

The background of the slide features a close-up, slightly blurred image of a yellow measuring tape laid across a topographic map. The map's contour lines are visible, and the tape's markings are partially legible. A thin blue horizontal line is positioned above the main text area. An orange square is located in the top-left corner of the slide.

Measurement week Breda

Data enriched urban transportation policy

Paul van de Coevering

DISCOVER YOUR WORLD

Approach

Challenges:

- Serious capacity issues on the northern ring road
- Increasing demand for housing and office space
- Road expansion not an option, nor desirable.

Aim:

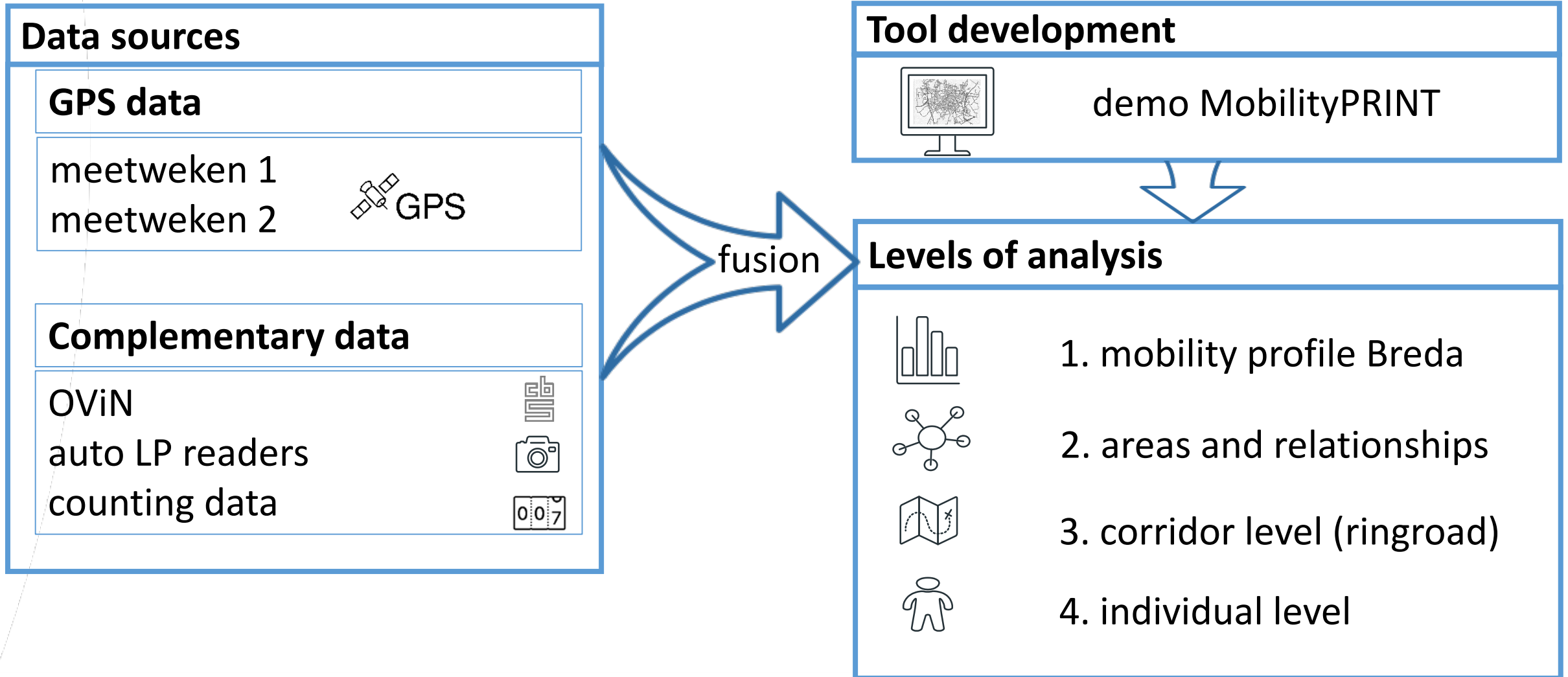
- Explore the overall mobility profile of Breda
- Provide a deep understanding of how the northern ring road functions within the overall transportation network.

Method:

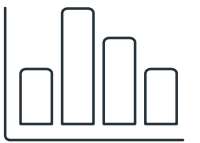
- Applied data combination approach



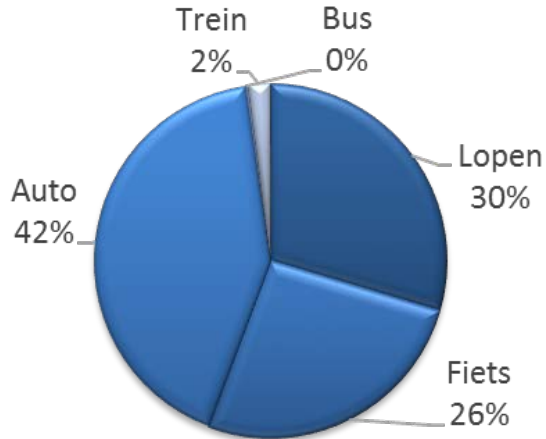
Data sources and analysis in Meetweken



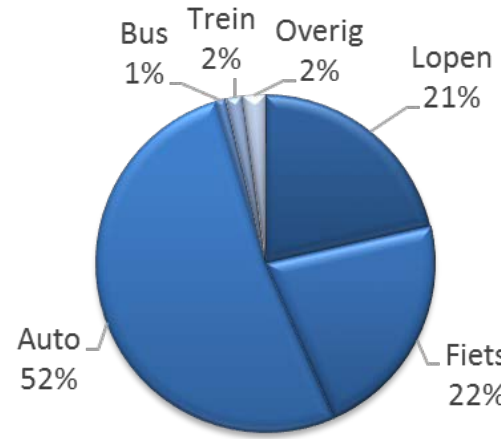
1.2 Modal split Breda



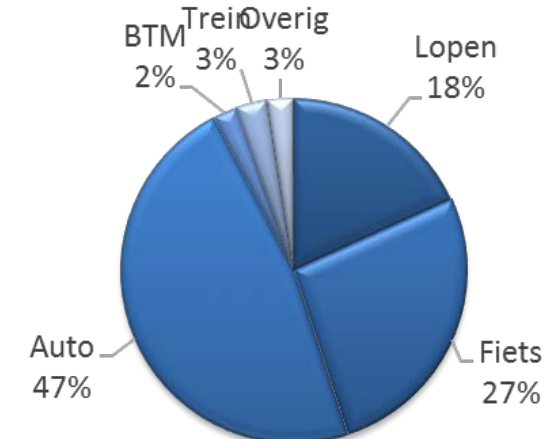
Meetweken 1 en 2



OViN 2017 Breda

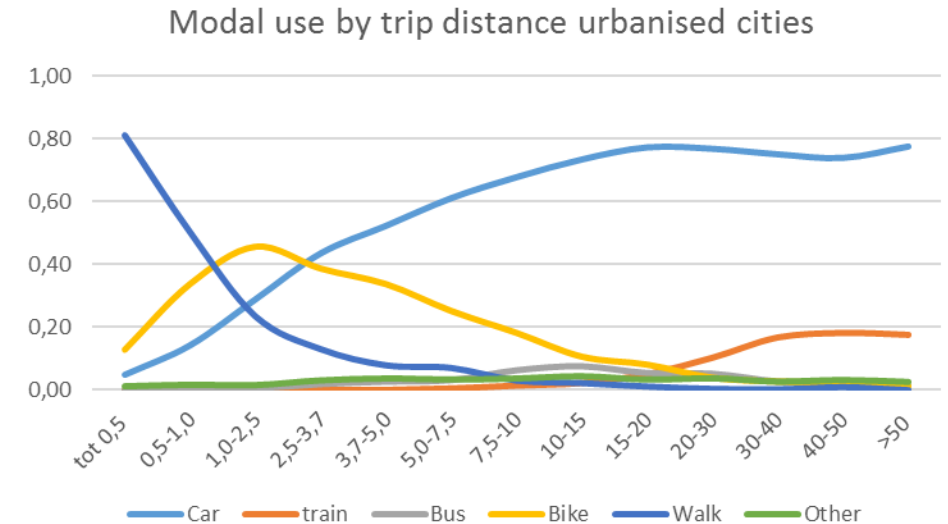
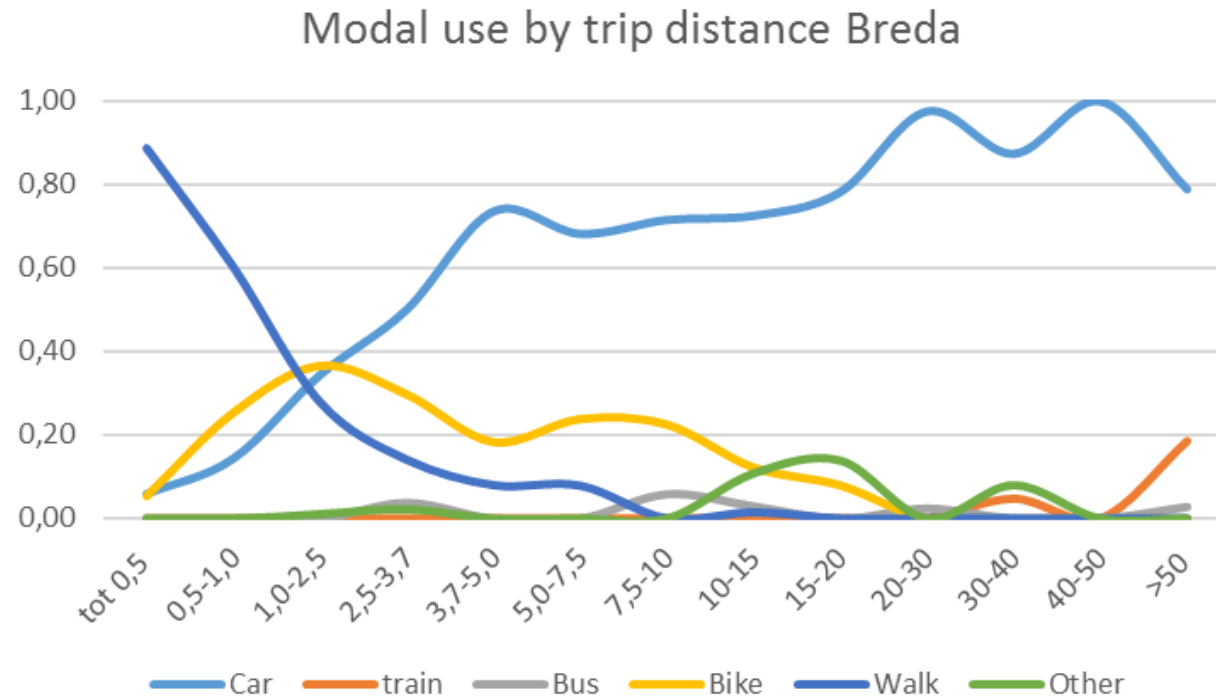
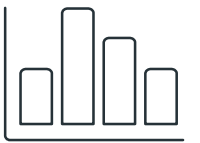


OViN 2017 sterk stedelijk



- Compared to other cities with comparable urbanisation levels, Breda is more car oriented and use of PT is less, in particular bus use.
- GPS data of meetweken clearly contain more walking trips compared to traditional travel diaries.

1.3 trip distances by travel mode (OViN 2017)

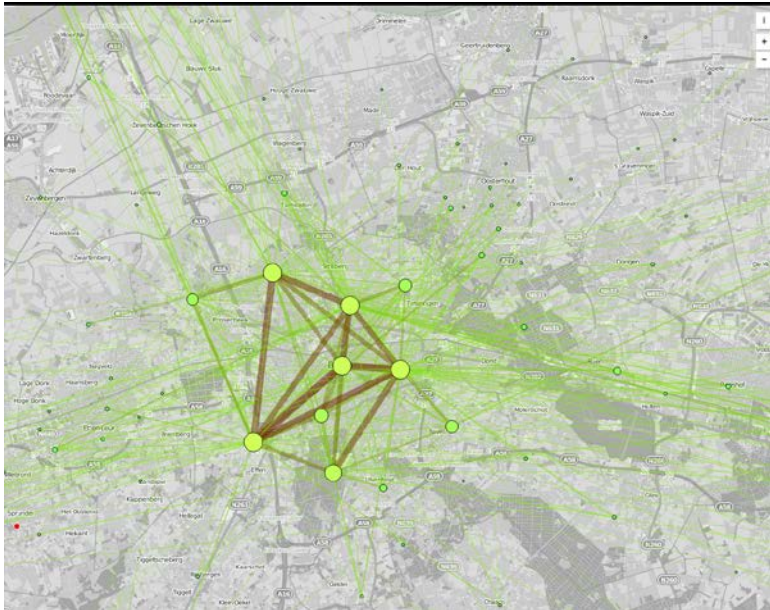


- In other cities, the bicycle is used more frequently at longer distances.
- Furthermore, use of the bus and train is higher at intermediate distances resulting in a lower car share.

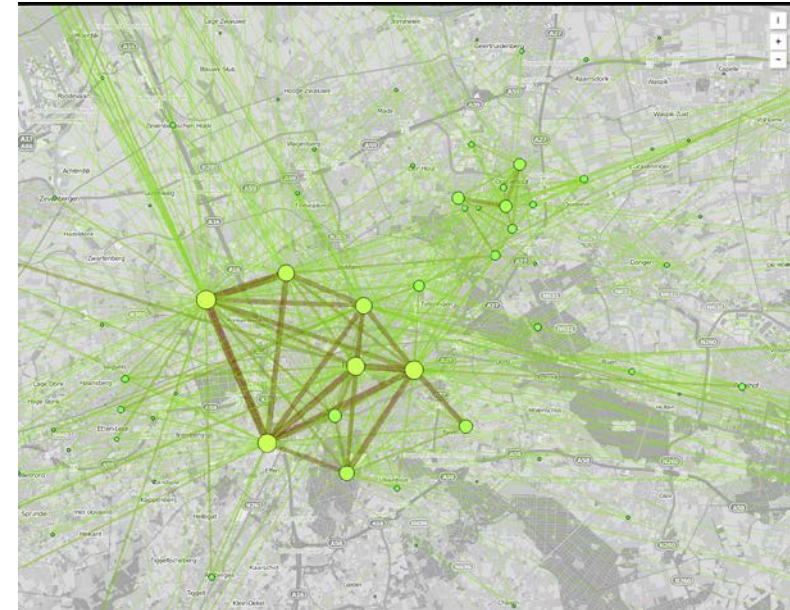
2.1 areas and relationships



Meetweken 1



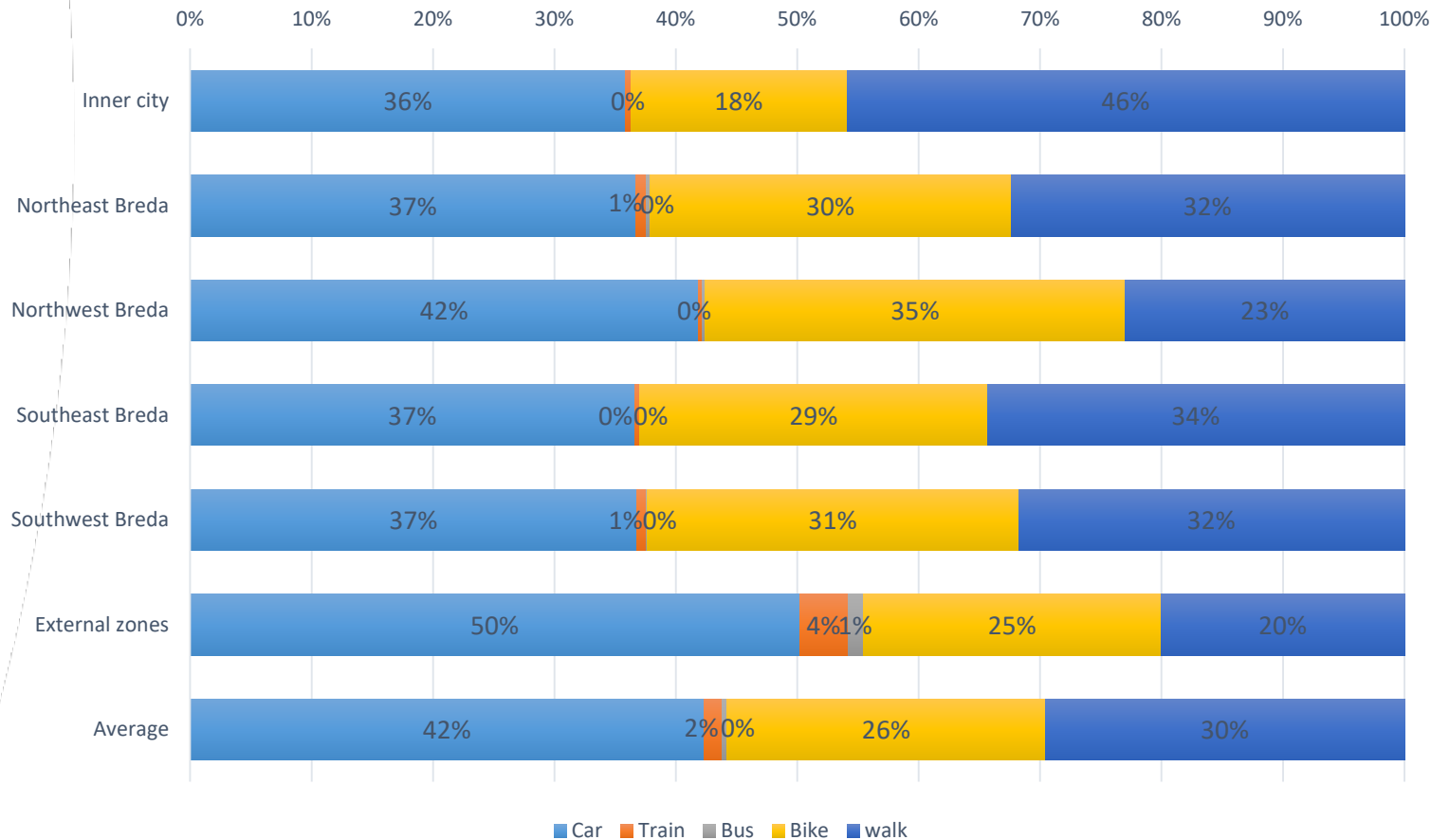
Meetweken 2



- Relationships between zones reveal a balanced diamond pattern.
- The northern zones in the city are more strongly related to northern external zones. The same holds for western zones.
- Relations in the south are weaker. This is probably a border effect

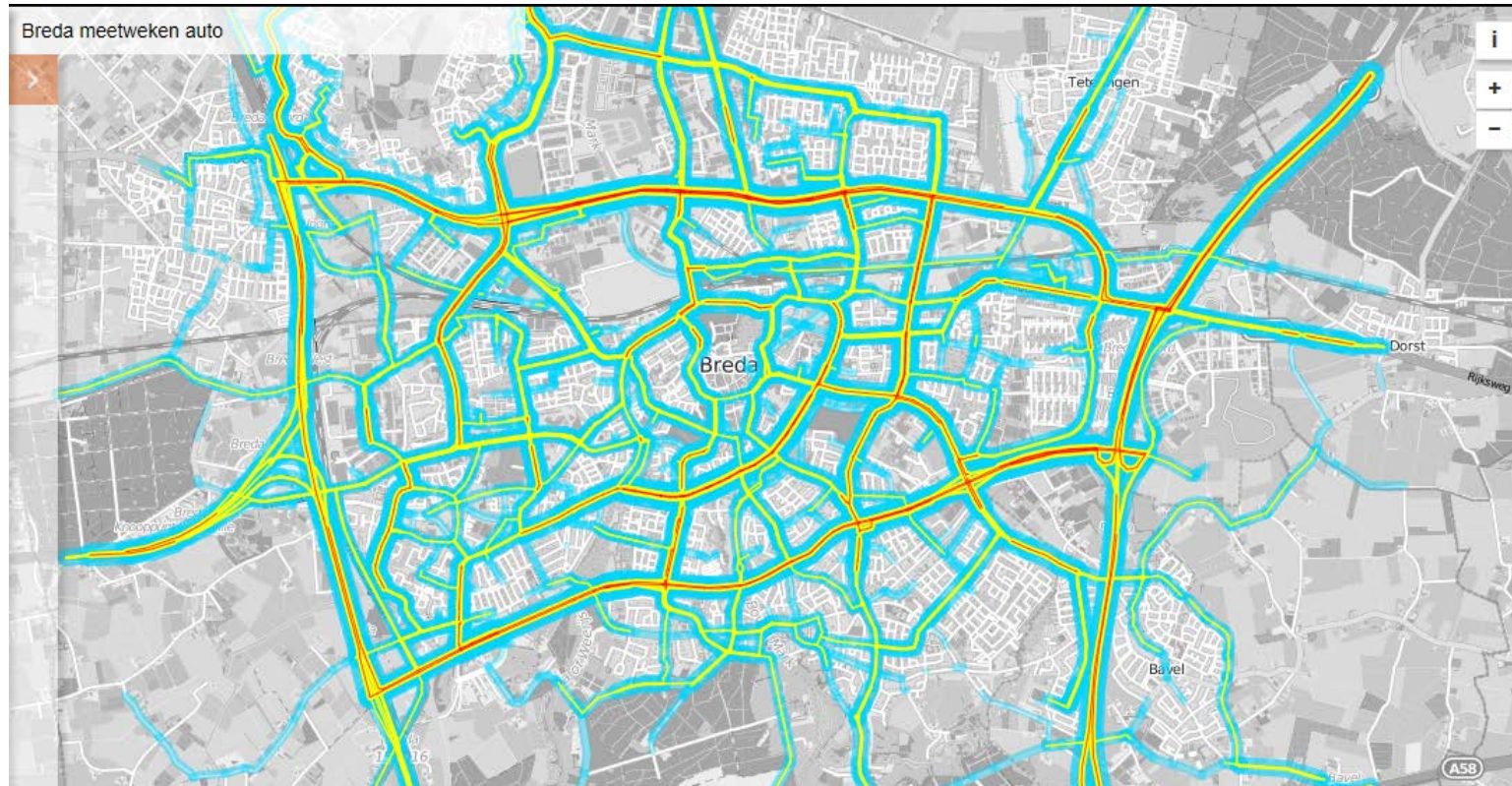


2.2 Modal share on relationships (GPS)



- Car share for trips towards the centre is lower while the share of walking is higher.
- Surprisingly, bicycle or PT are not used more often for trips towards the centre.
- The PT share is very low on most relationships. It is most often used for trips to external zones.

3. Corridor analysis

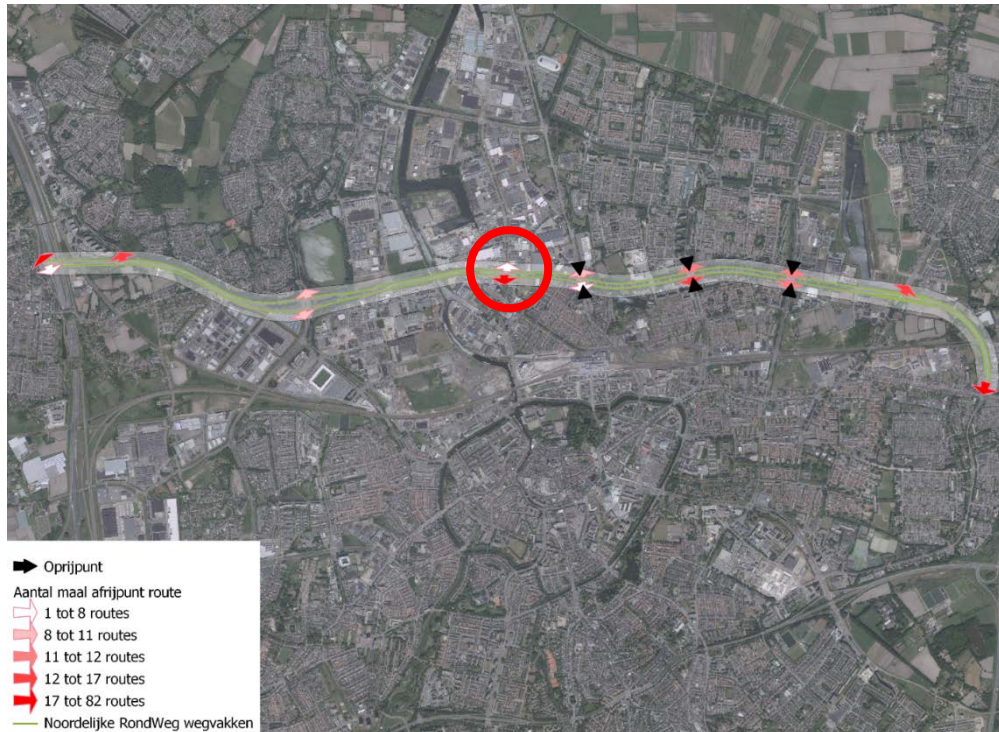


The heatmap shows the road hierarchy:

- The highways to the east and west; and
- the ring roads on the northern and southern side of the city.



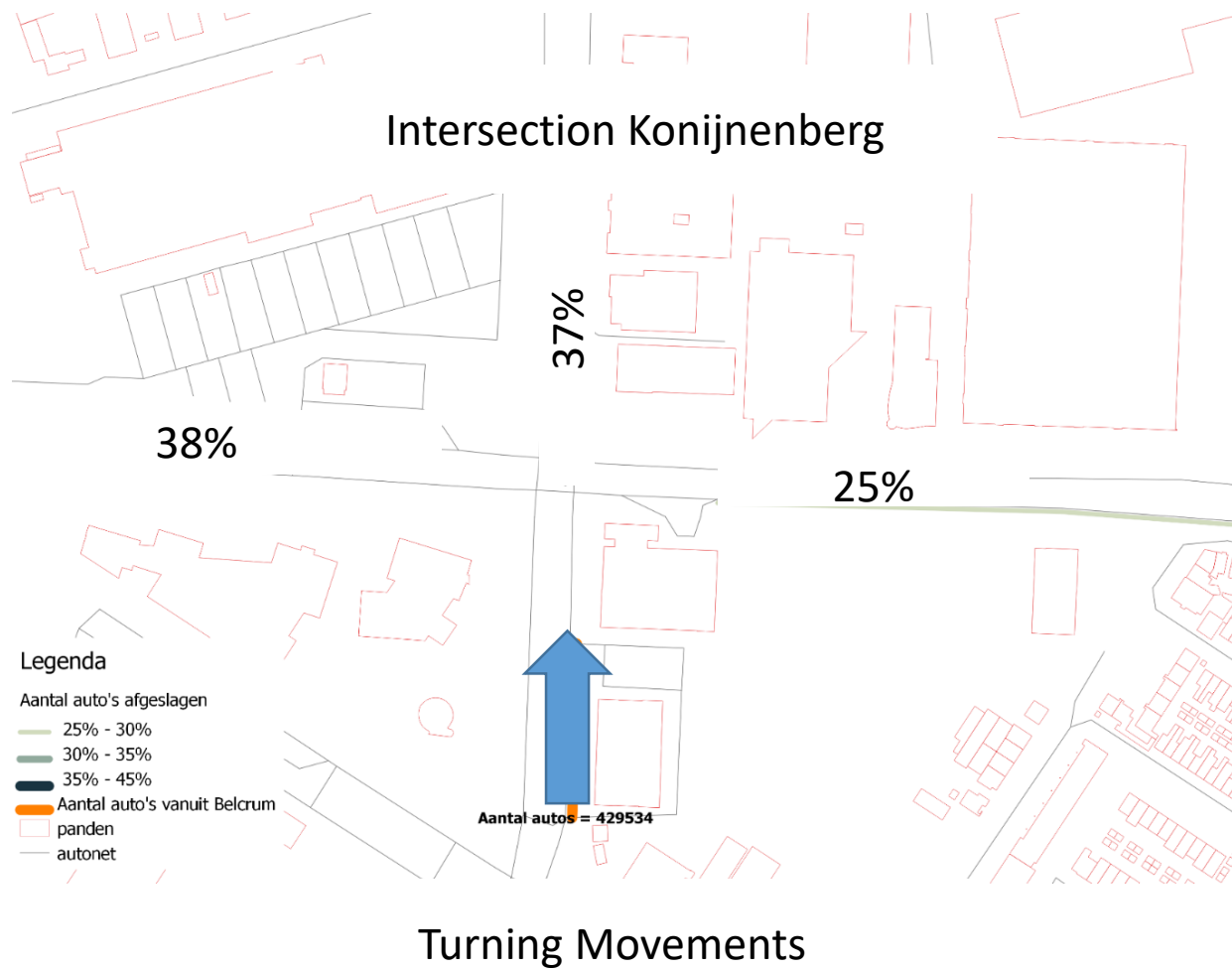
3.2 Entry and access points northern ringroad



- Car drivers entering the ring road in the west more often have an exit in that western part of the city (same for the east)
- A small share of the car drivers uses the ring road to make an east-west connection



3.3 automatic license plate readers (ALPR)

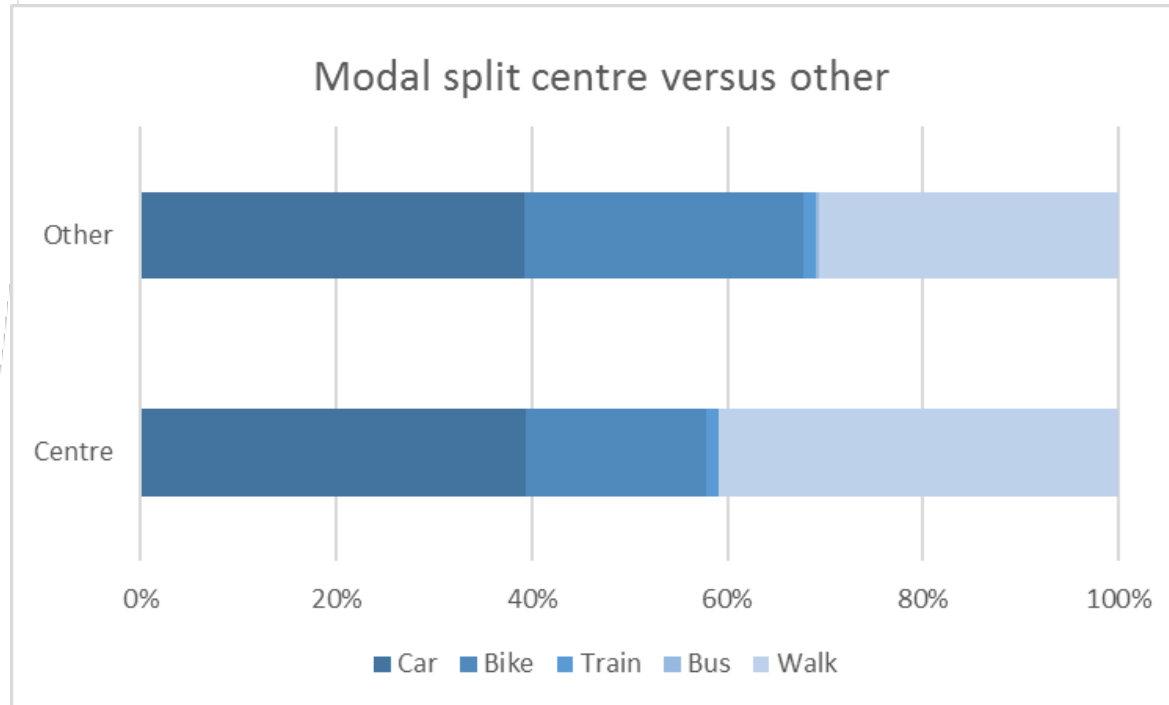


- The data from ALPR corroborates GPS data.
- Intersection Konijnenberg is used for both people heading east and west.
- In addition a 37% goes straight ahead to the northern districts of Breda.



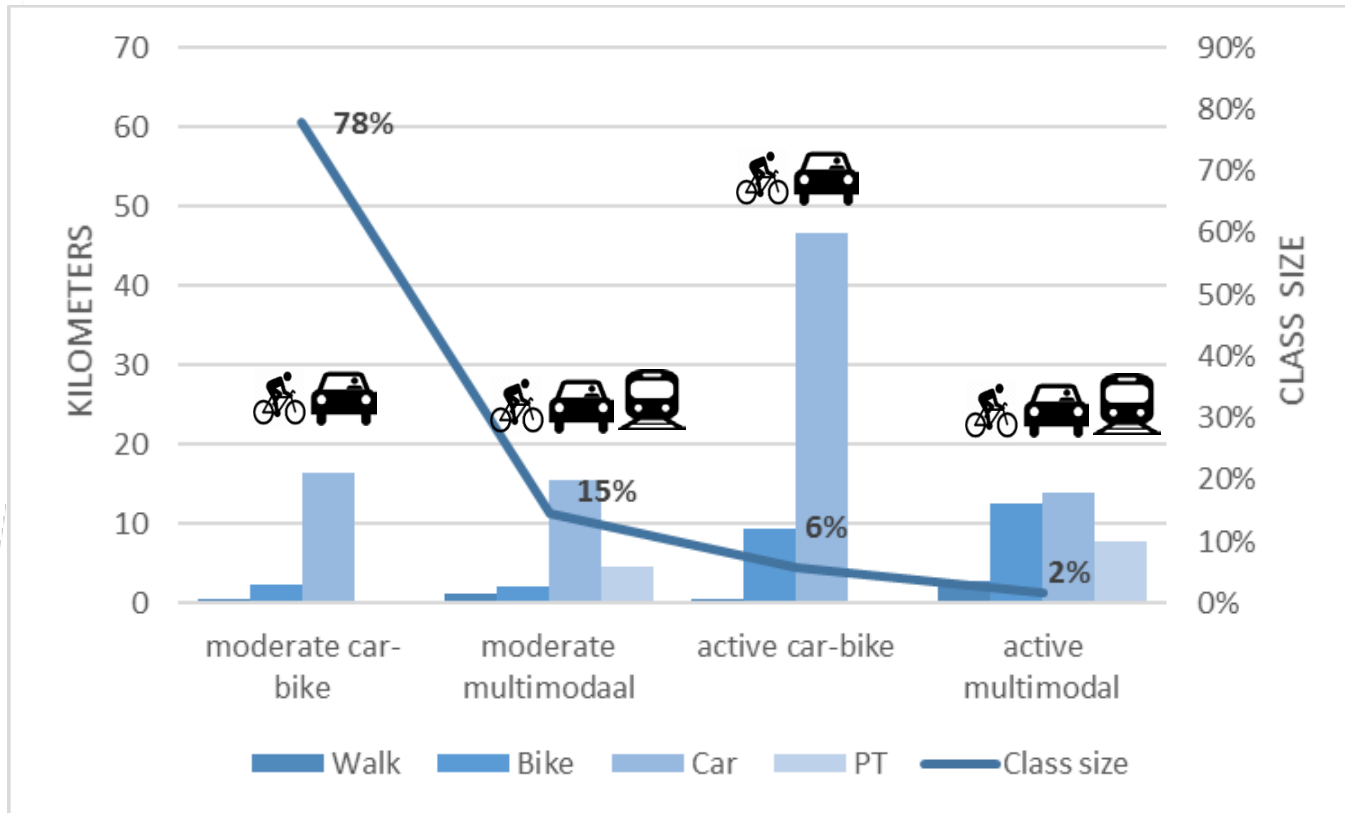
4.1 Individual level: mode choice inner city

Inner city versus other areas



- Surprisingly, when people go to the centre, they do not take the bike or public transport more often.
- Only walking has a higher share.

4.2 Latent class mobility profiles



Average 23 km per day

Two types of groups:

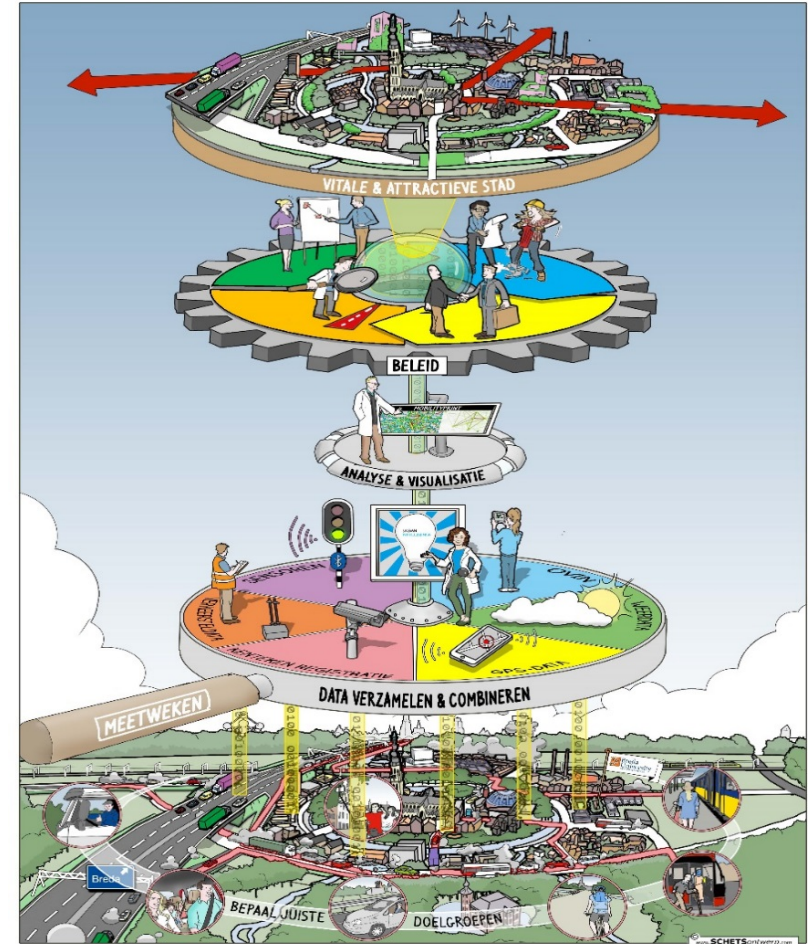
- The car-bicycle users and the multimodal users.
- Both with a more and less mobile subgroup.

The car is used most often. Only in the active multimodal group (2%) the combined share of PT and bicycle is larger than the car use (in kilometers).

5. Conclusions

Results:

- Breda is car oriented. Bicycle is second and PT is hardly used.
- Most people combine car and bike in their daily patterns.
- The inner city does not differentiate from other destinations when it comes to mode use.
- Use of the ring road is aligned with its function.
- Its mainly used for its distributor function within the western or eastern part and less for through traffic from east to west.



5. Recommendations

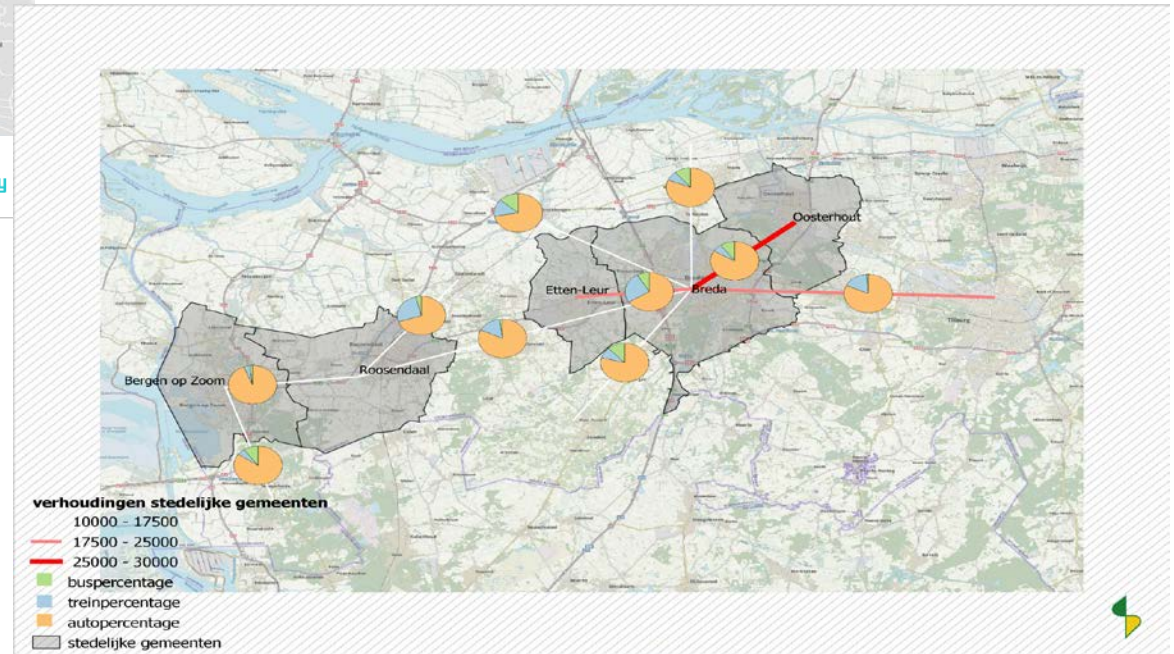
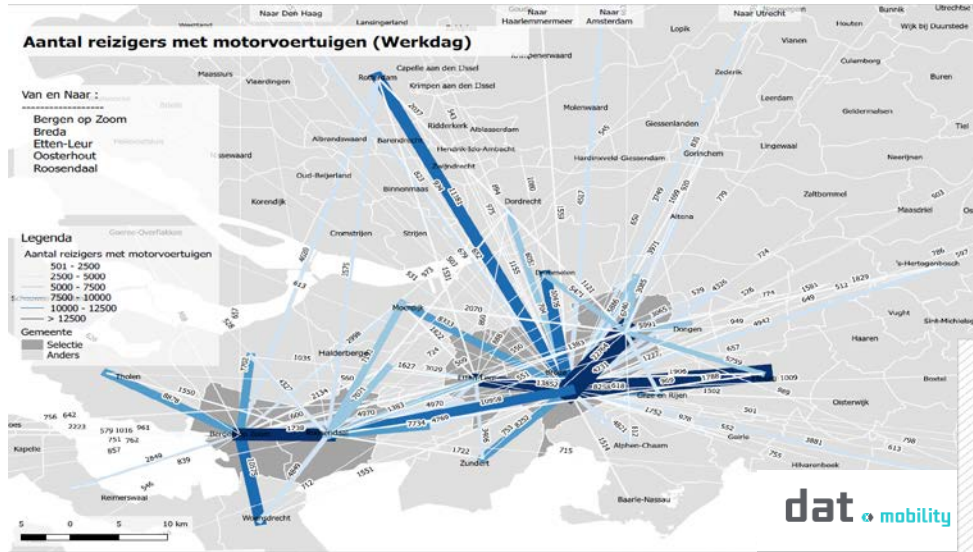
Policy:

- Aim for more sustainable travel behavior on shorter distances
- Trips towards the city center have potential for a modal shift
- The northern ring road does not only provide an East-West connection but also a barrier for north-south traffic.

Data enriched policies:

- Combination of GPS and other data provides a rich base for policy development.
- The lack of sociodemographic did not allow us to assess the representativeness of the sample.
- The limited sample size and geographical distribution of the sample was not sufficient for detailed analysis of route patterns
- Future GPS surveys could take these requirements into account by using a stratified survey approach that aims for a more balanced geographical distribution of the participants, resulting in a more representative sample.

Next step: shared mobility in the region



Thank you!

Paul van de Coevering
Professor Urban Intelligence

Coevering.p@buas.nl

urbanintelligence@buas.nl