

MALMÖ





SKÅNE

Helsingborg

Lund

Köpenhamn

Malmö

Ystad

DANMARK

Challenges ahead?

- **Urbanization**
- **Ageing population**
- **Densification**
- **Increase of impervious surfaces.**
- **Decrease in green areas.**
- **Decrease in agriculture land.**



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Malmö's resilience to climate change has increased

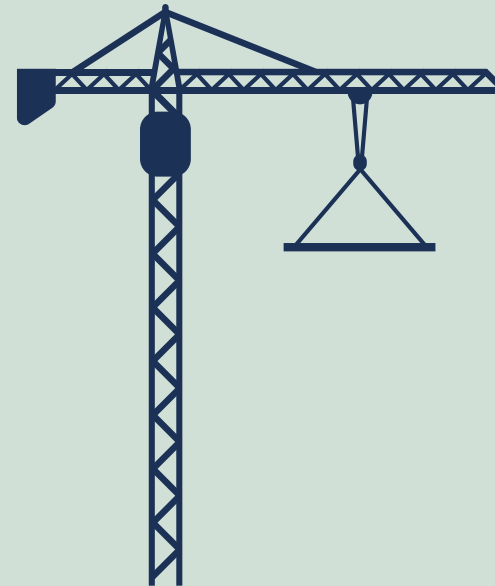
Floods, heat waves and droughts are examples of the effects of climate change that could have a negative impact on the lives and health of Malmö's residents. Malmö must be more resilient and must increase its capacity to deal with the effects of climate change through urban planning and initiatives in the existing urban environment.

Policy documents

- Political objectives
- General master plan
- Environmental objectives
- Storm water strategy
- Strategy for heavy rains
- Coastal protection strategy
- Technical handbook
- Planning guidelines
- Historical maps
- Modelling data
- Environmental monitoring



Two ways to plan for Climate adaptation





Municipality



Water and
sewerage company

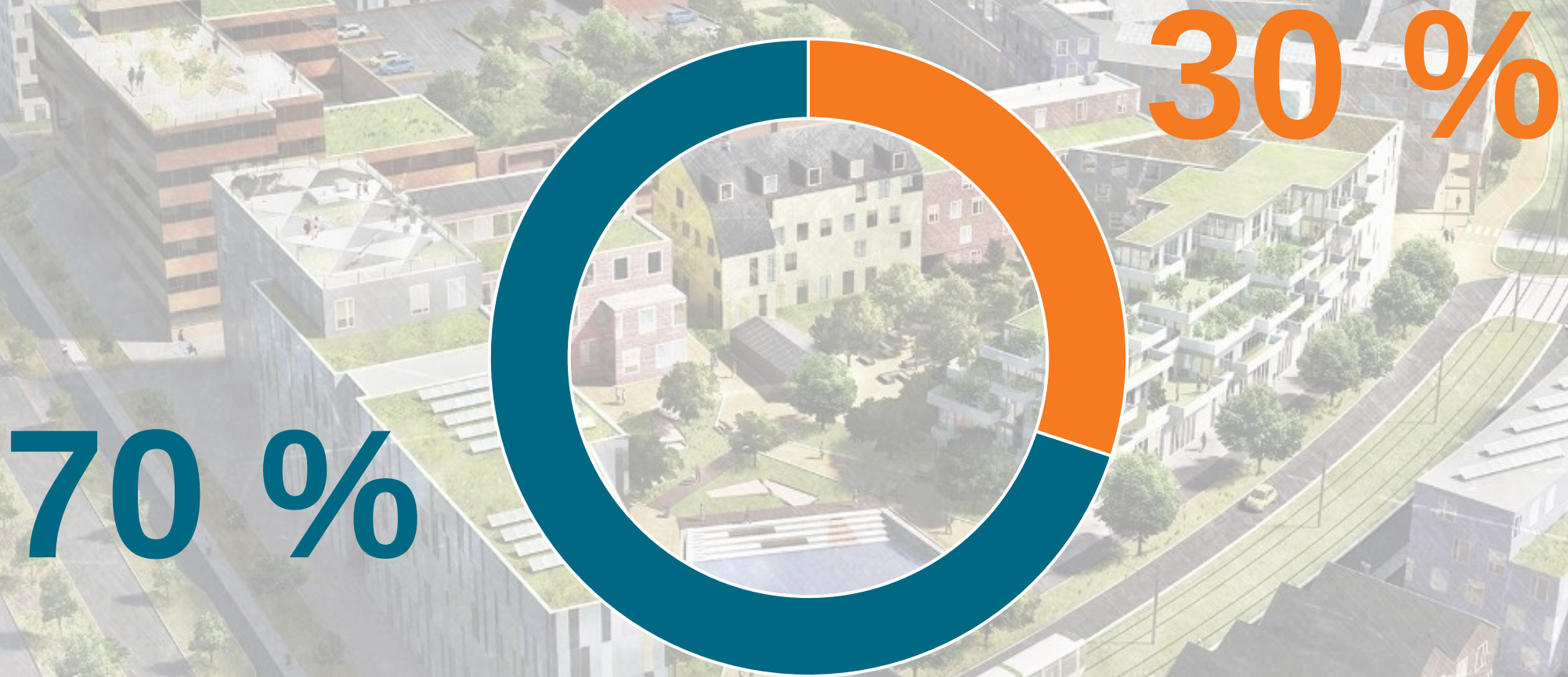


Property owners



National
government

PRIVATE OWNED LAND VS OWNED BY THE MUNICIPALITY



Climate risk

Rising sea level
Extreme rainfall
Heat waves



Coastal protection

- RCP 8,5 and 200 year return period
- Time horizon of 100 years
- Secure space for coherent coastal protection
- Successive step by step measures
- Acting within the city's legal obligations

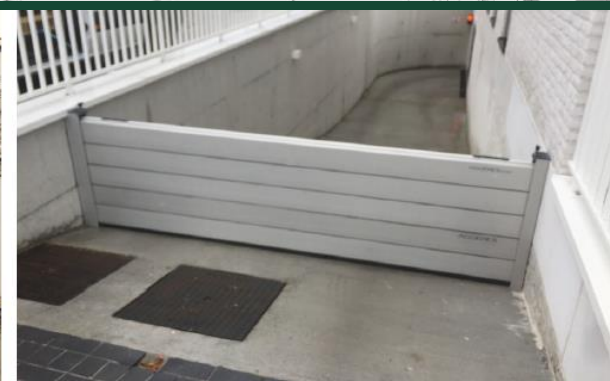


Sea level rise by 2125

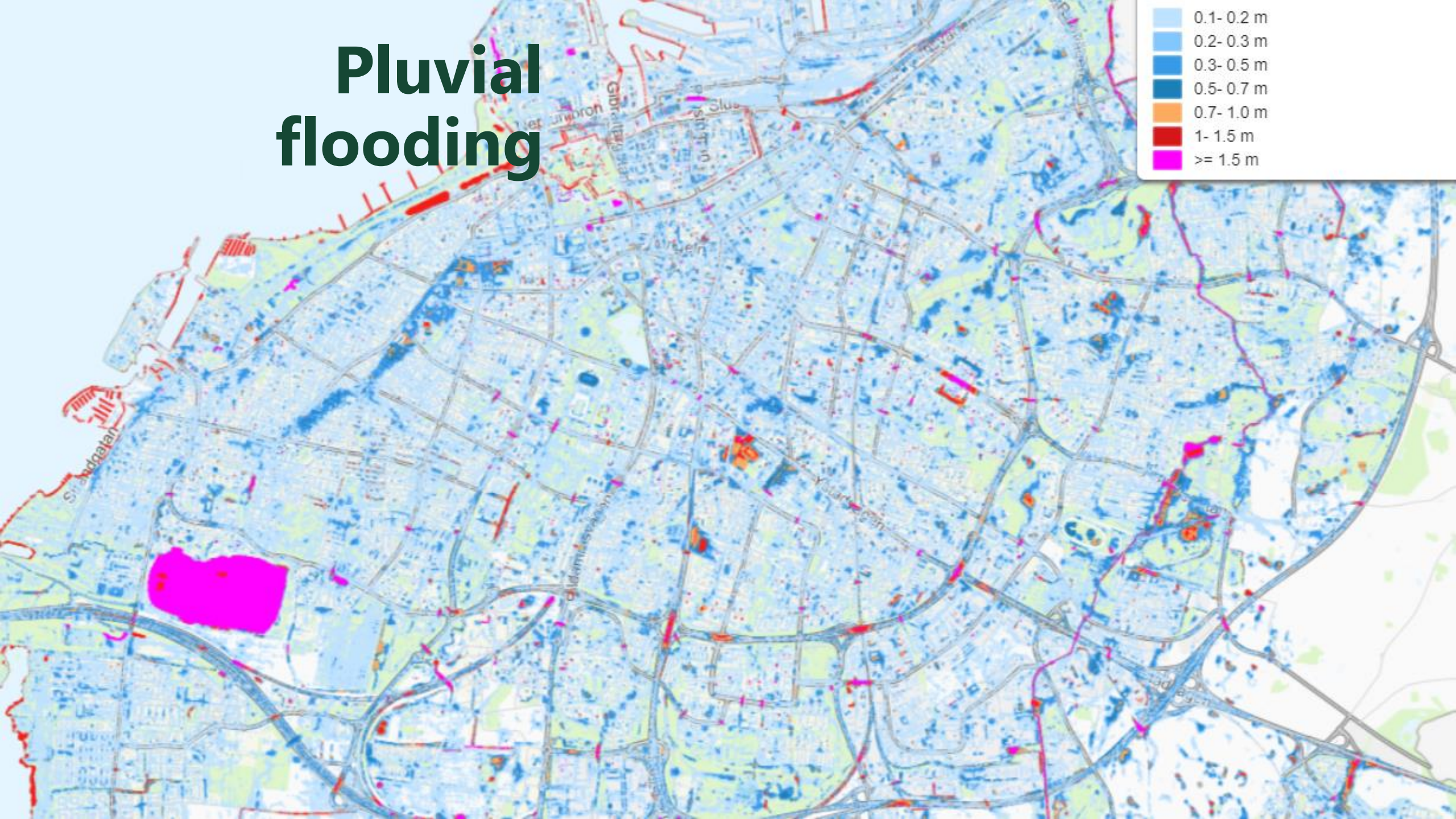




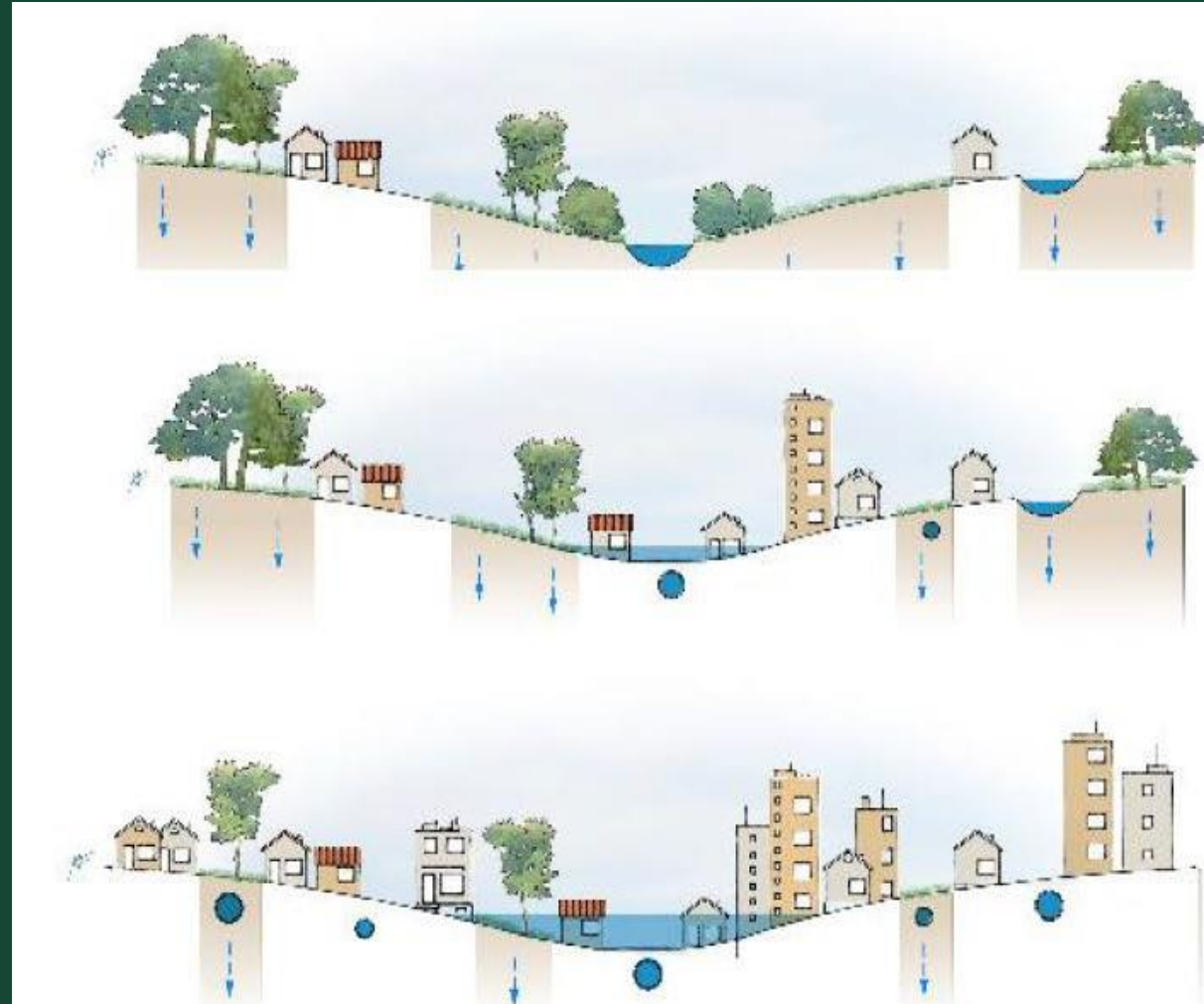
- Ready floor level +3,2m
- Waterproof construction lower than +3,2 m
- Technical constructions in dorways *if* lower than +3,2 m
- Ground levels, public land > +2,8 m



Pluvial flooding

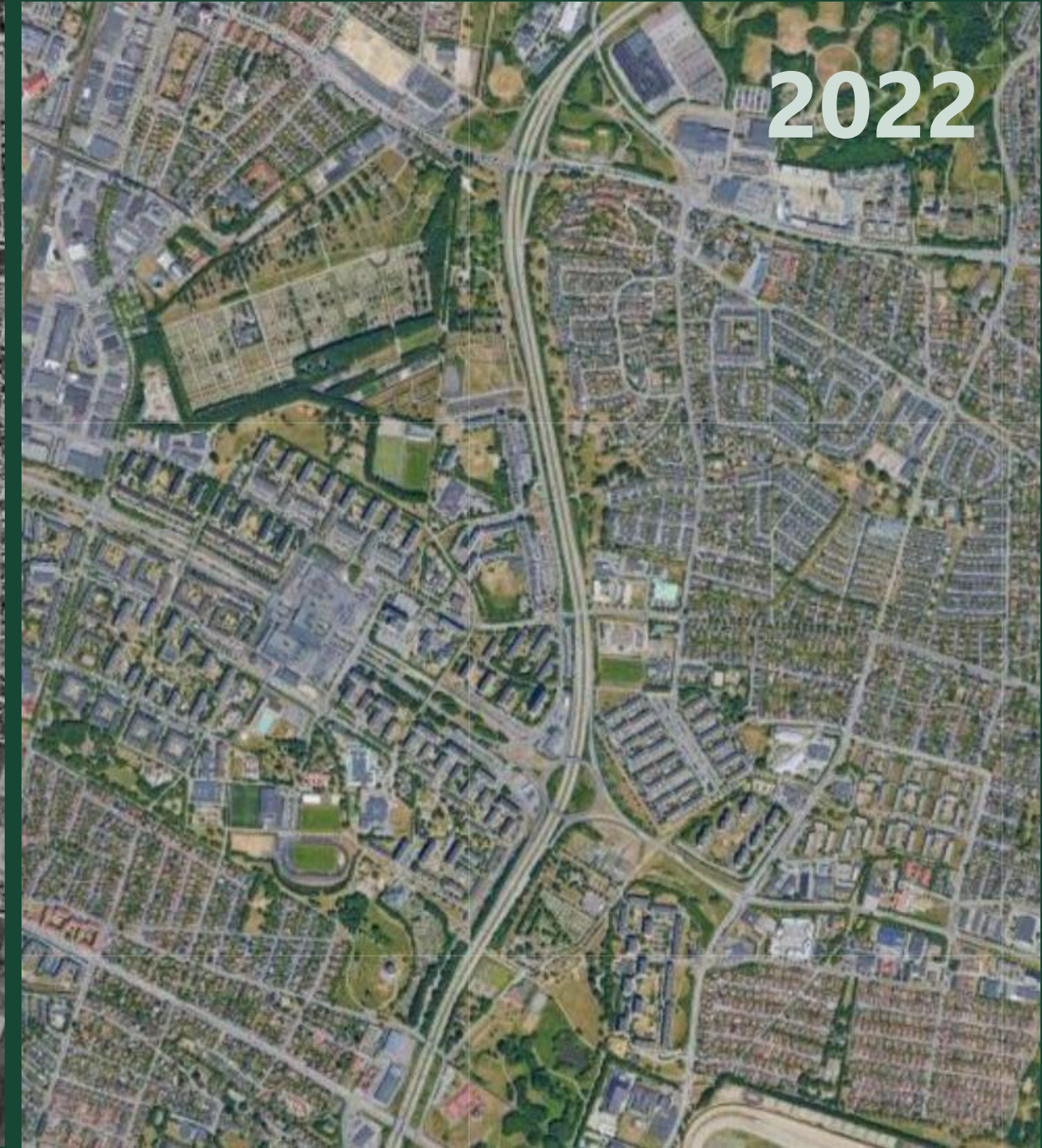


From open water to culverts



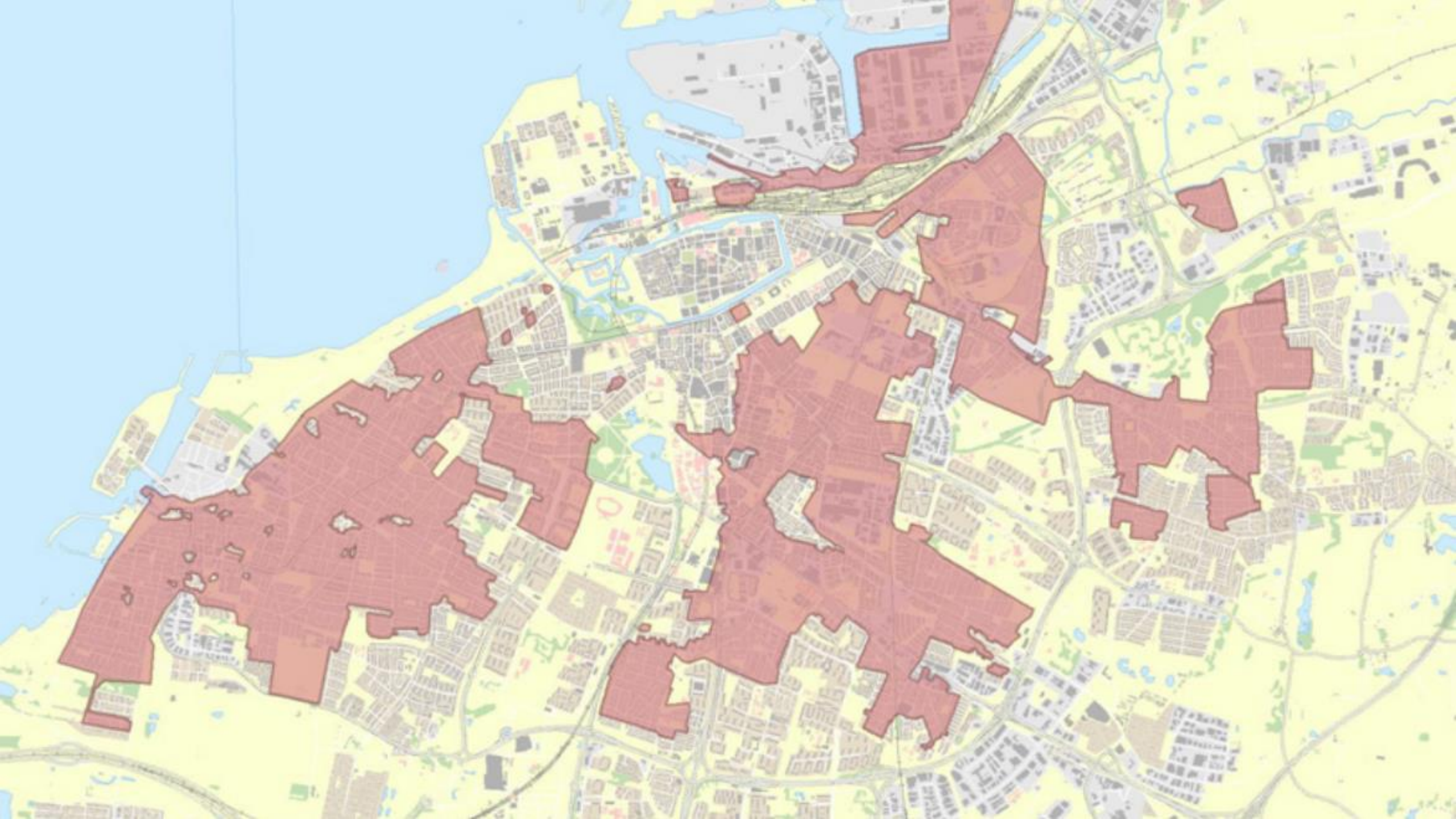


1960



2022





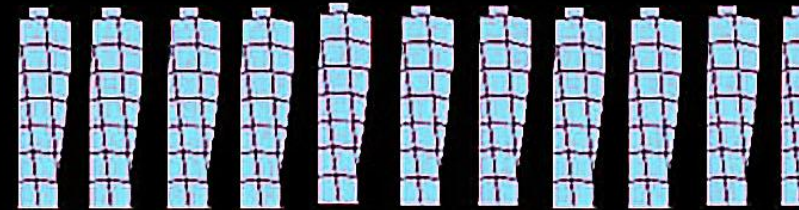


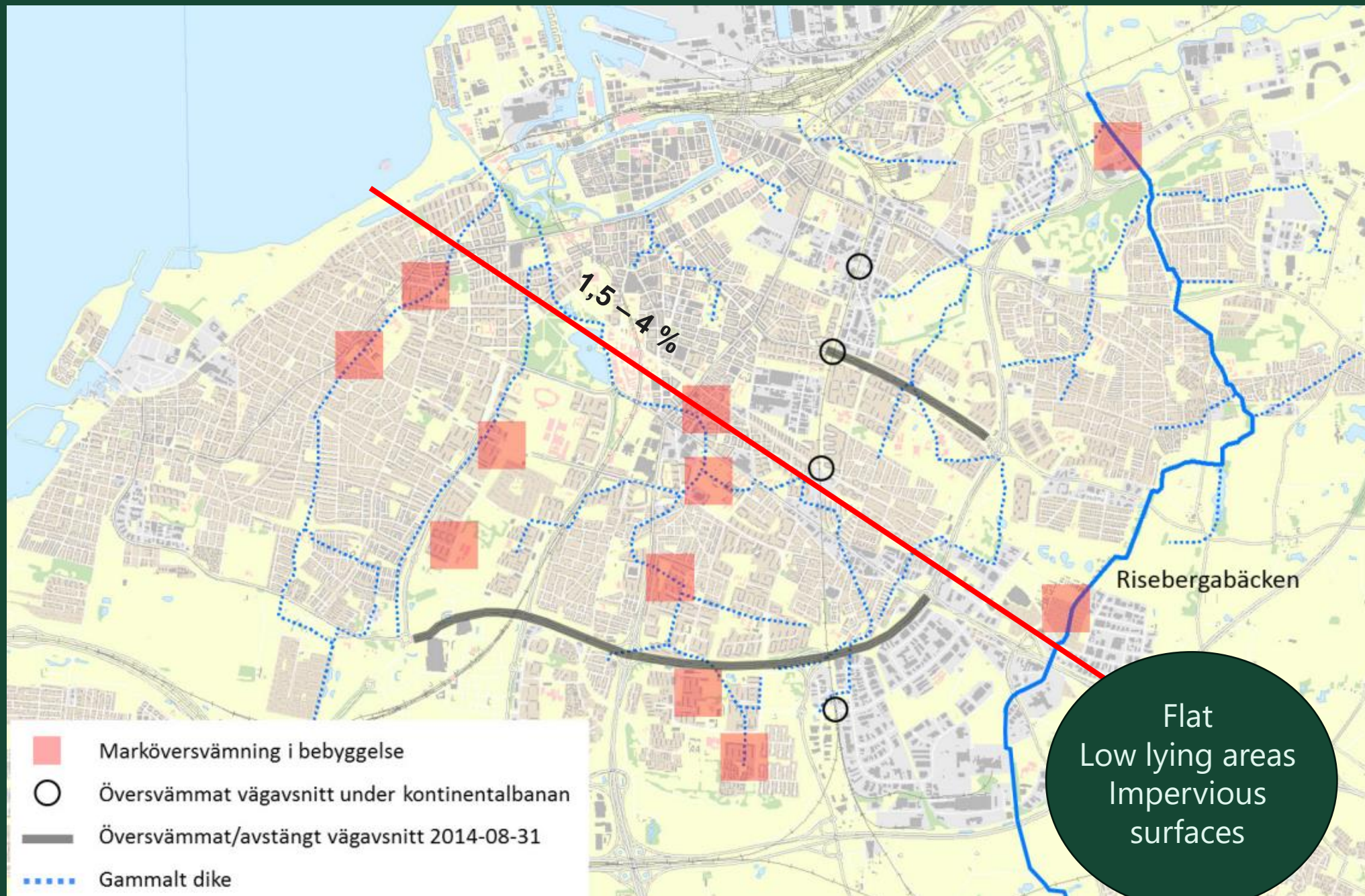
Extreme rainfall 2014



Drainage system in Malmö – 13 Turning Torso

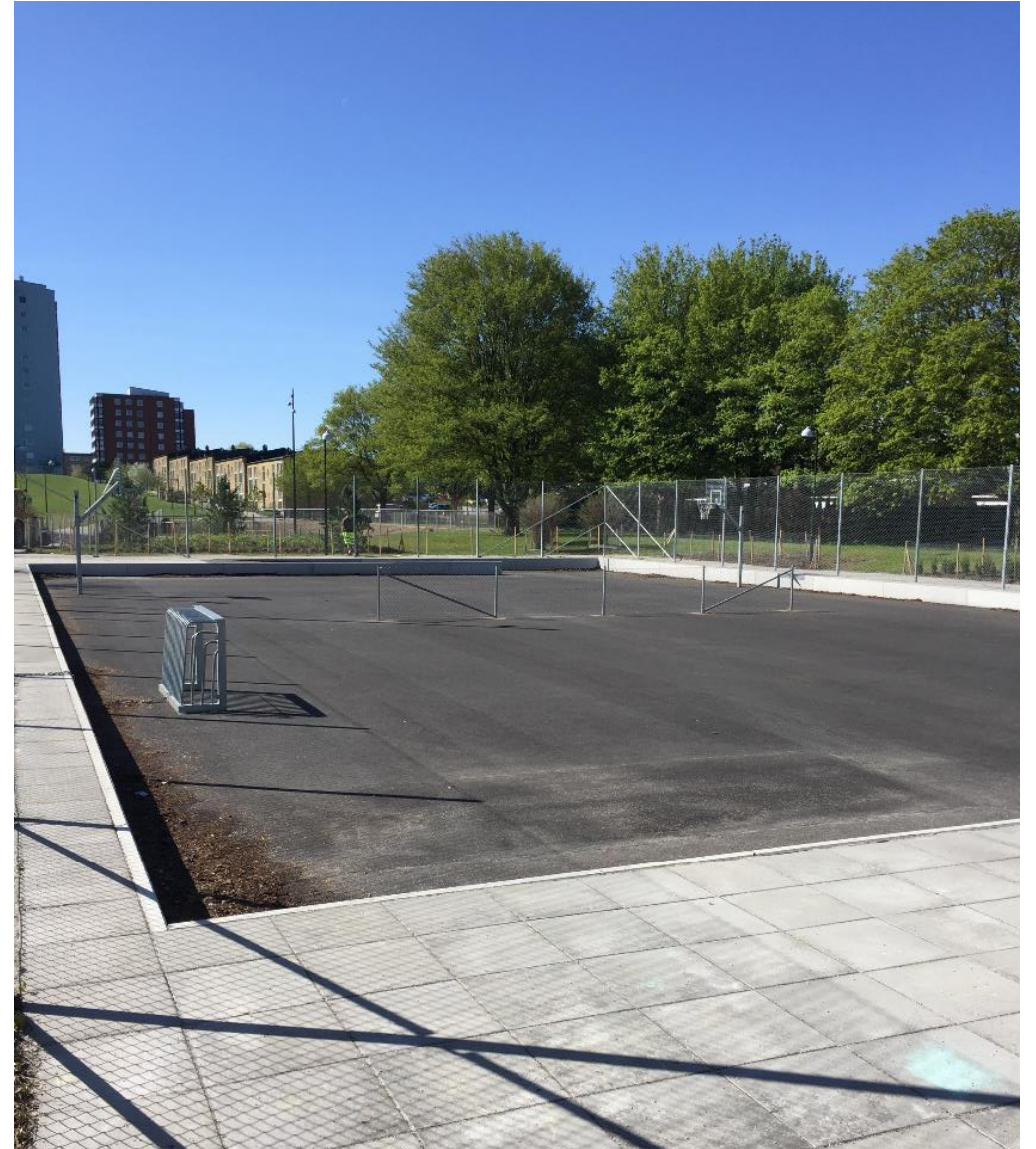
Arvid august 31 2014 - 120 mm
in 6 hours – equivalent to the
volume of 65 Turning Torsos





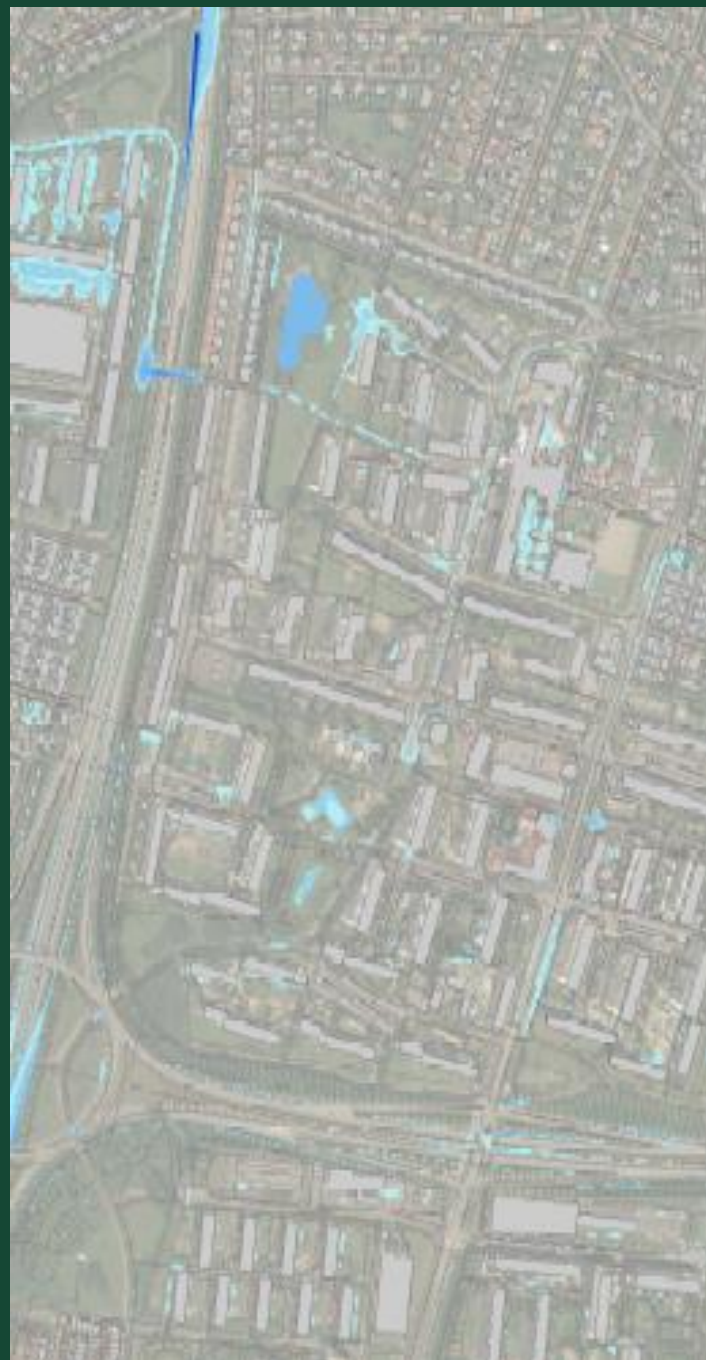
PROPOSED TYPES OF MEASURES

- Direct measures
- Opportunity measures
- Operative measures





**Flooding
2014**



**After
implementatio
n**

Redesigning Söderkulla park



SÖDERKULLAPARKE N





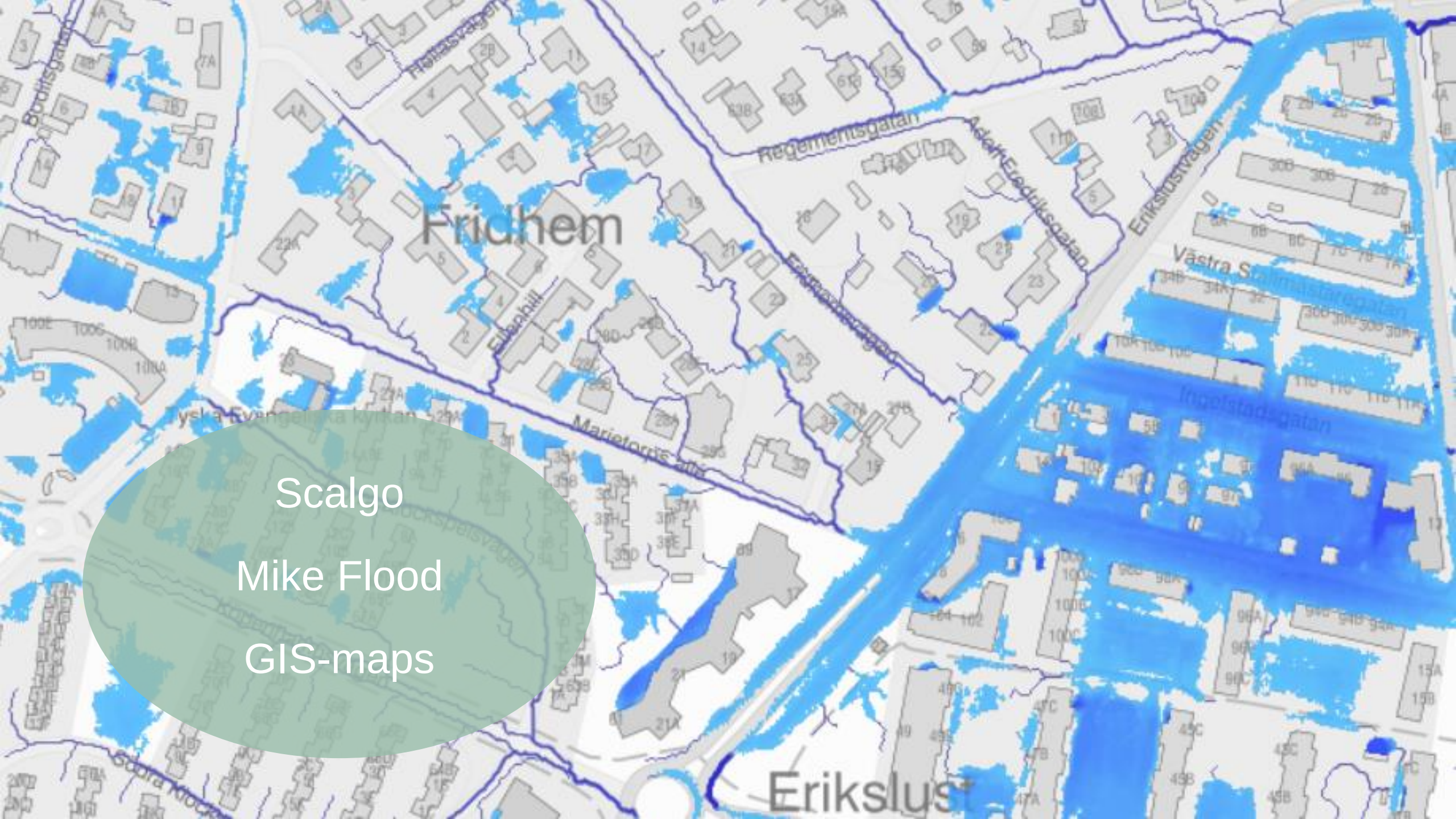
Augustenborg

- **Improved stormwater management**
- **Increased biodiversity**
- **Social benefits**

NEW WAYS OF STORING SMALLER RAINS







Fridhem

Regementsgatan

Adolf-Ericksngatan

Erikslustsgatan

Västra S. Almdalsgatan

Ingelstadsgatan

Mariatorps väg

yska Evangeliska kyrkan

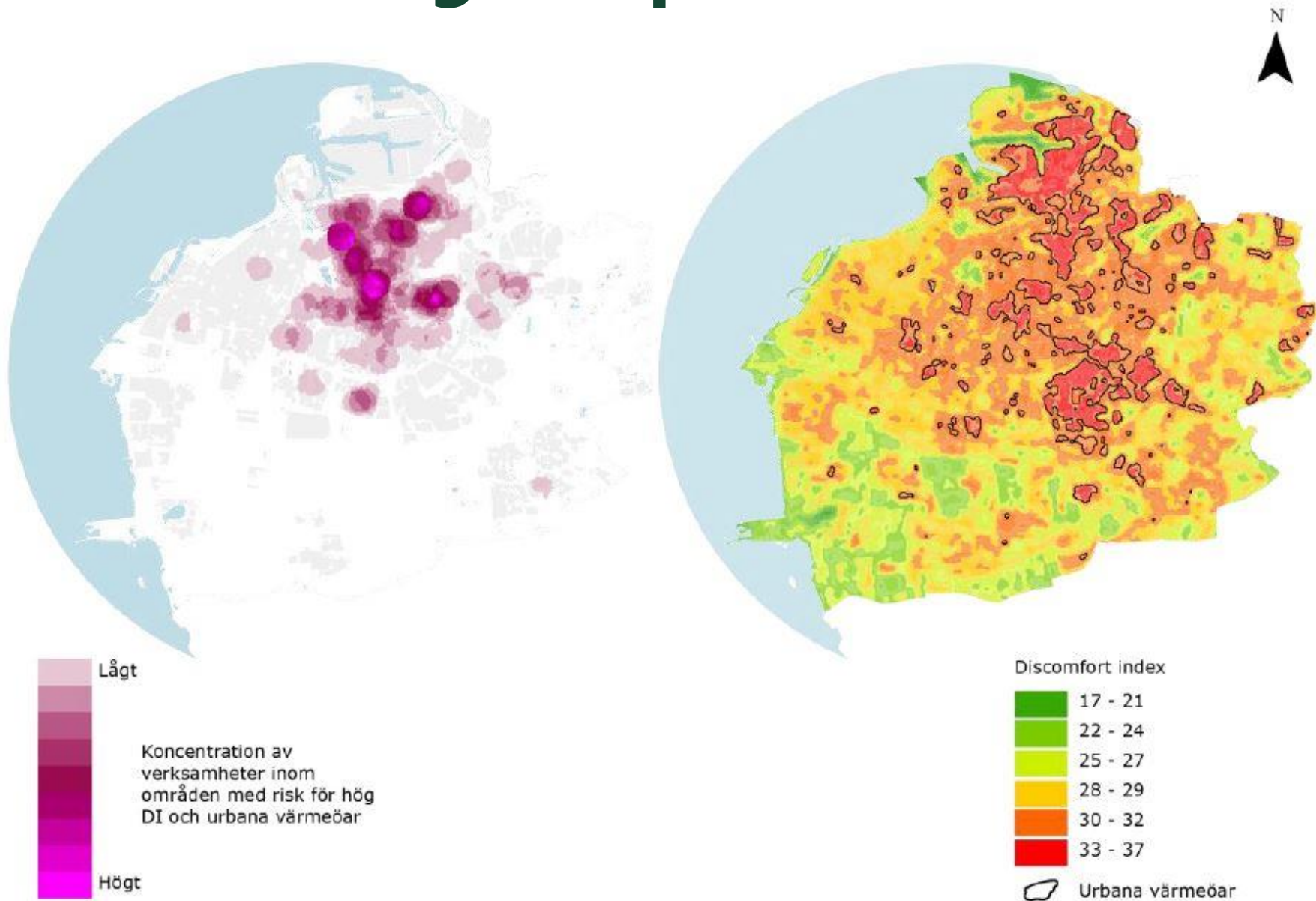
Erikslust

Scalgo

Mike Flood

GIS-maps

Increasing temperatures





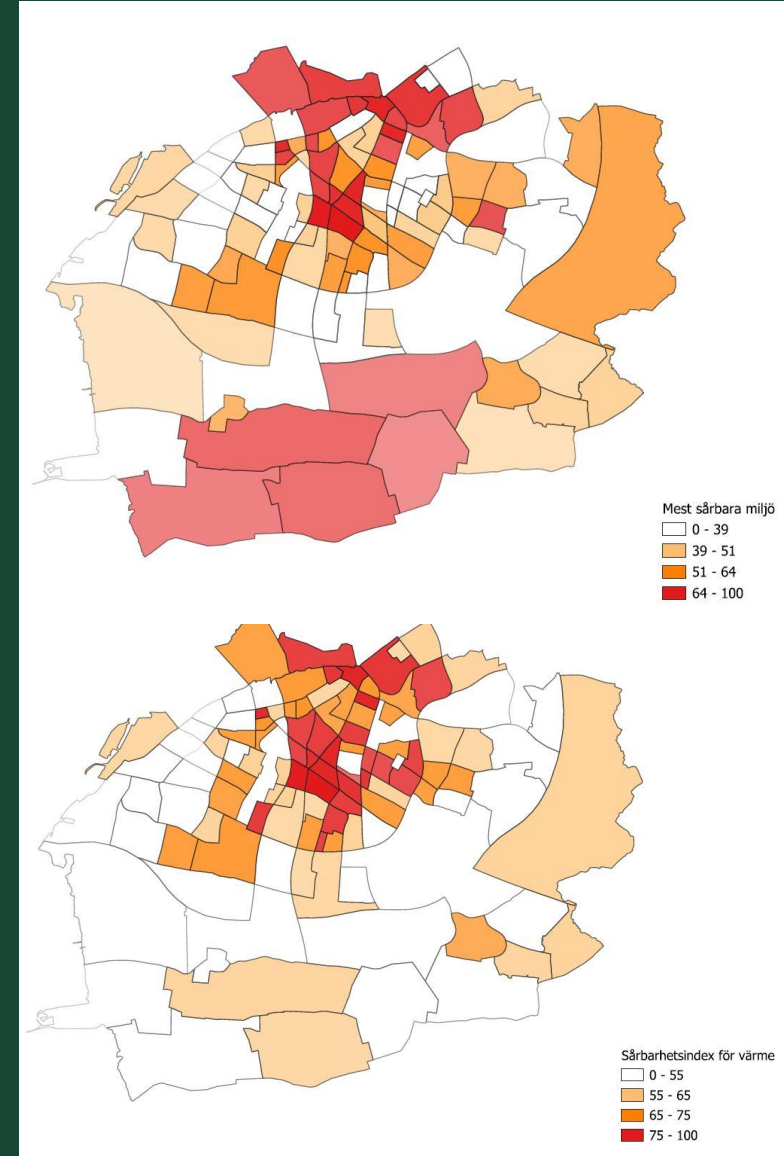
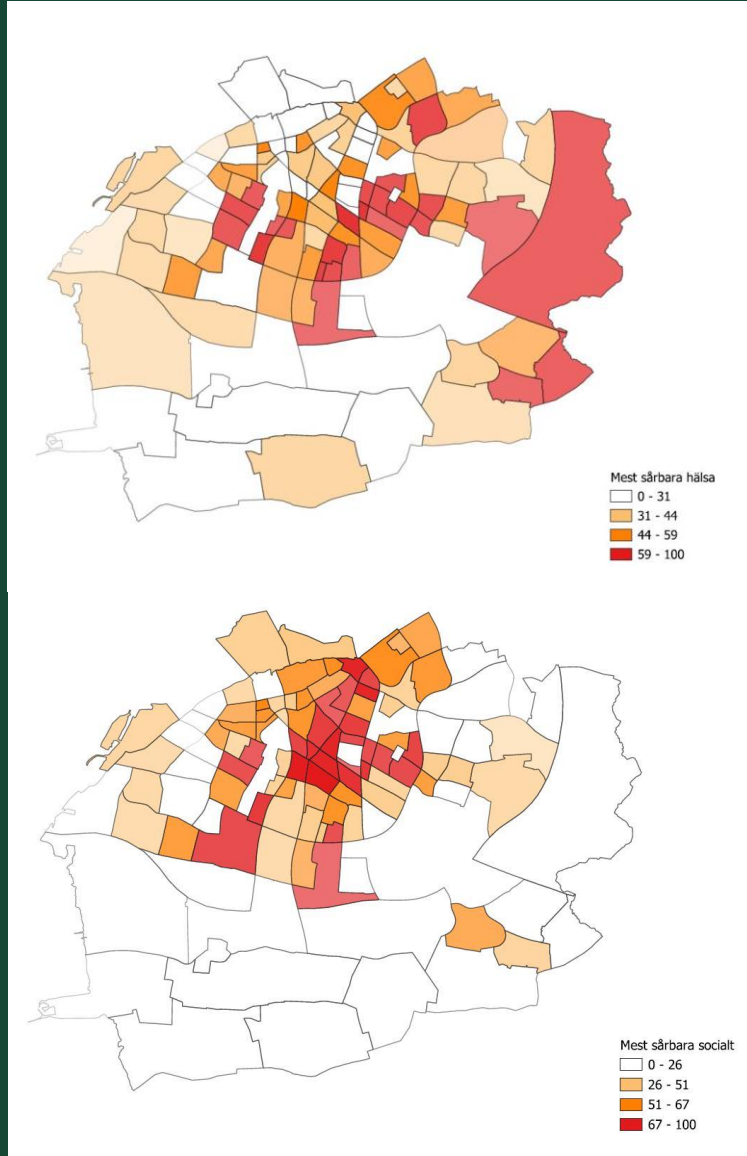
Has
social
context

<5 / 75+

Healthy?

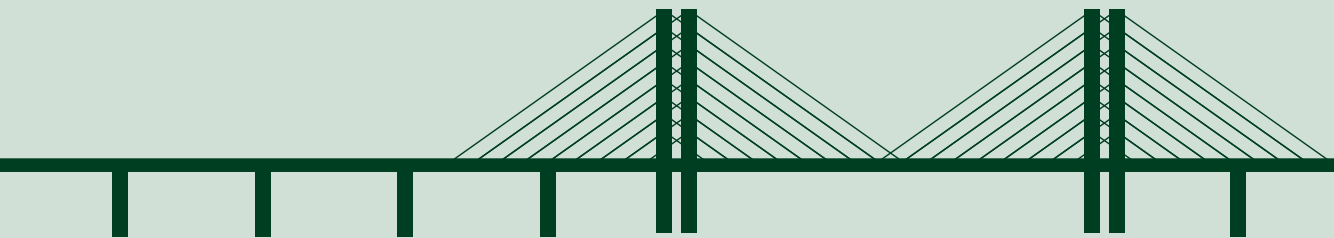
Can access
shady green
space

Vulnerable groups in Malmö



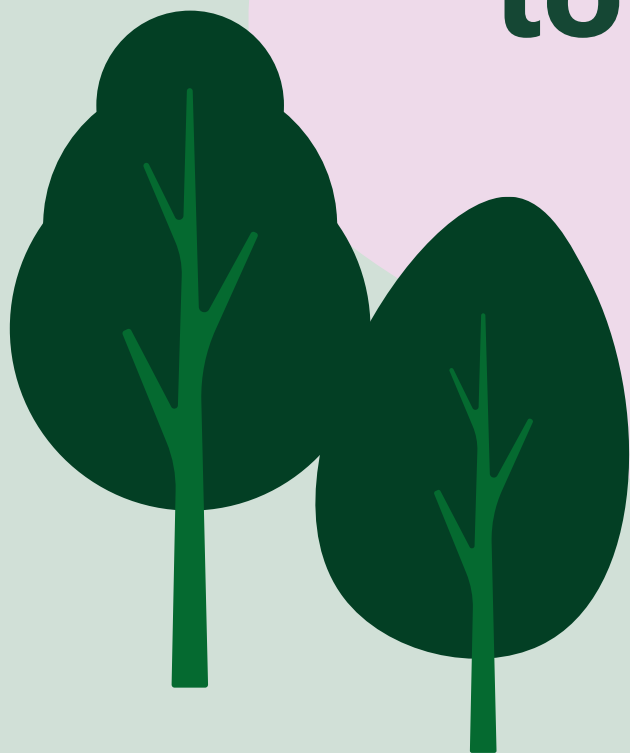
3-30-300

- 3 trees from your home
- 30 % crown coverage in every quarter
- 300 m to a green area



Make a little space, to make a better place

- Michael Jackson, Heal the world





Malmö stad

