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City hubs

Merten Nefs

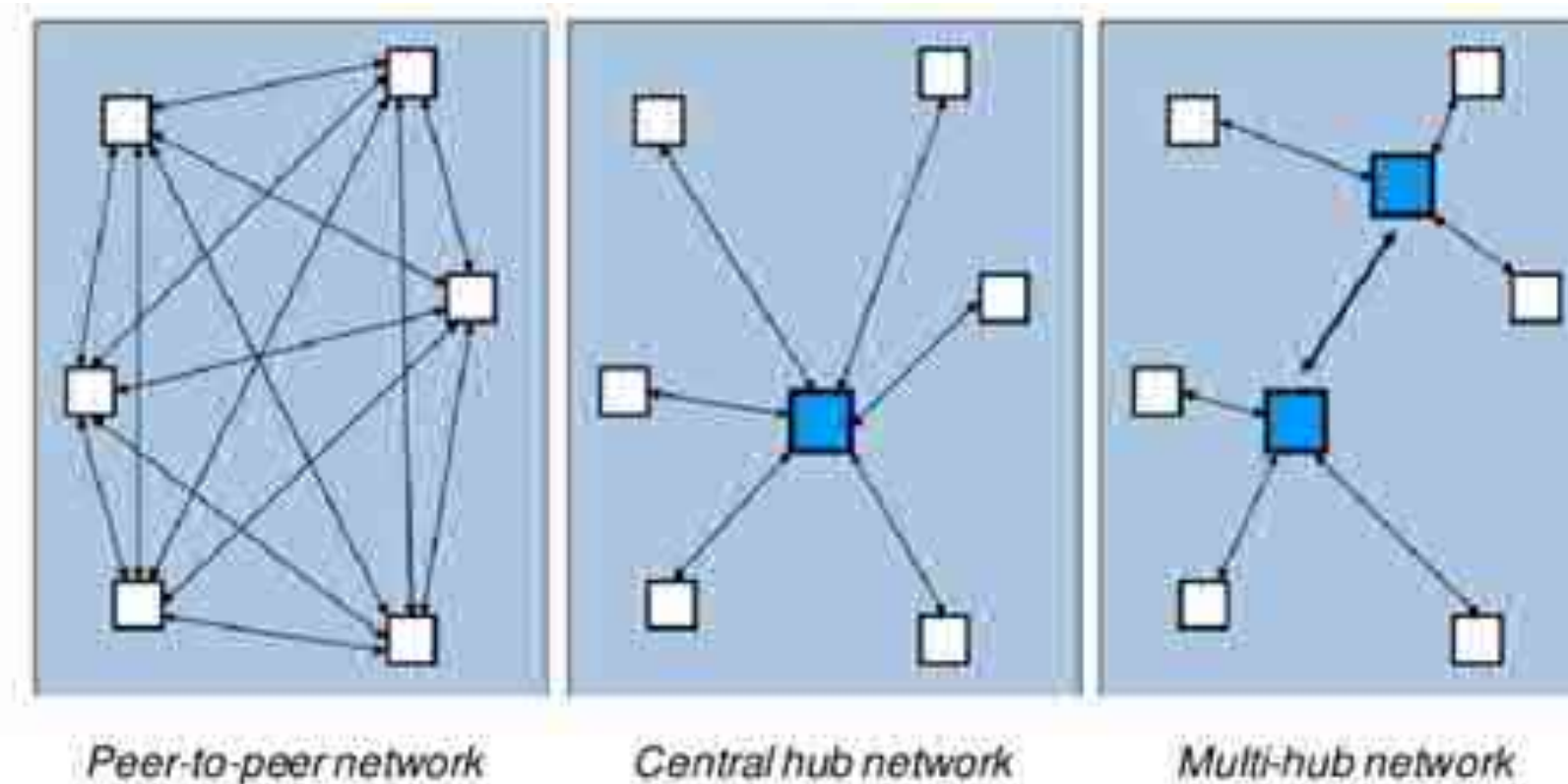
UPT *Erasmus*
ERASMUS CENTRE FOR
URBAN, PORT AND TRANSPORT ECONOMICS



The role of hubs in cities and networks

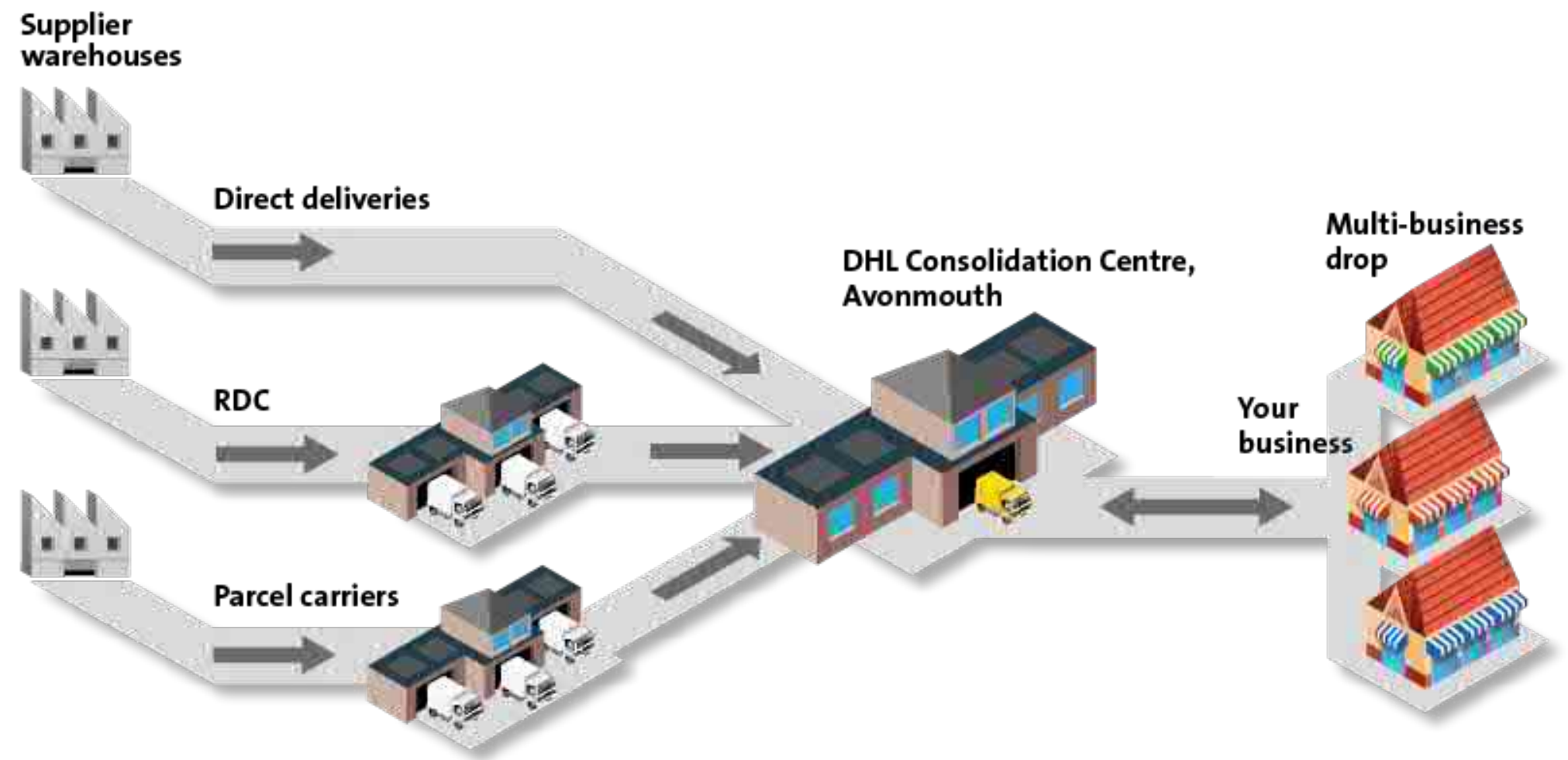
Transfer & transshipment

- ▶ People & goods
- ▶ Changing modes
- ▶ Changing direction (hub-spoke model)
- ▶ Customs



Consolidation

- ▶ Low-carbon high-volume transport modes: rail, barge
- ▶ Reducing empty containers and vehicles
- ▶ Reducing congestion
- ▶ Combination with Zero-Emission Zones



Left: UPS Chicago Hub. Right: Travelwest

Meeting place & goods assembly

- ▶ Co-working and meeting locations
- ▶ Value-added logistics and postponed assembly
- ▶ Temporary storage
- ▶ Services, repairs etc.

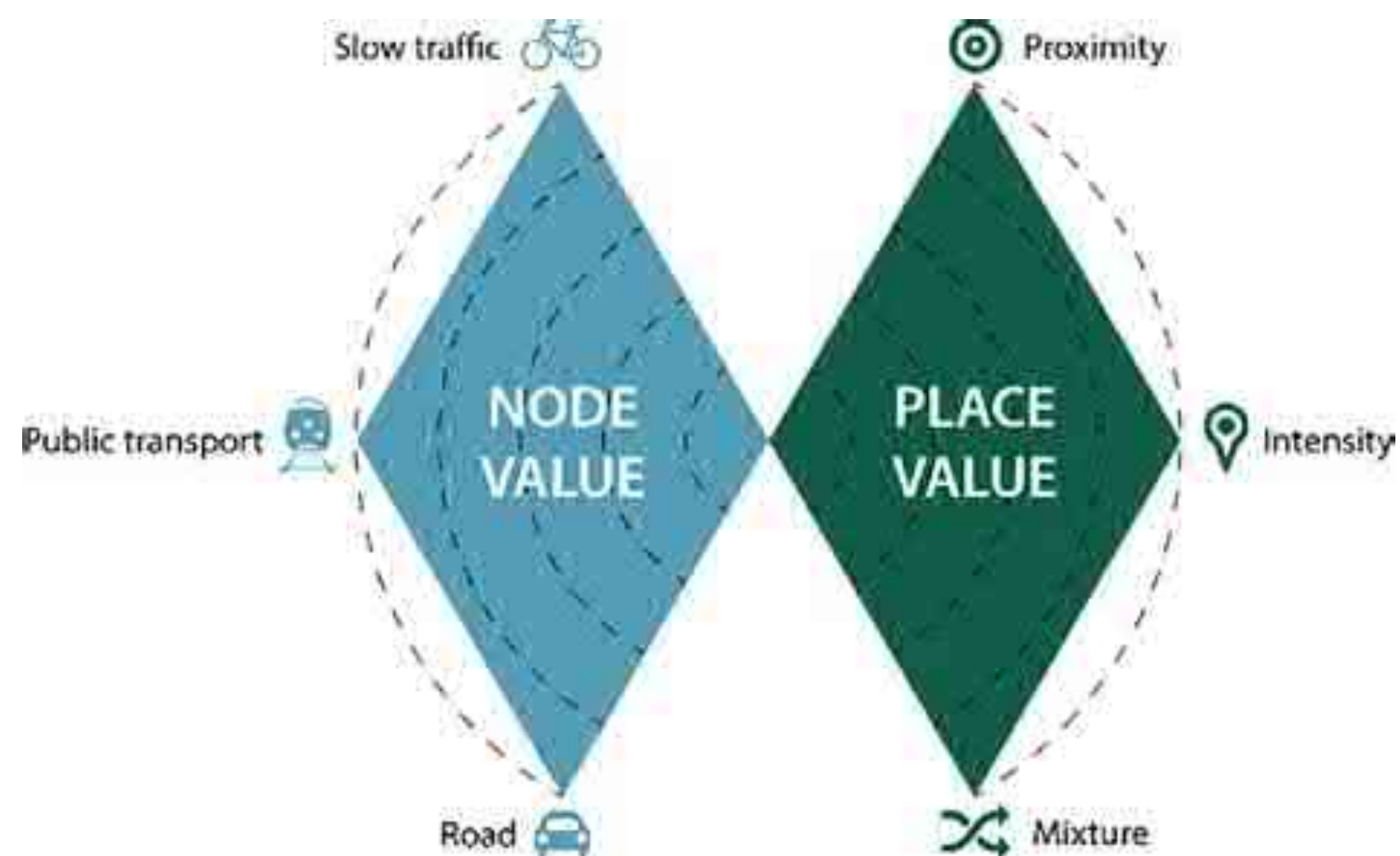


Photo: Rufus de Vries



Node-place interaction

- Feedback loop enhancing demand and supply of mobility (Wegener)
- Efficiency/frequency of transport system (Bertolini)
- Urban densification and mixing concepts (TOD, 15-minute city)
- Same for city logistics?



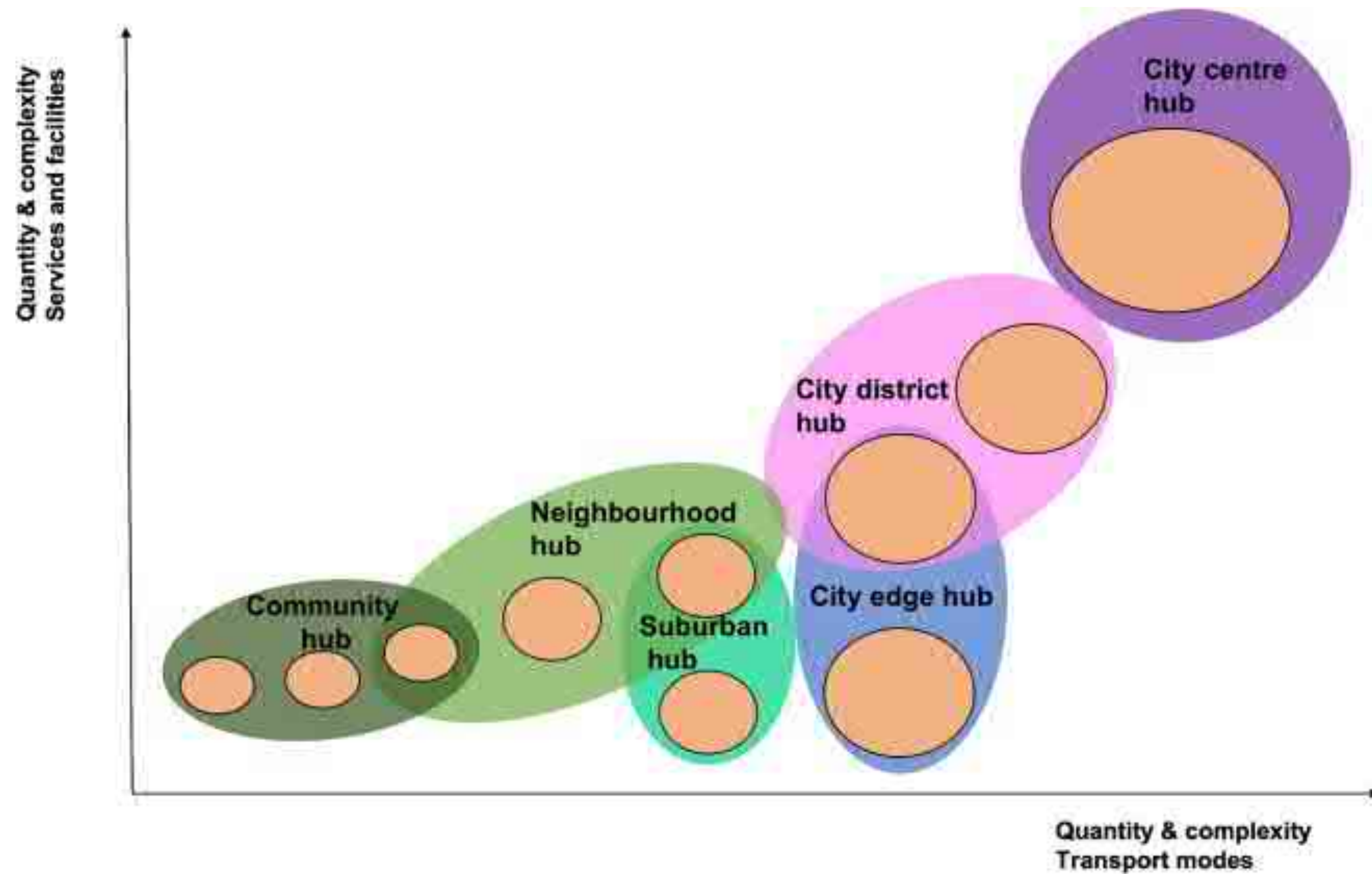
What are pros and cons of combining passenger and goods hubs in cities?

Types of hubs

Hub contents

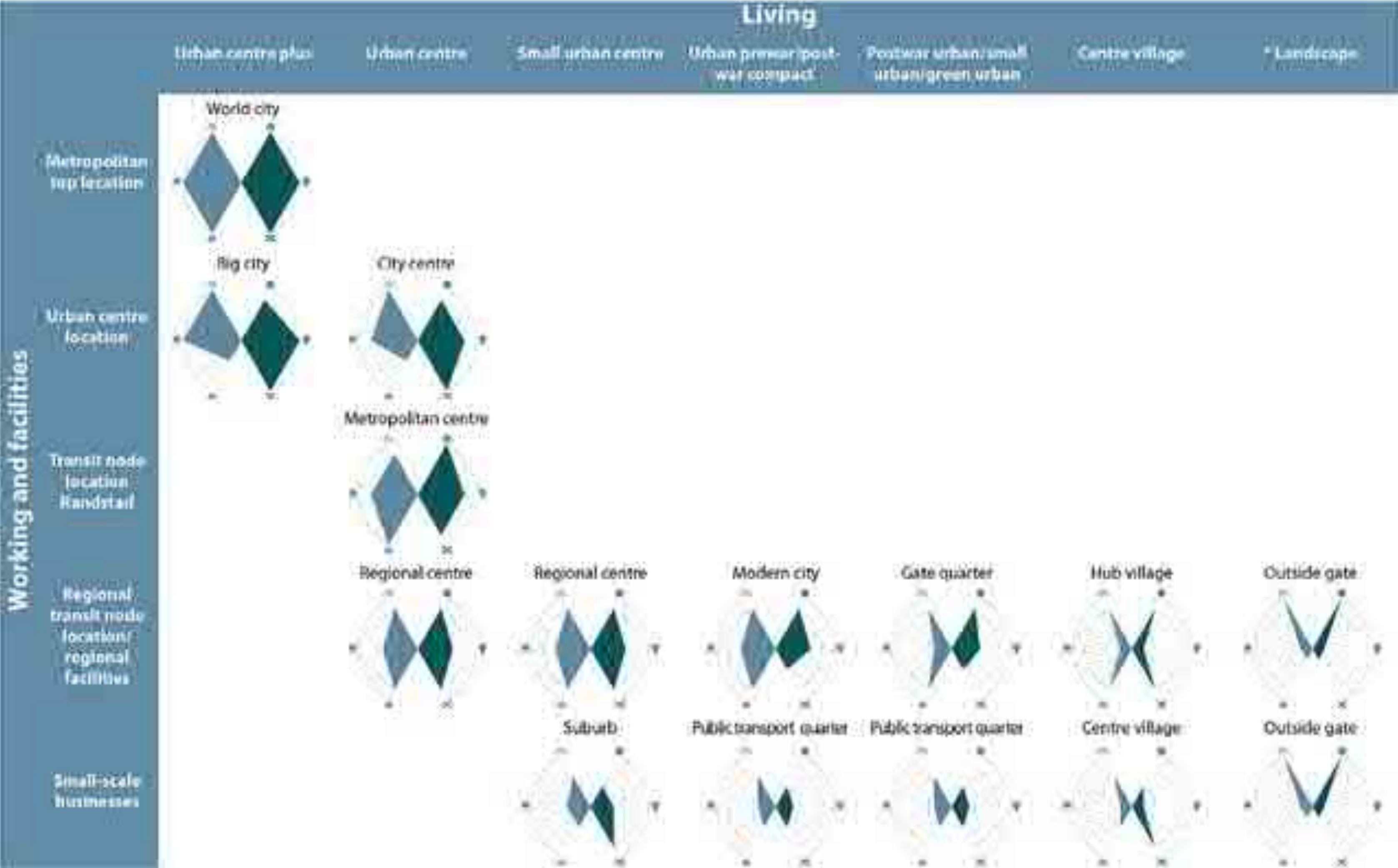
- Parcel hubs
- Multifunctional (people, parcels & retail)
- Shipping containers, multimodal
- Fresh products & cold storage
- Construction (circular)
- B2B parts and ingredients
- B2C consumer goods and food
- Darkstores, dark kitchens
- Pickup-points
- Urban destinations (experience store, foodcourt, gas station)
- Urban complexes (hospitals, campuses)

Hub typology - size and complexity



Weustenenk & Mingardo

Hub node/place values



Microhubs



London Paddington station hub. British Land

Rechtstreef local food hubs



Groenten en kruiden



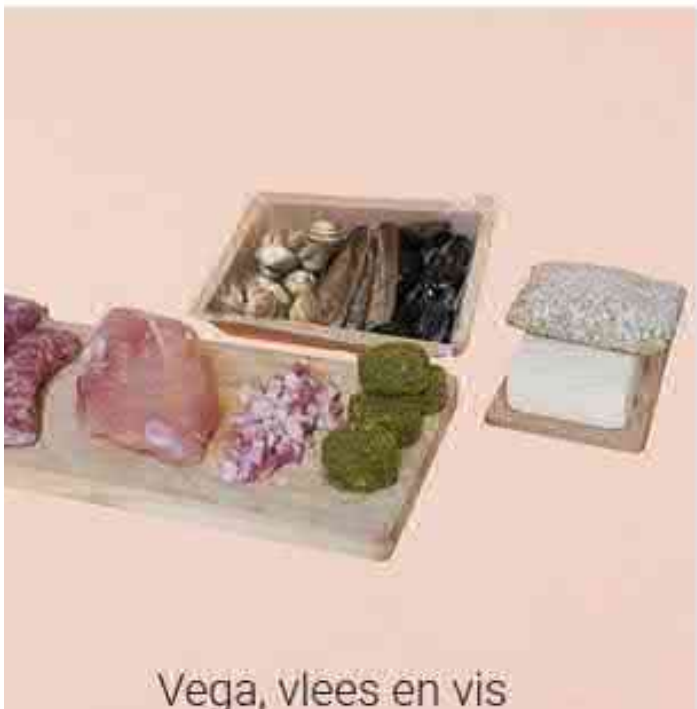
Fruit



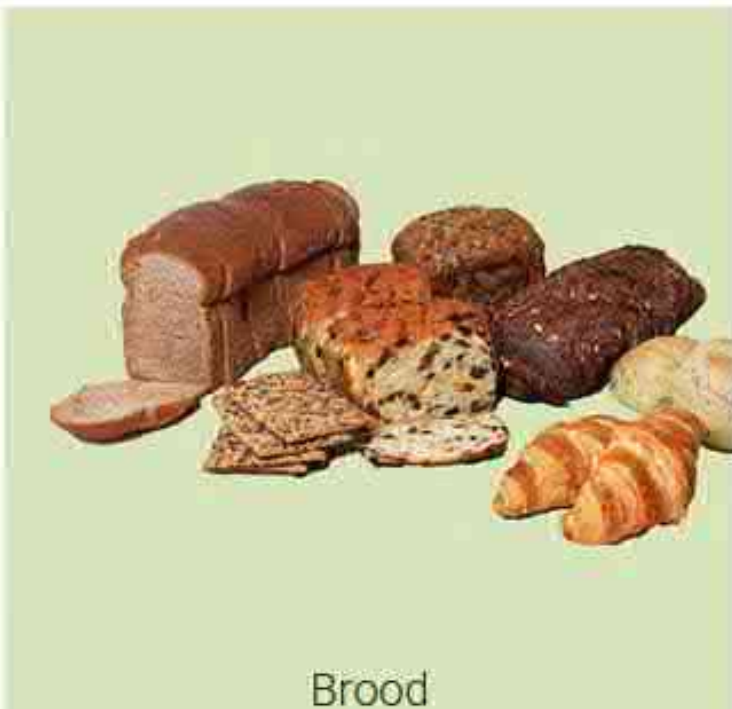
Boter, kaas en eieren



Z



Vega, vlees en vis



Brood



Broodbeleg



K



www.rechtstreef.nl


Darkstores of instant delivery

Brand identity



Darkstores in Amsterdam: one darkstore can serve a radius of 2 km

✗ Gorillas ✗ Flink ✗ Zapp ✗ Getir



Darkstores

'Construction village' Brussels



Mixed-use hubs



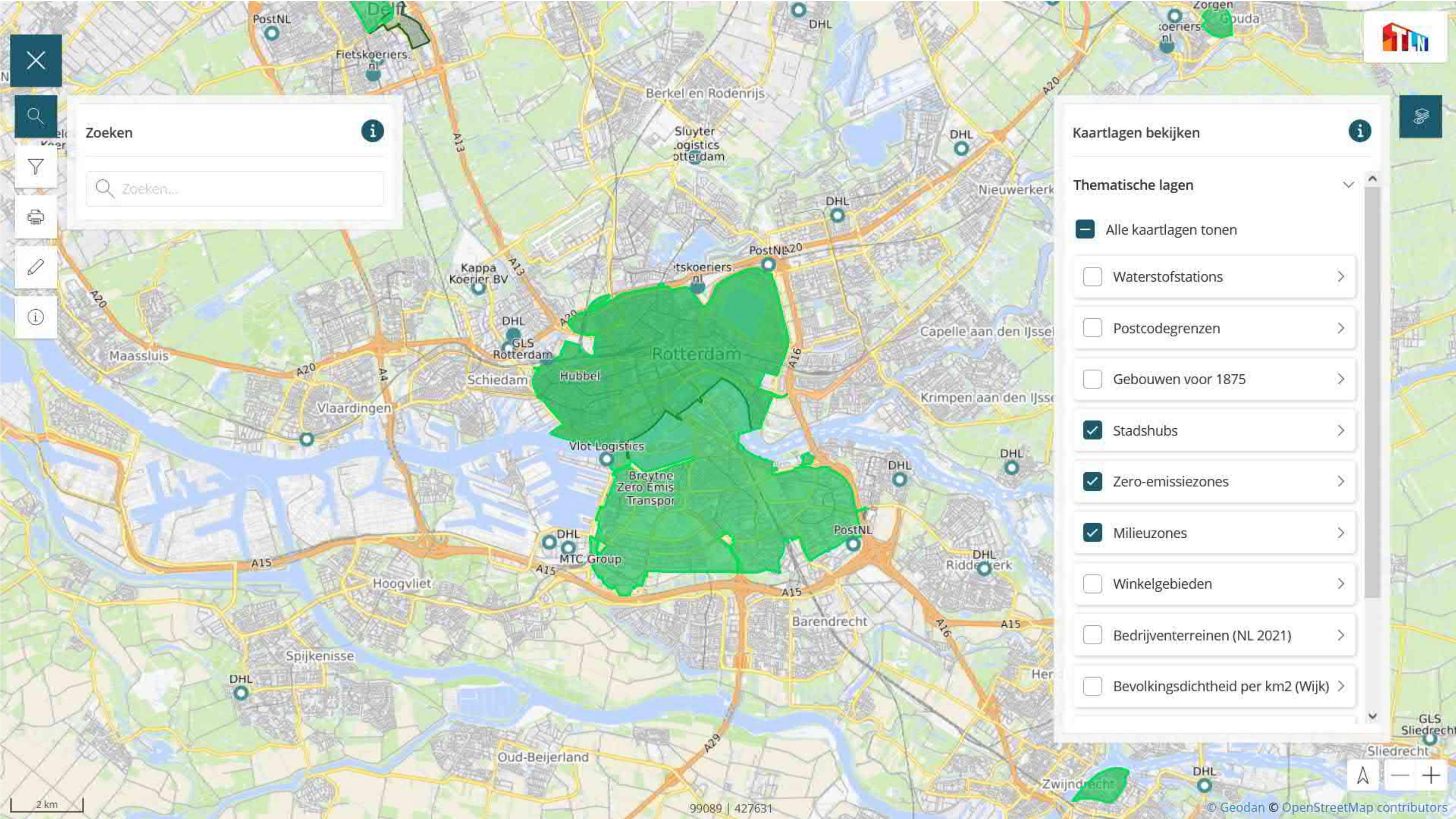
Intospace, Apto & Mulderblauw

Hubbel



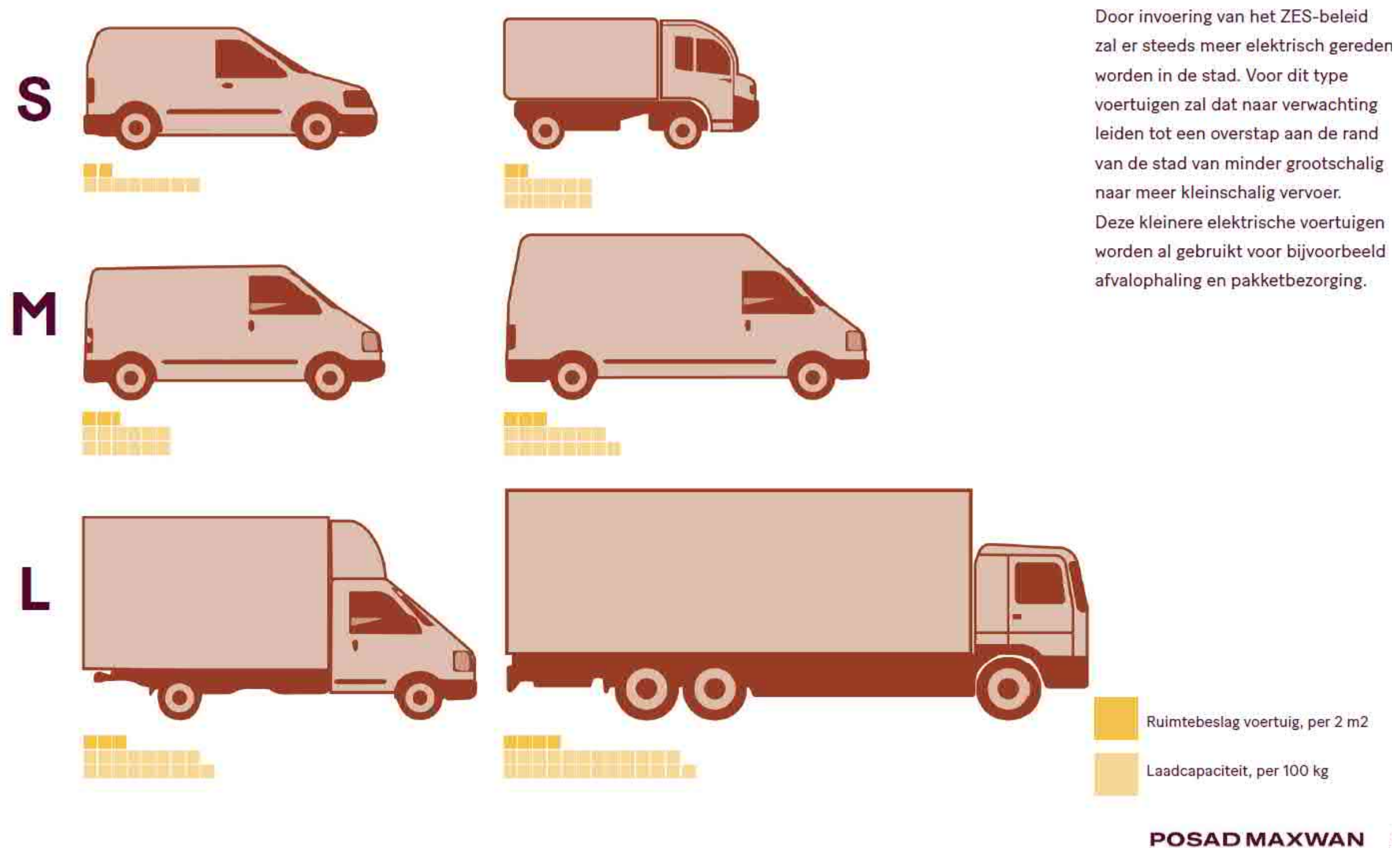
- Zero-emission vehicles
- Bundling various types of goods
- Reducing urban short delivery hauls to a fifth

Dutch hubs and zero-emission zones



www.stadshubs.nl

Vehicles in Zero-emission Zone



Door invoering van het ZES-beleid zal er steeds meer elektrisch gereden worden in de stad. Voor dit type voertuigen zal dat naar verwachting leiden tot een overstap aan de rand van de stad van minder grootschalig naar meer kleinschalig vervoer. Deze kleinere elektrische voertuigen worden al gebruikt voor bijvoorbeeld afvalophaling en pakketbezorging.

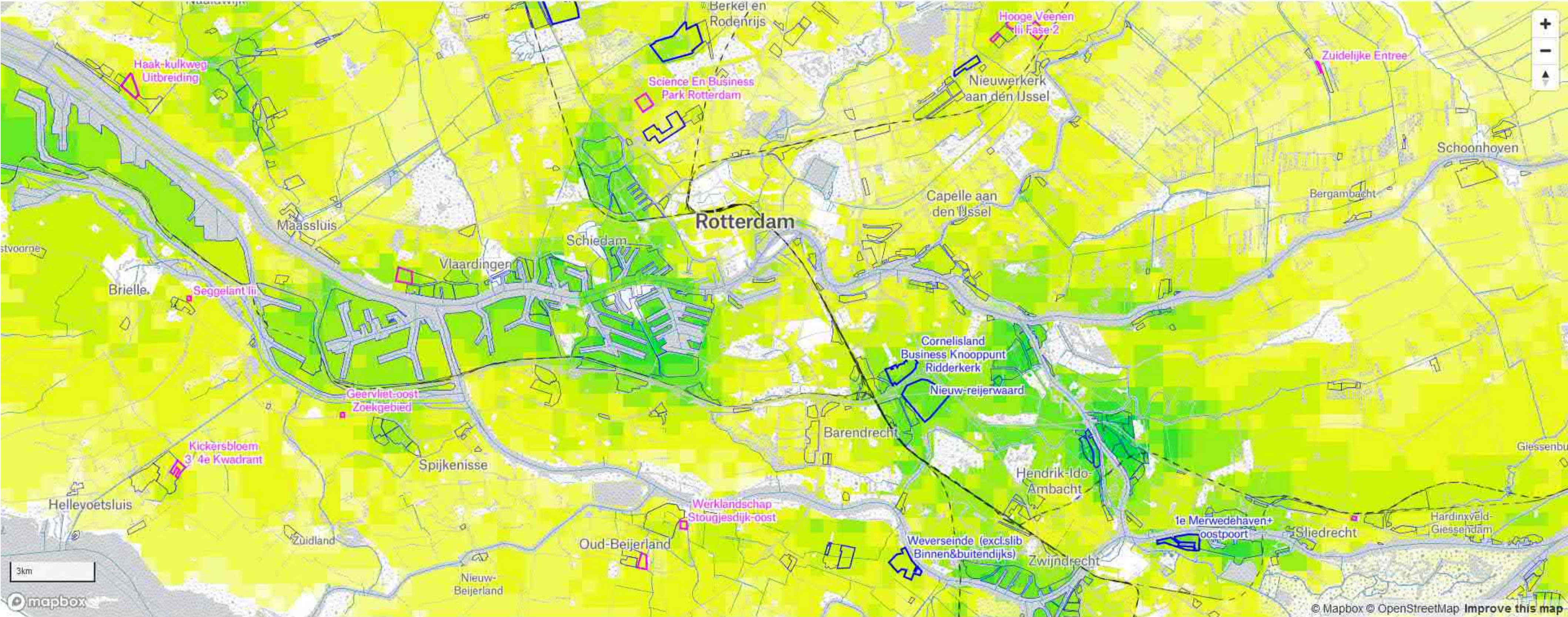


Dit type voertuigen is momenteel nog weinig zichtbaar in het Nederlandse straatbeeld en de uiteindelijke implementatie hangt van verschillende factoren af, maar in het buitenland wordt hier uitvoerig mee geëxperimenteerd. Omdat deze voertuigen zelfsturend zijn, en daarmee onbemand, ontstaat er grote vrijheid met betrekking tot de afmetingen en snelheden. Deze voertuigen kunnen daarmee op verschillende plekken worden gebruikt: op de autoweg, fietspad en bij lage snelheden ook op het voetpad.

Location suitability for hub types

Grip

Zoom in en bekijk geschikte locaties voor verschillende typen logistieke clusters. — [Lees meer](#)



- Typologie**
- (Inter)nationale distributie
 - (re)Manufacturing
 - Materiaal en Energie
 - Stadslogistiek



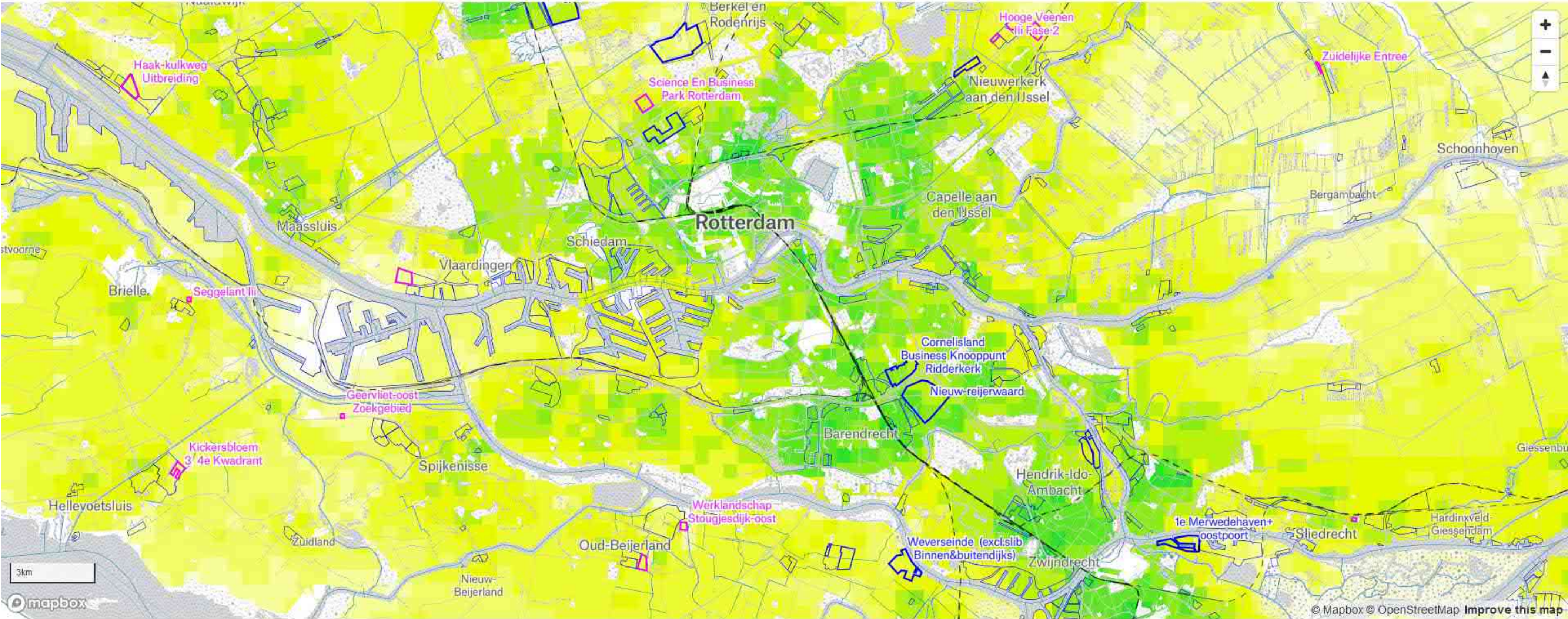
- Bedrijventerreinen**
- Terreinen
 - Zachte plannen
 - >= 10 ha uitgifbaar
 - < 10 ha uitgifbaar

Merten Nefs

Location suitability for hub types

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Typologie

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Bedrijventerreinen

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Does your city/region have a delineated low-emission zone and hub strategy?

2 Urban hub developments

Amsterdam CityLogisticHub

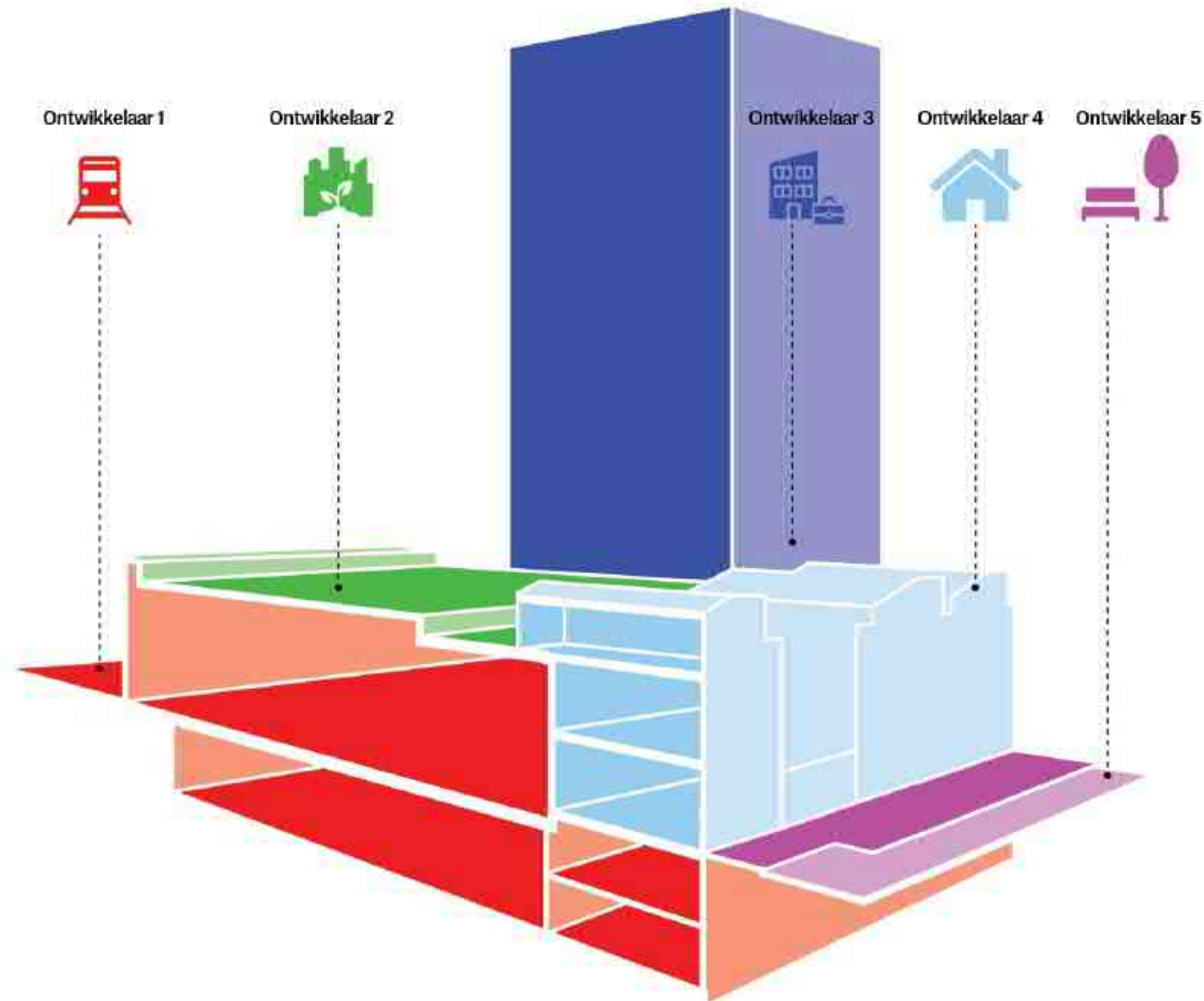
- Zero-emission policy
- Stacked warehouse
- Potential for waterbound deliveries
- Flexible sizes
- Charging, wind and solar power
- Production and (cold) storage





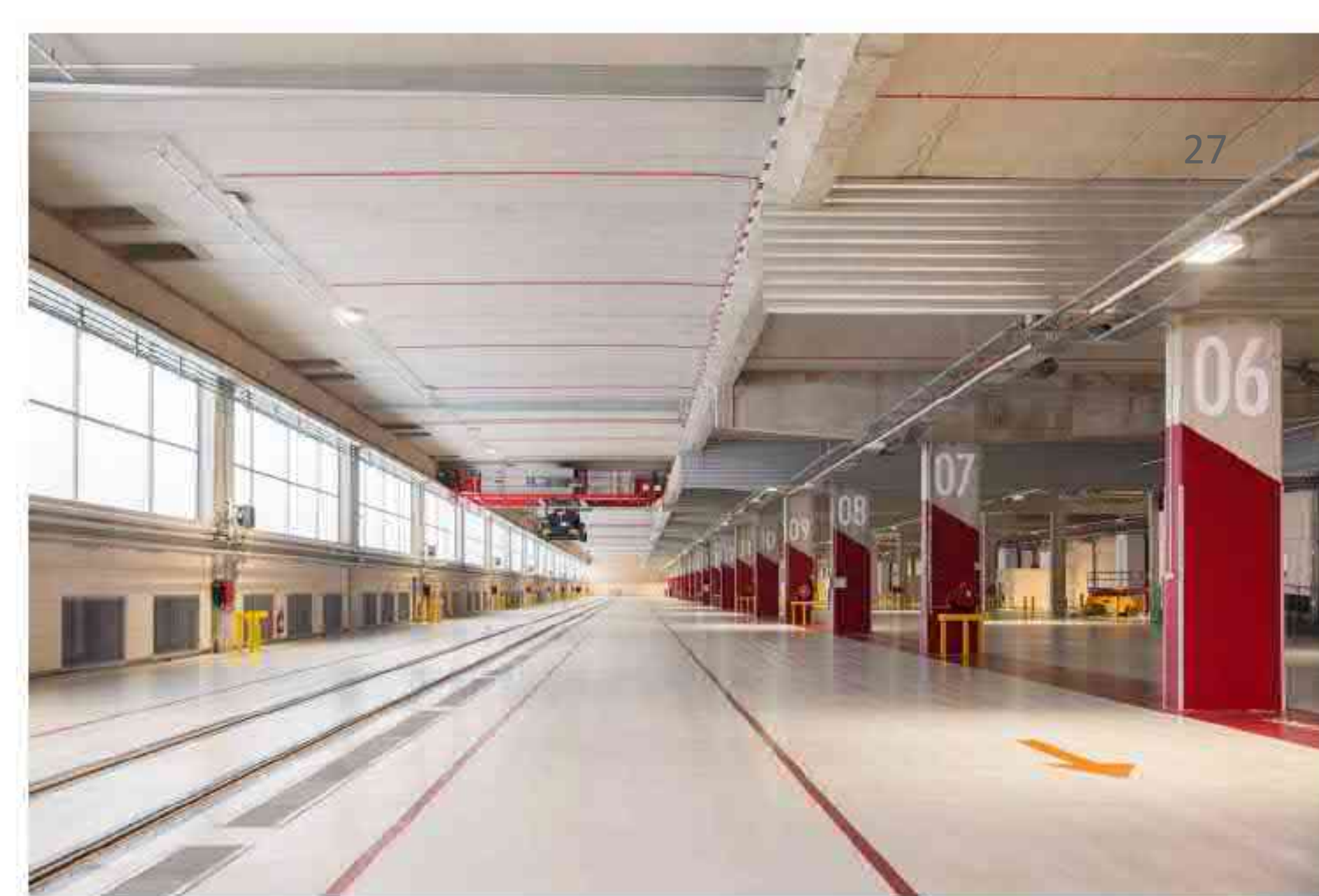
Left: DHL parcel boat pilot Amsterdam. Right: Conoship Econowind sail enhanced barging

Paris Chapelle International



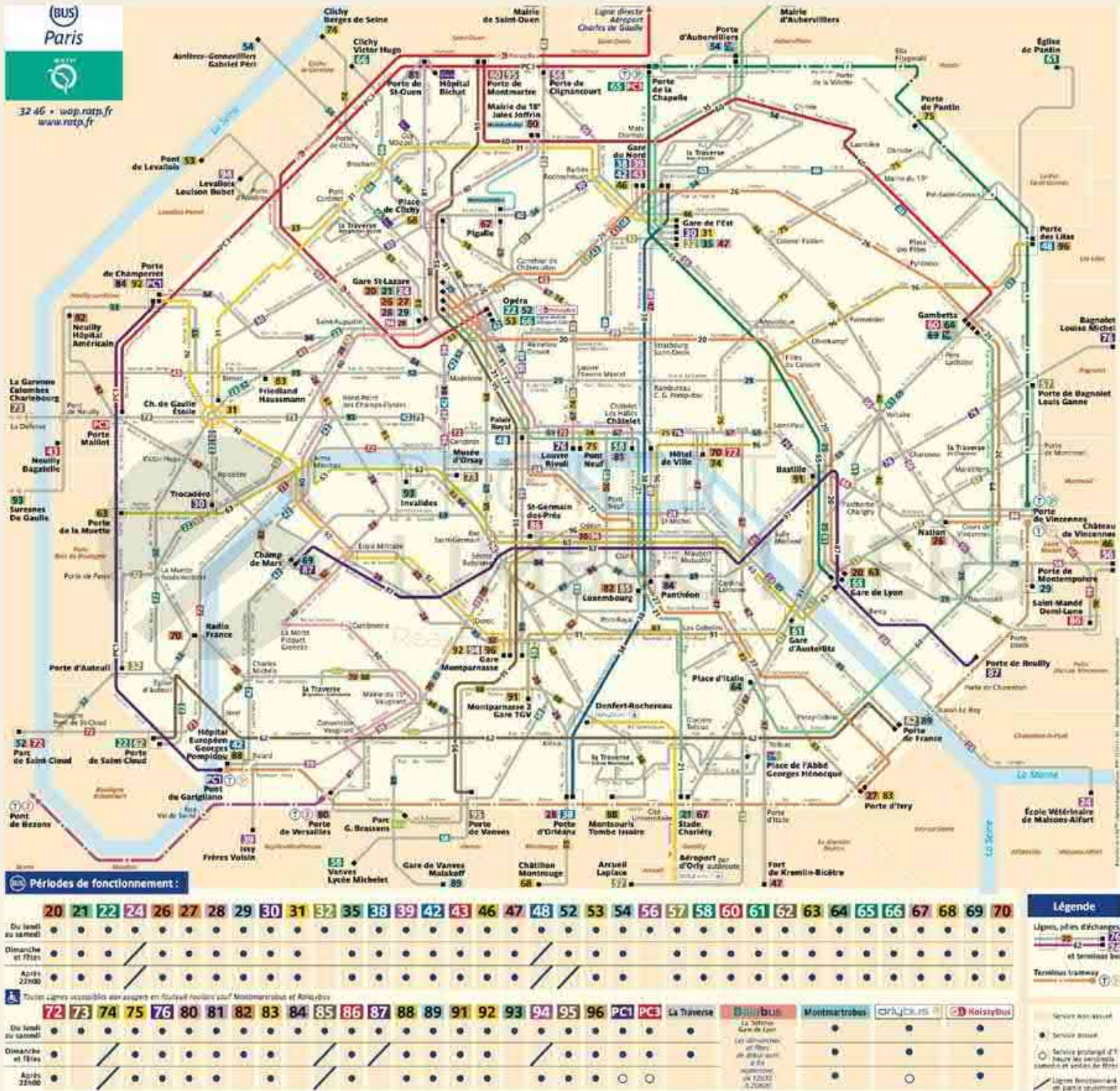
- Zero-emission policy
- Mixed-use development (housing, offices, park, urban agriculture, sports, education)
- Metro station

Image: Lea Soret



Left: Jad Sylla. Right: Mairie de Paris

Paris (Inner) Bus System Map



insights by PropertyImBrothers
Image courtesy RATP



Left: RATP bus depot parcel operation pilot. Right: XPO Seine container hub

Is city logistics (becoming) mixed with other urban functions in your city/region?

Discussion – survey results

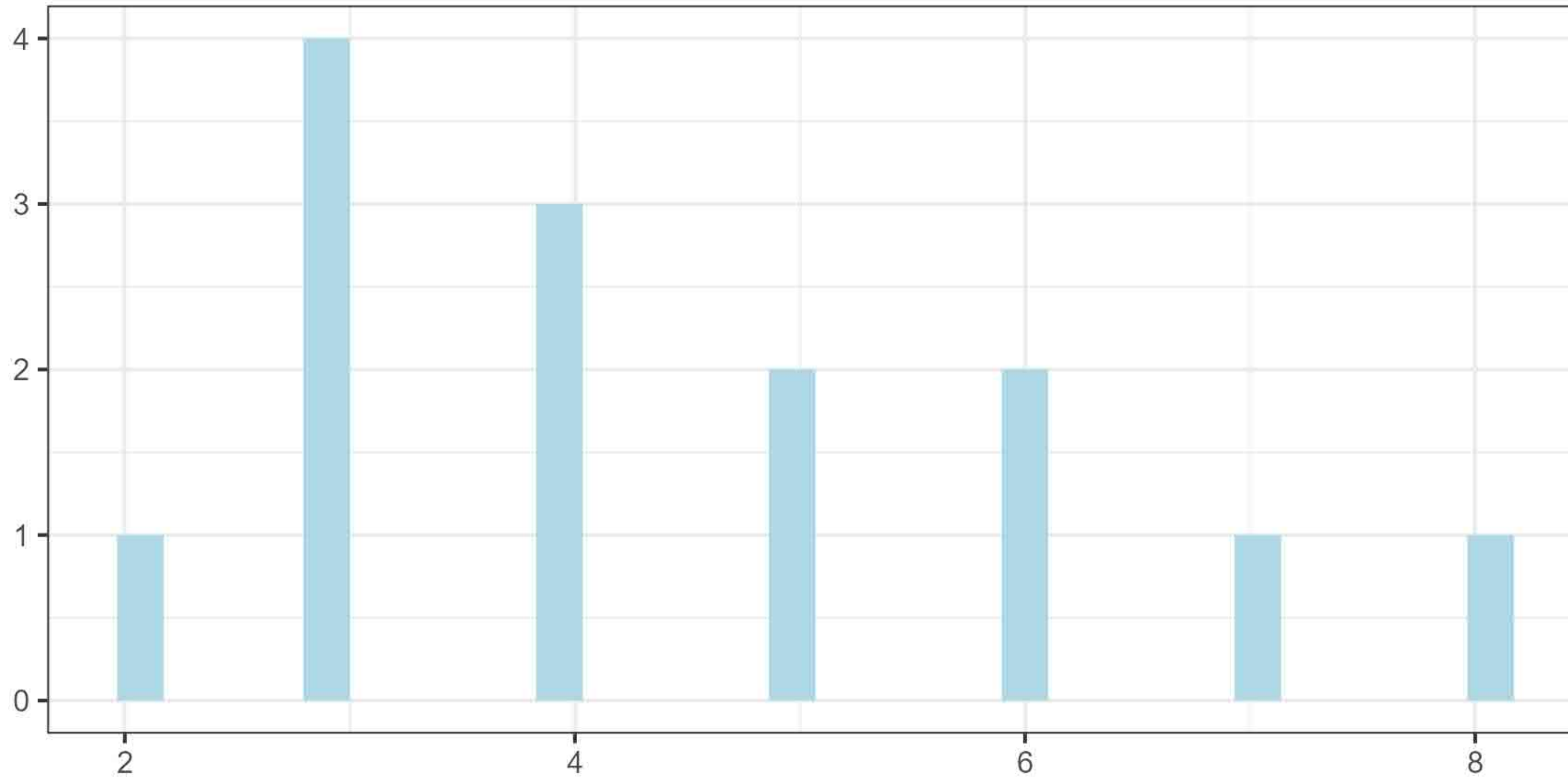
Participating organizations

- Erasmus UPT
- Administrative County Board Kronoberg
- Regional Council of Kainuu
- Kajaani University of Applied Sciences
- City of Mechelen
- County board of Kronoberg
- Cork City Council
- Green Deal Sustainable Urban Logistics
- Coompanion Kronoberg
- Kuhmo City
- Municipality
- Government of Navarra
- BSC, Ltd, Kranj - RDA of Gorenjska
- City of Mechelen

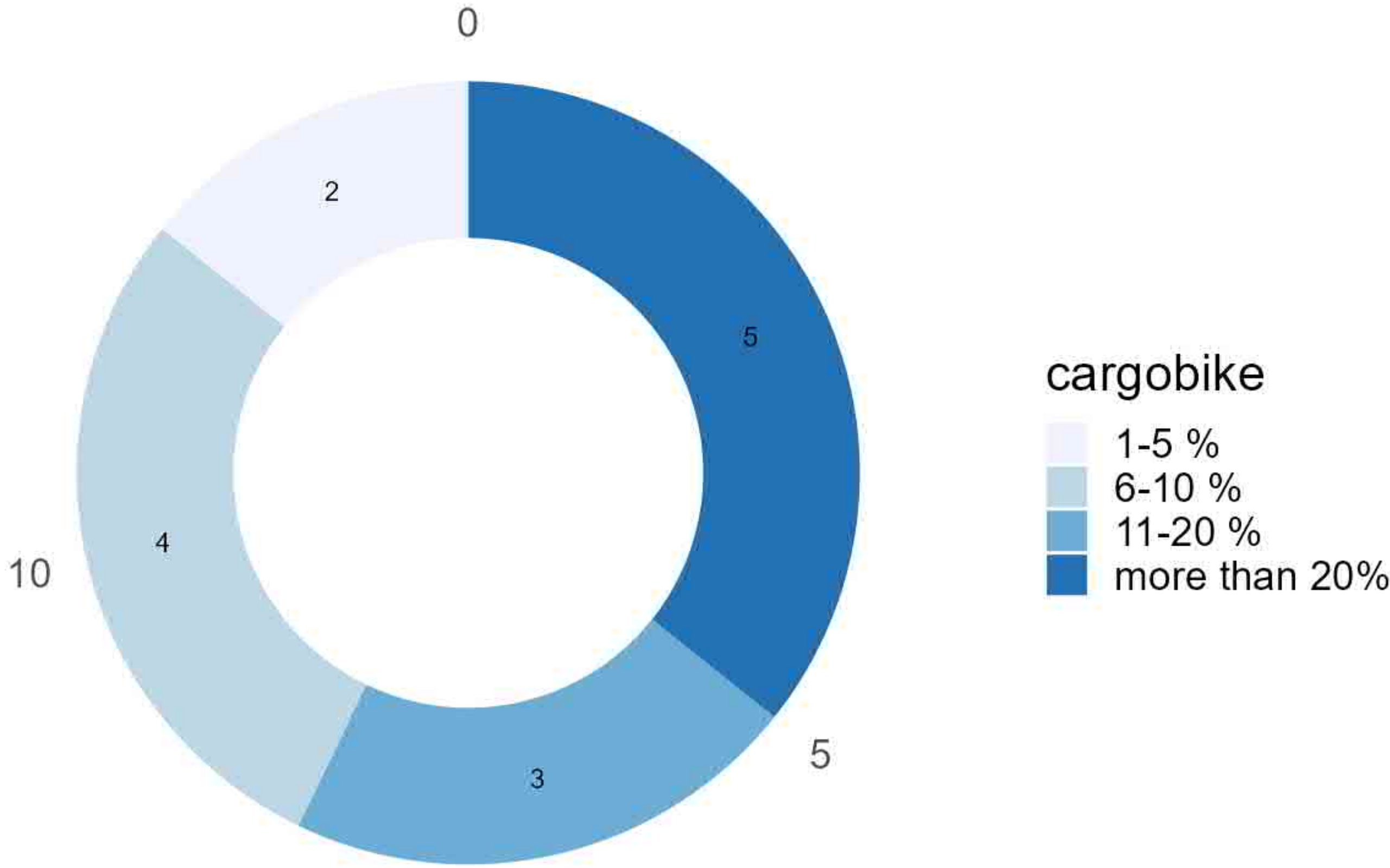
Participating cities/regions

- Rotterdam
- Kronoberg, Sweden
- Kainuu
- Kajaani, Kainuu, Finland
- Flanders
- County of Kronoberg
- Cork City
- Flanders
- Kronoberg
- Finland, Kainuu, Kuhmo
- Parma
- Navarra, Spain
- Gorenjska / Kranj
- Mechelen

How ready is your city/region for a low or zero-emission zone?



How much of city logistics could be performed by cargo-bikes?

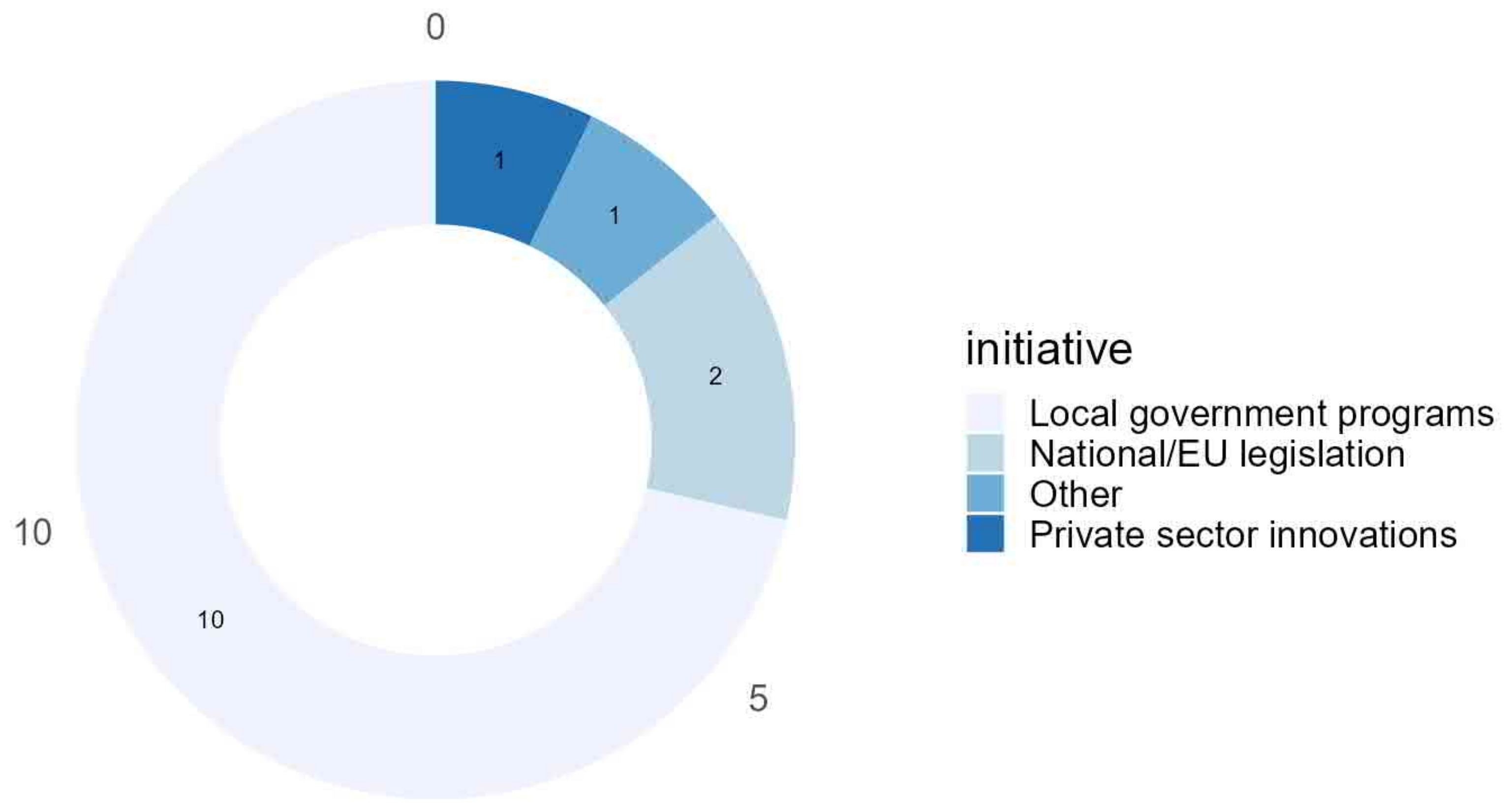


Obstacles to cargo bike initiatives

- **Cycling infrastructure** - charging stations, lane width, segregated, delivery hubs
- **Feasibility** – lack of volume or capacity, too many alternative options, spare parts, sharing
- **Cost** - lack of economic and legal incentives, public/private investment, business model for micro-logistics, cooperation with large logistics companies, insurance
- **Culture** - sustainability awareness and mindset, driving behavior
- **Policy** - lack of strong (local) policies on city logistics and e-vehicles in general
- **Physical** - traffic congestion, long distances, winter weather conditions, parking and circulating space

- Viable business case Douglas Street Flower Shop – more ambassadors needed?

To realize zero-carbon infrastructure fast, most powerful are:



Obstacles to zero-emission initiatives

- **Policy** – lack of courageous progressive decisionmakers and legal framework, public requirements, urban planning, multilevel approach, pilots for testing, expertise lacking
- **Feasibility** - risky business case (who pays for difference in starting phase?), lack of lobbying and market collaboration, IP, acceptable working conditions
- **Culture** - lack of urgency, awareness, involvement and pressure among city residents and other stakeholders
- **Cost** - fleet and charging infrastructure, dependence on subsidy, lack of financing, new technology, fiscal measures to stimulate sustainable logistics
- **Charging infrastructure** – for e-vehicles, legal obstacles for condominiums to set up charging stations, timeframe for introduction of e-vehicles, electricity network readiness / smartgrid
- **Space** – for microhubs [Tom Assmann]

What knowledge do you need in your city/region to enable zero-emission city logistics?