

Amersfoort is changing...



Consequences of
climate change



Biodiversity loss



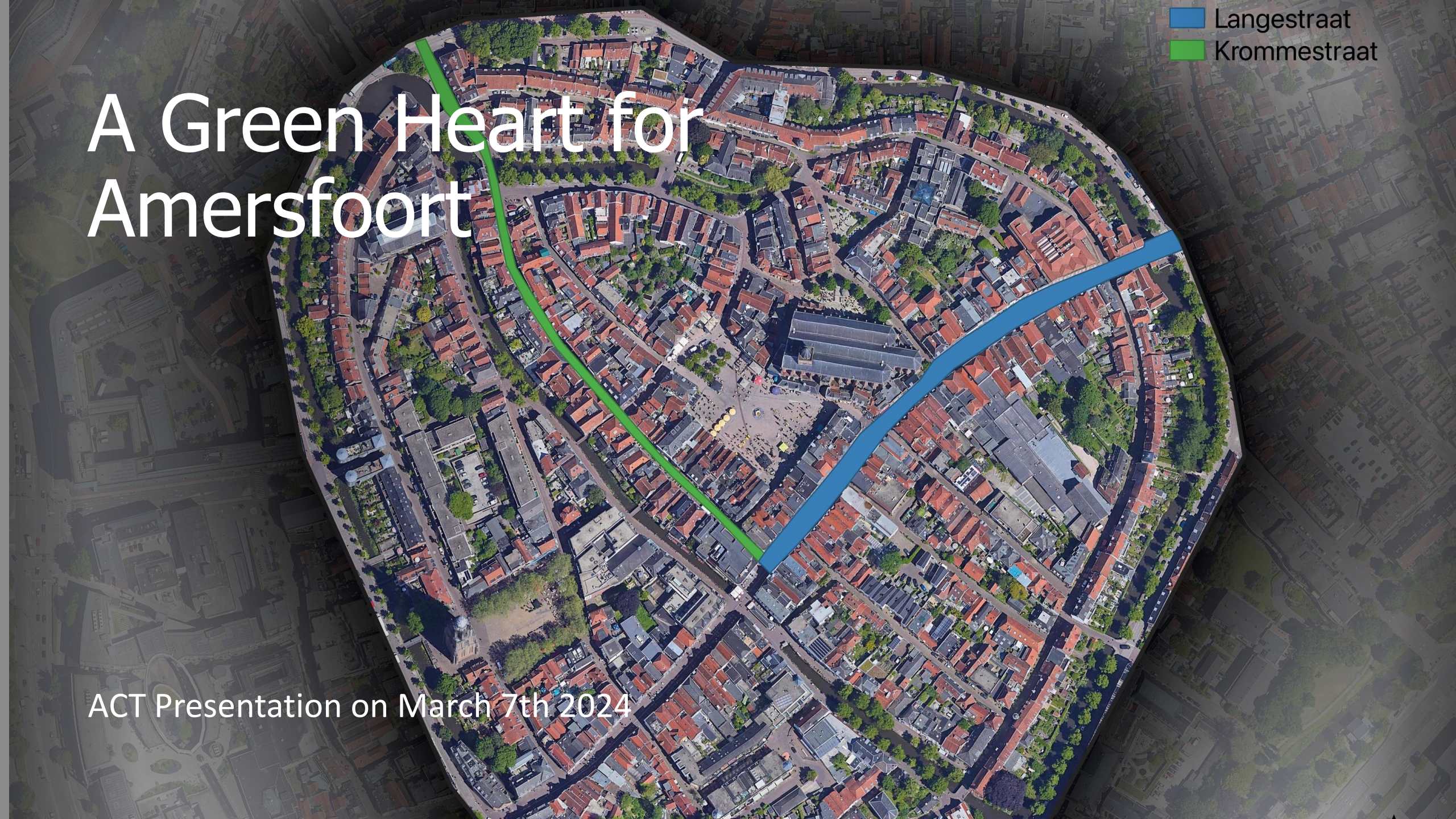
Effects of online
shopping

...from a **place to buy** to a **place to be**

A Green Heart for Amersfoort

Langestraat
Krommestraat

ACT Presentation on March 7th 2024



The team



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Plant Sciences



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Leenders**
Biology &
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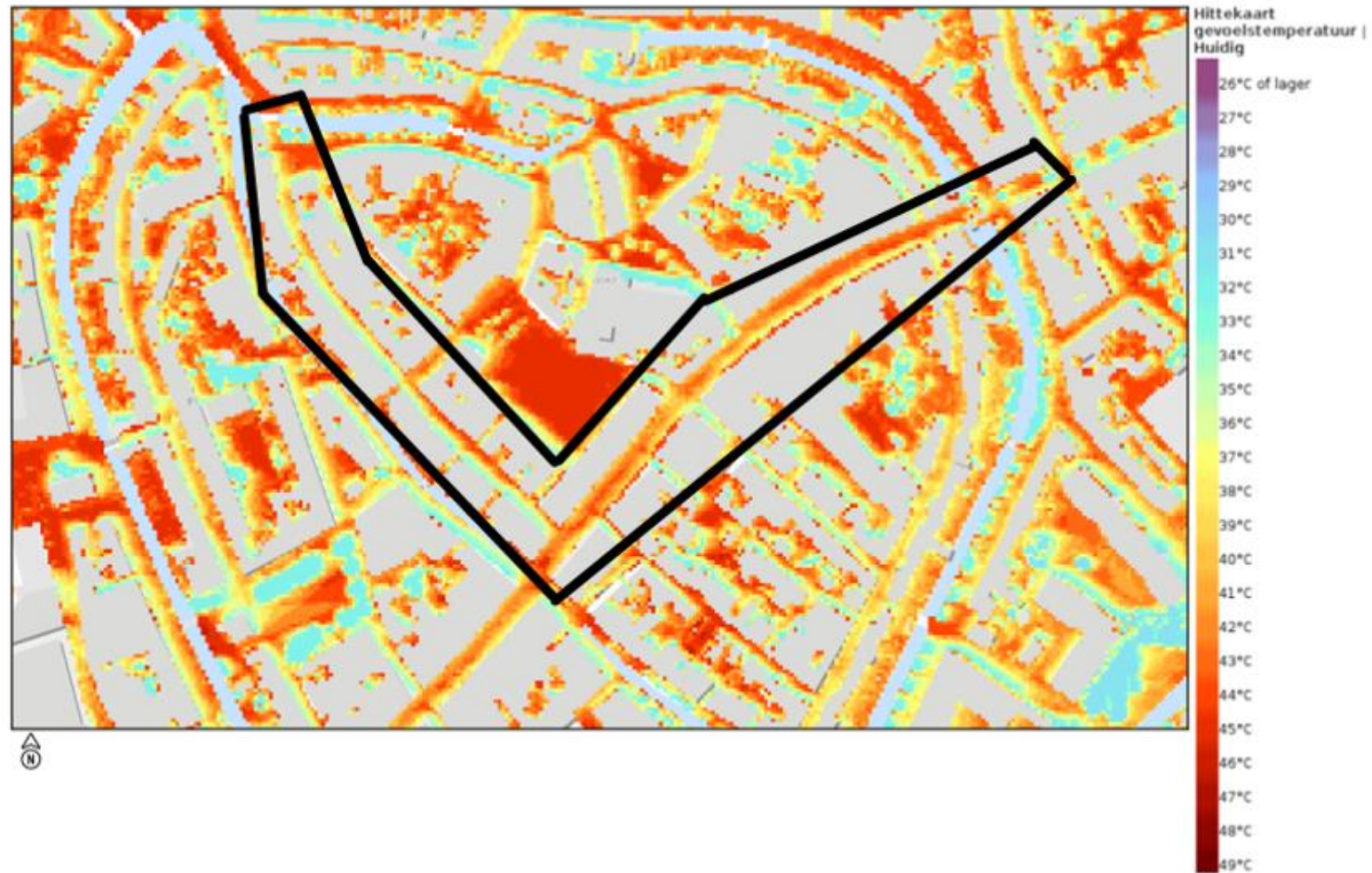
Structure

1. Challenges
2. Research Question
3. Stakeholders
4. Limiting factors
5. Selecting green innovations
6. Advice
7. Questions from audience

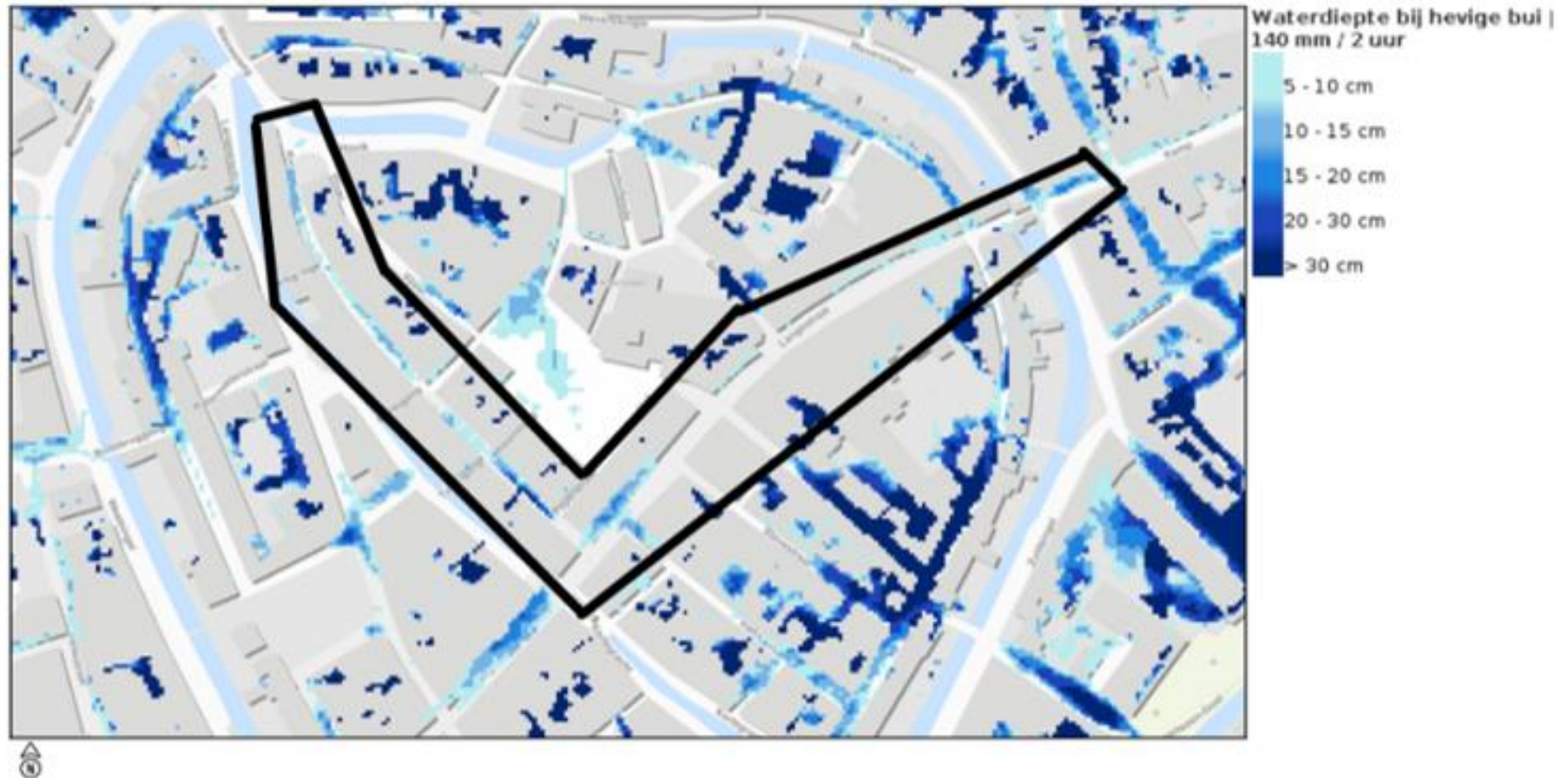


Amersfoort is
facing challenges...

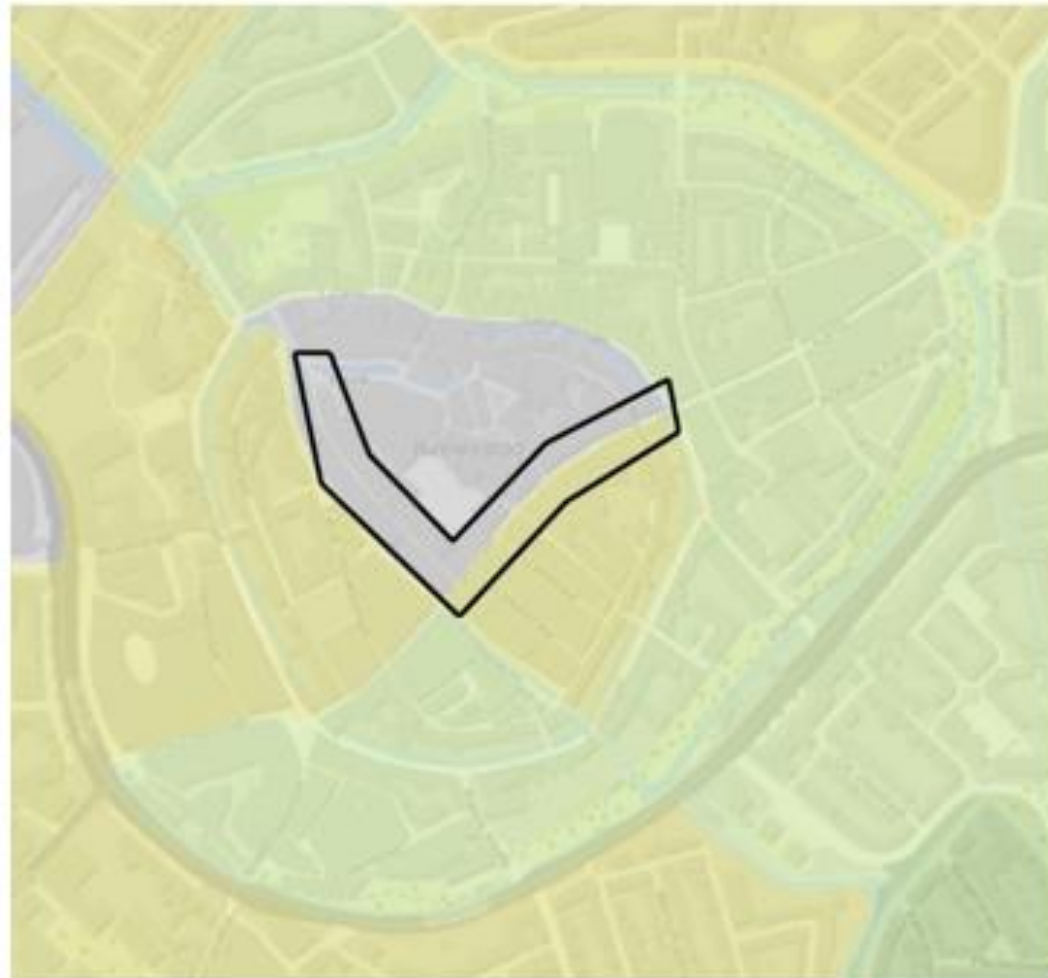
Heat stress



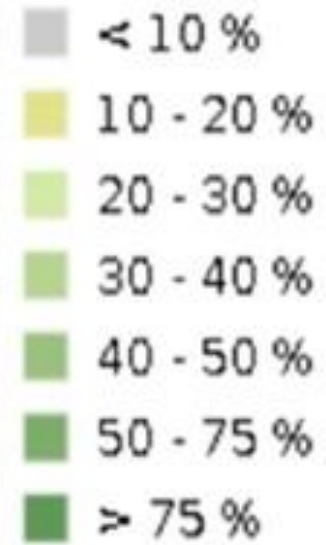
Water disturbance



Green in Amersfoort



Legenda:





Langestraat, Amersfoort



Krommestraat, Amersfoort



Why is greening the solution?



Alleviate heat stress & effects of heavy rainfall



Increase biodiversity



Increase attractiveness



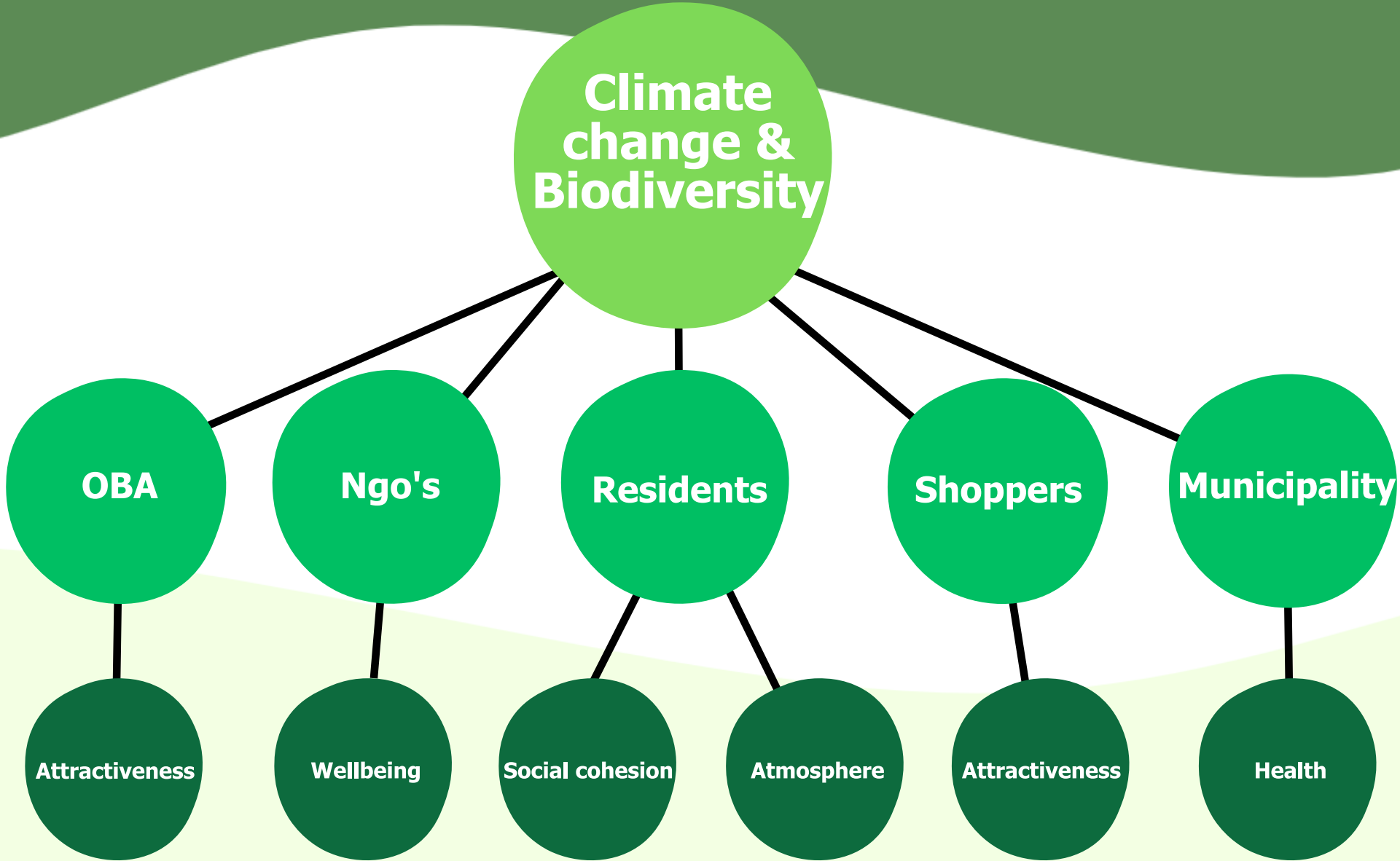
Improve well-being of people

Greening the city centre will make it a **place to be**

Our Research Question

Which **green innovations** are best suited for improving **water management, biodiversity, heat stress management and attractiveness** of the Langestraat and Krommestraat in Amersfoort, which are viable when considering **current challenges, limiting factors** in the immediate surroundings and different **stakeholder viewpoints**?

Stakeholders – Importance greening



Stakeholders - Practicalities

Bikes



Benches



Trees



Stakeholders - challenges

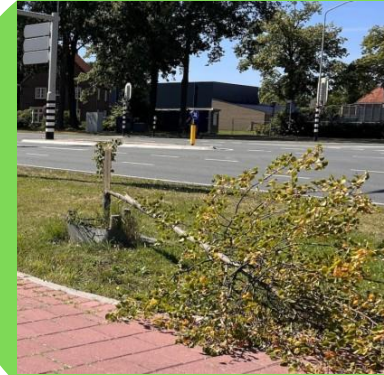
Maintenance



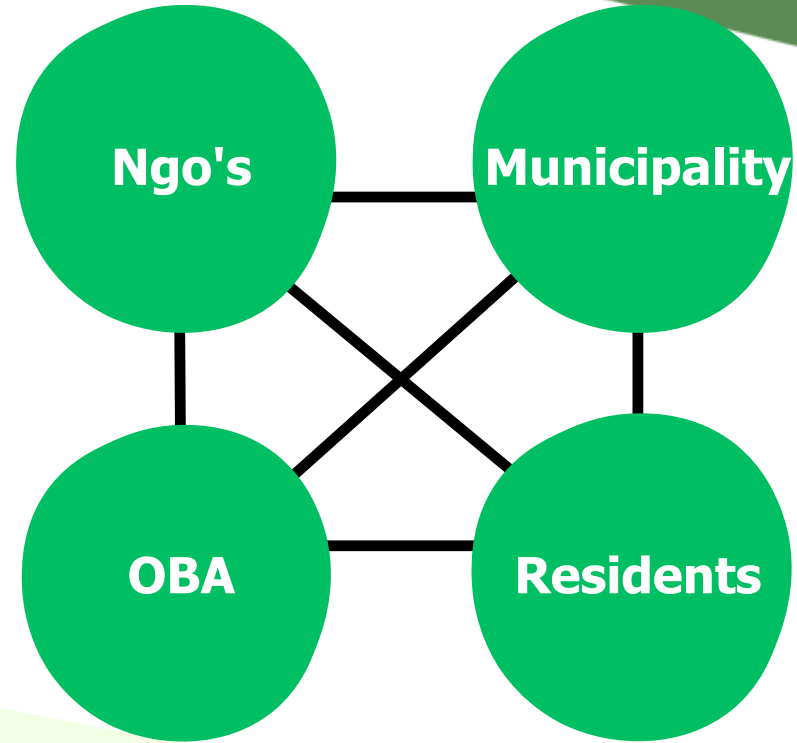
Large vehicles



Vandalism

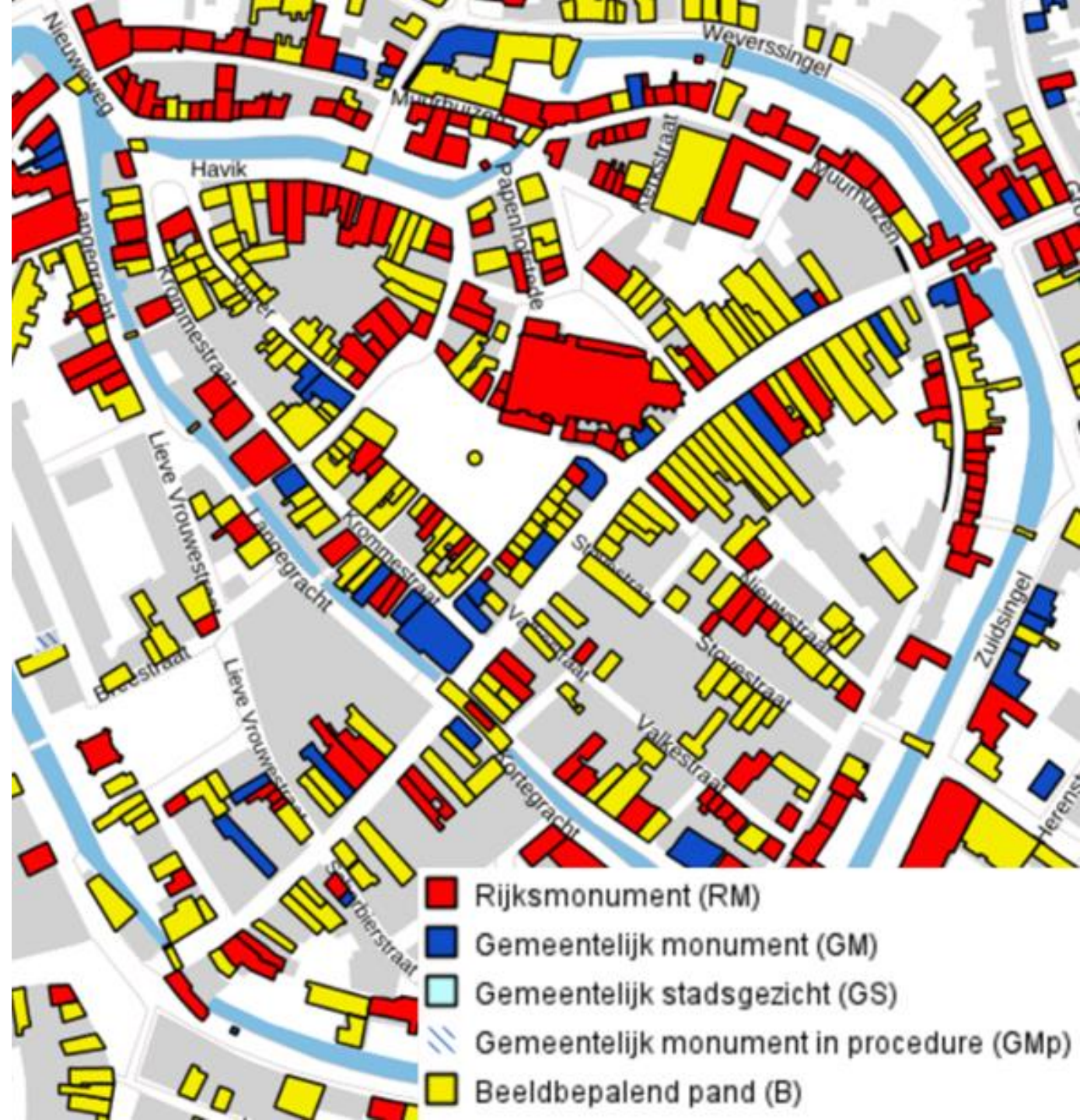


Stakeholders - collaboration



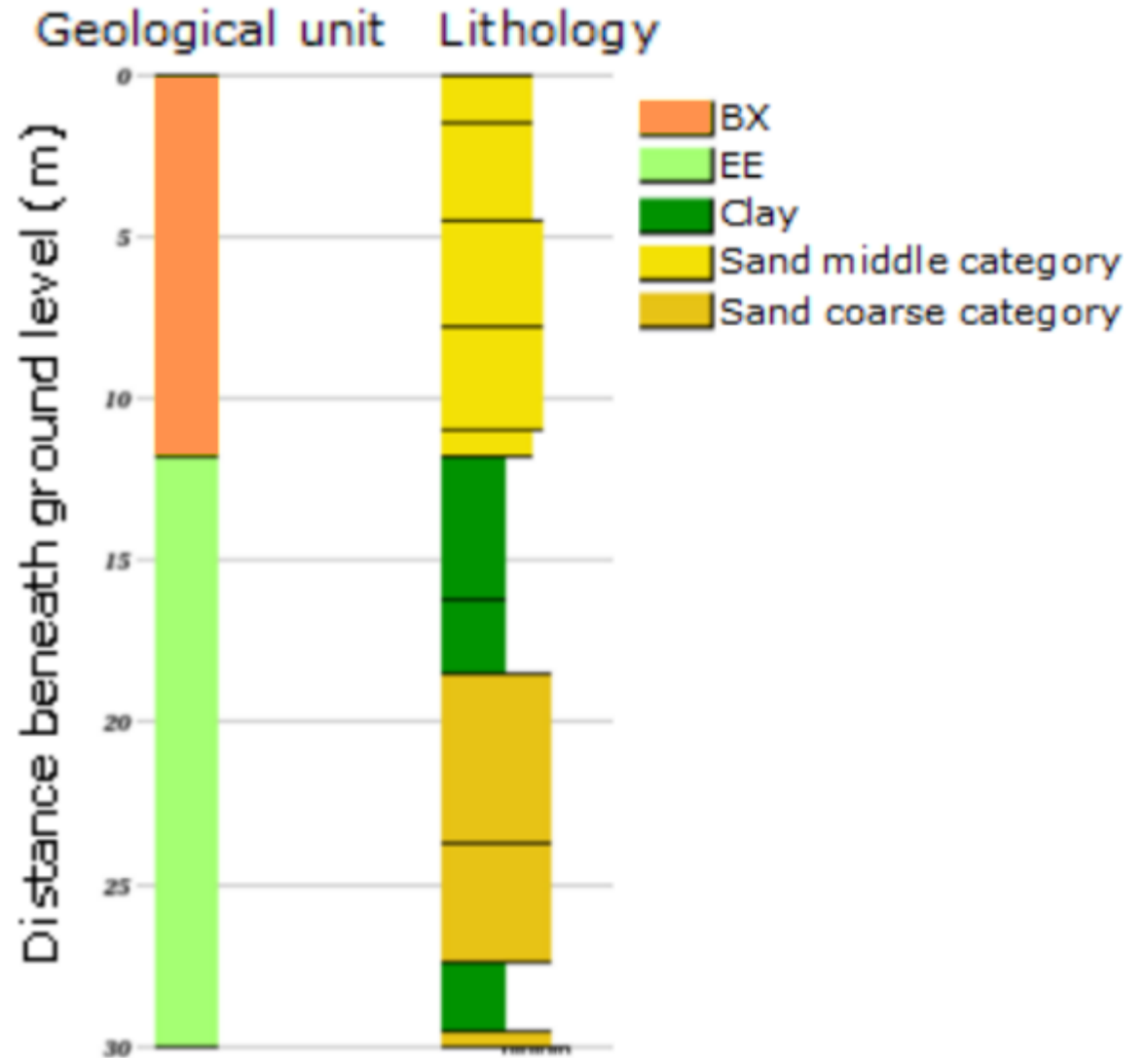
Limiting Factors

- **Heritage**
- Soil type
- Ground water
- Underground infrastructure
- Spatial conflict



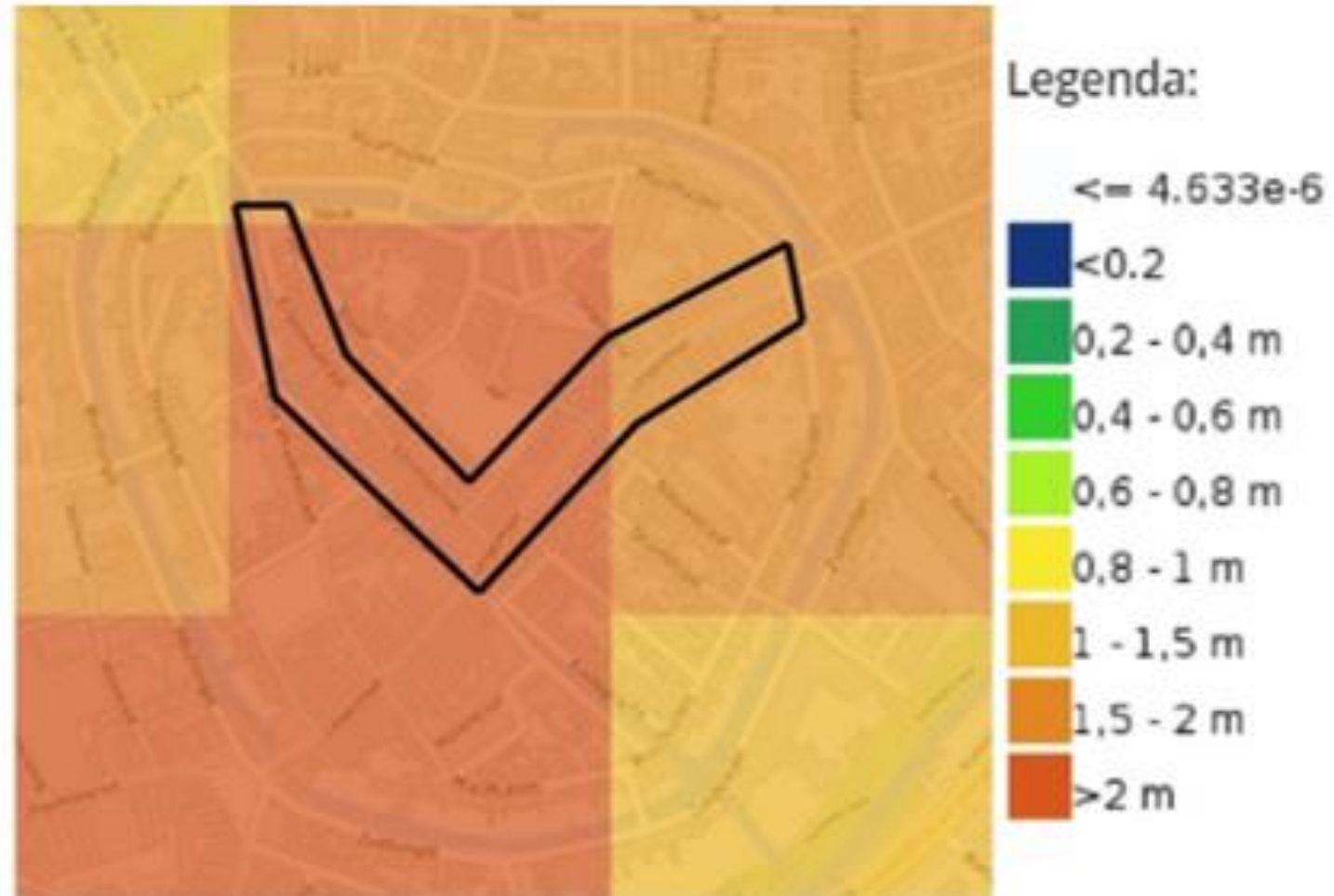
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Limiting Factors

- Heritage
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Underground Infrastructure Langestraat

- Infrastructure types
- Electricity cables
 - Gas & oil pipelines
 - - - Data transport cables
 - Water pipelines
 - Sewage



Limiting Factors

- Heritage
- Soil type
- Ground water
- Underground infrastructure
- **Spatial conflict**



Selecting Green Innovations



Attractiveness



Water management



Heat management



Biodiversity

Vegetation
Street trees



Green perqolas



Climbing plants structures



Facade gardens



Green Facades



Green roofs



Planters



Pocket park



Shrubs



Grass and herbs



Heat

Fountain and mist devices



Shading devices



Biodiversity and Maintenance
Green maintenance for biodiversity



Bird boxes and feeders

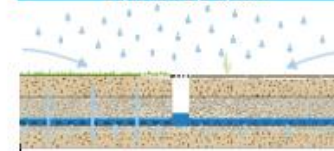


Insect/bee hotels



Water

DT/IT sewage system

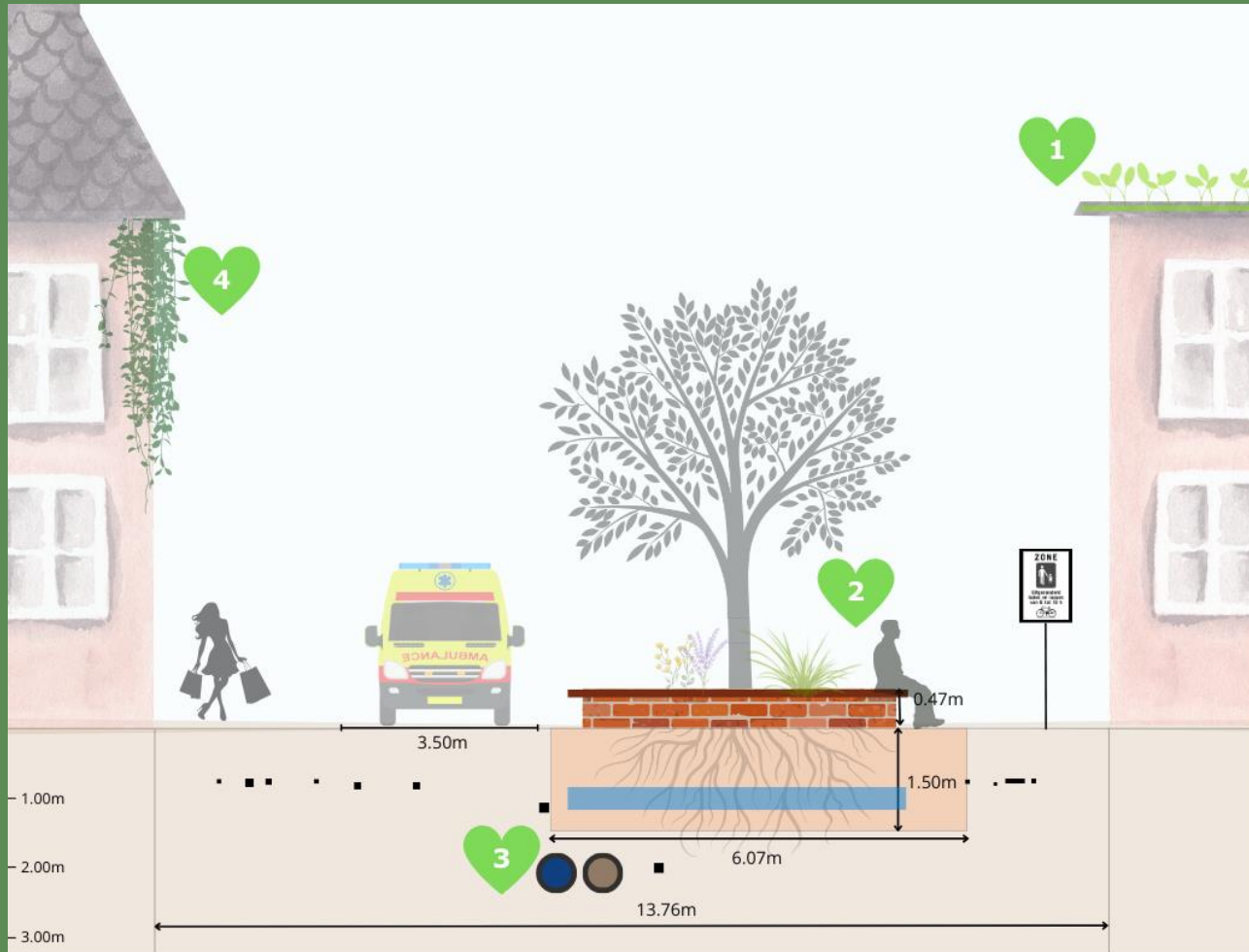


Hollow roads/v-profile



Advise Design

Langestraat



Legenda

- Underground
- Water storage
- Tree sand
- Infrastructure
- Road
- Innovations
- Sewage

Krommestraat



What is next?

- Use “gidssoorten” to determine species
- Can parts be extended to the Kamp?
- Cost analysis



One last thing...

We believe there are many opportunities to make the city center of Amersfoort greener.

As long as all parties cooperate, all challenges can be tackled and the city center of Amersfoort can change from a place to buy into **a place to be.**



Any questions from
the audience?

Mapping available planting space



Alkmaar



Alkmaar



Excursion to Alkmaar



Alkmaar and Amsterdam



Gidssoorten “de stad als rots”

Street level	Building level
Huismus	Huismus
Kleine watersalamander	Kleine watersalamander
Wilde bijen	Wilde bijen
Muurplanten	Muurplanten
Zwarte roodstaart	Zwarte roodstaart
Egel	Gierzwaluw
Gewone dwergvleermuis	
Zwartkop	

Return on Investment of Trees

Return on investment based on:

- Maintenance costs
- Replacement costs of the tree
- Profit from the tree in regards to ecosystem services
 - Air filtering
 - Carbon fixation
 - Heat reduction

Voorbeelden van ecosystemediensten in Nederland

