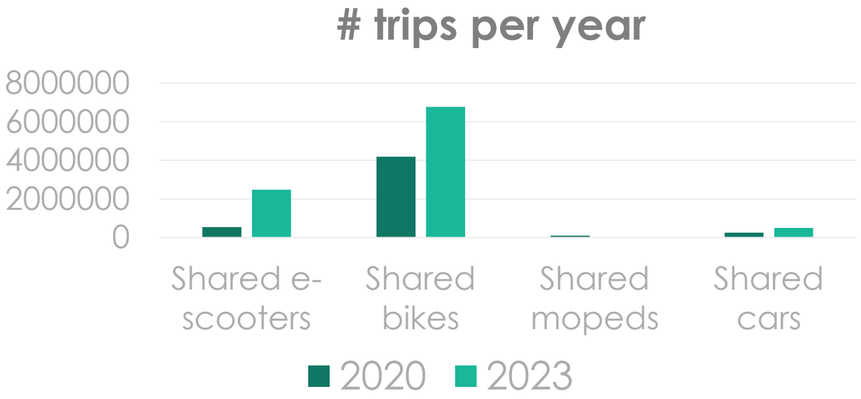
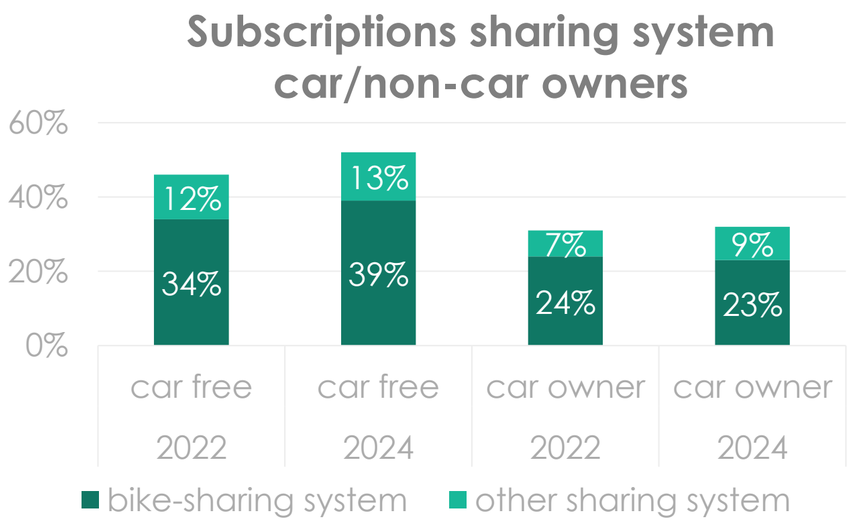
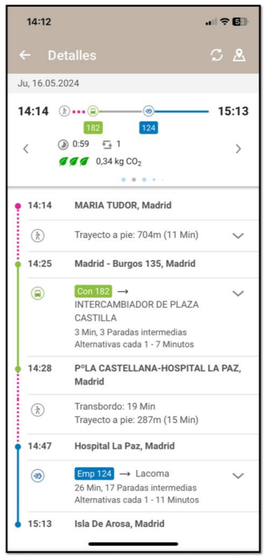
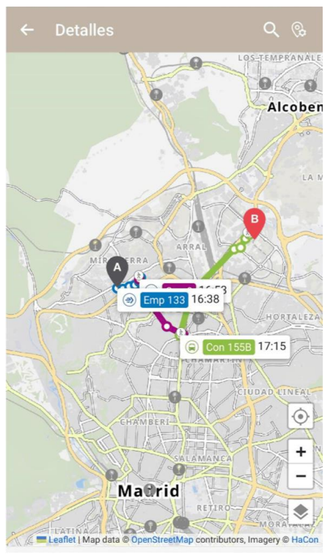
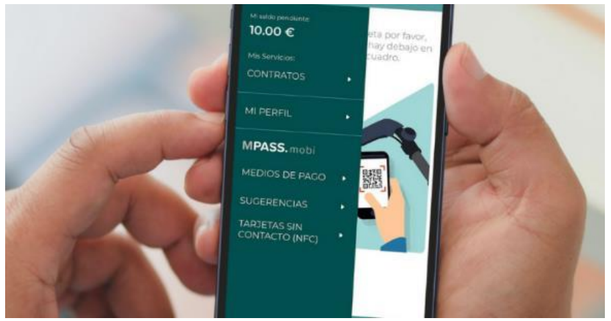




Data driven mobility management in the Madrid metropolitan area







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Next steps towards cities as green and connected nodes for urban mobility

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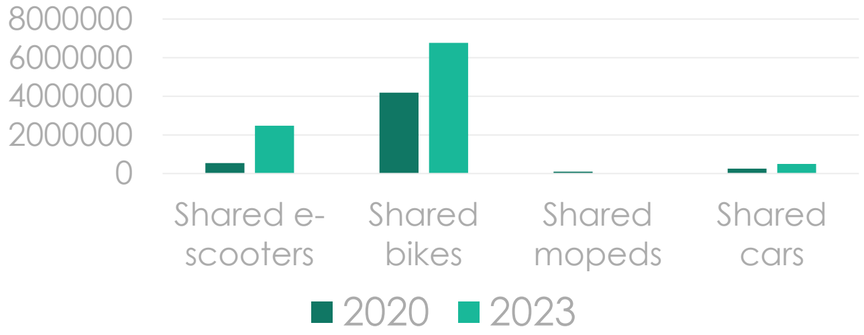
MOVE 21

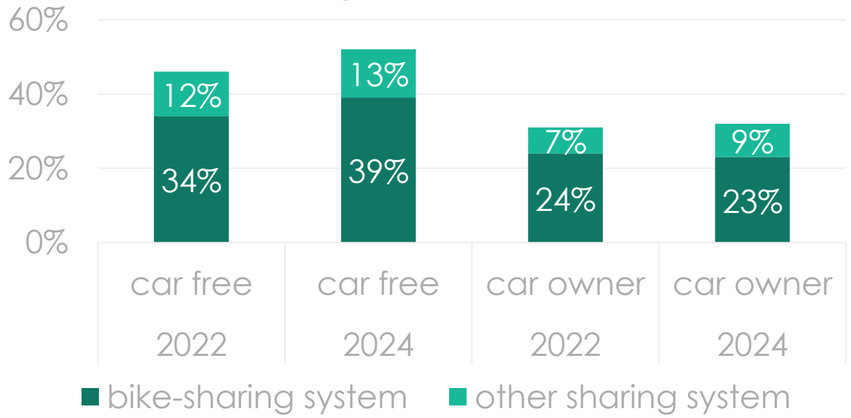
Data

Management tool for Multi Modal Mobility

trips per year

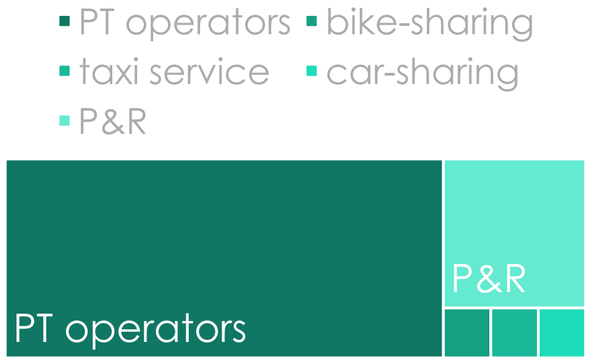


Subscriptions sharing system car/non-car owners

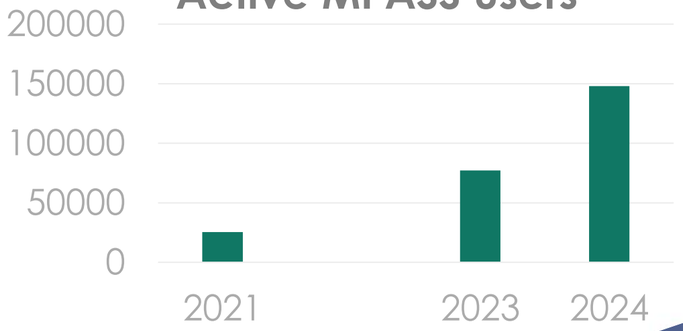


Data driven mobility management in the Madrid metropolitan area

MaaS app - integrated services: 70% of operators



Active MPASS users



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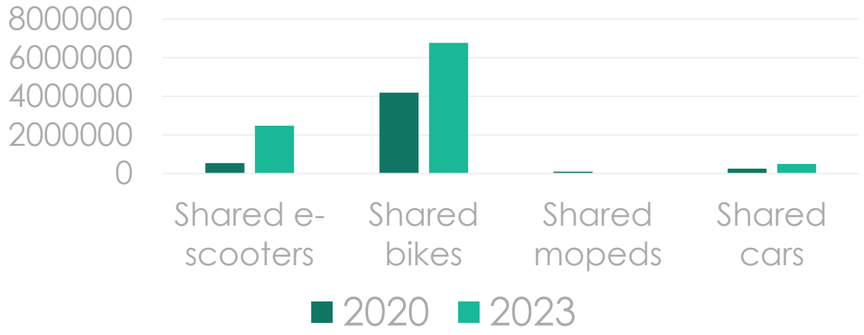
MOVE 21

Data

Management tool for Multi Modal Mobility

 # trips per year



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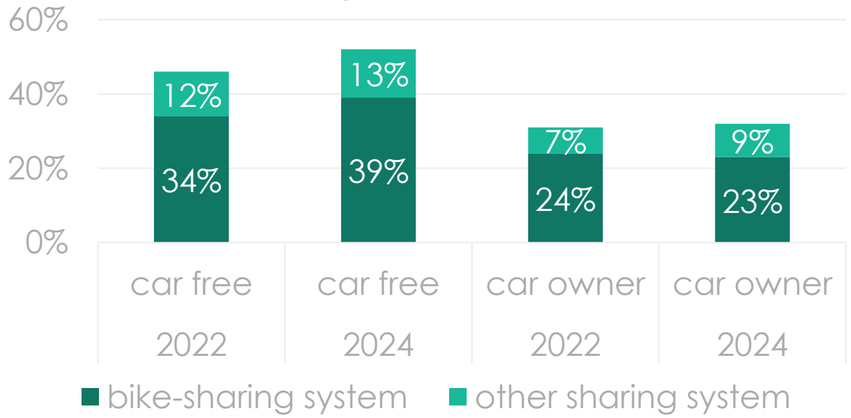
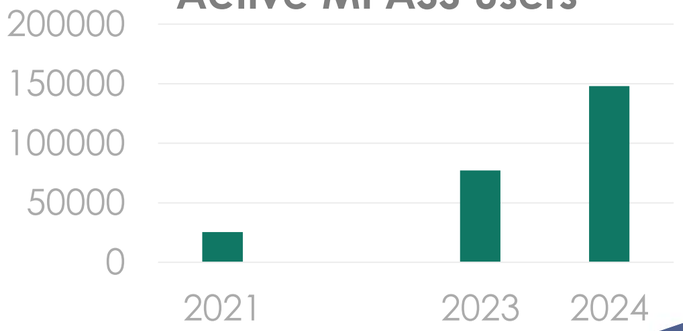


Data driven mobility management in the Madrid metropolitan area

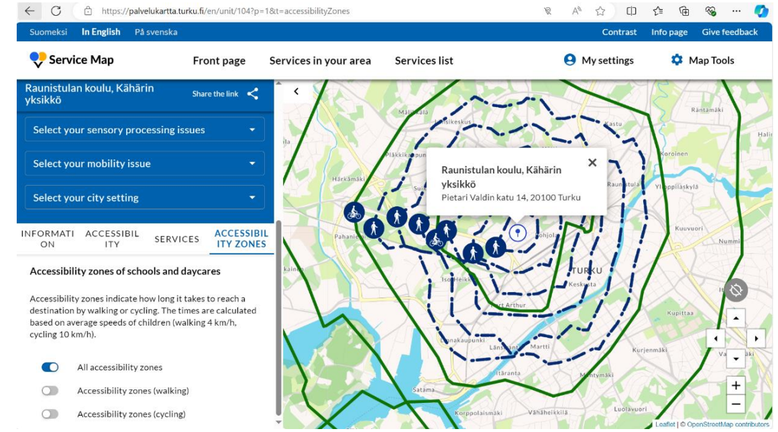
MaaS app - integrated services: 70% of operators

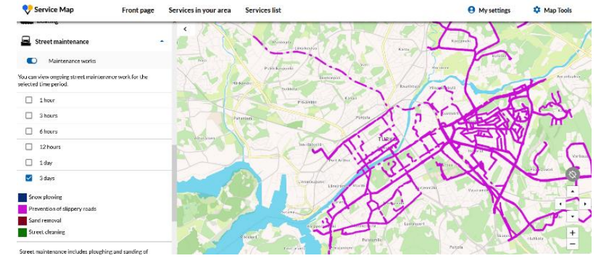
PT operators
bike-sharing
taxi service
car-sharing
P&R

Active MPASS users



New mobility services in Turku region





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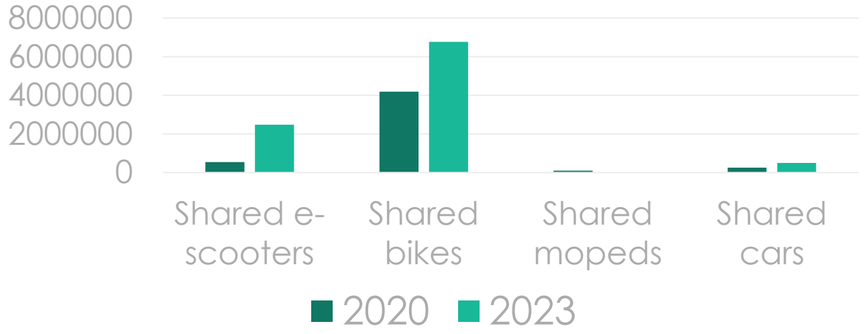
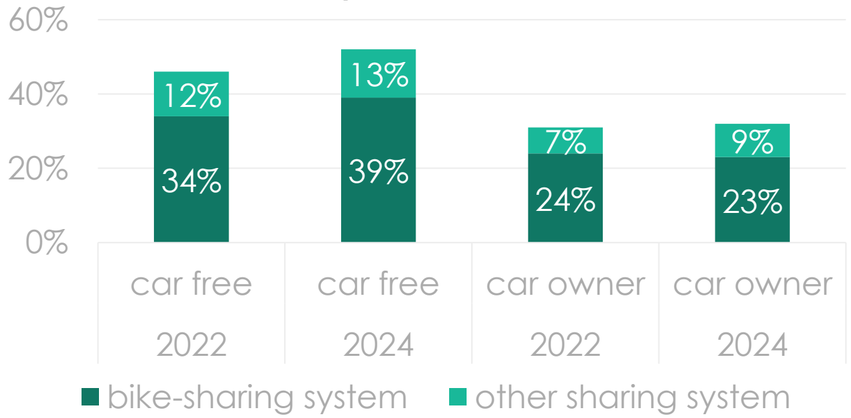
Data

Management tool for Multi Modal Mobility

 # trips per year

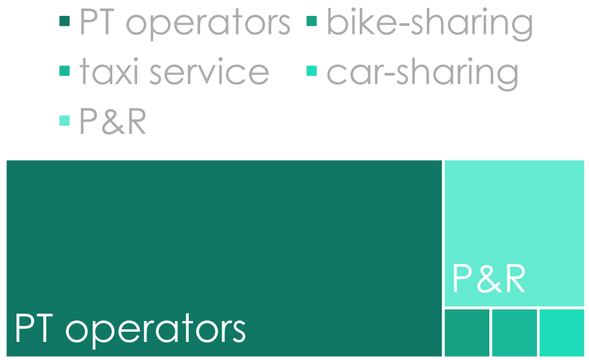


Subscriptions sharing system car/non-car owners

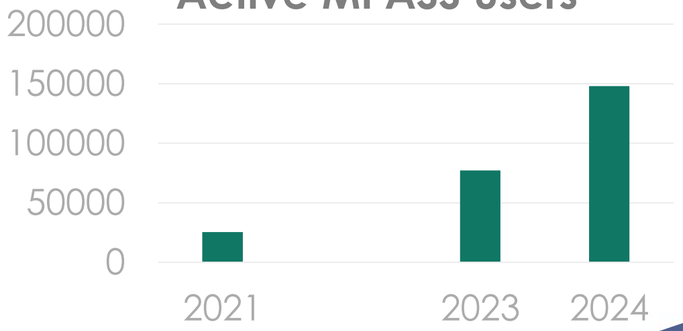


Data driven mobility management in the Madrid metropolitan area

MaaS app - integrated services: 70% of operators

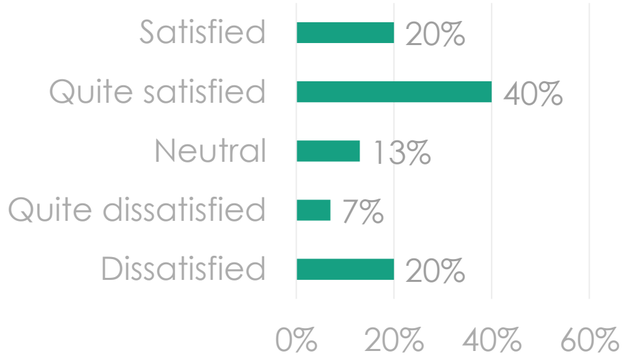


Active MPASS users

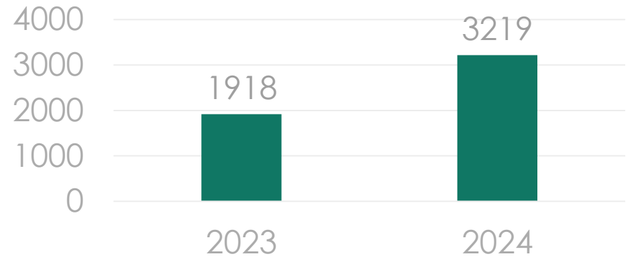


New mobility services in Turku region

Satisfaction Turku Mobility map



Individual visits Turku Mobility map



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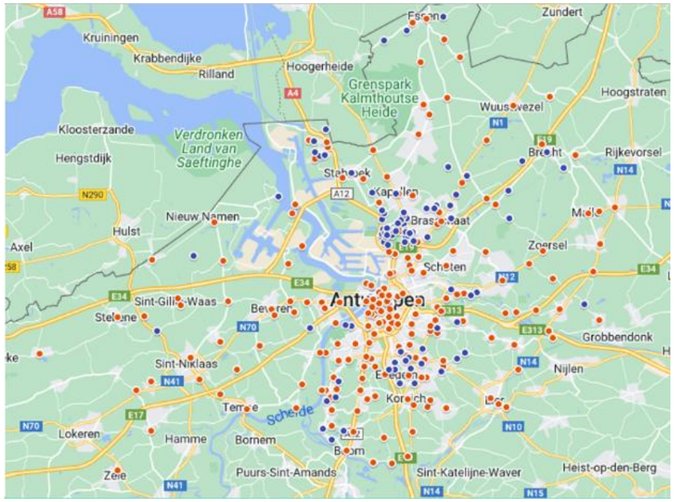
Clean, safe and inclusive

Shared (e-)bike system in the Antwerp FUA



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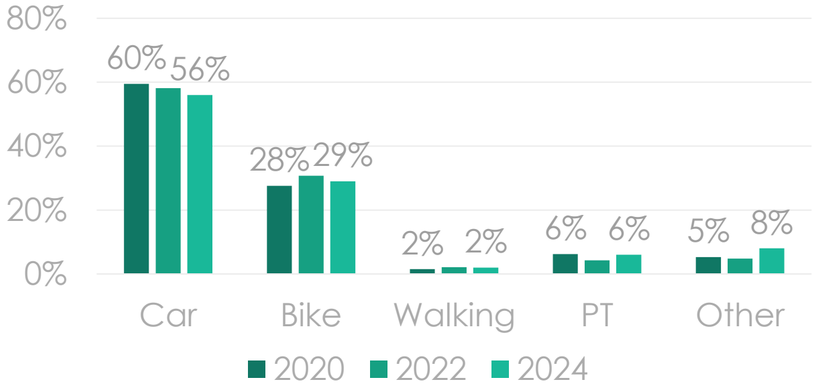
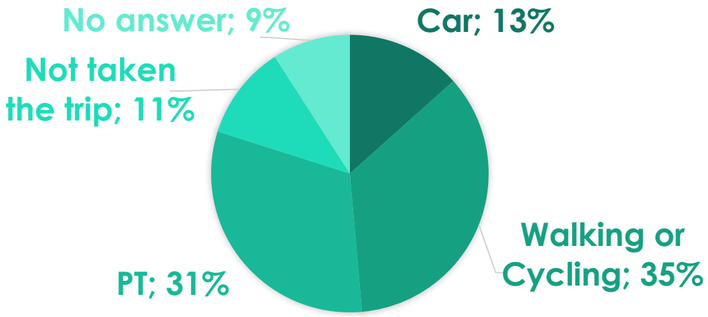
Modal share - Employees Antwerp FUA



Mode substitution bike-sharing



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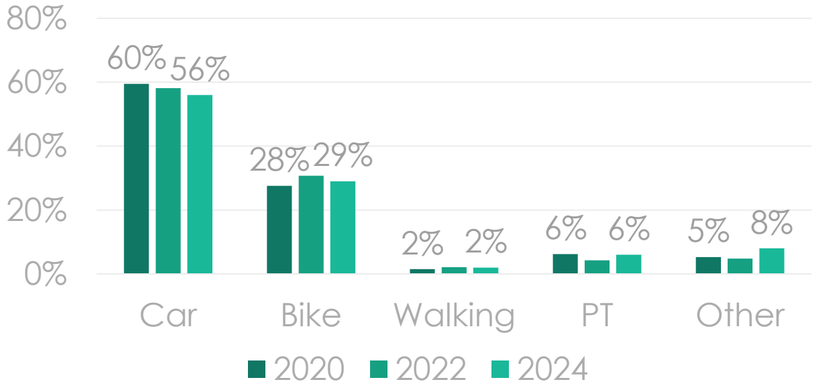

Shared (e-)bikes in the Madrid Metropolitan area

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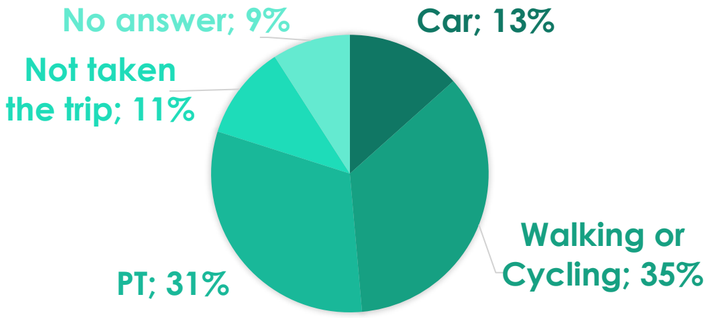

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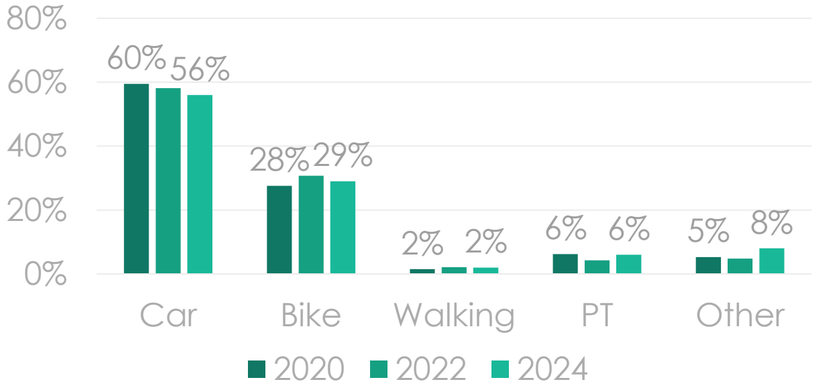

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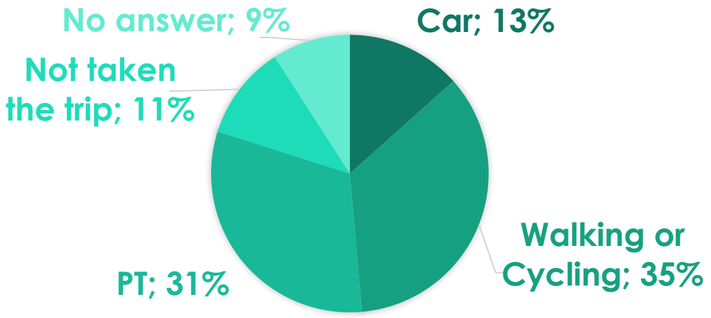

Shared (e-)bikes in the Madrid Metropolitan area

trips ↑ + 95%

users ↑ + 466%

7.6 million trips

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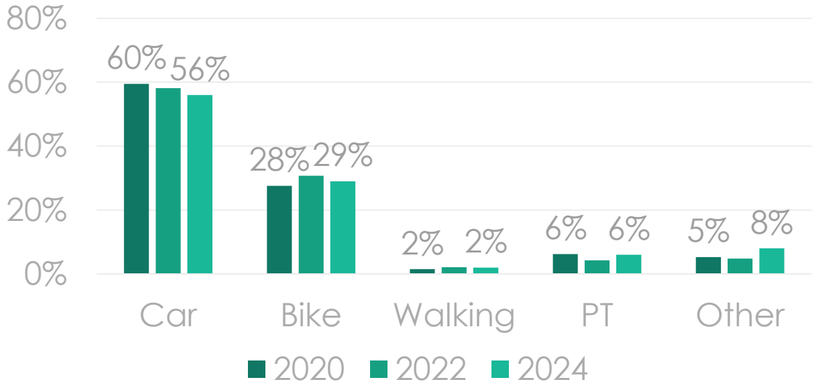

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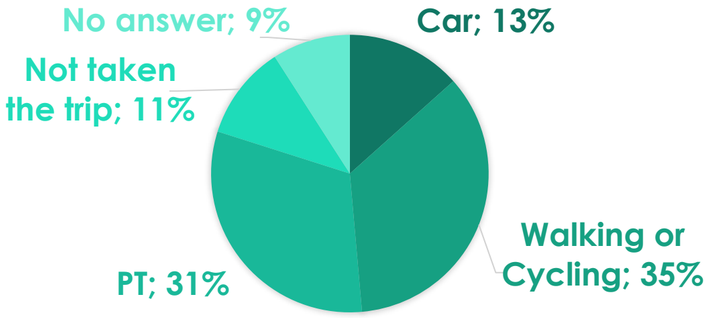

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Pedestrianised areas in Madrid

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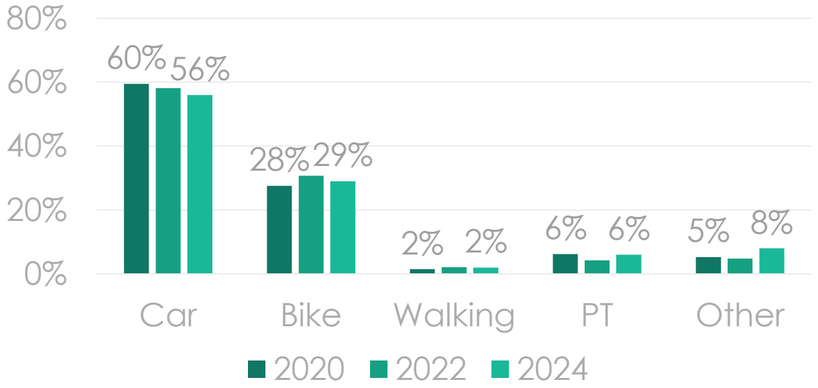

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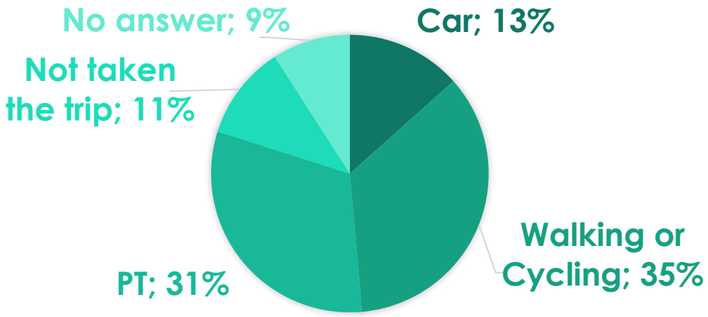

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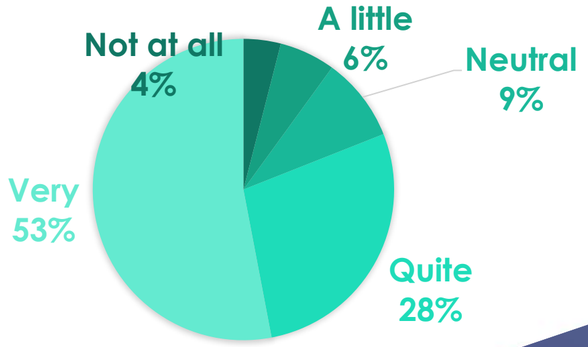
Pedestrianised areas in Madrid

To what extent is the pedestrianisation beneficial for liveability?



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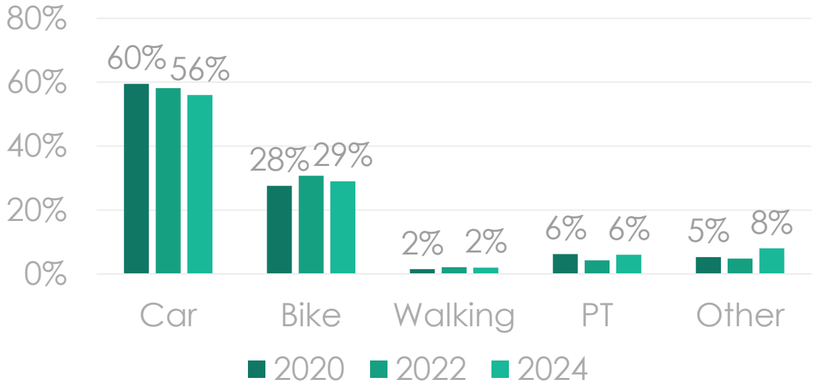

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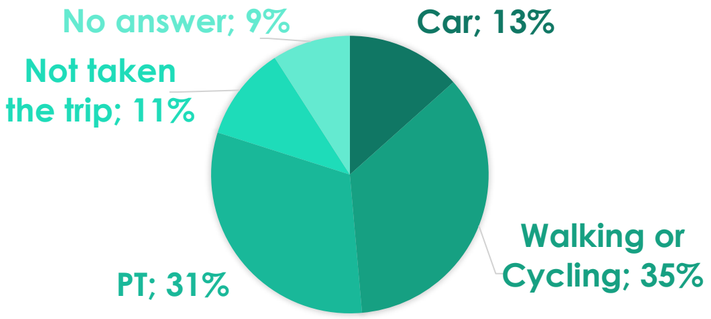

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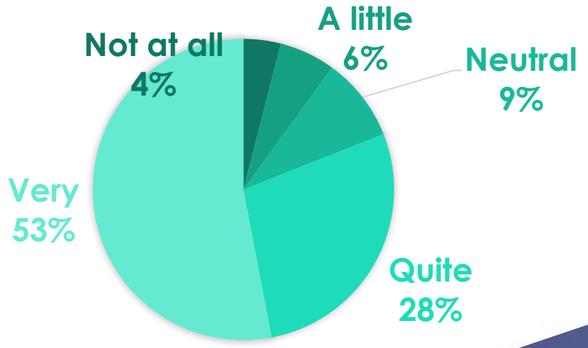

Inclusive cycling in Turku

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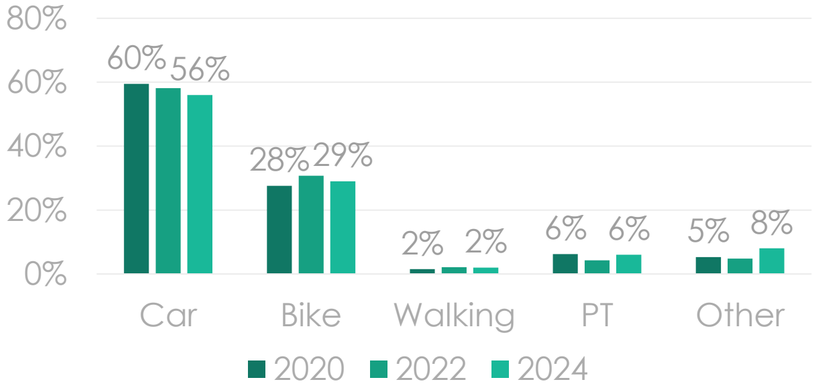

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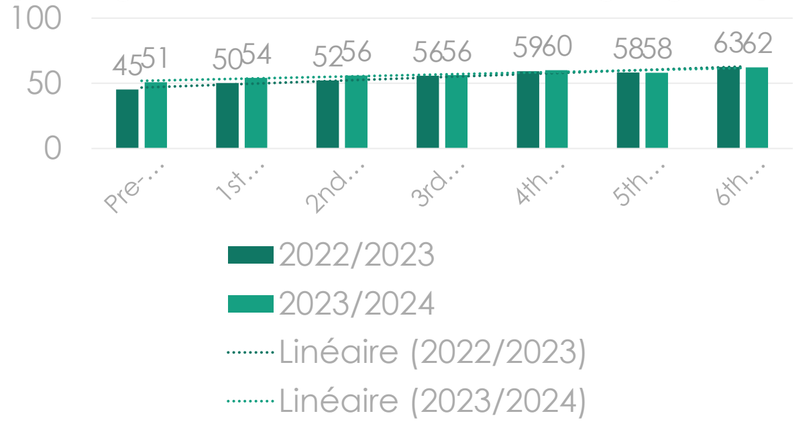
Inclusive cycling in Turku

Cycling skill scores different age groups



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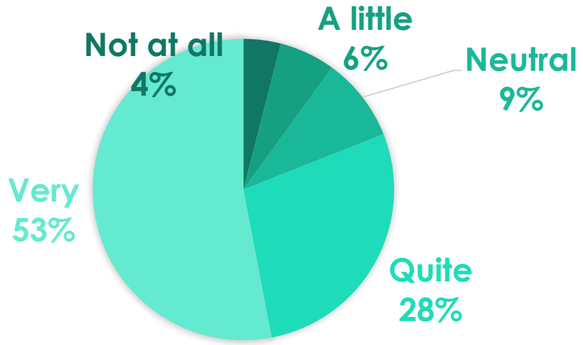
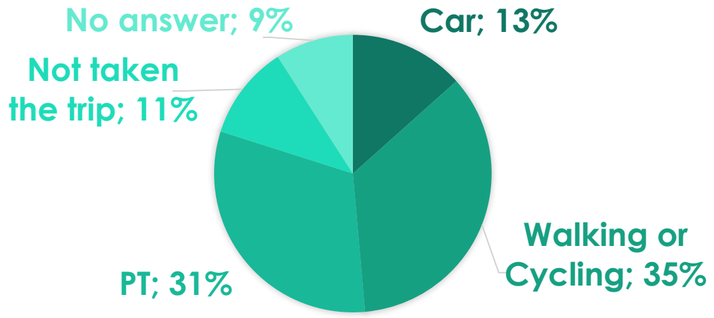
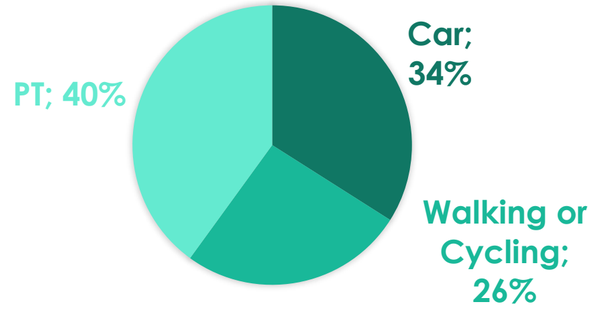


Mode substitution bike-sharing



Mode substitution e-cargo bike-sharing



Behaviour

Sustainable travel towards events

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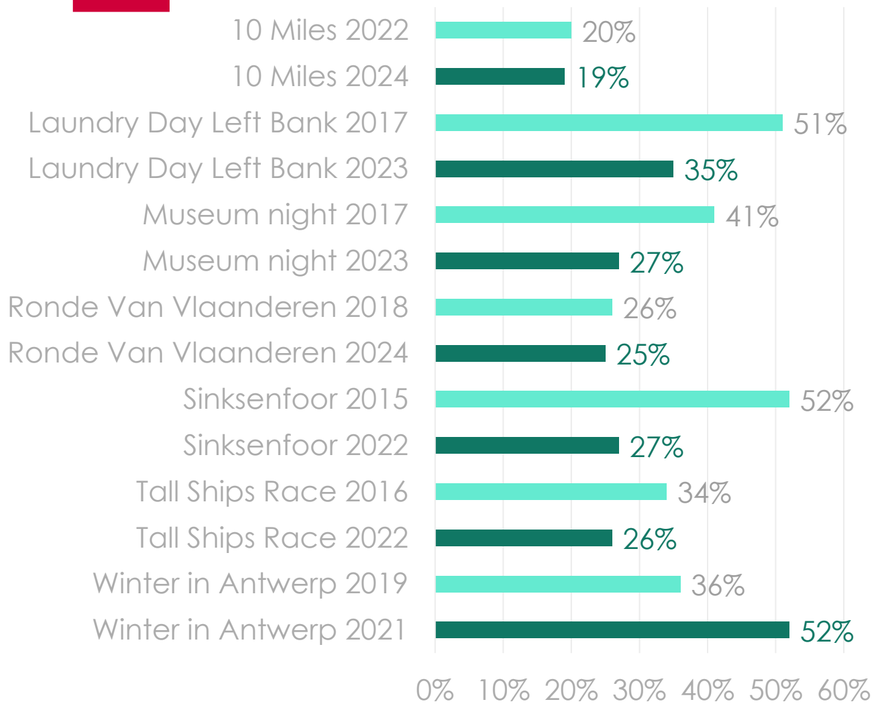
Behaviour

Sustainable travel towards events

Car share – Visitors events



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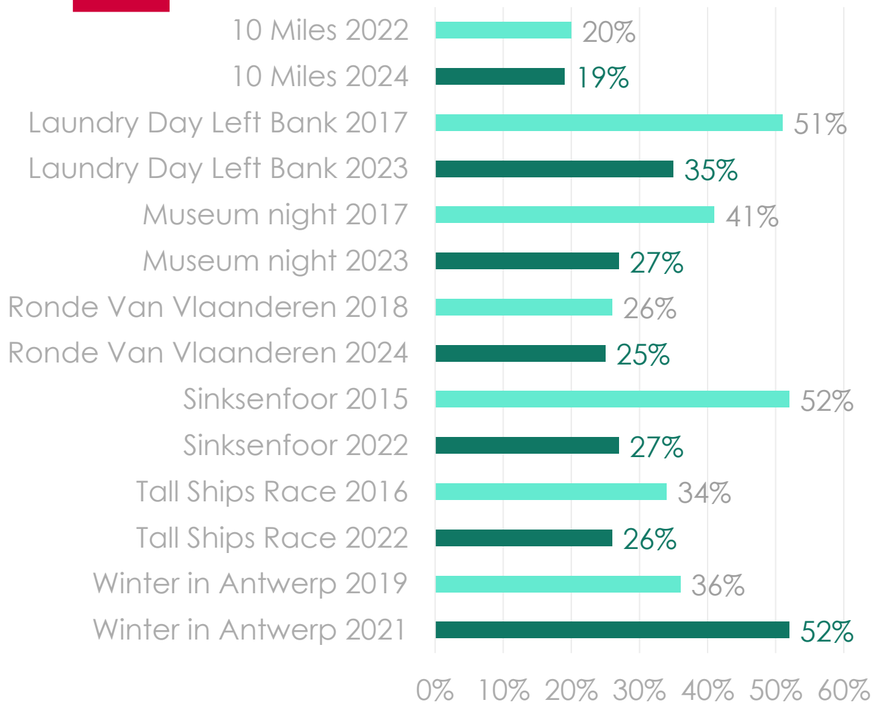

madrid

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Behaviour

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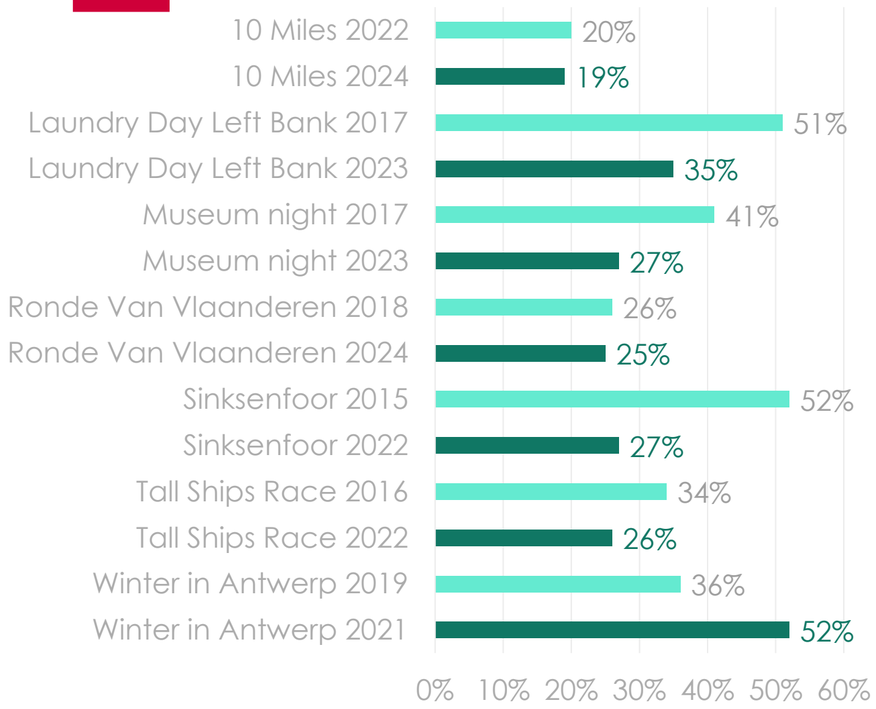
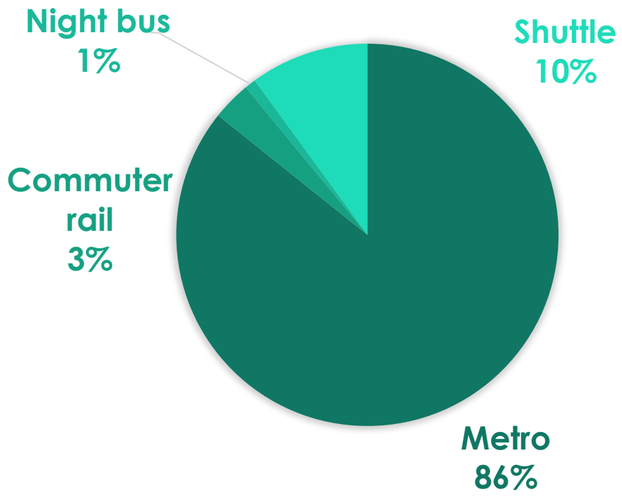


Mad Cool Festival
Modal share PT = 30%



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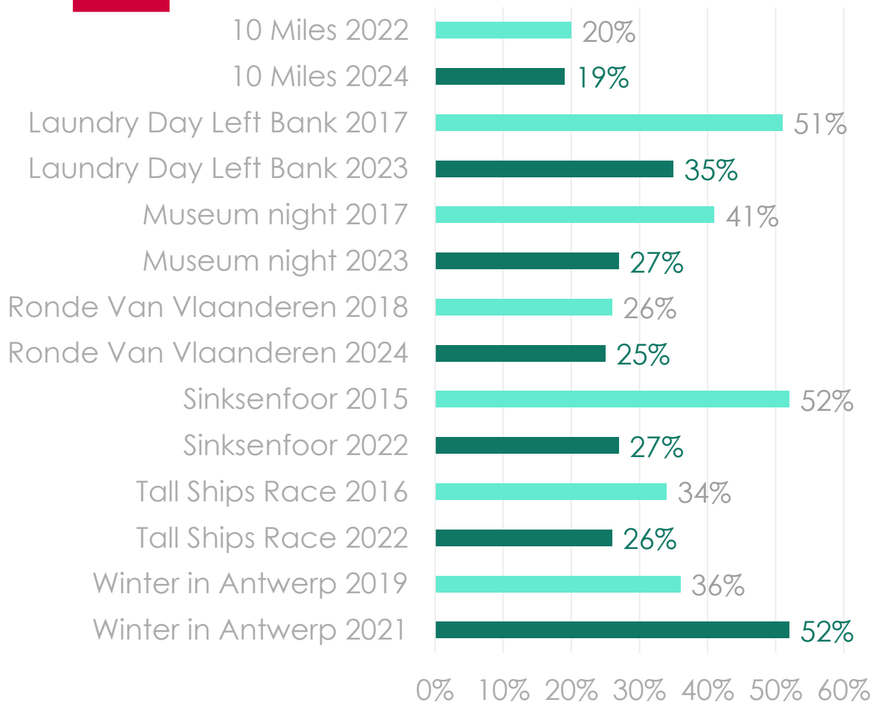

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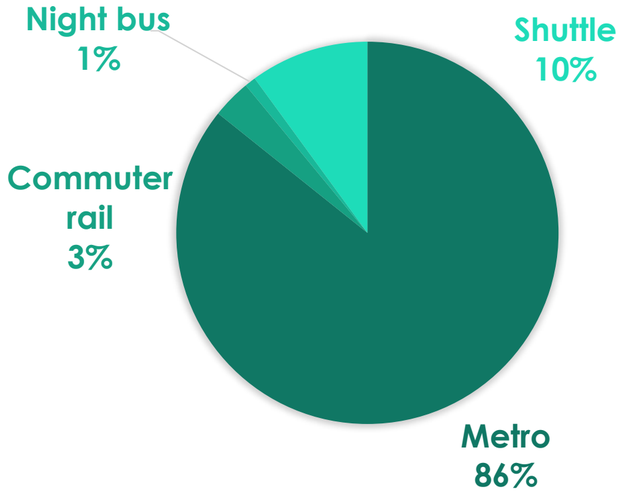

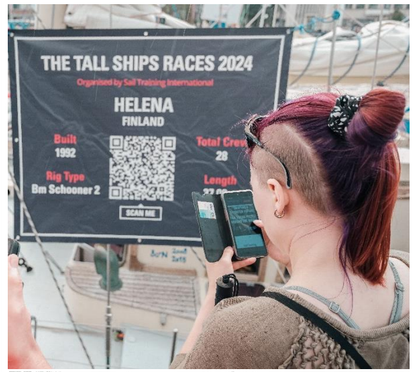

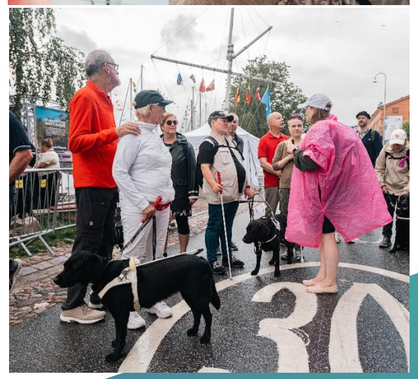

TURKU ÅBO

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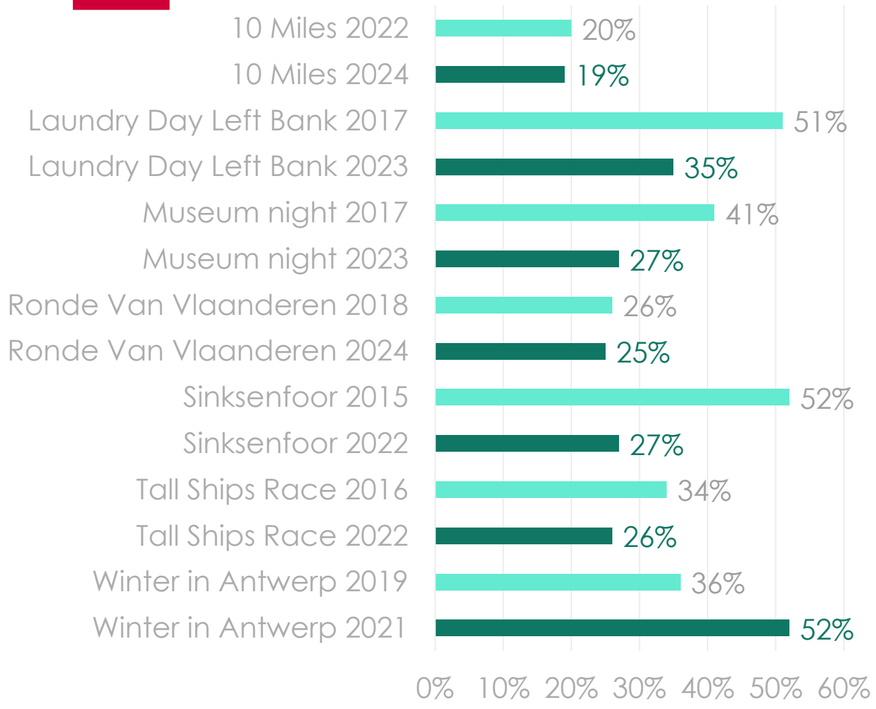

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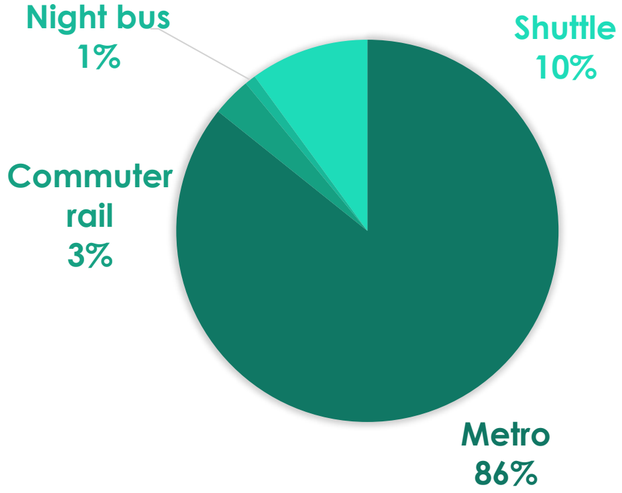
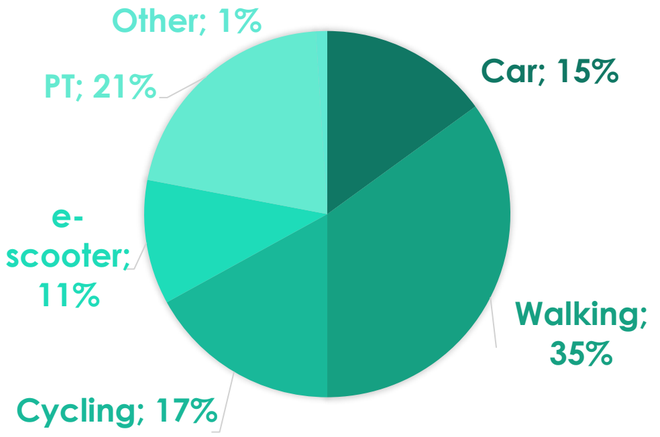


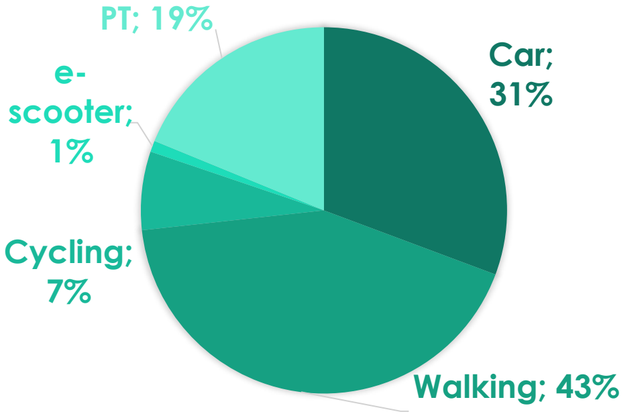
TURKU ÅBO

MOVE 21

Modal share Kesärauha



Modal share Tall Ships Race



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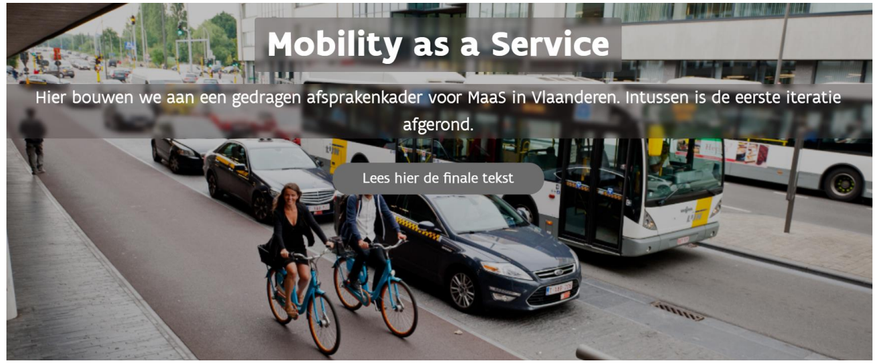
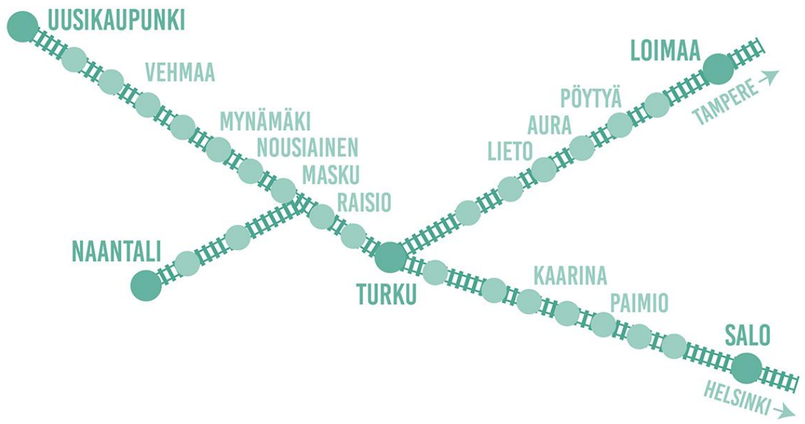
Governance

Antwerp regional SUMP

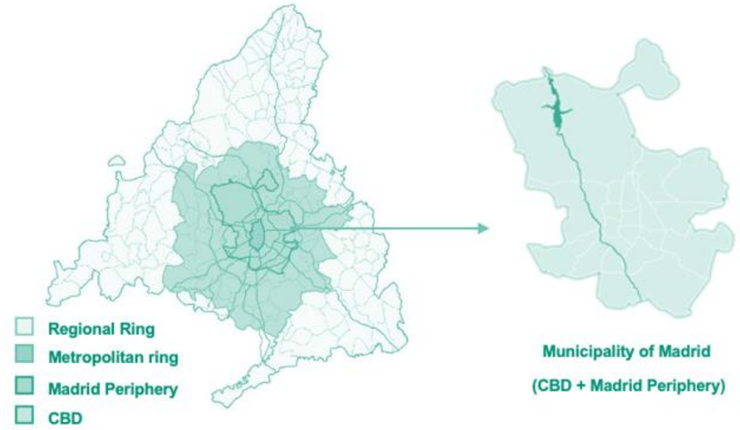
Flemish MaaS agreement framework



Multilevel governance and cooperation in Turku region



Multilevel governance and stakeholder cooperation in Madrid Metropolitan area



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Governance

Continuous communication

Dialogue among stakeholders

Regular meetings

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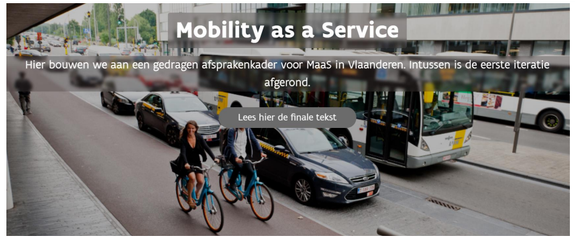
Creation regional SUMP

Expansion of MaaS



Large-scale projects

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MOVE 21

Governance

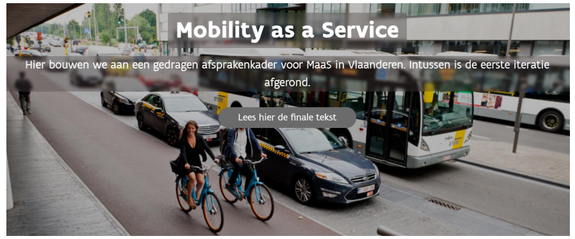
Continuous communication

Dialogue among stakeholders

Regular meetings

Creation regional SUMP

Expansion of MaaS



Large-scale projects

Clear goals

Initial financial framework

Ongoing stakeholder engagement

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Please use the scan the QR code and use the form for sending any questions or comments to the speakers or panelists

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Ragnhild Dahl Wikstrøm
Senior advisor in the Department of Environment and Transport in the City of Oslo

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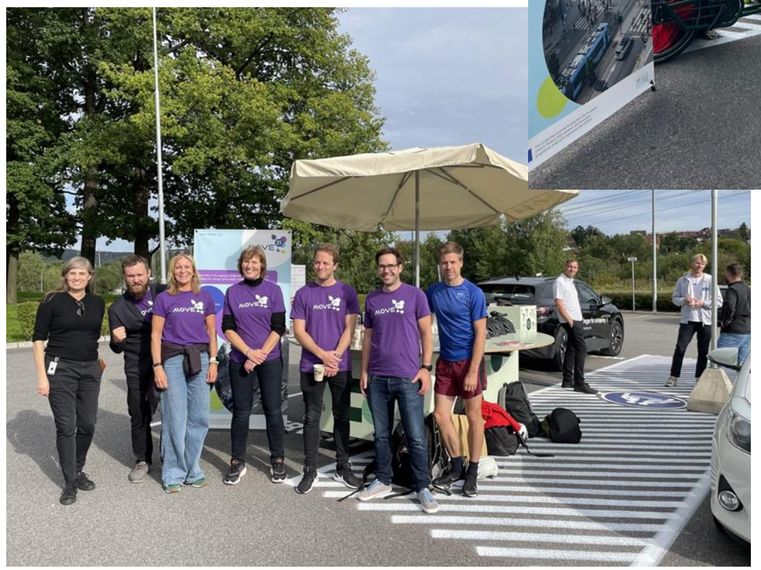
The Grorud Multimodal Mobility Hub in Oslo



Freight vehicle reduction

12.5% Oslo

CO_2 reduction

13% Oslo

Public Transport increase

3% Oslo

Kaia Mobility Hotel in Oslo

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Suzanne Green
Project Manager for EU projects
at Urban Environment Department,
City of Gothenburg

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Mobility Hotel in Nordstan

CO_2 reduction

16% Gothenburg

Cargo/waste co-freight in Lindholmen

Freight vehicle reduction

14% Gothenburg

Park and bike node in Klippan

Public Transport increase

5% Gothenburg

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Julia Peleikis
EU-Project Development and Coordination at Senate Chancellery / Free and Hanseatic City of Hamburg

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Neighbourhood Hub Kaltenkircher Platz

Freight vehicle reduction
10% Hamburg

Public Transport increase
6% Hamburg

Neighbourhood Hub Holstenstraße

CO_2 reduction
18% Hamburg

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PANEL SESSION PART 2

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Based on these results and your experience, which type of measures, contribute most to sustainable mobility in your urban node ?

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Freya Vandaele
Traject
SCALE-UP Evaluation Manager
Antwerp

Anna Ibraeva
Universidad Politécnica de Madrid (UPM)
SCALE-UP Evaluation Manager
Madrid

Annika Kunnasvirta
Turku University of Applied Sciences (TUAS)
SCALE-UP Evaluation Manager
Turku

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Freya Vandaele
Traject
SCALE-UP Evaluation Manager Antwerp

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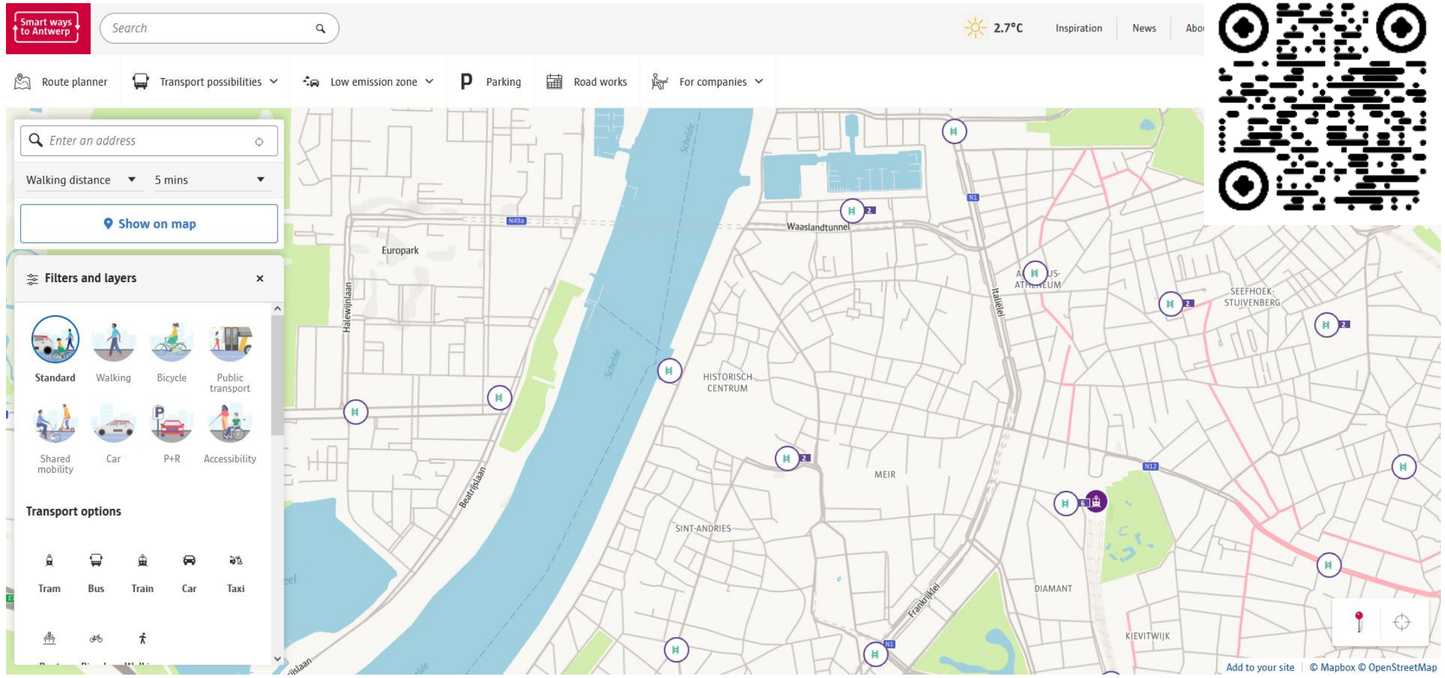
Smart ways to Antwerp



De Pendelproeverij

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Anna Ibraeva
Universidad Politécnica de Madrid (UPM)
SCALE-UP Evaluation Manager Madrid

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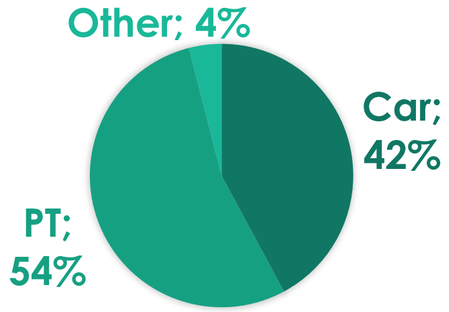
Connectivity

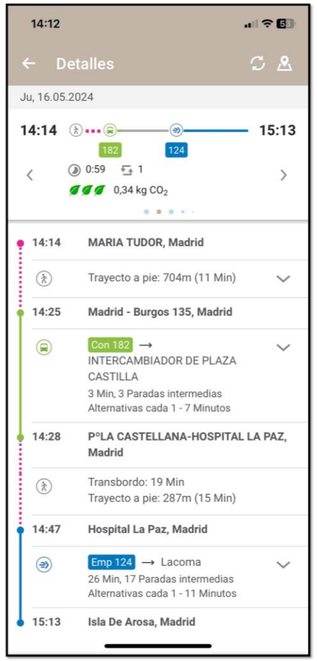
P&Rs Madrid region

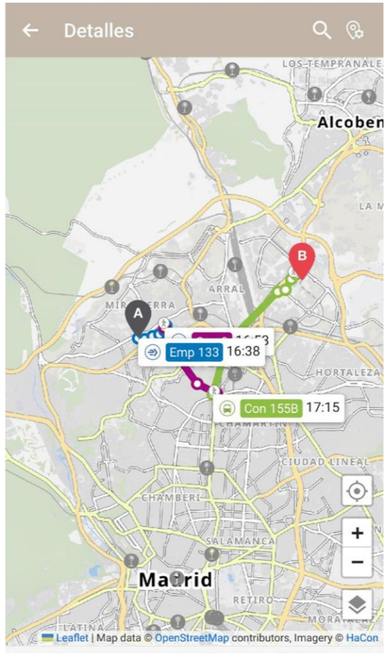
Mode substitution P&R



Shared (e-)bikes in the Madrid Metropolitan area

MaaS app





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Annika Kunnasvirta
Turku University of Applied Sciences (TUAS)
SCALE-UP Evaluation Manager Turku

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Inclusive cycling in Turku

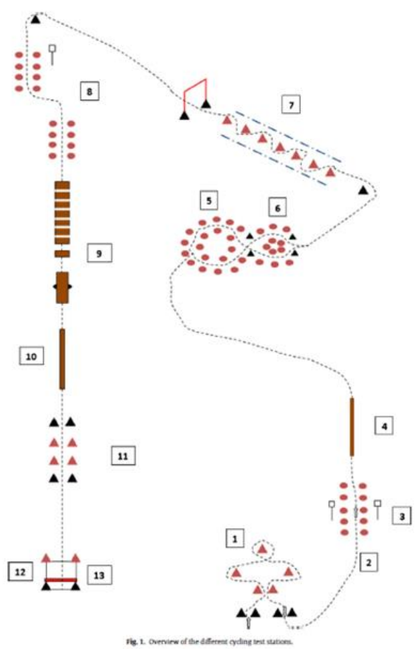
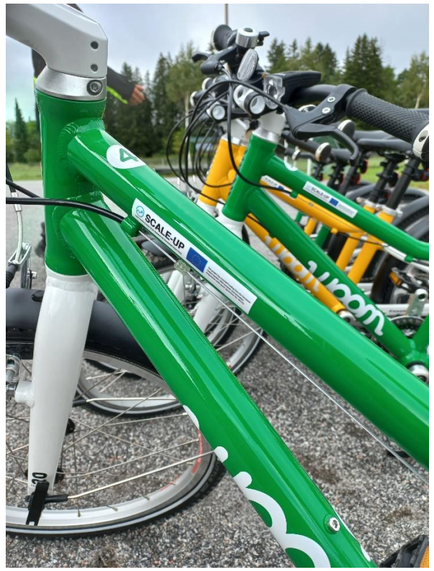
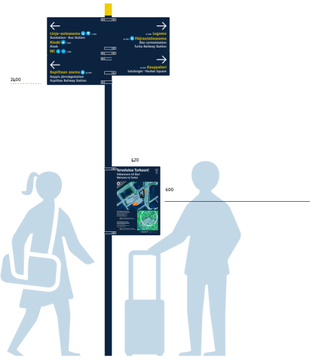


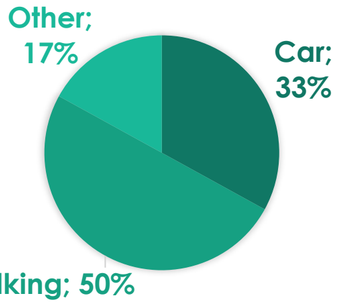
Fig. 1. Overview of the different cycling test stations.



New mobility services in Turku region



Mode substitution Loimaa city bikes



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Round 1

Session 1.1
Transforming Urban Mobility – Strengthening Active Transport and Public Transport Integration
Plenary Room

Session 1.2
Urban logistics beyond parcel logistics

Room 6.2

Round 2

Session 2.1
Behaviour change: nudging citizens & end users' acceptance
Plenary Room

Session 2.2
Co-creation and Innovation Gym

7th floor

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Session 1.1 Transforming Urban Mobility – Strengthening Active Transport and Public Transport Integration

Sara Van Elsacker

Province of Antwerp

Pia-Suzann Skulevold

Ruter

Sergio Balaguer,

EMT

Marco Surace,

RSM

Moderated by:

Maria Eugenia Martinez,

City of Madrid

Franziska Kupfer,

Lantis

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Transforming Urban Mobility – Strenghtening Active Transport and Public Transport Integration: the experience in Rome

Chiara Di Majo, Marco Surace – Roma Servizi per la Mobilità

Brussels – 2 April 2025

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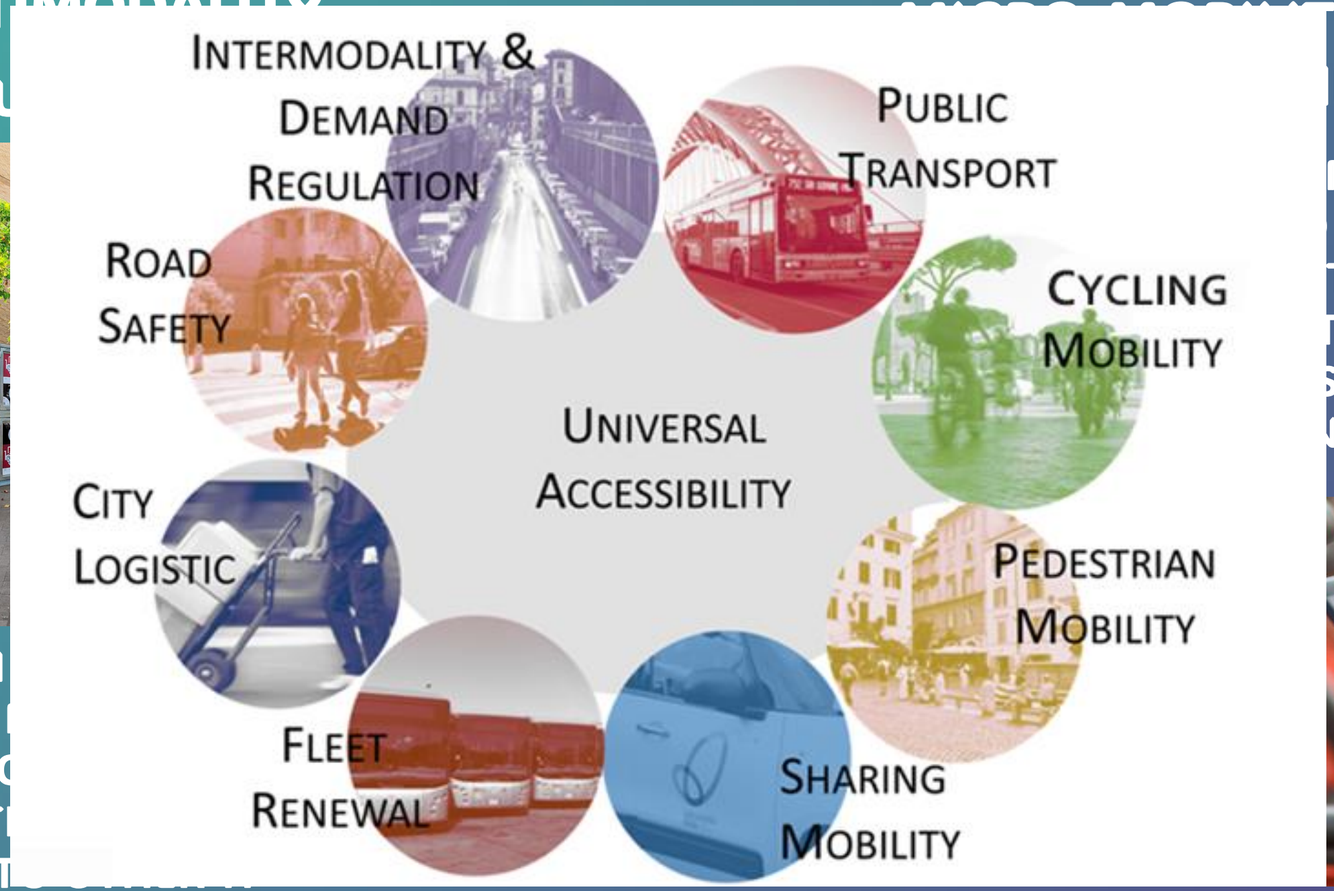
PROMOTE ACTIVE MOBILITY AND MULTI

MULTIMODAL HU

INTEGRATION
FOR 408 BIKE
METRO STATIC
PT CARD WIT
EXTENSIONS T
STATIONS WITHIN THIS YEAR



ENHANCEMENT OF PUBLIC TRANSPORT - INTEGRATING Y SHARING E PT ANNUAL PASS

RATORS (KICK
E-BIKES)
TORS
TH INCLUDED IN
SS, MAX 3 PER DAY,
N 30

SUMP

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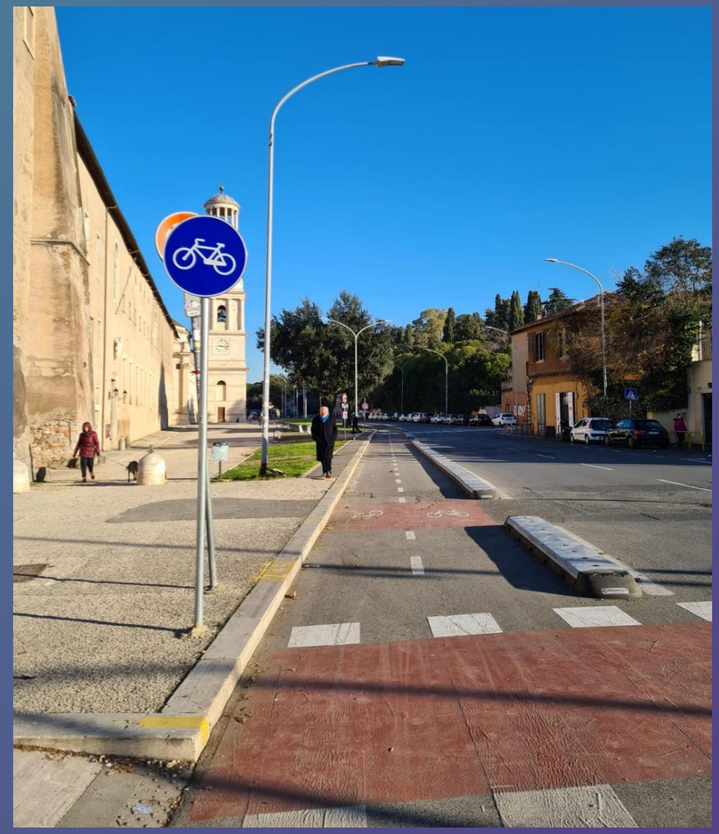
S. PAOLO MULTIMODAL HUB



BIKE BOXES, PARCEL LOCKER AND CARGO BIKES ARE FULLY OPERATIONAL

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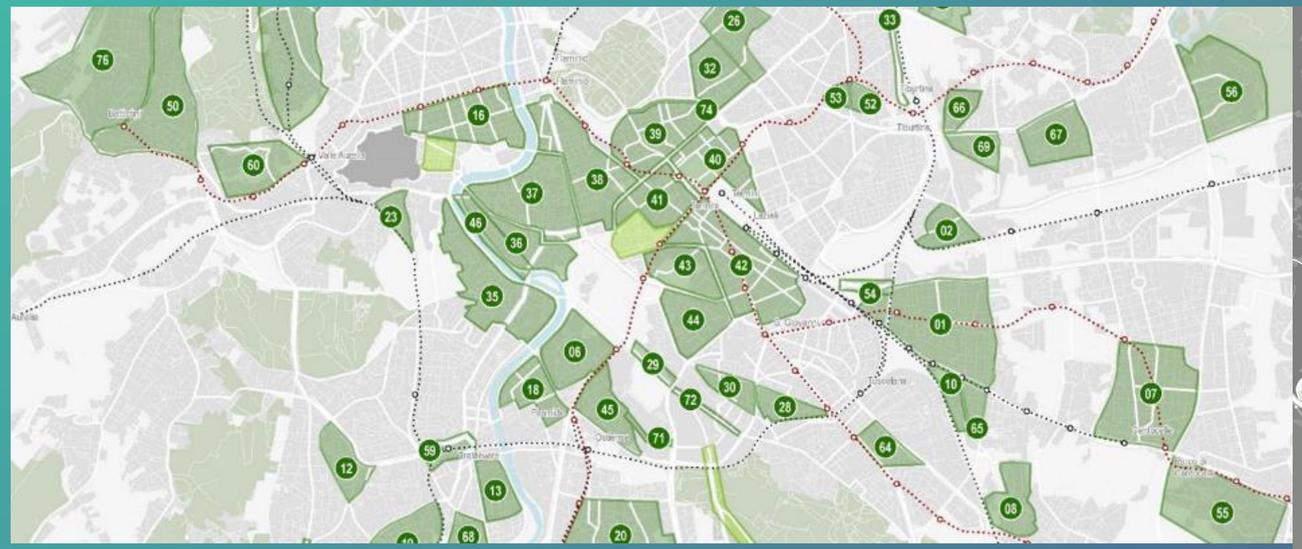
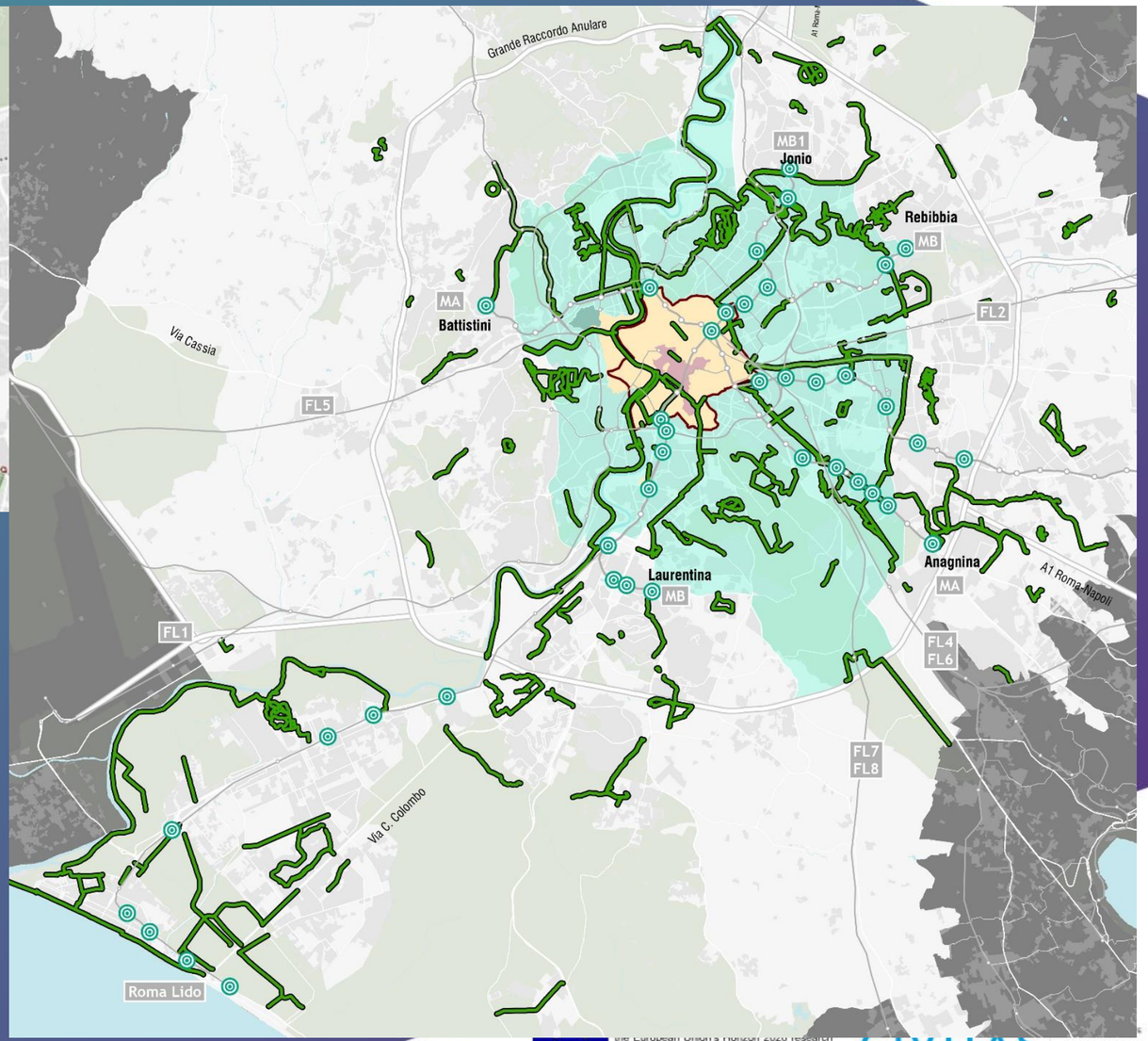
30KM/H LOCAL AREAS PLAN





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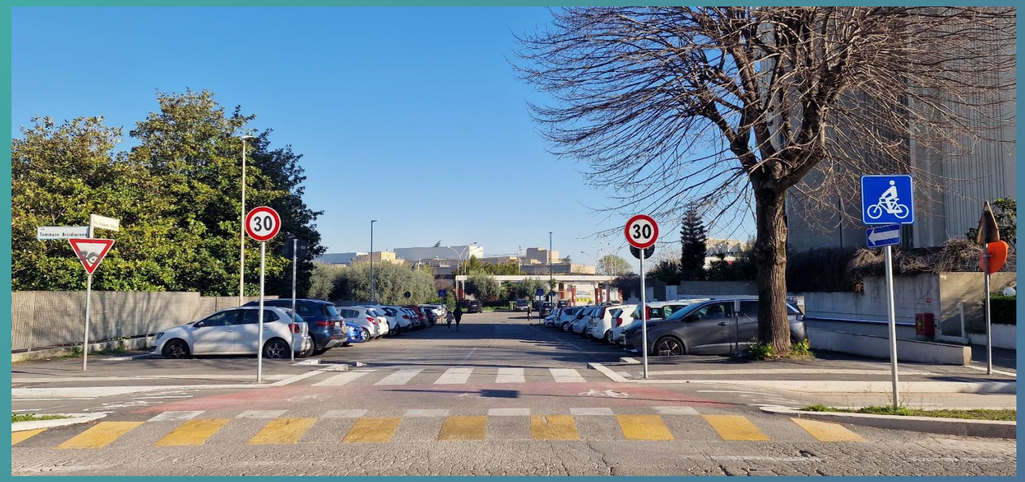
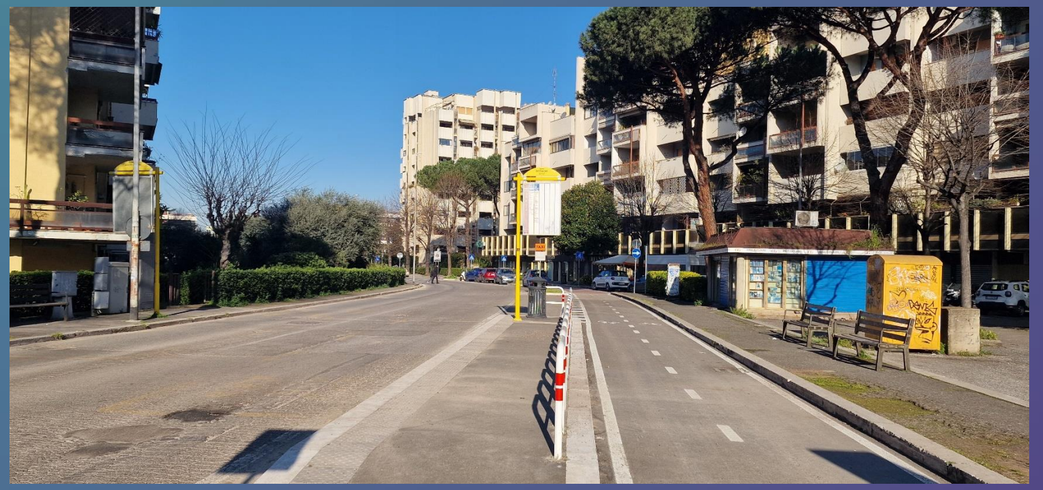
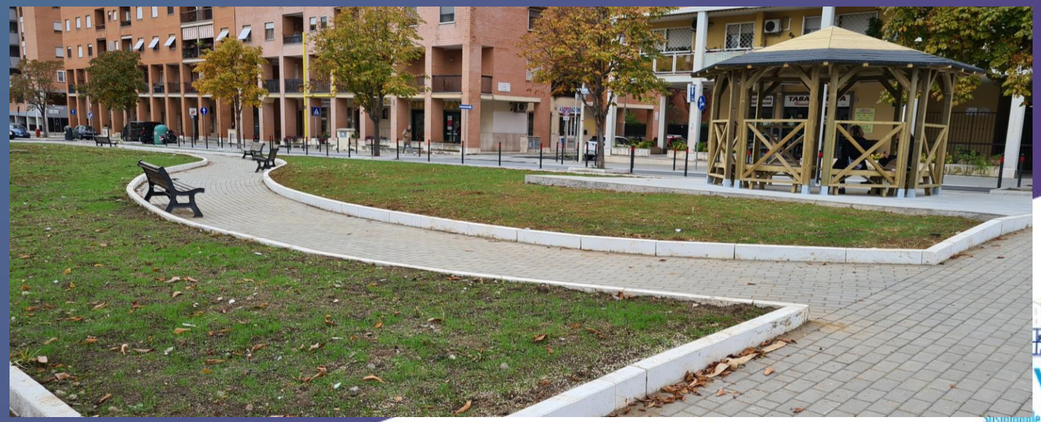
DESIGNING THE URBAN SPACE TO PROMOTE ACTIVE TRAVEL MODES, PT AND 30 KM/H ZONES







2030 VITAS
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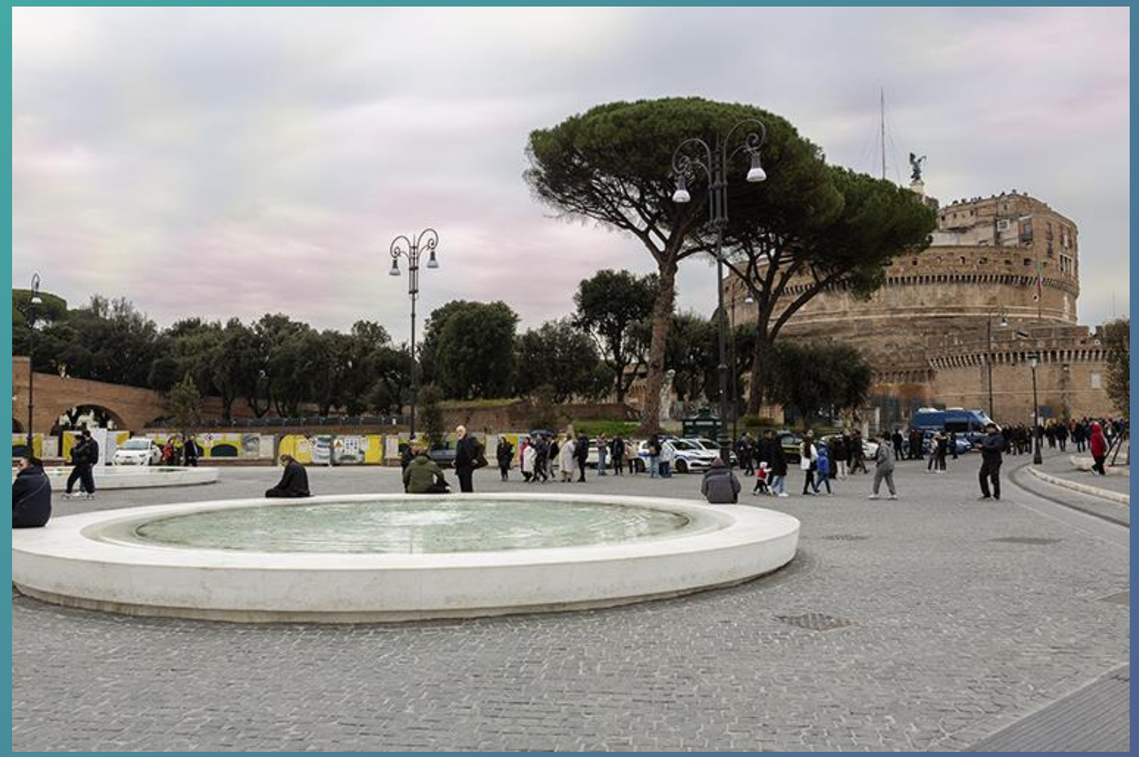
MOVE 21

THANK YOU FOR ATTENTION

marco.surace@romamobilita.it



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Risk Analysis on Cycle Highways

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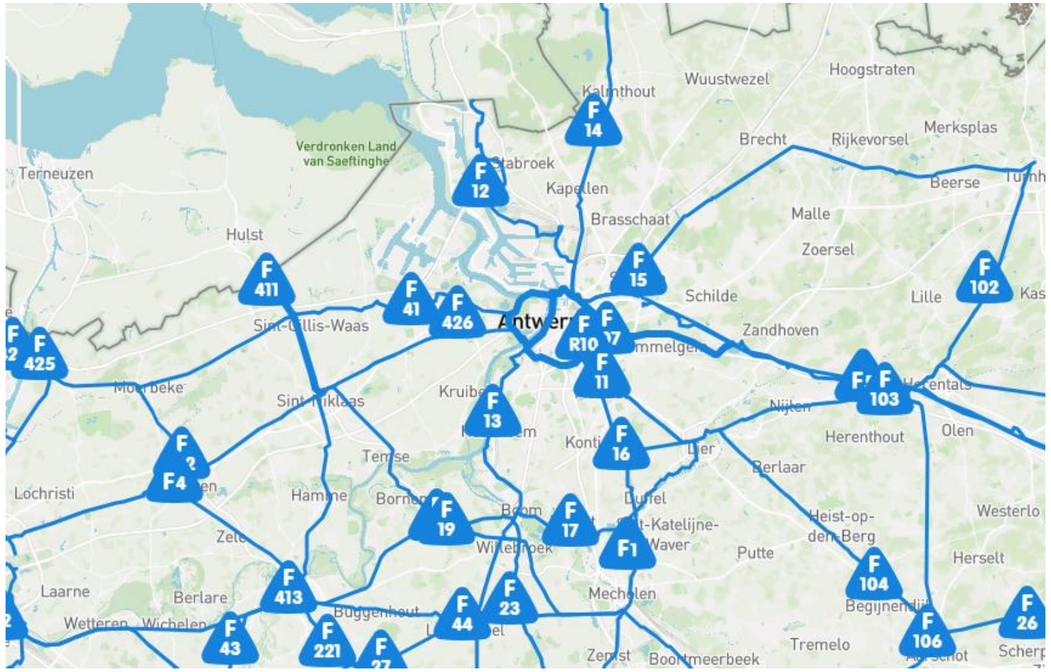
Cycle Highway Network



- Different infrastructure
- Different crossings
- Different risks

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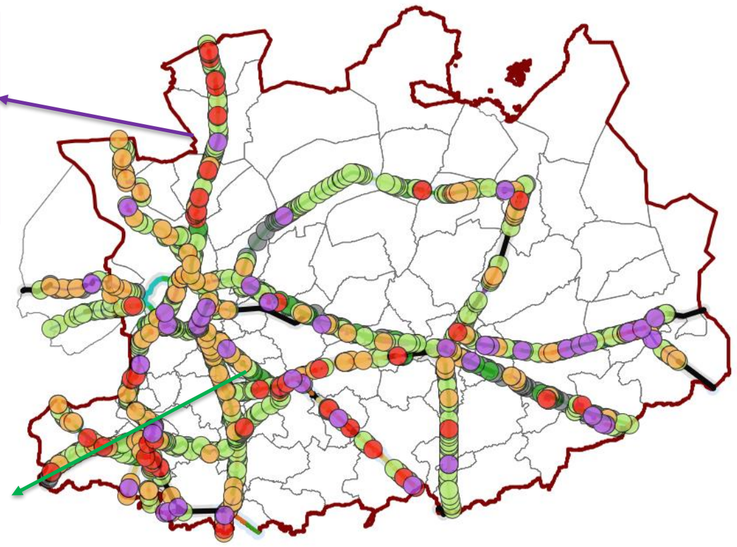
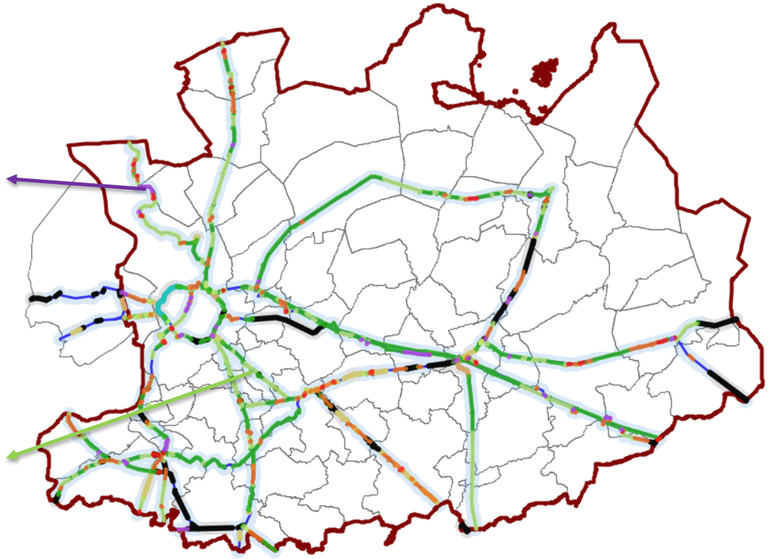
Risk analysis crossings and infrastructure: pro-active and reactive analysis

- crossings



- infrastructure



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City bikes in combination with public transport

Pia-Suzann Skulevold
Innovation and partnership lead, Ruter As

Foto: Ruter As / Nucleus Øyvind Ganesh Eknes

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Ruter

Ruter is the public transport authority of the Oslo region in Norway.

- Publicly owned Limited Liability Company (LLC), co-owned by The City of Oslo (60%) and Akershus County Municipality (40%)
- Ruter (PTA) plans, procures and promotes public transport in Oslo and Akershus.
- Operating companies (PTOs) place bids on contracts to operate the public transport services in Ruter's area.

Ruter and Urban Sharing have collaborated in MOVE21 to integrate city bikes with public transportation.

180 mill. boardings

111 mill. boardings

48 mill. boardings

4 mill. boardings

Cooperation with

- Taxi and minibus operators
- Train
- Micromobility providers
- Oslo City Bike

and innovation programme under grant agreements No 953939 and No 955332

CIVITAS Sustainable and smart mobility for all

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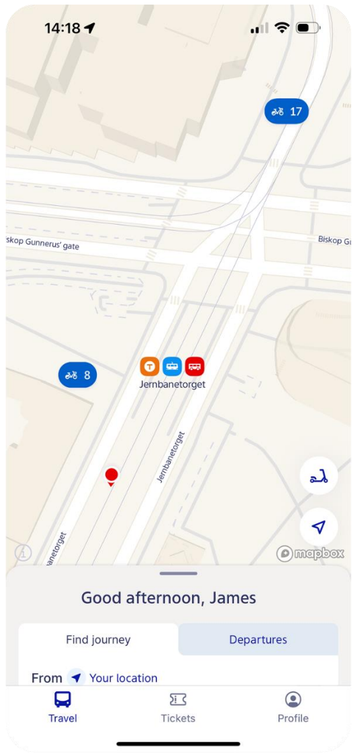
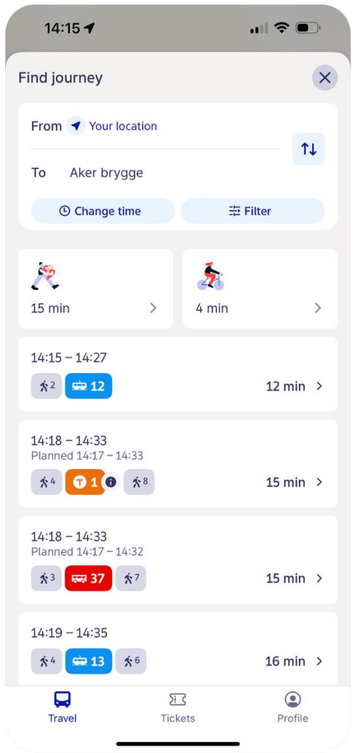
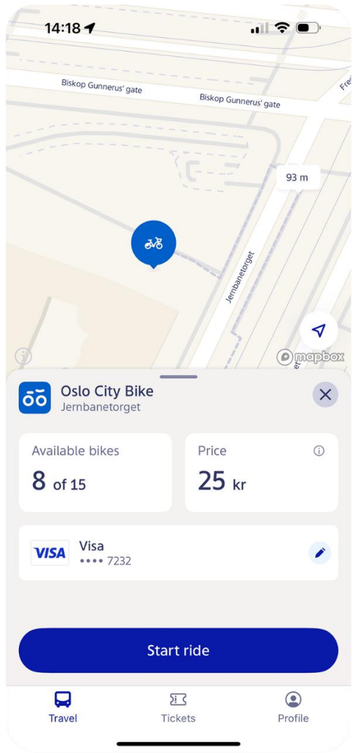
Ruter's vision: Sustainable freedom of movement

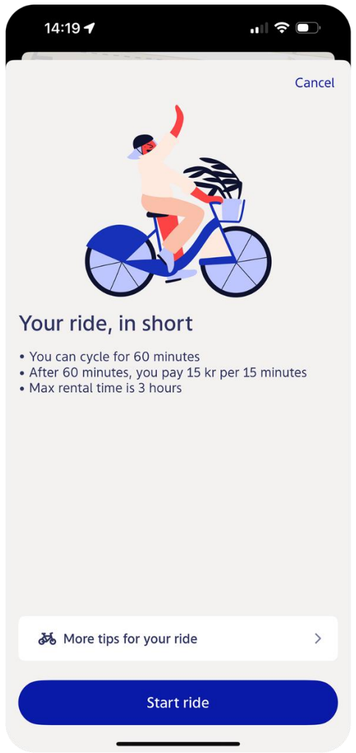
- ✓ Every person in the Oslo region should experience the **freedom to move** around as they want.
- ✓ The transport system that provides people with this freedom has to be **sustainable**.

City bikes in the Ruter app









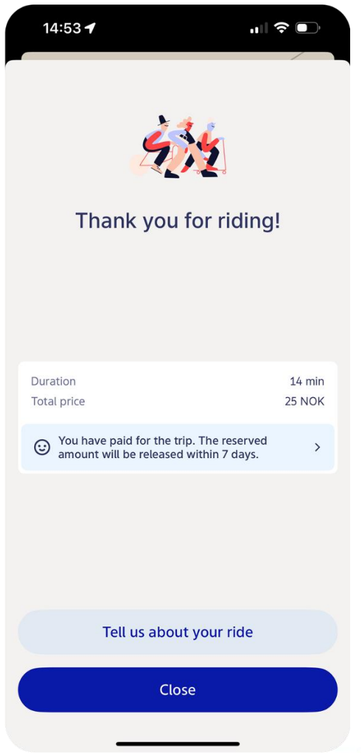


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Foto: Ruter As / Nucleus AS,Mathilde Spieler Palmers

Ruter#

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ACTIVE & PUBLIC TRANSPORTATION IN MADRID

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PEDESTRIAN AREAS

Peatonalizaciones
21 distritos

- Pedestrian accessibility is improved in 7 areas (Historic Centers)
- In 2 zones, an emission-free environment near schools is favored
- 2 recreational areas are extended
- In 11 areas, commerce and restaurants are enhanced
- 4 cases affect public transport

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CAMPAIGNS AND SATISFACTION

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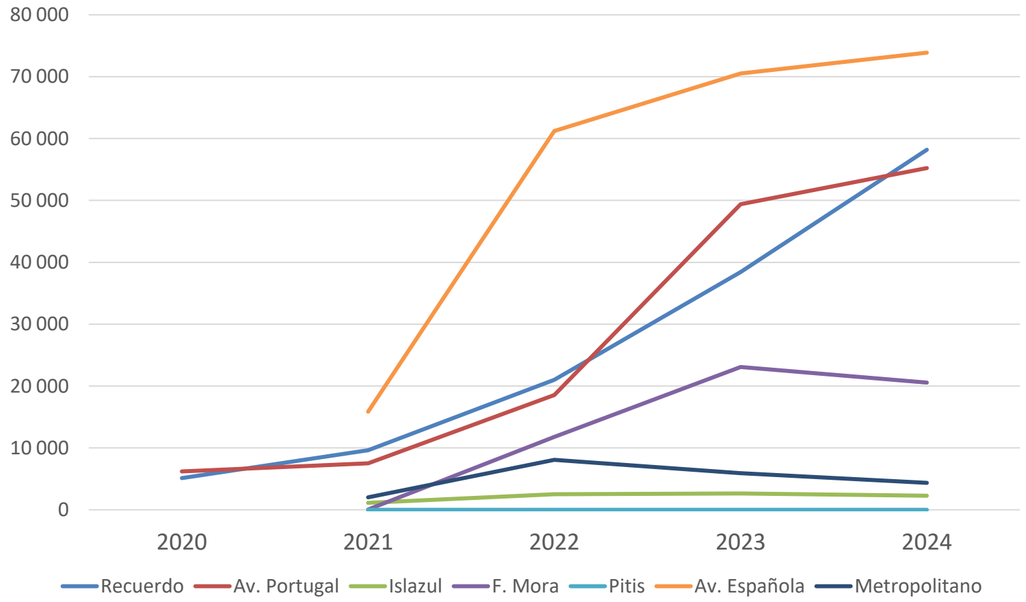

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Next steps towards cities as green and connected nodes for urban mobility

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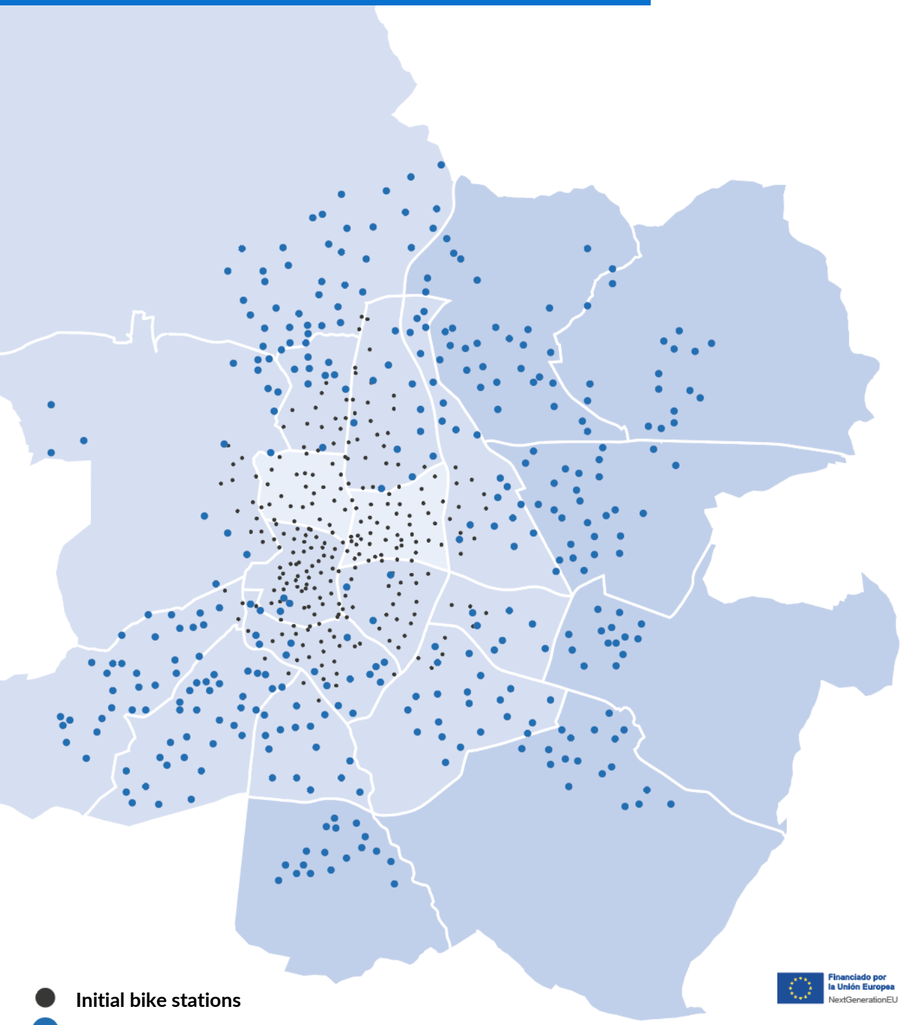
bicimad

BICIMAD OPERATES IN THE 21 DISTRICTS



- Initial bike stations
- Latest bike stations

MADRID 360

Financiado por la Unión Europea NextGenerationEU

Plan de Recuperación, Transformación y Resiliencia

EMT MADRID

MADRID

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TIO PEPE

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DE 8 A 11 H. DIAS LABORABLES
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Y ACCESO A GARAJES
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Next steps towards cities as green and connected nodes for urban mobility:

Session 1.2 Urban freight beyond parcel logistics

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User-Centric & Data Driven Solutions for Connected Urban Poles

MOVE 21

Moderated by

Raffaele Vergnani

Urban Freight Cluster Lead,
POLIS

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Project Manager
City of Gothenburg

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Process Manager
Business Region Gothenburg

Christiane Behrisch

Coordinator Urban Freight and Logistics,
City of Munich

Jan Kruska

Logistics and Transportation Expert
Deutsche Bahn

Bart Lannoo

Innovation Director
Be-Mobile

Peitsa Turvanen

Co-Founced and CEO,
Vinka

Comet Louise, Brussels, 1-2 April, 2025

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Introduction

- Urban areas are evolving rapidly, with growing population, changing consumption patterns, and an increasing demand for efficient and sustainable logistics systems.
- The so-called last mile — the last stretch of a delivery journey — is the most expensive and carbon-intensive part of the supply chain.
- While recently much attention has been given to parcel delivery driven by e-commerce growth, urban logistics extends far beyond parcel deliveries, encompassing a wide range of activities that ensure the smooth functioning of cities.
- It includes the movement of goods, services, construction, waste management, all of which contribute to a city's efficiency and sustainability.

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

Introduction

- With the push for sustainability, green logistics is gaining traction. Cities are integrating electric delivery vehicles, cargo bikes, and urban consolidation centers to reduce emissions and traffic congestion.

- Some urban areas have designated low-emission zones where only eco-friendly vehicles can operate, encouraging businesses to adopt greener logistics solutions.

- Overall, urban logistics is a vast and complex ecosystem that influences every aspect of city life. It determines how efficiently people receive goods, how waste is managed, how services are delivered, and how businesses operate.

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

Introduction

- This session aims to explore and deep dive on innovative strategies, technologies, and policies that enhance urban logistics, addressing challenges such as congestion, emissions, and last-mile delivery inefficiencies.

- We will hear from representatives from the public and the private sector about how the work that has been carried in the two projects contributed to advance towards a more sustainable urban logistics.

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

EGUM recommendations on urban freight

The full set of recommendations:

- Sustainable Urban Logistics Planning (SULPs)
- Data sharing for Zero Emission Urban Logistics
- Accelerated Deployment of Innovative Sustainable Solutions

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Urban freight in Gothenburg

Sustainable freight for the future city

Alexandra Bakosch, Urban Environment Department,
City of Gothenburg

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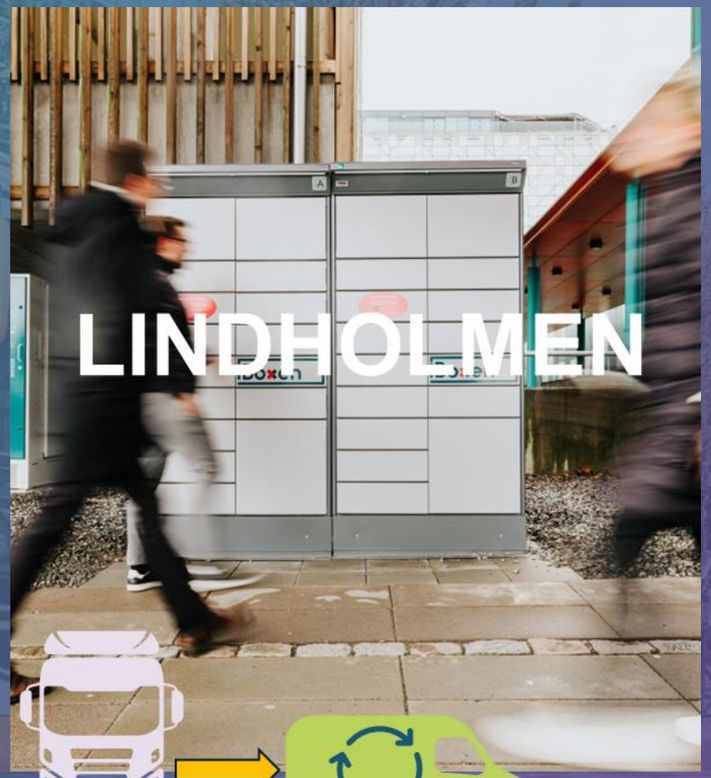
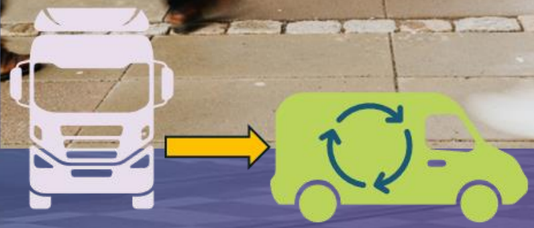
Living lab Gothenburg – 3 test sites





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TEU = Twenty-foot equivalent unit

1 TEU = Max 24 tons, average 10 tons

Transocean containership = 21000 TEU

300

30

5 250

2625

1 million

Feeder à 700 kg

Airplane à 8 TEU

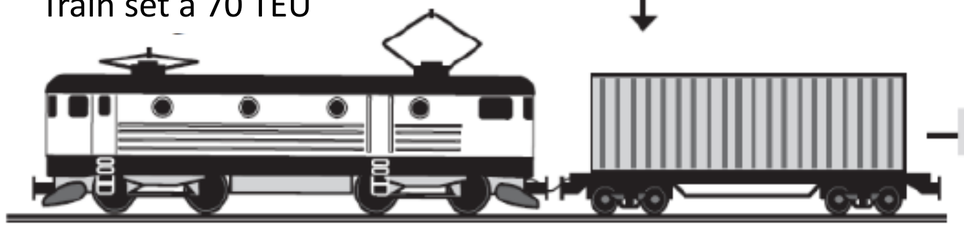
Cargo bikes à 200 kg

2

10

175

Train set à 70 TEU



Trucks à 4 TEU

17,5

4

Distribution truck à 1 TEU

Source: Lumsden, Stefansson, Woxenius, Logistikens grunder, 4e upplagan, Studentlitteratur 2019.

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Conclusions

- Strategy for urban freight
- System perspective
- Internal processes – where to fit it in
- Prerequisites
- Understanding ones toolbox
- Parcel lockers + mobility hubs
- Consolidation!
- Conflict of interest

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Thank you!

Alexandra Bakosch, Project manager - Urban Environment Department,
City of Gothenburg

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Bike logistics and micromobility in Gothenburg

Anastazia Kronberg
Business Region Göteborg

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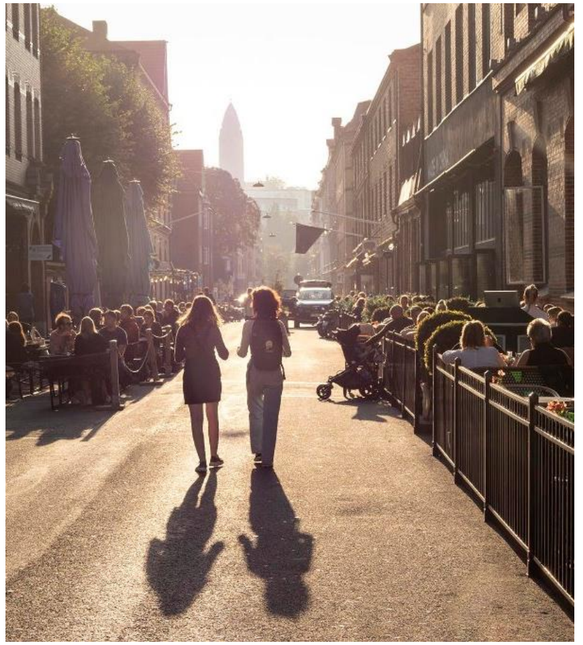
Last mile logistics in urban environments

Challenges

- Freight traffic accounts for about 15% of transport in our cities
- But accounts for more than a quarter of CO2 emissions
- Congestion, noise and dangerous environments
- Unnecessary space for turning radiuses and parking
- Costly - low occupancy rate
- Vacant retail space

Micrologistics as a solution

- Green, quiet and more efficient in dense urban environments
- Reduces air pollution emissions
- Contributes to a calm and safe local environment- car-free streets!
- Requires less space, makes room for other qualities
- Higher productivity than distribution by van and transport truck
- Does not require a driver's license, possibility to employ a wider group of people



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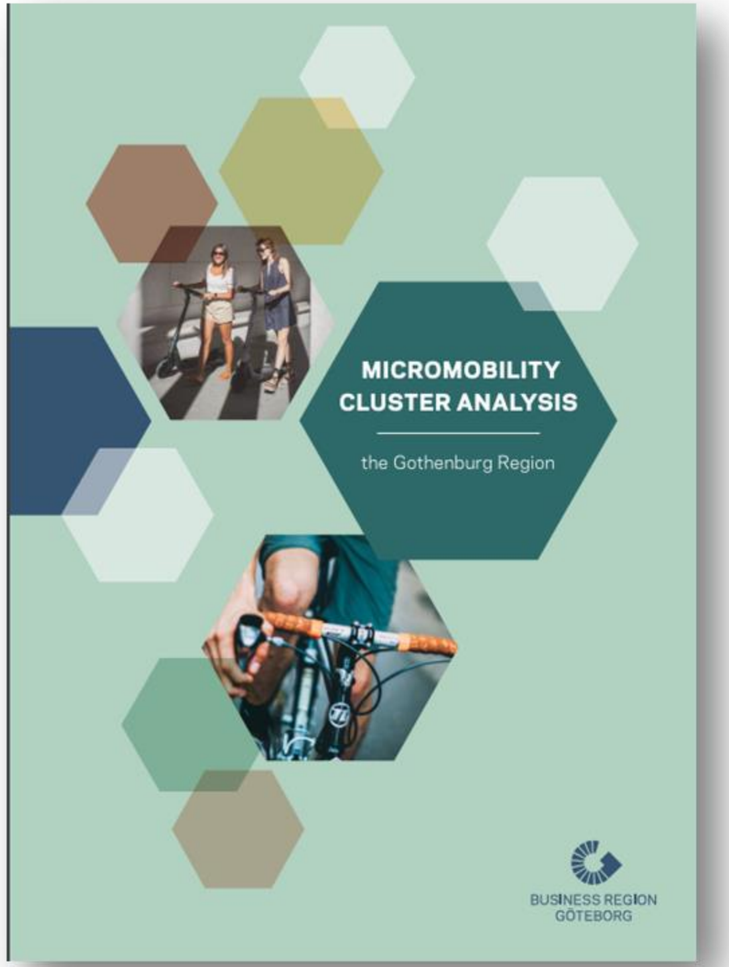
Micromobility cluster analysis



Challenges and needs

- Intersectoral collaborations and partnerships within the micromobility and micrologistic cluster
- Better dialogue between the industry and the city
- Infrastructure that favours micromobility and micrologistics
- Initiatives to promote skills development for bicycle technichans and towards servitasation business models

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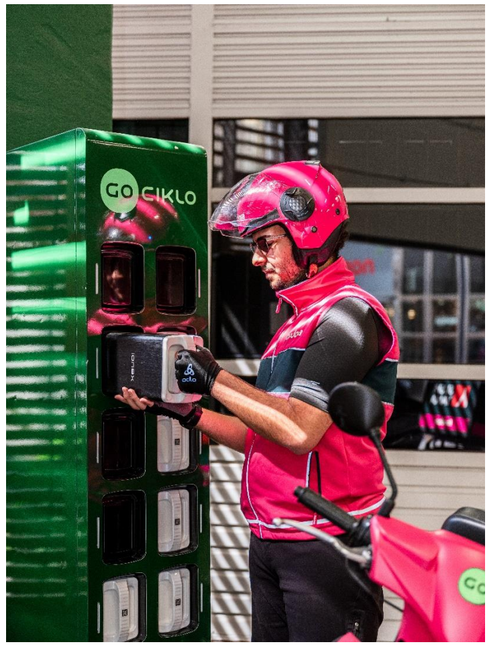
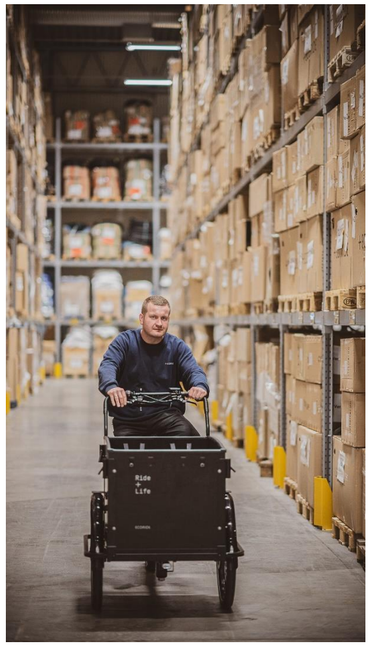
The mobility Hotel in Nordstan

A cross industry collaboration focusing on micromobility





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Take aways from the mobility hotel in Nordstan

- Business ecosystem analysis and strategic communication plan
- Cross industry collaboration
- Integration of business models and services is key- B2B and B2C
- Urban planning and procurements from a micrologistic perspective
- Infrastructure and regulations that favours micromobility and micrologistics

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Thank You!

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Cargo bike logistics in Munich – from Pilot to Ecosystem Scale-Up

MOVE21 Final Event, Brüssels, April 2nd 2025

Emission free last mile delivery by cargo bikes (target: 30%)

Landeshauptstadt München
Mobilitätsreferat

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Lesson Learned cargo bike logistics hub

Landeshauptstadt
München
Mobilitätsreferat

- It is valuable to have a “showroom” to demonstrate what is possible, to make solutions more tangible and to network with the players.
- Containers on gravel surface too expensive and complex for scaling, warehouses or finished products for parking areas (e.g. as developed by DB) are better.
- Mixed composition of logistics partners is important for use of space
- Cycle logistics is very positively received - also because players are striving for a positive image
- Integrated business model is important for scaling, e.g. including service partners

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Evaluation after 9 months

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280,000

Shipments

5,500

Tours

- 9.000

Hours of standing time in public spaces (⌀ - 1,8 hours per tour)

- 6 t (netto)

GHG-Emissions (in CO_2 equivalent)

(- 8 t when using 100% renewable energy)

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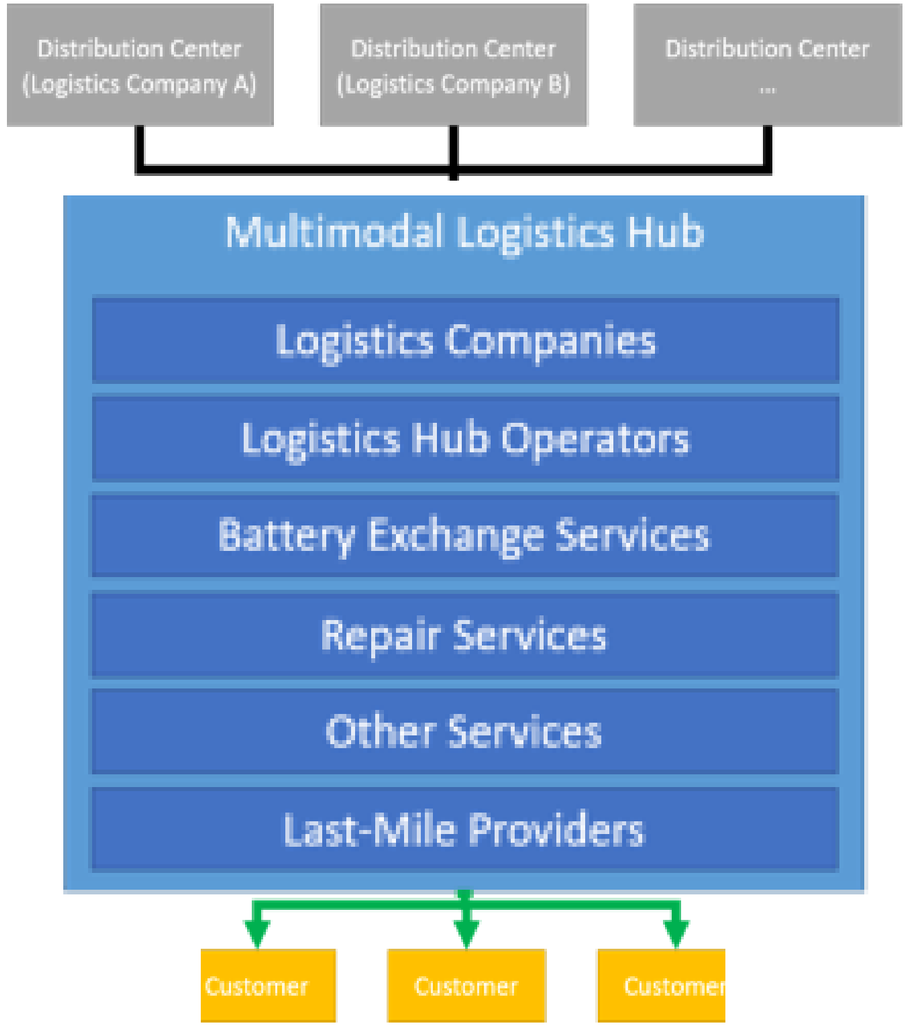
metaCCAZE – Ecosystem Scale-Up

Landeshauptstadt
München
Mobilitätsreferat



metaCCAZE

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Potential spaces

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Thank you for your attention

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Urban logistics – beyond parcel logistics

Results Hamburg

Bruessels, 02.04.2025

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Hamburg: multi-functional Hubs

logistics & social usage

mobility & (recylcling-) logistics

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key results

Multifunctional hubs create advantages: **one place for different sectors**

Potential locations for urban transformation: **parking spaces**

One basic building type for many uses is needed

1. modular **construction**
2. rent or buy **financing**
3. common **city-design frame-permitments**
4. **individual operations**

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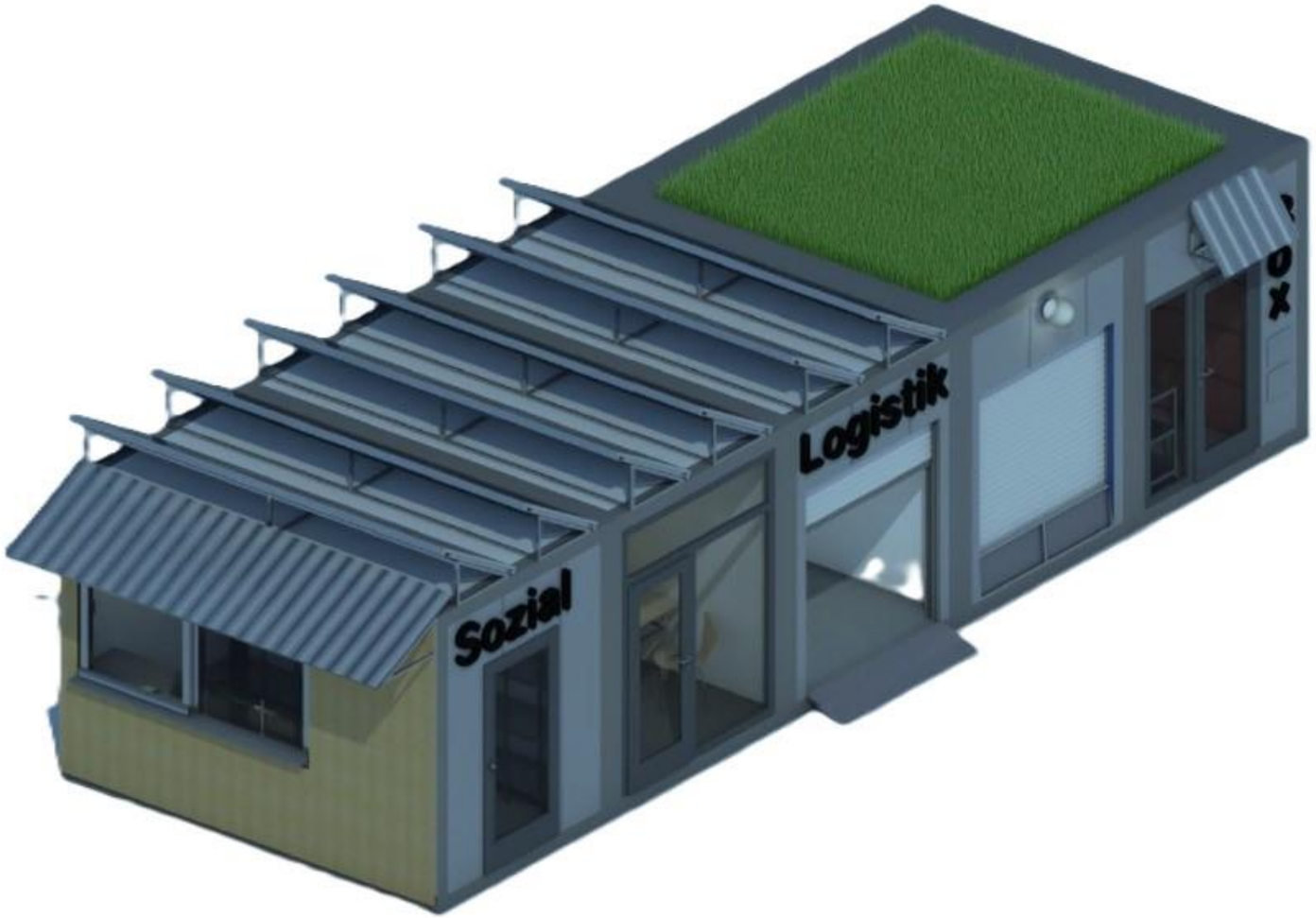
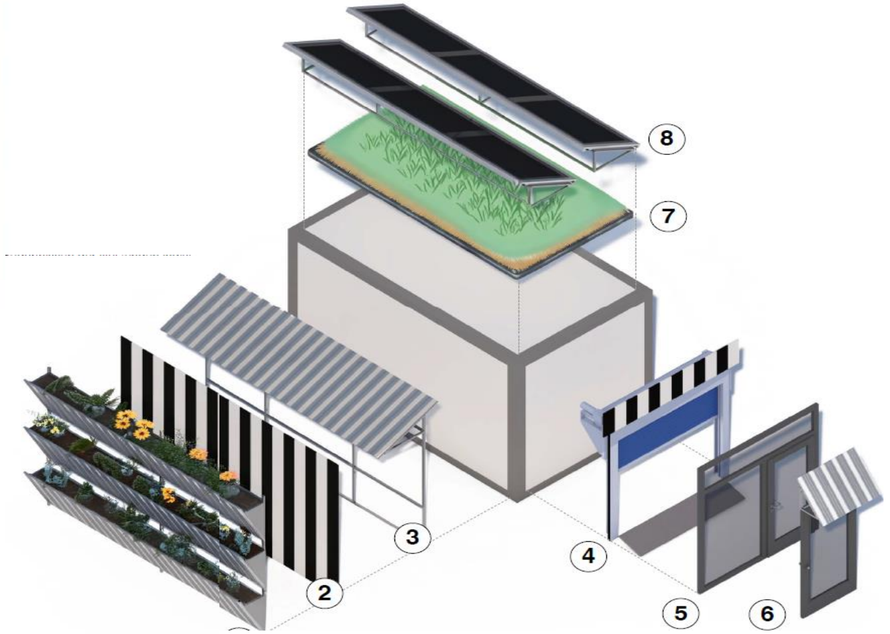
co-creation design 2025 : let's make things happen





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Urban logistics – beyond parcel logistics: Safe freight route planner (SCALE-UP - Antwerp)

Bart Lannoo, Innovation Director, Be-Mobile
bart.Lannoo@be-mobile.com

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

Safe Freight Route Planner: Goals

- **Minimize unsafe traffic situations**
- **Minimize driving time in the city center**
- **Minimize stress for drivers**
- **Create support for freight traffic in the city**

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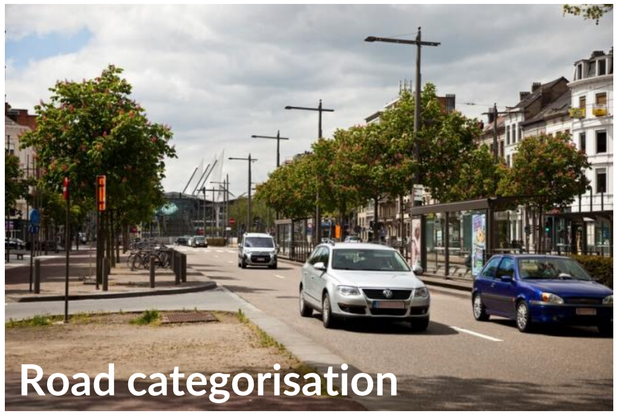
Safe Freight Route Planner: Parameters



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Safe Freight Route Planner: Flow

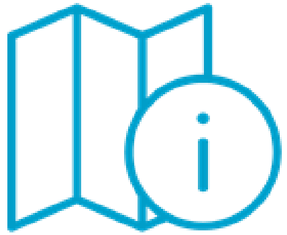
Public data

Real-time **travel times**

Basemap
Road classes
Access restrictions
Tunnels
Turns
Approach direction

Policy
Enter own parameters

Enter policy weights



Basemap with dynamic and real-time resistors

Real-time Safe Freight Route Planner API

Navigation apps

Webtools

Fleet platforms

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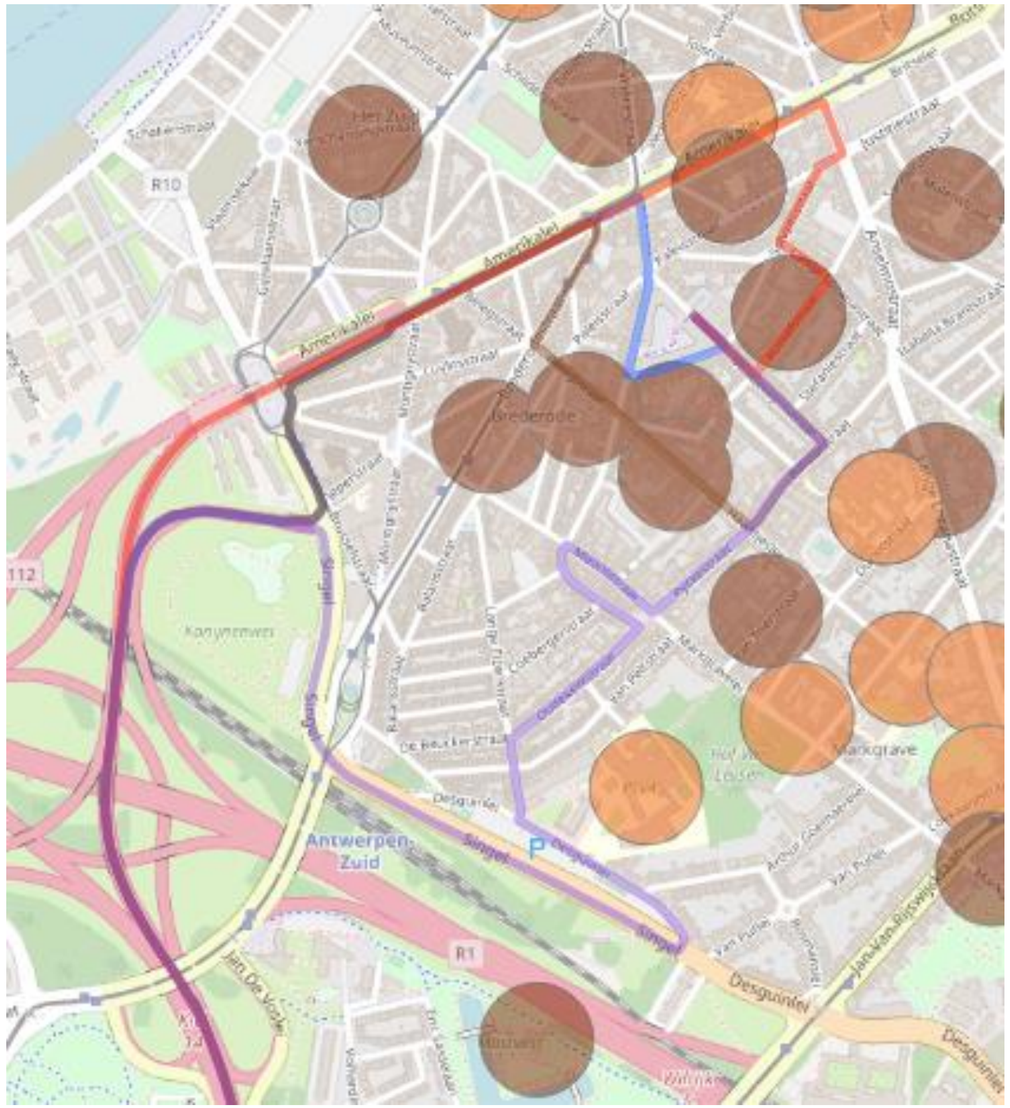
Safe Freight Route Planner: Example



Blue = Google route, physically not feasible for trucks, because of sharp turn

Brown = Retailer route, passes through multiple school zones

Purple = Variant avoiding school zones, but passes through residential zones + additional turns

Red = Safe Freight Route, only passes school zones on main road & at destination

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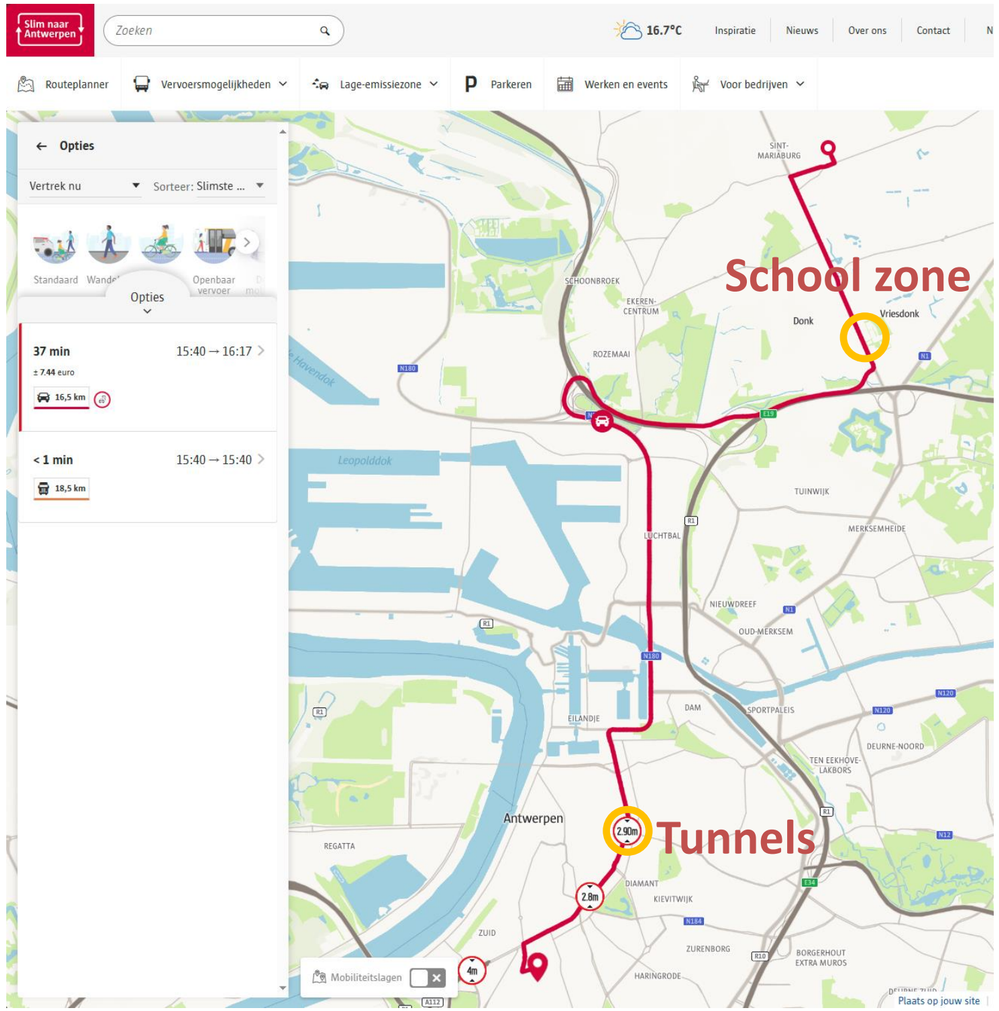
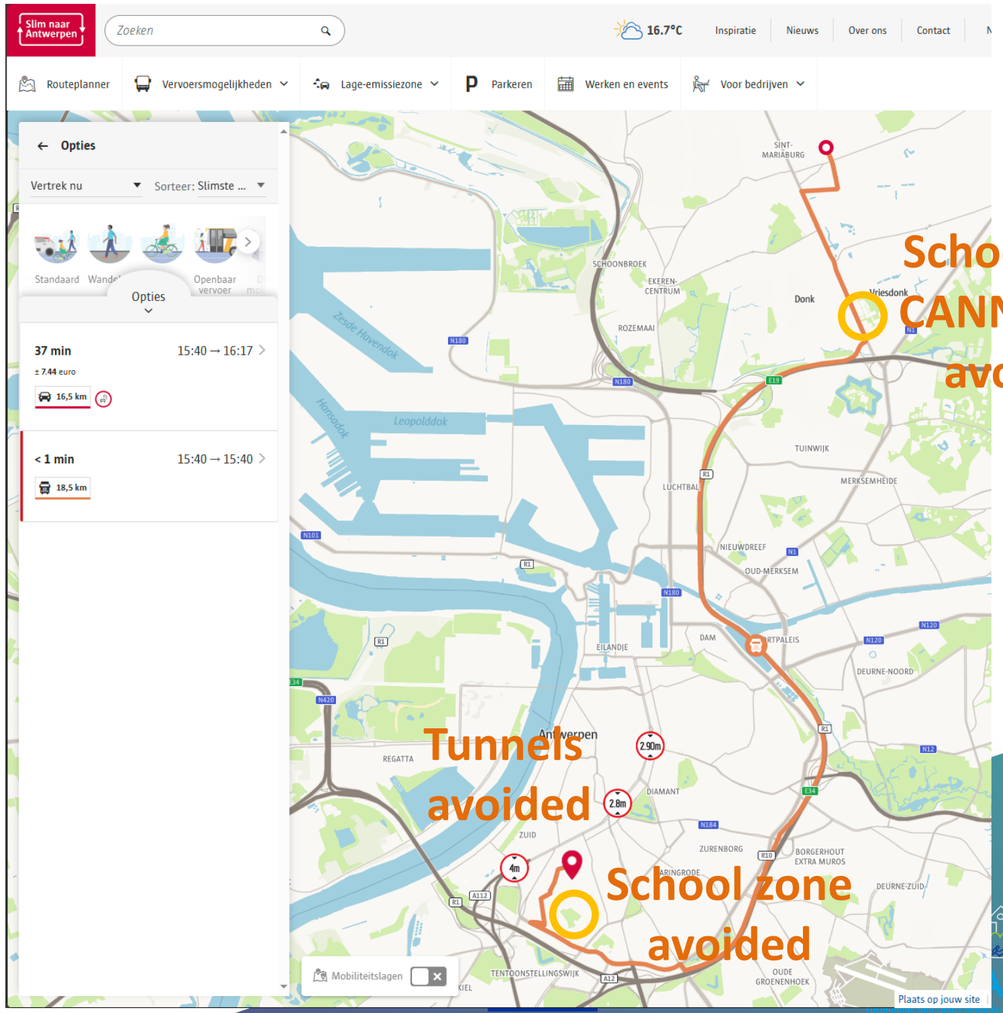
Safe Freight Route Planner: Integrated in Smart Ways to Antwerp

Car route



Truck route (truck height 4.5m; width 2.5m)



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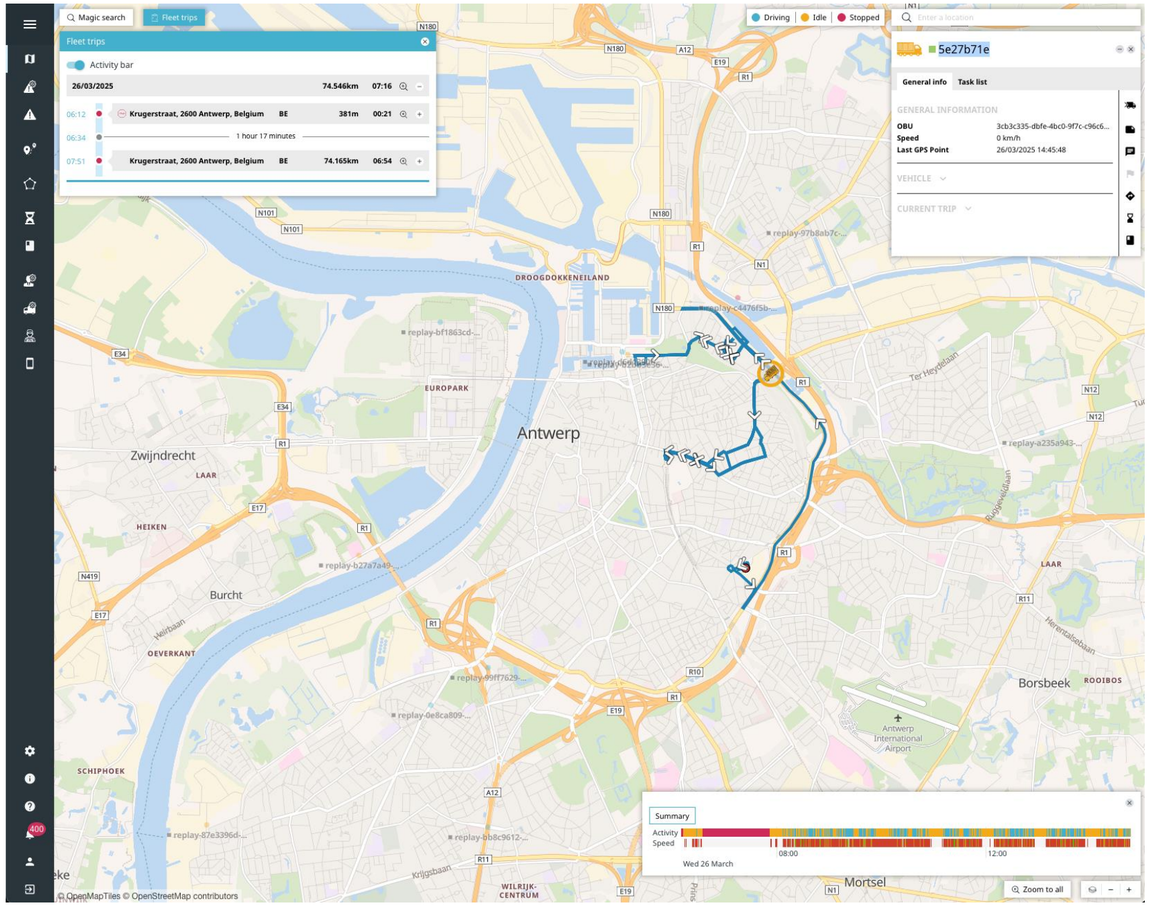
Safe Freight Route Planner: Future



- Share access rules with logistics service providers
- Integrate city policy in route planner / fleet platform
- Optimize deliveries, adapted to access rules & city policies

DISC

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Contact: bart.lannoo@be-mobile.com

BEMOBILE

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MOBILITY AND LOGISTICS PORTAL

CAN DIFFERENT SERVICES BE MANAGED ON A SINGLE PORTAL AND WHAT BENEFITS WOULD IT BRING?

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VINKA - SOFTWARE FOR SMART FLEETS

VINKA

- Taxi
- Special needs transportation
- Public transport
- Last-mile logistics
- Autonomous last-mile

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MOVING FROM SILOS…

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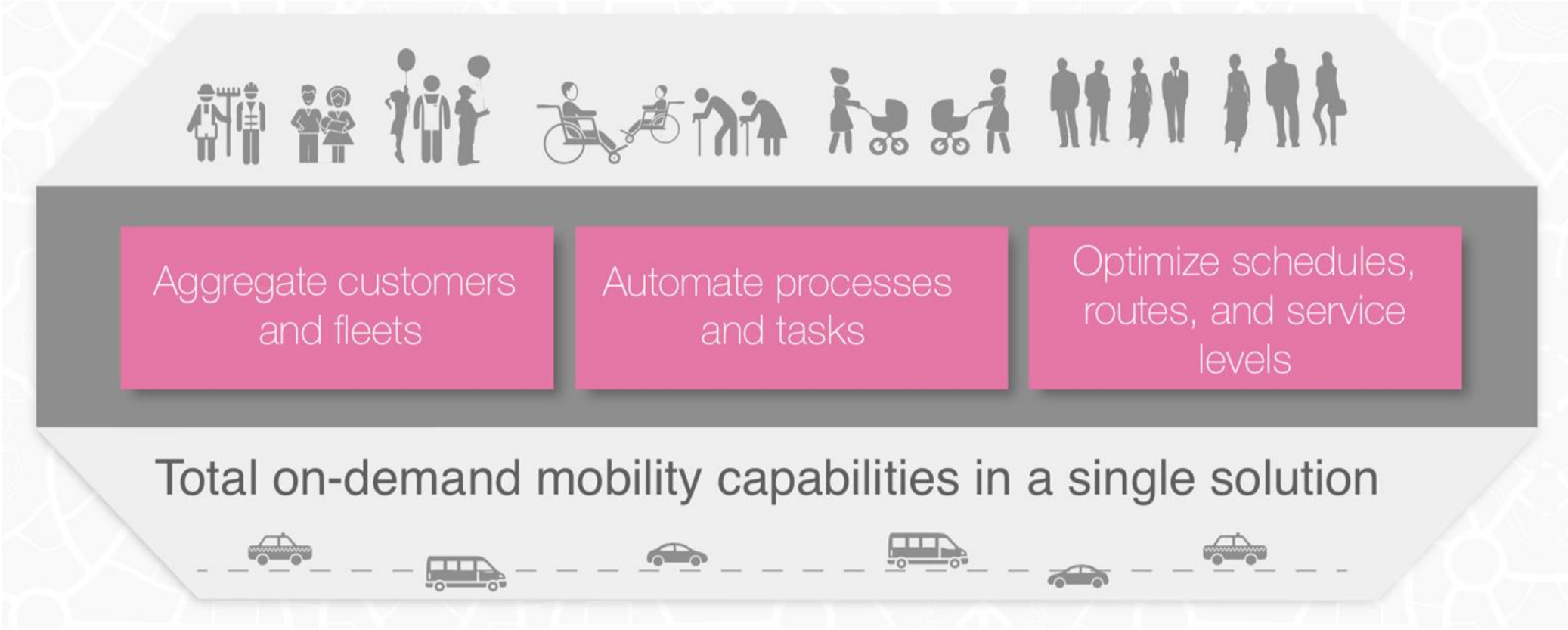
…TO MOBILITY PLATFORM



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SCALE-UP - QUESTIONS

- How to operate different types of on-demand services on a single portal?
- Is it possible to combine mobility and logistics services?
- What benefits could we get if we were able to aggregate multiple services into a single portal?

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SCALE-UP - FINDINGS

- The biggest obstacle is not technology but attitudes.
- Data is surprisingly difficult to find.
- Mobility and logistics services can live on same platform but they are not necessarily suitable for sharing resources. We can still get benefits.
- Also the 3rd sector actors could benefit from a mobility portal.

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Final remarks

- The private sector is often at the forefront of innovations in many transport domains, such as smart mobility infrastructure, traffic management systems, urban logistics innovation and digital innovation.

- Cities and regions are excellent test beds for new solutions and can gain valuable insights in how they can improve, organise and regulate urban mobility and logistics.

- Review spatial planning and traffic regulation levers to optimise the flexible use of space and traffic networks. Identify the biggest obstacles to flexible use of urban space and land use.

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Next steps towards cities as green and connected nodes for urban mobility

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Session 2.1 Behaviour change: nudging citizens & end users' acceptance

Laura Delgado, CRTM

Anna-Kaisa Montonen, City of Turku

Katia Kishchenko, City of Antwerp

Alessia Copelli, Metropolitan City of Bologna

Moderated by:

Dr. Jan Barski, HCU

Florian Becker, Eurocities

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Smart ways to Antwerp: nudging behaviour change at events

City of Antwerp – Katia Kishchenko

2 April 2025

Smart ways to Antwerp

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MOVE 21

Antwerp – biggest city in Flanders

- 208 km²
- > 565,000 inhabitants
- > 50,000 students
- > 80,000 companies
- > 260,000 employees
- Port of Antwerp-Bruges second largest port in Europe

City of Antwerp and Antwerp Transport Region

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Next steps towards cities as green and connected nodes for urban mobility

Mobility goal: modal split of 50/50 in the city and transport region

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Next steps towards cities as green and connected nodes for urban mobility

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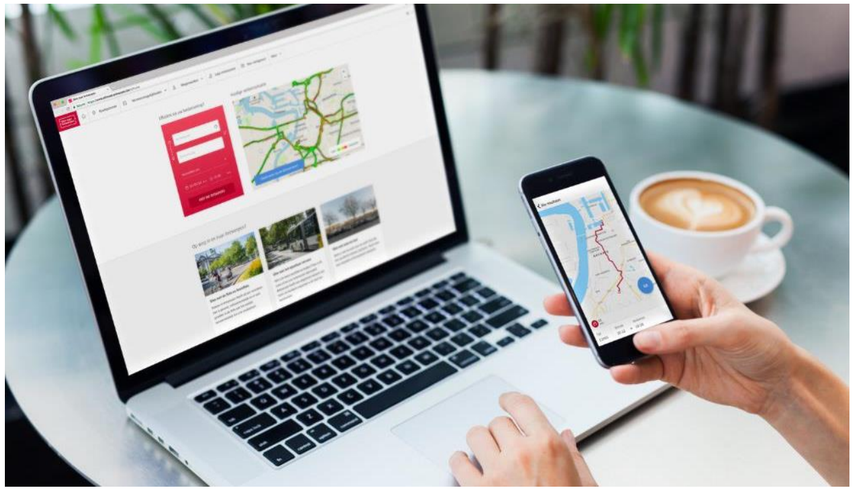
MOVE 21

How?

Communication
Cooperation employers & providers
Digital solutions

Infrastructure
Mobility offer



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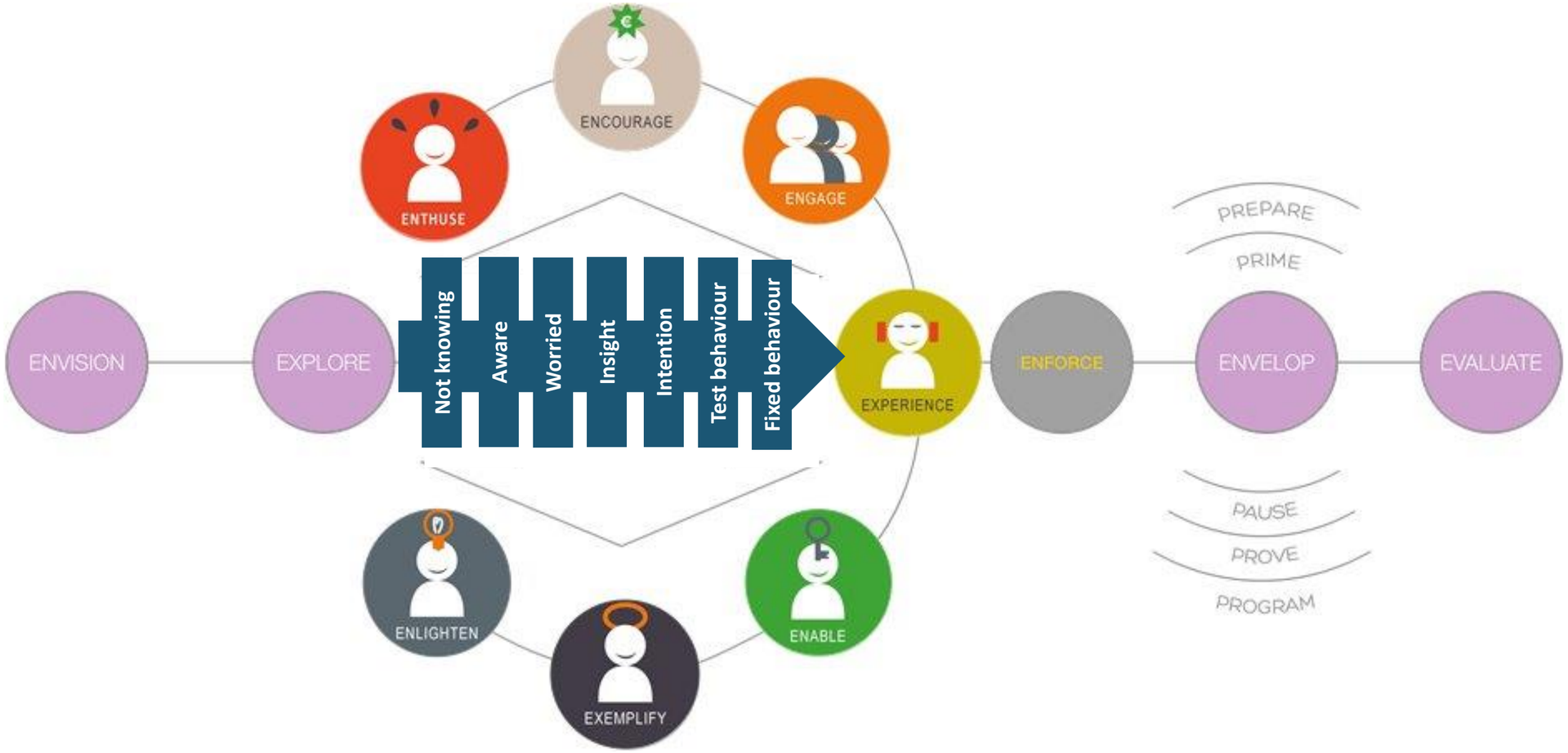
7E model for behaviour change



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Events are a great opportunity to introduce and strengthen behaviour change

No ‘fixed’ behaviour → people might be more open to alternative travel choices

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Mobility and accessibility guidelines for event organizers in Antwerp

4 basic principles:

- Prioritise cyclists and pedestrians
- Keep main walking and cycling lanes open as much as possible
- Advice car users to use the P+R's and public car parks
- Provide clear accessibility information, together with Smart ways to Antwerp

Specific guidelines and rules based on the size of the event

- F.e. temporary bike parkings, road signalisation, discounts for PT and shared mobility, extra PT, parking guidance, modal split survey,…

More information and the guidelines:

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Nudging towards sustainable mobility during events

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Accessibility information

Vanaf: 21 april 2025
Tot: 21 april 2025
Type: Evenement
Situatie: Beperkte hinder

Op 21 april vindt de Tulpenpluk plaats naar Berendrecht tussen 12 uur en 19 uur. Pluk er gratis 10 tulpen en blijf gezellig plakken op het oogstfeest.

Kom je met de (deel)fiets of scooter?

Stippel de beste route uit met de multimodale routeplanner op onze website of app. Pendelen vanuit en naar het centrum kan eenvoudig met de (deel)fiets of (deel)scooter.
Een rit van Antwerpen centrum naar Berendrecht is ongeveer 23 kilometer en duurt 2,5 uur. Heb je een e-bike? Dan doe je er ongeveer een uurtje over. Naast de tulpenweide is er een grote fietsenstalling.
De dichtstbijzijnde **Donkey Republic** hub ligt aan bushalte Kleine Bredestraat en aan bibliotheek Viswater (Tongerlostraat 1), vlakbij de autoparking van de Tulpenpluk. Tijdens de Tulpenpluk is er een extra dropzone voorzien naast de fietsenparking aan de tulpenweide.

Kom je met het openbaar vervoer?

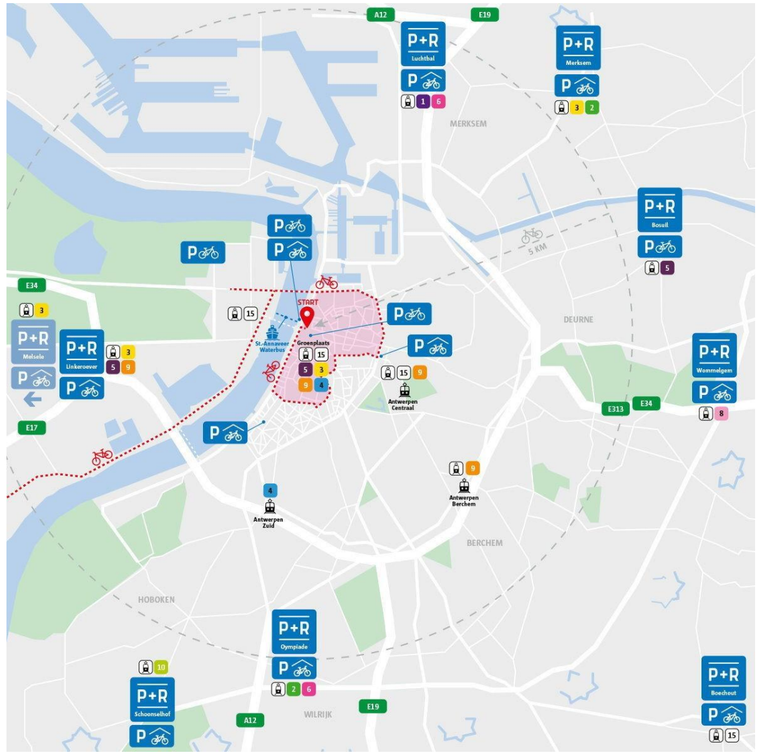
Trein

Helemaal nieuw! Kom met de trein vanuit Antwerpen-Centraal naar de Tulpenpluk. Je kiest voor een retourticket van 5 euro. Je hebt de keuze uit 3 treinen:

Trein 1: Antwerpen-Centraal - Berendrecht (locatie)

De trein vertrekt in Antwerpen-Centraal om 11 uur en komt aan in Berendrecht om 11.30 uur. Je bereikt de tulpenweide met de tulpentram of te voet. Geniet van je bezoek. De terugreis vertrekt in Berendrecht om 15 uur en komt aan in

Accessibility event page on website



Accessibility map of the Tour de Flanders

Map of Borgerrio event with special mention of the (guarded) bike parkings

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Raise awareness through campaigns

On-street mobility campaigns

Digital & social media campaigns

Mobility festival Antwerpen Shift

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Next steps towards cities as green and connected nodes for urban mobility

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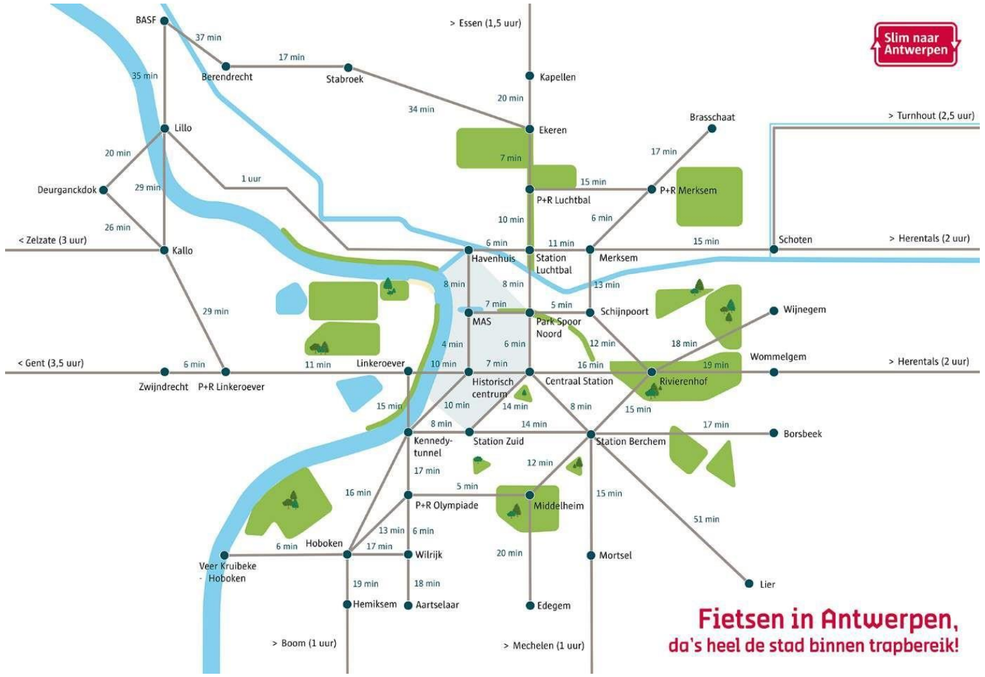
MOVE 21

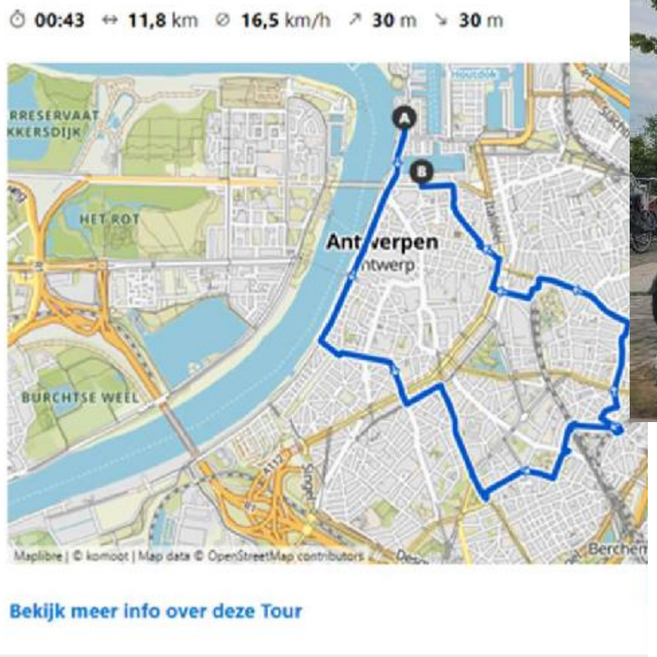
ENGAGE

ENABLE

Facilitate active mobility



Cycling and walking map of city centre



Cycling route for spectators during the Antwerp Marathon

Temporary bike parkings at events + promotion of existing parkings

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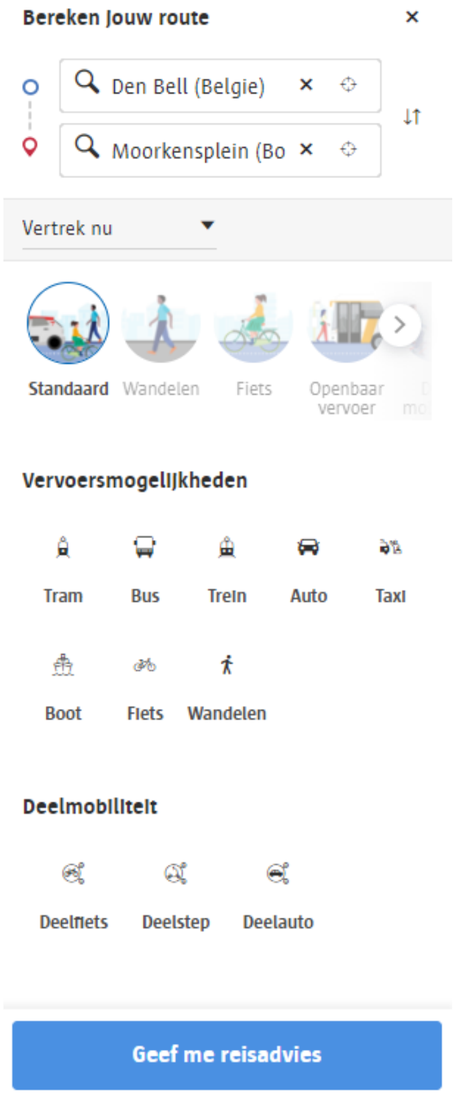
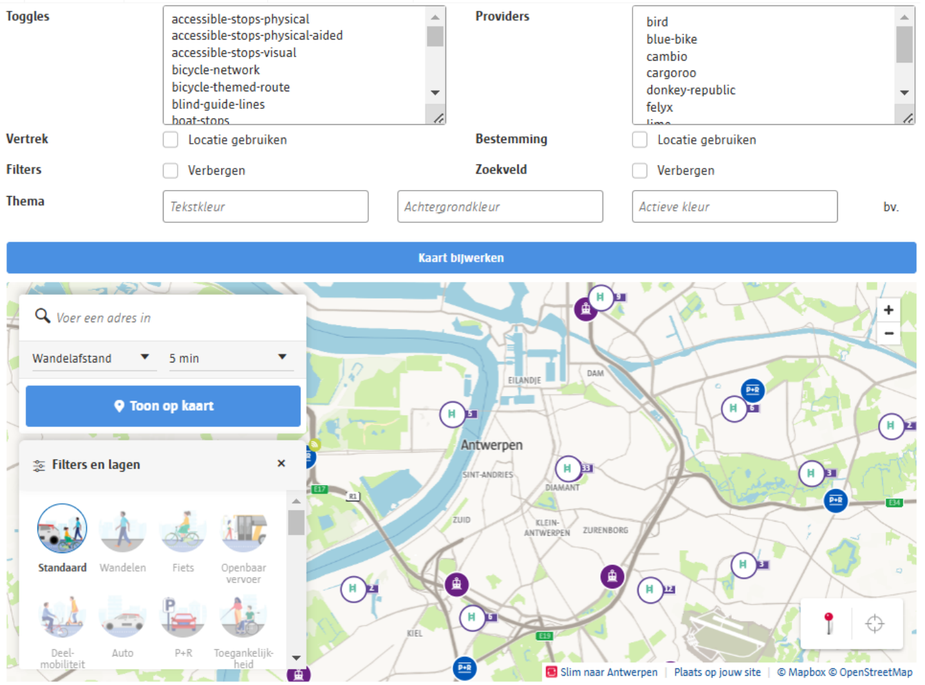
Next steps towards cities as green and connected nodes for urban mobility

Multimodal route planner



- on foot
- bicycle, e-bike & foldable bike
- shared bikes
- bus and tram
- train
- P+R
- boat
- car and taxi
- shared scooter
- shared moped
- shared car



Route planner widget

Try out our route planner:

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Incentives & experiences

Student discounts for shared mobility

Rewards for cyclists at the bike parking

Antwerpen Shift: gadgets for sustainable travel, cycling test track

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Results & conclusions

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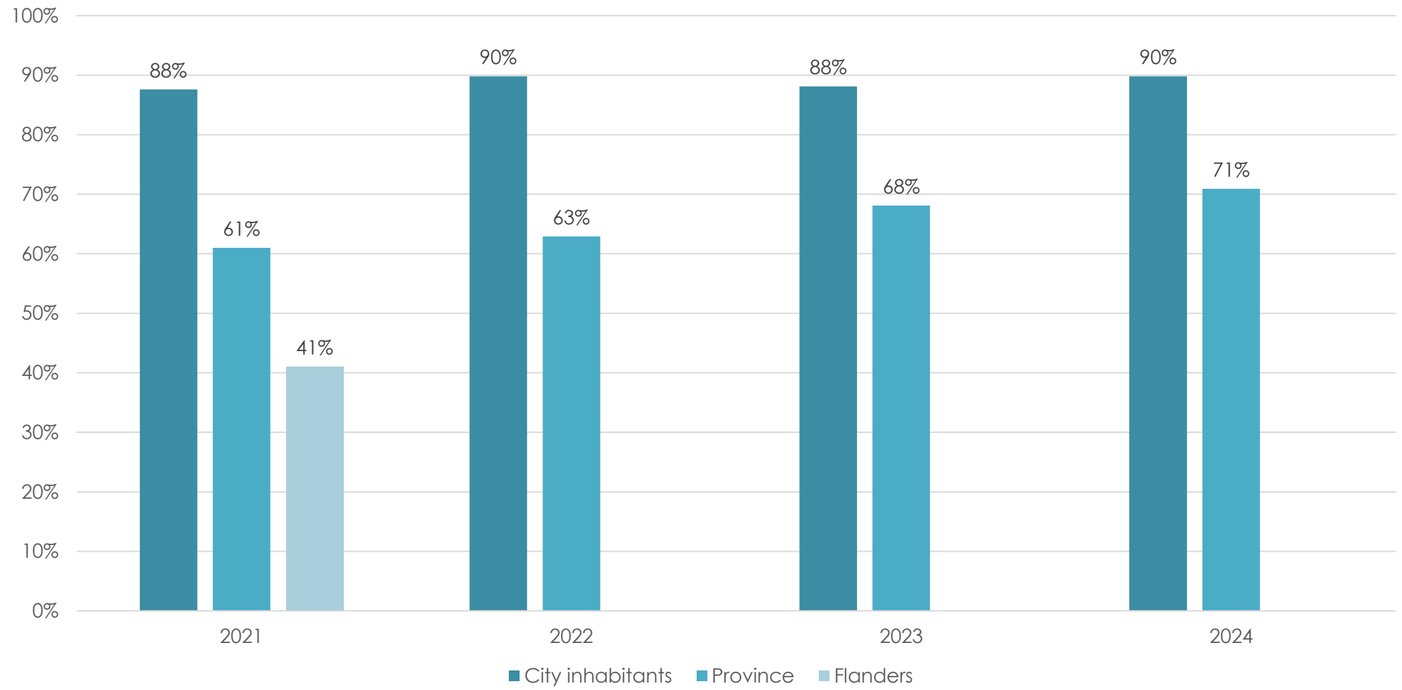
Brand awareness of Smart ways to Antwerp



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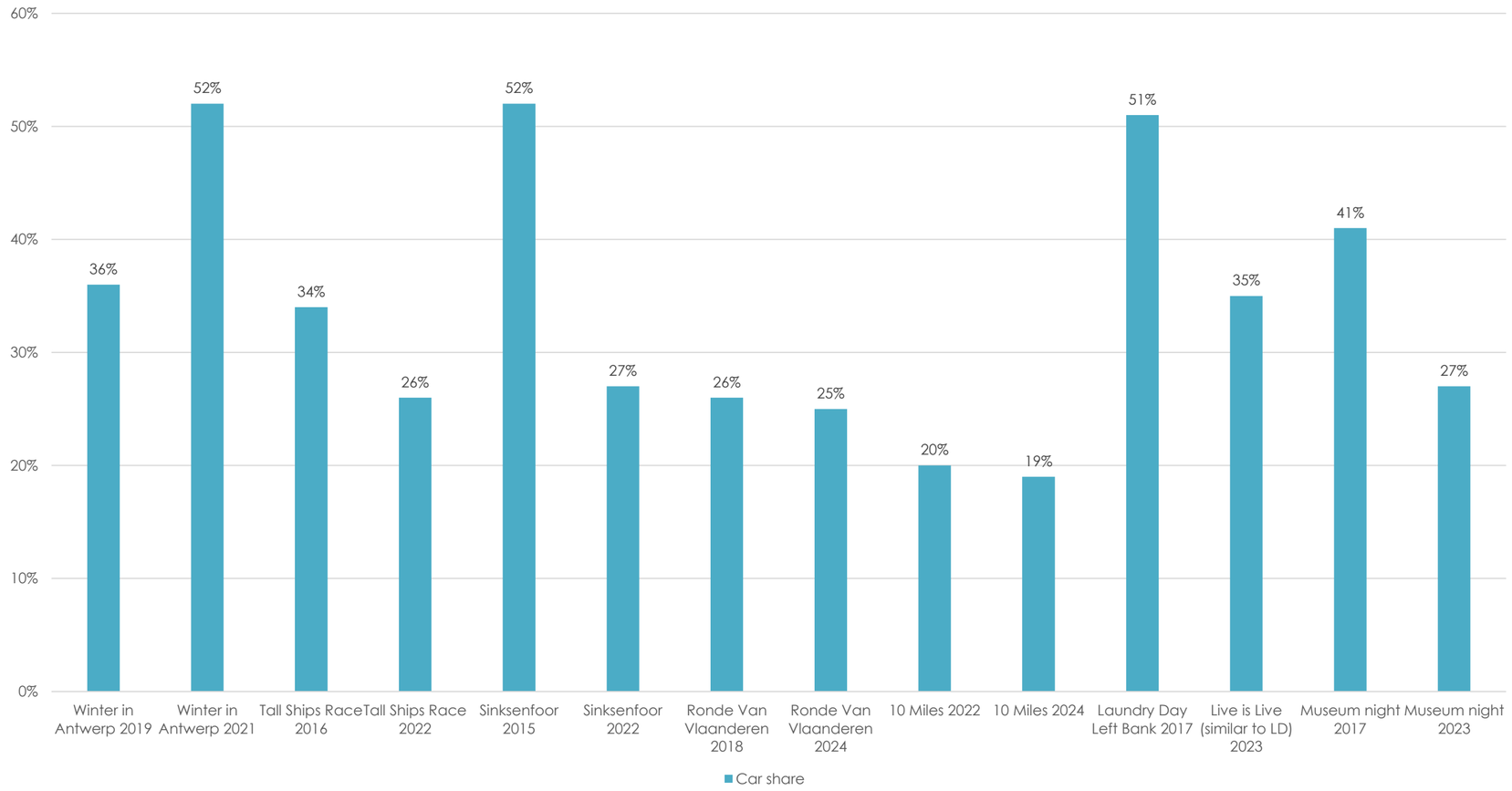
Car modal share of visitors at monitored events



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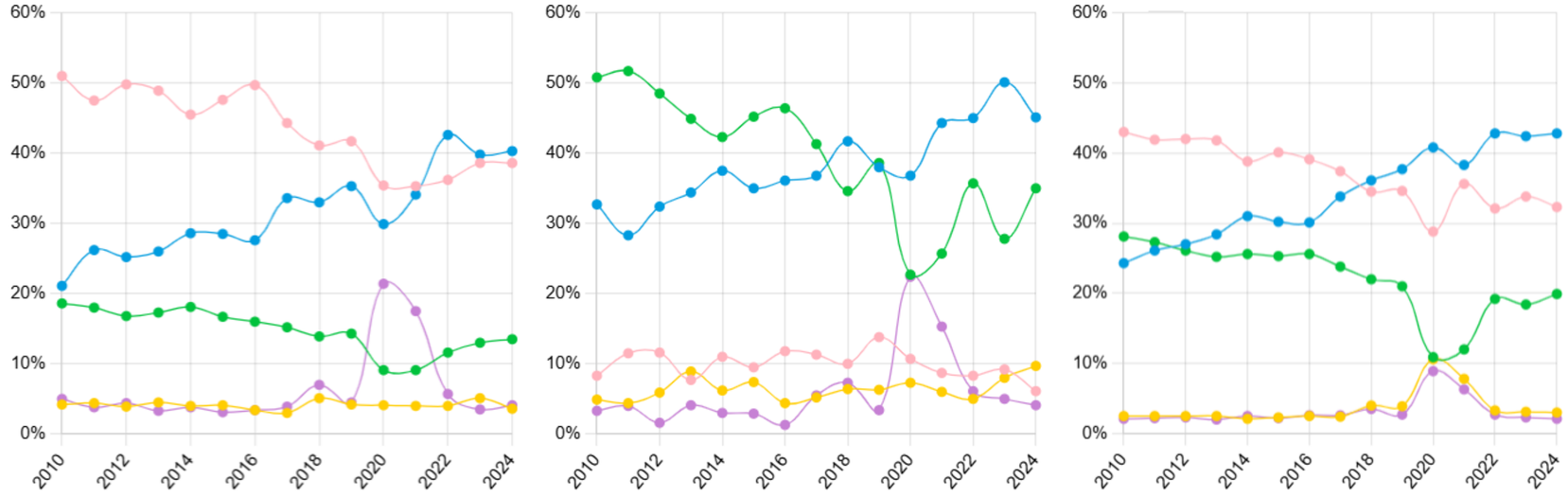
Modal split Antwerp inhabitants

To work

To school

Leisure



anders of niet verplaatst

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Conclusions and lessons learned

- All stakeholders reacted positively to the guidelines for event organizers
- Joint efforts contribute to the decrease of car use at many events
- Intensive process involving many stakeholders → use resources wisely
- Communication, communication, communication

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Thank you!

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Temporary hubs for micro-mobiliy supporting major public events

Use case form Bologna

Alessia Copelli, Metropolitan City of Bologna

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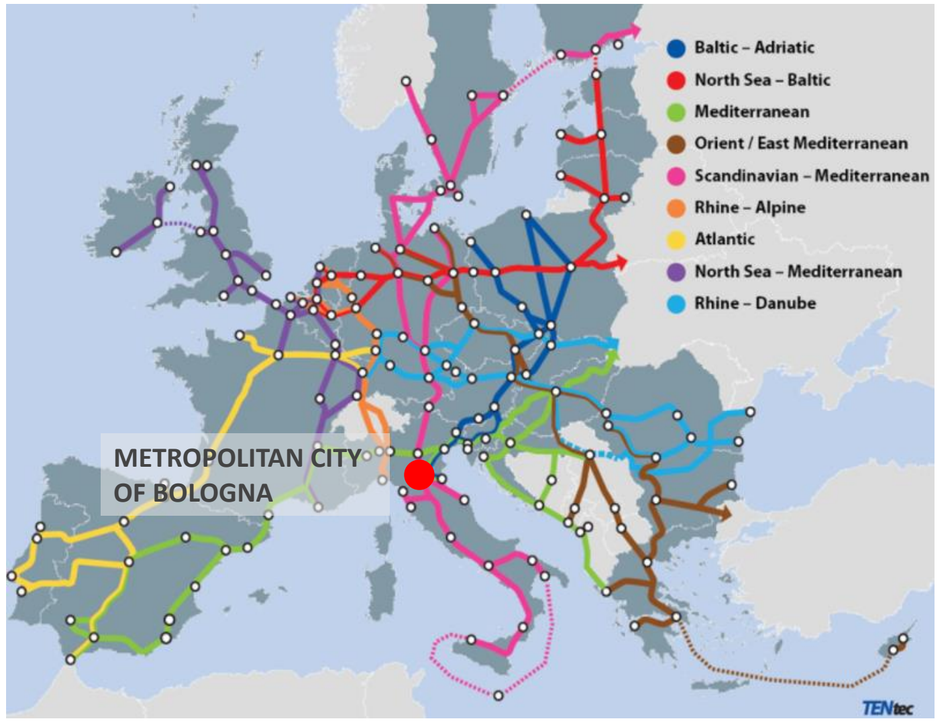
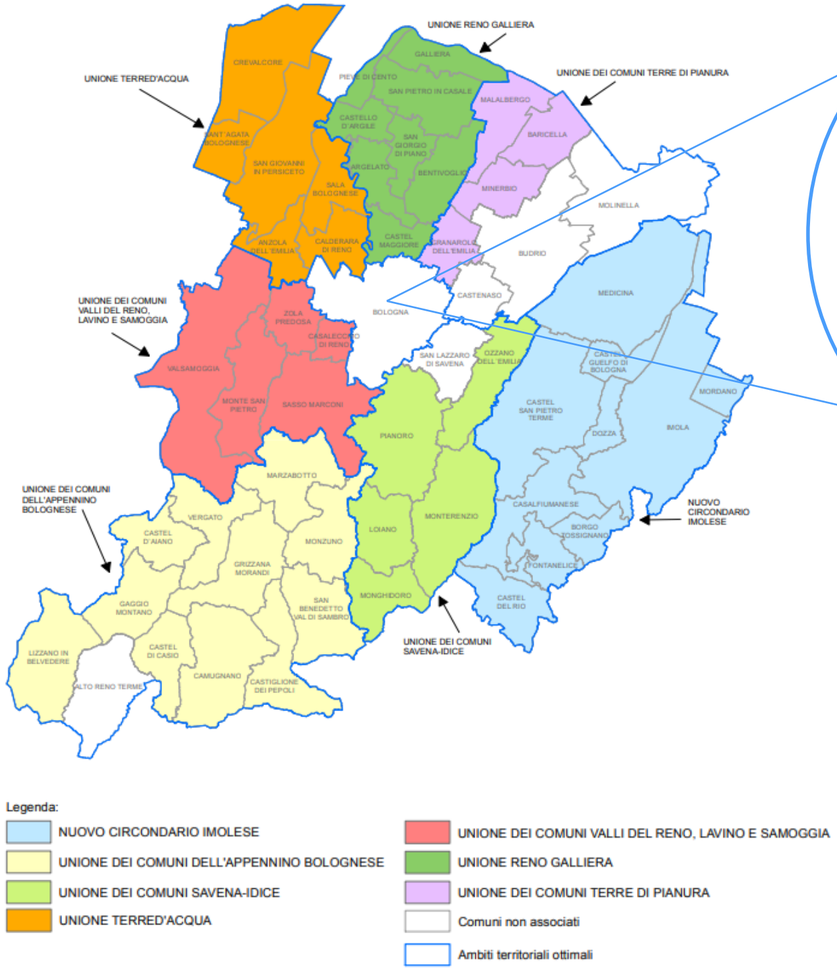
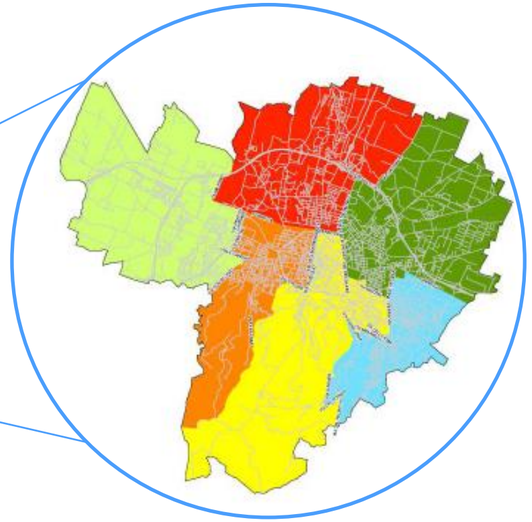
Next steps towards cities as green and connected nodes for urban mobility



Bologna in the European transport and mobility network

14 metropolitan cities in Italy
Bologna, Venezia, Milano, Torino, Bari, Reggio Calabria, Messina, Catania, Palermo, Napoli, Roma, Firenze, Genova, Cagliari





Metropolitan City of Bologna
7 Unions
55 Municipalities
Approximately 1,000,000 inhabitants

City of Bologna
6 districts
Approximately 390,000 inhab.

CONTEXT | THE METROPOLITAN CITY OF BOLOGNA

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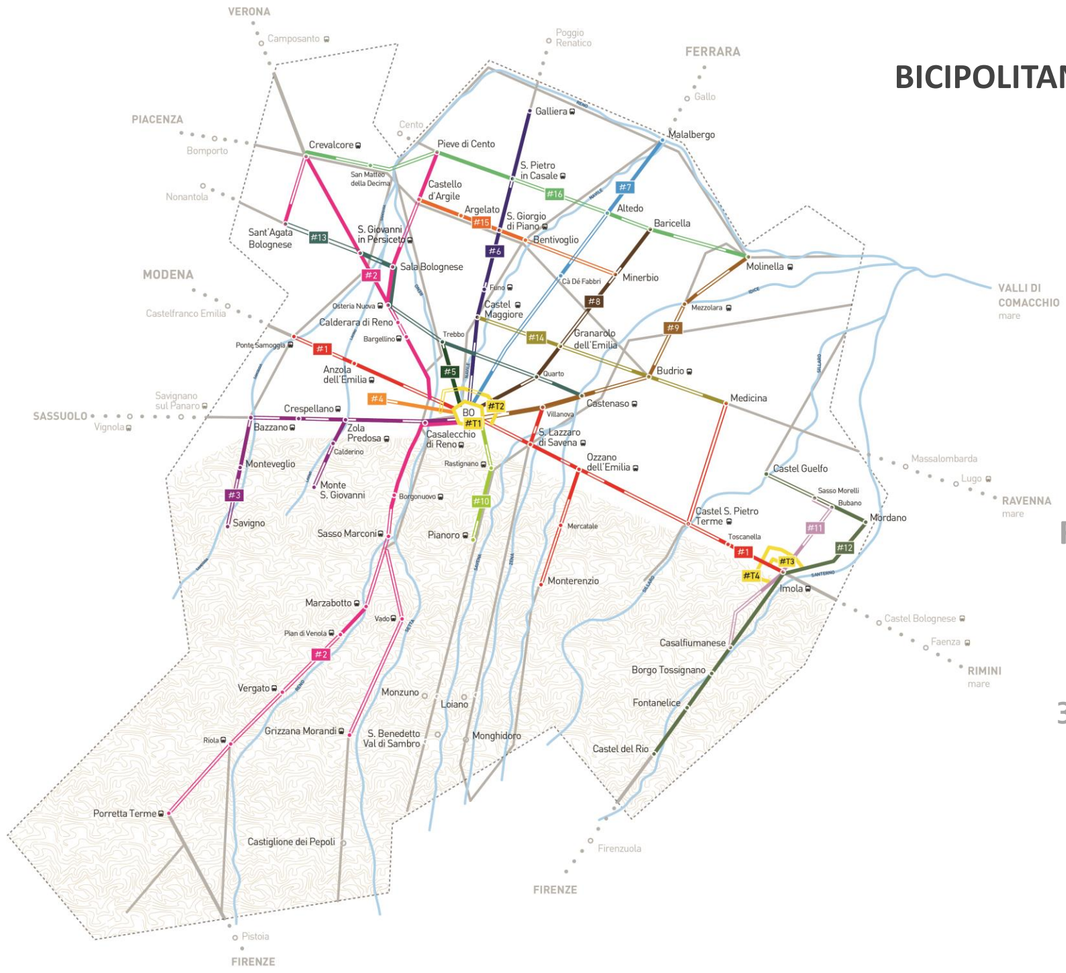
PUMS
BOLOGNA METROPOLITANA
Piano Urbano Mobilità Sostenibile

#BICIPOLITANA

THE METROPOLITAN BIKE NETWORK.
Not just an infrastructure, but a concept
for urban and environmental development

Objectives:

- Cyclable infrastructure
- Shared spaces and widespread cycling culture
- Facilities to support cyclist
- Communication, promotion and training
- Wayfinding system and coordinated image



BICIPOLITANA FOR DAILY CYCLING

20 Lines
980 km
10 radial lines
6 transversial lines
4 tangential lines
connections

FOR LEISURE CYCLING

16 Lines
920 km
378 km coinciding with the daily cycling network (4 lines)
5 radial lines

CONTEXT | THE SUMP AND BICIPOLITANA

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Next steps towards cities as green and connected nodes for urban mobility

Public (and logistic) traffic at public events causes traffic congestion and increase pollution

WHY | PROBLEM

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Next steps towards cities as green and connected nodes for urban mobility

Foster sustainable mobility in occasion of major event in the city to promote the use of bicycles and cargo bikes, by both general public and logistical suppliers.

The aim is to:

- **Increase sustainable mobility**
- **Reduce traffic congestion and pollution**
- Testing the **feasibility and people perception of changing** the original use of public and private areas

Example of Gent

WHY | PURPOSE

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Next steps towards cities as green and connected nodes for urban mobility

Test in the city of Bologna of temporary and monitored **parking areas for bikes and cargo-bikes** (**BICIQUI**)*
in occasion of public event, in some areas originally intended for parking car and private motor

* taking inspiration also by innovative aspects of the measures implemented in MOVE21 by Hamburg

WHAT| BICIQUI

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

- Areas are **near the event site**, marked by recognisable barriers, branderd signs and posters for wayfinding and service project;
- Up to **100 available slots** for bikes and cargo-bikes;
- Users can park and secure their (cargo-)bikes to racks for the **two hours before and after the event**;
- Surveillance and small refixing service;
- All equipment and facilities dismantled at the end of the event, the **area is cleared to the original condition**.

WHAT| BICIQUI

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Public-private network:

Metropolitan city of Bologna, the metropolitan region public authority

Municipality of Bologna, and local authorities of other events host cities

Piazza Grande, local non-profit association in the realm of cycling, social, and events

Public/private events' owners and managers

General public, as final users

Logistic operators, as *potential* final users

HOW| INVOLVED STAKEHOLDERS

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BICIQUI
PARCHEGGIO BICI ITINERANTE
bicipolitanabolognese.it

Branding: **BiciQui** and Communication campaign: press conference and releases, websites, social networks

Brand display

Press conference

HOW| BRANDING AND COMMUNICATION

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Next steps towards cities as green and connected nodes for urban mobility

24 major public events (instead of 8 originally planned) between April and September 2024

Around **1600 people** parked their bicycles

ANSWERS | EVENTS

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Survey to people (cyclists) that used BiciQui, mixed on the field and online:

82% cycled less then 10km to reach the events

(**46%** less than 5 km)

86% found **BiciQui useful** (**68% very useful**),

and **94%** would **use it again**

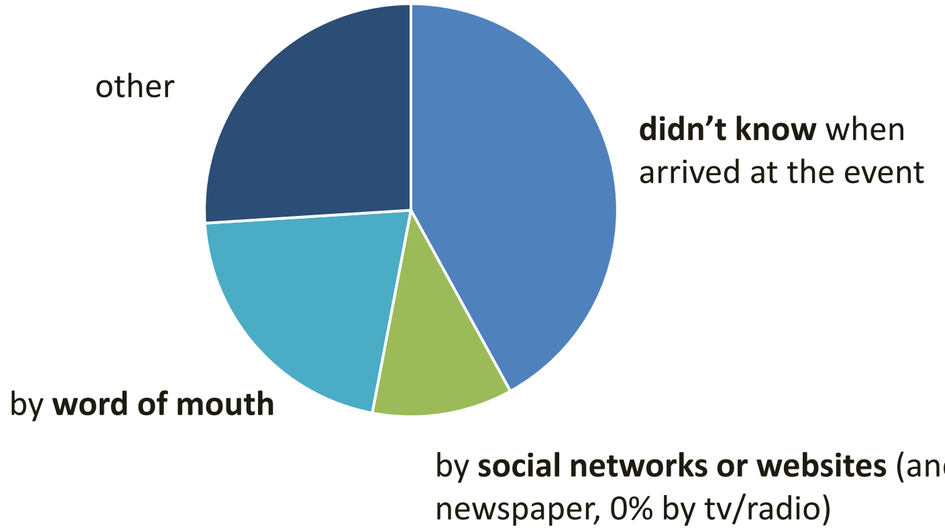
3% considered **BiciQui useless**,

and **6%** would **not use it again**

86% owned a car

90% responded that BiciQui could be a valid alternative to using the car

How did you hear about BiciQui?



ANSWERS | SURVEY

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Next steps towards cities as green and connected nodes for urban mobility

WHAT HAVE WE LEARNED?

- Numbers show a **success of the pilot considering *general public* as final users;**
- **Public-private synergy** is decisive: strong public and political commitment, interest from private sector (events' organizers, local associations, no-profit organizations);
- Deep knowledge of the local context and the normative and regulatory conditions is necessary;
- **Appropriate choice of (cargo-) bike rack model**: needs for functionality, portability, practicality and innovation;
- Some **events lasted for several days**: a greater use was registered in the following days;

OBSERVATIONS

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

WHAT HAVE WE LEARNED?

- **No interest collected by logistic suppliers**: BiciQui does not seem to fit with logistics;
- Some events (like football matches) have been excluded from the original program: not obtained the necessary permits by the local Department for public security;
- **Long times to identify the proper procedure and people in charge** (mainly in the public administrations), and to obtain their understanding;
- **Bad weather issue**: as expected, BiciQui was used very little on rainy days!
- The pilot was implemented with small numbers (up to 100 bike parking slots), and useful information and knowledge has been acquired. But **what will happen with bigger numbers?**

CRITICAL ISSUES

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Next steps towards cities as green and connected nodes for urban mobility

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WHAT HAVE WE LEARNED?

- The project made sustainable mobility solution more visible to the local community;
- Trough the test we **measured the level of acceptance** achieved by providing a new sustainable option and thereby reducing space allocated for parking private cars and mopeds;
- A large-scale implementation of the service could lead a sensitive **reduction in the allocation of space for parking cars nearby public events**;
- Development of an efficient framework for micro-hubs (business model);
- Received **requests for further implementation**: in some cases, the private has offered to cover the costs;
- The **process and operational requirements** to implement temporary hubs for micro-mobility (governance);
- Encouraging **potential for follow up**, after MOVE21.

INNOVATIVE ASPECTS

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MOVE 21

Behaviour change in Madrid

Laura Delgado
External Affairs Manager
Consorcio Regional de Transportes de Madrid (CRTM)

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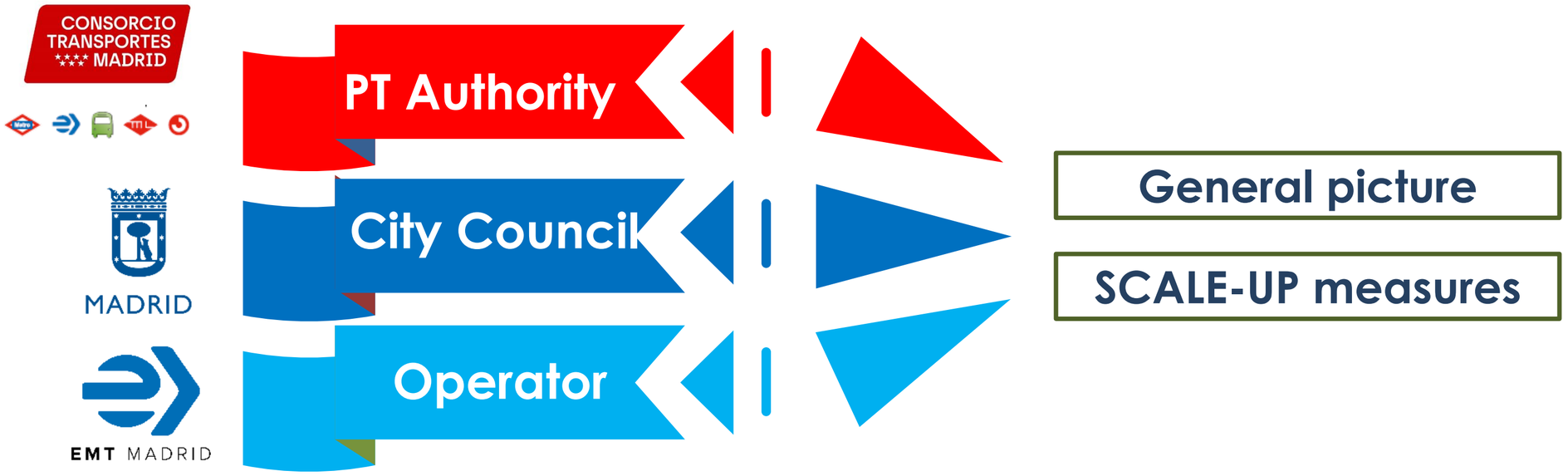
1. Human dimension for behavioural change

Madrid approach in SCALE UP



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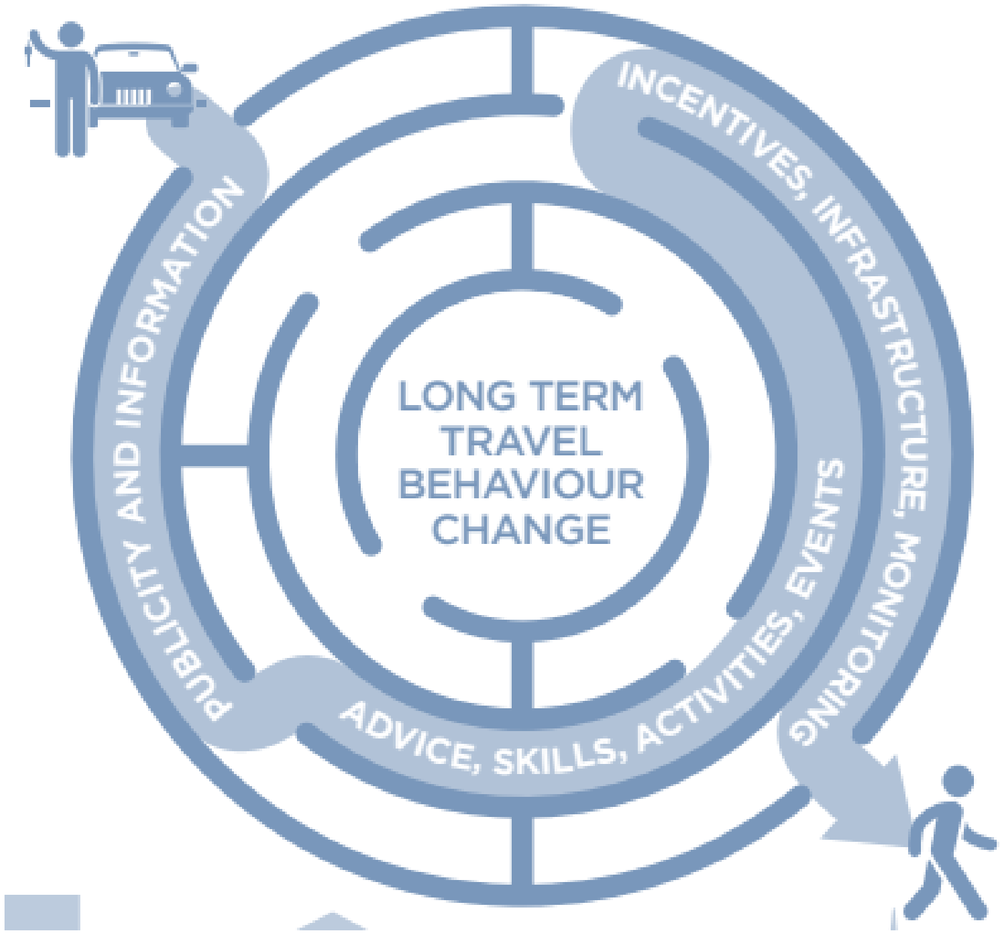
1. Human dimension for behavioural change



Theory of change

- **More choices : convenience**
- **Regulation**
- **Incentives : more economic**
- **Advice, publicity and information**

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2. SCALE UP measures in Madrid

MORE CHOICES: CONVENIENCE of active mobility

Pedestrianizations

- Puerta del Sol +16,000 m2
- Pedestrianizations in all districts of the city (21)
- 170,000 m2 car free areas
- Citizen satisfaction is high: ~70% residents in Puerta del Sol and other areas are satisfied with the pedestrianization
- 50% of local businesses reported increased sales

Bicimad extension (by October 2024)

- 71 km bike lane
- In all 21 districts of the city
- 630 stations
- 7,735 electric bikes

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

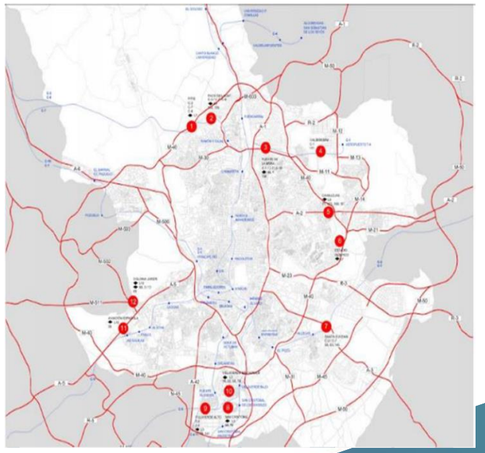
2. SCALE UP measures in Madrid

MORE CHOICES: CONVENIENCE of Park and Ride in Madrid city (M2)

Intermodal parking. Source: EMT

Establish intermodal micro-mobility nodes in P&R nodes (electric charging, bike sharing, car sharing, “Amazon” lockers, etc.)

- 3.8/5 satisfaction (surveys)
- +++ increase of users (20 times higher)



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2. SCALE UP measures in Madrid

MORE CHOICES: CONVENIENCE of Park and Ride in Madrid Region (M2)

P&R plan (called APARCA+T) in the region

- This plan aims to improve the intermodality and ease the modal shift where parking facilities are linked with public transport.
- Focused on attracting car drivers entering Madrid, to shift towards PT.
- Free parking if the car is left at these multimodal hubs and public transport is taken.
- Impact: 42% of users indicate they would have driven if the facility were unavailable.
- Challenge: information on location and (real time) availability.

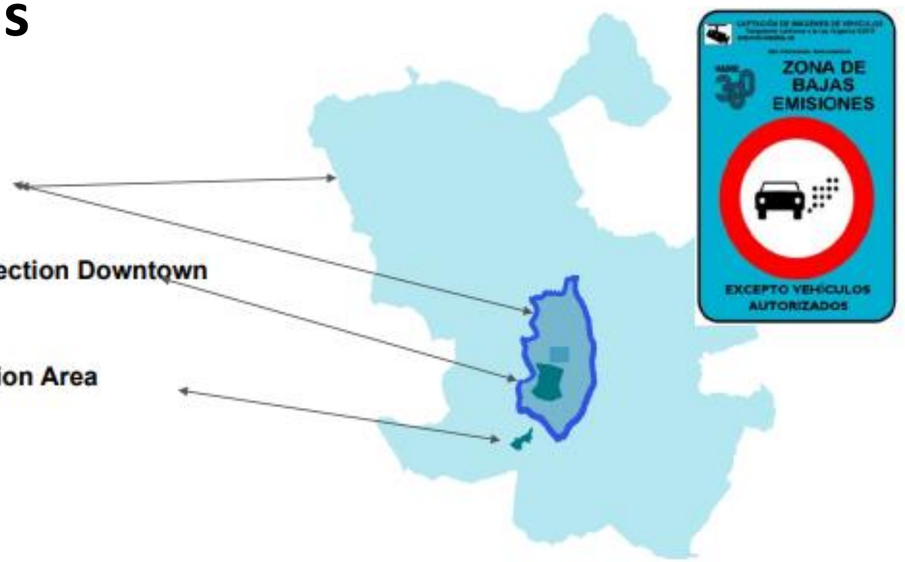
These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

2. SCALE UP measures in Madrid

REGULATION: Limitations and restrictions

LOW EMMISSIONS ZONE

- Creation of **Madrid Low Emission Zone (LEZ)**
- Creation of **the Low Emission Zone of Special Protection Downtown District**
- Establishment of **the Low Emission Special Protection Area Elliptical Square**



ON STREEET PARKING REGULATION

01/EXPANSION OF SER AREA

02/ DYNAMIC TARIFF SER

03/ HIGH ROTATION PLACES

Activation of SER in new neighbourhoods: **+27,000 new places from 2019 onwards**

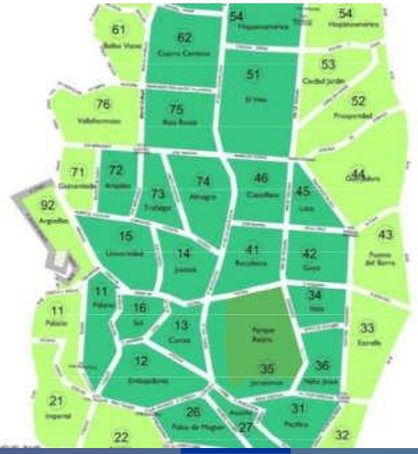
Implementation of the **high turnover SER**

Implementation of **dynamic pricing of the SER according to** pollution levels.

Plan for the **improvement and adaptation of the 14,000 parking spaces** reserved for people with reduced mobility (PRM).

New **parking** spaces **for carsharing vehicles**

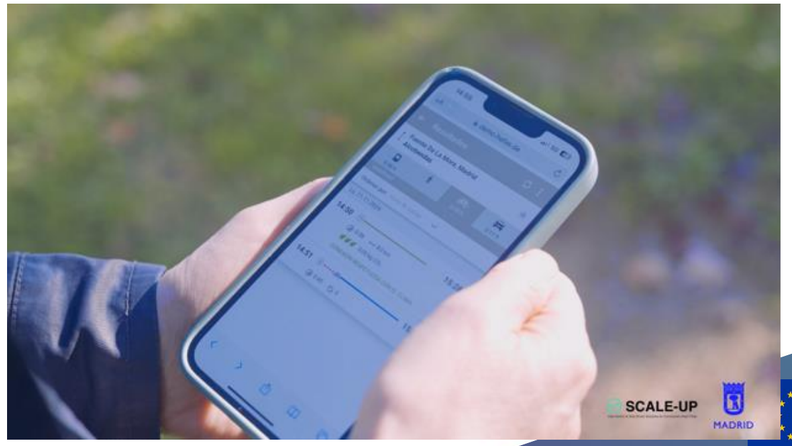
New **parking** spaces **for bicycles, VMPs and motorbikes**



2. SCALE UP measures in Madrid

INCENTIVES: MaaS pilot

- Aim to the modal shift of the population driving a car, by providing information of other alternatives.
- MaaS pilot app combines multiple transport modes including public transport, shared micro-mobility, car-sharing, taxis, Park & Ride, and Green Routes.
- Tested with 200 users (**incentivised by free PT travel passes and discounts on shared services**).
- Impact: positive experience with the app, 70% agreed that it was easy to use.
- Challenge: integration of all modes and mobility operators and stakeholders.
- Surveys before/after the pilot: users search for fast and direct options. The price is not as important, users can pay more if it is fast and direct. The car use has decreased significantly.



These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

2. SCALE UP measures in Madrid

INCENTIVES: free bus days

- Initiative of “free bus service” on special days aiming to shift users from private vehicles to public transport by providing a high-quality experience, thus increasing the number of regular bus users.
- Selected days: high mobility/busy days (Black Friday, beginning of school period, etc.)
- Very significant results in terms of demand: + 60 million passengers (January 2021 - January 2025), 20% non-regular users, during 60 free travel days.

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

2. SCALE UP measures in Madrid

INCENTIVES: “Leave your mark” program

- Incentives program to achieve a change in mobility.
- Ciclogreen app: record their sustainable trips (bus, train, metro, bicycle, walking...) and earn rewards in exchange; +2,000 registered users.
- Involvement of other stakeholders (interchange concession manager).

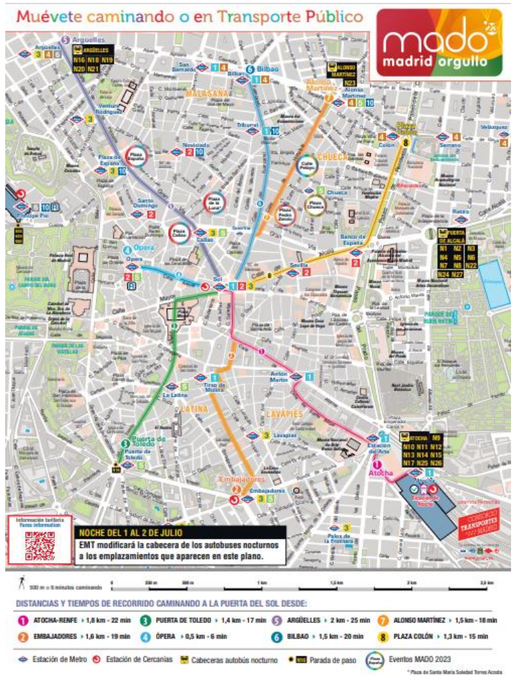
+ 6.500€ en regalos

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

2. SCALE UP measures in Madrid

ADVICE, PUBLICITY AND INFORMATION: big events

- Targeting improved communication strategies, particularly around large events and special days, to encourage the use of sustainable and multimodal transport for event attendees.
- Mad Cool festival showed 30 times higher metro usage than on a typical night. Extending the metro timetable and offering a shuttle service were crucial in reducing motorised trips.



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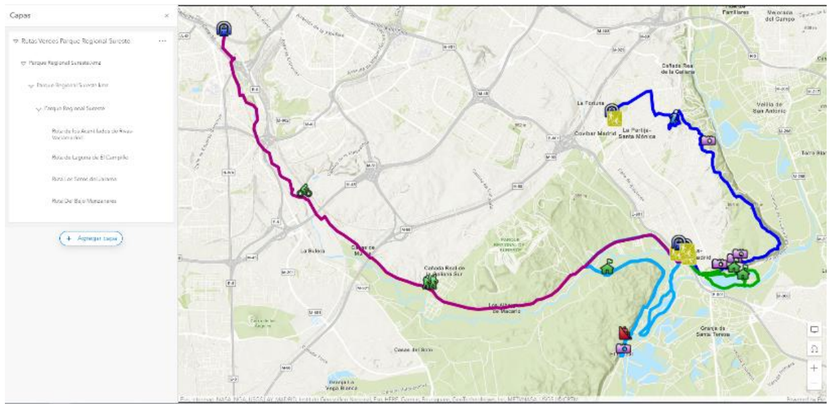
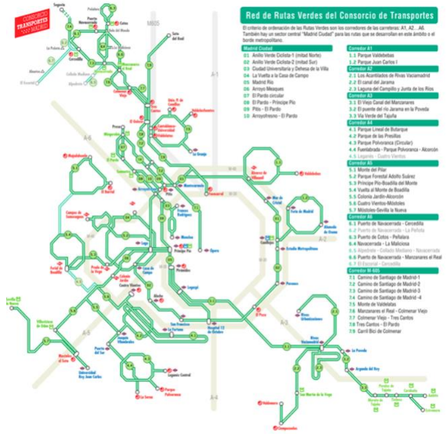
2. SCALE UP measures in Madrid

ADVICE, PUBLICITY AND INFORMATION: Green Routes

- Regional Green Routes are bike or walking paths connected to public transport, without infrastructure implementation, to promote sustainable travel options.
- The measure aim to provide information about these routes options in the pilot MaaS app.
- The full integration in the app was not possible, was made through a link to CRTM webpage.
- Highest number of downloaded routes is in August 2024, coinciding with the public announcement of four new routes through both traditional news outlets and social media.
- Difficulty targeting citizens to assess the level of awareness.





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MOVE 21

Thank you very much for your attention!

Laura Delgado
laura.delgado@madrid.org
www.crtm.es

Tu ritmo, tu transporte

CONSORCIO TRANSPORTES MADRID

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Behaviour change: nudging citizens & end users' acceptance

Anna-Kaisa Montonen, Project Coordinator, City of Turku/urban mobility solution

NUDGING INCENTIVES, ACTIVE MOBILITY IN ALL SEASONS

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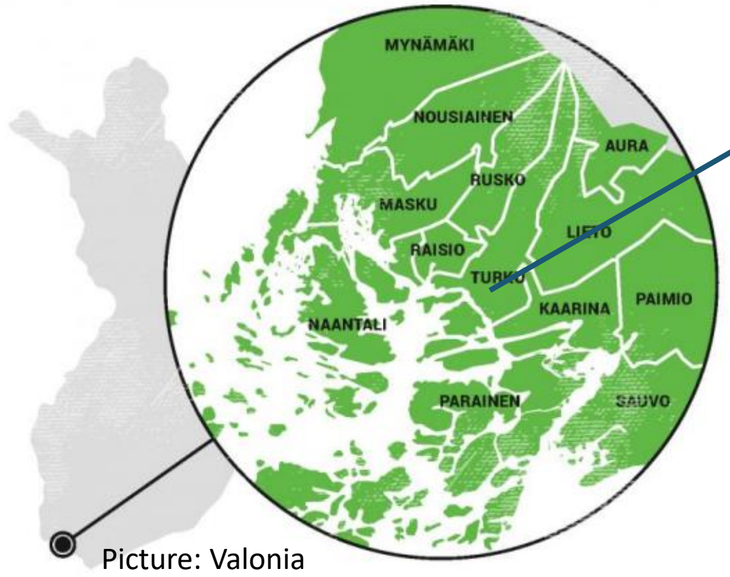
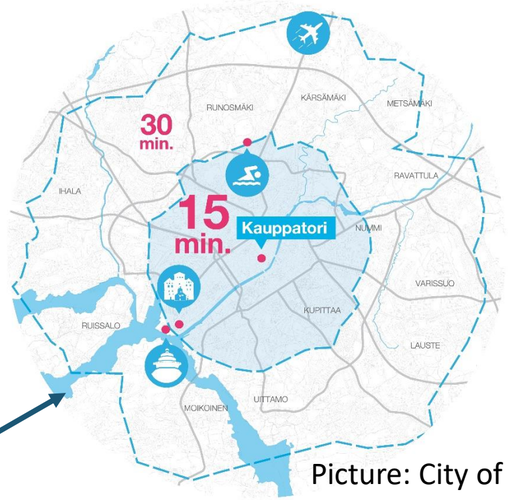
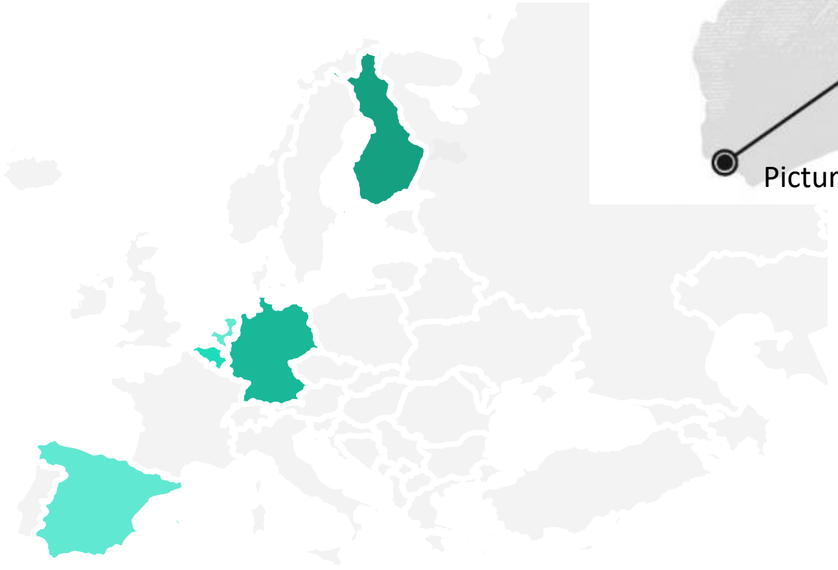
City of Turku



Picture: Valonia



Picture: City of Turku



City of Turku

- 200,000 inhabitants
- City bike system operating since 2019
- 90 % of inhabitants live within 30 min cycling distance from the market square

FUA area

- 13 municipalities, 350,000 inhabitants
- Regional public transport operator FÖLI
- Regional train traffic in planning

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Incentivizing sustainable mobility

Figure 3.7: Overview of the implemented Nudge package

Ten (10) nudges

- Social (school classes and day care groups)
- Physical (bike path)
- Information (mobility profile test, newsletters, personnel brochure)
- Incentives (city bike system, e-cargobike, PT card, bike loan for children, housing company)

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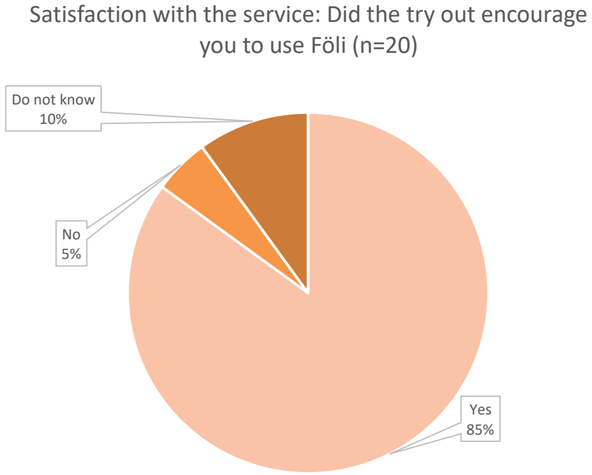
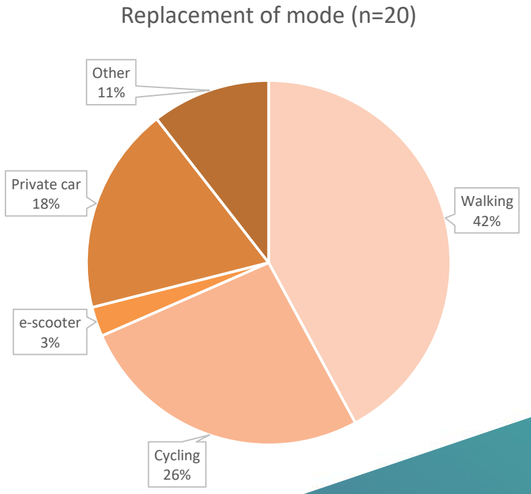
Lendable Public Transport (Föli) Cards

- Introduced in three libraries from October 2023 to March 2024
- Allowed residents to borrow public transport cards for two weeks

- This became a permanent service covering six municipalities in Autumn 2024.





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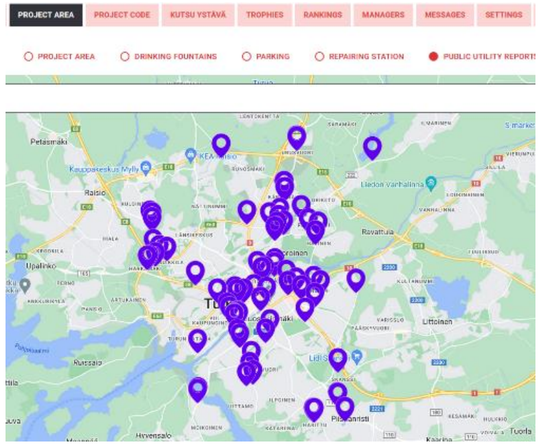
Mobility in all seasons, also in winter – what we did



- Winter square 2023 and 2024
- Winter sledge rental
- Winter agents – winter mobility through citizens' eyes

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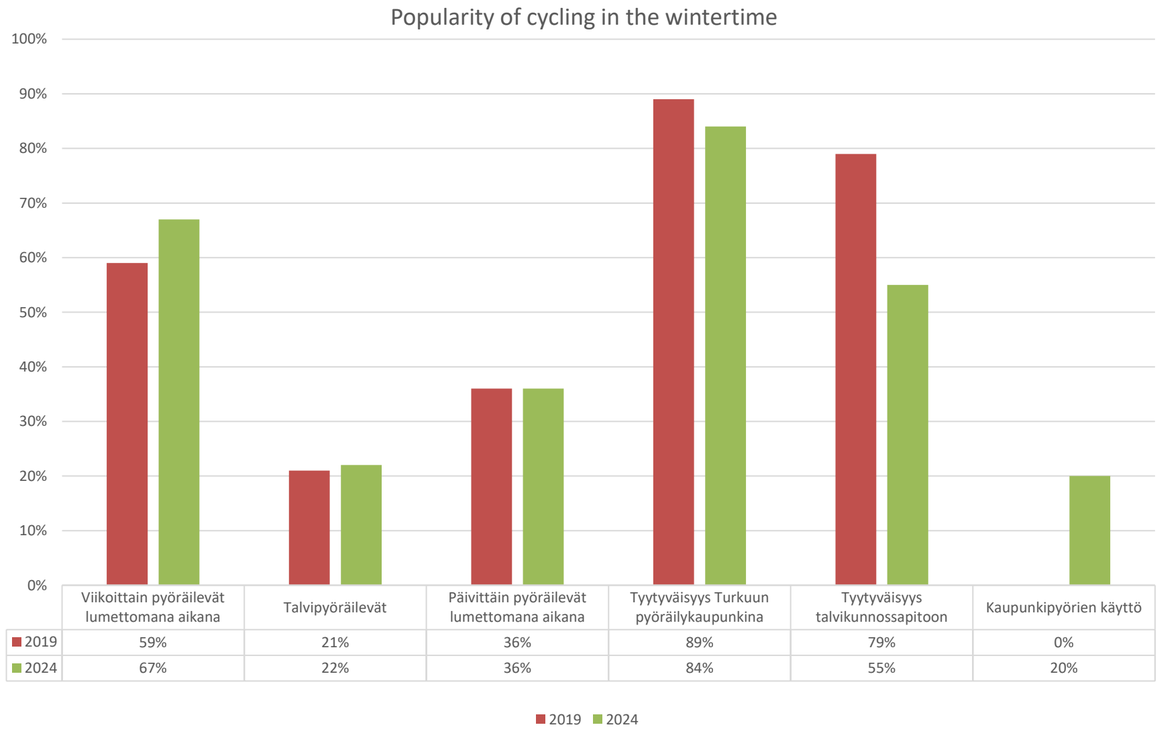
Characteristics of winter cycling in Turku

- Winter conditions unpredictable – snow, ice or neither, dark without snow
- Winter maintanance and its ability to react to varying conditions highly important!
- Also a mindshift neede and there are cultural differences within Finland
- Only about 5 % of children use bicycles during wintertime



	Viikoittain pyöräilevät lumettomana aikana	Talvipyöräilevät	Päivittäin pyöräilevät lumettomana aikana	Tyytyväisyys Turkuun pyöräilykaupunkina	Tyytyväisyys talvikunnossapitoon	Kaupunkipyörien käyttö
2019	59%	21%	36%	89%	79%	0%
2024	67%	22%	36%	84%	55%	20%

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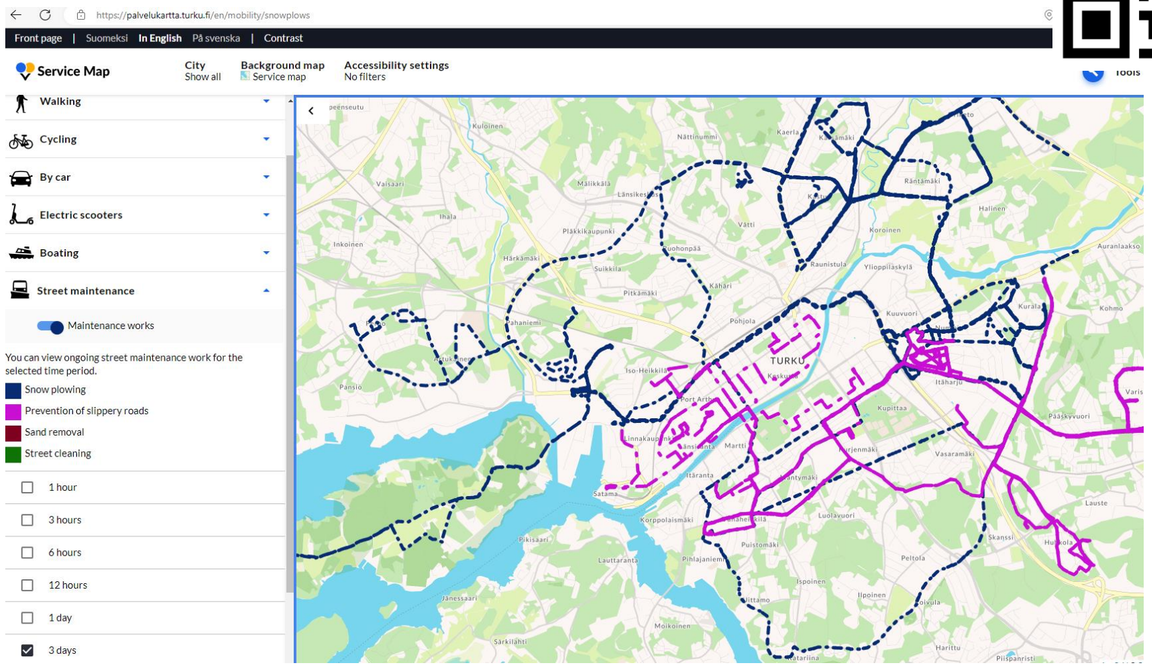
Mobility map - Real-time information on winter maintanance

https://palvelukartta.turku.fi/en/mobility

- Real time winter maintanance among other services
- Open data https://github.com/City-of-Turku/smbackend



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THANK YOU!

Behaviour change: nudging citizens & end users' acceptance
Anna-Kaisa Montonen, Project Coordinator, City of Turku/urban mobility solution
Anna-kaisa.Montonen@turku.fi

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NOW WE WANT TO HEAR YOUR OPINIONS ON BEHAVIOURAL CHANGE

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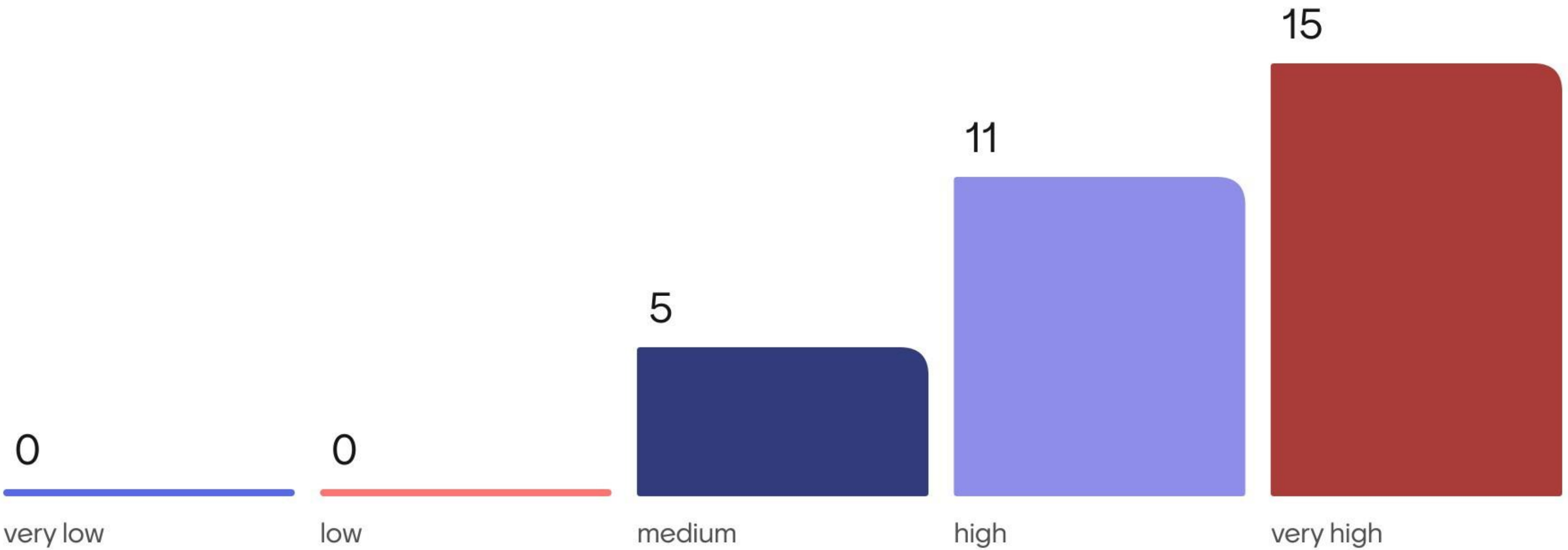
How important do you even perceive the need for behaviour change in your city?



8
31

What kind of reward would actually motivate **you** to use a sustainable mode more often (or motivated you in the past)?

56 responses

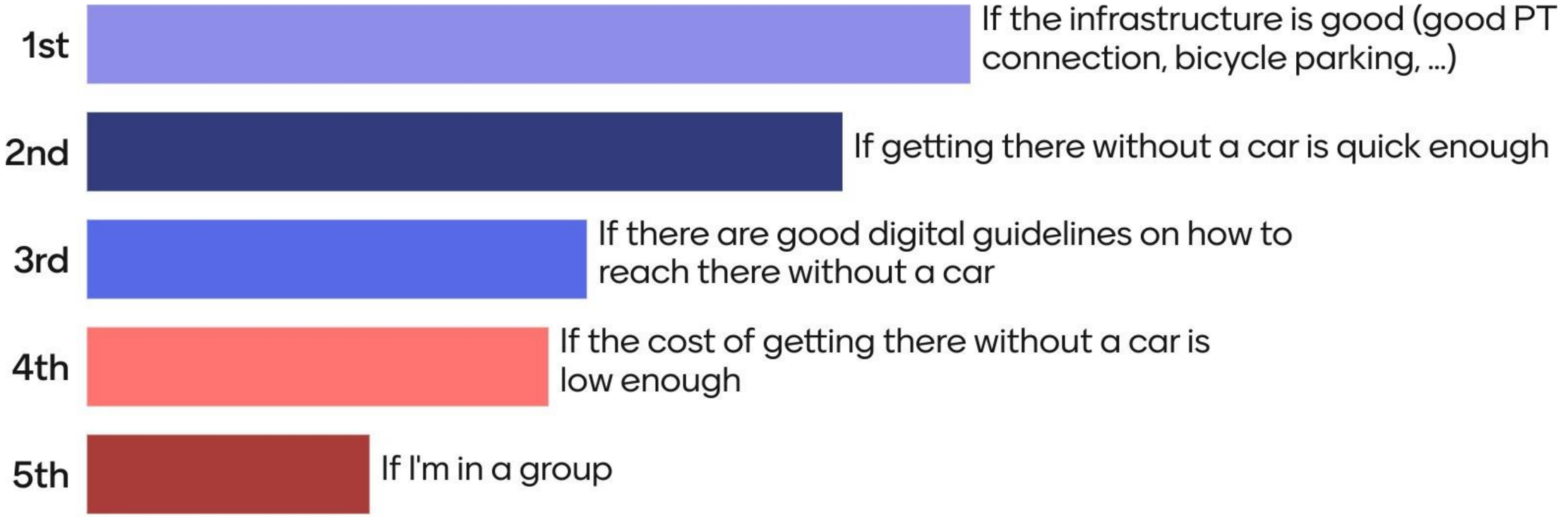
5 26

What kind of reward do you think would motivate **your neighbour** to use a sustainable mode more often?

37 responses

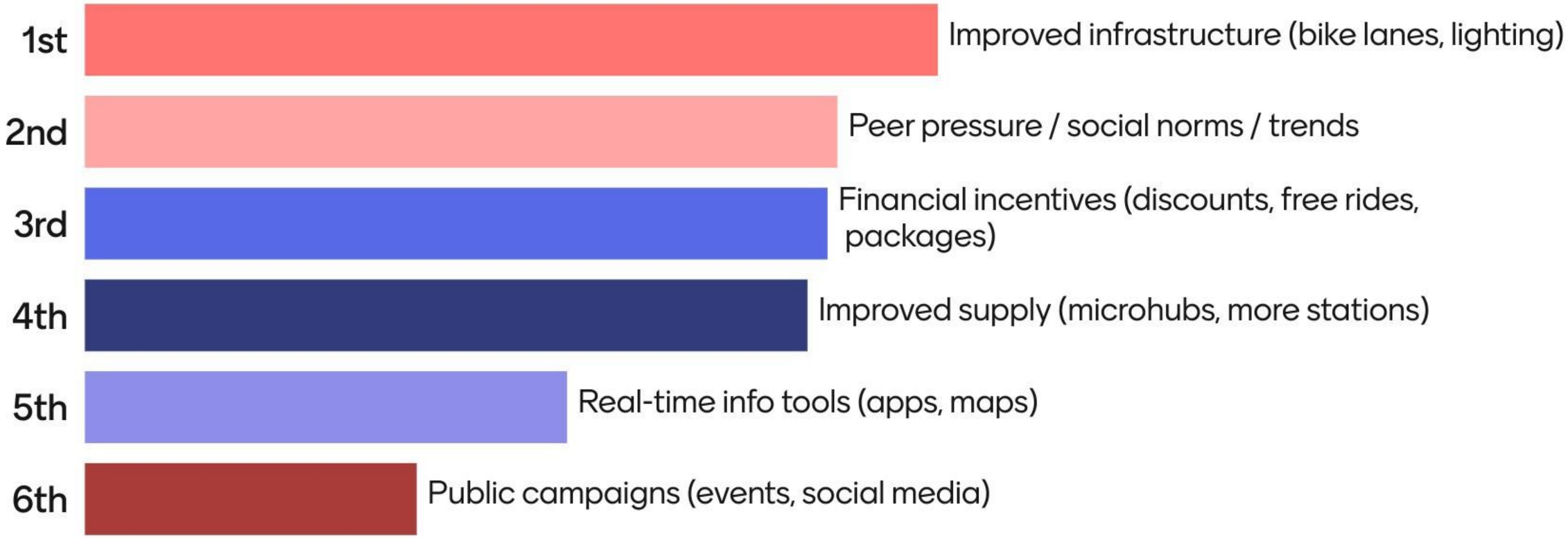
3 21

You are planning to attend a large event. What aspects are most likely to make you not drive there?



Mentimeter

Rank the following incentives from **most effective** to **least effective** in changing mobility behaviour:



2 19

Co-Creation and Innovation Gym

Come train your innovation muscle!

Session 2.2 – Wednesday 2 April 2025, 15.00-16:20, Brussels

Geiske Bouma, David Dooghe, Marjolein Heezen, Tariq van Rooijen, Tess Tjokrodikromo

These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements No 953939 and No 955332

Welcome to this session!

AGENDA

15:00 – 15:10	Introduction to Innovation Capacity
15:10 – 15:25	Innovation Gym – exercise 1 – Let's MOVE!
15:25 – 15:40	Pitches by city representatives
15:40 – 16:20	Innovation Gym – exercise 2 – Let's tackle the hurdles!
16:20 – 16:30	Wrap up

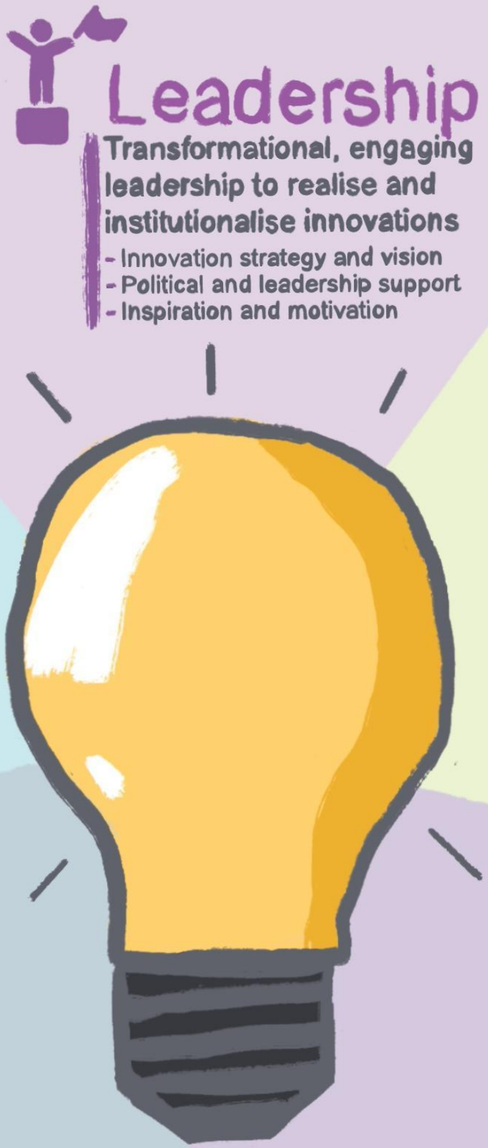
Why Innovation Capacity?

Addressing complex societal challenges demands new ways of working within public organisations

- It requires the engagement of manifold stakeholders in multiple sectors and arenas, who need capacity to engage and;
- It requires favourable institutional frameworks with the capacity for transformation

What is Innovation Capacity?

Innovation capacity is defined as **the set of competencies and conditions that enable and support innovation** in the public sector (Lewis et al., 2018)



Leadership

Transformational, engaging leadership to realise and institutionalise innovations

- Innovation strategy and vision
- Political and leadership support
- Inspiration and motivation

Knowledge Management

Free flow of knowledge and data and the ability to share and embed knowledge

- Ideas and knowledge are shared
- System for structural dissemination
- Across organisational boundaries

Organisation

Innovative organisational climate and culture for developing innovations

- Encouraging experimentation
- Dedicated resource allocation
- Proper internal communication

Network

Presence of strong internal and external networks

- Collaboration with various actors
- Participatory approach
- Presence of social capital

Learning

Embedding new ideas in an ongoing process of action and reflection

- Environment for experimentation
- Embedding new practices
- Reflective attitude

Common challenges for Innovation Capacity

Translating vision to operation	Lacking vision on innovation	Lacking backing from leadership	Changing political climate and scope	Siloed organisations, lacking integration
Bureaucratic and inflexible culture	Lacking feedback and –forward loops	Innovation & BaU are different worlds	No learning and knowledge systems	High employee turnover and project-based hires
Risk-averse culture, no room for failure	Involving citizens and co-creation	Private sector collab. (long term)	Lacking strategy & stimulation for networking	Sustaining innovation beyond projects

Common challenges for Innovation Capacity

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INNOVATION GYM – FIRST EXERCISE

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The challenge relay – tossing challenges around

Lacking backing from leadership

Siloed organisations, lacking integration

Lacking feedback and feedforward loops

High employee turnover and project-based hires

Private sector collaboration (long-term)

Next steps towards cities as green and connected nodes for urban mobility

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City representatives' experiences with Innovation Capacity

PITCHES

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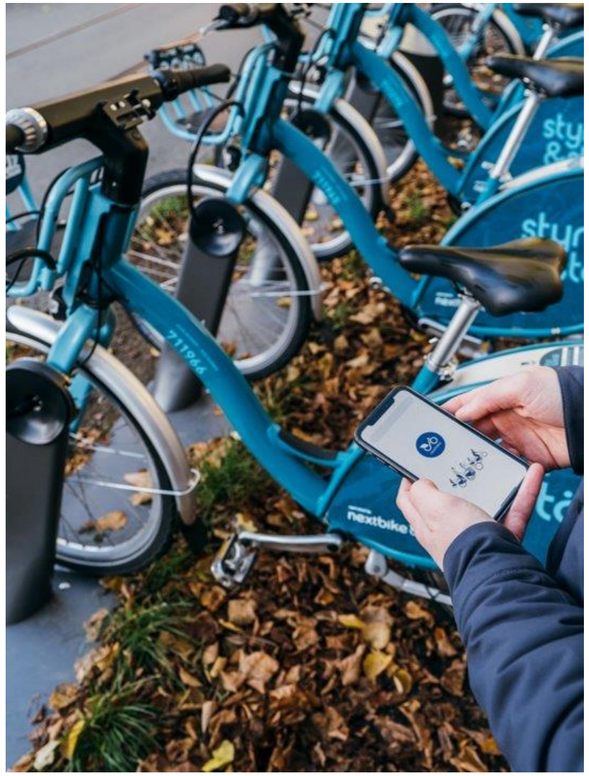
SUZANNE GREEN

GOTHENBURG

Innovation Capacity Challenge: Risk-Averse Culture

A common struggle

- Fear of failure limits innovation
- Risk aversion leads to hesitation in testing new ideas, slowing down innovation
- Limited room for experimentation and reluctance to openly discuss setbacks



How we tackled it

- Anchored the process as co-creative, innovative, and exploratory
- Trained and built courage at all levels—leaders and employees alike
- Formed cross-disciplinary teams to share responsibility
- Addressed failures openly instead of downplaying them
- Framed setbacks as learning opportunities, making them visible
- Leadership supported and reinforced this approach
- Example: Park & bike pilot!

Linked key element:

- Organisation (mainly)

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Innovation Capacity - Turning Failure into Progress

Best practices

- Used innovation to drive broader change
- Engaged leadership in fostering openness
- Shared learnings beyond our organization
- Built cross-departmental teams for long-term impact
- Normalized discussing both challenges and successes
- Incorporated experiences into the organizations new R&D structure with for example
  - Two parallel innovation models: employee-driven development and collaborative, externally funded projects
  - Workshops with all departments aligned six key focus areas for 2025 with the city's overarching goals
  - Strengthened cross-departmental collaboration through knowledge network
  - Clear action plans to turn strategic goals into operation
- Normalized discussing both challenges and successes

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TIINA RUOHONEN

OSLO

Next steps towards cities as green and connected nodes for urban mobility

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EETU SONCK

TURKU

Innovation Capacity Challenge: Involving citizens and Co-Creation

Image: Suvi Elo

- Addressing behavioral change is dependent on keen insight on the lives experience of the mobility users.
- Getting access to data and insights from the citizen's perspective is sporadic and strictly ad hoc.
- Lack of established ways of getting in citizen-data results in having to start from zero when creating collaboration models and partnerships.
- Partnerships are one-off and discontinued after project requirements are met.

Addressed capabilities: Network & Learning & Knowledge Management.

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Innovation Capacity – Establishing collaboration models and partnerships

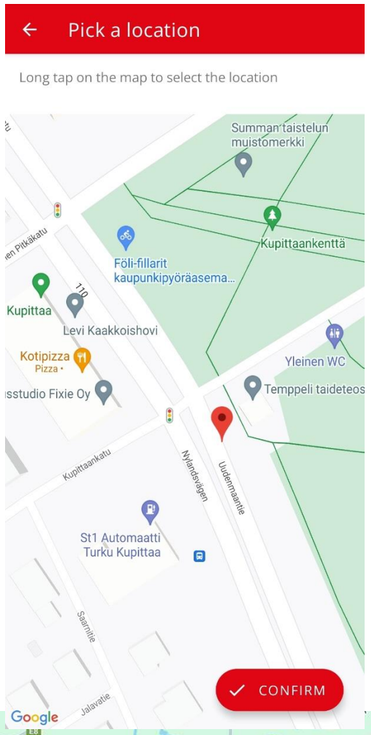
Together with Turku Cyclists association, we started cycling agent collaboration.

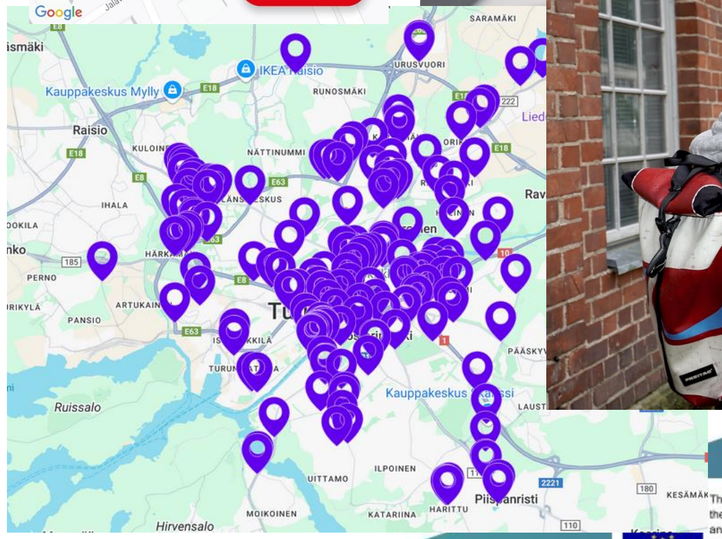
Volunteered citizens who are themselves cycling actives, provided data about the cycling conditions usingmobile app.

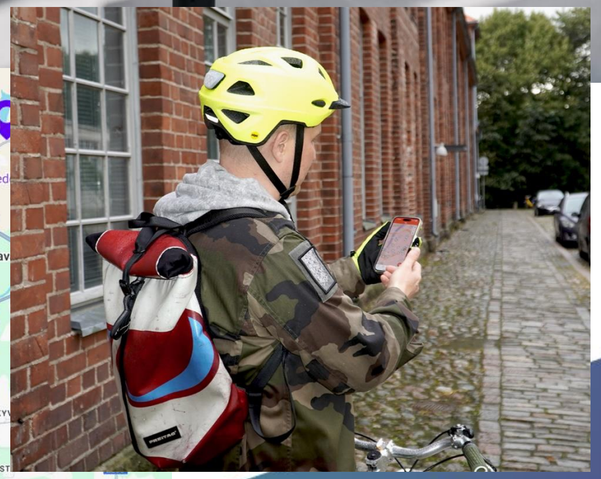
Novel insights through the cyclists eyes from the field about the cycling conditions and issues.

Has led to joint conference presentations, event-co-creation and casual discussions. Lot of drive for more to come!

Citizen science methods on traffic counting with traffic counters on private citizens homes.







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Innovation Capacity – Lessons & Best practices

- Developing personal ties and thus culture of trust and collaboration with citizen groups. Much more can be gained than the initial project entailed.
- Citizens are the best sensors for (qualitative) data. Organic and digital eyes on the streets and house's windows.
- Creation of collaboration tools that are readily deployable when, not the need, but the possibility to use citizen science methods arises.

Addressed capabilities: Network & Learning & Knowledge Management.

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INNOVATION GYM – SECOND EXERCISE

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Round 1: Placing the hurdles

- Pick the element of Innovation Capacity you want to work on.
- Discuss the corresponding challenge in your group.
    - On post-its: write down the barriers that are at the cause of this challenge.
- Collectively decide on two key hurdles and write them on the flipover.

10 MIN

Move to another table

Round 2: Taking the hurdles

- Now the hurdles are on the track, how are you going to jump over them?
- Brainstorm in your group: what are solutions, opportunities, or strategies to address the barriers that are on the flipover.
    - On post-its: write down the innovation tools that are best fitted to jump the hurdles.

15 MIN

Wrap up

- Interested in learning more?
  - Innovation Capacity leaflet
  - Let’s stay in touch
- What kind of activities would you find interesting?
- Any questions or remarks?

SCALE-UP
User-Centric & Data Driven Solutions for Connected Urban Poles

MOVE 21

THANK YOU FOR JOINING TODAY!

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