



Planning principles of micro hubs Dr.-Ing. Tom Assmann



Planning principles of micro hubs

ZCI Masterclass, Workshop on Sustainable Urban Logistics
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Gamechanger cargo bike



• 1 Van can be replaces by 1-1,3 cargo bikes

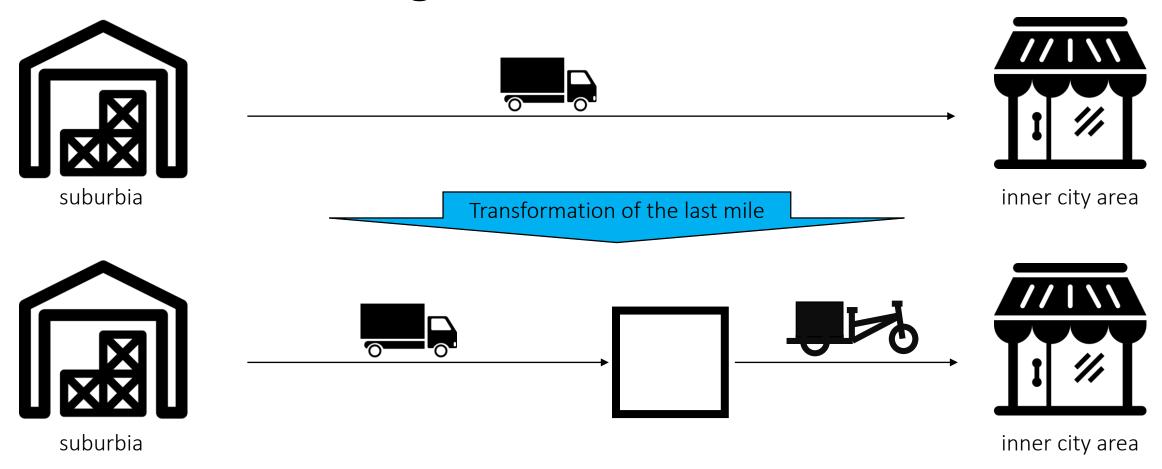
- 10 times less energy consumption
- 10 times less emissions

Reduces accidents and fatalities





The need for cargo bike hubs





What's the biggest barrier for micro hubs?

• Expert 1: space, space, space

• Expert 2: space, space, space

• Expert 3: space, space, space



Different shades of cargo bike hubs





BZ Berlin



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Classification of micro hubs for cycle logistics

Distribution Nodes

Consolidation Nodes

Transshippment Nodes

Inner City Retail

Dark Stores (Dark Kitchens)

Micro Consolidation Center

Micro-Hubs

Multi-User Micro Hubs

Less dense city areas **Urban Depots**

Multi-User Urban Depots

Urban Consolidation Center

Urban Hubs

Multi-User Urban Hubs



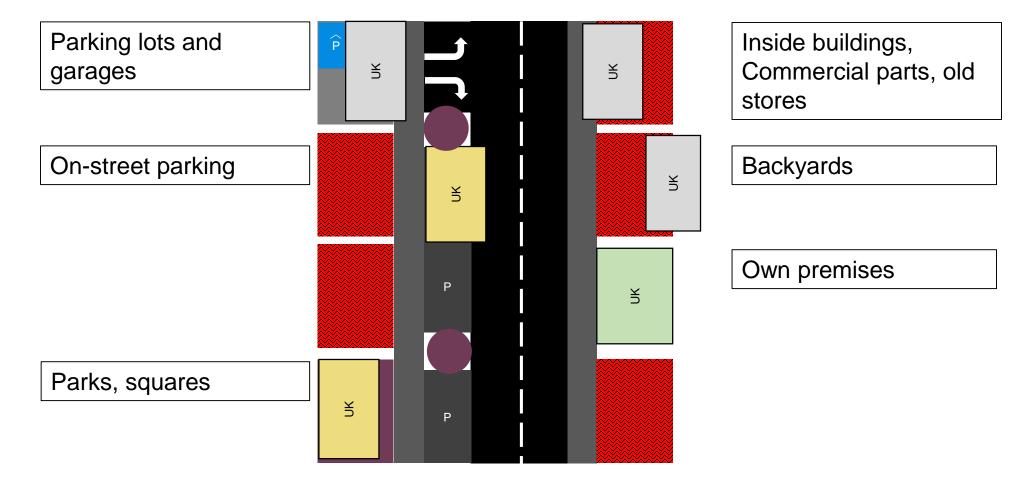


Characteristics of cycle logistics hubs

	Retail	Dark Stores (Dark Kitchens)	MCC	Micro-Hubs	Multi-User Micro Hubs
User	Retail (chains)	Quick Commerce E-Commerce System catering	Cycle logistics company	CEP; LSP Cycle logistics operator	CEP; LSP Cycle logistics operator
Locations	Buildings	Buildings	Buildings Garages Parking	Container Swap bodies Mobile Buildings Garages Parking	Building Garage Parking Container
Operator	Retail Real Estate	User Real estate	Logistics company	User	Neutral operator



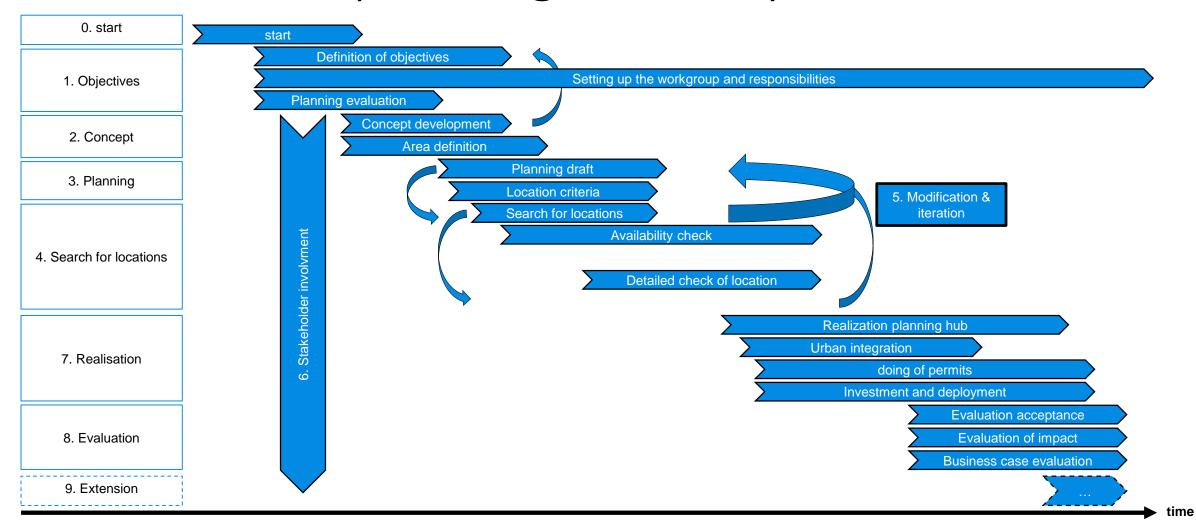
Locations for cargo bike hubs







Collaborative planning is the key







Key principles of a good micro hub

- Situated inside a building
- Cooperative operating principle
- Accessible for lorries and delivery vans
- Close to the service area
- Sufficient and secure space for parcels and parking cargo bikes
- Affordable pricing for logistics
- Flexible and expandable



Best practice: CEP in garage

Name	DPD Mikro-Hub im Hanauer Parkhaus			
Year	2020 City Hanau, Deutschland			
Bereich	Logistikflüsse	Area	Central location, close to city center and pedestrian zone	
Status	active	Space	Public parking garage.	



- Cooperation between the city of Hanau, Hanauer Parkhaus GmbH and DPD Deutschland
- Situated in the garage: Parkhaus Kongresspark/Am Schwimmbad
- Two parking slots are separated for DPD
- Parcels arrive at a designated entry.



Early practice: CEP cooperative hub

Name Kooperative Nutzung von Mikro-Depots durch die Kurier-, Express-, Paket-Branche für den nachl Lastenrädern in Berlin« (KoMoDo)			aket-Branche für den nachhaltigen Einsatz von
Zeitraum	Januar 2018 bis Juni 2019	City	Berlin
Bereich	Parcel companies	Area	Prenzlauer Berg, verdichtetes Mischgebiet.
Status	Partially prolonged after pilot, terminated	Space	Tram-endpoint



Bild: KEP-Dienstleister KoMoDo © LNC GmbH (Quelle: Website KoMoDo)

- Funded pilot with national parcel companies (Deutsche Post DHL, DPD GLS, Hermes and UPS).
- Delivery of parcels on the last kilometers by cargo bike with the use of a system of micro depots open to service providers in the form of sea containers at a streetcar turnaround loop in the Prenzlauer Berg district.
- Individual integration of the micro-depots into the route planning of the partners
- Use of an average of 11 (electrically assisted) cargo bikes per working day in a 3km radius. Objectives: Testing the suitability of the use of cargo bikes on the last mile as well as testing the user-open system of micro-depots.



Best practice: Micro hub and access regulation

Name	Mikro-Hub im Eu-funded project SMILE		
time	Pilot 2013 until 2016	City	Barcelona
Bereich	Parcels	Area	Historic centre, Viertel: Sant Pere, Santa Caterina y la Ribera, very dense, narrow streets, many tourism
Status	in operation	Space	Promenade Passeig de Lluís Companys (öff. Fläche)



- Mirco depot run by Vanapedal
- 16 Cargobikes in operation to deliver parcels Pakete ausliefert.
- Micro hub was extended after pilot.
 - Since 2021 service area is in Low Emission Zone (LEZ)





Best Practice: CEP and post multi-functional

Name	Mobility-Hub am Südkurier				
Time	2020 City Konstanz		Konstanz		
Bereich	CEP, courier and newspaper	Area	Medival city, location at a main arterial road		
Status	ongoing	Space	premise of local newspaper company		



Foto: HOLM

Used by:

- A Cep / parcel company
- A local post and newspaper delivery company

Additional functionalities

- Pick-Up point for the parcel company
- Third party parcel-locker service provider integrated





Cargo bikes are an important piece in urban sustainable transformation



CC: Philipp Böhme CC: Martin Randelhoff





Key measures to speed up cycle logistics

- 1. Set up a work group with stakeholders, meet regularly and produce results
- 2. Be flexible, start straightforwardly, learn and iterate
- 3. Impose access regulations, (ultra-) low emission zones or car free districts
- 4. Provide affordable and well-located space for logistics and micro-hubs
- 5. Hire logistics expertise for you planning department



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