ULaDS
URBAN LOGISTICS AS AN ON-DEMAND SERVICE

TRAINING MATERIALS FOR THE WORKSHOPS

D7.3 Training materials for the workshops

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Sustainable and smart mobility for all

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Dissemination Level: **PU: Public; **CO**: Confidential, only for members of the consortium (including the Commission Services); **EU-RES** Classified Information - restraint UE; **EU-CON**: Classified Information - confidential UE; **EU-SEC**: Classified Information - secret UE

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*Deliverable type: **R**: Document, report; **DEM**: Lighthouse, pilot, prototype; **DEC**: Websites, patent fillings, videos, etc; **OTHER**; **ETHICS**: Ethics requirement; **ORDP**: Open Research Data Pilot.

Project Abstract

ULaaDS sets out to offer a new approach to system innovation in urban logistics. Its vision is to develop sustainable and liveable cities through re-localisation of logistics activities and re-configuration of freight flows at different scales. Specifically, ULaaDS will use a combination of innovative technology solutions (vehicles, equipment and infrastructure), new schemes for horizontal collaboration (driven by the sharing economy) and policy measures and interventions as catalysers of a systemic change in urban and peri-urban service infrastructure. This aims to support cities in the path of integrating sustainable and cooperative logistics systems into their sustainable urban mobility plans (SUMPs). ULaaDS will deliver a novel framework to support urban logistics planning aligning industry, market and government needs, following an intensive multi-stakeholder collaboration process. This will create favourable conditions for the private sector to adopt sustainable principles for urban logistics, while enhancing cities' adaptive capacity to respond to rapidly changing needs. The project findings will be translated into open decision support tools and guidelines.

A consortium led by three municipalities (pilot cities) committed to zero emissions city logistics (Bremen, Mechelen, Groningen) has joined forces with logistics stakeholders, both established and newcomers, as well as leading academic institutions in EU to accelerate the deployment of novel, feasible, shared and ZE solutions addressing major upcoming challenges generated by the rising on-demand economy in future urban logistics. Since large-scale replication and transferability of results is one of the cornerstones of the project, ULaaDS also involves four satellite cities (Rome, Edinburgh, Alba Iulia and Bergen) which will also apply the novel toolkit created in ULaaDS, as well as the overall project methodology to co-create additional ULaaDS solutions relevant to their cities as well as outlines for potential research trials. ULaaDS is a project part of ETP ALICE Liaison program.

Keywords

Urban logistics, sustainability, training, peer-to-peer, materials.

Copyright statement

Executive summary

The ULaaDS deliverable 7.3 describes the trainings organised in the framework of the project and offers an overview of the materials used for the trainings. The subjects covered by the ULaaDS trainings were established based on a needs assessment carried out with the ULaaDS cities by Eurocities and Bax & Company. Training materials have been developed based on knowledge generated by ULaaDS and other relevant urban logistics projects and in close collaboration with several ULaaDS partners and external experts.

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1. Introduction

In today's rapidly evolving urban landscape, the efficient and sustainable movement of goods within cities has become an imperative for economic growth, and overall quality of life. Urban logistics, the intricate network of processes that govern the distribution and transportation of goods in urban areas, plays a pivotal role in shaping the functionality and resilience of cities. As urban populations continue to grow and e-commerce reshapes consumer behaviour, the challenges surrounding urban logistics have become more complex and demanding than ever before. Cities in Europe have been increasingly concerned with the complexities surrounding urban logistics ecosystems, such as congestion, air pollution, CO2 emissions, noise and safety. Striving to reduce CO2 and air pollutant emissions has been on top of cities' administrators' agenda for years now, however, tackling the impact of the logistics sector often poses additional challenges for the regulators.

Equipping city planners, policymakers, and stakeholders with the necessary knowledge and tools to help them navigate the intricate urban logistics landscape was the main objective of the ULaaDS trainings presented in this deliverable.

1.1 Purpose of the document

The present document describes the trainings organised in the framework of the project and offers an overview of the materials used for the trainings. The subjects covered by the ULaaDS trainings were established based on a needs assessment carried out with the ULaaDS cities by Eurocities and Bax & Company. Training materials have been developed based on knowledge generated by ULaaDS and other relevant urban logistics projects and in close collaboration with several ULaaDS partners and external experts.

1.2 Structure of the document

After providing a definition of trainings in the context of ULaaDS, this document describes the topics, target audience, agenda and materials used during the trainings. The second chapter is divided in two sections, covering respectively the training organised in 2022 on Planning logistics hubs and the one organised in 2023 on SULP development.

2. ULaaDS Trainings

In the context of ULaaDS, trainings refer to teaching and learning activities organised for the primary purpose of helping city practitioners acquire and apply knowledge on specific sustainable urban logistics topics. During the course of the project, ULaaDS organised two trainings in the framework of the Annual Eurocities Mobility Forum in 2022 and in 2023. The Mobility Forum brings together political representatives, city practitioners and urban mobility experts from over 100 European Cities. The participants meet over the course of three days each year to discuss the latest developments on urban mobility in a wide variety of formats, spanning from panel debates to site visits, workshops and poster sessions. It was in this framework that the two ULaaDS trainings took place, bringing the knowledge generated by the project to a wider audience, as well as offering an opportunity for the ULaaDS project deliverables to be enriched by exchanges with cities outside the consortium.

The two trainings organised, addressed the following topics respectively:

1. ULaaDS training 2022: Planning logistics hubs
2. ULaaDS training 2023: SULP development

The topics for the trainings was established on the basis of a needs assessment carried out with the ULaaDS cities between M14 and M20, as described in the ULaaDS D5.3 Replication Strategy and Training (section 2.5.2 *Replication training and learning needs assessment*).

2.1 ULaaDS Training at Eurocities Mobility Forum 2022

The first ULaaDS Training took place on 17 November 2022, during the Eurocities Mobility Forum in Antwerp. The training focused on **planning logistics hubs** and was co-organised by Eurocities and Bax & Company. The training was facilitated by Arianna Americo (Eurocities), led by Dr. Tom Assmann (Otto von Guericke University Magdeburg), and had contributions from Dr. Lorena Axinte (Bax & Company) and Prof. Joris Beckers (University of Antwerp).

To support city authorities, the workshop aimed to:

- Discuss the various steps of an integrated planning process for urban logistics hubs,
- Illustrate how to define appropriate targets and objectives for hubs,
- Provide a summary of the diversity of urban logistics hubs and their characteristics,
- Discuss location requirements and tools to find appropriate spaces for logistic hubs,
- Offer an overview of the evaluation methods of urban logistics hubs.

The content of the training was based on findings from:

- Cargo Bike Depot/CityChangerCargoBike – Planning of cargo bike hubs

- ULaaDS D3.1: Benchmarking business/operating models and best practices
- R!sult project

2.1.1 Agenda & participation

The first ULaaDS Training agenda was developed by Eurocities and Bax & Company between M22 and M26. Eurocities and Bax & Company discussed involving an external expert to support in delivering the training and identified Dr. Tom Assmann from the Otto von Guericke University Magdeburg as a potential trainer for the workshop. Dr. Tom Assmann is a research group leader at the Institute of Logistics and Material Flow Engineering at Otto von Guericke University Magdeburg. He and his team conduct research on sustainable logistics, cycle logistics, autonomous vehicles and urban planning. Moreover - in the framework of the CityChangerCargoBike project - Dr. Assmann worked on a publication on "Planning of Cargo Bike Hubs" and developed a comprehensive methodology addressing the planning process for cargo bike transshipment hubs.

Together with Dr. Assmann, Eurocities and Bax & Company developed the training agenda, integrating knowledge generated by ULaaDS – namely the classification of urban logistics hubs as described in ULaaDS D3.1: Benchmarking business/operating models and best practices – and by inviting Joris Beckers, Professor economic geography & urban logistics at the University of Antwerp as an additional external speaker, who delivered a presentation on the R!sult project.

The training was fully integrated into the Eurocities Mobility Forum programme (available here) and linked to a site visit organised by Eurocities and the city of Antwerp in the morning of the same day. The site visit (called "Logical Logistics" in the programme), brought participants to Blue Gate Antwerp - the first eco-effective, water-bound business park in Belgium. Blue Gate is a climate-neutral business park for innovative companies aiming to achieve linear growth through circular operations. The area is reachable by water and road, and was chosen for the visit because of its relevance for urban logistics. DHL Express opened its new CityHub for the Antwerp region at Blue Gate and this city distribution centre collects and delivers an average of 50,000 parcels each week, including delivery by electrical cargo bikes. BMB Building Materials also opened a new centre at Blue Gate Antwerp, supplying the city's construction sites in a flexible, fast, and 100% ecological manner.

The ULaaDS training was attended by 23 participants (full participants list available in Annex 1), of which 18 were representing administrations from the following 13 city authorities:

1. Antwerp (BE)
2. Berlin (DE)
3. Brno (CZ)
4. Chemnitz (DE)
5. Ghent (BE)
6. Leuven (BE)

7. Mechelen (BE)
8. Milan (IT)
9. Munich (DE)
10. Prague (CZ)
11. Province Noord-Brabant (NL)
12. The Hague (NL)
13. Varna (BG)

The full agenda for the training is displayed in table 1 below and also available here.

Table 1: ULaaDS Training 2022 – Agenda

ULaaDS TRAINING – PLANNING LOGISTICS HUBS

AGENDA

17 Nov. 2022	Training on Sustainable Urban Logistics - Planning logistics hubs
13.30 – 13.35	Welcome and introduction
13.35 – 13.40	**Quick round of introductions from participants** • Each participant introduces themselves
13.40 – 13.50	**Planning urban logistics hubs – essentials of the planning process** • Dr. Tom Assmann, research group leader at the Institute of Logistics and Material Flow Engineering at Otto von Guericke University Magdeburg
13.50 – 14.10	**Objectives & targets** Participants will be guided in the process of identifying objective and targets for urban logistics hubs
14.10 - 14.40	**Classification of urban logistics hubs** • Lorena Axinte, PhD, Bax&Company Participants will be given an introduction to different types of hubs for urban freight transport and the variety of functions that each type of hub encompasses.
14.40 – 15.00	**Responsive Sustainable Urban Logistics: opportunities for urban freight consolidation in Flanders** Joris Beckers, Professor economic geography & urban logistics, University of Antwerp

15.00 – 15.30	**Coffee break**
15.30 – 15.35	**Recap – summary of classification of hubs discussion**
15.35 – 15.50	**Group work where benefits and disadvantages of each type of hub will be discussed.**
15.50 – 16.15	**Space & location requirements** Participants will be guided in the process of identifying what are the space and location requirements for urban logistics hubs
16.15 – 16.35	**Tools for logistics space making** Participants will be presented different tools available for space making when it comes to logistics hubs
16.35 – 16.45	**Realisation planning** Dr. Tom Assmann, research group leader at the Institute of Logistics and Material Flow Engineering at Otto von Guericke University Magdeburg
16.45 – 17.05	**Evaluation of urban logistics hubs** Participants will be guided in the process of defining how to evaluate and monitor urban logistics hubs performance against the objective and targets previously set.
17.05 – 17.30	**Feedback and wrap up**

2.1.2 Materials

The training materials were developed by Bax & Company (with contributions from Paul Buijs from the University of Groningen – main author of the ULaaDS D3.1), Eurocities and Dr. Assmann. In addition, a presentation from Joris Beckers, Professor economic geography & urban logistics at the University of Antwerp was also included in the programme. The training covered the following:

Planning urban logistics hubs – essentials of the planning process

Often reality

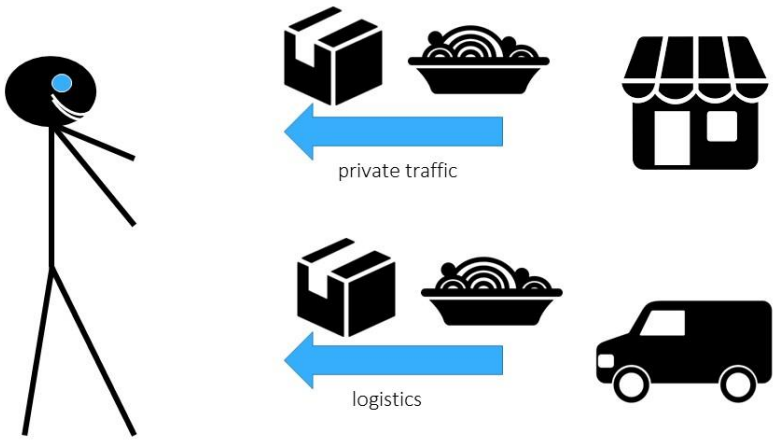
Bild: RP online

- Strong share on carbon dioxide emissions
- Strong share on air pollution
- Increased risk of accidents and higher risk of fatalities

Cargo bike boom

- Renaissance of cargo bikes
- Increasing use of LEV
- New business models (e.g. quick commerce)

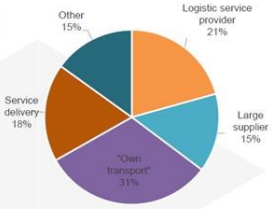
Logistics and private traffic – partly the same but different



Logistics in cities

Amsterdam University of Applied Sciences

WHAT DO THEY DELIVER?



Logistic service providers (21%)
- Parcel (10%)
- General cargo (10%)

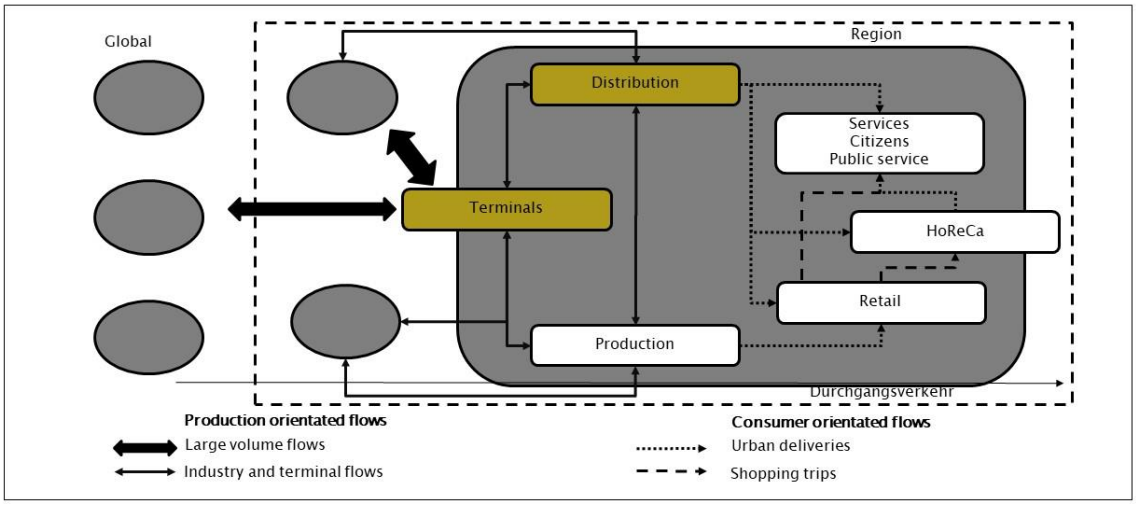
Large suppliers (15%)
- HoReCa and food services (9%)
- Retail food (2%)
- Construction/installation (2%)

Services (18%)
- Service at customer's premises

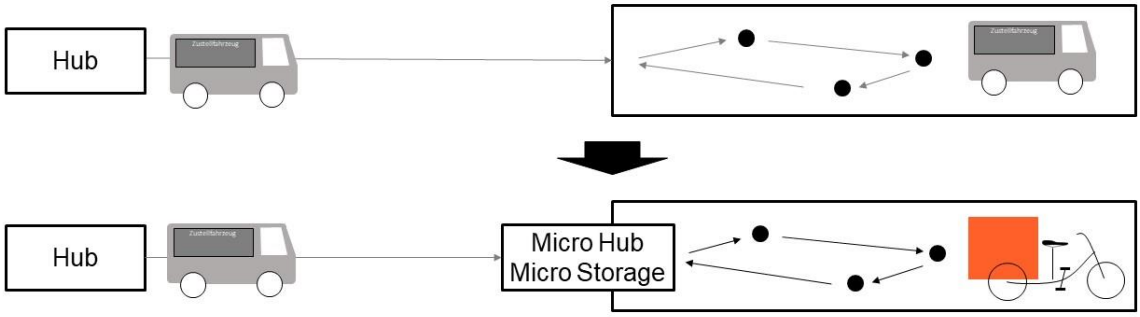
Own transport (32%)
- HoReCa and food services (13%)
- Construction/installation (12%)

Other (15%)
- Waste
- Municipal services

Urban Logistics goods flows

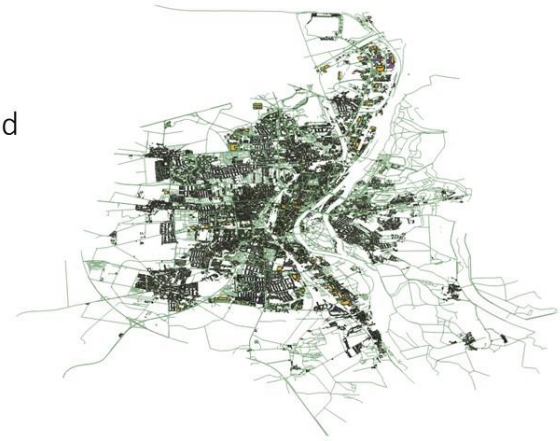


Transformation of urban Logistics

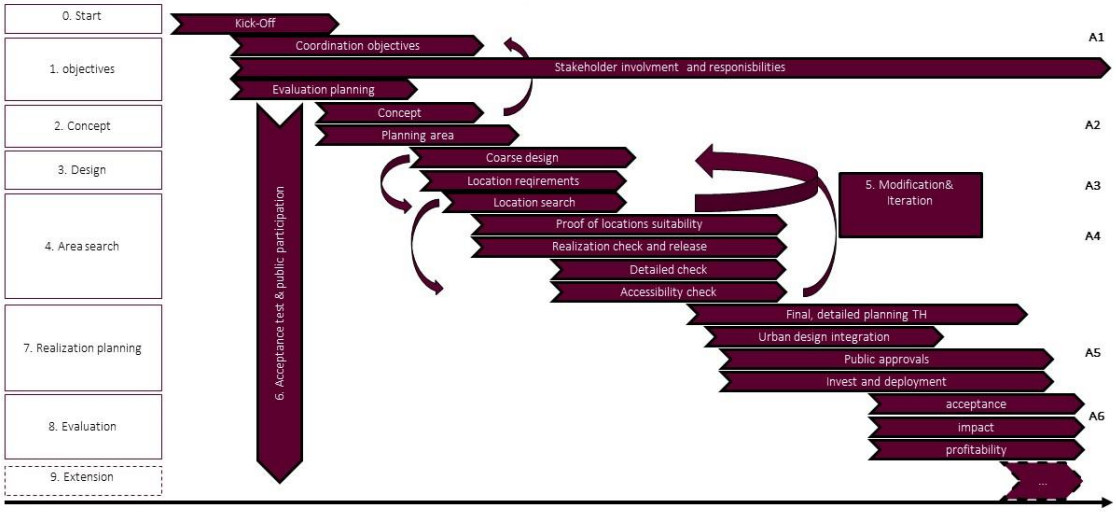


But: A city is „built“

- Brownfield planning
- The network is „mainly“ given
- Collaboration between logistics and public sector



Planning process of (cargo bike) hubs



This is an idealized planning process. In your special city or situation it is likely that you can skip some steps or that you can start some steps further down the line.

Public participation

1. Clarify the framework conditions

- What is the aim of the participation process?
- What is the significance of the process results?
- For which decision-making steps is participation envisaged?
- How are decisions made?

OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG ILM INSTITUT FÜR LOGISTIK UND MATERIALFLUSSTECHNIK
Planning of urban logistics hubs
Dr.-Ing. Tom Assmann

Public participation

2. Selection of the participants

- Which stakeholders are involved?
- Are there specific vulnerable groups (e.g. elderly people or children) that should be included? How can they be adequately involved?
- Who decides on who participates?
- Are there criteria that ensure that the participants
- are representative?

Public participation

3. Extent of participation

- To what extent do those involved actively influence the outcome?
- How pronounced is the control function of those involved?

Planning of urban logistics hubs
Dr.-Ing. Tom Assmann

How to keep public participation to a minimum?

In order to be fast in implementation!

- Use existing spaces wich had a similiar usage before like warehouses, grocery stores etc.
- Here our results told us, that people sometimes did not even recognized it
- Do not use public space

Implementation planning

Municipality

- Preparation of check-ups (if necessary)
  - Noise
  - Traffic
  - Environmental impacts
- Preparation of permits by the city
- Drafting of contracts (if necessary)
- Commissioning of measures for upgrading (electricity, development, security, etc.)

Planning of urban logistics hubs
Dr.-Ing. Tom Assmann

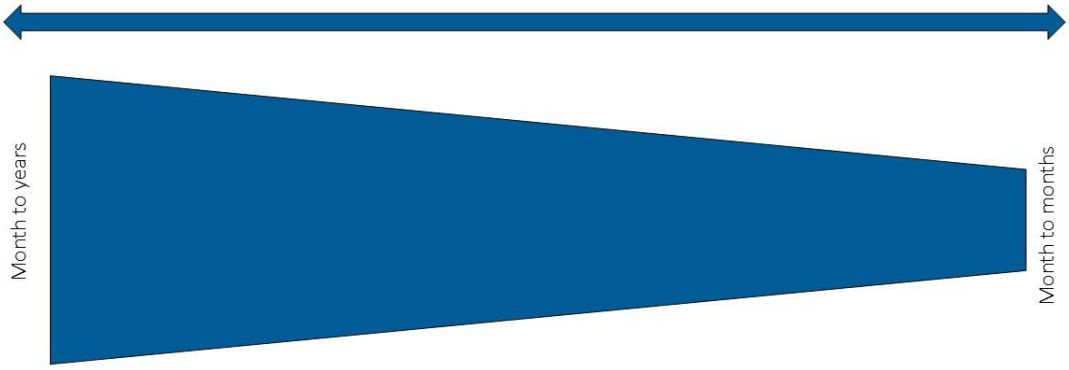
Realization planning

Logistics companies

- Check of Return on investment
- Commissioning of the equipment
  - Vehicles
  - Material handling and IoT devices
  - Hubs (or contracting construction company)
- Staffing

Implementation time

Large Scale — Small Scale

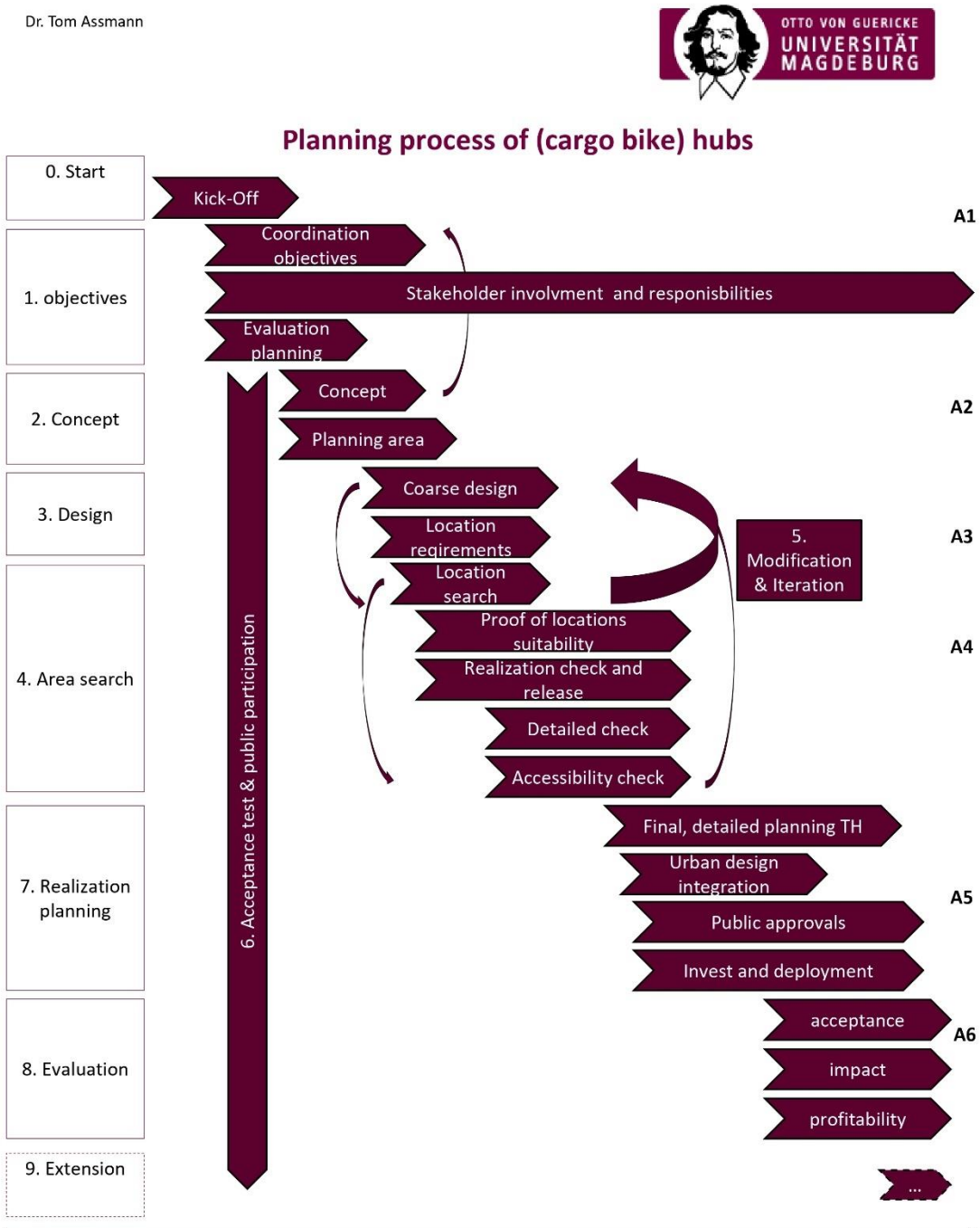


Guidebook in English

- Planning of Cargobike hubs
- Cyclelogistics.eu

- Resources -> Guides & Publications

Planning Chart for Hubs:



This is an idealized planning process. In your special city or situation it is likely that you can skip some steps or that you can start some steps further down the line.

EUROCITIES Smart Ways To Net Zero - Mobility Forum Meeting
16-18 November, Antwerp

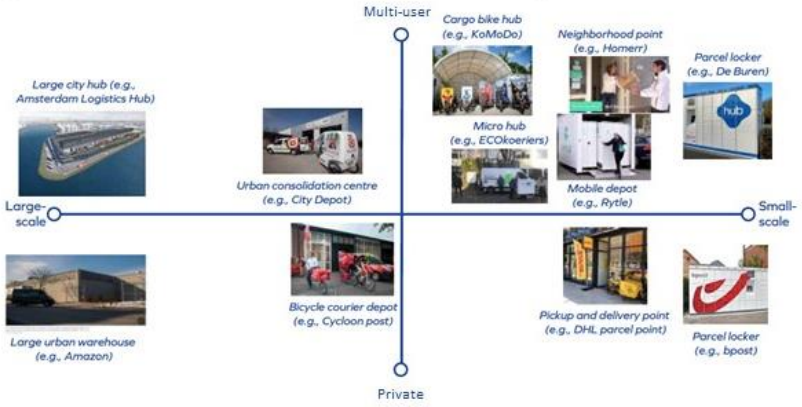
Classification of urban logistics hubs

Types of hubs

A spectrum rather than a definite distinction:

- various scales (large to small)
- various ownership structures & degrees of cooperation (private, single-user to multi-user)

Figure 3.1 A continuum of hub initiatives with different scales and branding



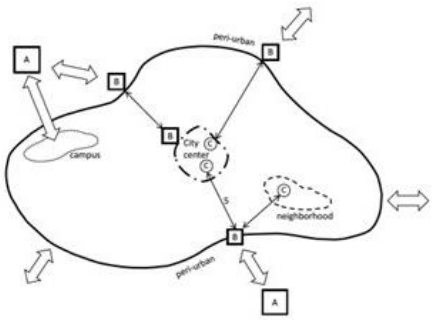
Source - ULaaDS D3.1: Benchmarking business/operating models and best practices

Scale, location & freight flows

(A) large-scale hubs

(B) urban consolidation centres and/or micro-hubs

(C) micro-hubs, mobile depots and/or parcel pickup points



Freight flows

(1) Parcel and home delivery

(2) Facility goods

(3) HoReCa logistics

(4) Service logistics

(5) Supermarket logistics

(6) Waste management

(7) Construction logistics

Source - ULaaDS D3.1: Benchmarking business/operating models and best practices

(1) Large-scale hub facilities

Size	5000 m2 +
Location	Industrial/logistics park, peri-urban
Geographic reach	City and region
Inbound vehicles	Large trucks
Outbound vehicles	(Smaller) trucks or vans
Material handling	Fully equipped, highly automated
Handling level	Pallet or roll carrier
Storage	Yes (>24 hours)

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(1) Example: Amsterdam Logistic CityHub

Size	220.000 sq. meter spread over 2 floors with 200 loading docks and a private quay of 180 meter.
Number & type of vehicles	Many large trucks and vessels on inbound side, and hundreds of smaller delivery vans, electric bicycles, and boats on outbound side.
Ownership structure (multi-user or private)	White label / multi-user. It will lease logistics space to about 30 companies. Its first occupant is construction firm VolkerWessels that plans to operate a construction logistics hub from inside the Amsterdam Logistic Cityhub.
Location	Peri-urban in the Port of Amsterdam.
Infrastructure	No sharing with public transportation possible.
Target freight flow	No particular urban freight flow as main focus. The first occupant is a construction firm, but also e-commerce firms are targeted.
Direct functionalities	Transshipment, storage, reverse logistics.
Indirect functionalities	Charging stations for delivery vans, restrooms for drivers, office space, roof garden with restaurant.
Functionality for consumers	None.

Source – ct Park Amsterdam CityHub

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(2) Urban consolidation centres

Size	500-1000 m2
Location	Peri-urban or at outer core of city centre
Geographic reach	Extended city centre
Inbound vehicles	Trucks
Outbound vehicles	Vans, light electric vehicles, or cargo bikes
Material handling	Manual (with support of some non-automated equipment)
Handling level	Parcel
Storage	Yes (<24 hours)

(2) Example: Goederenhub Groningen Eelde

Size	Flexible (part of a very large logistics facility for flower auctioning and distribution). Dedicated one dock door with space behind it for temporary storage (ca. 45 m2) and office space (ca. 20 m2).
Number & type of vehicles	1 delivery van (Euro-6).
Ownership structure (multi-user or private)	White label (albeit the hub operates under a parent company, Goederenhubs Nederland, which is essentially open to all suppliers and carriers).
Location	Peri-urban near the Groningen Eelde airport (about a 20-minute drive by highway to the city centre of Groningen).
Infrastructure	No sharing with public transportation possible.
Target freight flow	Supplying small shops in city centre of Groningen (ranging from one or a few parcels to a few pallets).
Direct functionalities	Transshipment, storage, reverse logistics.
Indirect functionalities	Restrooms for drivers.
Functionality for consumers	None.

Source

(3) Micro-hubs and mobile depots

Size	25-250 m2
Location	Edge of city centre, or inside city centre
Geographic reach	(Part of) city centre or neighbourhood
Inbound vehicles	Vans
Outbound vehicles	Light electric vehicles, cargo bikes, or pedestrian
Material handling	Manual
Handling level	Parcel
Storage	No

(3) Example: KoMoDo project

Size	The project used seven 40-foot maritime containers (about 30 m2 each) which had a fixed location in Berlin-Prenzlauer Berg. Each parcel delivery company used its own micro-depot (one or two 40-foot containers).
Number & type of vehicles	In the year of the research project, up to 11 cargo bikes were used per day (driving over 38 000 km and delivering around 160 000 parcels).
Ownership structure (multi-user or private)	Private label. Each parcel delivery company involved operated its own micro-depot(s). The logistics site was operated by BEHALA and shared by the parcel delivery companies.
Location	Urban, in the Berlin-Prenzlauer Berg neighbourhood.
Infrastructure	No sharing with public transportation possible.
Target freight flow	KoMoDo targeted home delivery of e-commerce parcels.
Direct functionalities	Transshipment, reverse logistics.
Indirect functionalities	None.
Functionality for consumers	None.

Source

(4) Collection and delivery points

Size	<10 m2
Location	Inside city centre and neighbourhoods
Geographic reach	Neighbourhood or block
Inbound vehicles	Vans, light commercial vehicles or cargo bikes
Outbound vehicles	Customers pick up parcels
Material handling	Manual
Handling level	Parcel
Storage	No (albeit customers get some time for pick up)

(4) Example: Parcel lockers near supermarkets

Size	A single locker system is placed inside or outside a supermarket (different locations have differently sized lockers).
Number & type of vehicles	PostNL supplies parcel lockers & consumers pick up their parcel at the locker, often via active travel. Due to location, the intention is to attract consumers to combine supermarket shopping with parcel pick up.
Ownership structure (multi-user or private)	Private label. Bol.com customers can choose these lockers as delivery location when ordering. The lockers can also be used to return or send other parcels with a PostNL label.
Location	Urban. The parcel lockers are placed in/near supermarkets.
Infrastructure	No shared infrastructure is used in this case, but parcel lockers can be placed in mobility hubs where public transport is available.
Target freight flow	The parcel lockers target home delivery of e-commerce parcels.
Direct functionalities	Reverse logistics.
Indirect functionalities	None.
Functionality for consumers	None.

Source

A hub for every context?

- The wide variety of logistics hubs makes it difficult to delineate clearcut categories, but some archetypes allow us to discuss what are suitable locations for different facility types and how to include them in SULPs and other plans
- Logistics sprawl[1] coexists with proximity logistics[2]
- Cities can introduce both supportive and restrictive policies and regulations to influence the development, location and characteristics of hubs

Check out ulaads.eu to learn more about sustainable on-demand urban logistics solutions & Benchmarking business/operating models & best practices

[1] Dablanc & Rakotonarivo, 2010

[2] Buldeo Rai et al., 2022

Thank you!

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Responsive Sustainable Urban Logistics: opportunities for urban freight consolidation in Flanders

Responsive Sustainable Urban Logistics: opportunities for urban freight consolidation in Flanders

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Professor economic geography and urban logistics
Universiteit Antwerpen

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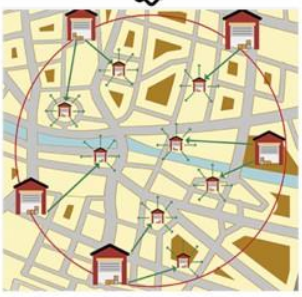
R!sult Project

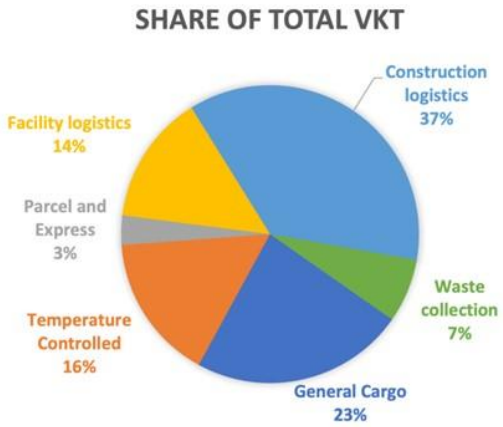
- 2018-2020

EMPOWERING LOGISTICS

Universiteit Antwerpen



Introduction – the urban freight landscape



Source: Dept. Transport and Regional Economics, 2020

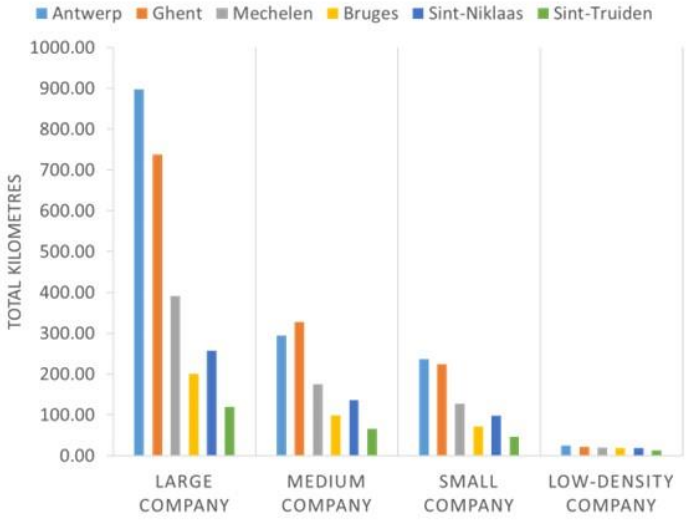
17

Introduction – Low density carriers

FEW

MANY

Group	Individual share of the market per company
Large parcel company	40%
Medium parcel company	10%
Small parcel company	5%
Low-density companies	Less than 1%

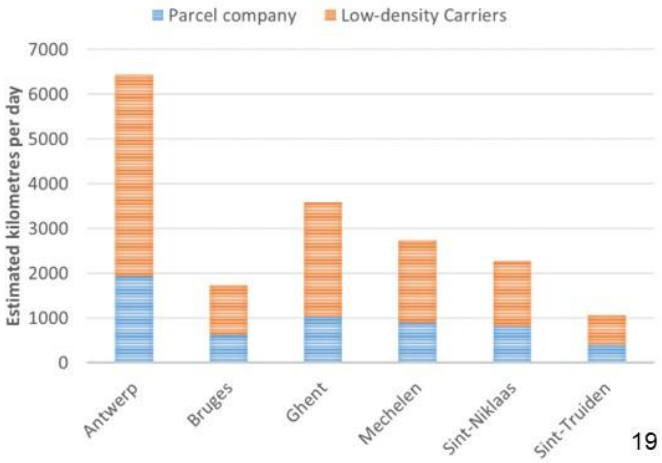


Low density carriers – low hanging fruit

FEW

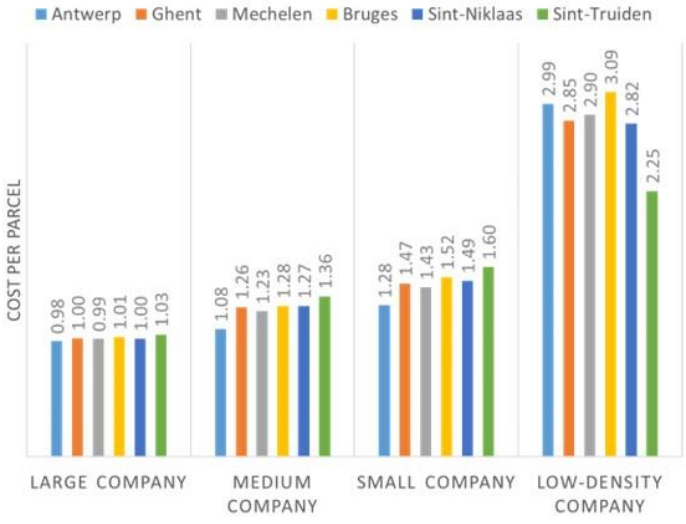
MANY

Group	Individual share of the market per company	Total share of the group
Large parcel company	40%	40%
Medium parcel company	10%	20%
Small parcel company	5%	20%
Low-density companies	Less than 1%	20%



19

Low density carriers – low hanging fruit



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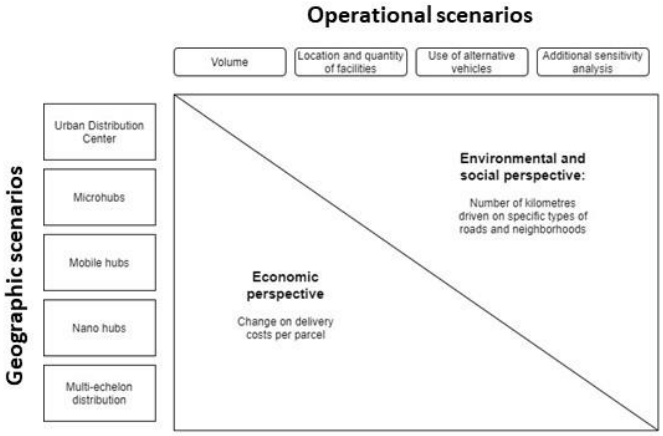
Methodology



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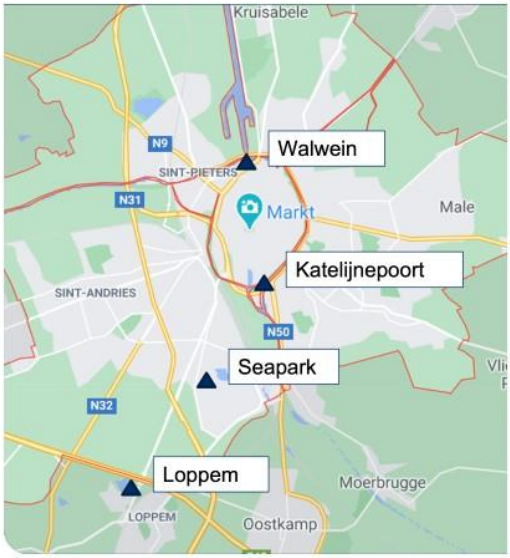
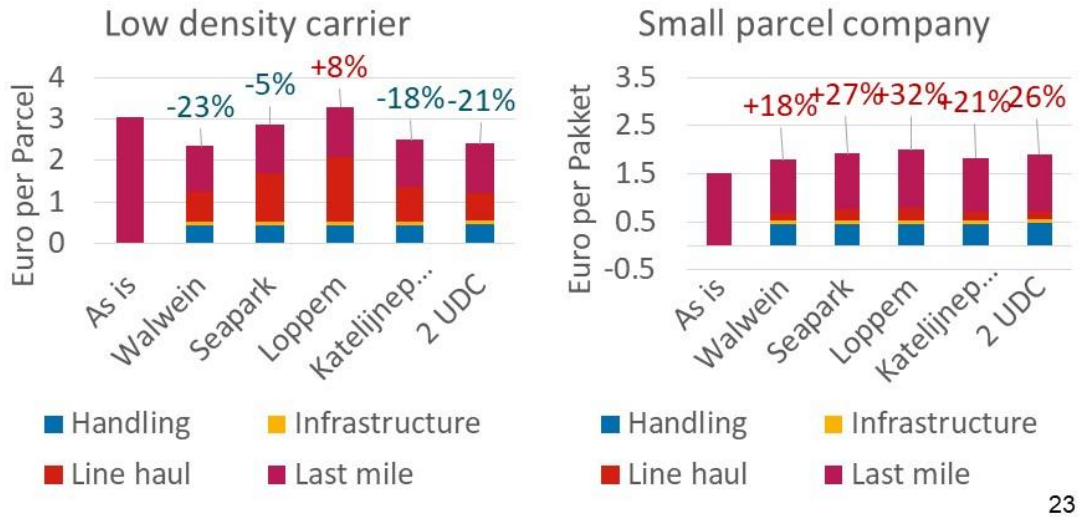


Example scenario

- Urban distribution center (UDC) outside the city
- Example: Bruges

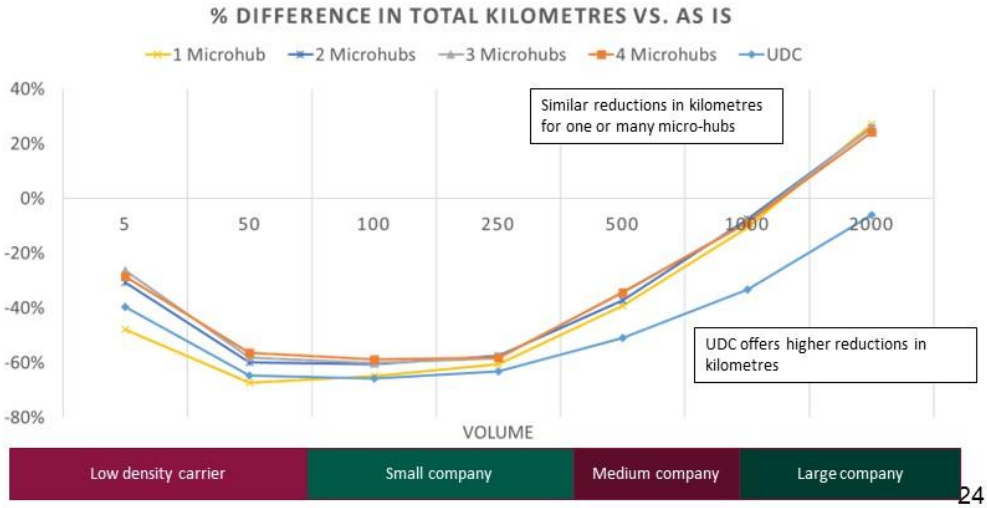
22

Example Bruges



23

Results: Impact of scenarios on total kilometres



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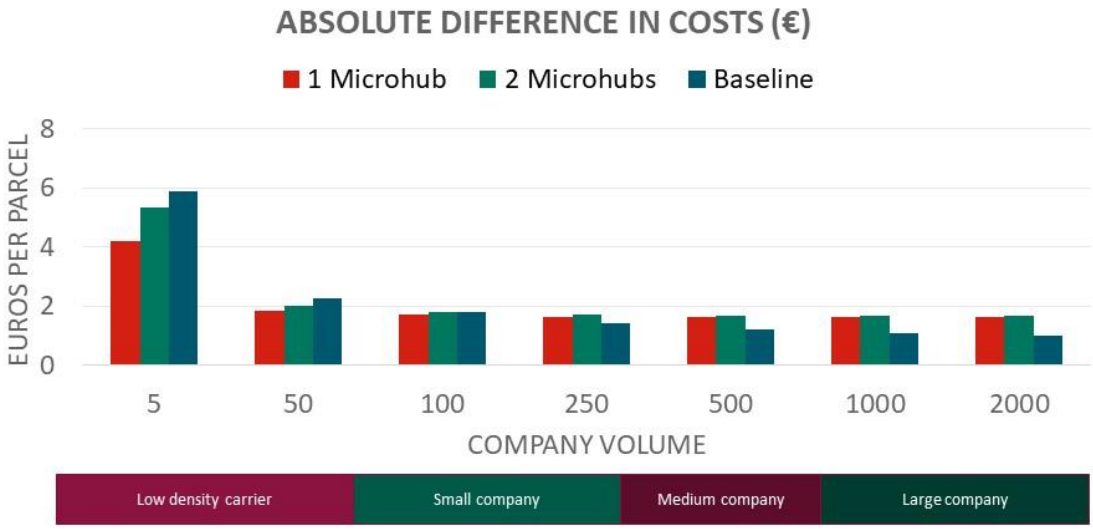
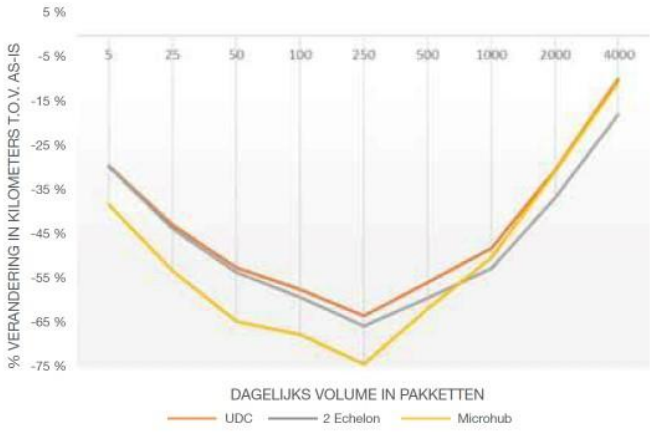
Results: Impact of scenarios on costs



Multi echelon systems



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Conclusions

- Opportunites exist for low density carriers:
  - Highest reduction in driven kilometers
  - Valuable economic model
- Flanders does not need too many tiers
  - 2 echolon only makes sense in large cities (Antwerp & Ghent)
- How to get consumers working together? GreenLoop
  - GREEN-LOG project to test Logistics-as-a-Service

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Interactive parts of the training

Several parts of the training featured interactive elements, involving participants in discussions and group work. Namely, the following sections of the training were aimed at directly involving the participants through interactive formats:

- Benefits and disadvantages of each type of hub,
- Space & location requirements,
- Tools for logistics space making.

Following the presentation on the different type of logistics hubs, participants were split in four groups and asked to identify benefits and disadvantages for the type of hub assigned to their table. A discussion on each type of hub and their benefits and disadvantages followed the exercise.

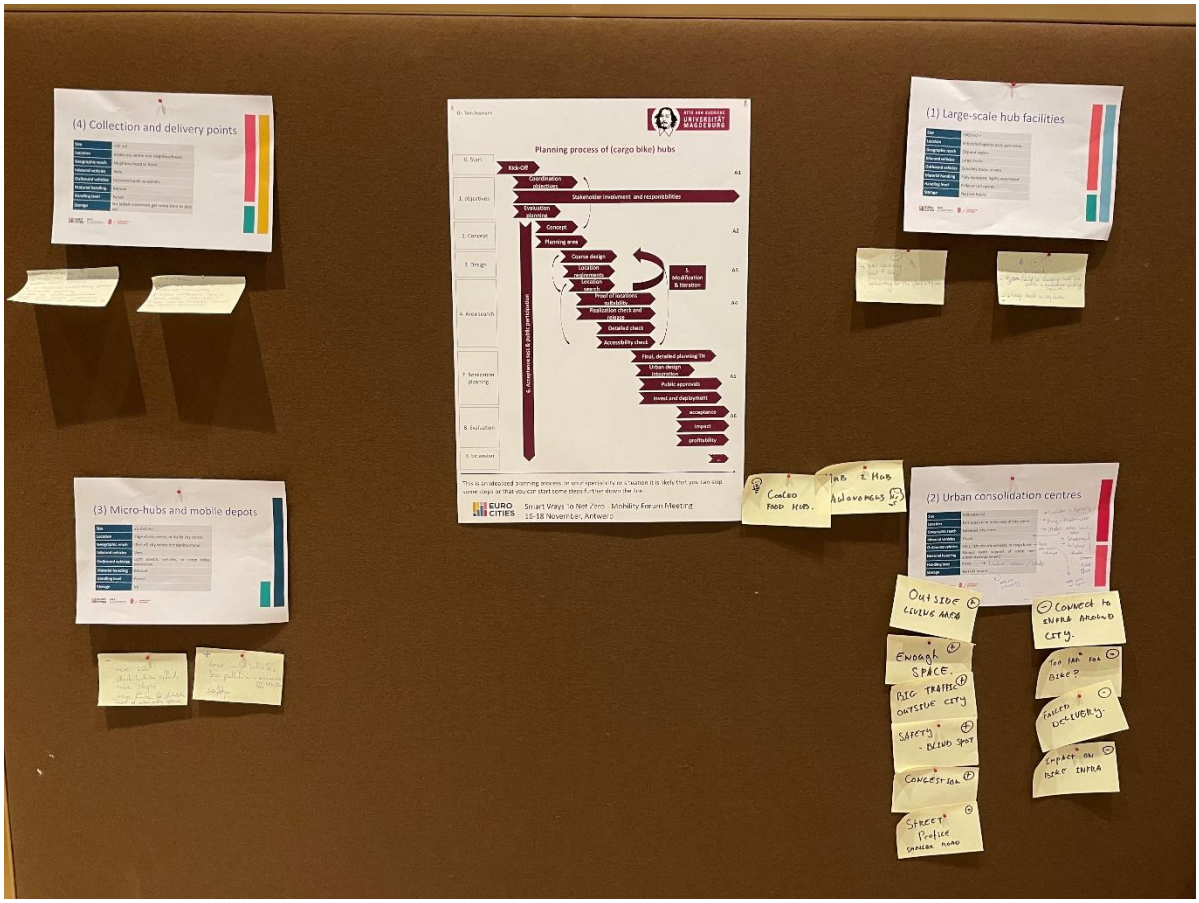


Figure 1: Results of the exercise - benefits and disadvantages of different hubs

The group also discussed collectively what type of space and location requirements each type of hub would need and what are the tools city authorities have at their disposal for logistics space making.

Figure 2: Group discussion - Space and location requirements

2.1.3 Follow-up

After the event, Bax & Company wrote an article that was published both on the Bax & Company and the ULaaDS Website, where all the links to the training materials are available.

In addition, Eurocities sent out a mailing to the overall Eurocities Mobility Forum mailing list (over 800 recipients) sharing the highlights of the forum meeting in the form of an article. The article also covered a summary of each session, including the ULaaDS Training and links to all the relevant materials and resources used during the training. The article with the highlights of the meeting is published on the internal Eurocities Collaboration Platform, which is the repository and collaborative SharePoint used by the members of the network. The article was also featured in the Eurocities Flash Newsletter, which has more than 3.600 recipients.

2.2 ULaaDS Training at Eurocities Mobility Forum 2023

The second ULaaDS Training took place on 1 June 2023, during the Eurocities Mobility Forum in Porto. The training focused on **SULP Development** and was co-organised by Eurocities, Bax & Company, Flanders Institute for Logistics (VIL) and Rupprecht Consult. The training was hosted and facilitated by Arianna Americo (Eurocities), Dr. Lorena Axinte (Bax & Company), Domien Stubbe (VIL) and Levent Saran (Rupprecht Consult).

To support city authorities, the workshop aimed to:

- Describe how a SULP planning process is structured, what steps are to be taken, and when,
- Describe and discuss prerequisites for a successful SULP development,
- Provide concrete examples on how to set up stakeholder engagement mechanisms,
- Provide an overview of new business models and technologies and how to find the right fit for your city,
- Describe methods to monitor and evaluate progress.

The content of the training was based on:

- Fact-finding study on status and future needs regarding low- and zero-emission urban mobility
- Topic Guide: Sustainable Urban Logistics Planning
- ULaaDS D6.2: Guidelines, methods & policy recommendations to integrate ULaaDS in SUMP and SULP processes

2.2.1 Agenda & participation

The second ULaaDS Training agenda was developed by Eurocities and Bax & Company in close cooperation with project partners VIL and Rupprecht Consult between M31 and M33. Given the various expression of interest from both cities involved in ULaaDS and from members of Eurocities, **SULP development** was identified as the core subject for the training. Moreover – through conversations between Eurocities, Bax & Company, VIL and Rupprecht Consult – an opportunity was identified to use the training to both present and validate the content of the ULaaDS deliverable 6.2 *Guidelines, methods & policy recommendations to integrate ULaaDS in SUMP and SULP processes*.

The agenda was developed to reflect this rationale, integrating an introductory part covering insights on the current status of SULPs uptake in Europe based on the fact-finding study mentioned above, and a presentation providing a comparison between SUMP and SULP planning processes, which highlighted the key differences in various phases of the SUMP and SULP cycle.

The core part of the workshop was built on a series of use-cases that would provide participants with the opportunity to discuss key elements of the SULP development process. The use-cases – coming mainly but not exclusively from the ULaaDS trials – allowed participants to look at concrete examples of sustainable urban logistics measures, and the questions their implementation poses to local authorities.

In the six consecutive round of discussion, the participants where guided through the following topics, which are in line with the structure of the ULaaDS D6.2:

- The importance of a proper regulatory and policy framework
- Effective stakeholder engagement and cooperation
- The role of cities in fostering the flourishing of new business models
- Looking for the right technology
- Target setting, indicators and monitoring
- Setting the scene for implementation

The training was fully integrated into the Eurocities Mobility Forum programme (available here). The ULaaDS training was attended by 32 participants (full participants list available in Annex 2), of which 26 were representing administrations from the following 17 city authorities:

1. Barcelona Metropolitan Area (ES)
2. Braga (PT)
3. Bremen (DE)
4. Helsinki (FI)
5. Karlsruhe (DE)
6. Lisbon (PT)
7. Lyon (FR)
8. Madrid (ES)
9. Milan (IT)
10. Munich (DE)
11. Netwerkstad Twente (NL)
12. Porto (PT)
13. Prague (CZ)
14. Riga (LV)
15. Stockholm (SE)
16. Utrecht (NL)
17. Vila Nova de Gaia (PT)

The full agenda for the training is displayed in table 2 below and also available here.

Table 2: ULaaDS Training 2023 - Agenda

ULaaDS TRAINING – SULP DEVELOPMENT

AGENDA

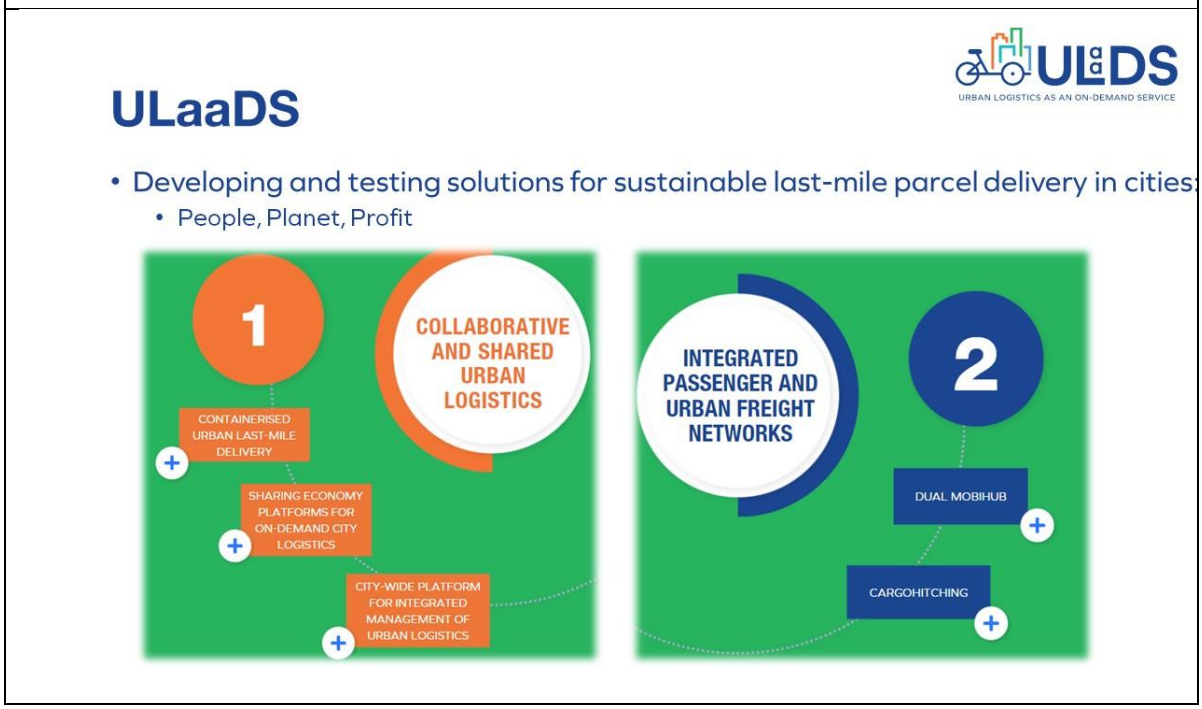
1 June 2023	Training on Sustainable Urban Logistics – SULP Development
10.00 – 10.05	Welcome and introduction
10.05 – 10.10	**Quick round of introductions from participants** • Each participant introduces themselves
10.10 – 10.20	**Setting the scene with concrete use-cases** • Lorena Axinte, PhD, Senior Mobility Consultant, Bax & Company
10.20 – 10.35	**SULPs – essentials of the planning process** • Levent Saran, Sustainable Mobility Consultant, Rupprecht Consult
10.35 – 11.00	**The importance of a proper regulatory and policy framework** The establishment of a clearly defined regulatory and policy framework for urban logistics solutions gives a consistent and persuasive message to the private sector, making it easier for companies to make long-term investments. What is needed to set up a proper regulatory and policy framework? How can cities do it?
11.00 - 11.30	**Working together with stakeholders on urban logistics** Effective stakeholder engagement and cooperation enable multiple parties, including carriers, shippers, customers and government authorities to work together towards a common goal. Where to start? How can cities work together with the logistics sector?
11.30 – 12.00	Coffee break
12.00 – 12.20	**The role of cities in fostering the flourishing of new business models** Finding win-win solutions for both cities and the many players in the urban logistics sector is not an easy task. What role can cities play to ensure that urban logistics will develop sustainably and in synch with overarching public policy goals? What is the role of local authorities in fostering the testing, piloting and adoption of new business models for sustainable logistics?

12.20 – 12.40	**Looking for the right technology** Technology for urban logistics is developing fast, in a constant strive to increase efficiency and margins. How can cities push for the adoption of new technologies that will be in line with the cities' sustainability goals? What options are already available?
12.40 – 13.00	**Generating impact: Target setting, indicators and monitoring** How to evaluate and monitor progress? Get your baseline right and find the right indicators. Then monitor, monitor and monitor.
13.00 – 13.20	**Setting the scene for implementation** Where to start then? Should we put a SULP in place first? Should we start piloting and testing first? An open discussion on the "chicken-and-egg".
13.20 – 13.30	**Feedback and wrap up**

2.2.2 Materials

The training materials were developed by Bax & Company, Eurocities, VIL and Rupprecht Consult. The training covered the following:

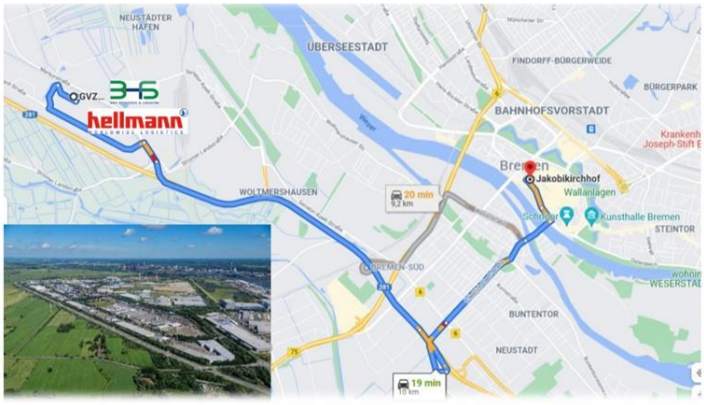
Setting the scene with concrete use-cases



Trials Bremen

Containerized consolidated last mile delivery

- Transport of general cargo from Bremen freight village (GVZ) to city
- Last mile delivery by (heavy) cargo-bikes



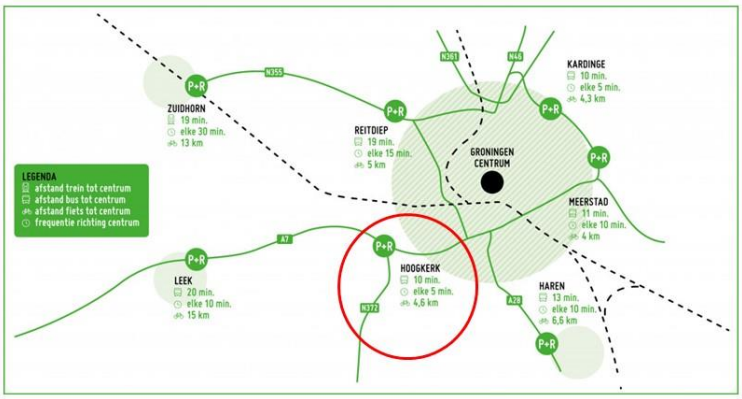
Containerized microhubs with cargo-bike logistics

Private cargobike logistics

Trials Groningen

Trial 1: urban logistics as a service for commuters at park & ride zones

- 375.000 traffic movements in & out the city center



New logistics services

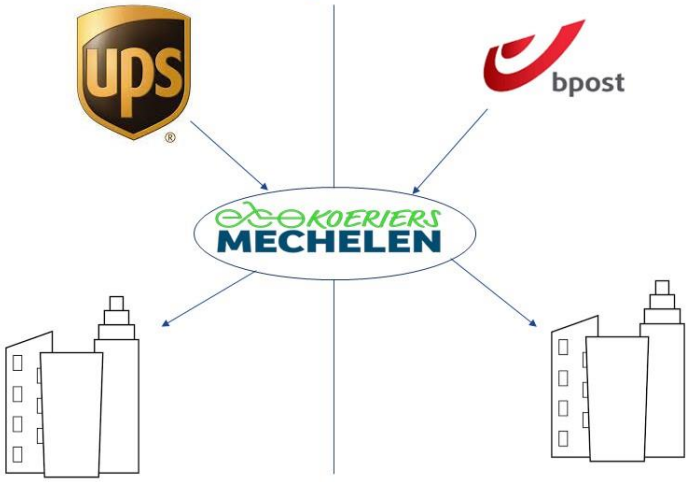
- Public lockers
- Cargo-bike rental place

Trial 2: vehicle sharing for logistics by local shopkeepers

- Groningen City Club: city shopkeepers convenant
- Sharing/rental options for: electric vehicles + (e-)cargo bikes
  - 1 vehicle provider, pay per use

Trials Mechelen

Trial 1: Combined parcel pick ups at local shopkeepers



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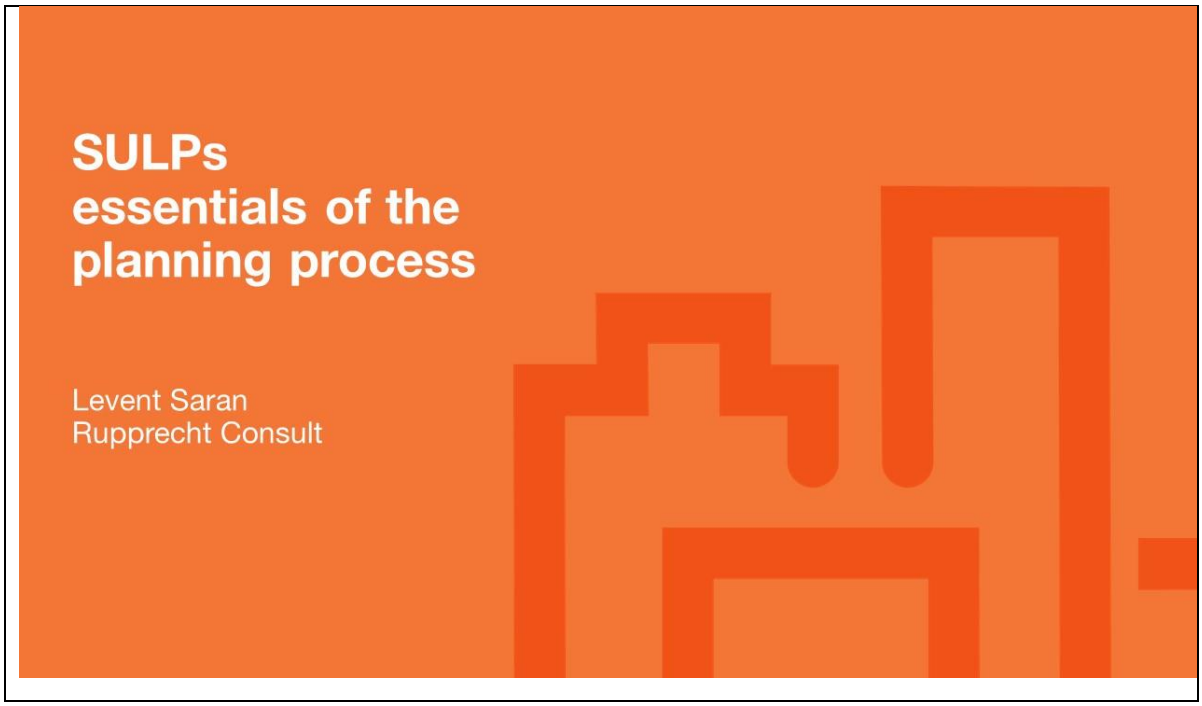
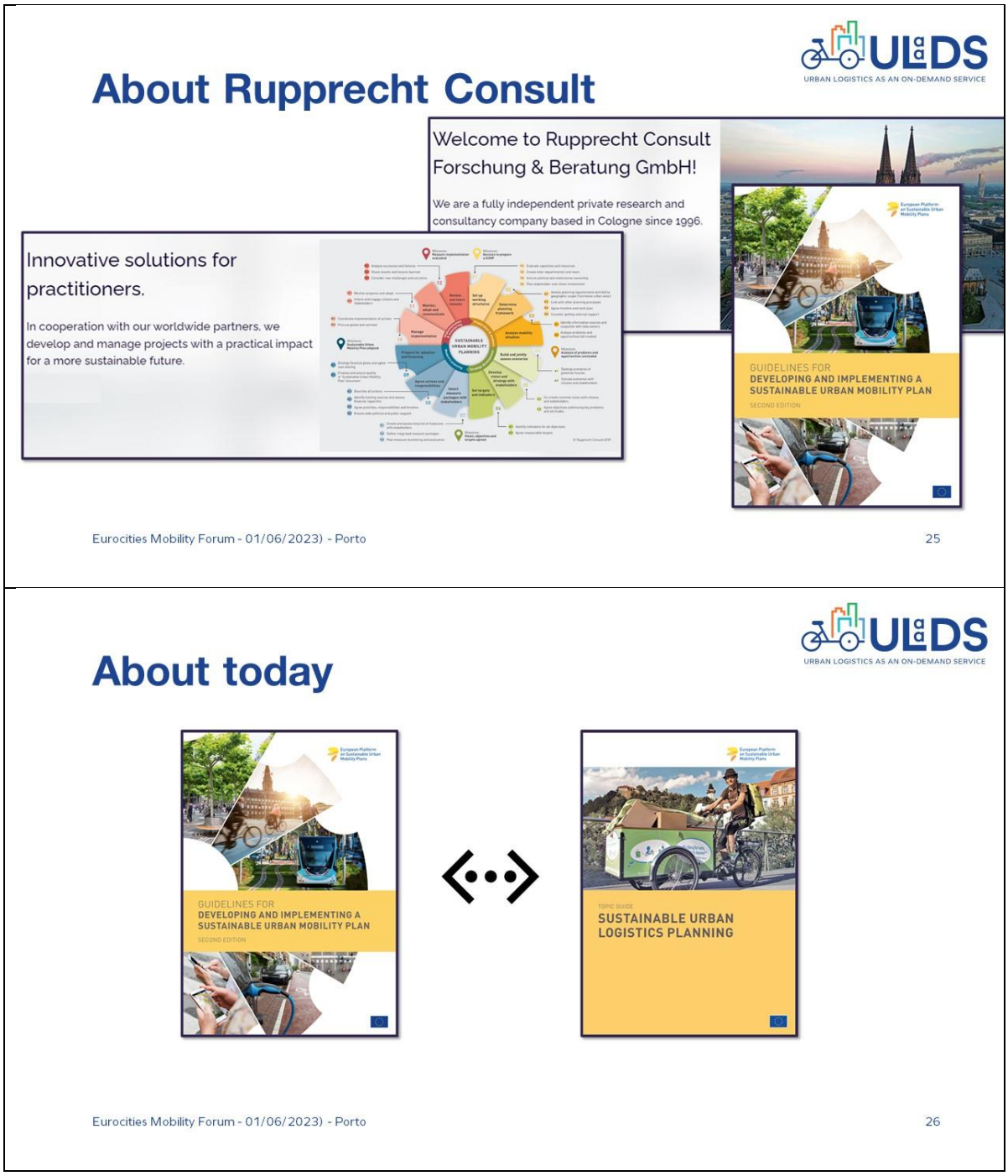
SULPs – essentials of the planning process

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About today
GUIDELINES FOR
DEVELOPING AND IMPLEMENTING A SUSTAINABLE URBAN MOBILITY PLAN
SECOND EDITION
TOPIC GUIDE
SUSTAINABLE URBAN LOGISTICS PLANNING
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Concerning SUMP

- The SUMP concept as we know it today basically came into being in 2013 through the Urban Mobility Package and was revised in 2019.
- "planning for people". That could just as well be SUMPs claim.
- The poster illustrates the sustainable planning process for transport in an urban area. It includes many crucial aspects of a sustainable mobility system and demonstrates all eight of the fundamental SUMP principles.

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Concerning SUMP

There are eight crucial principles for successful Sustainable Urban Mobility Planning

- Plan for **sustainable** mobility in the entire **'functional city'**
- Define a long-term **vision** and a clear **implementation** plan
- **Cooperate** across institutional boundaries
- Develop all transport **modes** in an **integrated** manner
- Involve citizens and **stakeholders**
- Arrange for monitoring and **evaluation**
- Assess current and future **performance**
- Assure **quality**

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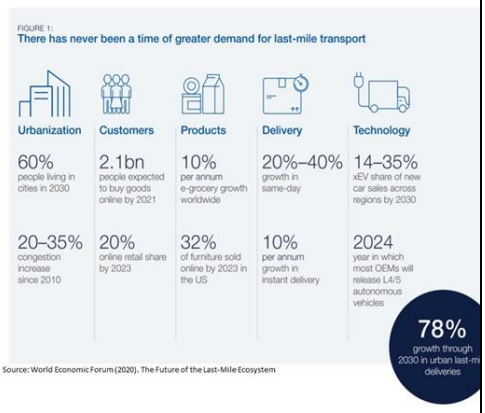
Concerning Urban Logistics

- The demand for last-mile delivery is expected to grow by 78% by 2030, which will increase the number of delivery vehicles in 100 cities around the world by 36%
- In response to customer and business demand, private entities regularly invest in **new technologies and solutions**. With such investments often profit-oriented, various environmental, social and economic **challenges** arise.
- Search for sustainable solutions has resulted in the growth of interest in **green logistics** and **alternative methods of goods delivery**, such as parcel pick-up points, cargo bikes, crowd shipping, etc.
- **Conflicting interests** of city logistics stakeholders are also exposed, involving private organizations (haulage and shipping companies, logistics operators), public organizations, NGOs, and the general public.
- **EU climate laws** put pressure on cities to cut emissions.



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Fact-Finding Study

Fact-finding Study On Status And Future Needs Regarding Low- And Zero-emission Urban Mobility on behalf of DG Move 2021 together with PwC (Leader), Ecorys, and ISINOVA (link)

Indicator	Key Takeaways
Existence of local transport plan with attention on urban logistics (107/125 sampled cities)	• 20% of cities have a planning approach on urban logistics (e.g. with the use of a plan-do-check-act method), confirming that in many Member States urban logistics policy-making is still undergrown to date • 13% of cities has developed a specific Urban Logistics Plan; of the remaining share, 58% of sampled cities stated having some logistics elements integrated in their mobility planning document (i.e. SUMP). • In general, it seems that city administrations seem to be less focused on urban logistics management in comparison to passenger mobility.
Awareness of the concept of SULP (European guidelines) (85/125 sampled cities)	• 68% of cities is aware of the existence of European guidance on Sustainable Urban Logistics Plans; the awareness is higher for medium- and large-sized cities.
Specific expertise in place on urban logistics (60/94 sampled cities)	• The design and implementation of a plan with attention to urban logistics is in most cases supported through the expertise provided by local government (88%) and/or appointed professionals (68%).

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Fact-Finding Study

- Logistics activities are majorly on EU, national or regional scope
  - City logistics is only a minor stretch of the total transport chain (need for a minimum of FUA planning)
  - The logistic measures included in the mobility plans are usually smaller action plans, research pilots, or local subsidy projects without a plan-do-check-act policymaking approach
- Development of a separate urban logistics plan is a challenge for cities
  - Difficulty in the **collection of data** on urban logistics activities.
  - Logistic activities are not considered an essential part of the policy planning process - a probable explanation for limited capacity on logistics in public authorities
  - Lack of **involvement of politicians and ministries** in policies and programs regarding SULP
  - Non-availability of **financial and technical support** for the development and implementation of SULPs in urban areas

Source: ACEA

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Fact-Finding Study

- **Major challenges:** lack of focus and strategy on urban logistics, lack of coordination among actors, lack of data and information
- Innovation and technological development quickly progressing in a highly **business-driven sector. Planning** needs to keep up with the pace, along with **goal setting** and better **cooperation**
- A **city-led and objective-driven** process is needed through comprehensive logistics planning to address overall objectives of SUMP – accessibility, quality of life, environment, safety
- **SULP provides the context** for a dialogical and city-led innovation process with a participatory discussion of the desired future state, selection of measures, set-up of demonstration projects and pilots, and monitoring and evaluation schemes.

* Source: Topic Guide for Sustainable Urban Logistics Planning (2019) developed within NOVELOG Project

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Back to...

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SULP in the SUMP cycle

- While SUMP is all about planning for the movement of people
- SULP is about the delivery of goods, or such things as demolition traffic, reverse logistics for waste removal and for returns management, service vans for maintenance, supply and removal of parts
- At the same time, it is indispensible for people and comprises a substantial part of all types of activities contributing to the urban economic development and attractiveness

Source: SULP Guide

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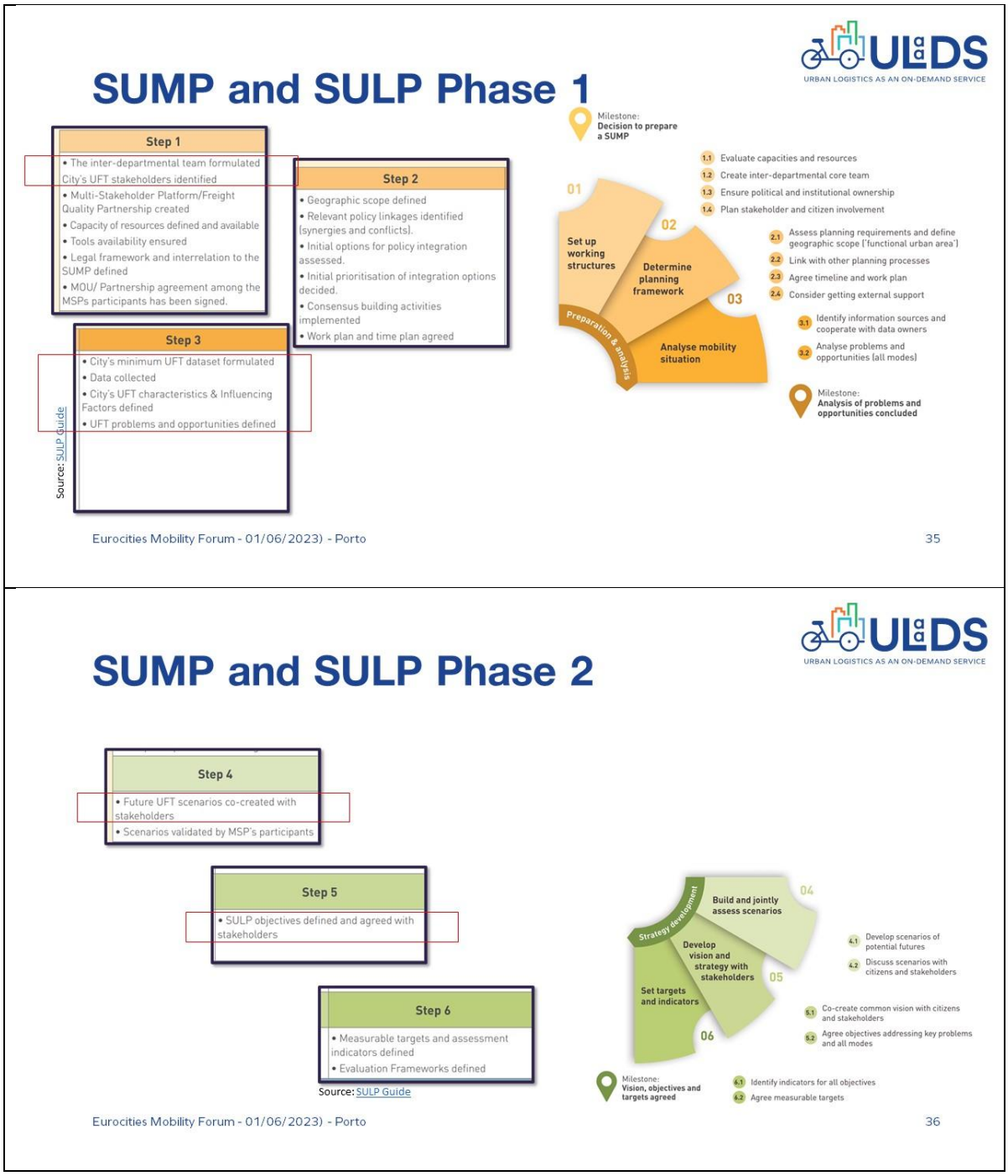
SUMP and SULP Phase 1
Step 1
• The inter-departmental team formulated City's UFT stakeholders identified
• Multi-Stakeholder Platform/Freight Quality Partnership created
• Capacity of resources defined and available
• Tools availability ensured
• Legal framework and interrelation to the SUMP defined
• MOU/ Partnership agreement among the MSPs participants has been signed.
Step 2
• Geographic scope defined
• Relevant policy linkages identified (synergies and conflicts).
• Initial options for policy integration assessed.
• Initial prioritisation of integration options decided.
• Consensus building activities implemented
• Work plan and time plan agreed
Step 3
• City's minimum UFT dataset formulated
• Data collected
• City's UFT characteristics & Influencing Factors defined
• UFT problems and opportunities defined
Source: SULP Guide
Milestone: Decision to prepare a SUMP
01
Set up working structures
1.1 Evaluate capacities and resources
1.2 Create inter-departmental core team
1.3 Ensure political and institutional ownership
1.4 Plan stakeholder and citizen involvement
02
Determine planning framework
2.1 Assess planning requirements and define geographic scope ('functional urban area')
2.2 Link with other planning processes
2.3 Agree timeline and work plan
2.4 Consider getting external support
03
Analyse mobility situation
3.1 Identify information sources and cooperate with data owners
3.2 Analyse problems and opportunities (all modes)
Preparation & analysis
Milestone: Analysis of problems and opportunities concluded
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SUMP and SULP Phase 2
Step 4
• Future UFT scenarios co-created with stakeholders
• Scenarios validated by MSP's participants
Step 5
• SULP objectives defined and agreed with stakeholders
Step 6
• Measurable targets and assessment indicators defined
• Evaluation Frameworks defined
Source: SULP Guide
Strategy development
04
Build and jointly assess scenarios
4.1 Develop scenarios of potential futures
4.2 Discuss scenarios with citizens and stakeholders
Develop vision and strategy with stakeholders
05
5.1 Co-create common vision with citizens and stakeholders
5.2 Agree objectives addressing key problems and all modes
Set targets and indicators
06
Milestone: Vision, objectives and targets agreed
6.1 Identify indicators for all objectives
6.2 Agree measurable targets
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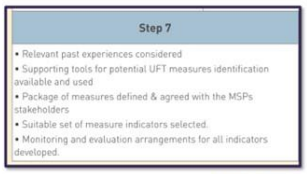
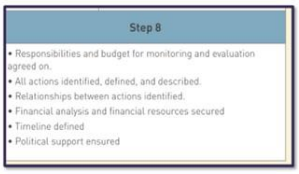
SUMP and SULP Phase 3



Source: SULP Guide



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SUMP and SULP Phase 4

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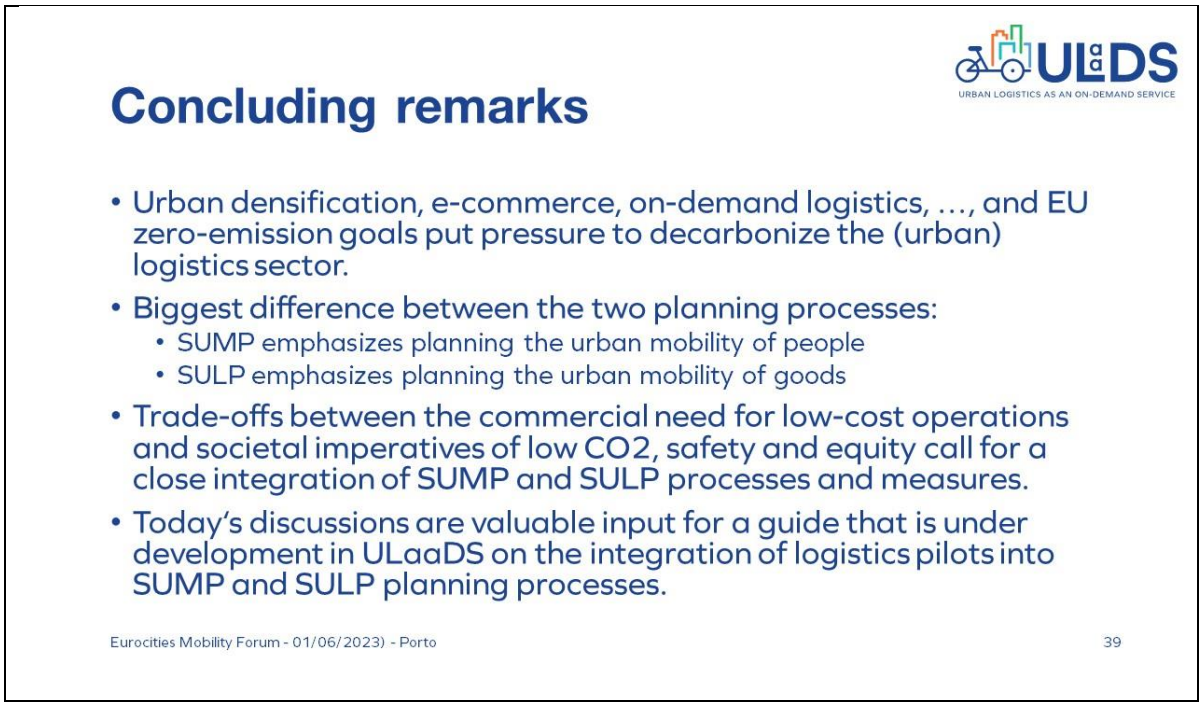


As previously described, the following part of the training was built on a series of use-cases that would provide participants the opportunity to discuss key elements of the SULP development process.

In the six consecutive round of discussion, the participants where guided through the following topics:

- The importance of a proper regulatory and policy framework
- Effective stakeholder engagement and cooperation
- The role of cities in fostering the flourishing of new business models
- Looking for the right technology
- Target setting, indicators and monitoring
- Setting the scene for implementation

The importance of a proper regulatory and policy framework

This section of the training was led by Lorena Axinte – PhD and Senior Mobility Consultant at Bax & Company. The use-case provided as basis for the discussion covered the rapid increase of micro-hubs, dark stores and dark kitchens. The approach that the ULaaDS city of Groningen took in response to this unforeseen development was given to participants as an example of an agile administration that took an emerging issue as an occasion to review their policies and regulations in light of new trends.

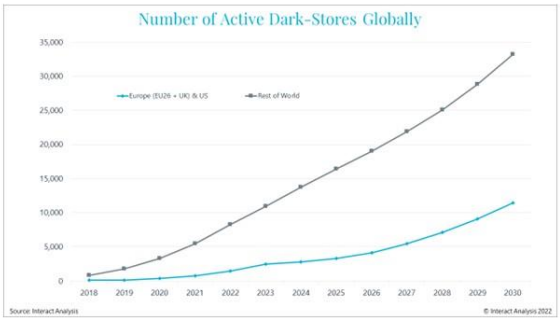
The discussion that followed in the four round-tables aimed at answering the following question: what is needed to set up a proper regulatory and policy framework? How can cities become more agile and re-adapt their policies and regulations in a fast-changing world?

The importance of a proper regulatory and policy framework

Lorena Axinte, PhD
Bax & Company

Quick commerce & the city

- After a period of growth, e-commerce and quick commerce have now entered a **consolidation** phase
- The need for **new logistics capacities** closer to the end consumer brought logistics facilities within 'ultra-urban locations'
- Cities saw a rapid increase in **micro-hubs, dark stores and dark kitchens**, often replacing traditional retail stores



Source: Interact Analysis

Dark stores are facilities that cater (almost) exclusively for online shopping

Dark (ghost, cloud or virtual) **kitchens** cater for online delivery meals, generally without having any seating capacity

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The issues with expanding logistics facilities

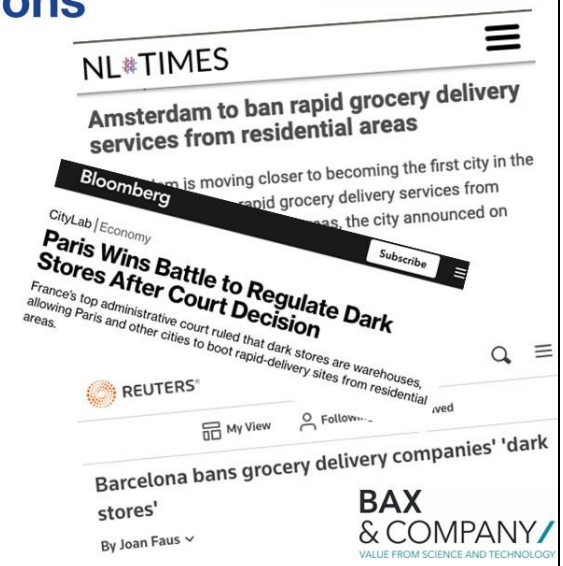
1. Uncertainty over **classification of facilities** (e.g., stores vs. warehouses) & potential non-compliance with land use and zoning rules when opening facilities
2. **Nuisances reported by citizens** living in proximity (noise, congestion, pollution, waste)
3. **Traffic and congestion** due to frequent loading and unloading
4. **Cluttering of public space** due to many vehicles parked outside of the facility
5. **Aesthetics** - closed stores and covered windows, as well as employees waiting outside of facilities

Image source: The Times

6. Potential risk of **unfair competition** with small businesses and traditional food retail
7. Gradual **replacement of traditional shops and restaurants** which might reduce the attractiveness of inner cities and commercial streets

Public authorities' actions

- **Classification** of dark stores as 'warehouses' which forbids the establishment in residential areas (e.g., Paris)
- **Temporary freezing permits** for new openings in residential areas (e.g., Rotterdam, Amsterdam) *and*
- **Umbrella zoning plans** with newly determined requirements, including mandatory planning application (e.g., Amsterdam)
- Discussions to develop **new zoning category** for dark kitchens, and new parking requirements (max. 2 parked on street) for all companies (e.g., Groningen)
- **Ban** on new openings and **strict requirements** for existing dark stores to either convert to food warehouses without home delivery or to open supermarkets (e.g., Barcelona)


NL TIMES

Amsterdam to ban rapid grocery delivery services from residential areas

Bloomberg

CityLab | Economy

Paris Wins Battle to Regulate Dark Stores After Court Decision

France's top administrative court ruled that dark stores are warehouses, allowing Paris and other cities to boot rapid-delivery sites from residential areas.

REUTERS

Barcelona bans grocery delivery companies' 'dark stores'

By Joan Faus

Reactions from companies

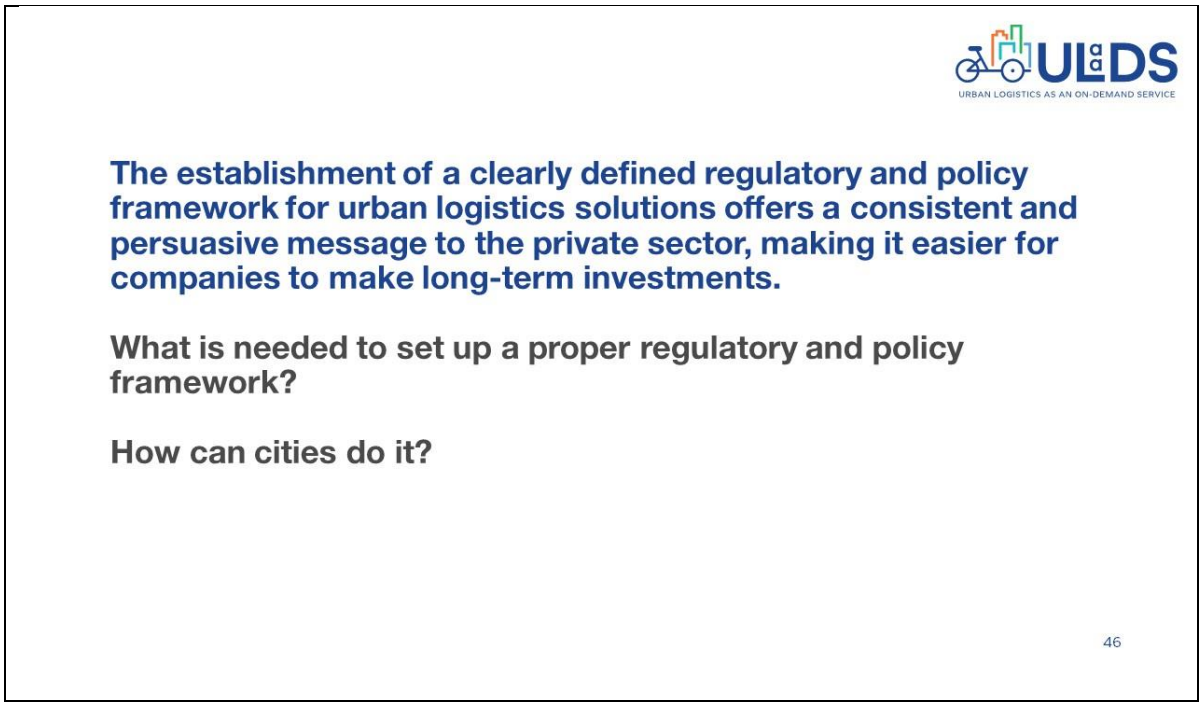
- **Fewer facilities** (partially due to sector consolidation)
- Willingness to **comply** and **collaborate** with cities
- Request for **clear rules** which are not left to interpretation / arbitrary decisions (not necessarily solved through the new regulations)
- **Appeals against** the measures instituted, including potential cases being challenged in courts
- Initiatives to **improve the aesthetics** of the glass front (e.g., collaborations with local artists)

BAX & COMPANY

Where are we today?

- Clear **rollback** of dark stores opening and **more consideration when selecting new locations**
- Discussions between flash delivery companies and public authorities taking a more **collaborative approach** in some cities
- Better understanding of what the needs might be & how to make the relationship **mutually beneficial** *but*
- Continuing need to grasp the exact **impact of quick commerce**, and of the **new regulations being imposed** (e.g., CO2 emissions due to relocation of facilities in industrial areas)
- Quick deliveries as a representative example that using more sustainable delivery vehicles is **not enough** to make logistics sustainable
- Groningen - an example of how to turn issues into an opportunity to **review policies and regulations** more broadly

BAX & COMPANY



Effective stakeholder engagement and cooperation

This section of the training was led by Domien Stubbe – Project Leader at the Flanders Institute for Logistics (VIL). Domien provide two use-cases coming from the ULaaDS trials in Mechelen and Groningen. The Mechelen use-case highlighted the complexities of bringing together three different logistics service providers (bPost, UPS and ECOkoeriers) for collaborative delivery models. The Groningen use-case was presented to showcase the long-term approach to stakeholder engagement in the Dutch city and the role that the involvement of local shopkeepers had in the implementation of a vehicles sharing measure in the ULaaDS trial.

The discussion that followed in the four round-tables aimed at answering the following question: what are some best practices related to stakeholder engagement for realizing significant change in cities? How to approach and gather stakeholders? Who takes the lead in these conversations? What is the frequency you bring together stakeholders?

Working together with stakeholders on urban logistics

Domien Stubbe
VIL

Groningen: shared vehicles for shopkeepers

- **City future regulation**: zero-emission inner city area by 2025
- **Provide solution**: sharing/rental options for electric vehicles + (e-)cargo bikes
- **Groningen City Club:** city shopkeepers convenant in the lead to define solution

The role of cities in fostering the flourishing of new business models

This section of the training was led by Arianna Americo – Project and Forum Coordinator at Eurocities. Arianna built on the previously presented Groningen case and expanded by adding insights from one of the Bremen trials. With the Groningen use-case, it was showcased how a strong vision and regulatory framework set by the city can drive innovation and the development of new business models. While with the Bremen case an alternative scenario was provided where a bottom-up

initiative coming from NGO aimed at filling a gap for citizens, with the local authority acting as a facilitator rather than an initiator.

The discussion that followed in the four round-tables aimed at answering the following question: what role can cities play to ensure that urban logistics will develop sustainably and in synch with overarching public policy goals? What is the role of local authorities in fostering the testing, piloting and adoption of new business models for sustainable logistics?

The Groningen case

Zero emission urban logistics by 2025

Vision

Alternatives

Regulations

Access restrictions to logistics in the whole city centre, permitting logistic vehicles to access only between 5:00 am and 12:00 pm

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The Bremen case

- Bottom-up initiative coming from NGO
- Filling a gap for citizens
- City providing support in financing and promoting the initiative
- No business case – good business case?

Result → A new business model being successfully deployed and used

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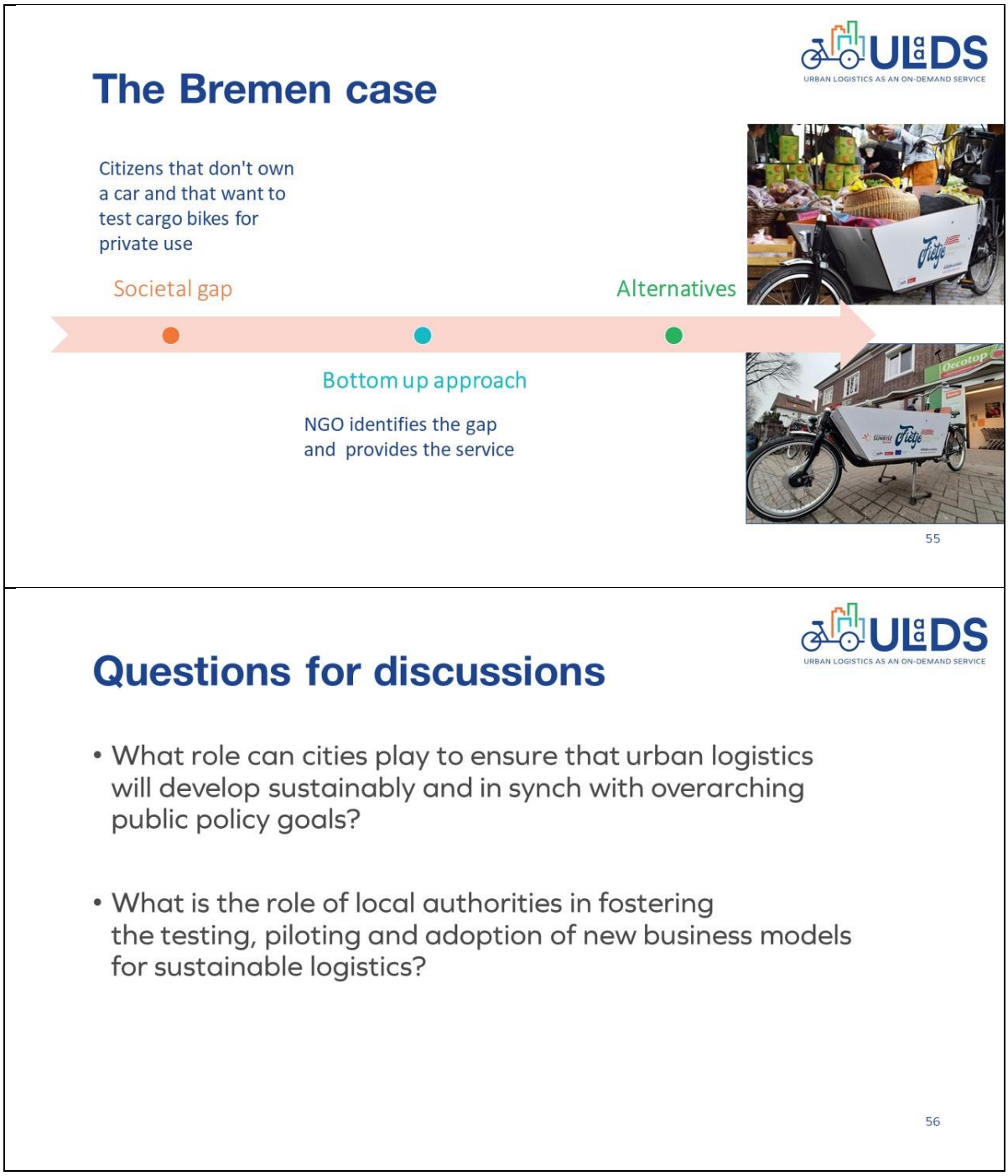
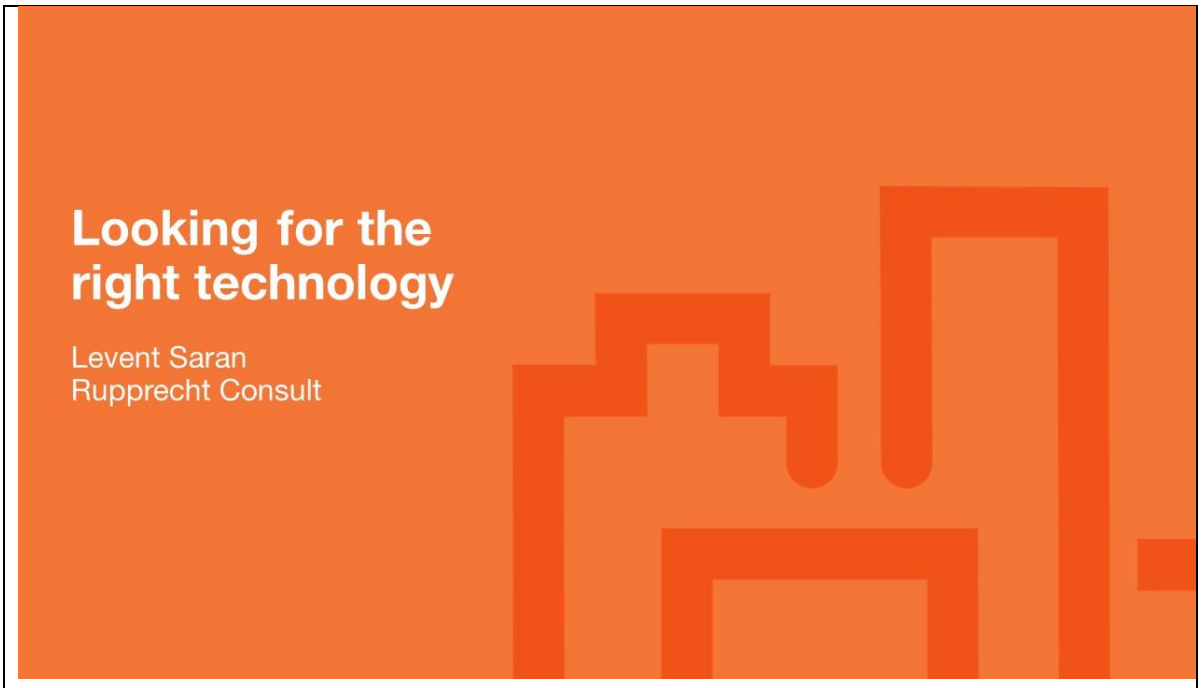
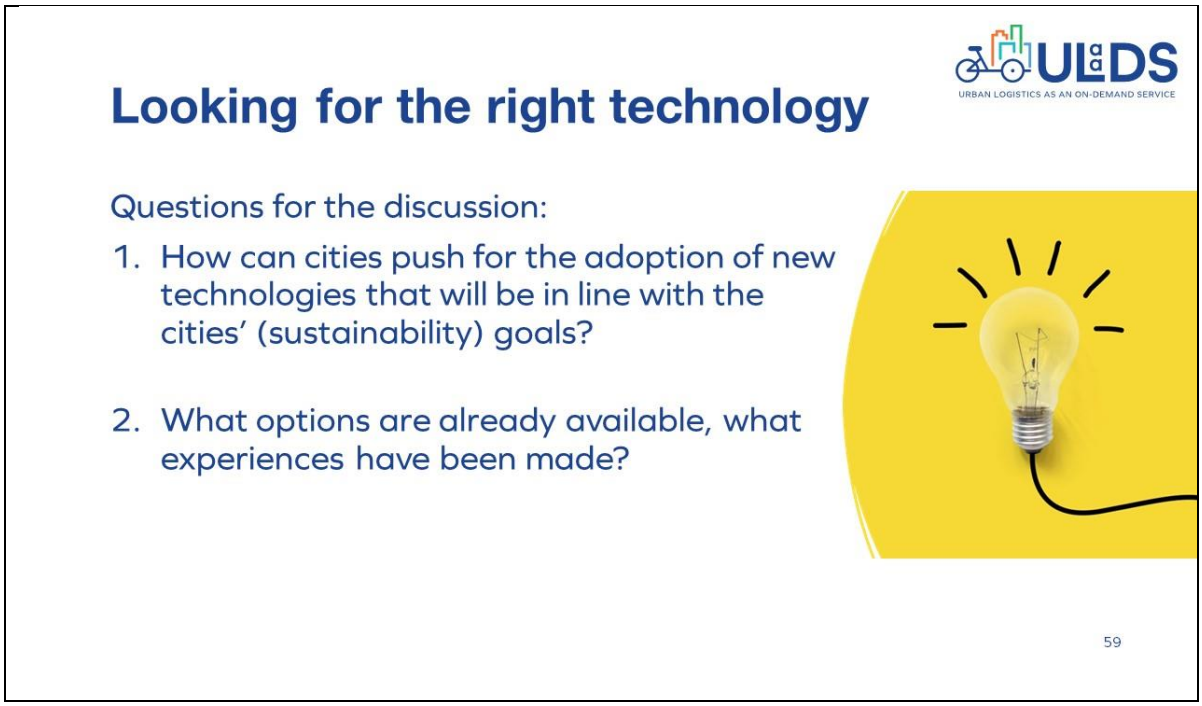


Looking for the right technology

This section of the training was led by Levent Saran – Sustainable Mobility Consultant at Rupprecht Consult. Levent introduced two different use-cases from Bremen and Mechelen. The Bremen use-case looked at containerized microhubs while the Mechelen case illustrated the use of an autonomous vehicle for cargo hitching.

The discussion that followed in the four round-tables aimed at answering the following question: how can cities push for the adoption of new technologies that will be in line with the cities' (sustainability) goals? What options are already available, what experiences have been made?





Target setting, indicators and monitoring

This section of the training was led by Domien Stubbe, who presented a series of specific challenges related to data collection in the urban logistics context. Building on ULaaDS experience with data-gathering for evaluation purposes, the presentation focused on three key aspects: baseline identification, definition of the expected outcomes of the measure(s) and establishing the right KPIs.

The discussion that followed in the four round-tables aimed at answering the following question: in projects, who delivers data to measure the impact? The city, companies,…? How do you convince companies to share data / insights with you? How do you address 'sensitive' data? Which security/safety measures do you provide in data-gathering?

Generating impact: Target setting, indicators and monitoring

Domien Stubbe
VIL

Data-gathering in trials ULaaDS

Start: exhaustive 'whishlist':

- 7 dimensions
  - 20 objectives
    - 29 KPI's
      - **96 support indicators = data-points (coming from city / companies / citizens)**

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New dimensions

Environmental Impacts
- CO2 reduction
- Land-use (public space)

Costs
- Sustainable Business Model (cost per delivery, maintenance costs and investments)

Socio-Economic Impacts
- Level of Service (OTIF, customer satisfaction & acceptance)
- Awareness of sustainable delivery solutions

Benefits
- Traffic conditions (Congestion & safety)
- Logistic efficiency (load capacity, delivery speed, fleet efficiency)

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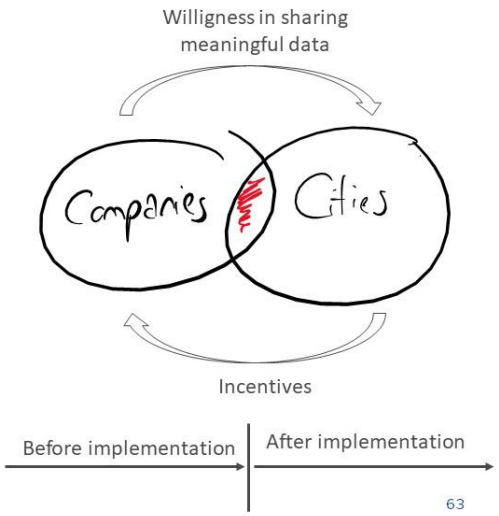
Data as a key element for measuring impacts

What is needed
- Baseline
- What is the goal of the pilot?
- **Which KPI can be defined?**



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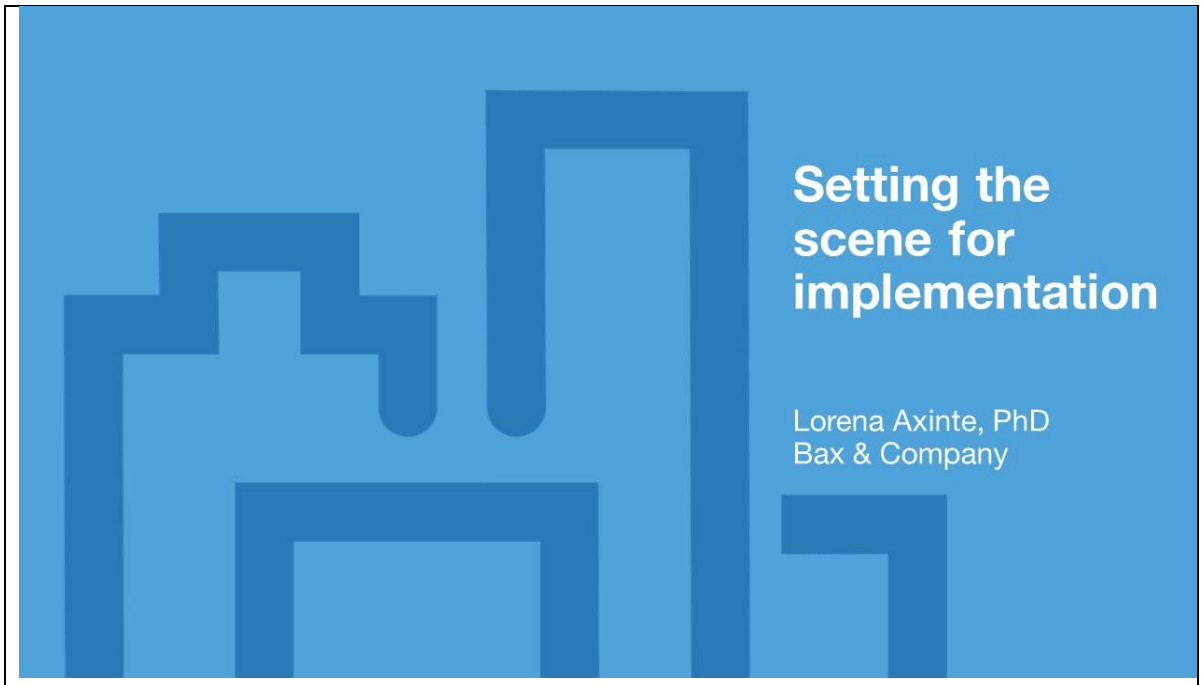
Setting the scene for implementation

This section of the training was led by Lorena Axinte. The use-case provided as basis for the discussion covered the development of a framework for collection and delivery points in Groningen. The case presented illustrated how the city of Groningen moved from a piloting phase – with the testing of parcel lockers in specific locations – to the development of a comprehensive framework which would establish the vision, rules and expected results for collection and delivery points roll-out. The objective of this presentation was to create a basis for a discussion with the participants on different approaches to sustainable urban logistics planning, analysing the pros and cons of two possible option:

- Implementing pilots and testing to gather insights for policy making, versus
- Establishing a policy regulatory framework in the first place (i.e. a SULP) and moving to implementation afterwards



Supporting cities in handling logistics innovations: a framework for collection and delivery points

Framework rationale:

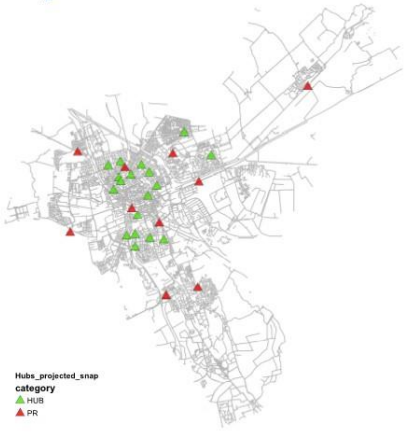
- Aim: establish the vision, rules and expected results of parcel lockers (and more broadly CDPs)
- Groningen's need for a framework for parcel lockers became obvious during the ULaaDS implementation
- Lack of easily replicable models from other cities/countries
- The city has been working with different stakeholders to develop the framework and has already established some potential scenarios

Groningen City
- Stakeholder fora (incl. PostNL, DHL, de Buuren)
- Inter-departmental discussions

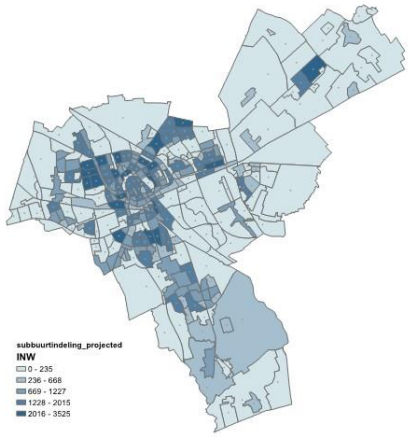
University of Groningen
- Involvement and facilitation of stakeholder fora
- Research on the carbon emission impact of pickup points in last-mile parcel delivery

Bax & Company
- Spatial analysis to identify the best location for parcel lockers & PUDOs in terms of measured accessibility for citizens
- Benchmarking of worldwide practices for parcel lockers

Data provided



Mobility Hubs and Park&Rides



Neighbourhoods and population

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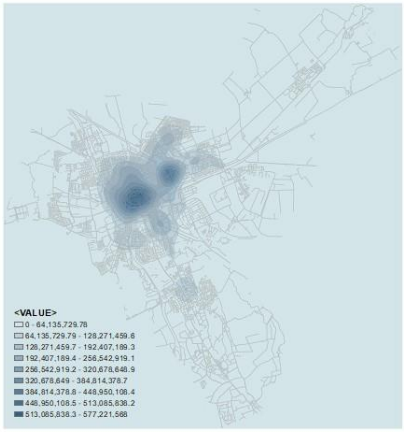
Where will people cycle?
Space syntax: betweennness centrality

Cycling network - streets most likely to be chosen by cyclists (shortest path linking any pair of street segments within a radius - 10min by bike at 18km/h)



Kernel density

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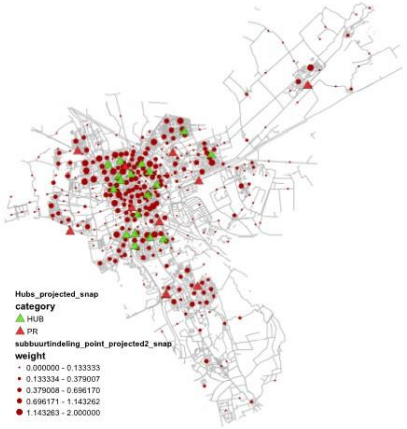
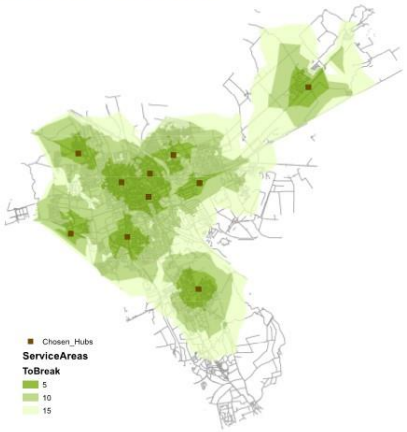
Optimal location of hubs



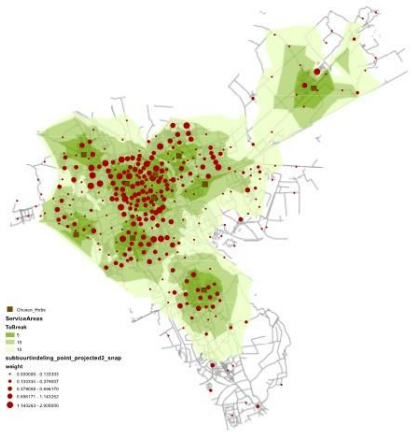
Hubs and Population

Optimal location of 10 hubs

Areas covered



Isochrones 5-10-15 minutes (cycling, 18km/h)



Isochrones and population

2.2.3 Follow-up

After the event, Eurocities wrote an article that was published on the ULaaDS Website, where all the links to the training materials are available.

In addition, Eurocities sent out a mailing to the overall Eurocities Mobility Forum mailing list (over 800 recipients) sharing the highlights of the forum meeting in the form of an article. The article also

covered a summary of each session, including the ULaaDS Training and links to all the relevant materials and resources used during the training. The article with the highlights of the meeting is published on the internal Eurocities Collaboration Platform, which is the repository and collaborative SharePoint used by the members of the network. The article was also featured in the Eurocities Flash Newsletter, which has more than 3.600 recipients.

In addition, a follow-up email is scheduled to be sent to the training participants to share with them the D6.2 *Guidelines, methods & policy recommendations to integrate ULaaDS in SUMP and SULP processes*, as soon as the deliverable will be submitted and approved.

3. Conclusion

This document had the objective to describe the trainings organised in the framework of the project and offer an overview of the materials used for the trainings. It was also important to highlight the scope in which the trainings took place. Hosting the trainings during the Eurocities Mobility Forum provided 27 different cities with access to the knowledge generated by the project, as well as the opportunity to work collaboratively and exchange best practices with their peers, on a topic which still proves to be challenging in many urban areas.

In summary, the trainings conducted under ULaaDS have bridged theoretical foundations with practical applications in the urban logistics domain. This approach aimed to equip city authorities with relevant tools and insights to enhance urban logistics practices while also striving to ensure alignment with real-world challenges faced by cities.

Training materials were a result of collaborative efforts, drawing knowledge from ULaaDS and other urban logistics projects, in conjunction with expertise from ULaaDS partners and external specialists.

The training materials' development reflected a cooperative approach, where partners – within and beyond the ULaaDS consortium – with different backgrounds and specific knowledge worked together to develop hands-on resources that could contribute to building capacity on sustainable urban logistics within cities. This cooperative model enriched the programme and encouraged a holistic perspective on urban logistics challenges.

Finally, the overall insights that have been collected during the course of the trainings will feed into D7.6 *Insights from training workshops organised*, due in M42.

Acronyms

Acronym	Meaning
AV	Autonomous Vehicles
D	Deliverable
EC	European Commission
GA	Grant Agreement
LSP	Logistics Service Provider
O	Objective
ODD	On-demand Delivery
SUMP	Sustainable Urban Mobility Plan
SULP	Sustainable Urban Logistics Plan
T	Task
UCC	Urban Consolidation centre
UFT	Urban Freight Transport
ULaaDS	Urban Logistics as an on-Demand Service
WP	Work Package

References

- Cargo Bike Depot / CityChangerCargoBike – Planning of cargo bike hubs [Last accessed: 23/08/2023]
- ULaaDS D3.1: Benchmarking business/operating models and best practices [Last accessed: 23/08/2023]
- R!sult project [Last accessed: 23/08/2023]
- Fact-finding study on status and future needs regarding low- and zero-emission urban mobility [Last accessed: 23/08/2023]
- Topic Guide: Sustainable Urban Logistics Planning [Last accessed: 23/08/2023]
- ULaaDS D6.2: Guidelines, methods & policy recommendations to integrate ULaaDS in SUMP and SULP processes [Still under development when the present deliverable was submitted]

Annex 1 – Participants list ULaaDS Training November 2022

EUROCITIES

17 November 2022, 13:30 – 17:00 – Eurocities Mobility Forum

Gorilla room 5 - Training on Sustainable Urban Logistics - Participants list

ULaDS

N.	First Name	Last Name	City / Organisation	Workshop	Signature
1	Arianna	Americo	Eurocities	Gorilla room 5 - Training on Sustainable Urban Logistics	
2	Tom	Assmannn	University of Magdeburg	Gorilla room 5 - Training on Sustainable Urban Logistics	
3	Lorena	Axinte	Bax & Company	Gorilla room 5 - Training on Sustainable Urban Logistics	
4	Ana	Barreto	Porto	Gorilla room 5 - Training on Sustainable Urban Logistics	
5	Linda	Bartsch	Berlin	Gorilla room 5 - Training on Sustainable Urban Logistics	
6	Joris	Beckers	University of Antwerp	Gorilla room 5 - Training on Sustainable Urban Logistics	
7	Sala	Besic	Eindhoven	Gorilla room 5 - Training on Sustainable Urban Logistics	
8	Dinand	De Jong	Enschede / Netwerkstad Twente	Gorilla room 5 - Training on Sustainable Urban Logistics	
9	Mark	Degenkamp	Vervoerregio Amsterdam	Gorilla room 5 - Training on Sustainable Urban Logistics	
10	Sonja	Haider	Munich	Gorilla room 5 - Training on Sustainable Urban Logistics	
11	Birgit	Hunkenschroer	Berlin	Gorilla room 5 - Training on Sustainable Urban Logistics	
12	Francesco	Iacorossi	Rome	Gorilla room 5 - Training on Sustainable Urban Logistics	
13	Marij	Lambert	Leuven	Gorilla room 5 - Training on Sustainable Urban Logistics	
14	Simona	Larghetti	Bologna	Gorilla room 5 - Training on Sustainable Urban Logistics	
15	Roos	Lowette	Mechelen	Gorilla room 5 - Training on Sustainable Urban Logistics	
16	Jaroslav	Mach	Prague	Gorilla room 5 - Training on Sustainable Urban Logistics	
17	Susann	Mäder	Chemnitz	Gorilla room 5 - Training on Sustainable Urban Logistics	
18	Saara	Nuotio-Coulon	Turku	Gorilla room 5 - Training on Sustainable Urban Logistics	
19	Lola	Ortiz	Madrid	Gorilla room 5 - Training on Sustainable Urban Logistics	
20	Lilian	Oskamp	The Hague	Gorilla room 5 - Training on Sustainable Urban Logistics	
21	Bilyana	Raeva	Varna	Gorilla room 5 - Training on Sustainable Urban Logistics	
22	Iva	Rorečková	Brno	Gorilla room 5 - Training on Sustainable Urban Logistics	
23	Henrik	Rüscher	Hannover	Gorilla room 5 - Training on Sustainable Urban Logistics	
24	Florian	Schönemann	Munich	Gorilla room 5 - Training on Sustainable Urban Logistics	
25	Keroum	Slimani	Lyon	Gorilla room 5 - Training on Sustainable Urban Logistics	
26	Erik	Stok	Netwerkstad Twente	Gorilla room 5 - Training on Sustainable Urban Logistics	
27	Klára	Tenková	Brno	Gorilla room 5 - Training on Sustainable Urban Logistics	
28	Bas	Thijsen	Province Noord-Brabant	Gorilla room 5 - Training on Sustainable Urban Logistics	
29	Lucas	van den Elshout	Antwerp	Gorilla room 5 - Training on Sustainable Urban Logistics	
30	Korneel	Vangansbeke	Ghent	Gorilla room 5 - Training on Sustainable Urban Logistics	
31	Tim	Vervoort	Antwerp	Gorilla room 5 - Training on Sustainable Urban Logistics	
32	DIRK	ENGELS	Transp & Mob. Leuven		
33			MILANO		
34			MILANO		
35					
36					
37					

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Annex 2 – Participants list ULaaDS Training June 2023

EUROCITIES Porto.

1 June 2023, 10:00 – 13:30 – Eurocities Mobility Forum
Training on Sustainable Urban Logistics - Participants list

ULaDS

N.	First Name	Last Name	City / Organisation	Workshop	Signature
1	Cristóvão	**Afonso**	Porto	Training on Sustainable Urban Logistics	
2	Susana	**Alves**	Porto	Training on Sustainable Urban Logistics	
3	Arianna	**Americo**	Eurocities	Training on Sustainable Urban Logistics	
4	Lorena	**Axinte**	Bax & Company	Training on Sustainable Urban Logistics	
5	Ana	**Barreto**	Porto	Training on Sustainable Urban Logistics	
6	Floor	**Beckers**	Amsterdam	Training on Sustainable Urban Logistics	
7	Veronica	**Bellonzi**	Milan	Training on Sustainable Urban Logistics	
8	André	**Brochado**	Porto	Training on Sustainable Urban Logistics	
9	Evelīna	**Budiloviča**	Riga	Training on Sustainable Urban Logistics	
10	Vítor	**Carvalho**	Vila Nova de Gaia	Training on Sustainable Urban Logistics	
11	Daniel	**Casas Valle**	the Future Design of Streets	Training on Sustainable Urban Logistics	
12	Jana	**Červeňáková**	Prague	Training on Sustainable Urban Logistics	
13	Daryna	**Datsenko**	Porto	Training on Sustainable Urban Logistics	

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EUROCITIES Porto.

1 June 2023, 10:00 – 13:30 – Eurocities Mobility Forum
Training on Sustainable Urban Logistics - Participants list

ULaDS

N.	First Name	Last Name	City / Organisation	Workshop	Signature
14	Evelyn	**De Wachter**	Transport & Mobility Leuven	Training on Sustainable Urban Logistics	
15	Julio	**Díaz Gonzalvo**	ETRA	Training on Sustainable Urban Logistics	
16	Eunice	**Diogo**	Vila Nova de Gaia	Training on Sustainable Urban Logistics	
17	Pedro	**Fernandez**	Madrid	Training on Sustainable Urban Logistics	
18	Elena	**García**	ETRA	Training on Sustainable Urban Logistics	
19	Michael	**Glotz-Richter**	Bremen	Training on Sustainable Urban Logistics	
20	Sonja	**Haider**	Munich	Training on Sustainable Urban Logistics	
21	Victoria	**Herslöf**	Stockholm	Training on Sustainable Urban Logistics	
22	Annika	**Hummel**	Karlsruhe	Training on Sustainable Urban Logistics	
23	Jordi	**Jové Palou**	Barcelona Metropolitan Area	Training on Sustainable Urban Logistics	
24	Nataliya	**Kozub**	Ro3kvit	Training on Sustainable Urban Logistics	
25	Sandra	**Melo**	CEiiA	Training on Sustainable Urban Logistics	
26	Andres	**Monzon**	Polytechnic University of Madrid	Training on Sustainable Urban Logistics	

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EURO CITIES Porto.

1 June 2023, 10:00 – 13:30 – Eurocities Mobility Forum

Training on Sustainable Urban Logistics - Participants list

ULaDS

N.	First Name	Last Name	City / Organisation	Workshop	Signature
27	Pedro	**Moreira**	Braga	Training on Sustainable Urban Logistics	
28	Erlijn	**Mulder**	Utrecht	Training on Sustainable Urban Logistics	
29	Jan-Hendrik	**Müller**	Munich	Training on Sustainable Urban Logistics	
30	Lola	**Ortiz**	Madrid	Training on Sustainable Urban Logistics	
31	Risto	**Peltonen**	Turku	Training on Sustainable Urban Logistics	
32	Sayalee	**Pendharkar**	Munich	Training on Sustainable Urban Logistics	
33	Laura	**Putignano**	Milan	Training on Sustainable Urban Logistics	
34	Anja	**Quester**	Stockholm	Training on Sustainable Urban Logistics	
35	Ana	**Raimundo**	Lisbon	Training on Sustainable Urban Logistics	
36	Fernando	**Rosa**	Lisbon	Training on Sustainable Urban Logistics	
37	Tiina	**Ruohonen**	Oslo	Training on Sustainable Urban Logistics	
38	Levent	**Saran**	Rupprecht Consult	Training on Sustainable Urban Logistics	
39	Erik	**Stok**	Netwerkstad Twente	Training on Sustainable Urban Logistics	

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EURO CITIES Porto.

1 June 2023, 10:00 – 13:30 – Eurocities Mobility Forum

Training on Sustainable Urban Logistics - Participants list

ULaDS

N.	First Name	Last Name	City / Organisation	Workshop	Signature
40	Domien	**Stubbe**	VIL	Training on Sustainable Urban Logistics	
41	Hugo	**Tamagnini Gonçalves**	Helsinki	Training on Sustainable Urban Logistics	
42	Luis	**Teixeira**	Vila Nova de Gaia	Training on Sustainable Urban Logistics	
43	Pamela	**Vennin**	Lyon	Training on Sustainable Urban Logistics	
44	PAULO	VIEIRA	PORTO	Training on Sustainable Urban Logistics	
45				Training on Sustainable Urban Logistics	
46				Training on Sustainable Urban Logistics	
47				Training on Sustainable Urban Logistics	
48				Training on Sustainable Urban Logistics	
49				Training on Sustainable Urban Logistics	
50				Training on Sustainable Urban Logistics	

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