

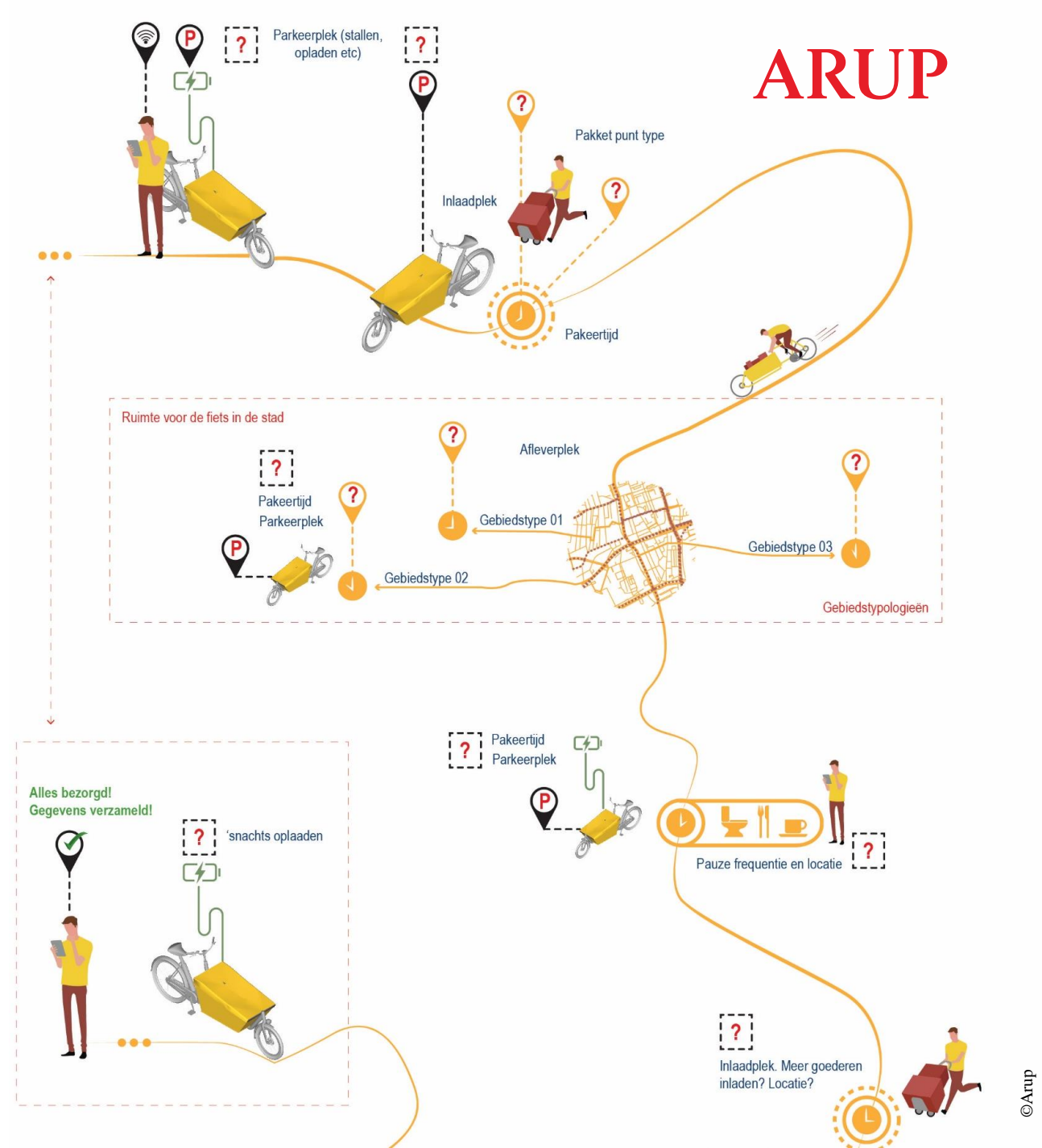


Space for cargobikes

Logistics Forum SESTran

Naomi Kloostra & Paula Godoy

30th May 2024



Arup

Team

ARUP



Paula Godoy



Naomi Klootra



Mark Bowman

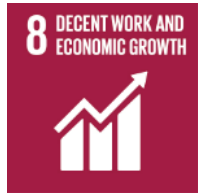
Context

What's the setting



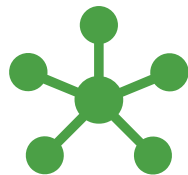
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Policies & Goals



Market & Uncertainties

Logistics systems and mobility networks



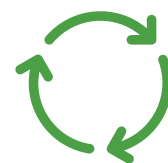
Importance in urban logistics systems



Space for cargobikes in urban areas



Replace 15% of van journeys



Change in spatial demand

Municipalities using cargobikes

- Municipal Waste Collection
- Complimentary Cargo Bike Rental for Household Waste and Secondhand Items
- Greenery waste pickup
- Moving billboards / information



Businesses using cargobikes

- Package delivery
- Services, like painters
- Shops with their own cargobike
- Postal service
- Car repair service
- ...



Municipalities & Businesses

How can these two stakeholders support one another?



Promote Safety

- Good quality infrastructure, accessible, inclusive
- Training sessions (all road users) and using the infrastructure correctly



Favorable policies

- Avoid ambiguity in regulations
- Waivers, subsidies
- Integration with public transport networks



Business Support

- Trials / pilot projects
- Marketing, social media
- Promoting workshops and personalized financial advice
- Research new technologies / methods to promote efficiency and safety

Cargobike tracker



Cargo bike friendly cities:
Tracking cargo bike developments across Europe

Indicators



Incentives



Sharing



Projects



Urban context



Inclusion



Leading by example



Manufacturers

Cities



Leaflet | © OpenStreetMap contributors

Glasgow



Back to start



Incentives



Funding to help eligible households and businesses prepare for the second phase of Glasgow's Low Emission Zone (LEZ) which was applied to all vehicles entering the city centre zone from June 2023.

Sharing

Data not available

Projects

- E-cargo bike library**
Pilot launch of Glasgow's first ever E-Cargo bike lending library
- Glasgow Southsiders**
First e-cargo bike delivery and food waste service

Urban context

- LEZs & ZEZs: Low Emission Zone
- Parking spaces: No/ Data not available
- Speed limit: 20 mph zone
- Cycle Network: 301 km cycle network
- Policy inclusion: SUMP: Yes
- Cargo bikes mentioned: Yes

Manufacturers

Data not available

Amsterdam



Back to start

Incentives

Total budget: €1,500,000
Target group: low-income individuals
Amount: €1,000 for e-bikes incl. e-cargo bikes

Sharing

Cargos: 110 shared cargo bikes
[Go to website](#)

Projects

- Clean Air Action Plan**
• Emission free traffic by 2025
• Zero emission by 2030
- Waste collection by cargo bike**
• Wallen en Nieuwmarktgebied
• Leidsestraatgebied
• Passteekersgrachtgebied
• 3 Straatjes
- Kent!..Try out day for electric vehicles including cargo bikes**
- Last mile delivery project in Haarlemmerbuurt**
- Go electric**
Applied research into the use of emission-free transport for service logistics.
- Cargo bike promotional scheme**
• Collaboration with the app Topcycles which gave cyclists points for avoiding the Port Huis Tunnel. Points could be exchanged for shopping discount codes or for charity donations.
• Weekly long e-cargo bike trials for 10 euro
- BaartHub**
17 non-registered hubs for various rental electric vehicles, including e-cargo bikes. Map and directions for all BaartHubs available

Urban context

- LEZs & ZEZs: Yes
- Parking spaces: Yes
- Speed limit: 30 km/h zone
- Cycle Network: 767 km
- Policy inclusion: SUMP: Yes
- Cargo bikes mentioned: Yes

Manufacturers

[Go to website](#)

Agenda

Guideline 'Space for Cargobikes'



Project Introduction

Working group



Rijksdienst voor Ondernemend
Nederland

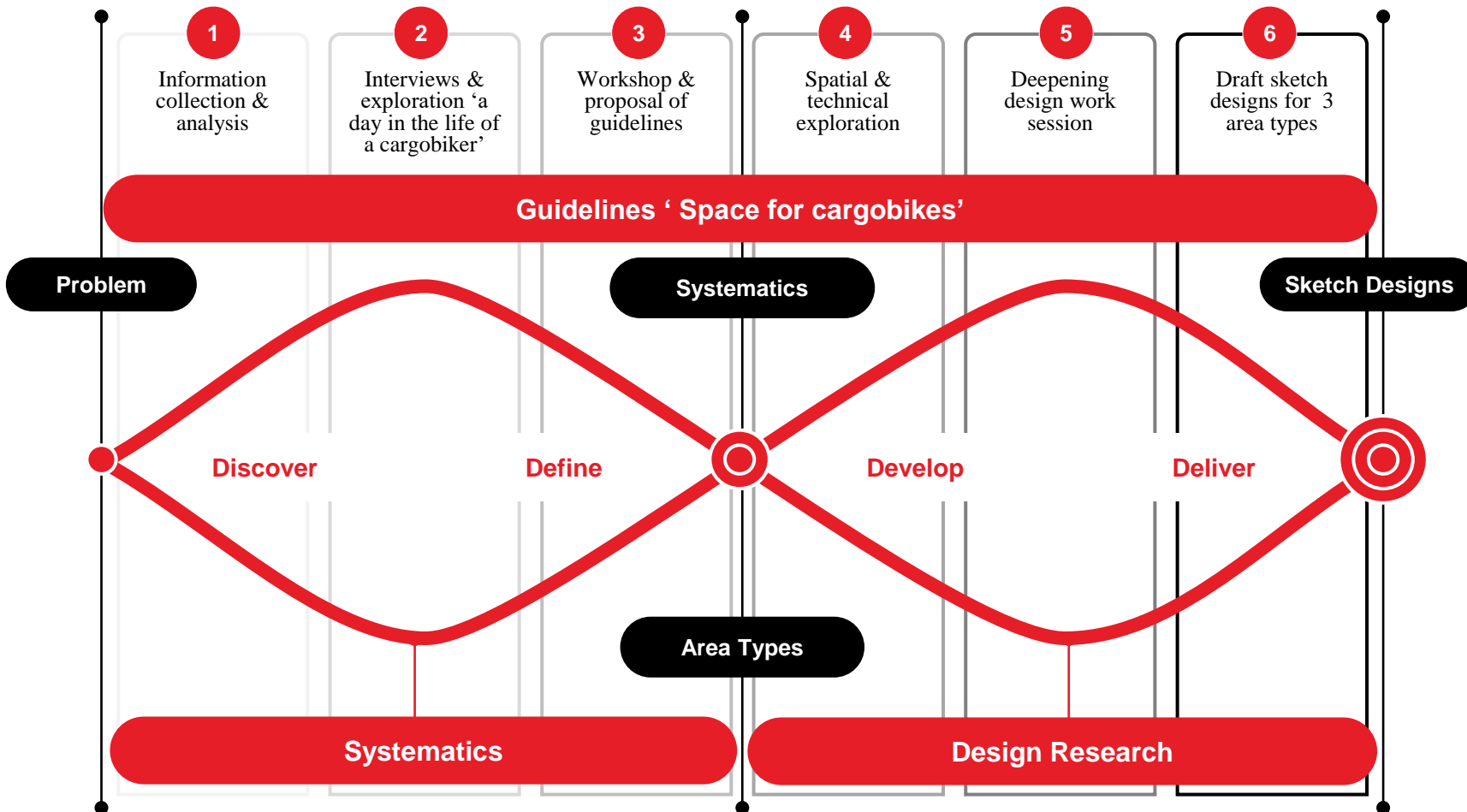


Ministerie van Infrastructuur
en Waterstaat

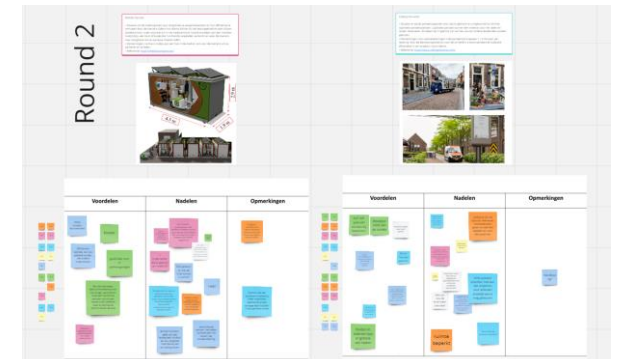
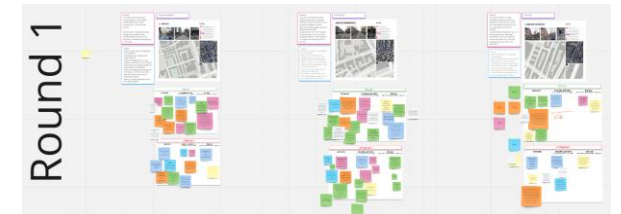


Project Introduction

Approach

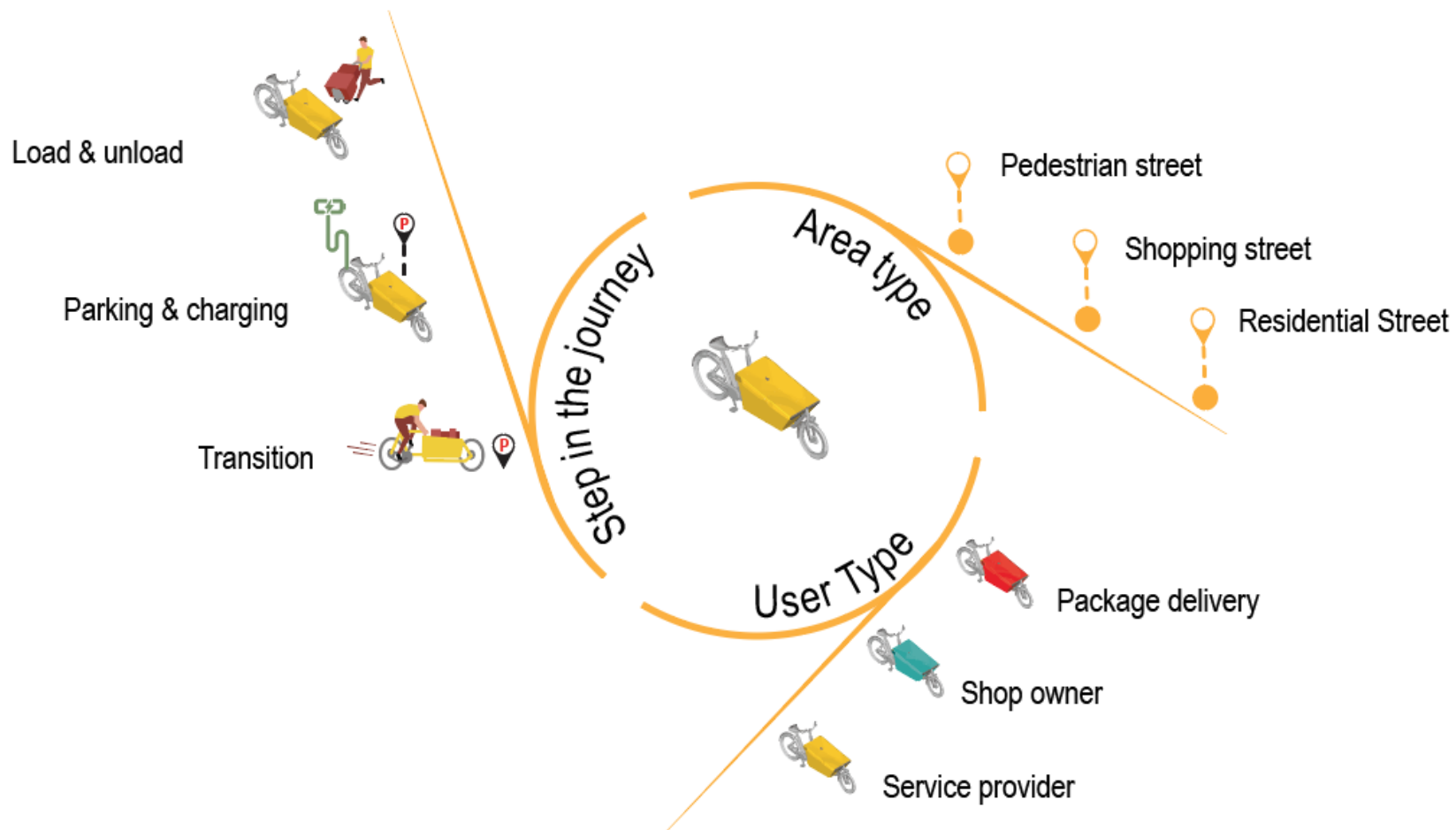


Deepening design work session



Project Introduction

The “Trinity” Scope: 3 analysis layers



© Arup



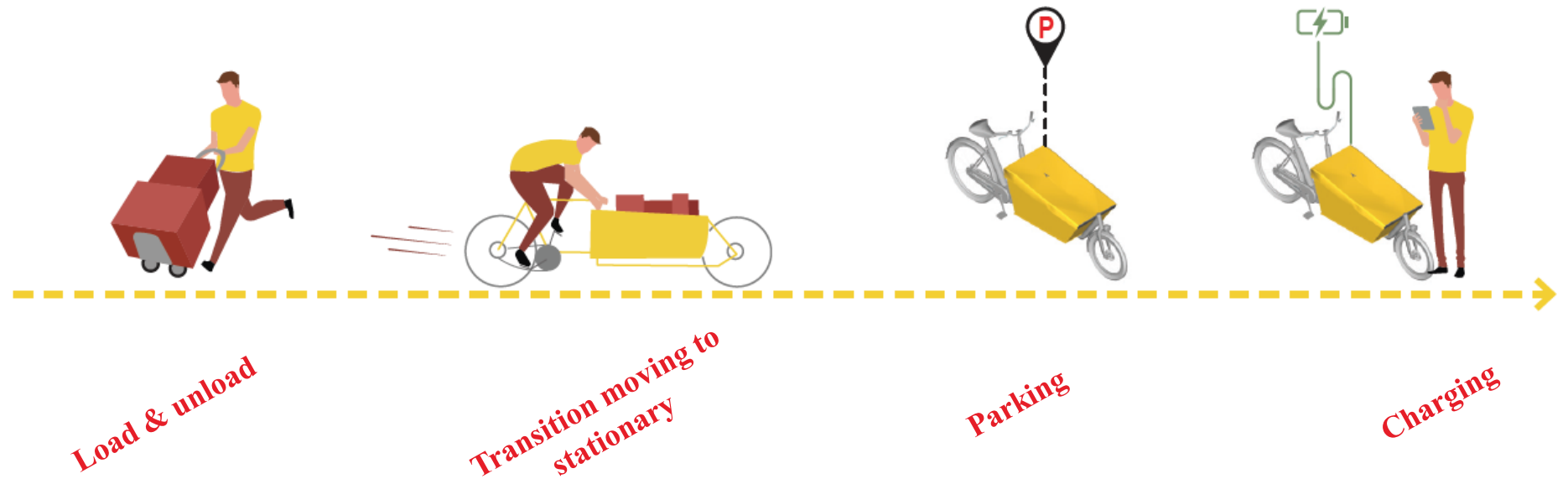
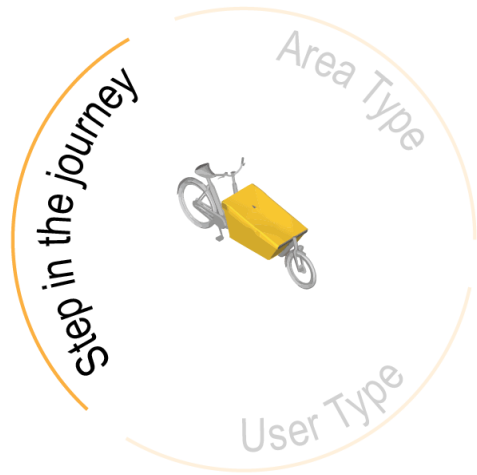
Project Introduction

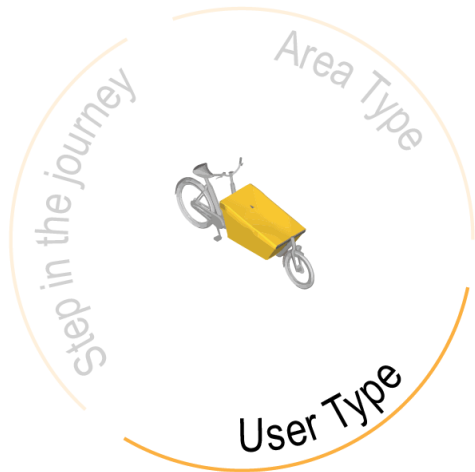
The “Trinity” Exploration

Interview Highlights

Systematic Framework

Design Research

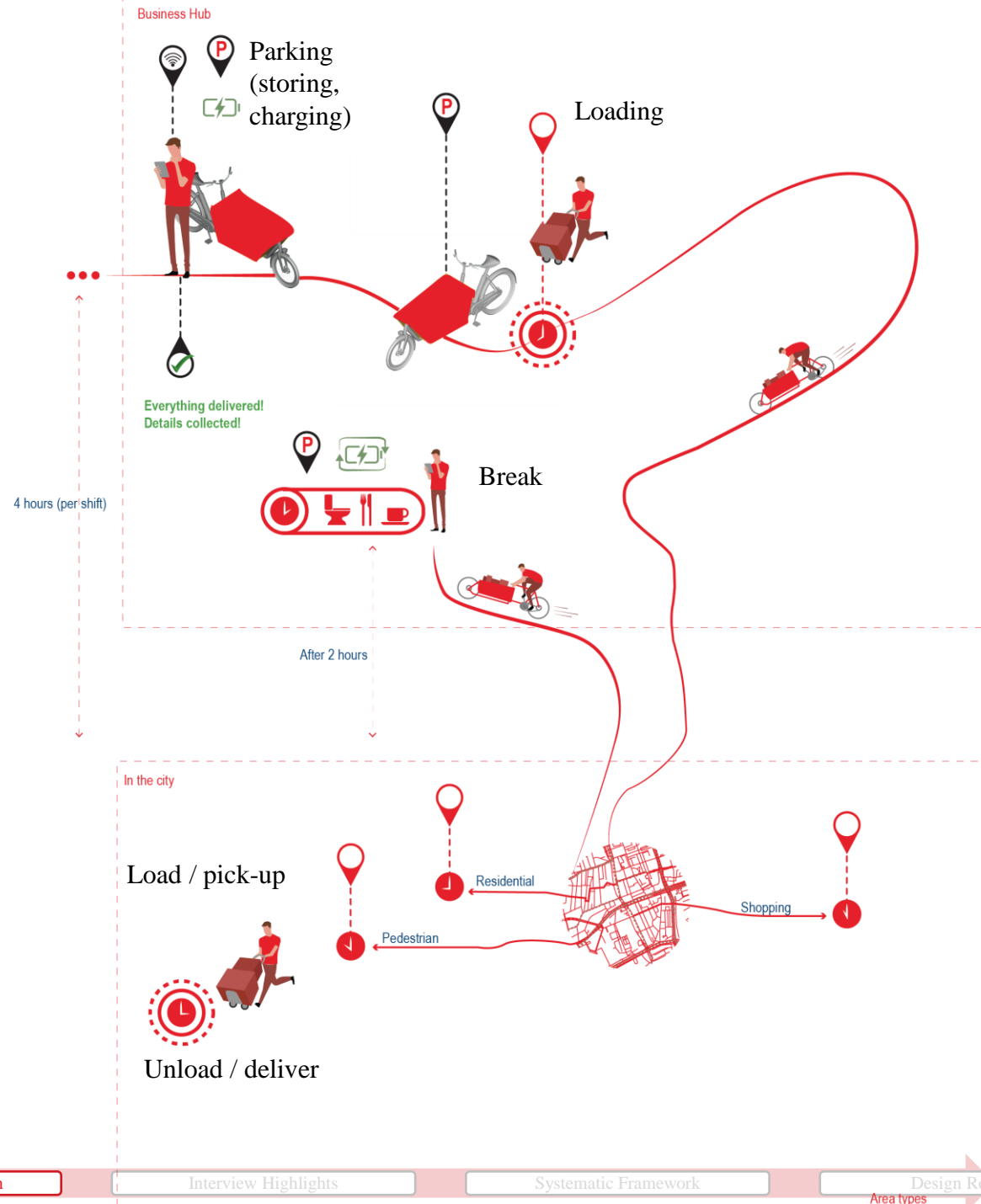


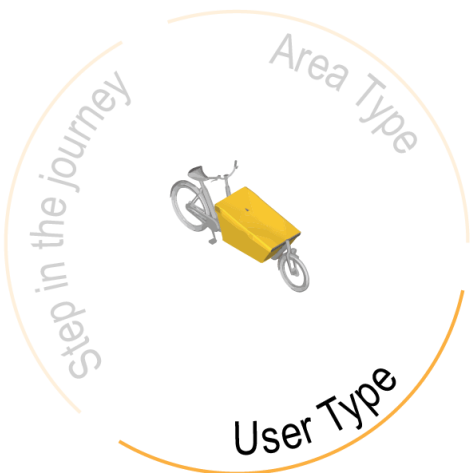


 **Package Delivery Service**

 Shop Owner

 Service Provider





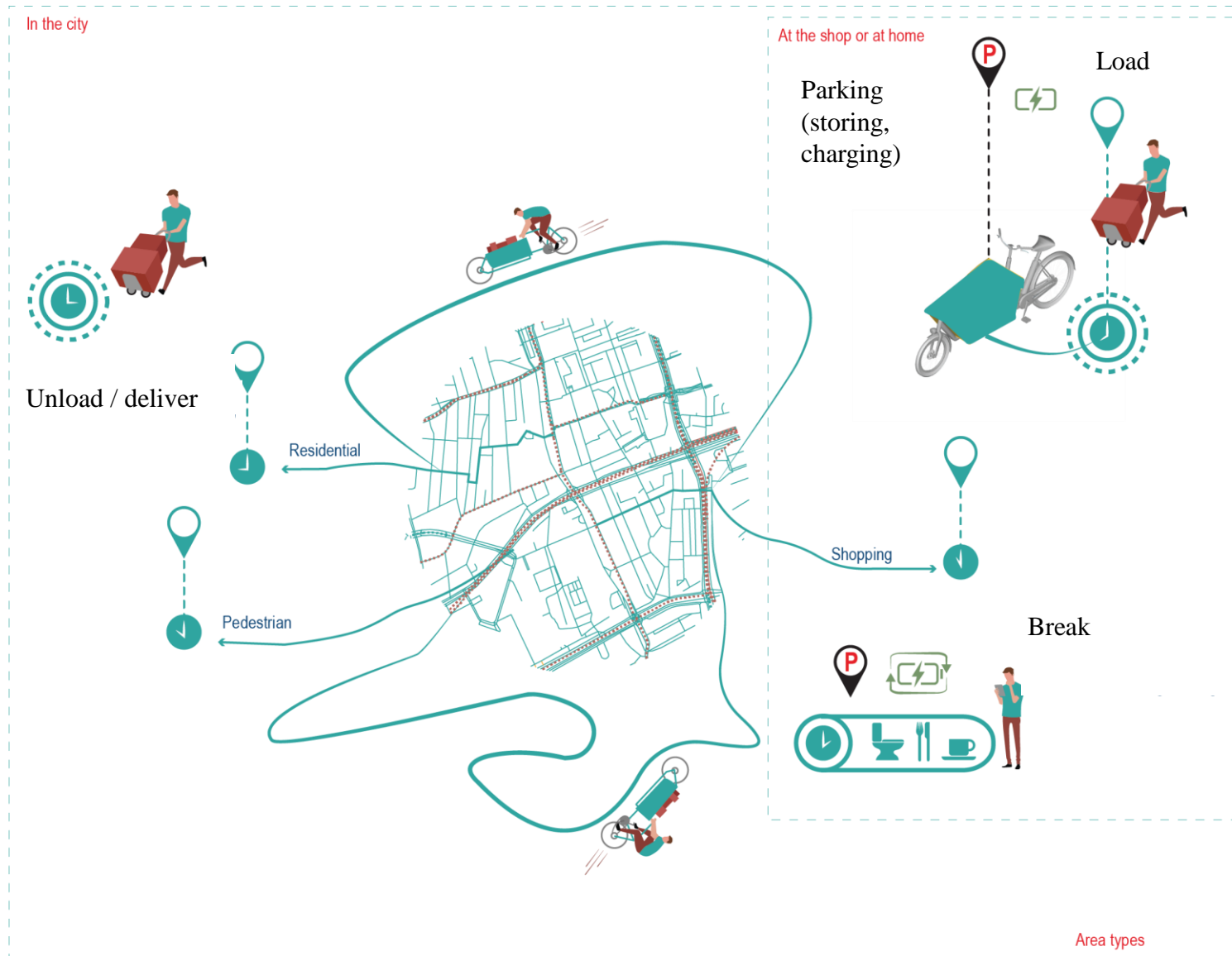
Package Delivery Service

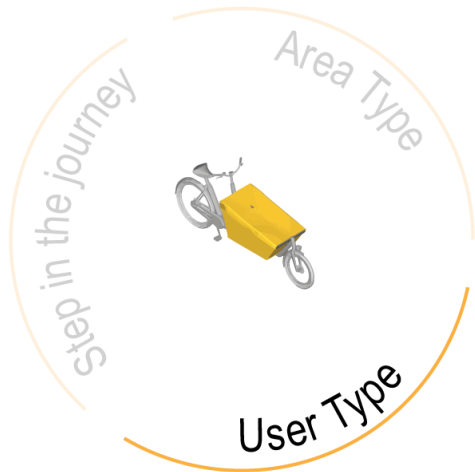


Shop Owner



Service Provider





 Package Delivery Service

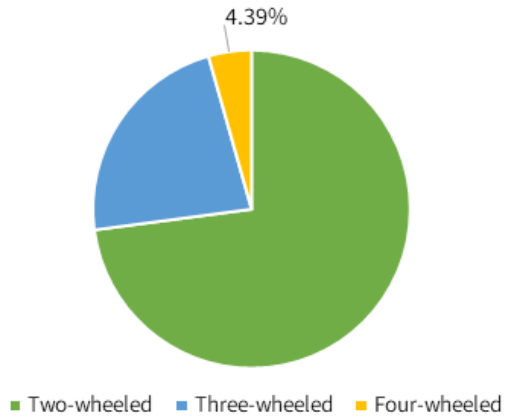
 Shop Owner

 **Service Provider**

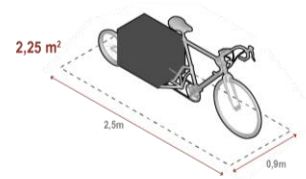


Cargobike Family

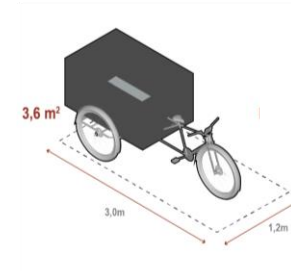
Cargo Bike Market Share, By Type, 2022



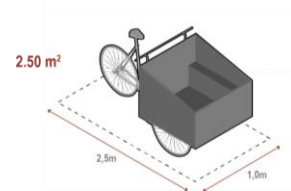
Source: [Global Market Insights](#), 2023



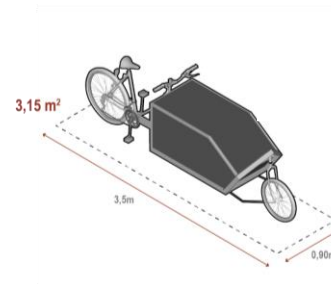
Rear-load Bike (backpacker)



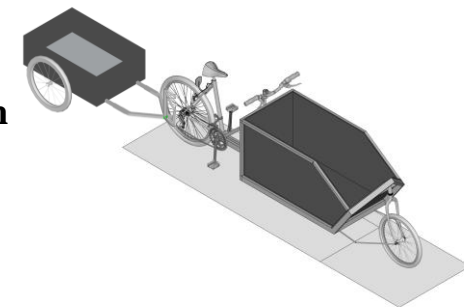
Rear-load Trike



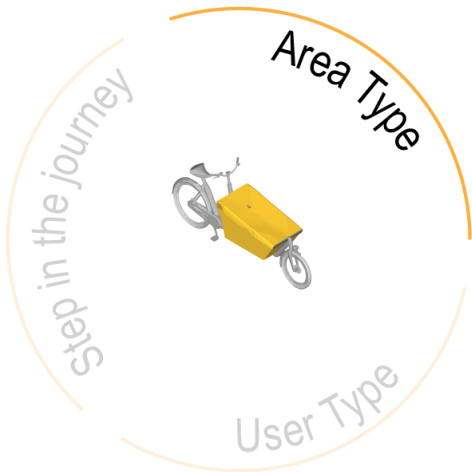
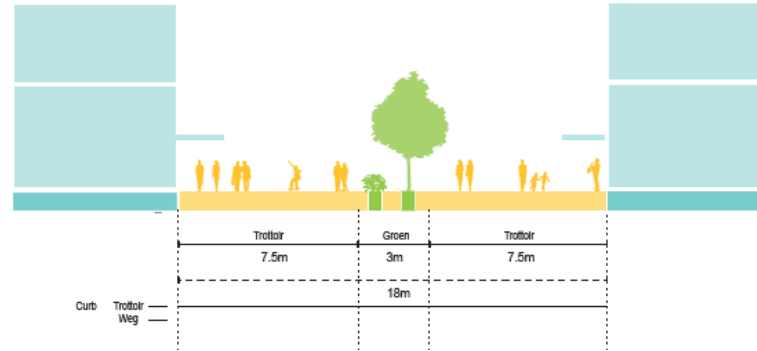
Front-load Trike



Long John



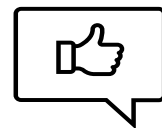
Popularity



 **Pedestrian street**

Shopping street

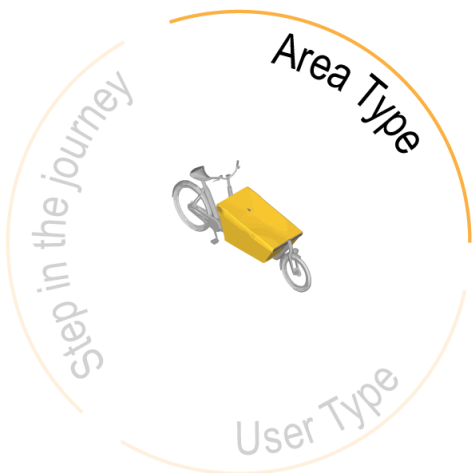
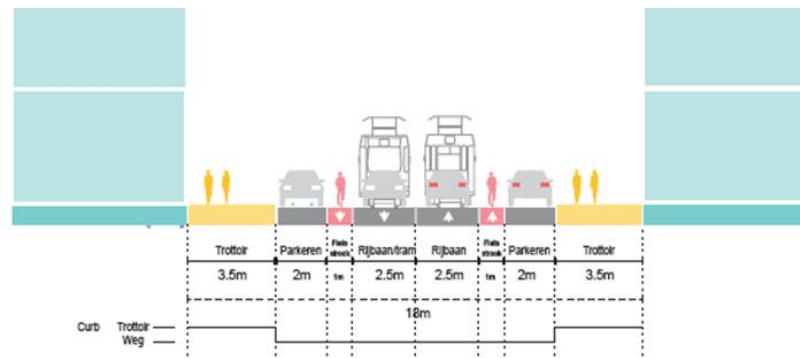
Residential street



Opportunities



Challenges

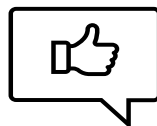


Pedestrian street



Shopping street

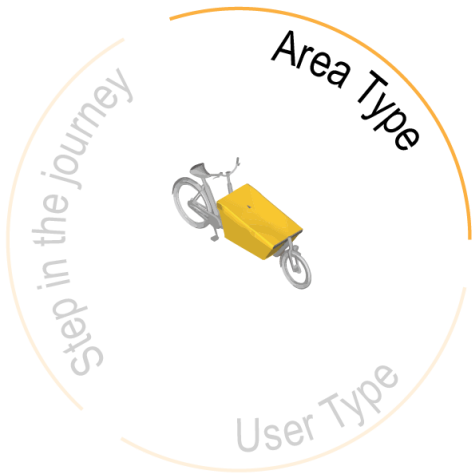
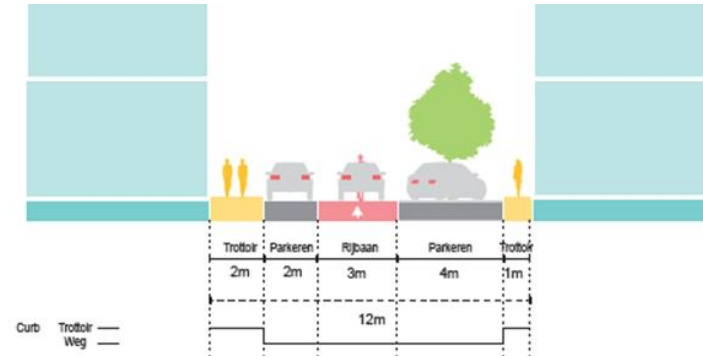
Residential street



Opportunities



Challenges



Pedestrian street

Shopping street



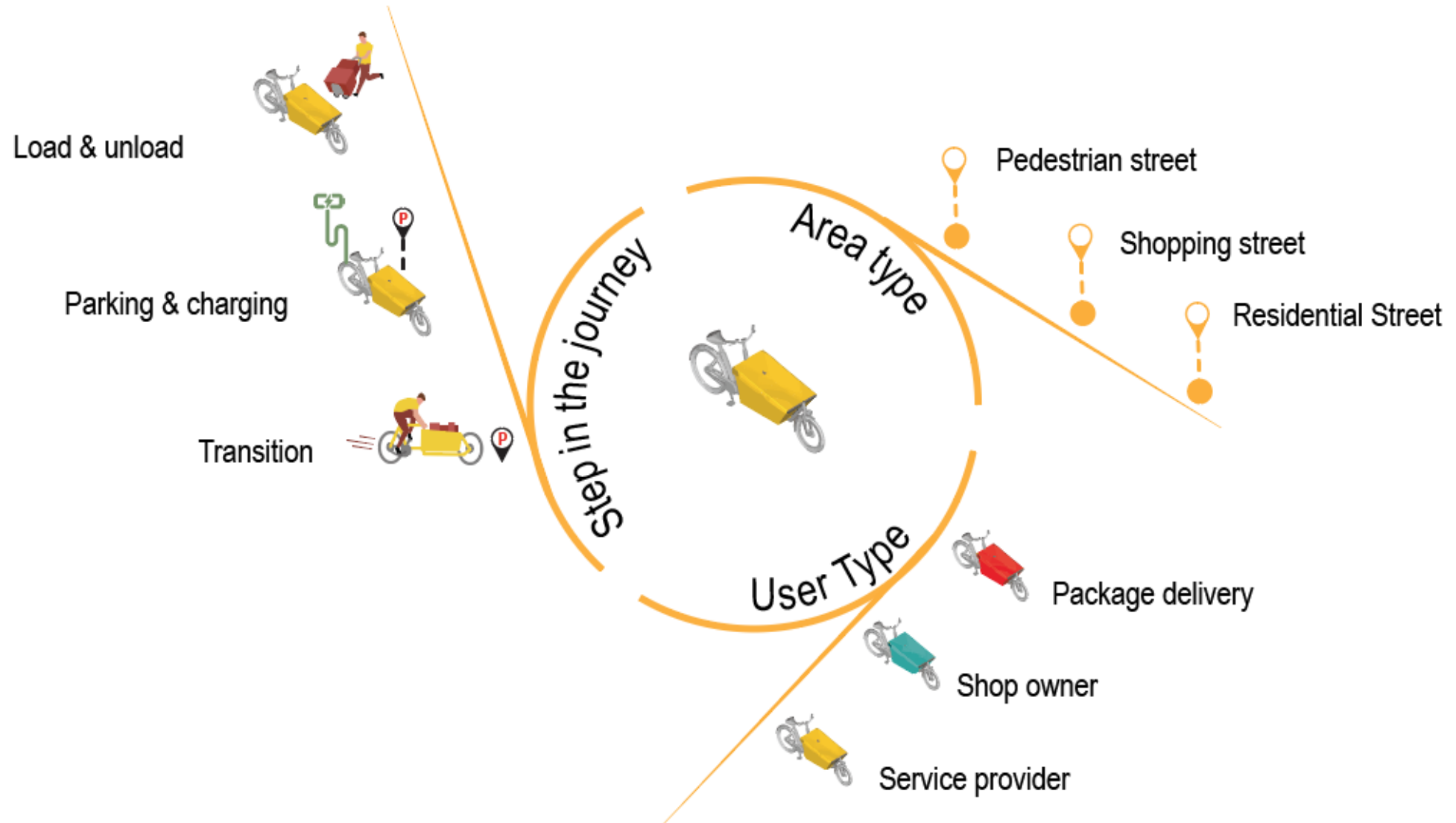
Residential street



Opportunities



Challenges





Project Introduction

The "Trinity" Exploration

Interview Highlights

Systematic Framework

Design Research

Interview Highlights

Legal & Physical Space



No national legislation (yet)



Municipalities at different stages / approaches



Importance of traffic safety



Shared space, 30kmh roads



- Flexible usage of the space.
- No or less physical obstacles on the public space.
- Education / training / mindset.



Project Introduction

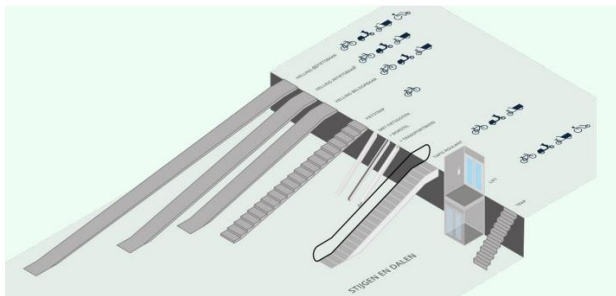
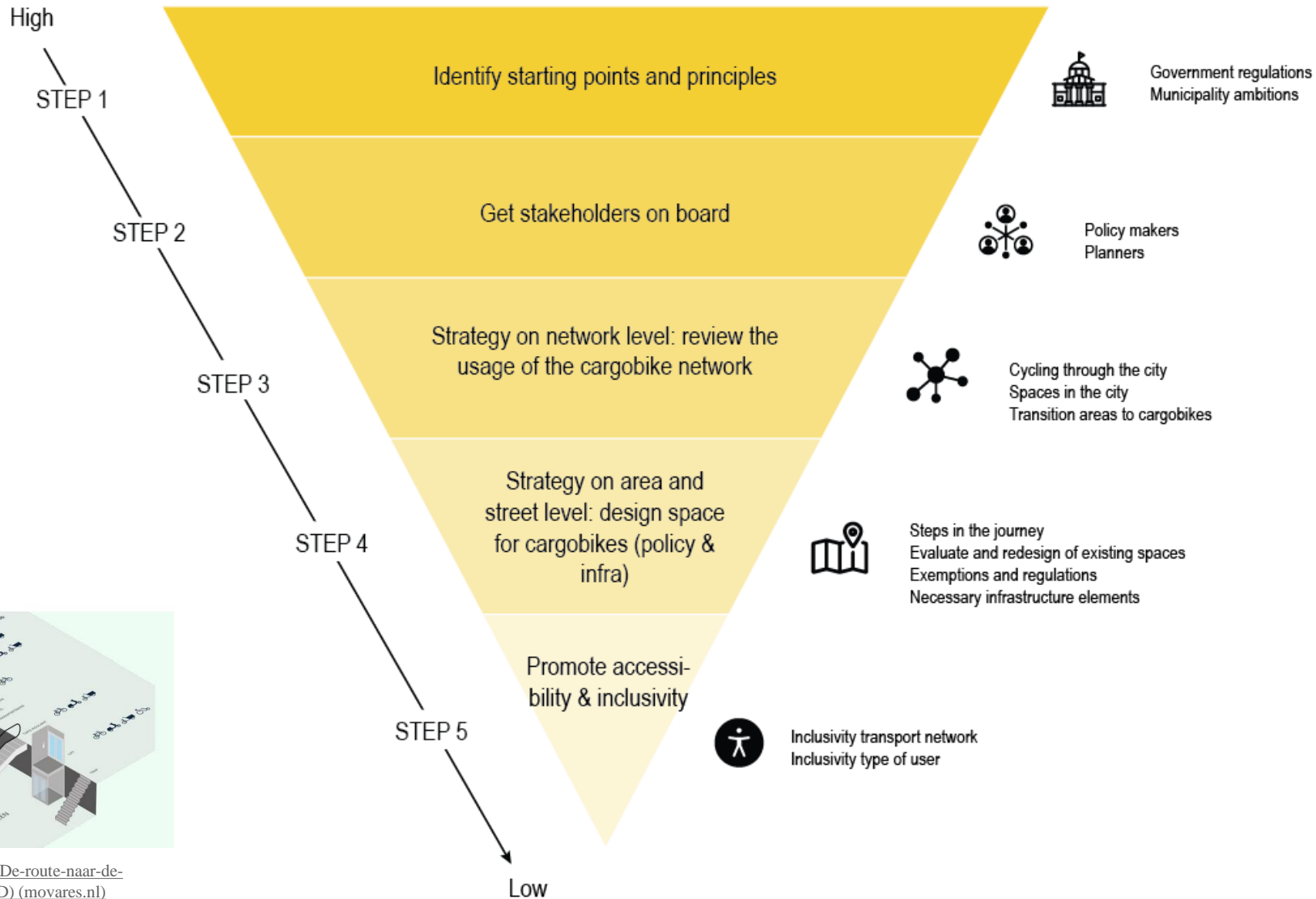
The "Trinity" Exploration

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Systematic Framework

Design Research

Design Systematics



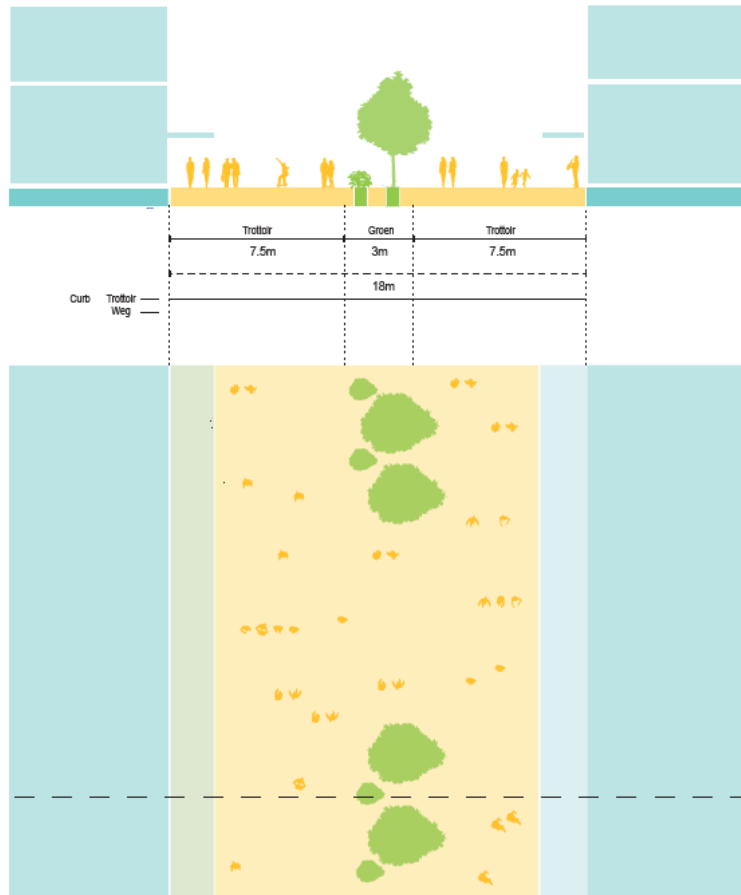
© Publicatie [Fietsenstalling van de toekomst-De route naar de ideale in-pandige-fietsenstalling.pdf](#) (SECURED) (movares.nl)



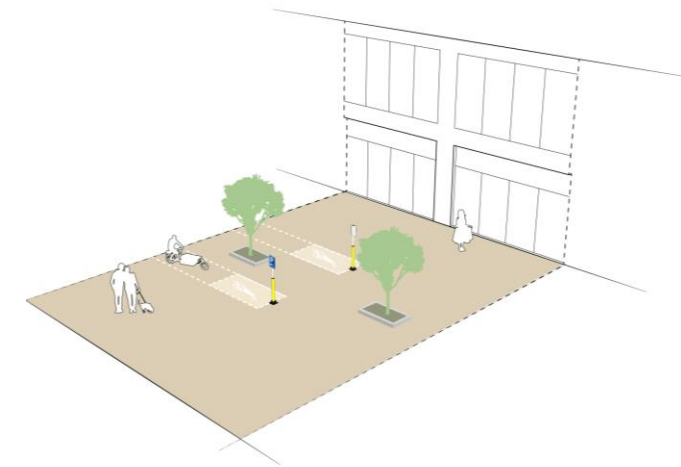
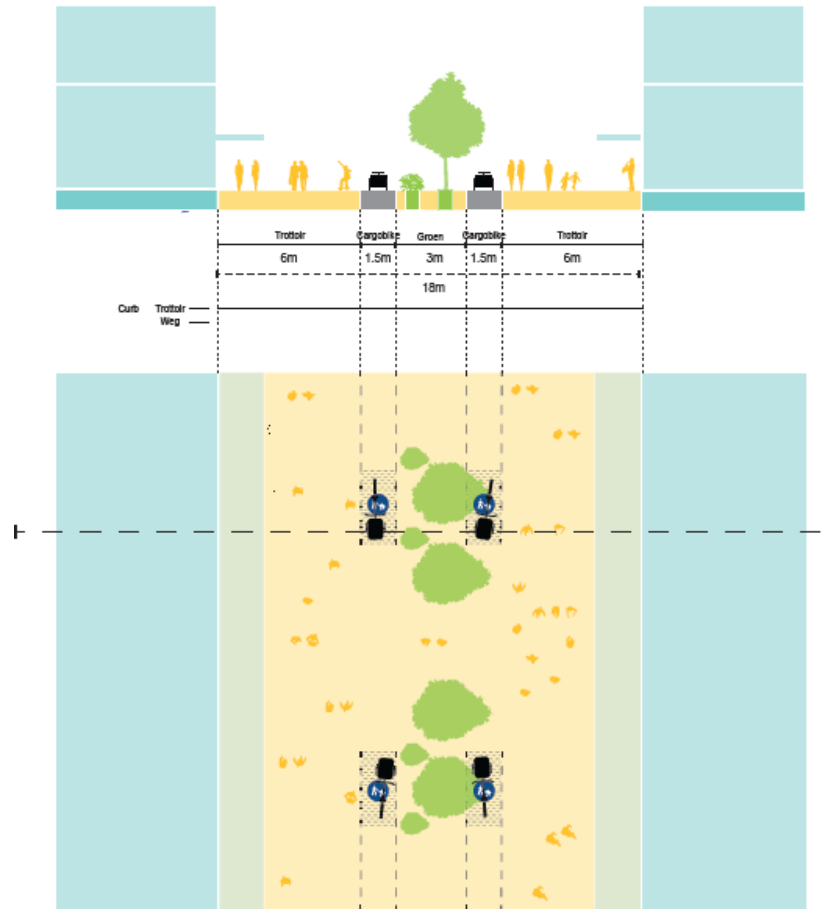
Propose Street Profiles

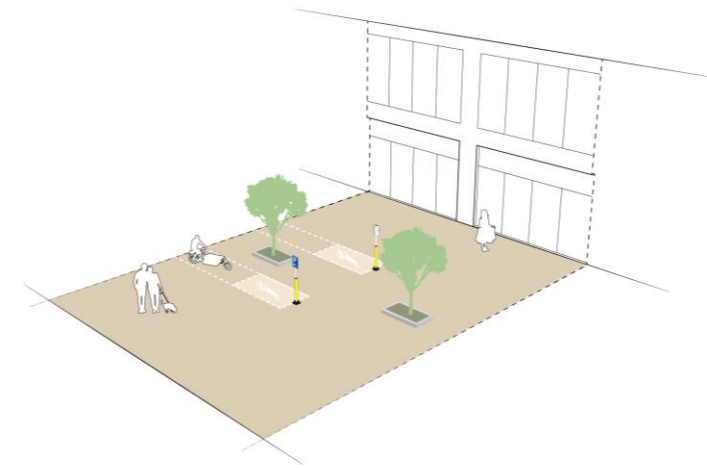
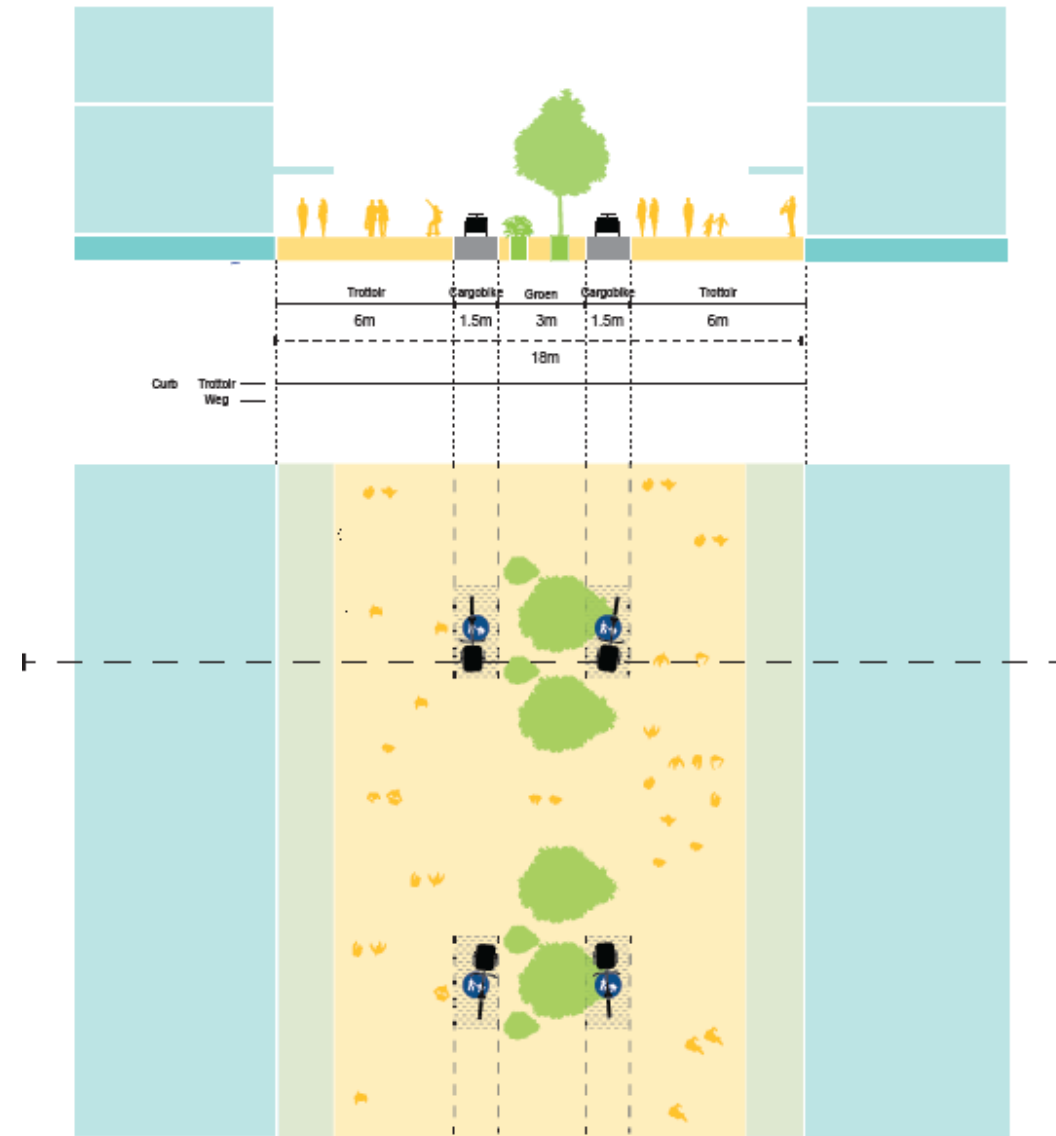
Pedestrian Street




Current



Proposed



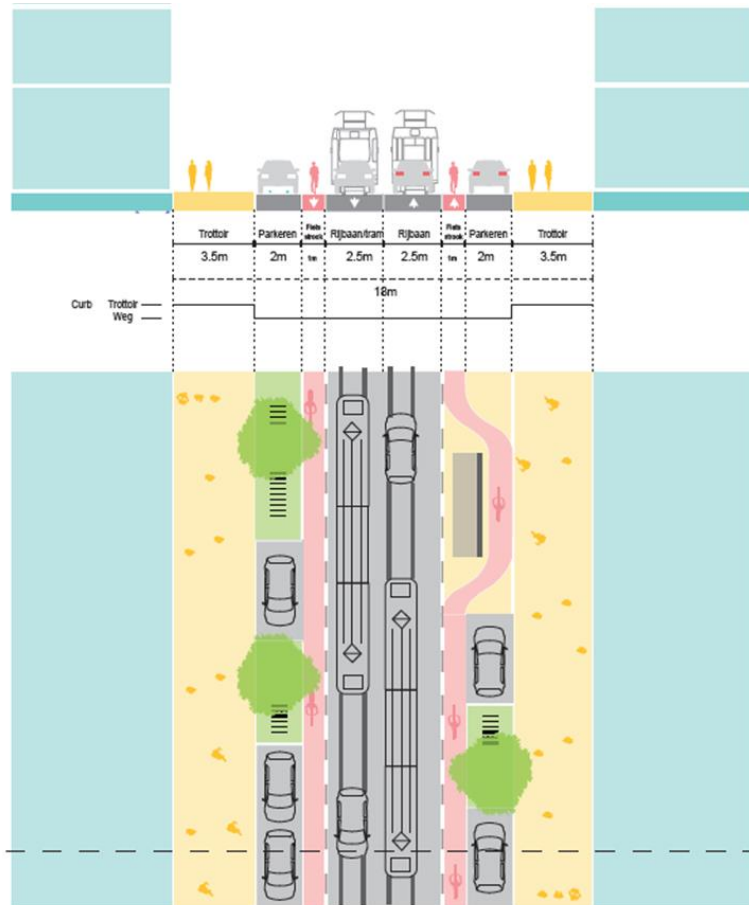


-  Parking cargobikes
-  Loading / unloading cargobikes
-  Loading / unloading shared use cargobikes and cars

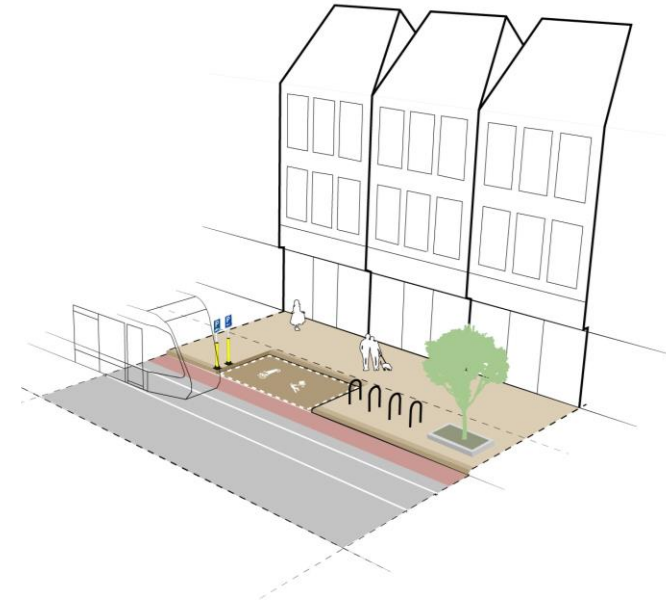
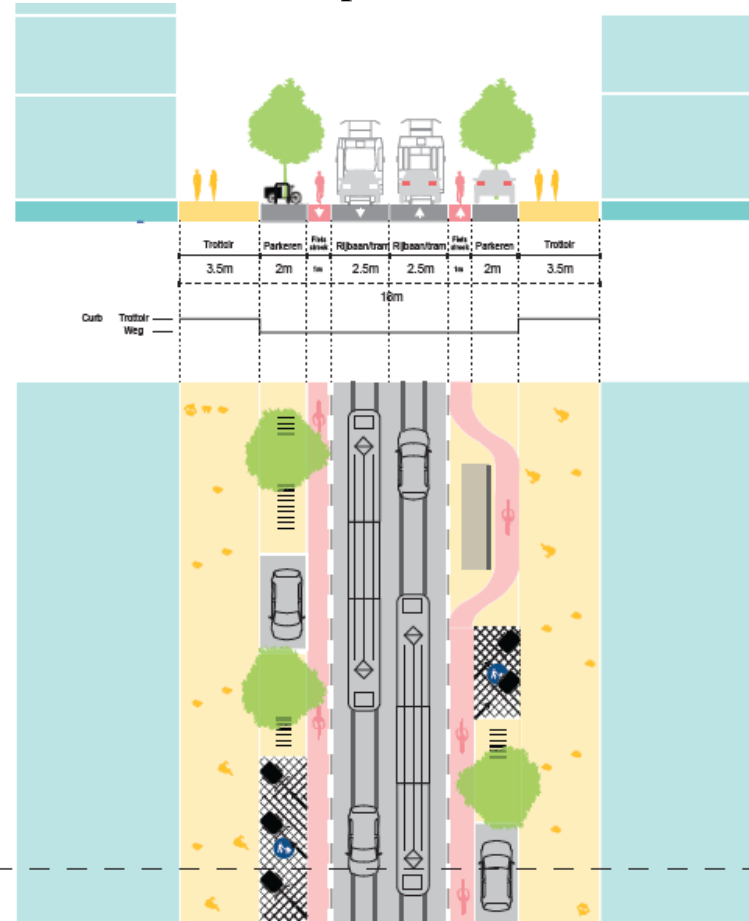
Propose Street Profiles

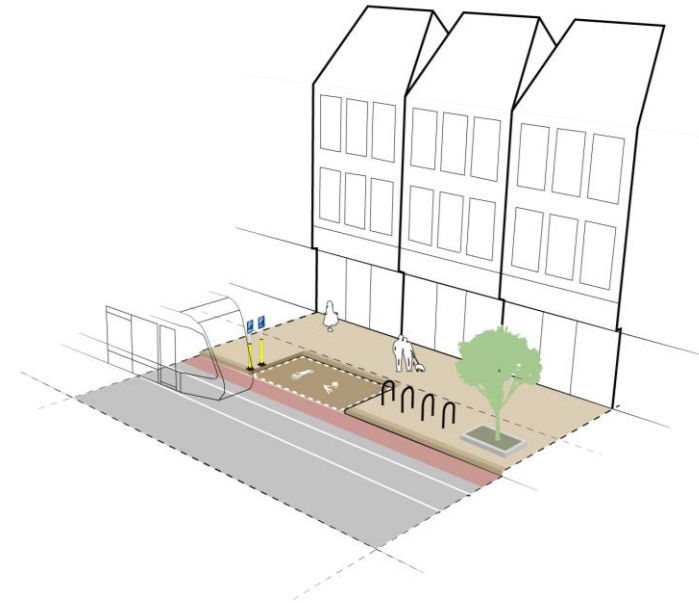
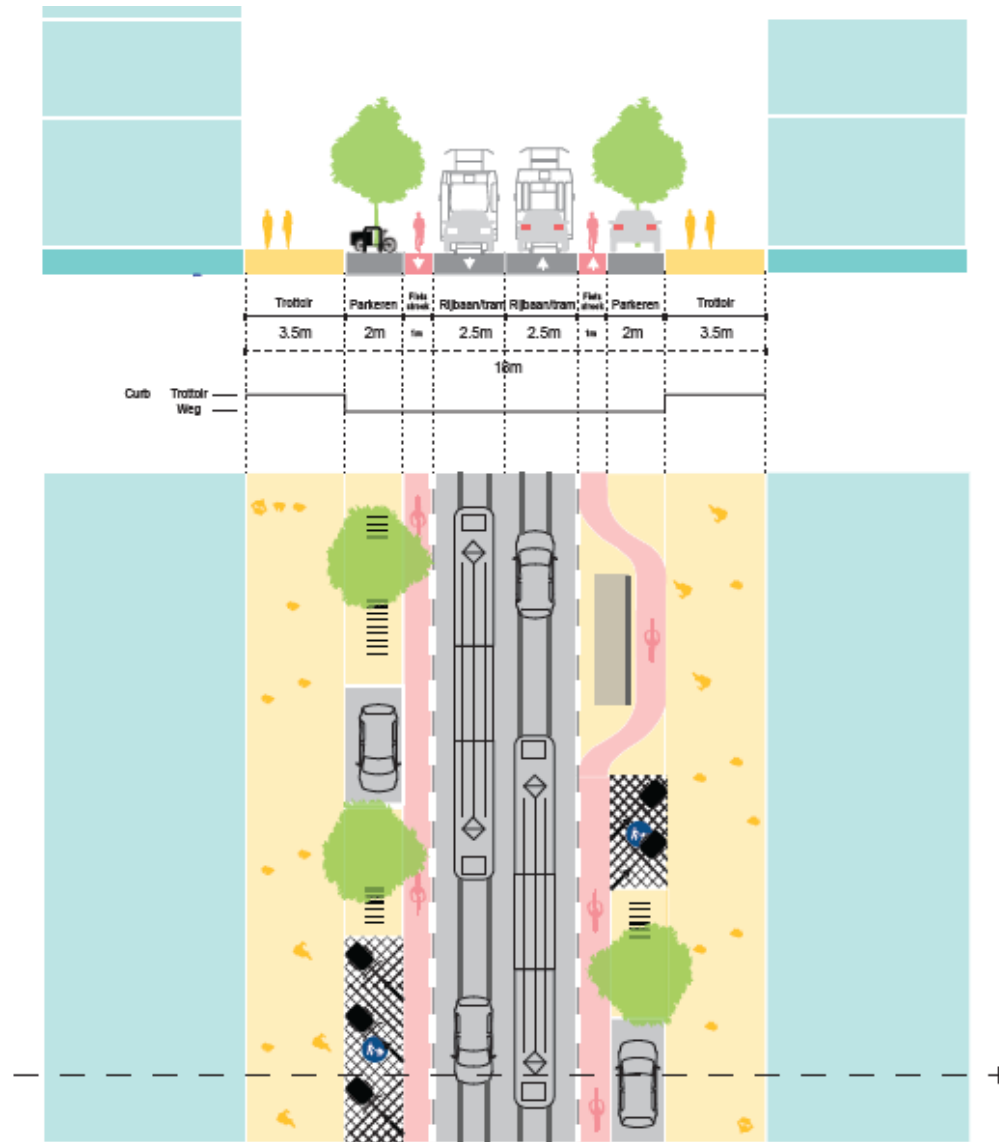
Shopping Street




Current



Proposed

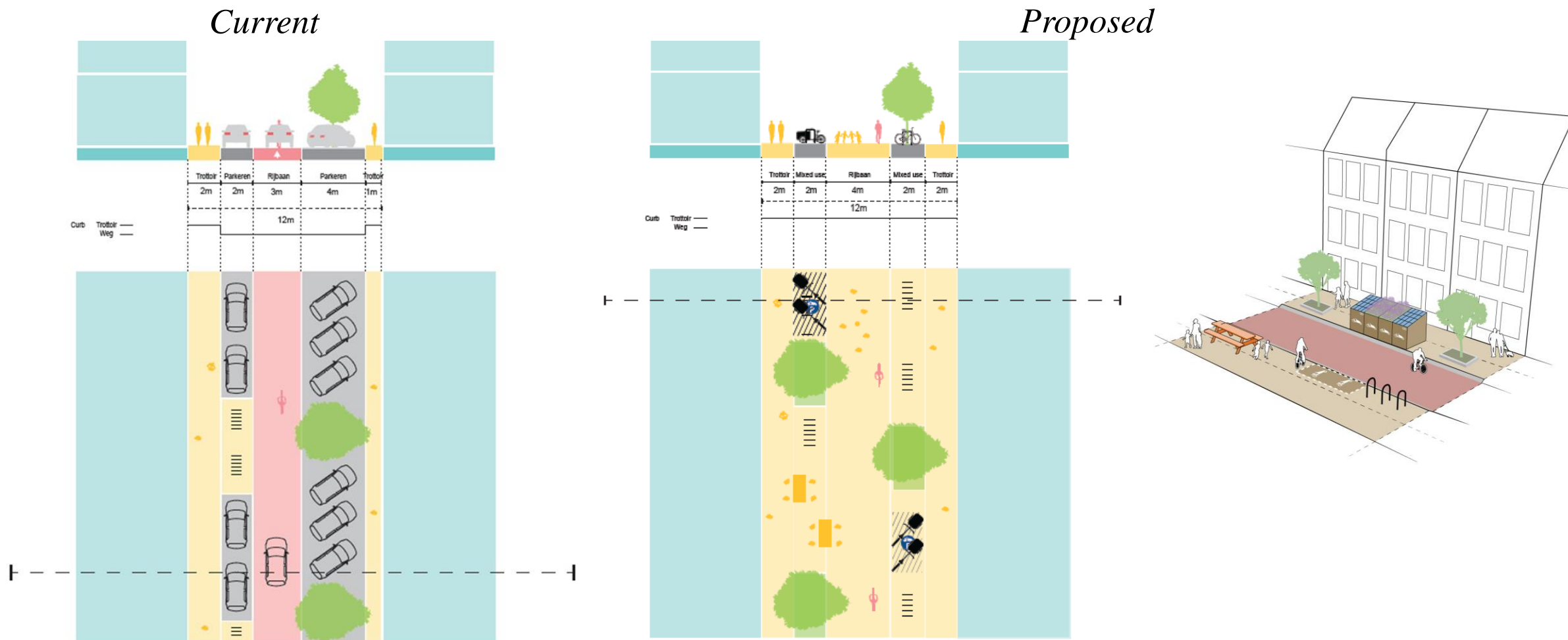


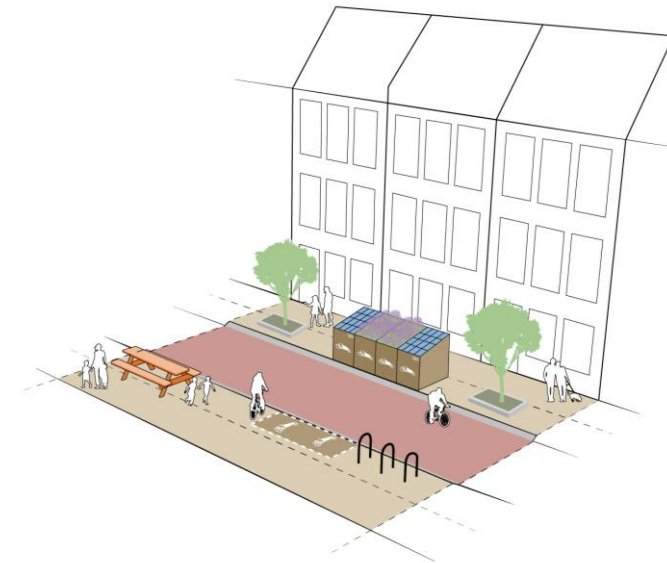
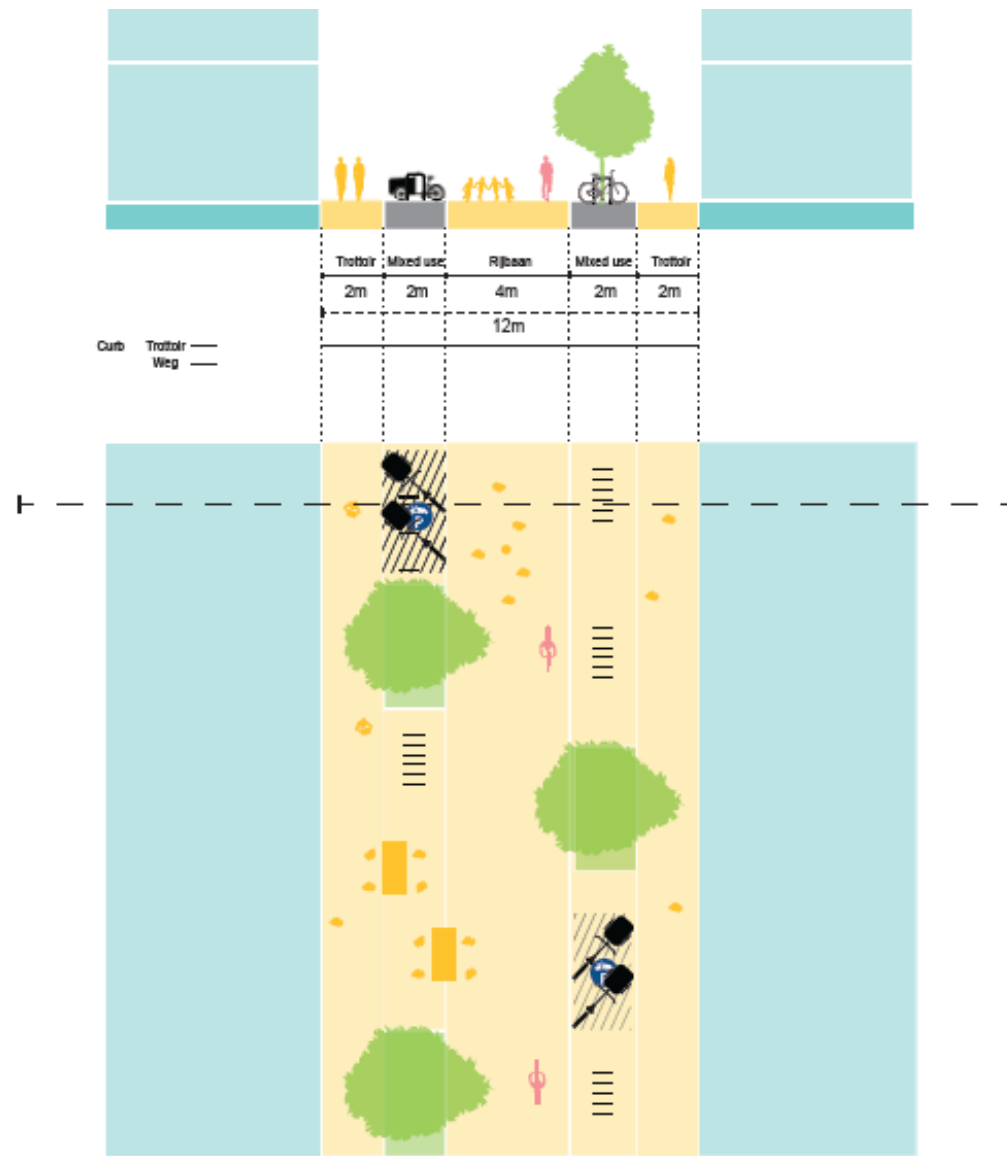





-  Parking cargobikes
-  Loading / unloading cargobikes
-  Loading / unloading shared

Propose Street Profiles

Residential Street





-  Parking cargobikes
-  Loading / unloading cargobikes
-  Loading / unloading shared use cargobikes and cars

Reflection on the project



Insights and what struck us!

Not 1 type of cargo bike user/pattern, but different patterns through the city

Many different starting points of municipalities with regard to the use of cargo bikes

Missing legal framework



The Riding Cargo Bike

Flexibility of the entrepreneurs is high



Sizing parking spaces

Adaptive and innovative

Dimensioning



Out-of-scope but still interesting!

Look Ahead

Arup & Urban Logistics

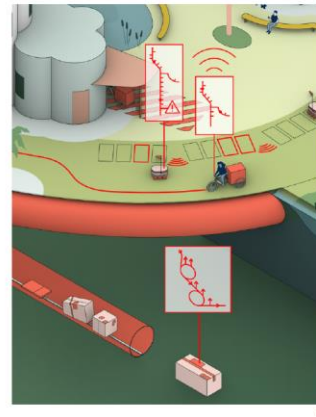
E-cargo bikes and freight pipelines

Unmanned Aerial Vehicles (UAVs) or drones have, for a number of years, been seen as the solution to logistics congestion. However, in 2019 less than a third of logistics firms predicted that drones would create a new mode of transport.²¹ Meanwhile, DHL and Amazon have both quietly reduced or wound down their drone operations (named Parcelcopter and Prime Air, respectively).²²

Although drones can fly over buildings in a straight line, they can only

In the UK, there has been a rapid uptake of e-bikes by last mile delivery workers, causing the electric bicycle market to grow considerably. Electrically-assisted cargo bikes have been the subject of trials in various cities in Europe. Replacing vehicles with bikes has a compelling and positive impact on congestion, air quality and noise pollution.

Finally, a completely different direction for the last-mile may



IiA

Space for Cargobikes: Dutch & International Context

Space for Cargobikes – International

Rotterdam



London



Sydney

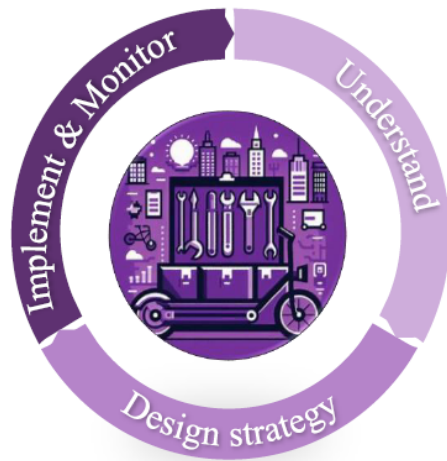


New York



Toolbox development

Overview Targets



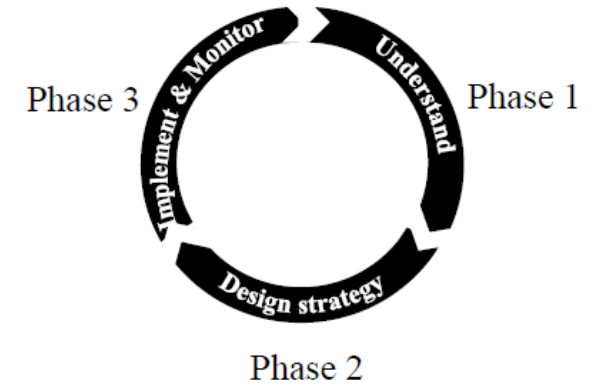
	Policy	Spatial	Logistics	Market
Understand current situation	<p>Review existing traffic and transportation policies to integrate cargo bikes (e.g., zoning regulations, traffic management).</p>	<p>Identify key areas for cargo bike infrastructure and key infrastructure elements (e.g., city centers, residential areas, industrial zones).</p>	<p>Establish partnerships with logistics companies for last-mile deliveries using cargo bikes.</p>	<p>Conduct market research to understand demand for cargo bike services and potential user demographics and their specific challenges.</p>
Design strategy	<p>Develop and implement policies supporting cargo bikes businesses.</p>	<p>Design urban spaces and remove barriers to create more cargo bike friendly environments.</p>	<p>Invest in fleet management systems and technology for efficient deployment and tracking of cargo bikes.</p>	<p>Collaborate with local businesses to educate them and promote cargo bike usage.</p>
Implement and monitor	<p>Deploy incentives such as tax breaks or subsidies for businesses and individuals adopting cargo bike transportation.</p>	<p>Develop interconnected network of cargo bike routes to facilitate seamless movement across the city.</p>	<p>Provide training and support for cargobike operators and maintenance personnel.</p>	<p>Launch marketing campaigns to raise awareness about the benefits of cargo bike usage and encourage behaviour change.</p>

Toolbox & Case Studies

From the case studies of the different cities some of the key challenges these cities are facing with the implementation of cargo bikes are highlighted. Here we map some of the tools of the toolbox with these case studies, illustrating how the tool could support their goals. In the circle diagram is shown how far in the process the different cities are.

Rotterdam	
Tool	
Tool 9, 10, 11, 12, 13. Route Optimisation, Zoning Plans, Spatial Models, Dashboard Cargo Bike Usage, Road Map	Assist in creating design strategy based on the ambitions and starting points the city already has.

London	
Tool	
Tool 4. Engagement Meetings: Goals & Agenda	Assist in avoiding negative responses from residents/stakeholders/potential users by not involving them in the process.



Sydney	
Tool	
Tool 7. Cargo Bike Policy Checklist	Assist in avoiding ambiguity in developing new policies and keeping record of relevant checks that must be done on existing guidelines.

New York	
Tool	
Tool 6. Cargo Bike Family Design	Assist in guiding users on their vehicle choices and urban designers on their design guidelines updates, to avoid costly changes later.

Thank you for your attention!



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Any Questions?



Request the English report of this study via naomi.klootra@arup.com

ARUP