



ITS Challenges for the city of Antwerp

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www.c-roads.eu

Our city

- Home to **539.419** people from **172** different backgrounds
- Harbor traffic of **11 to 12 million** TEU of which 1/3 by truck
- Junction of **3** TEN-T corridors
- Ring sees **103,775** car per day and **26.159** trucks
- Saturated for **14.2** hours per day



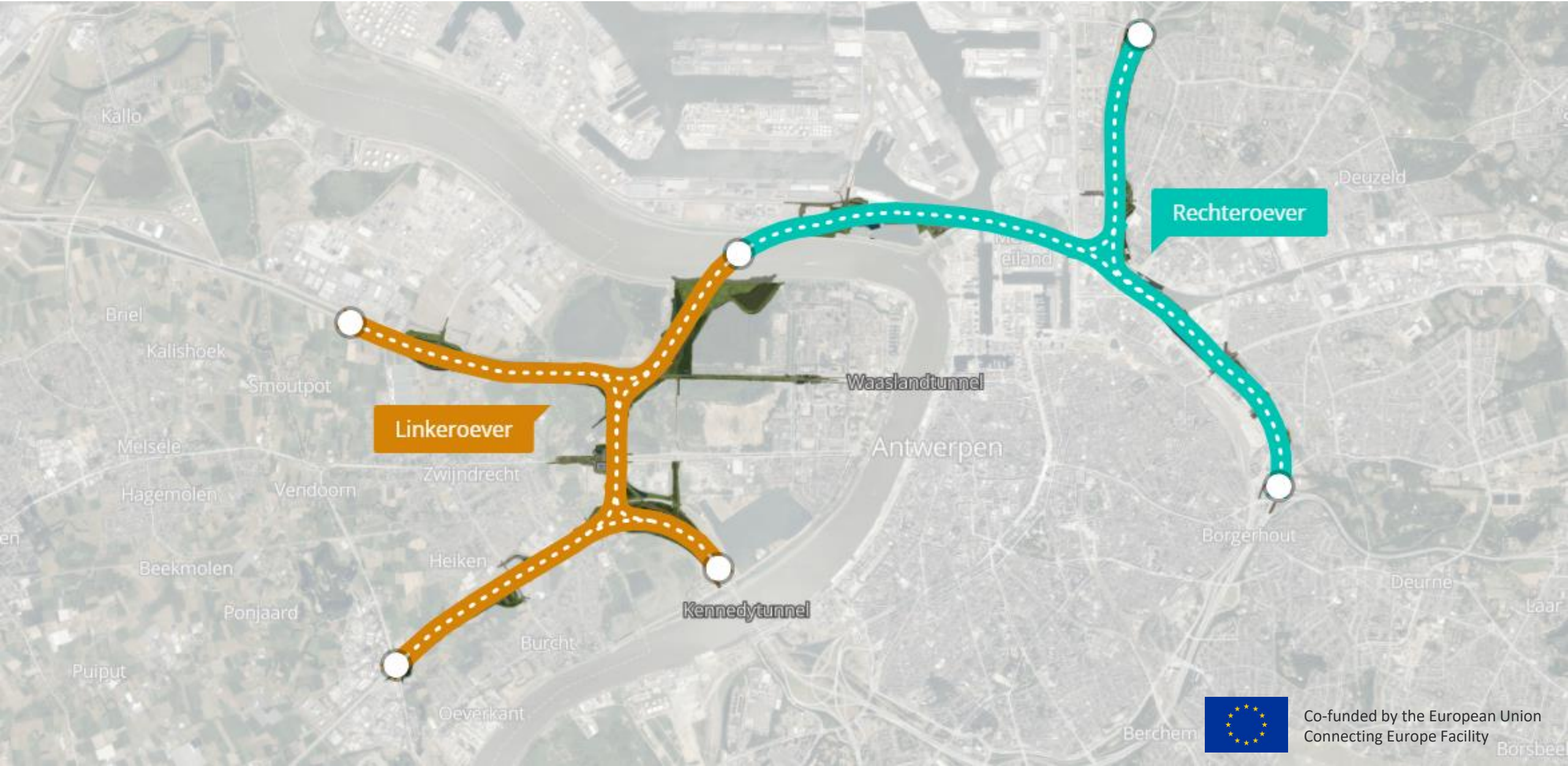


Our shift

- Working on a city with more active and durable forms of mobility
- In 2022 the bike surpassed cars for commutes to work
- **46%** more cyclist from 2015 - 2022



Our challenge



Linkeroever

Rechteroever

Waaslandtunnel

Antwerpen

Kennedytunnel



Our challenge

- Create new infrastructure for our modal shift and improve safety now more active road users are on the streets
- Build safe, comfortable bike infrastructure
- Keep the city accessible for the growing number of citizens.
- Rethink the use of space for a healthier, greener and more comfortable urban environment



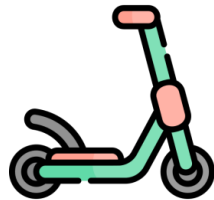
Topics



Active Data
Management



Behavioural change
- the digital layer



Managing shared
electric micromobility



Sustainable Urban
Logistics Plan



Active data management

Active Data Management

Data cell

In order to be effective in realising our ambitions we need to make data-informed decisions.

Actively gathers data and finds ways to cover blind spots



*Effort from colleagues
Bicycle counting sensors
Data from permits
Floating car/bike data
Surveys
Counting efforts*

Share realtime data with colleagues and travellers



*Routeplanner
Information signs
API's*

Share open data with the public

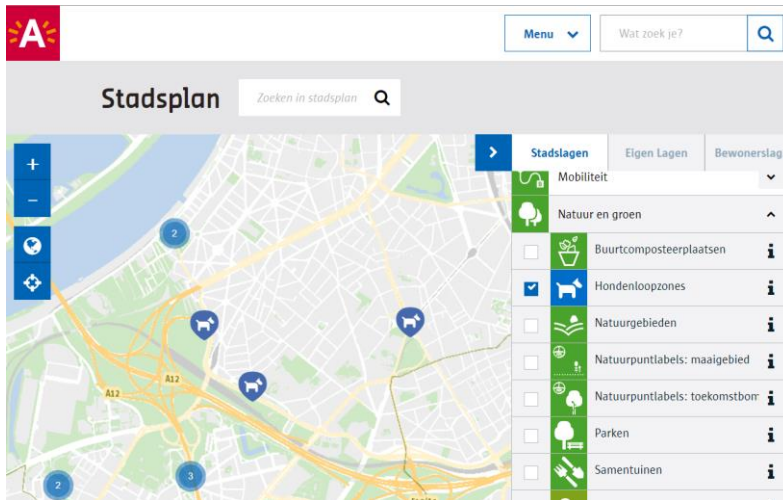


*Open data portal
Public applications*

Active Data Management

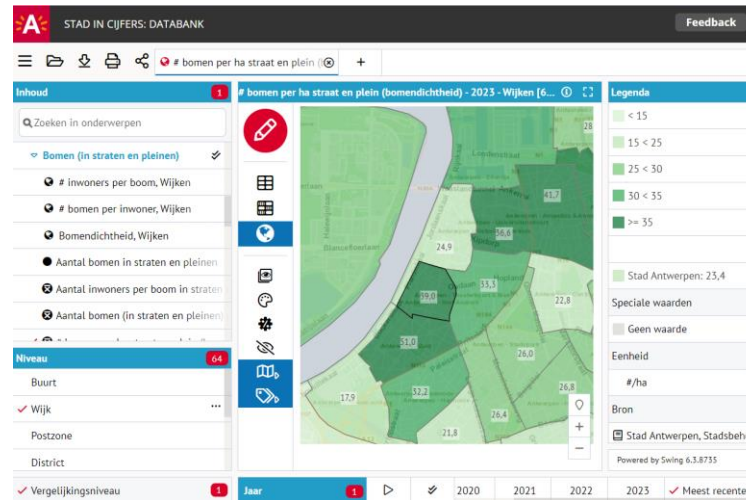
Where can I let my dog walk free?

[Antwerpen.be/nl/stadsplan](https://antwerpen.be/nl/stadsplan)



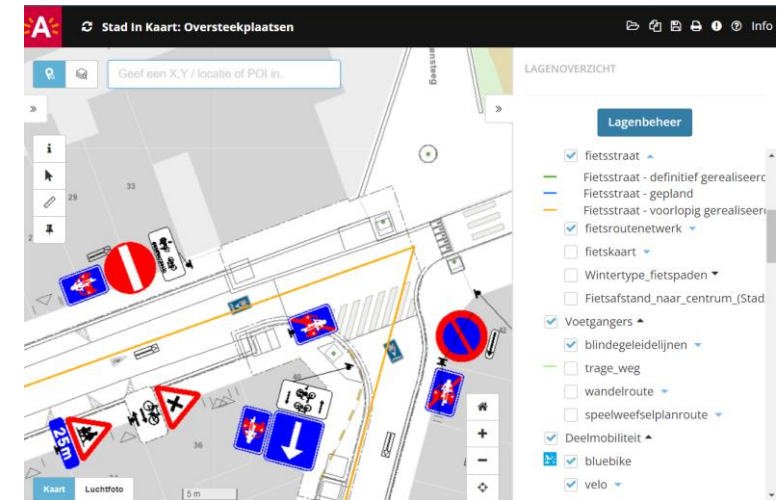
How green is my neighbourhood?

[Stadincijfers.antwerpen.be/databank](https://stadincijfers.antwerpen.be/databank)



How should I redesign this intersection?

Stadinkaart - Internal use



Active Data Management

How can I travel to the city during the marathon?

slimnaarantwerpen.be/nl/home

The screenshot shows a travel planning interface for Antwerp. It features a navigation bar with icons for Tram, Bus, Trein, and Auto. Below this, there are three route options:

- 40 min | SLIMSTE ROUTE**: 16:18 → 16:58, 71 Kcal, ± 2,5 euro. Includes 518 m walking, 70 bus, and 1,3 km train.
- 40 min | P+R ROUTE**: 16:06 → 16:45, 63 Kcal, ± 3,81 euro. Includes 2,7 km walking, P+R, 1 bus, and 1,3 km train.
- 53 min**: 16:14 → 17:07, 98 Kcal, 2.274 stappen, ± 2,5 euro. Includes 518 m walking, 70 bus, and 1,2 km train.

A map on the right shows the route starting from Leuvenberg and ending in Antwerp. A notification for 'Gebied lage-emissiezone' is visible on the map.

I want my mobile app to include all neighborhood bike parkings

portaal-stadantwerpen.opendata.arcgis.com

The screenshot shows the Opendata portaal Antwerpen interface. The main heading is 'buurtfietsenstallingen'. It displays a map with 58 records. A details popup is open for a specific location:

buurtfietsenstallingen	
Locatie	BFS
Adres	Justitiestraat 9, 2018, Antwerpen
Wegnaam	Justitiestraat 9
Postcode	2018
District	Antwerpen

The interface also includes a 'Samenvatting' section, a 'Details' section with 'Dataset' and 'Feature Layer' information, and a 'Indien nodig' section. The footer mentions 'Esri Community, Maps Contributors, Kadaster, Esri, HERE, Garmin, Foursquare, GeoTechnologies, ... Powered by Esri'.

Active Data Management

Future challenges

- Preparation, monitoring and evaluation of policy decisions
- Using floating-car/bike-data vs fixed counting devices
- Making responsible decisions towards personal data
- Working together with many stakeholders
- Standardisation and regularisation



Behavioural change - the digital layer

Behavioural change - the digital layer

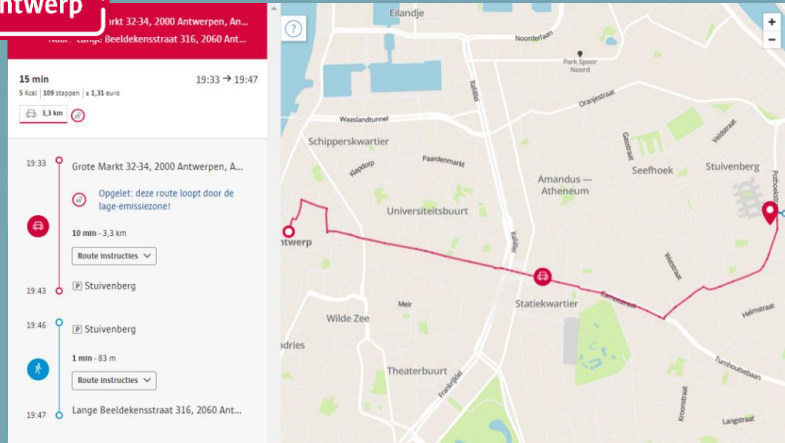
Fastest & shortest is often the main option



Freight route planner

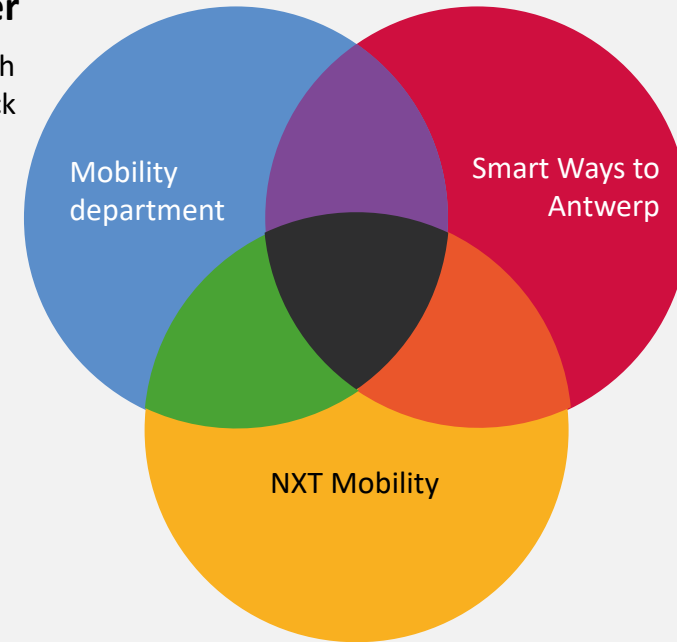
Shaping urban logistics with 2 carrots and 1 stick

Smart ways to Antwerp



Multimodal route planner

5 ways we use data to nudge in our route planner



Incentives platform

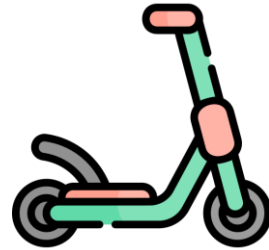
Making incentives easy with bits&bytes

Behavioural change - the digital layer

5 ways we use data to nudge in our multimodal route planner

1. Show all options at the same time with own sorting logic
2. Routes that match with city policy
3. Multimodal turn-by-turn navigation
4. Different types of bicycle routes
5. Provide positive nudges

The image displays a multimodal route planner interface. At the top, it shows the 'SMARTEST ROUTE' with a duration of 1 hr(s) 5 min, 50 kCal, 1,160 steps, and a cost of ± 2.5 euro. Below this, several other route options are listed, each with its own duration, cost, and icons representing different modes of transport (walking, cycling, public transport). A map on the right shows the route in red. A photo of a woman with two children on a cargo bike is overlaid on the map, with the text 'Cargo bike with children'. A navigation overlay shows 'Richting Lillo' and a warning: 'Je komt aan bij de eindhalte, gelieve af te stappen.' The bottom of the interface shows a 'SMOOTHEST ROUTE' with a duration of 12 min, 10 min E-bike, 87 kCal, and a cost of ± 0 euro.



Managing shared electric micromobility

Managing shared electric micromobility

First Issues

1. Uncontrolled growth
2. Chaotic parking
3. No way to interfere or control

First Regulations 2018

1. A permit as means of control
2. Limit the number of permits
3. Limit the total amount of vehicles
4. Limit the number of vehicles within the city center
5. Hold companies responsible for parking issues

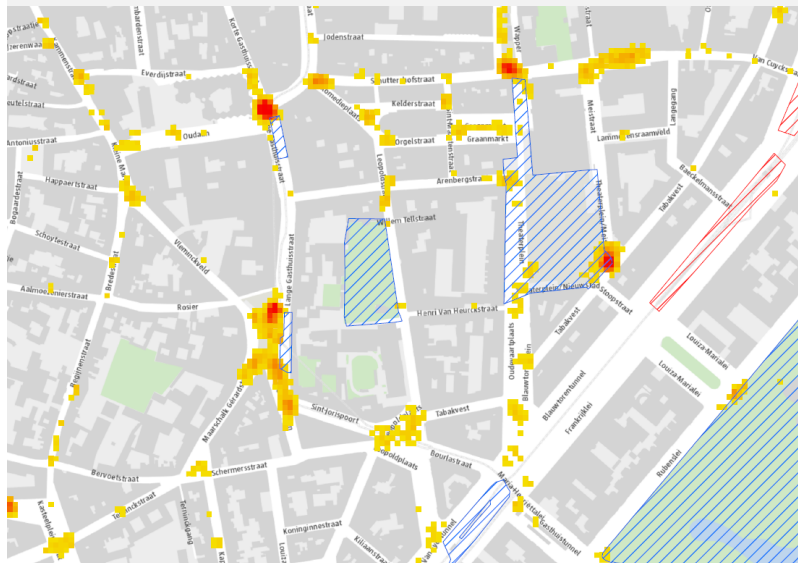


Managing shared electric micromobility

Revision 2021

1. Data driven policy and evaluation
2. Finding the right balance by focusing on specific parameters

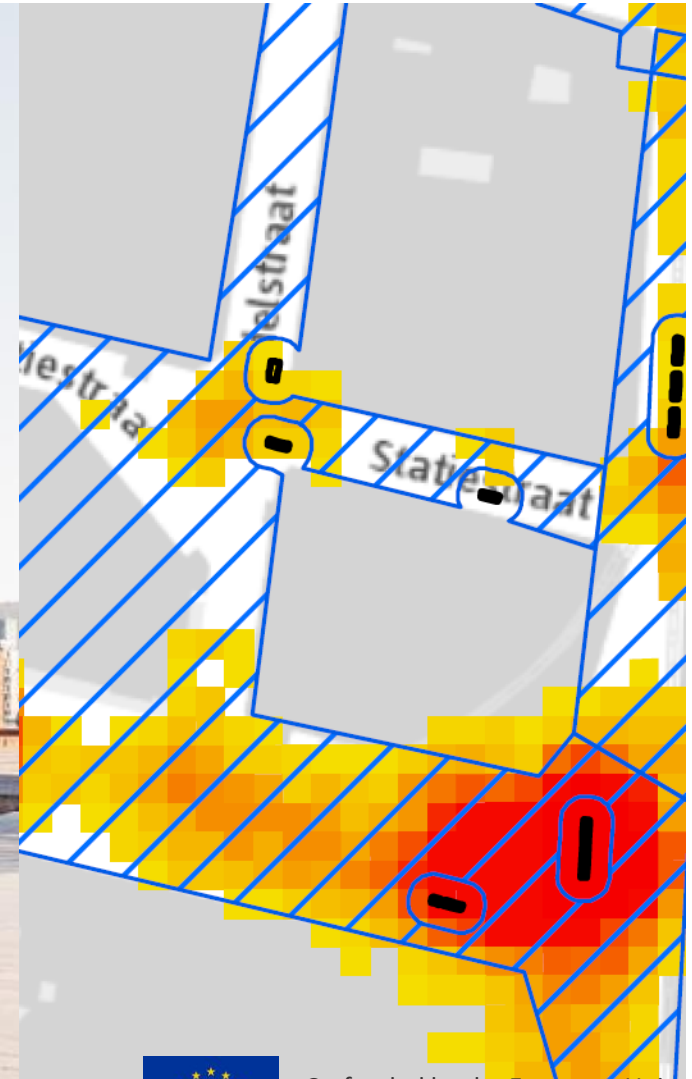
1. Geofencing: No-go-zones, No-Park-Zones and Slow-Speed-Zones
2. Create dropzones based on parking data
3. Limit the number of vehicles within the city center
4. Monitoring the data provided by shared mobility companies



Managing shared electric micromobility

Future challenges

- Finishing the development of the data platform M4
- Rolling out hub based e-scooter parking for the city center
- The automatic integration of the geographic zones provided by the city into the systems of the provider *e.g. events, road works, ...*





Sustainable Urban Logistics Plan

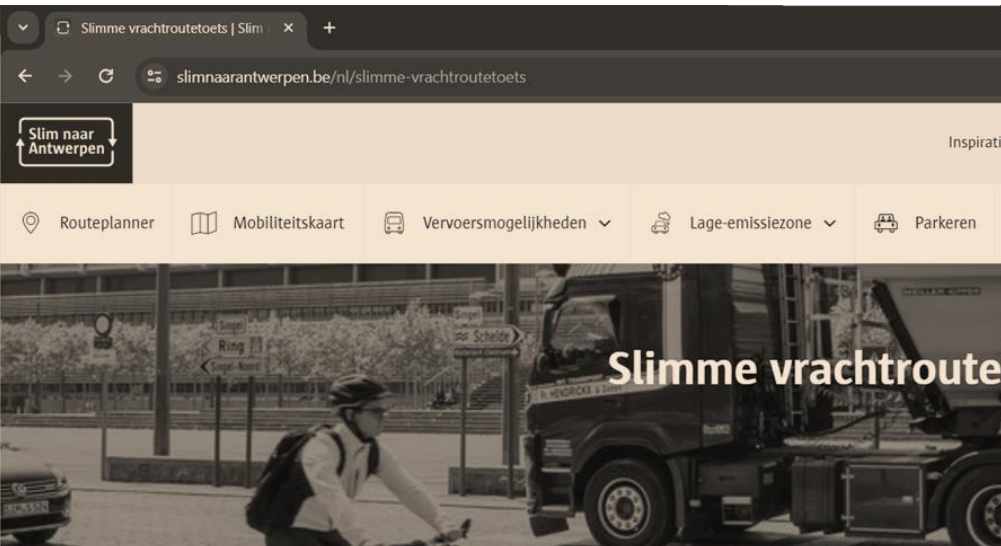
There is a clear need for more sustainable forms of urban logistics

- Trucks in an urban context are still a big danger
- Loading and unloading causes congestion and unwanted driving behaviour
- Logistics vehicles have an impact on liveability

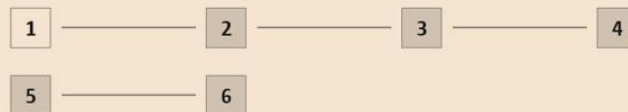


Sustainable Urban Logistics Plan

- Initiative that includes stakeholders
- Data analysis per area as starting point
 - Shift in time
 - Shift in vehicles
 - Space for urban logistics
 - Smart routing
 - B2C innovations
 - Tailored approaches
- Finalized in 2024



Vul nu de slimme vrachtroutetoets in

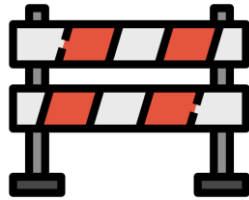


<https://www.slimnaarantwerpen.be/nl>

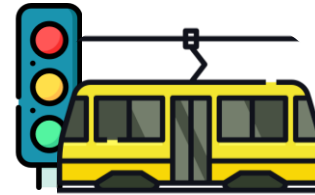
Learnings

- Data is a blind spot. It is scattered among all the different companies from different industries like e-commerce and construction.
- Involving smaller businesses in the process; complying is could require relatively lager effort for them.

Other initiatives



Road works and temporary closures



Prioritization for public transport

Thank you for your attention



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