ReVeAL

Regulating Vehicle Access for improved Livability

Helmond : designing a more liveable city

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v-tron

Gemeente Helmond

Some words on Helmond

- **A small/medium sized city** in the Netherlands
- 2nd biggest city in **Brainport Eindhoven region**
  - 750 000 people
  - Fastest growing regional economy in the Netherlands

Population

- 1980 : 58 500
- 2020 : 92 500

Companies

- 1980 : 1 920
- 2019 : 7 530

Jobs

- 1980 : 21 500
- 2019 : 41 800

Growth scenario for 2040

- 15.000 new houses
- 10.000 new working places, 20 000 new jobs

Helmond in ReVeAL overview

Two main actions

- **Intelligent Speed Assistance**
  - Test the efficiency of ISA as a system to regulate the speed of vehicles in the city

- Design a new district - **Brainport Smart District -** with the ambition to become a **Zero Emission Zone**

Intelligent Speed Assistance

Legal context

- Since July 2022, all **new-developed models** need to be equipped with some sort of ISA system leaving the factory
- From 2024, **all vehicles** need to be equipped with ISA off-factory

Objectives in ReVeAL

- Support Helmond's policy / speed limits
- Speed up ISA deployment

V-tron developed an ISA system :

- For the aftermarket
- Based on inputs from physical speed signs and digital map

Testing ISA in a real urban conditions

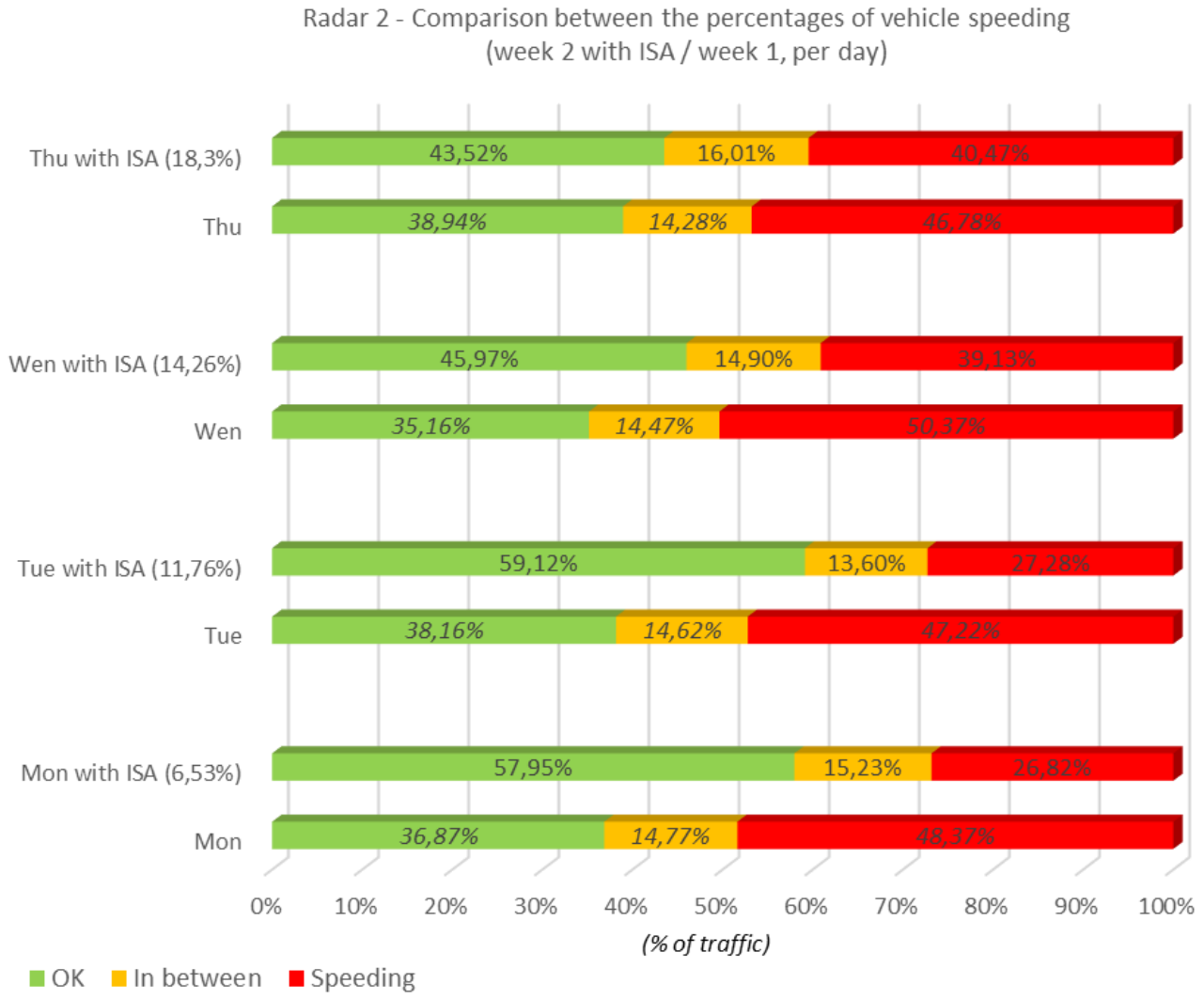
ISA test : July 2020

- Introduction of cars equipped with ISA : 10 cars equipped with ISA / 4 days
- Objective : assess the impact of ISA equipped vehicles on the traffic speed
- Collect information about the perception of the system

Testing ISA in a real urban conditions

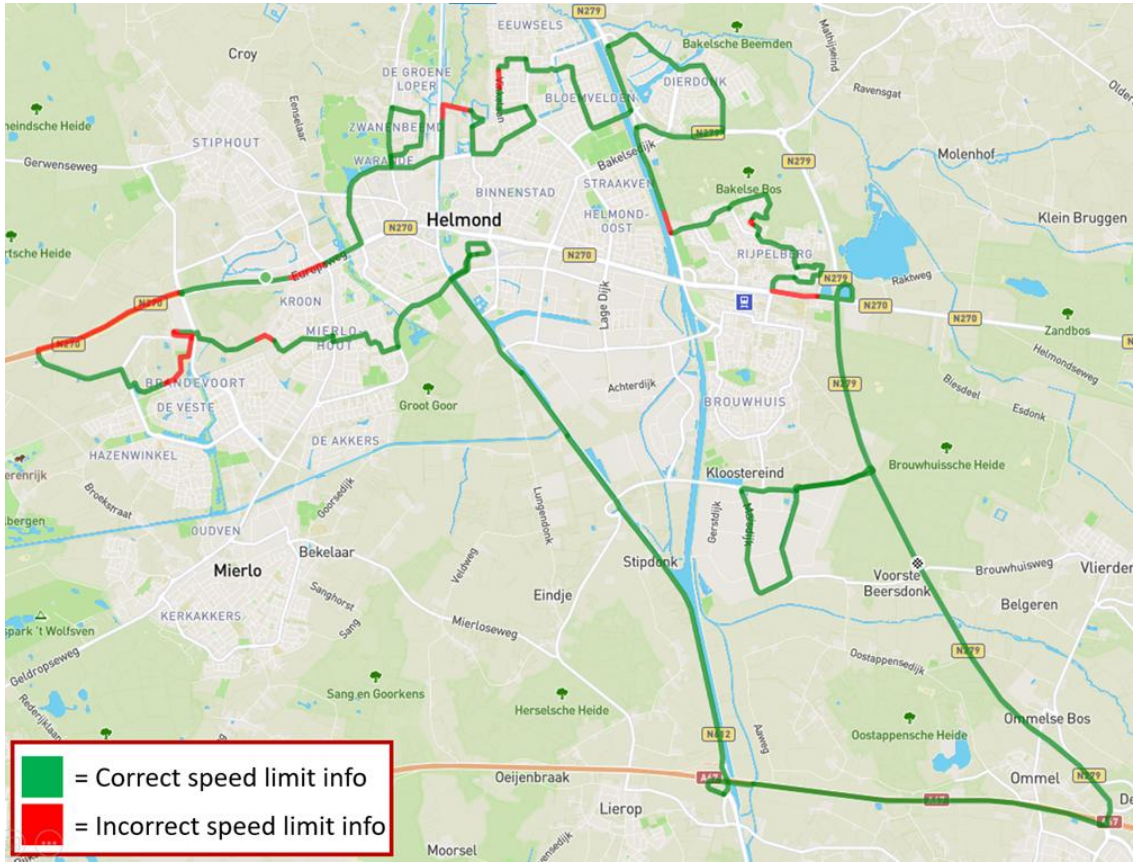
Some positive results

- Some **limits** of the tests : penetration rate, short period of test
- Some **positive improvements** notably on the percentage of vehicle exceeding speed and peak speeds
- A **positive feedback** : good perception of the system by the users and adaptation of their behaviour
- The system can be improved, notably with inputs from the digital infrastructure.



2022 : analysis of the digital and physical infrastructure in Helmond

- Is the digital/physical infrastructure adapted for ISA operation?
- How can the City improve the infrastructure?

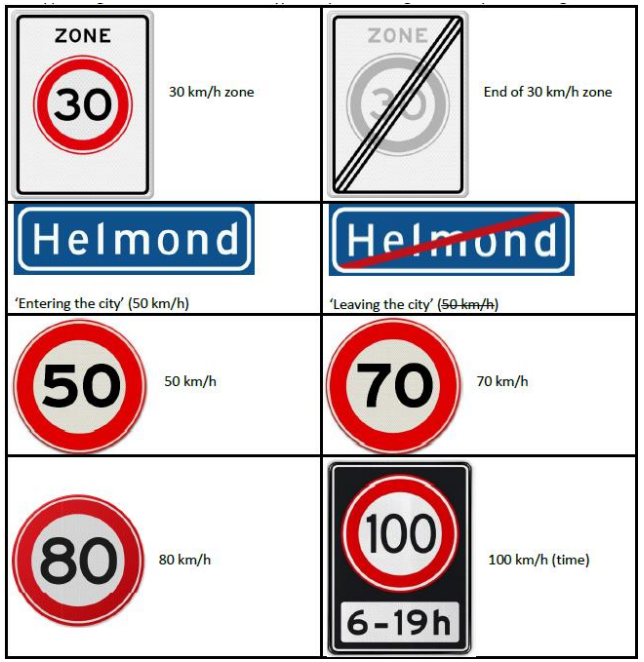


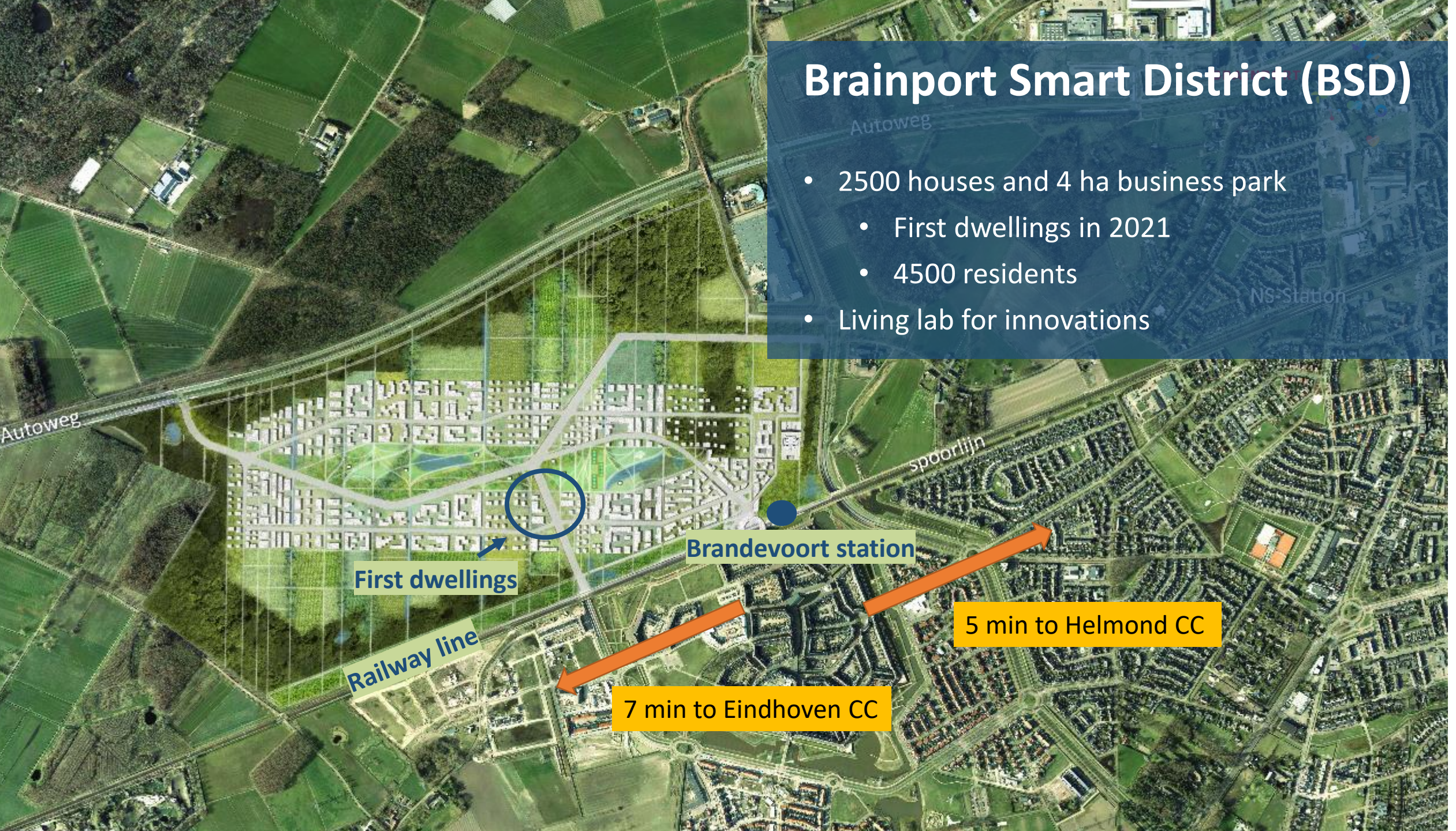
Results

- 63% of (speed) signs appropriately detected
- 91% of the information of the digital map
- In theory, the ISA system would operate as intented on 98% of the test route. But not sure both information sources complement each other perfectly.

Some recommandations

- ADAS + digital speed limit as a back up
- Update digital speed limit infrastructure in a “live” map
  - Variable speed limits e.g. schoolzones
  - Updating the digital map with vehicle data
- Improve the physical speed sign infrastructure
  - Location of speed signs
  - Start and end of 30km/h + entrance of the city





Brainport Smart District (BSD)

- 2500 houses and 4 ha business park
  - First dwellings in 2021
  - 4500 residents
- Living lab for innovations

Mobility in BSD : high expectations

Towards a zero-emission zone

- No motorized cars in the district

Design streets for people…

- … not for cars !

Active mobility at the center

- Make active mobility the most convenient modes to use in BSD
- Safe and qualitative connections : focus on these infrastructures

Test innovative mobility solutions

Parking : outside the district

No parking in the district

No loading/unloading by car, truck

Parking norms

- 0.2 as an ambition
- A realistic approach : 0.5 in a first stage, only till enough alternative mobility services are developed

Exemption / permits

As less exemptions / permits as possible

- all motor vehicles should get a permit to enter

But some exemptions are considered from the beginning …

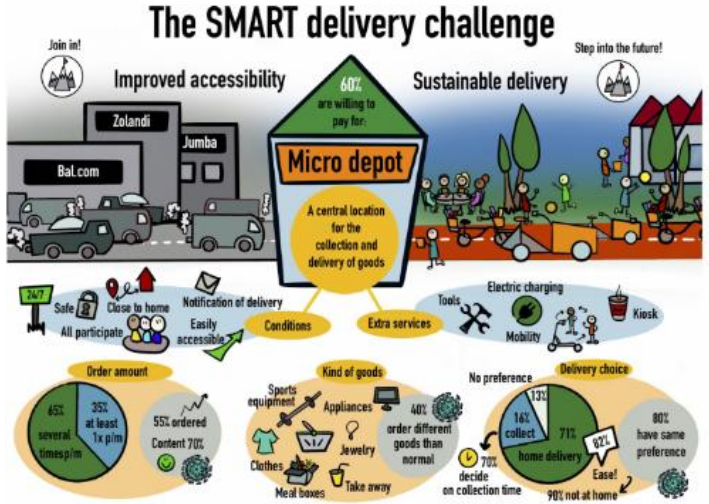
- Disabled, emergency services
- Time windows for moving vans, heavy delivery, construction (?)

Every case should be checked separately
Prove that no other solution is possible

Complementary measures

Offer alternative mobility services for people and goods

- Efficient sustainable solutions for people and goods to circulate in (+to / from) the district : mobility hubs



Participation of the citizens / stakeholders

Participation from the inception

An **active role** in the co-design of the district

Attract people that are **open to the ambitions of BSD**

Thank you for your attention

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