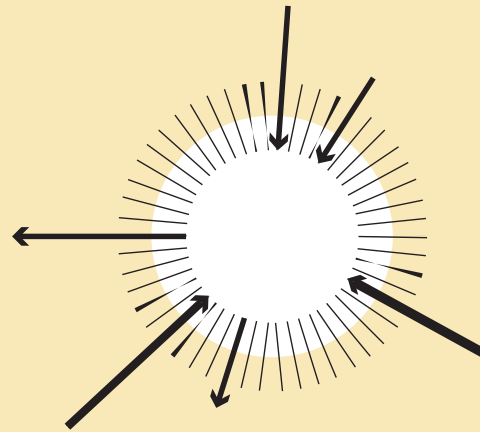


P5 Presentation

24 06 2022 / Delft, Netherlands



welkom

Towards sustainable urban development for a socio-economically mixed neighbourhood and liveable Spangen, Tussendijken and Bospolder.

Student : **Eelkje Pries** / 4350448

First mentor : **Prof. ir. R.J. (Rients) Dijkstra**

Second mentor : **Prof. dr. M. (Maarten) van Ham**

External examiner : **Ass. dr. A. (Anne) Kockelkorn**



Welkom

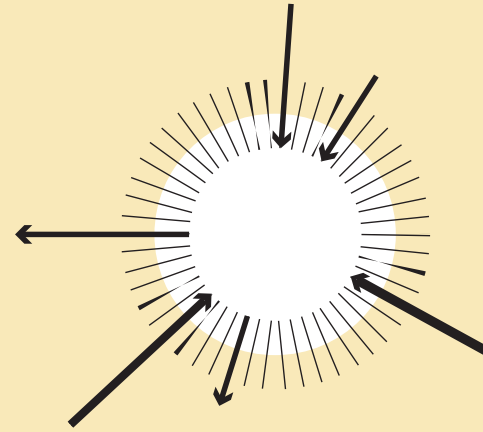
Hoş geldiniz أهلاً



welkom
Hoş geldiniz
أهلاً بك



welkom
Hosgedin
أهلاً بك



welkom ?
Hoşgeldiniz
أهلاً بكم



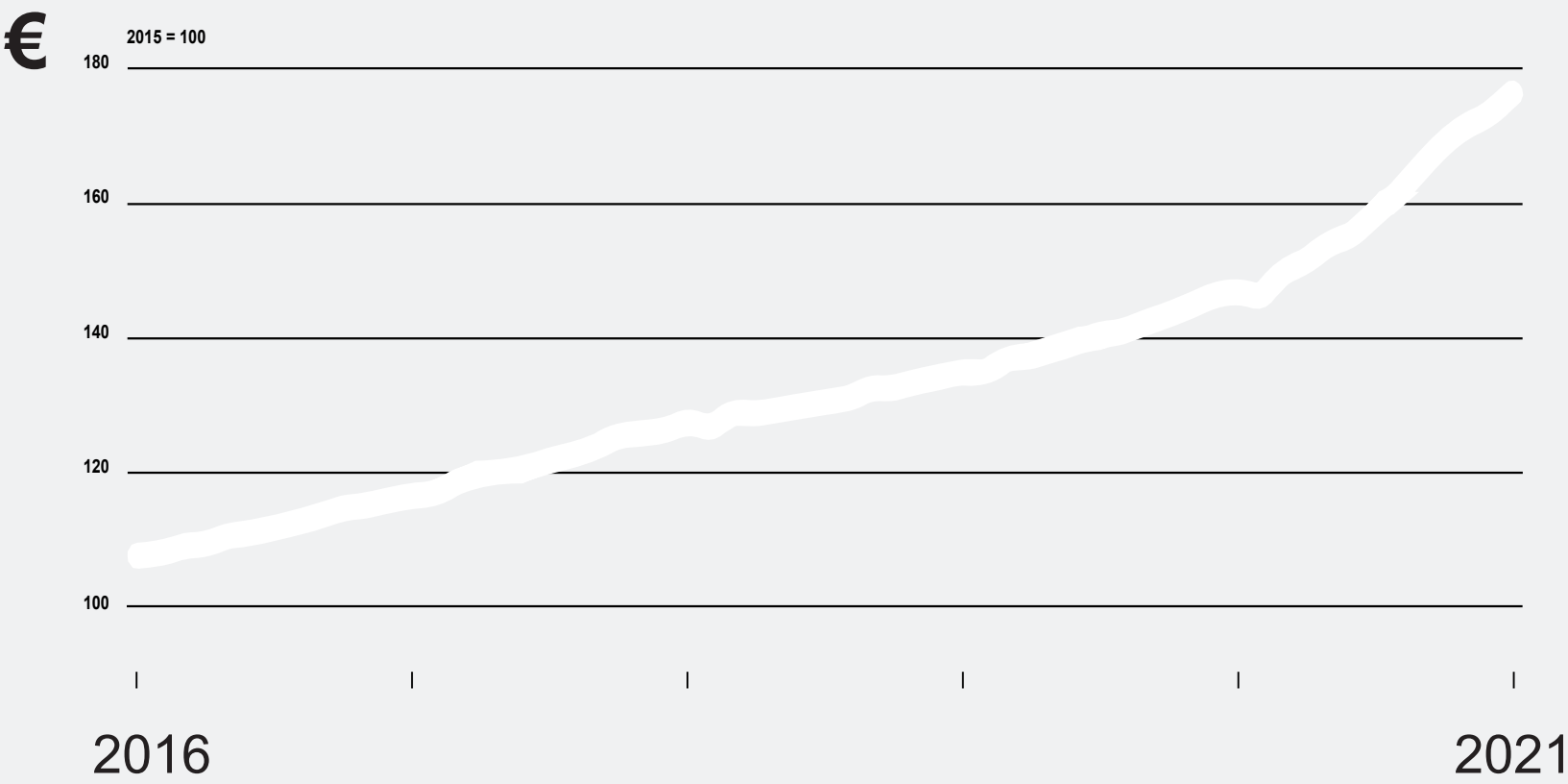
CONTENTS

1. **Population change for rapid urban development**
problem statement
2. **The stabilisation of differentiation**
design approach
3. **Welcome in the 'upcoming neighbourhoods'**
context
4. **Change to stay the same**
design

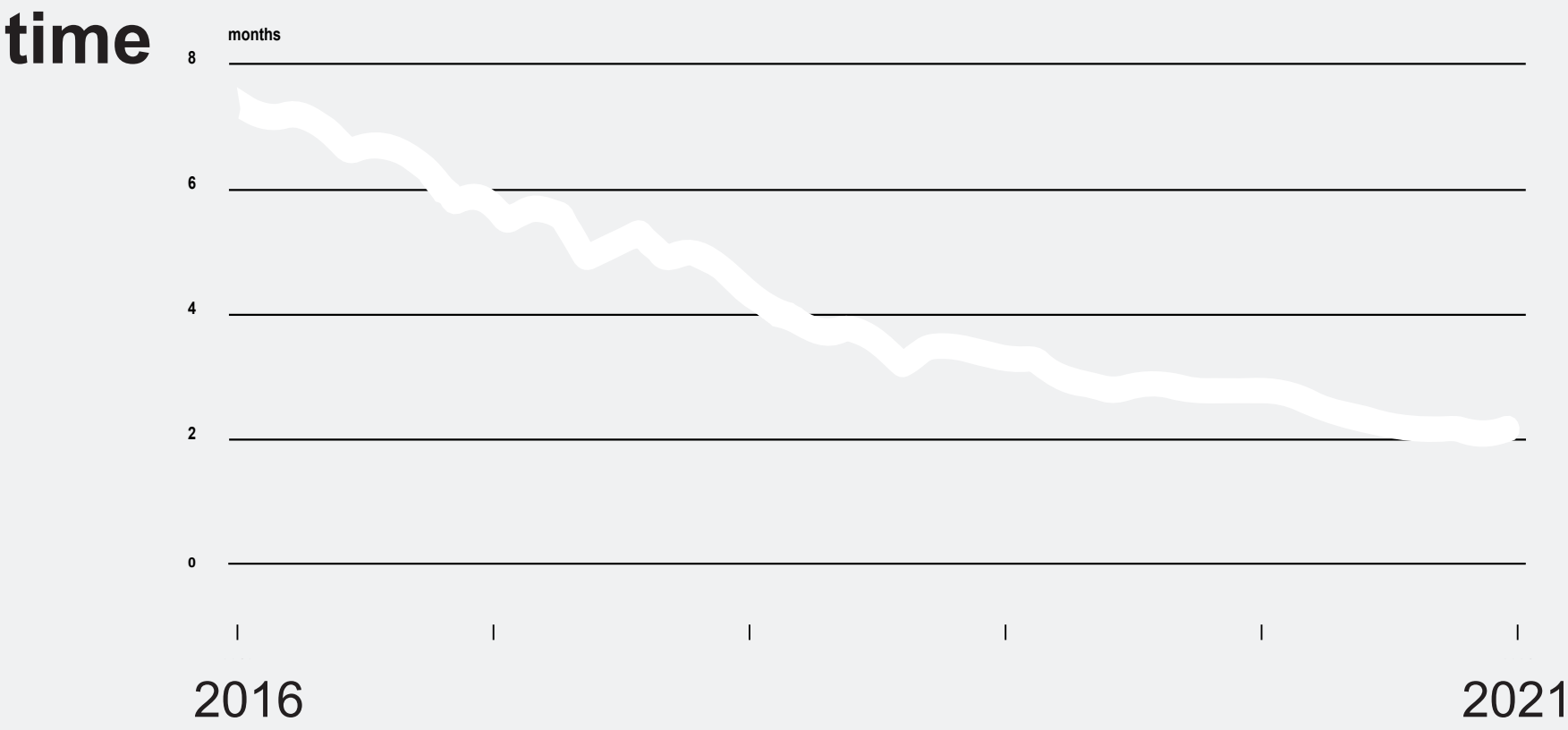
1. **Population change for rapid urban development**
problem statement

Trend: Housing crisis

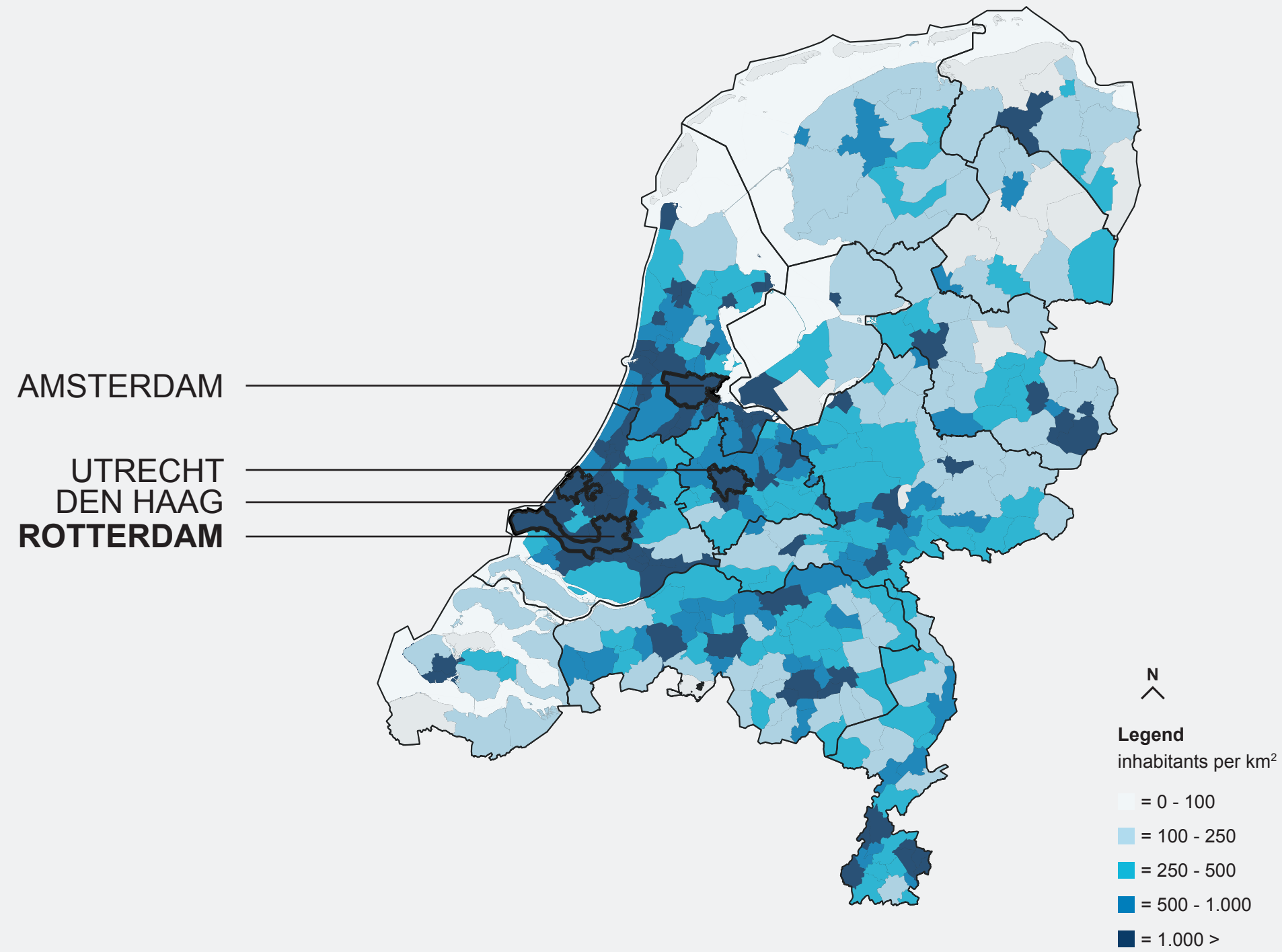
Prices for existing owner-occupied houses
(Centraal Bureau voor de Statistiek, 2021)



Average supply time for homes to be sold
(Centraal Bureau voor de Statistiek, 2021)



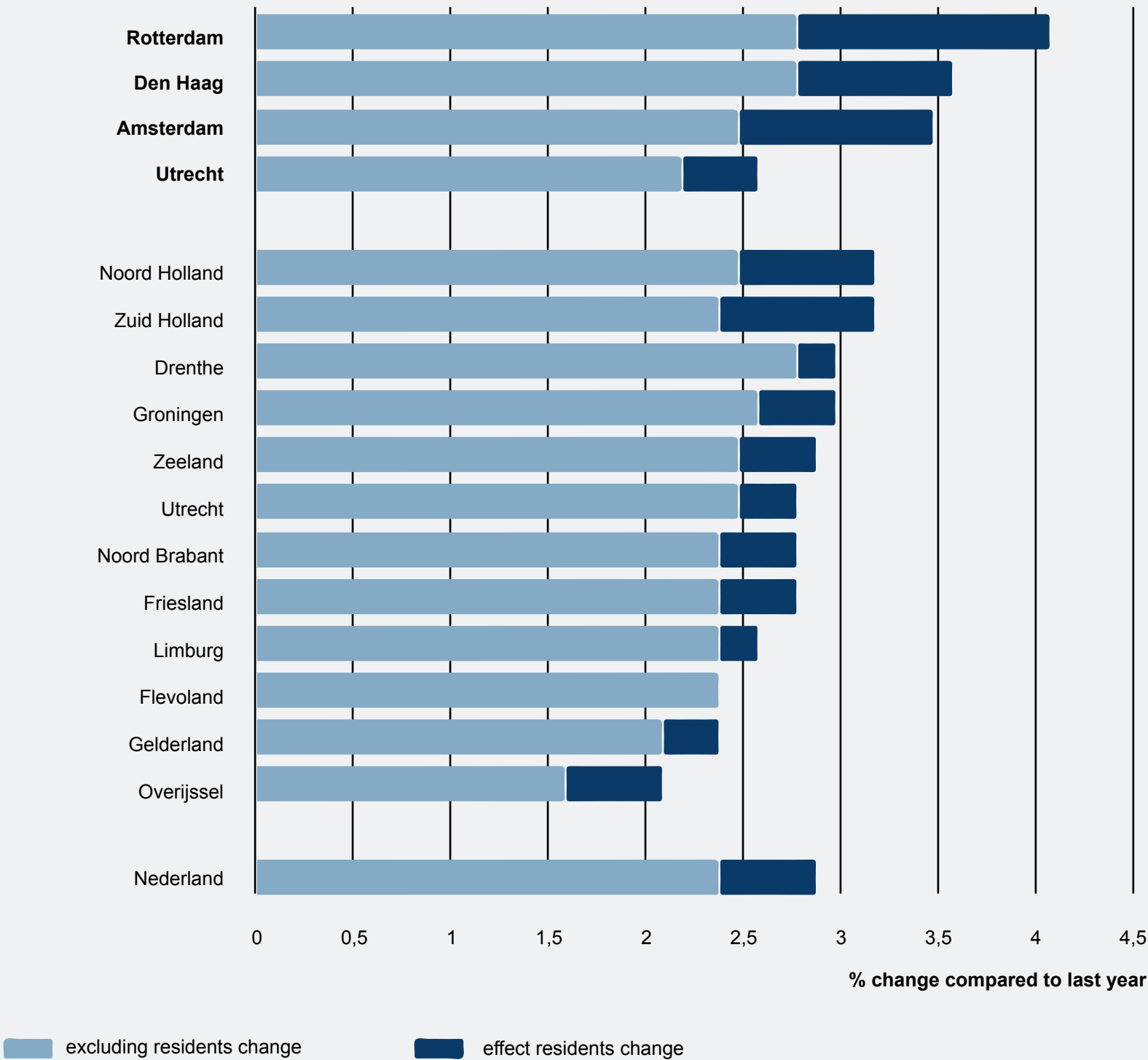
Trend: Randstad as a popular growing metropolis



Population density of inhabitants per km² (CBS, 2019).

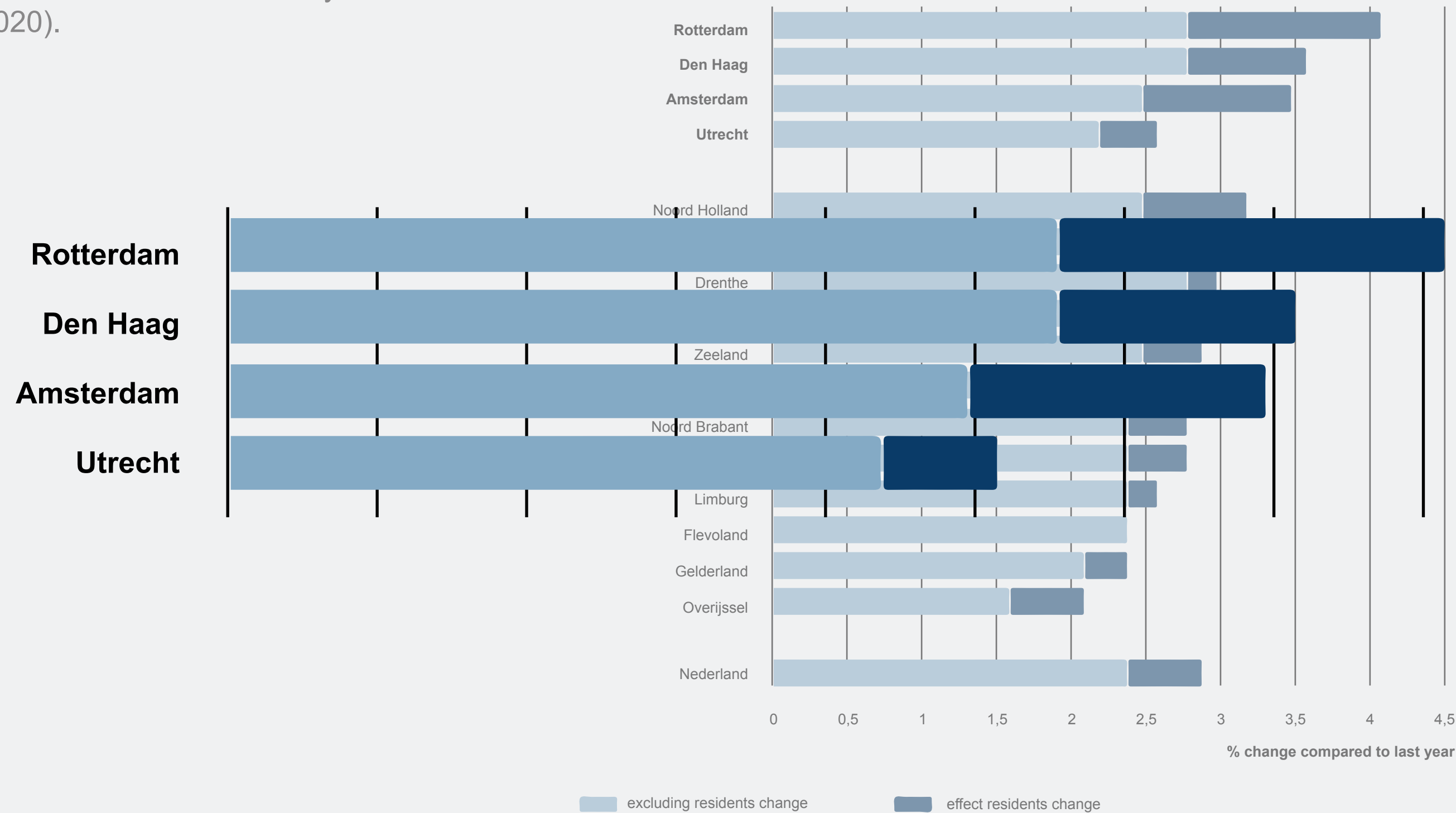
Trend: Randstad as a popular growing metropolis

Average rent increase as of 1 July 2020 (CBS, 2020).



Trend: Randstad as a popular growing metropolis

Average rent increase as of 1 July 2020 (CBS, 2020).



Trend: Houses for profit

Mathenesserweg residents in revolt:
Stop the proliferation of student buildings
(Rijnmond, 2019).

**> PERFECT RECIPE FOR
REAL ESTATE DEVELOPERS
OR PRIVATE REAL ESTATE
INVESTORS!**



Social relevance:

National

Cities in the Netherlands mentioned for gentrification.



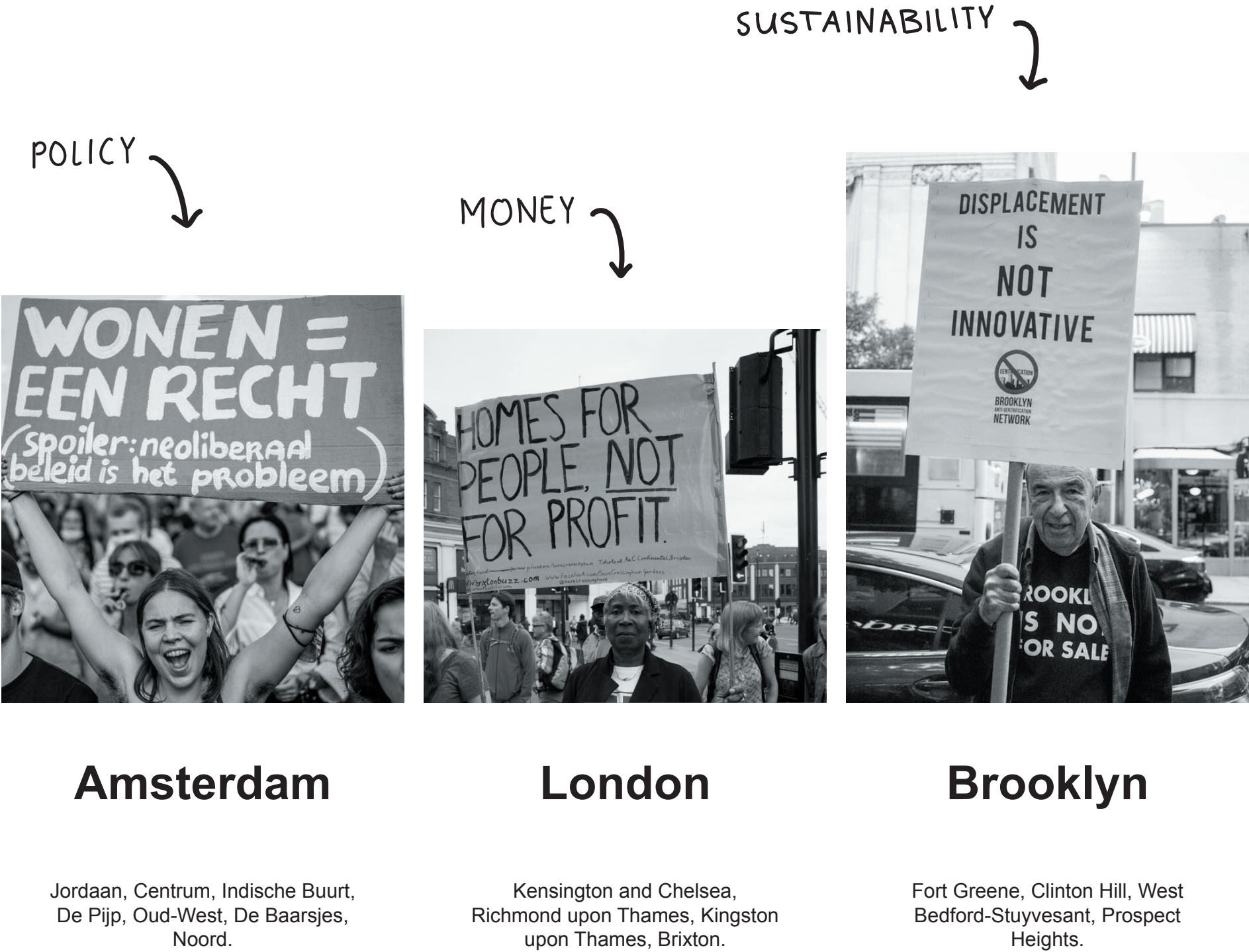
Social relevance:

Global

Cities all over the world mentioned for gentrification.



Social relevance:
Dissatisfaction



POSITIVE CONSEQUENCES OF GENTRIFICATION

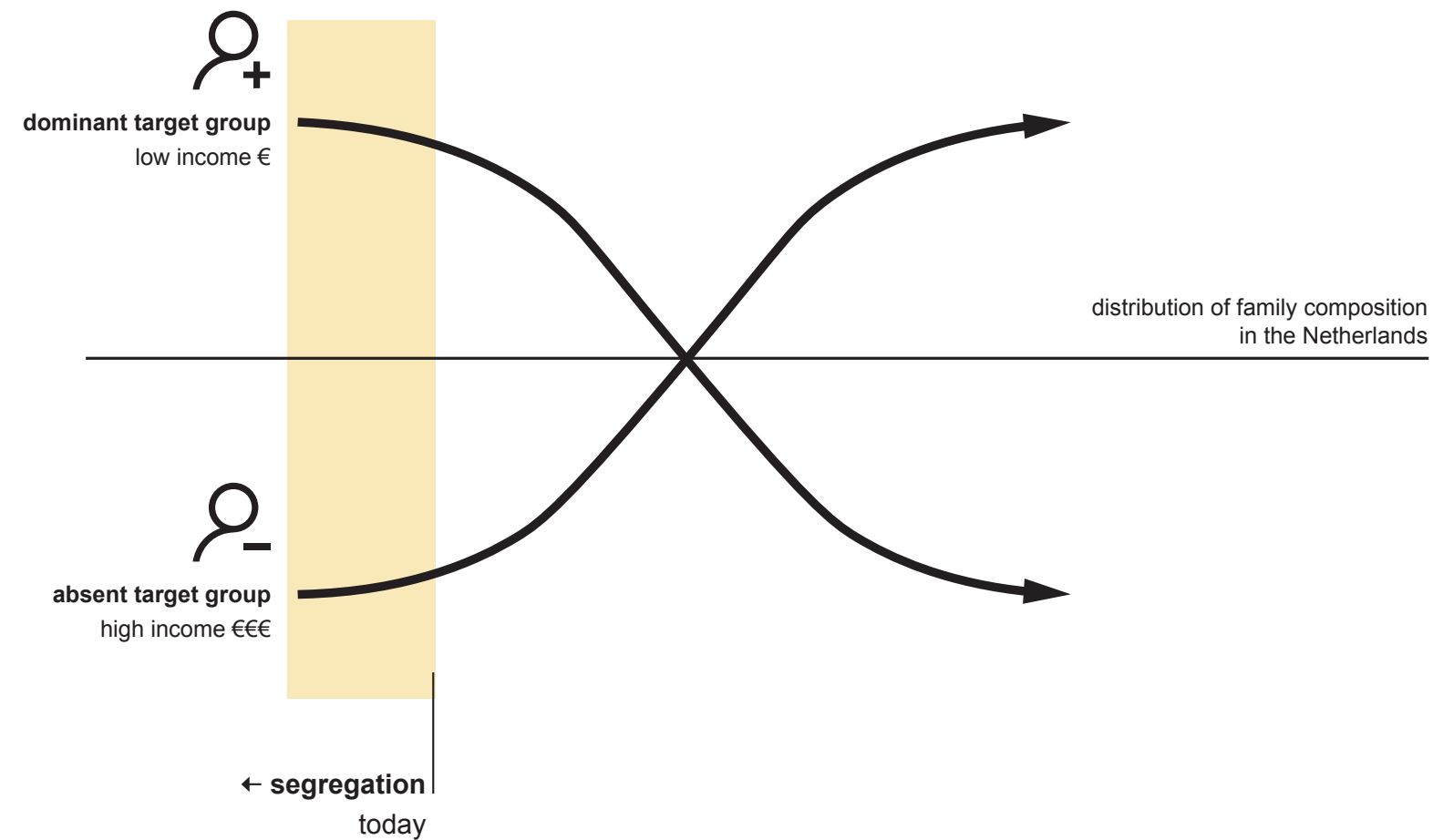
+

VERSUS

NEGATIVE CONSEQUENCES OF GENTRIFICATION

-

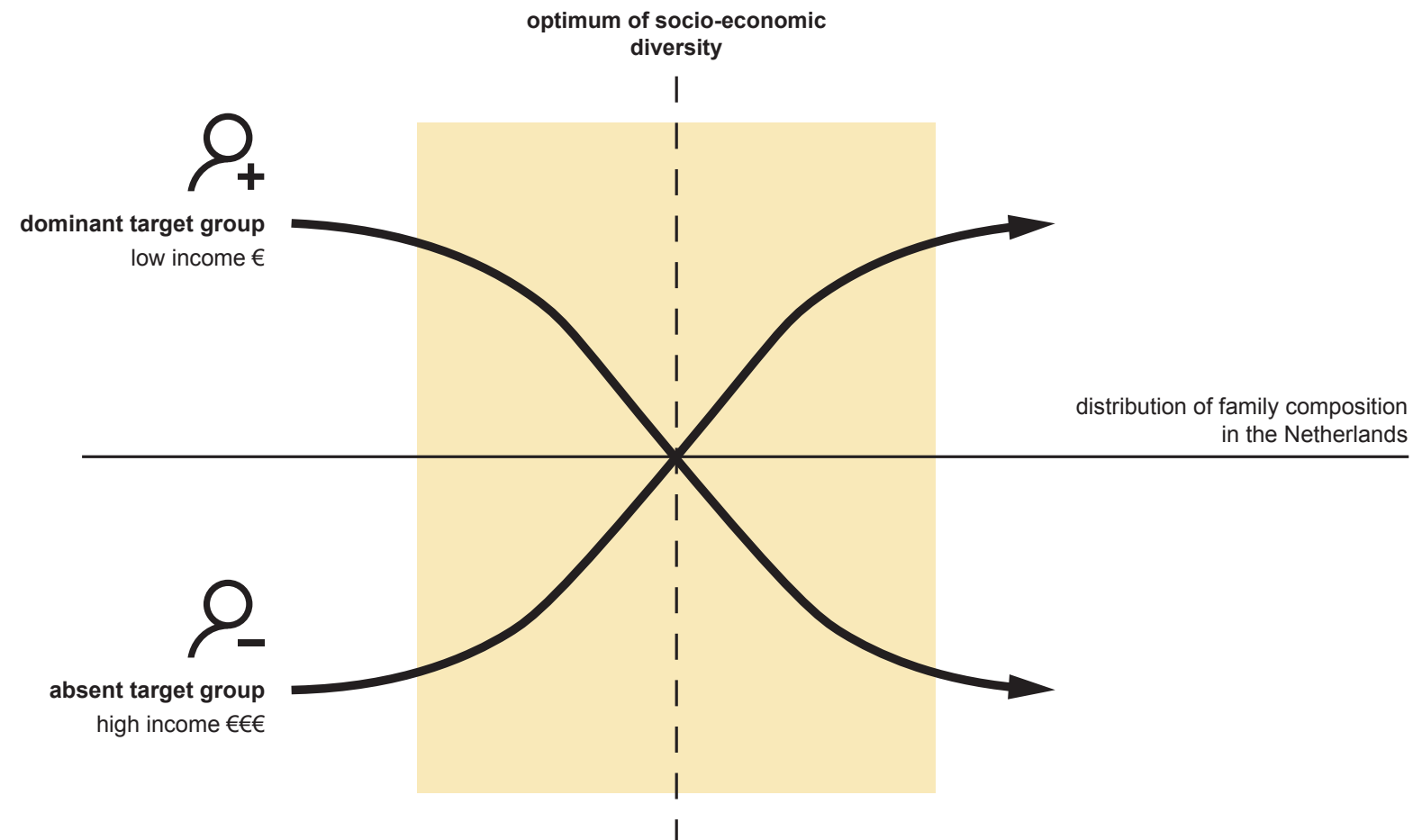
SEGREGATION



POSITIVE CONSEQUENCES OF GENTRIFICATION

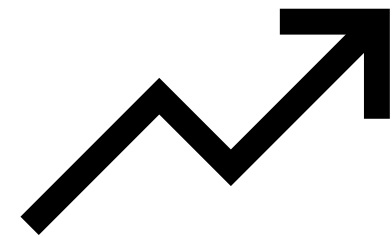
+

DIVERSITY



POSITIVE CONSEQUENCES OF GENTRIFICATION

+



ECONOMY

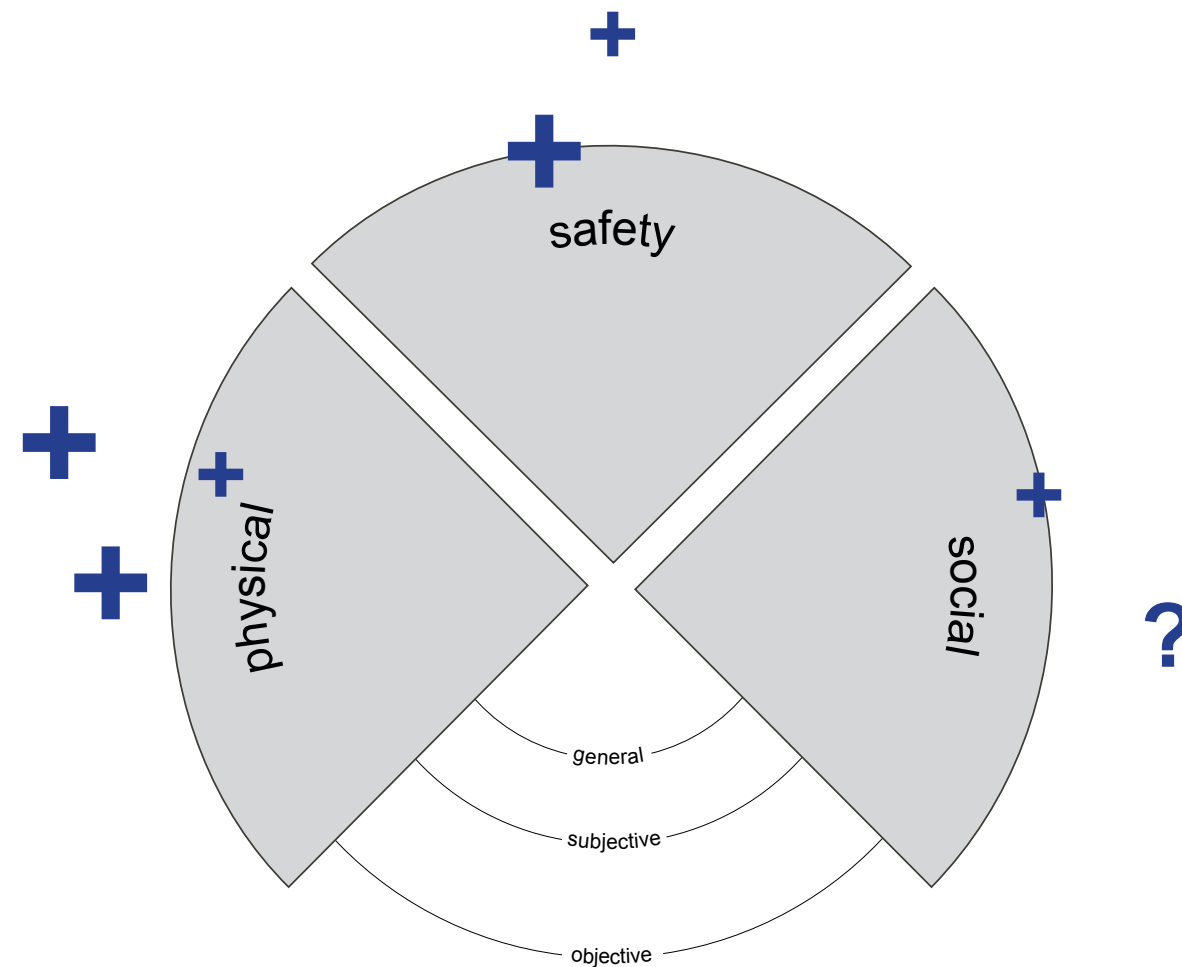


CRIME

POSITIVE CONSEQUENCES OF GENTRIFICATION

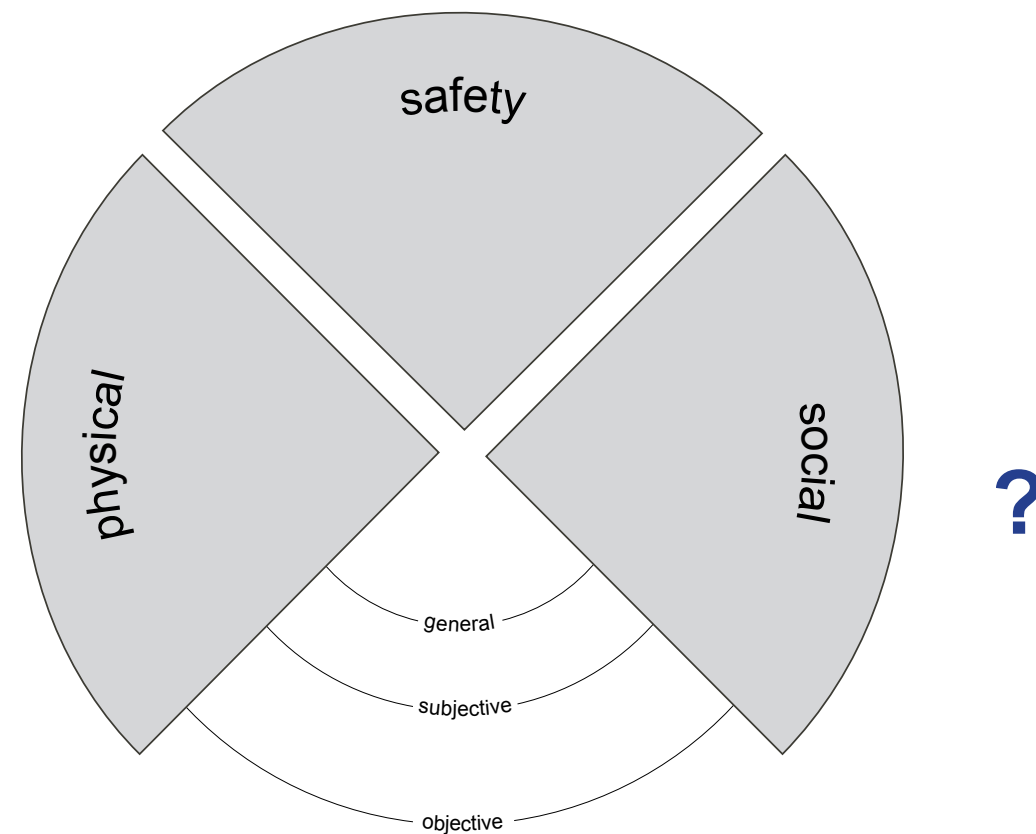
+

liveability indexes according the Wijkprofiel



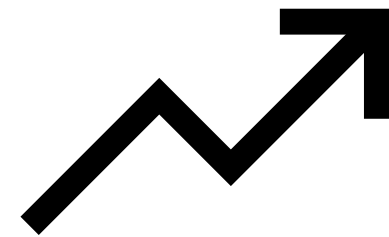
POSITIVE CONSEQUENCES OF GENTRIFICATION

+

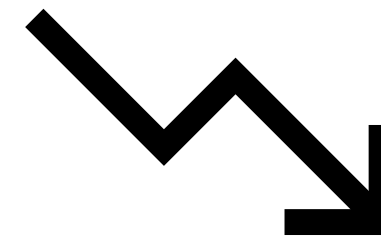


NEGATIVE CONSEQUENCES OF GENTRIFICATION

■



PROPERTY PRICES

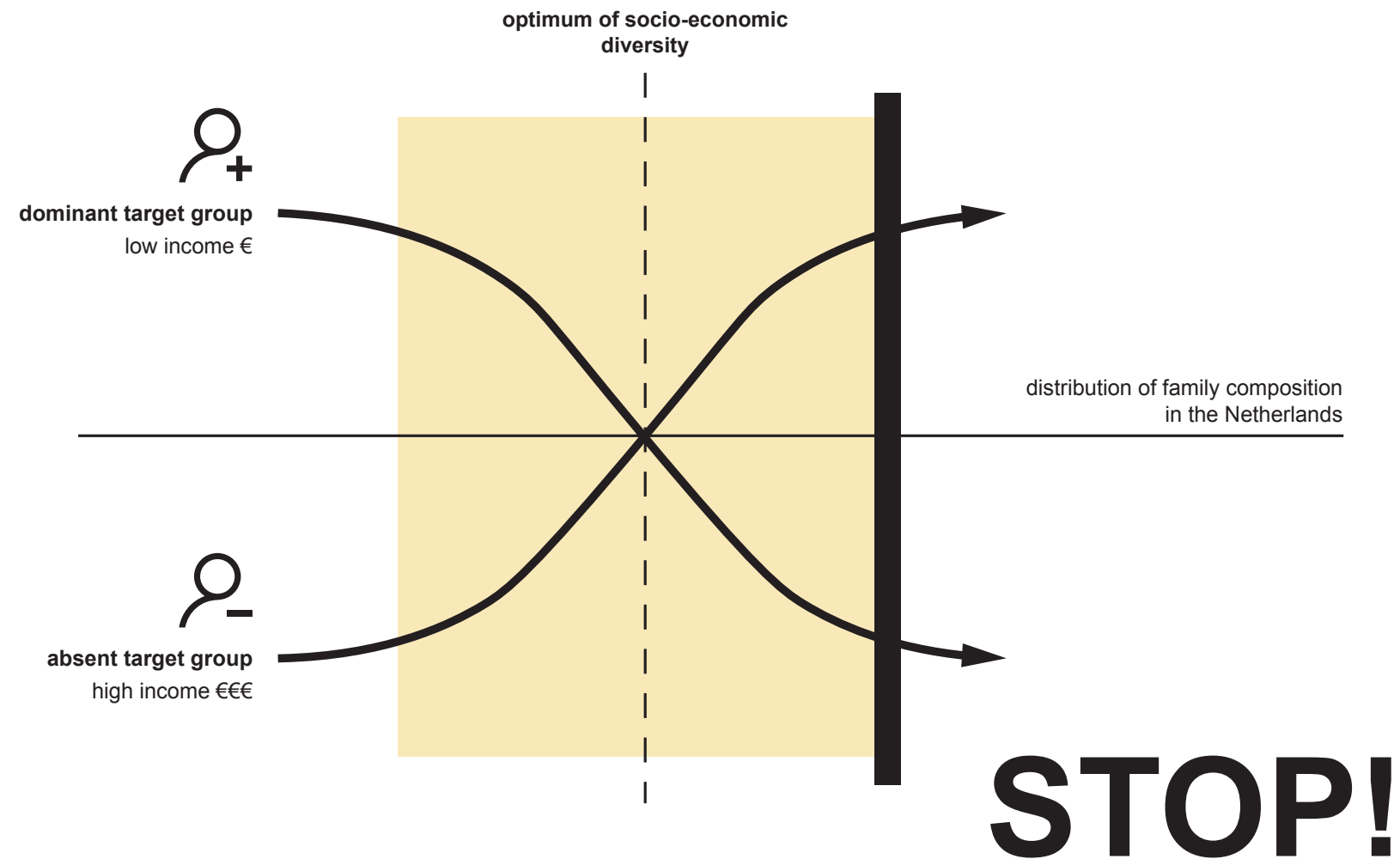


SOCIAL COHESION

NEGATIVE CONSEQUENCES OF GENTRIFICATION

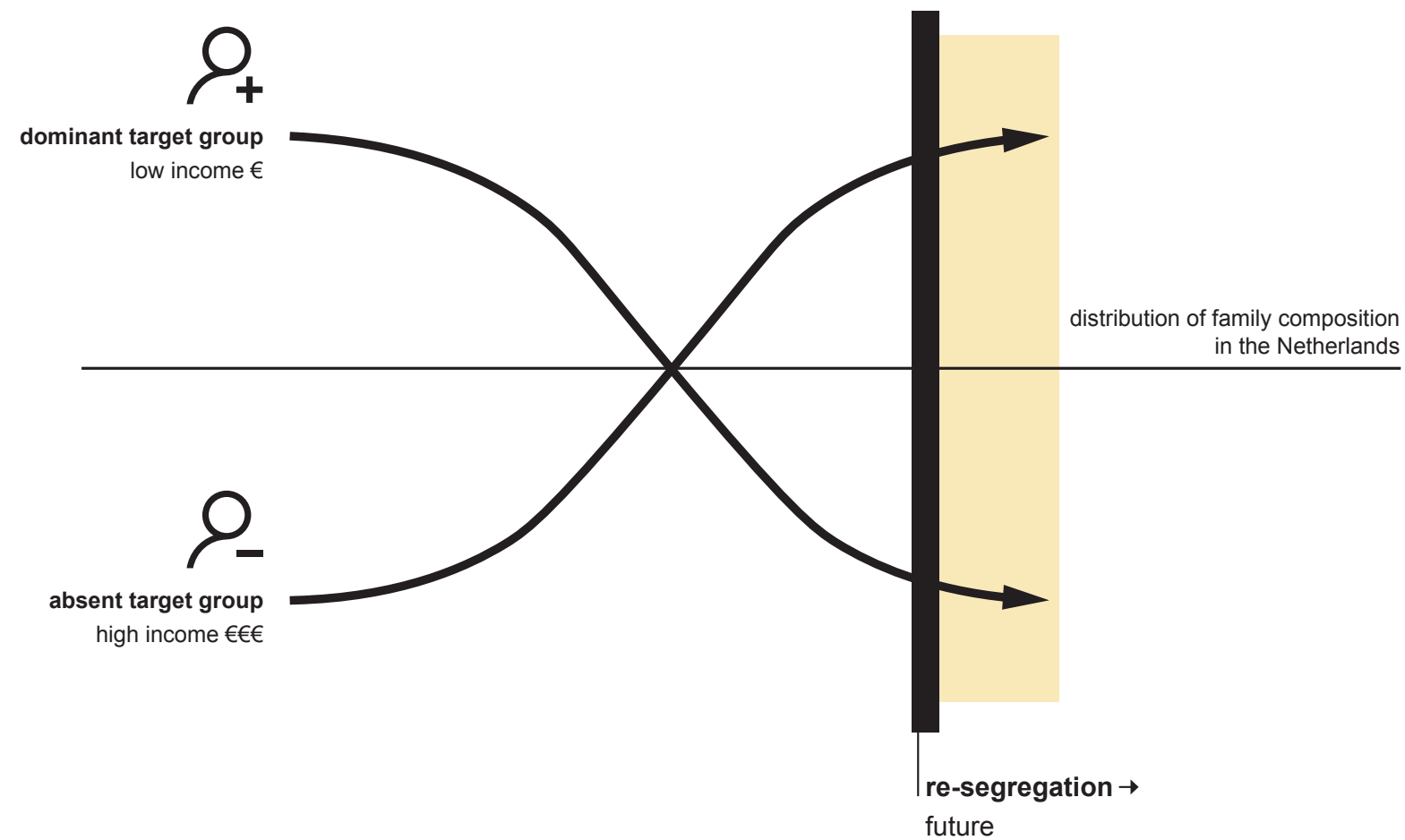
-

DIVERSITY



NEGATIVE CONSEQUENCES OF GENTRIFICATION

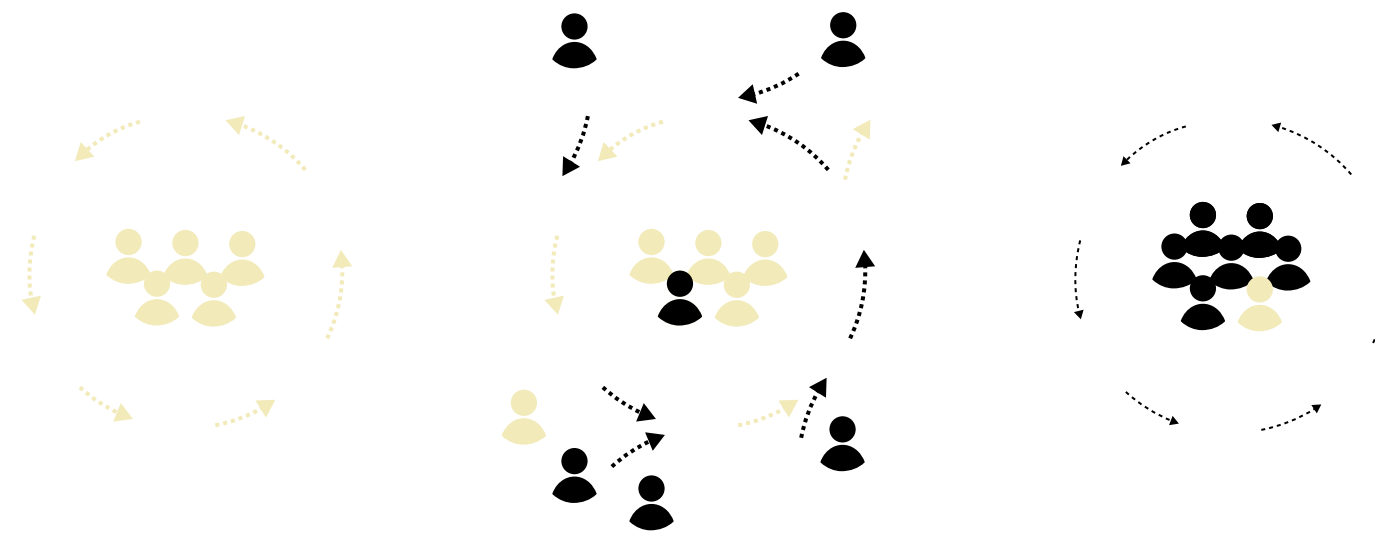
RE-SEGREGATION





NEGATIVE CONSEQUENCES OF GENTRIFICATION

—

unsustainable design



Legend

-  = current inhabitants
-  = new inhabitants

NEGATIVE CONSEQUENCES OF GENTRIFICATION

—



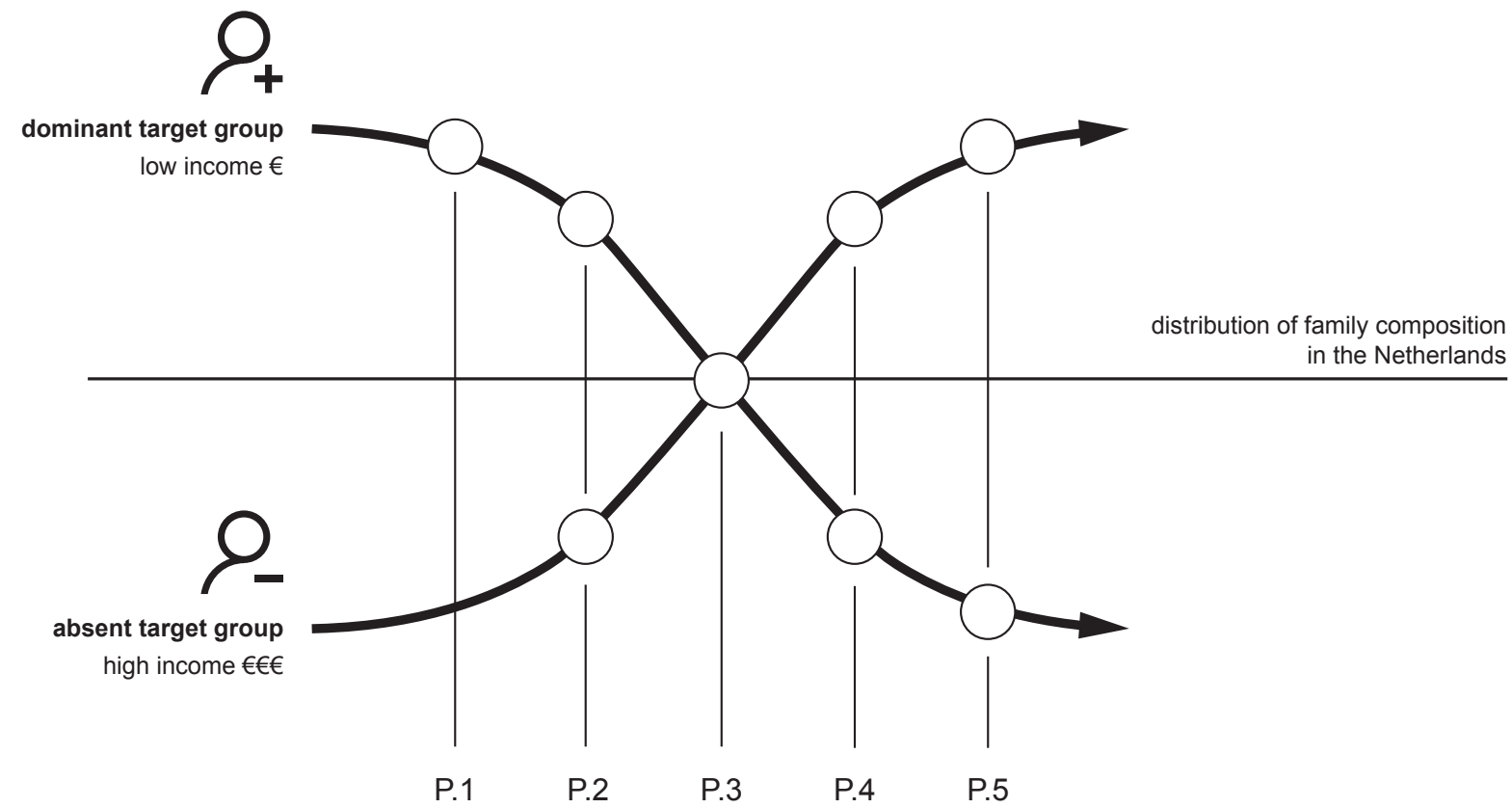
2. **The stabilisation of differentiation** design approach

Research question:

6 1 Can urban design contribute to increasing
liveability and socio-economic diversity for
1
5 Spangen, Bospolder & Tussendijken while
preserving neighbourhood identity? If so, how?
2 4
2 3

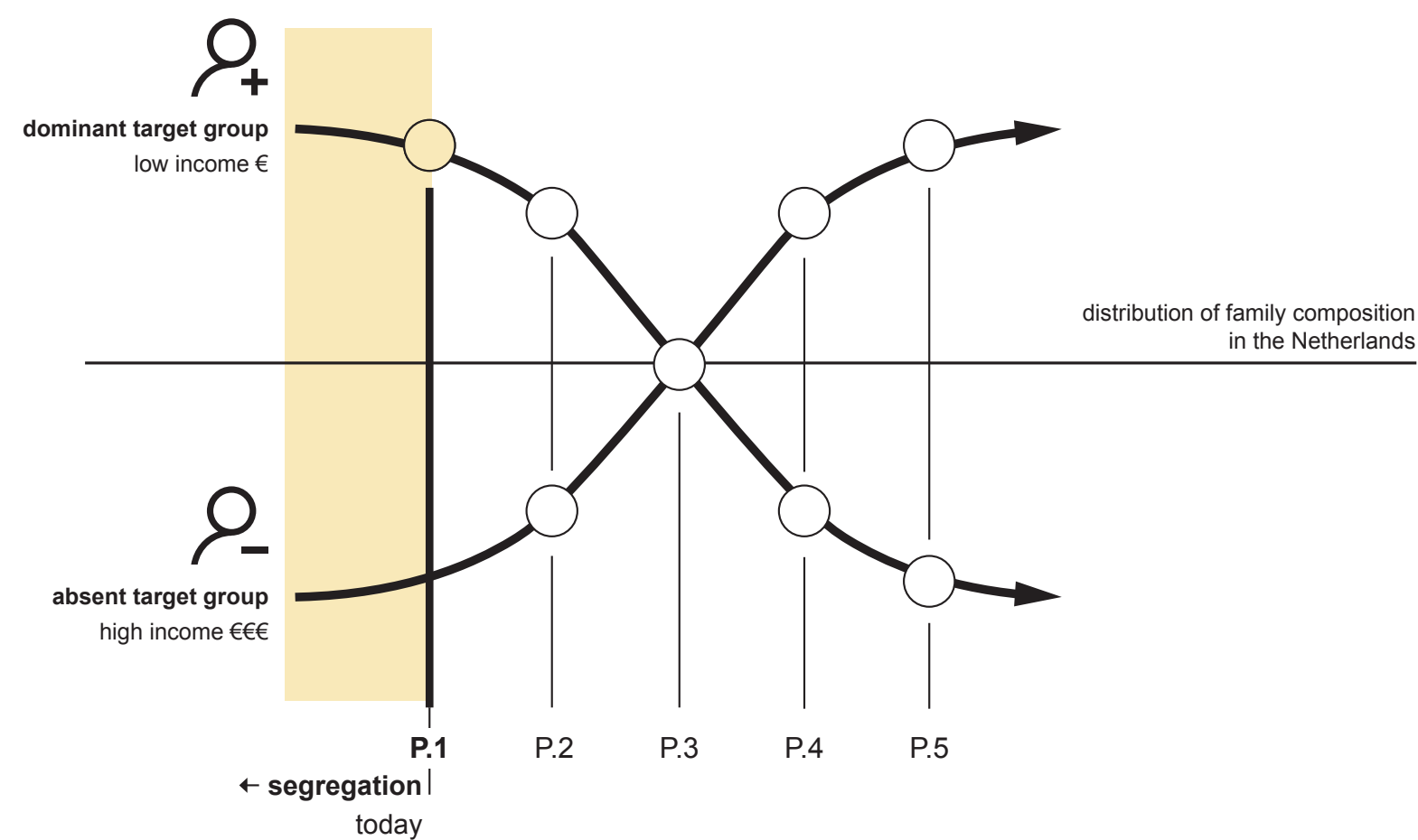
- 1 urban liveability
- 2 social identity and a diverse population
- 3 physical neighbourhood identity
- 4 diversifying socio-economic program
- 5 spatial opportunities and urgencies
- 6 design

Phasing of the (extreme) gentrification curve



Phasing of the (extreme) gentrification curve

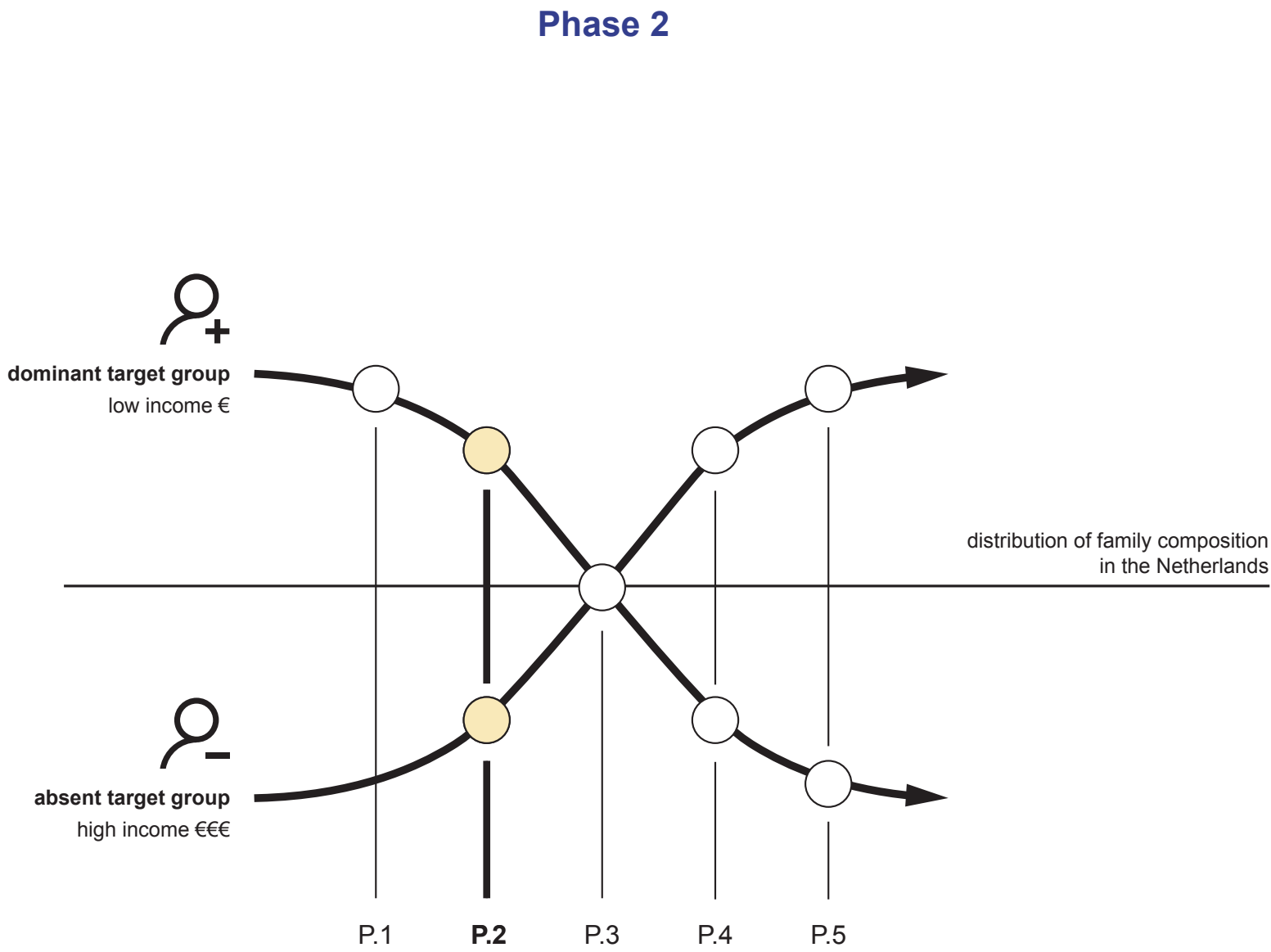
Phase 1



P.1
segregated low income
population

due to the large amount of
social housing and low
liveability.

Phasing of the (extreme) gentrification curve

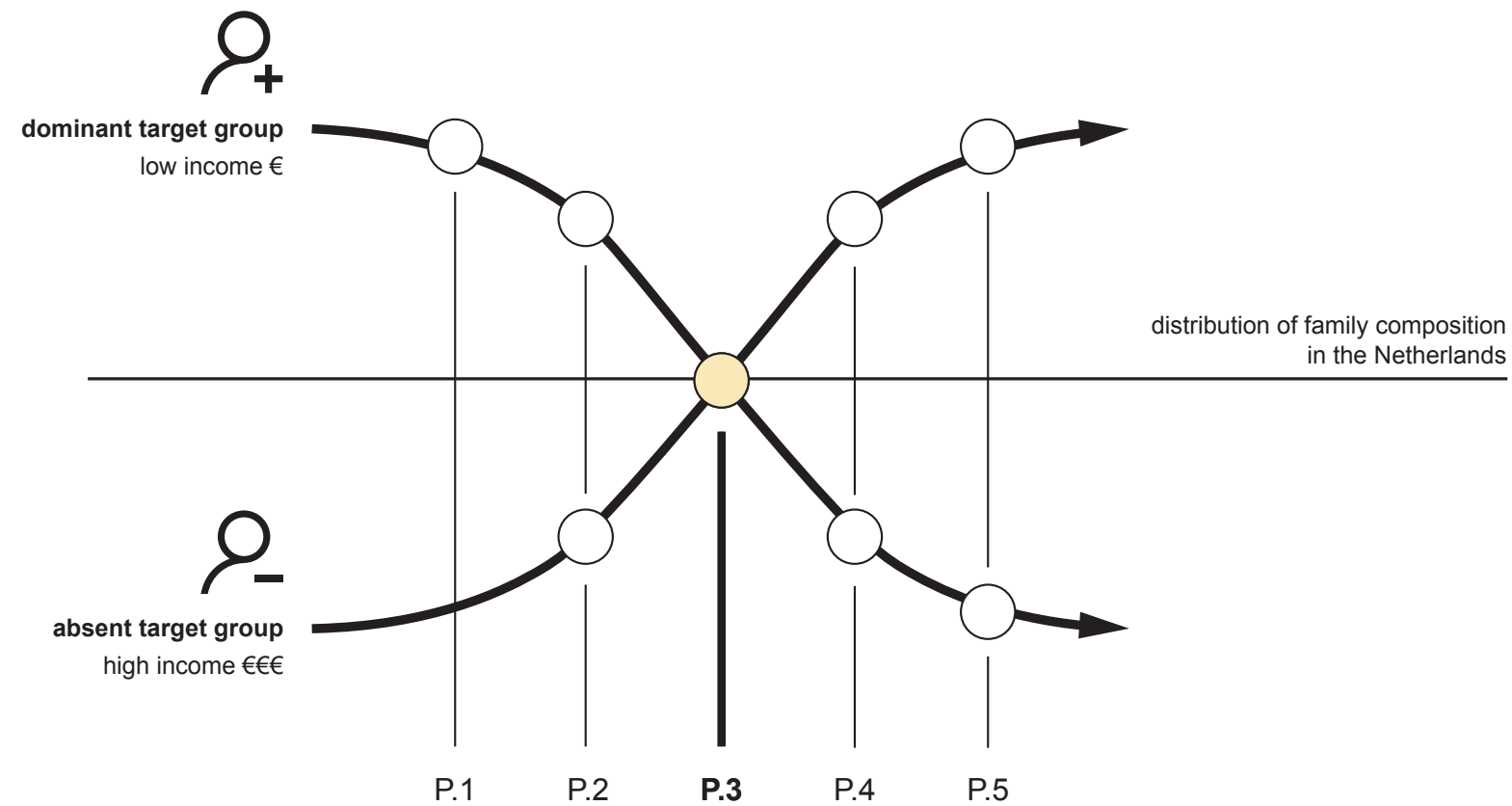


P.2
growing interest for centrally located affordable neighbourhoods

due to the housing crisis, growing interest for living in the Randstad and trend of houses for profit.

Phasing of the (extreme) gentrification curve

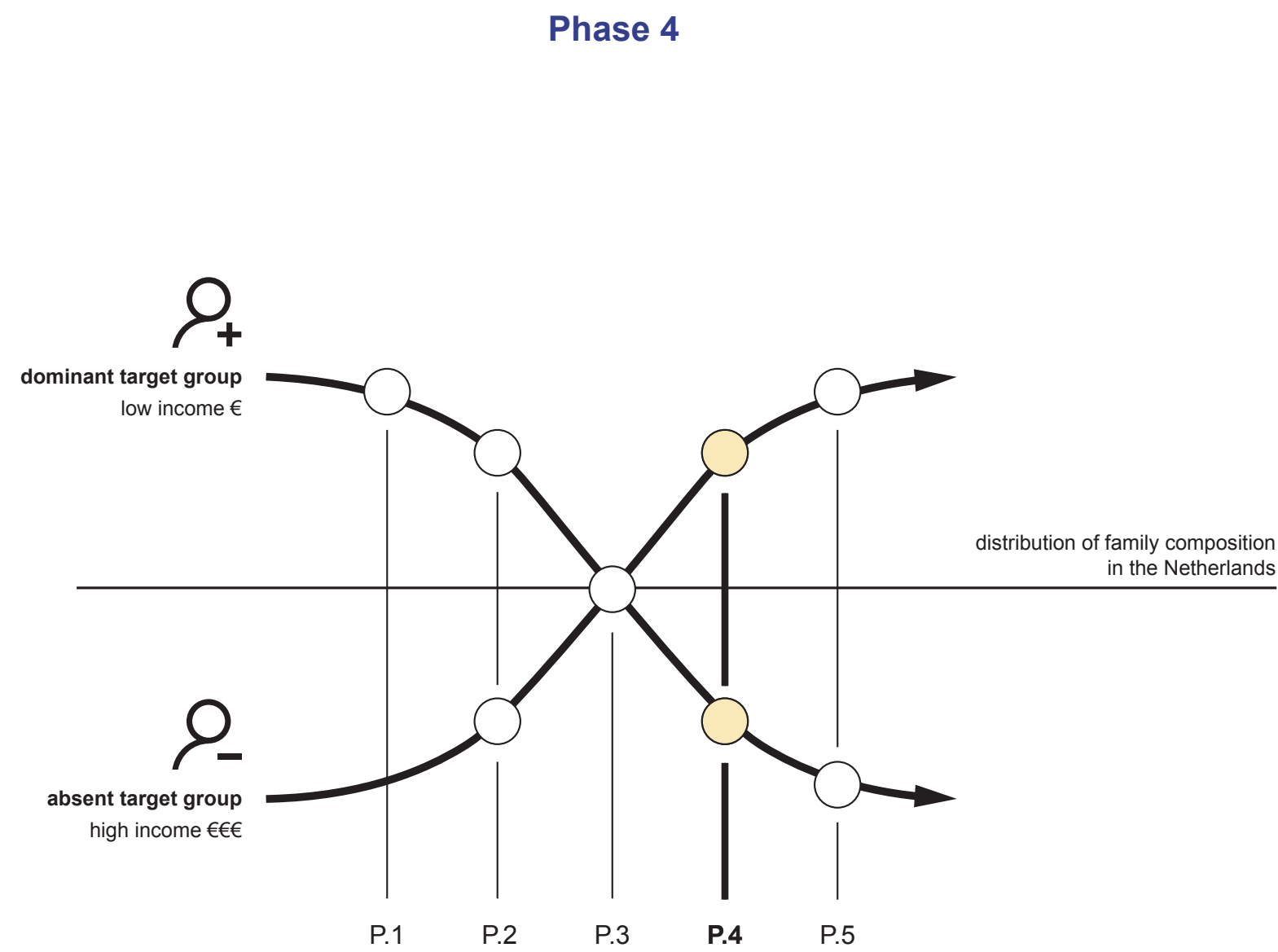
Phase 3



P.3
noticeably changing
population composition in
public realm

the integration of the first groups
more wealthy inhabitants took
place. Bussinesses matching
their, (more expensive) desires
also want to settle. Traffic flows
are shifting and a more mixed
population is taking to the
streets.

Phasing of the (extreme) gentrification curve

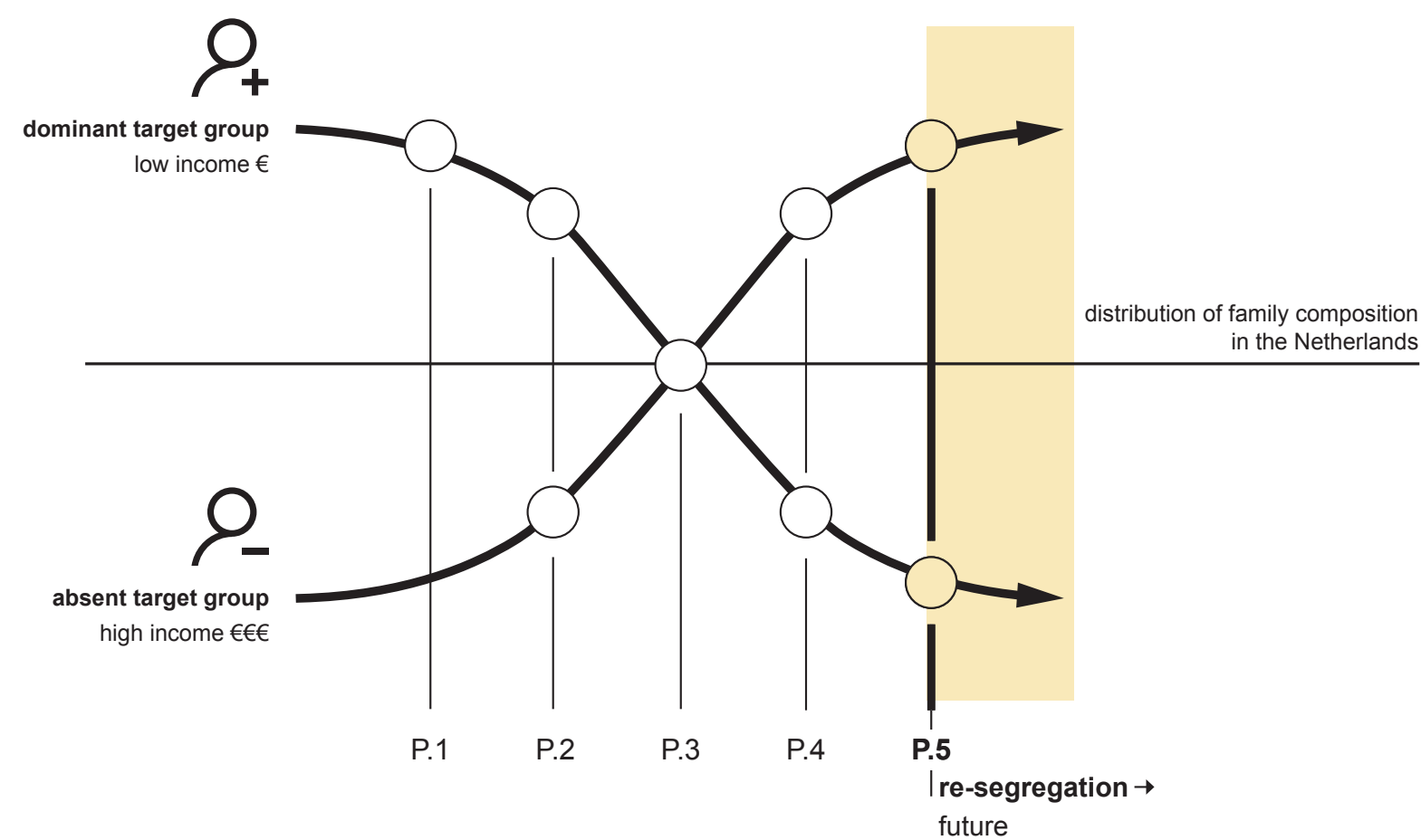


P.4
the emerge of new more
expensive socio-economic
program

the first part of the
capital-bearing inhabitants
arrive, resistance from current
residents arise by seeing rapid
changes in the composition of
residents and transformation of
buildings.

Phasing of the (extreme) gentrification curve

Phase 5



P.5 last phase of extreme gentrification: re-segregation

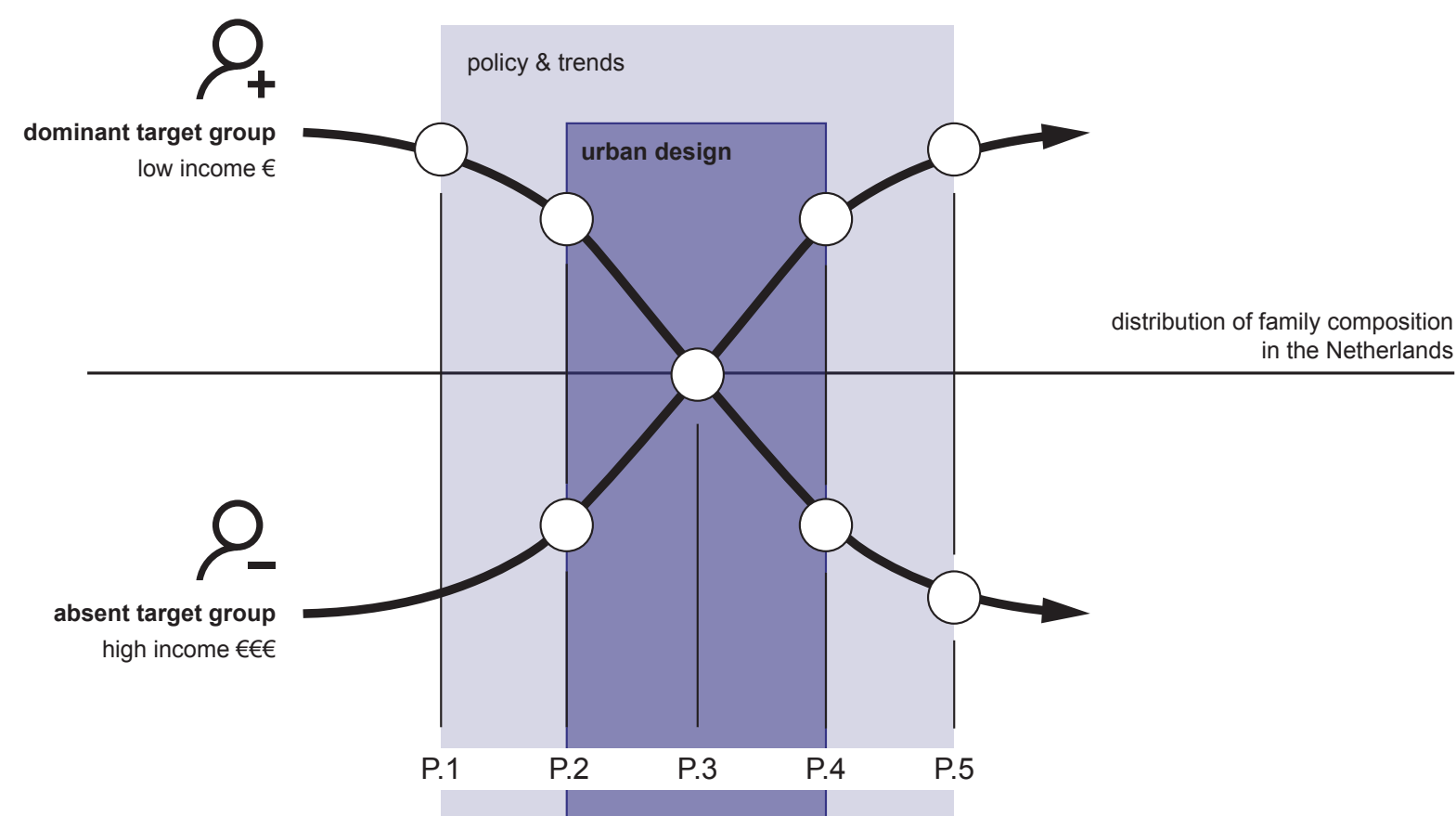
after the establishment of new types of bussinesses, less of the previous urban fabric is left. Current residents experience poor bonding and those who were able to continue living financially are less motivated to do so.

Phasing of the (extreme) gentrification curve

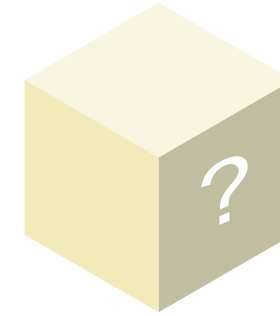
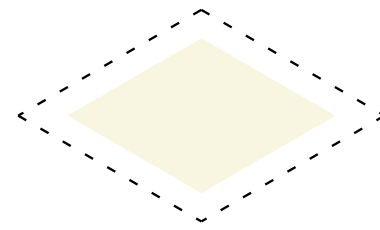
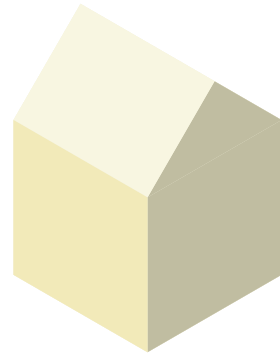
Influence per field of expertise

Policy & Trends

Urban Design



- P.1
segregated low income population
- P.2
growing interest for centrally located affordable neighbourhoods
- P.3
noticeably changing population composition in public realm
- P.4
the emerge of new more expensive socio-economic program
- P.5
last phase of extreme gentrification: re-segregation



P.2
growing interest for centrally located affordable neighbourhoods

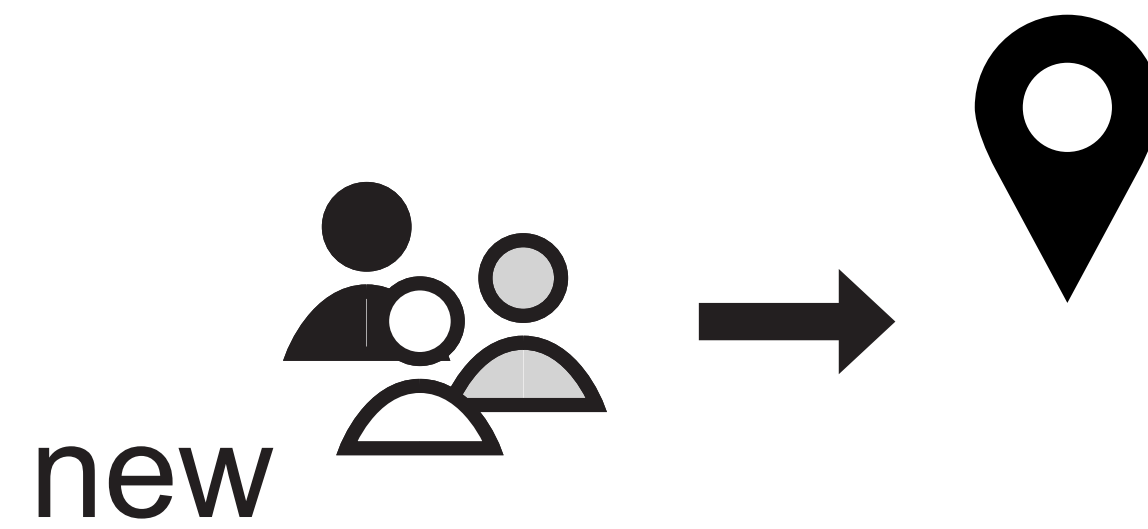
due to the housing crisis, growing interest for living in the Randstad and trend of houses for profit.

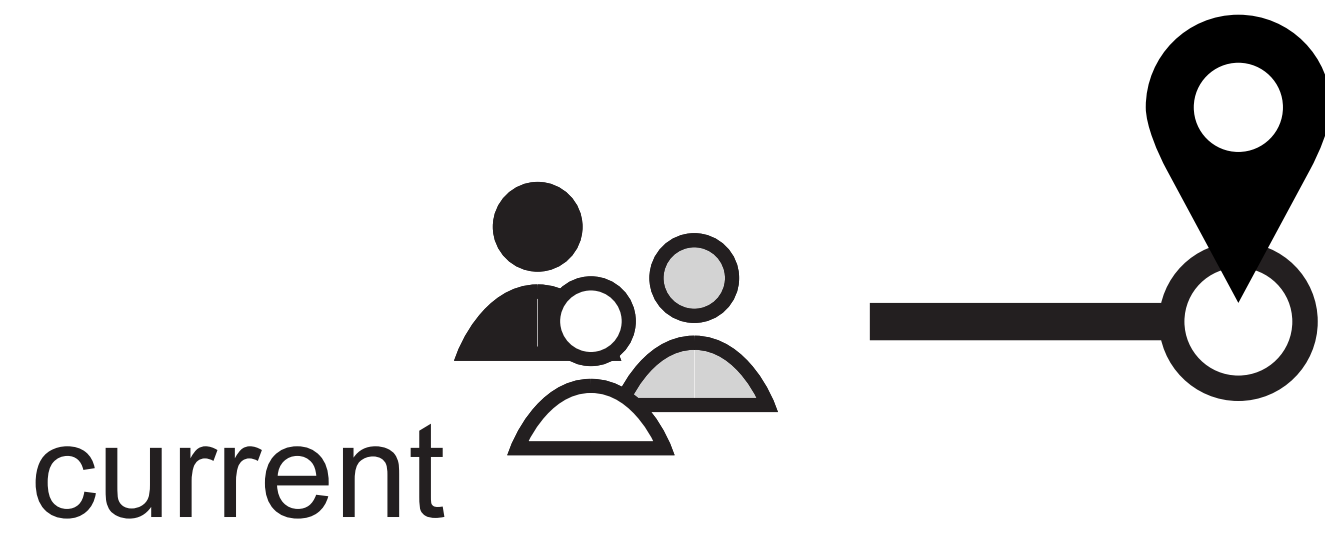
P.3
noticeably changing population composition in public realm

the integration of the first groups more wealthy inhabitants took place. Businesses matching their, (more expensive) desires also want to settle. Traffic flows are shifting and a more mixed population is taking to the streets.

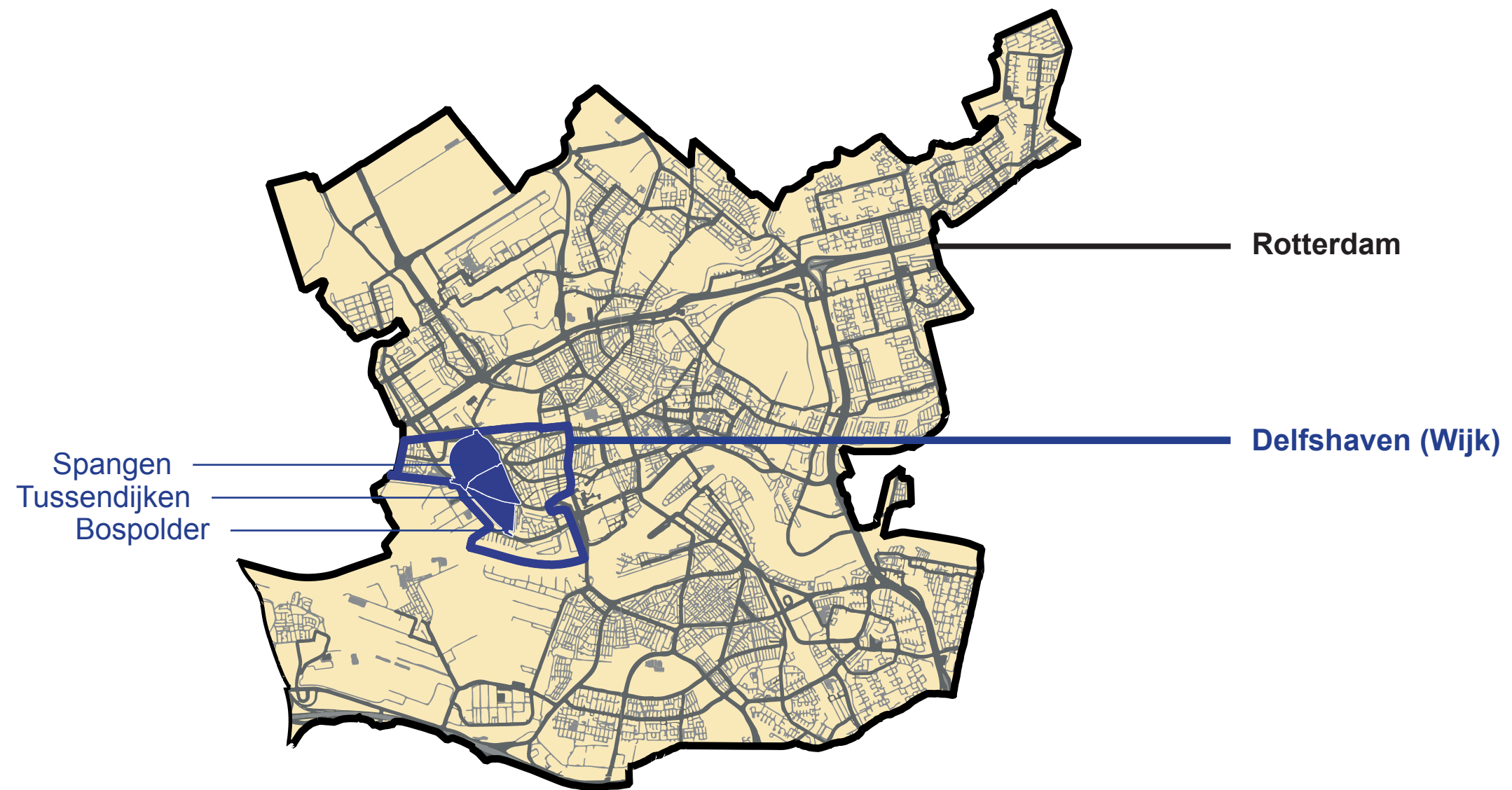
P.4
the emerge of new more expensive socio-economic program

the first part of the capital-bearing inhabitants arrive, resistance from current residents arise by seeing rapid changes in the composition of residents and transformation of buildings.





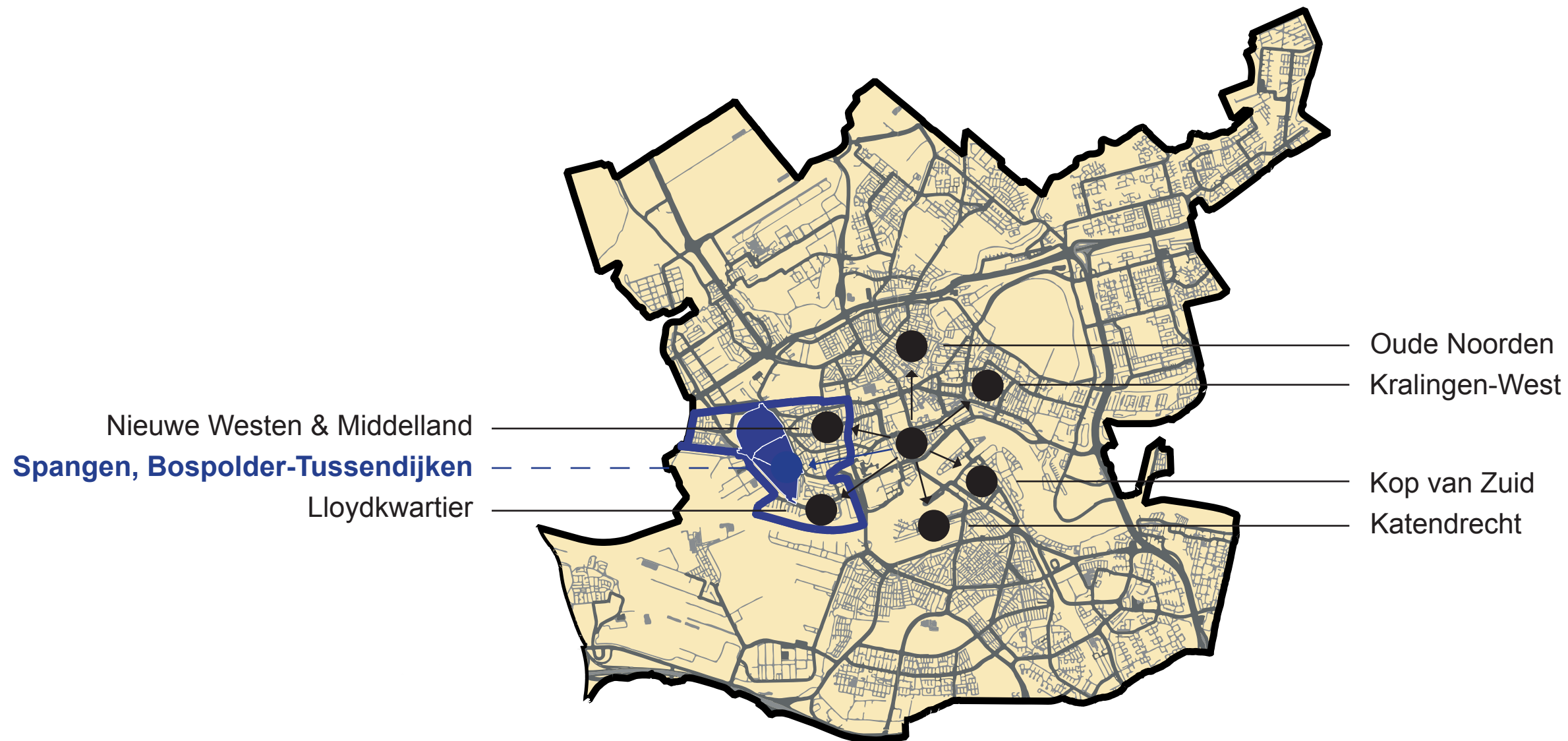
3. **Welcome in the ‘upcoming neighbourhoods’** context





Central location

close to the city center of Rotterdam

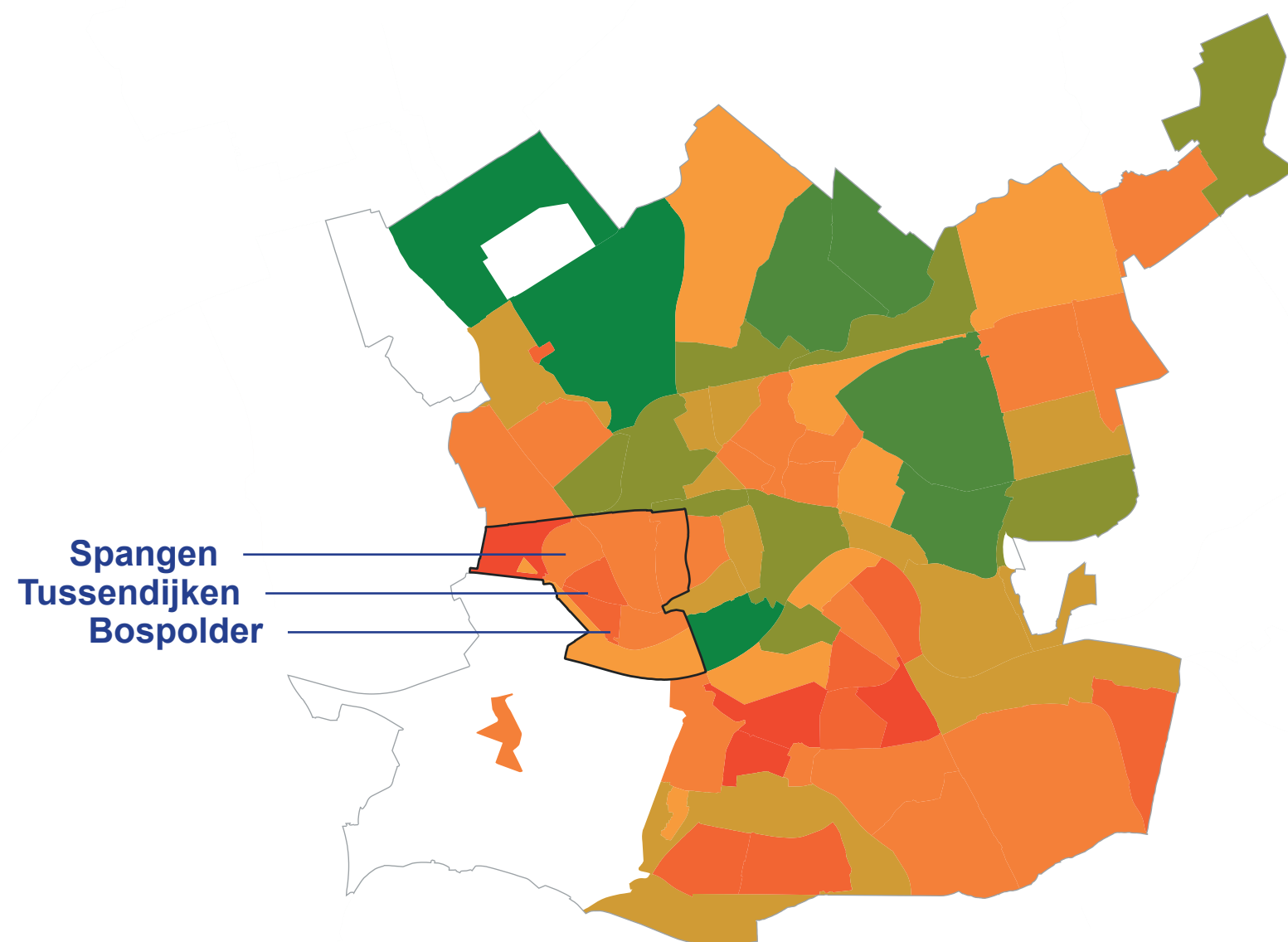


● = already gentrified neighbourhood



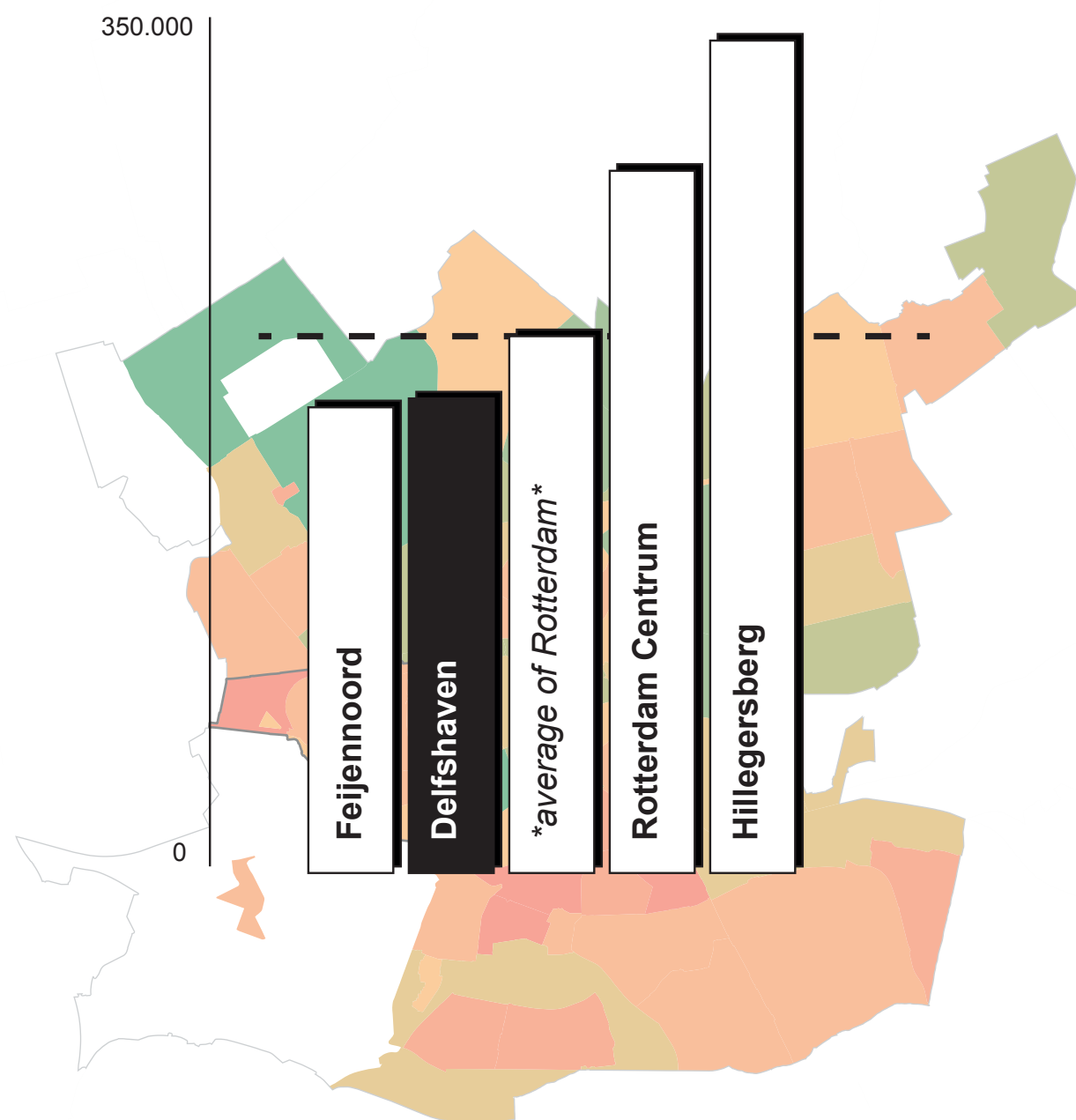
low liveability

scores lower than 4/10 at the Leefbaarometer test



liveability score

- = 1-2
- = 2-3
- = 3-4
- = 4-5
- = 5-6
- = 6-7
- = 7-8
- = 8-9



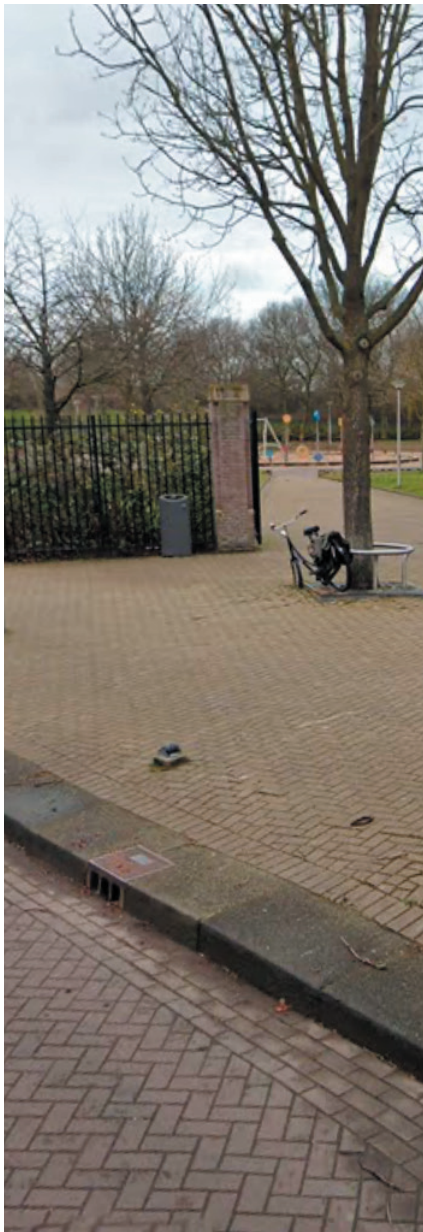
low WOZ value

relatively cheap rents
compared to the rest of the
city

Liveability indexes according Wijkprofiel



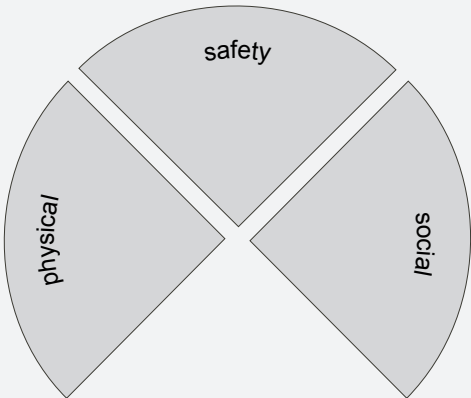
physical 🏠
living, public space,
facilities and
environment (vibrancy
and calmness)



safety ⚠️
theft, violence, burglary,
vandalism and nuisance
(social control and
accountability)



social 👥
self-reliance, co-reliance,
participation and
bonding (social cohesion
and connection with
environment)



liveability indexes

Liveability indexes according Wijkprofiel

- liveability
- physical
 - safety
 - social

physical

- qualitative green
- program differentiation
- housing differentiation
- qualitative houses
- pleasant public spaces
- green public spaces
- financial support

physical
living, public space, facilities and environment (vibrancy and calmness)

safety

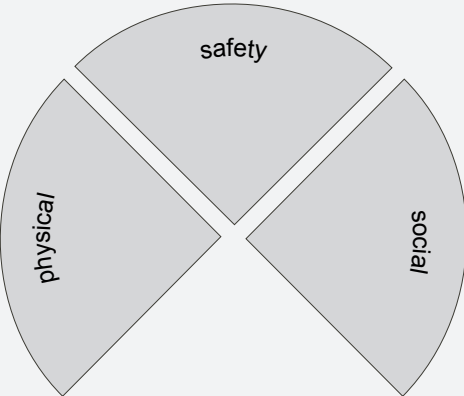
- accessibility
- social controle
- multiple hour program
- walkable places
- bikeable places

safety
theft, violence, burglary, vandalism and nuisance (social control and accountability)

social

- communal housing
- sports
- park to walk the dog
- homes for the higher segment
- houses for sale
- cafe
- restaurant / terrace
- public space for meeting

social
self-reliance, co-reliance, participation and bonding (social cohesion and connection with environment)



liveability indexes

Urban factors for gentrification:



(SEMI) CENTRAL
LOCATION



AFFORDABLE
HOUSING



CURRENT LOW
LIVEABILITY



APPRECIATED
BUILDING STOCK

liveable, diverse
& preserved design:



reinforce



preserve



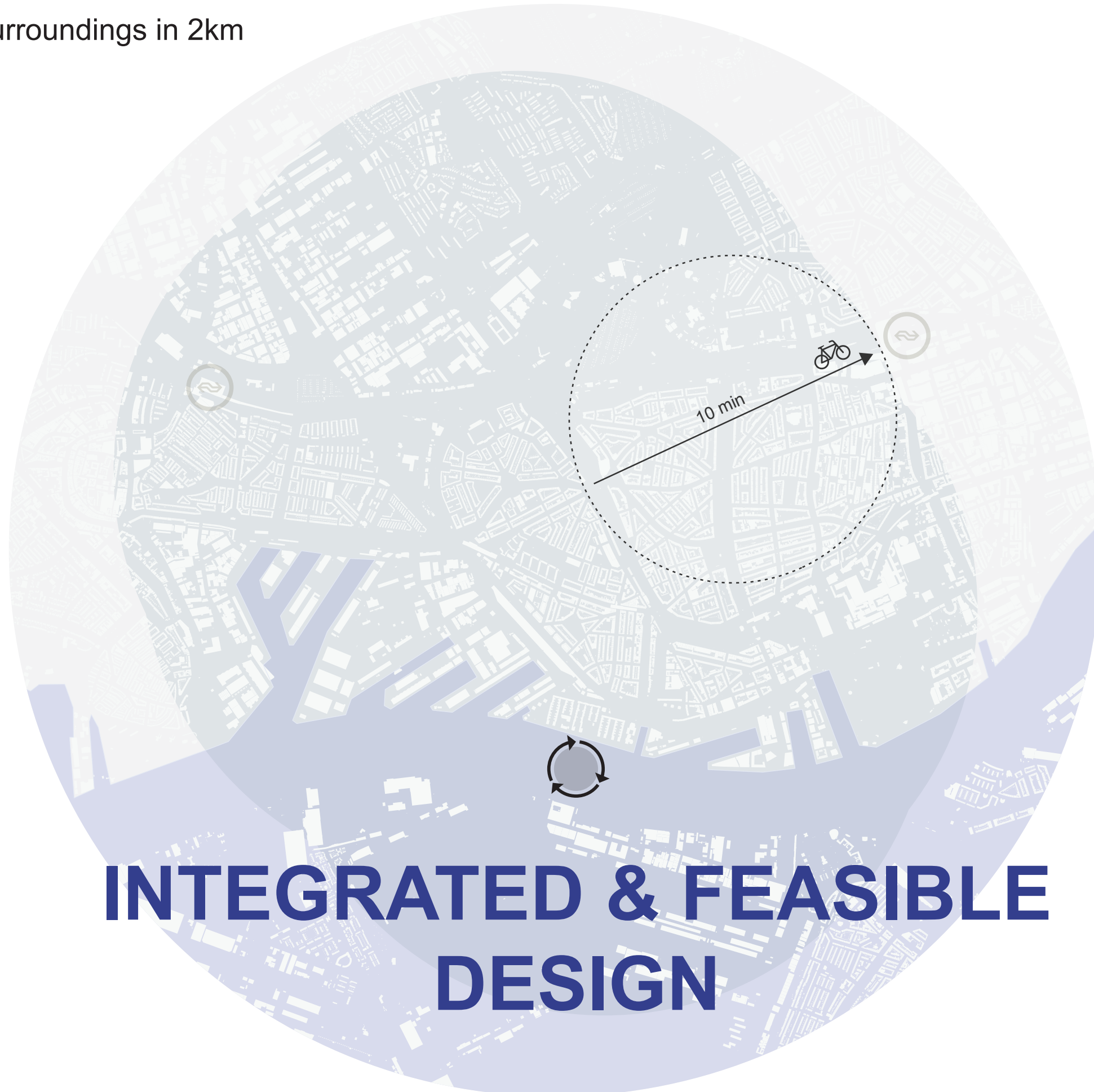
improve



preserve

Central location

10 minute bike to surroundings in 2km



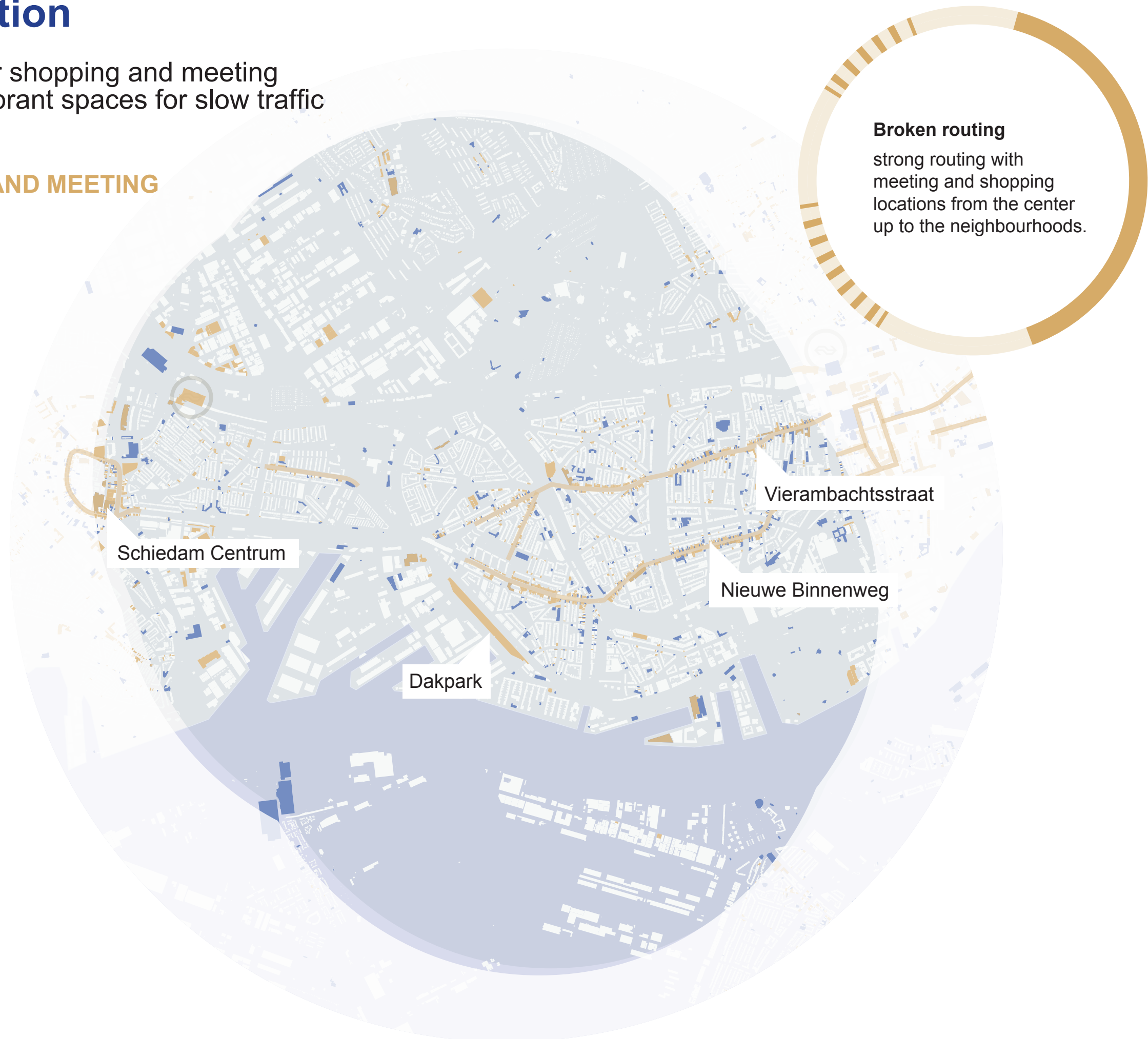
**INTEGRATED & FEASIBLE
DESIGN**

Central location

Current program for shopping and meeting facilities creating vibrant spaces for slow traffic



SHOPPING AND MEETING FACILITIES

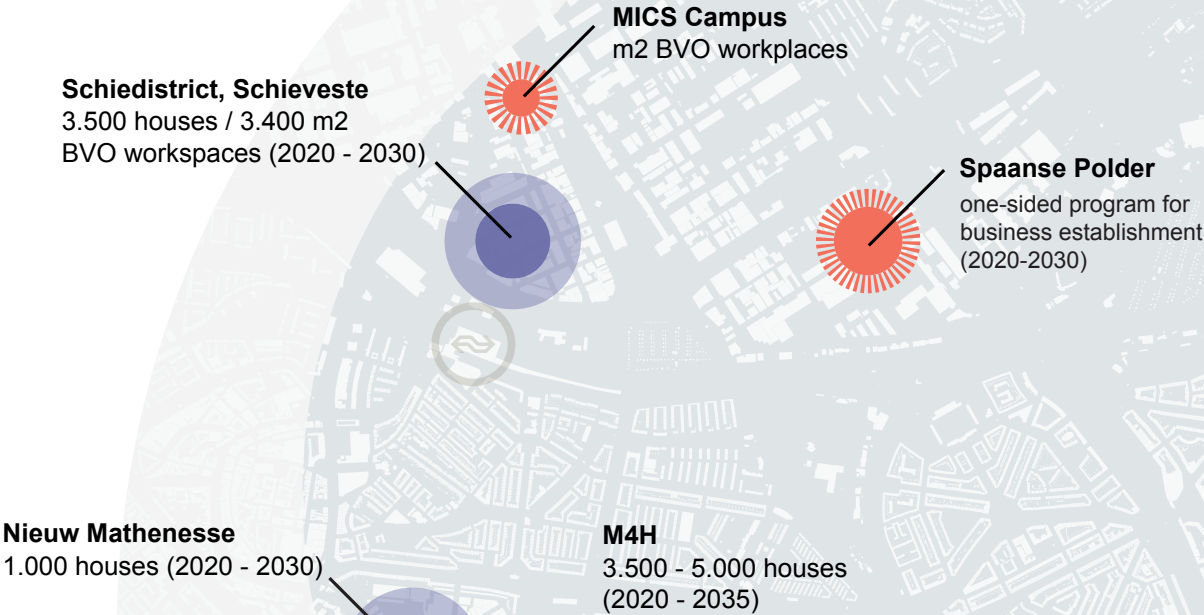


Central location

Nearby urban development plans for housing or work program.



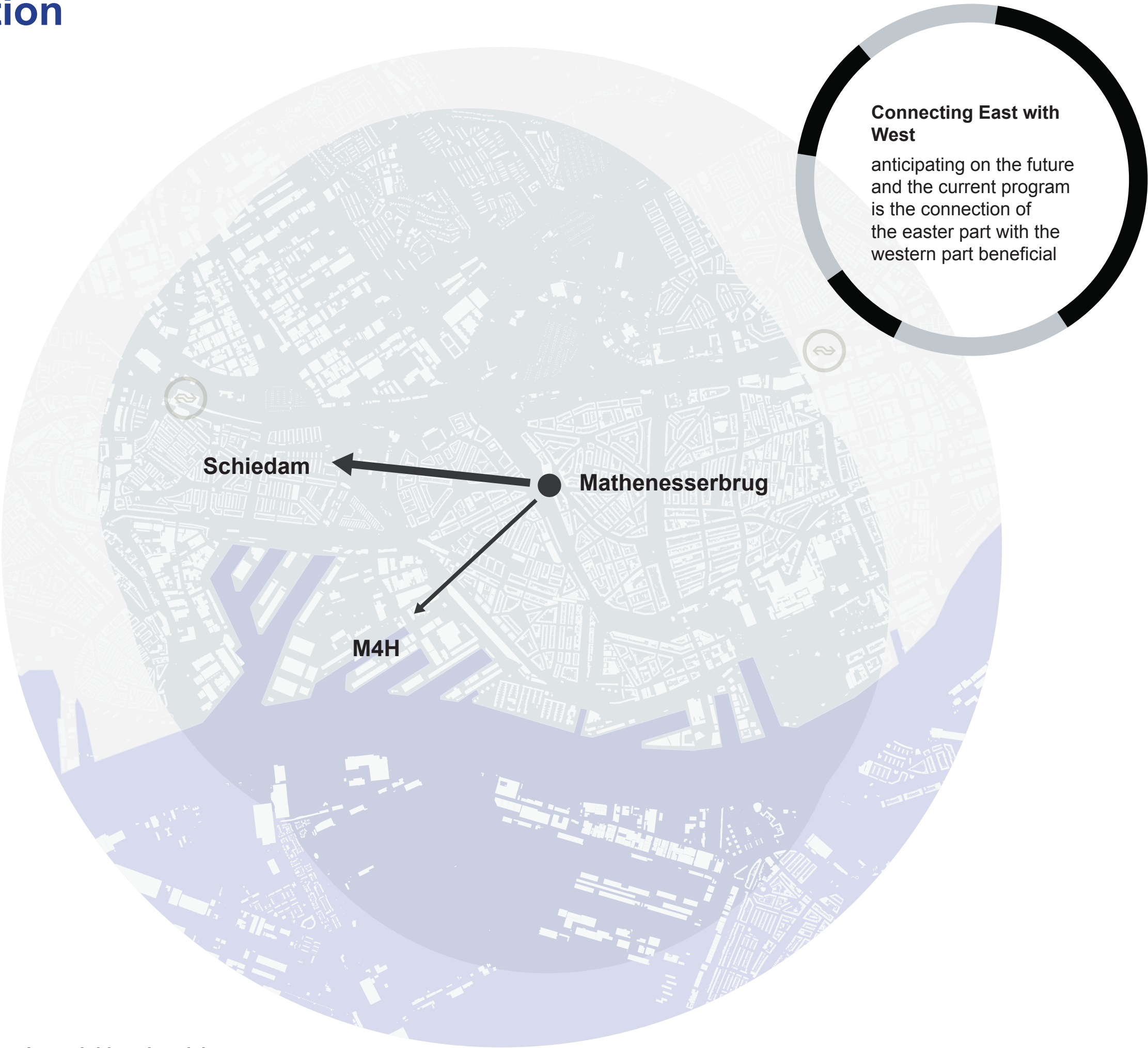
URBAN DEVELOPMENTS



Shifting routes
urban developments
create new movement
flows towards residential
and work locations.

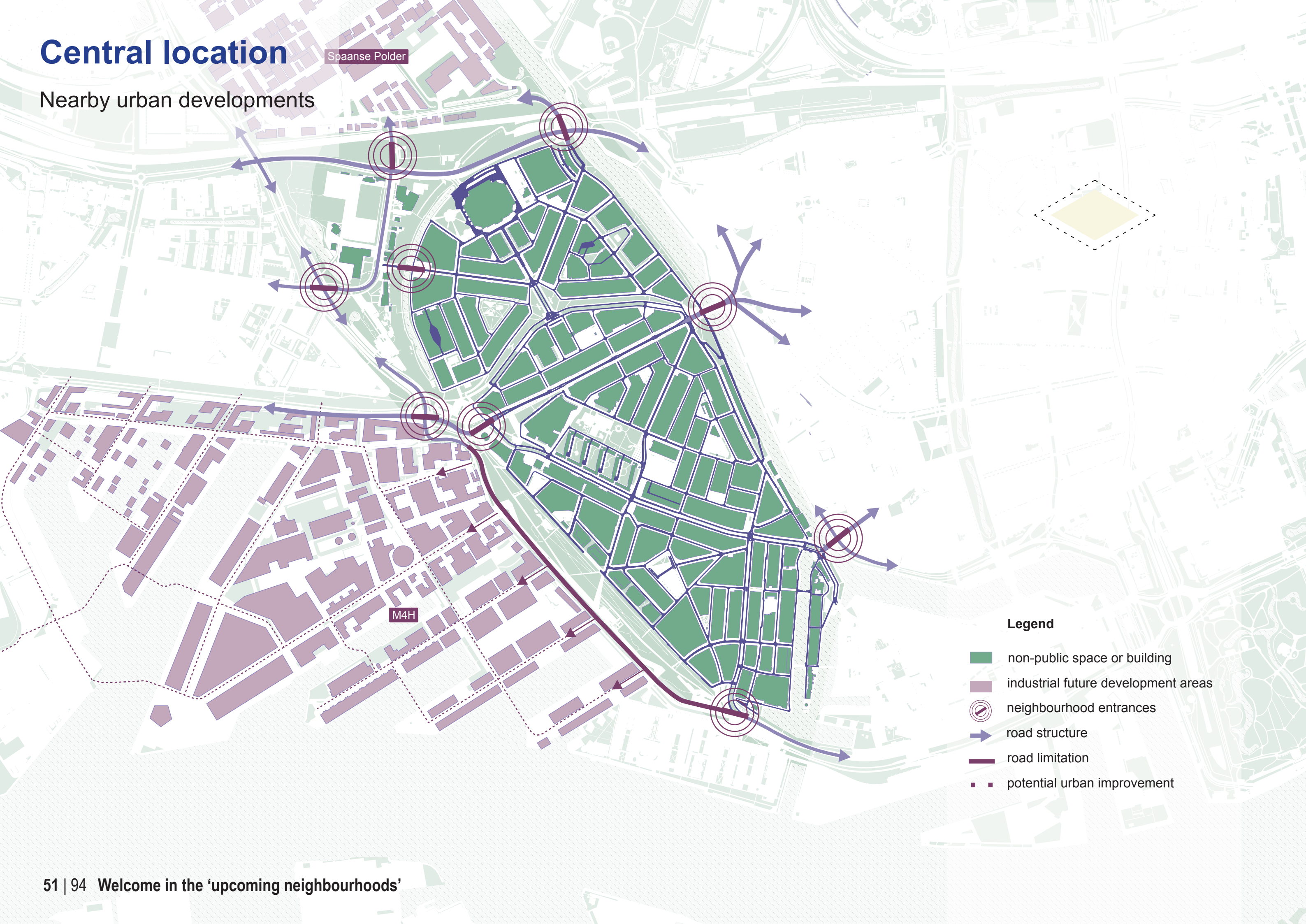
Central location

Shifting traffic flows



Central location

Nearby urban developments



Legend

- non-public space or building
- industrial future development areas
- neighbourhood entrances
- road structure
- road limitation
- potential urban improvement

Central location

Dakpark and infrastructure creating a big physical boundary

Spaanse Polder

M4H

DAKPARK



Legend

- non-public space or building
- industrial future development areas
- neighbourhood entrances
- road structure
- road limitation
- potential urban improvement



Spaanse Polder

Legend

- non-public space or building
- industrial future development areas
- ⊗ neighbourhood entrances
- ➡ road structure
- road limitation
- - - potential urban improvement



Legend

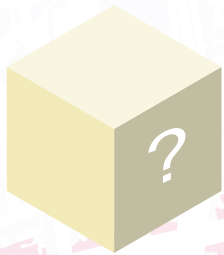
- non-public space or building
- industrial future development areas
- ⊙ neighbourhood entrances
- ➔ road structure
- road limitation
- - - potential urban improvement

Appreciated program

Characteristic small-scale and affordable economic program

Mathenesserweg

Schiedamseweg



shops and meeting facilities at the Mathenesserweg & Schiedamseweg

Legend

- shop or meeting facility
- non-public space or building
- new routes of developing area
- potential new connection
- lively axis
- missing link in lively axis
- name urban developing area

Appreciated program

Inside out stores with affordable products at the Schiedamseweg



Appreciated program



Characteristic small-scale and affordable economic program

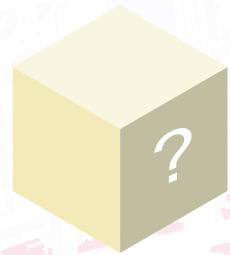


Spangen

Tussendijken

Bospolder

 housing program
 working program










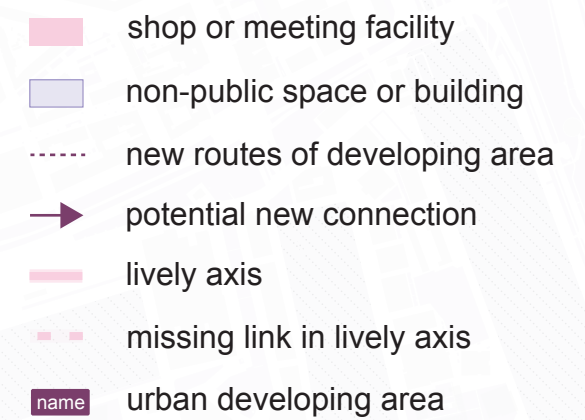
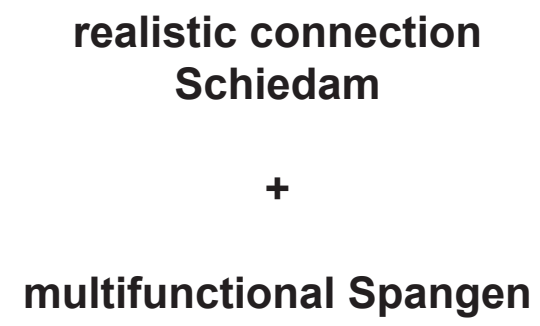
dead end of economic program Mathenesserweg

+

monofunctional Spangen

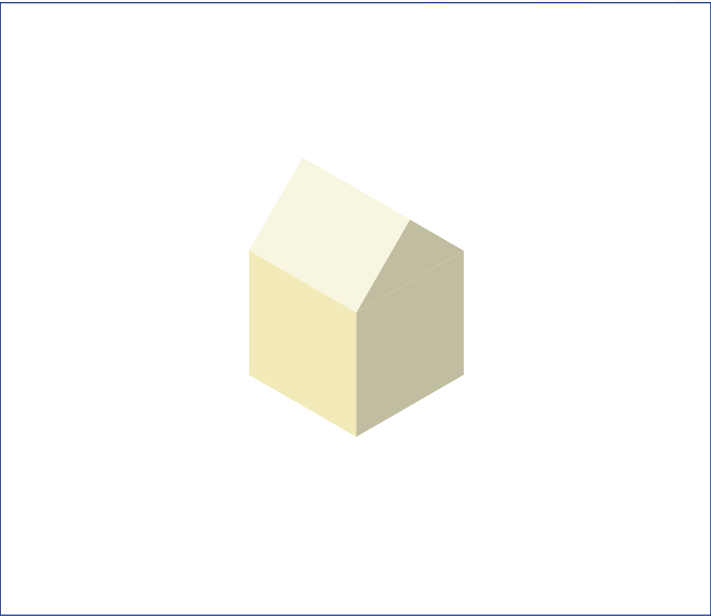
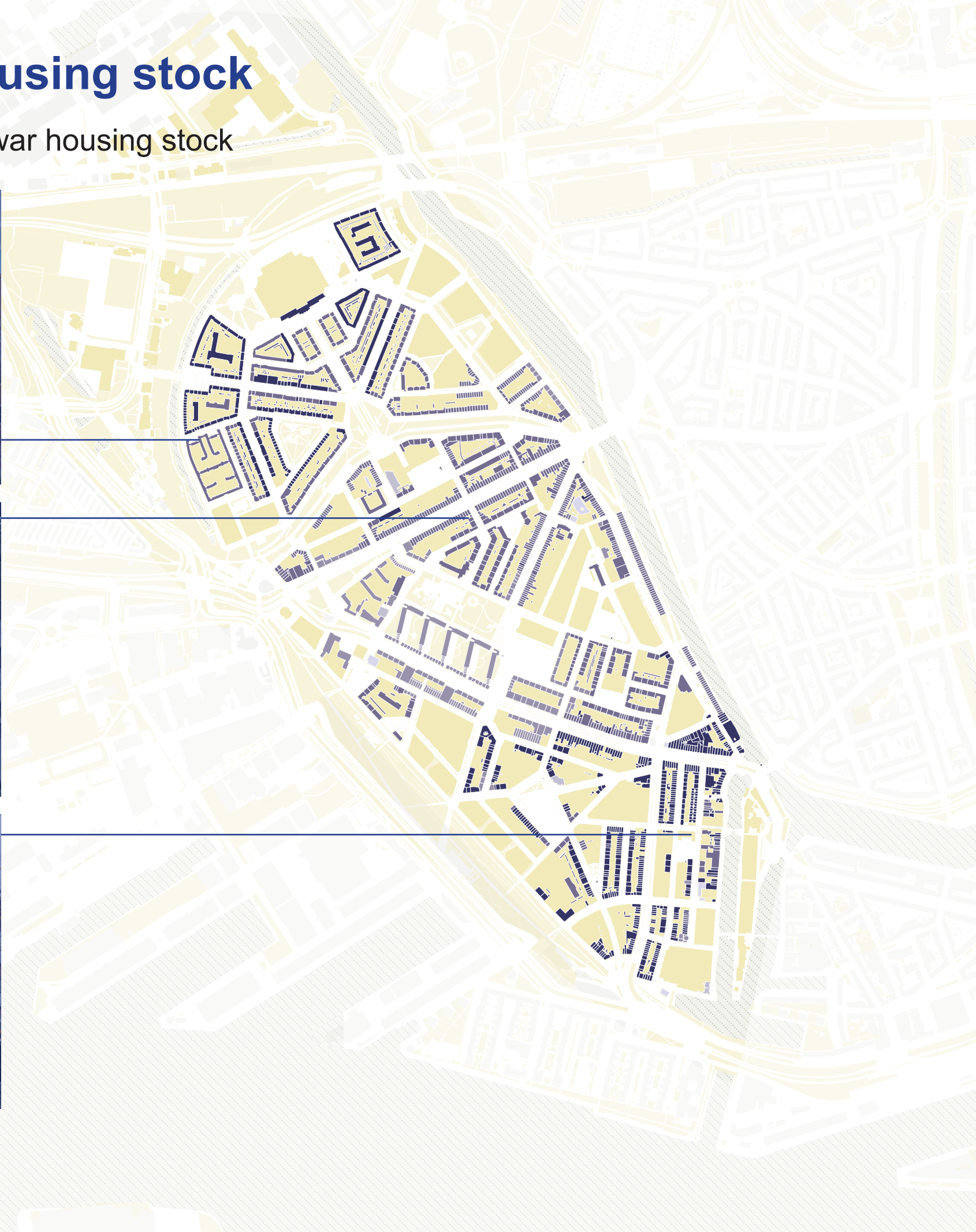
Legend

-  shop or meeting facility
-  non-public space or building
-  new routes of developing area
-  potential new connection
-  lively axis
-  missing link in lively axis
-  urban developing area



Appreciated housing stock

A lot of appreciated pre-war housing stock



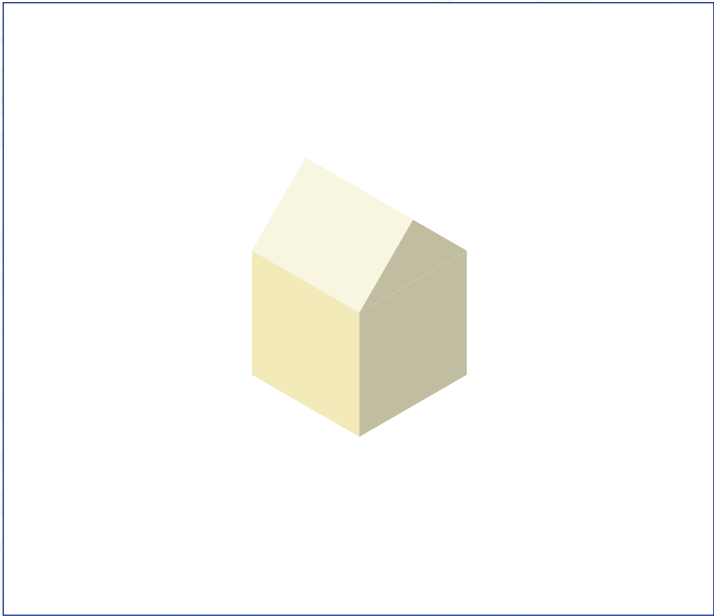
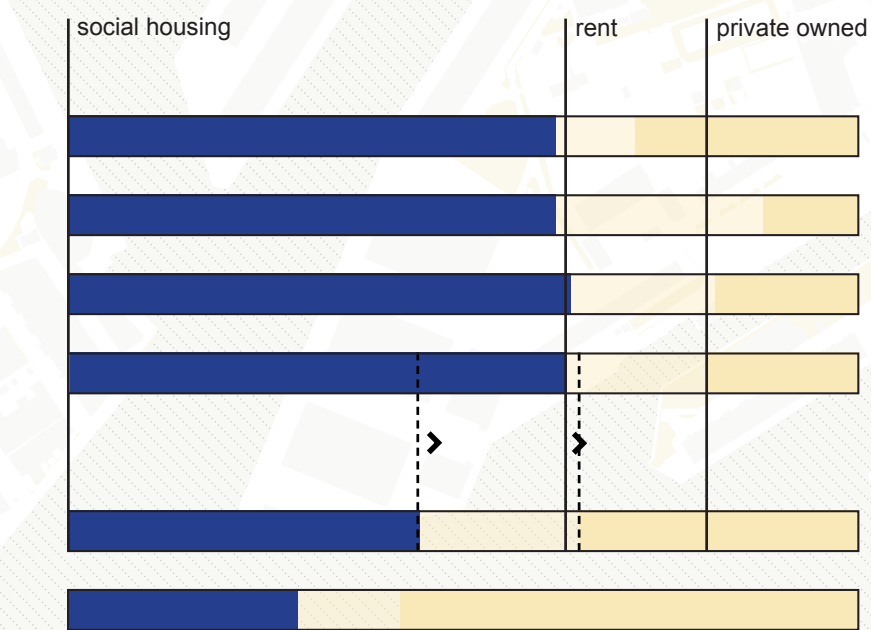
high % pre-war buidlings

Legend

- = < 1900
- = 1900-1920
- = 1920-1945
- = 1945-1960

Affordable housing

Big amount of social housing compared to Rotterdam and the Netherlands



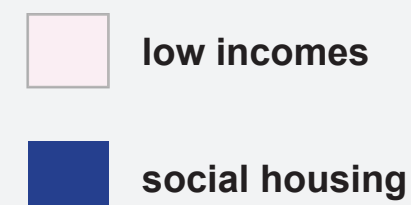
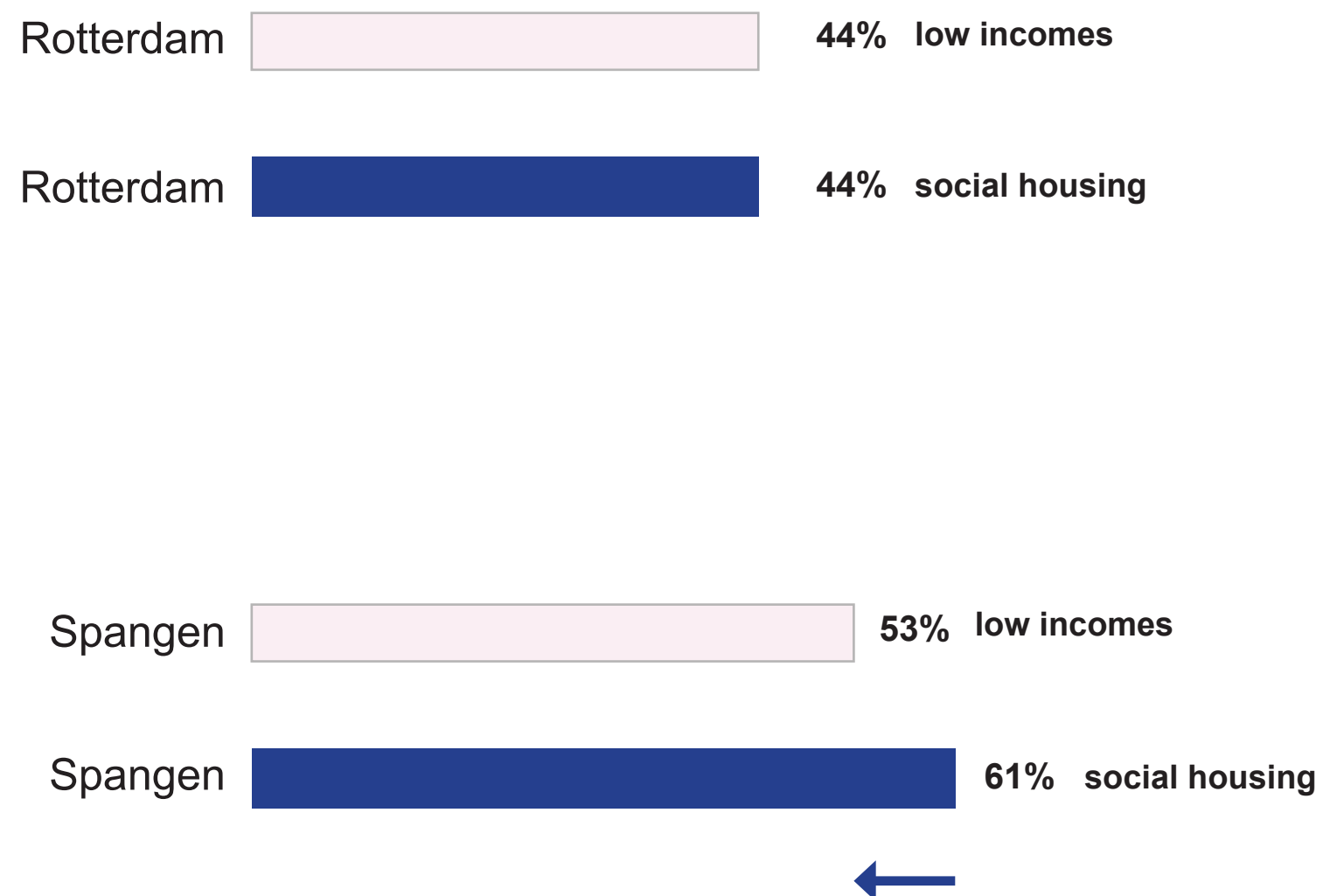
62%
social housing
average

41%
social housing
Rotterdam



resident income versus social rent

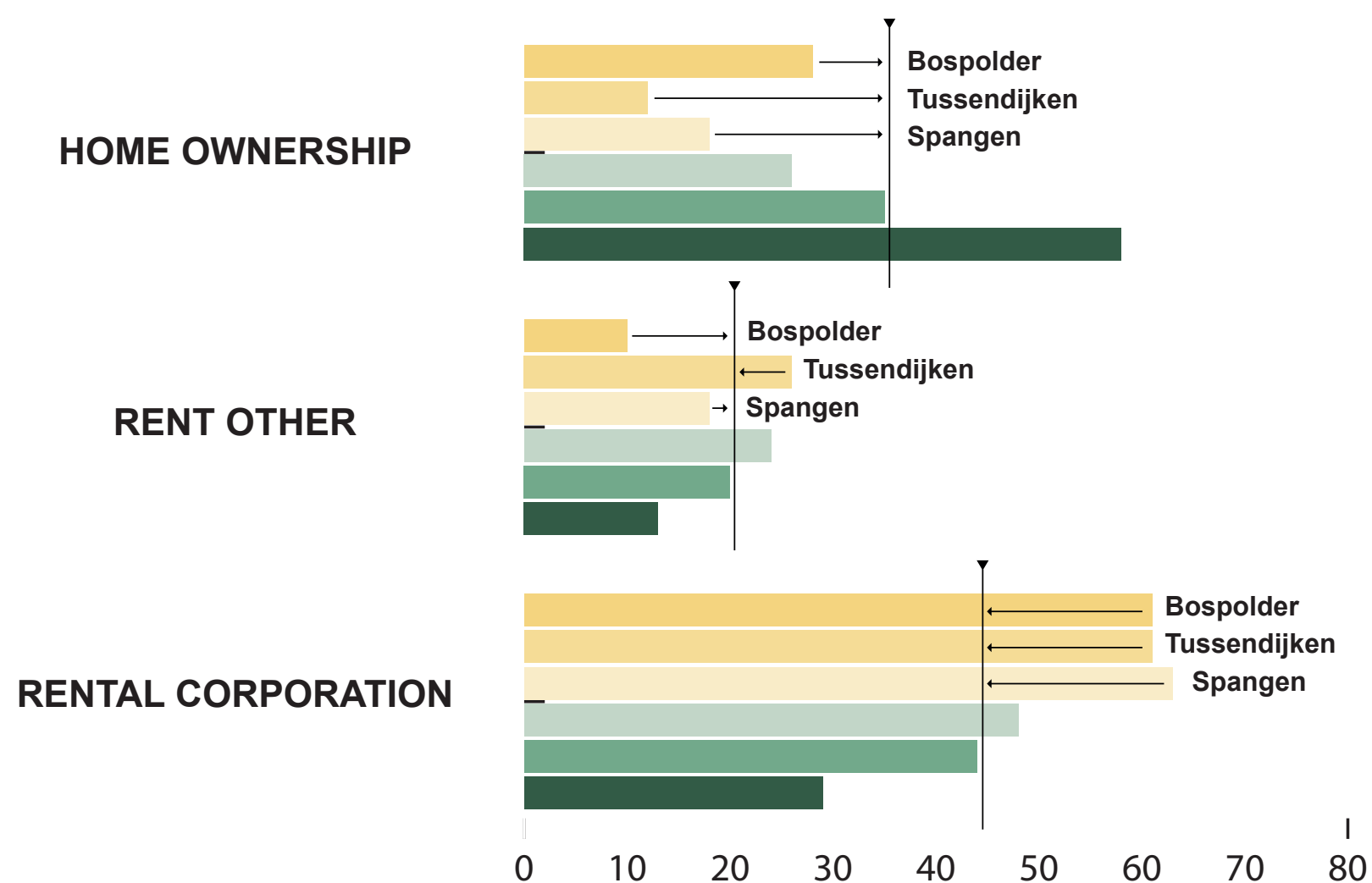
Rotterdam got a 1:1 ratio with low incomes compared to social housing

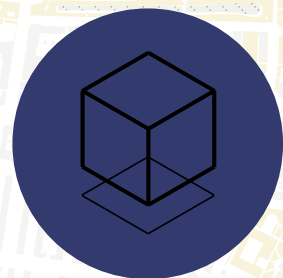




home ownership versus rent

especially private home
ownership is low in the three
neighbourhoods





keep the existing amount of social housing but decline %

50%



62% social housing

realise private housing for a socio-economic diverse program

current amount of social housing

+

private owned housing



Spangen N-W

densification area

decline % social housing,
by increasing amount of
private owned housing
increases

4. **Change to stay the same**
design

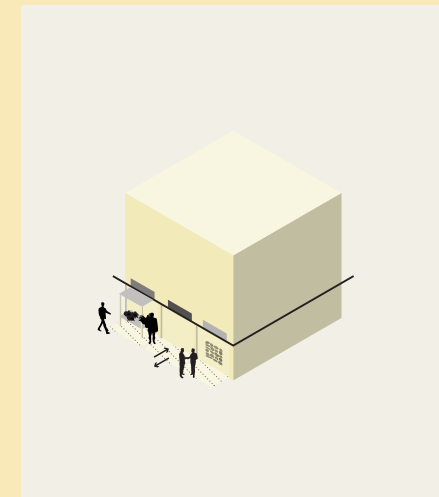
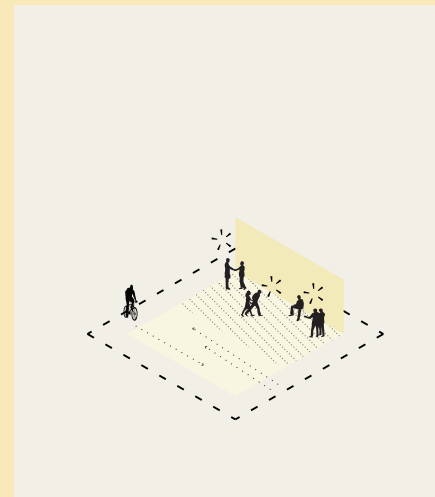
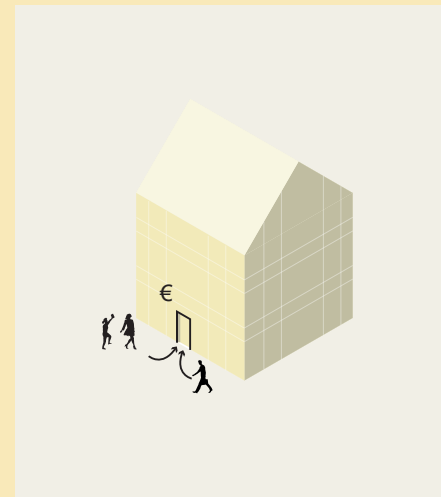
Research question:

6 1 How can urban design contribute to increasing
1 liveability and socio-economic diversity for
5 Spangen, Bospolder & Tussendijken while
preserving neighbourhood identity? 2 4
2 3

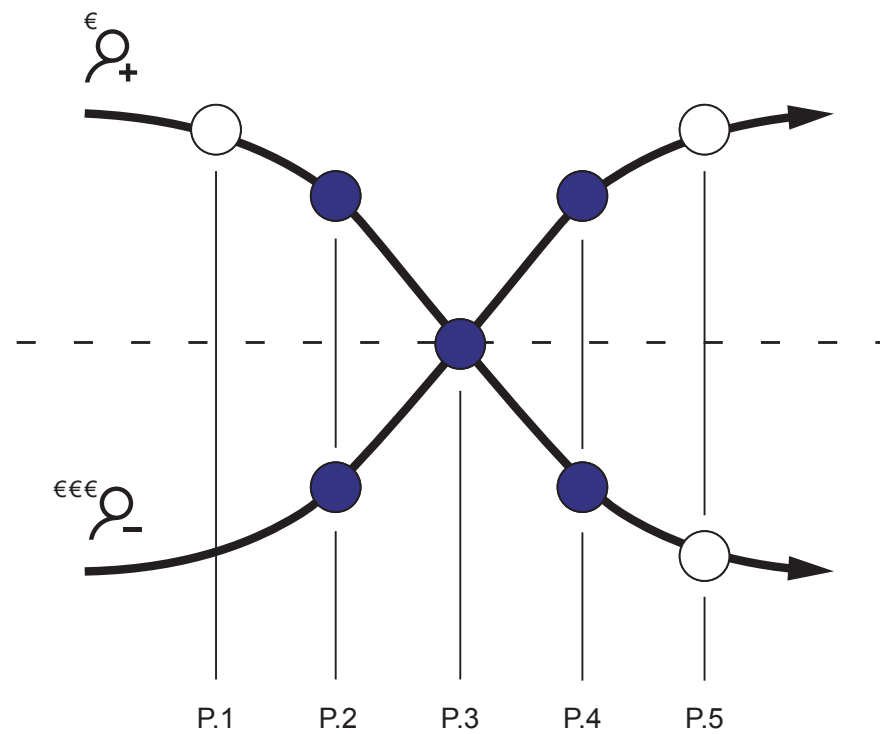


Preserving and reinforcing neighbourhood identity

The design ambitions are mainly based on the 3 phases in the gentrification curve.



- The **affordable housing program** consisting of appreciated architecture that contains a sense of **unity**.
- **Keep as much housing as possible**.
- **Build more private owned houses** for the free housing market.
- The **lively and vibrant public spaces** created by inside out program.
- **Stimulate slow traffic** instead of fast traffic for a growing metropolis.
- **Accessible design for everyday activities**, stimulating encounters between residents.
- The **signature small scale economic facilities** with **affordable products** are located in **plinths**.
- **Colorful and busy facades** with goods inside out.

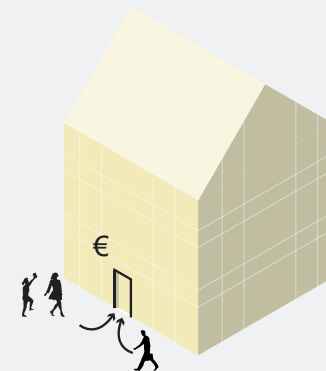


Gentrification phases for urban design.

P2

Growing interest for centrally located affordable neighbourhoods

liveability_x divers socio-economic program



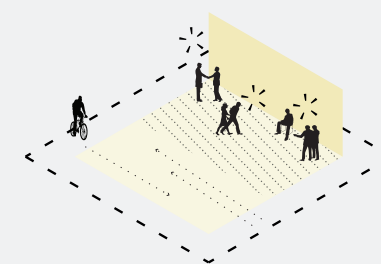
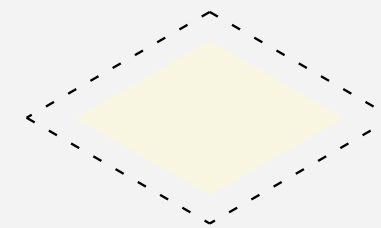
liveability_x divers socio-economic program_x neighbourhood identity

preserve current (social) housing.

construct new owner-occupied houses.

P3

Noticeably changing population composition in public realm

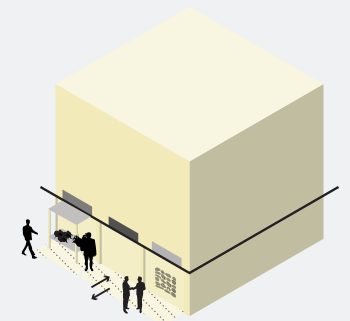
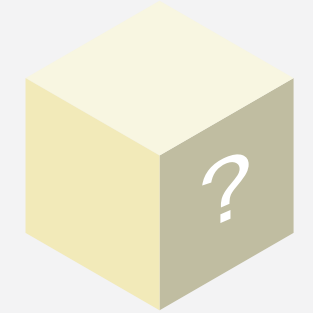


public spaces for the use of small-scale entrepreneurs.

shift focus on slow traffic instead of fast traffic.

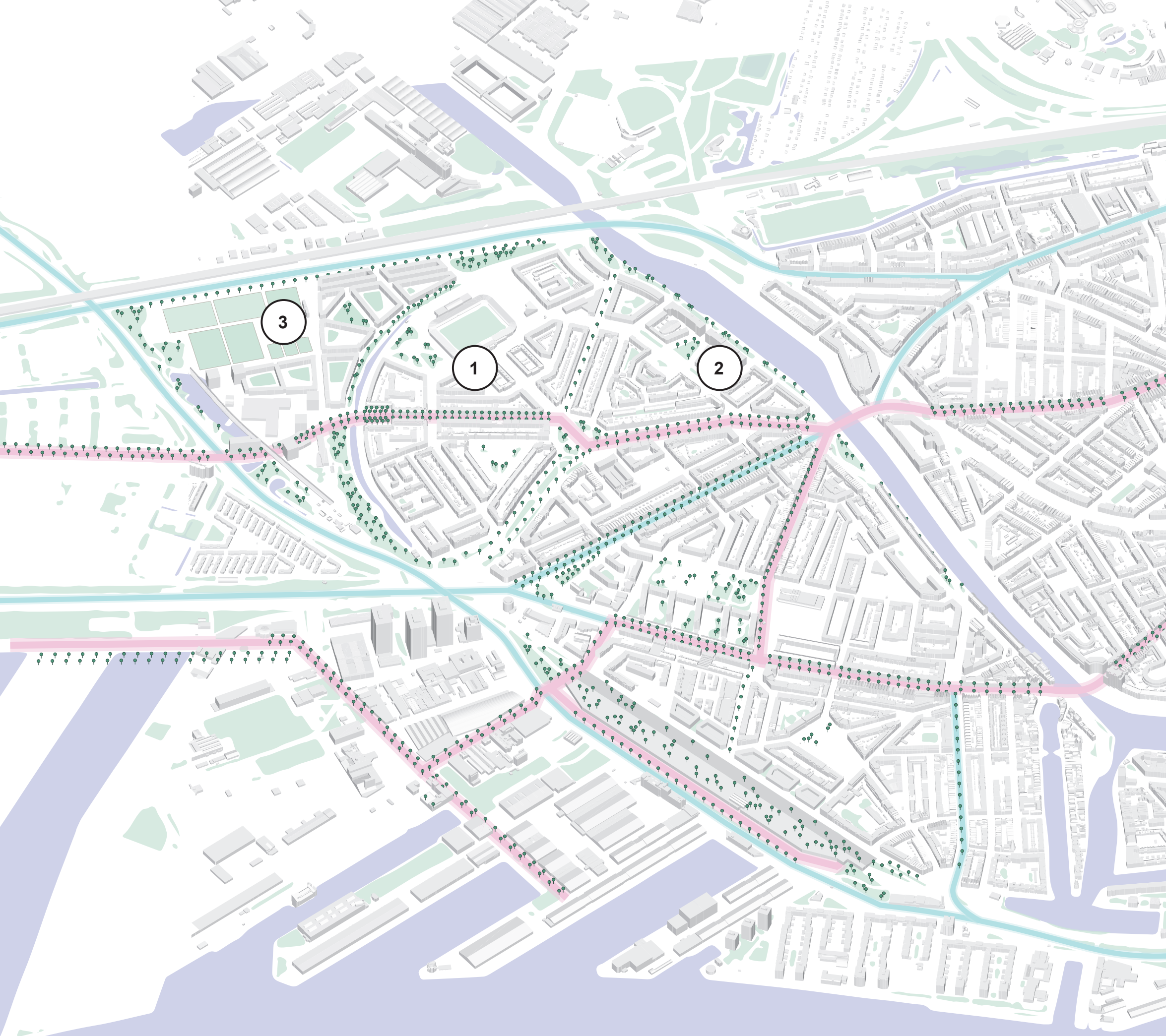
P4

The emerge of new, more expensive, socio-economic program



small scale enterprises with affordable goods

added with financial support in the neighbourhoods.



new connecting axes

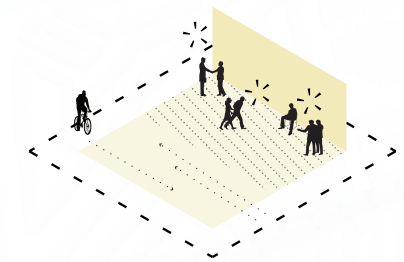
The new (reinforced) axes connect the current design with the surrounding environment.

The environment of today, but also that of the future.

- 1 Bilderdijkstraat
- 2 Mathenesserdijk
- 3 Spangen Noord



Bilderdijkstraat



public space

Introducing lively and liveable axis. Where slow traffic is encouraged and there is room for the small-scale entrepreneur using public space.

Legend

Lively and liveable axis

Main transportation axis

CURRENT

1

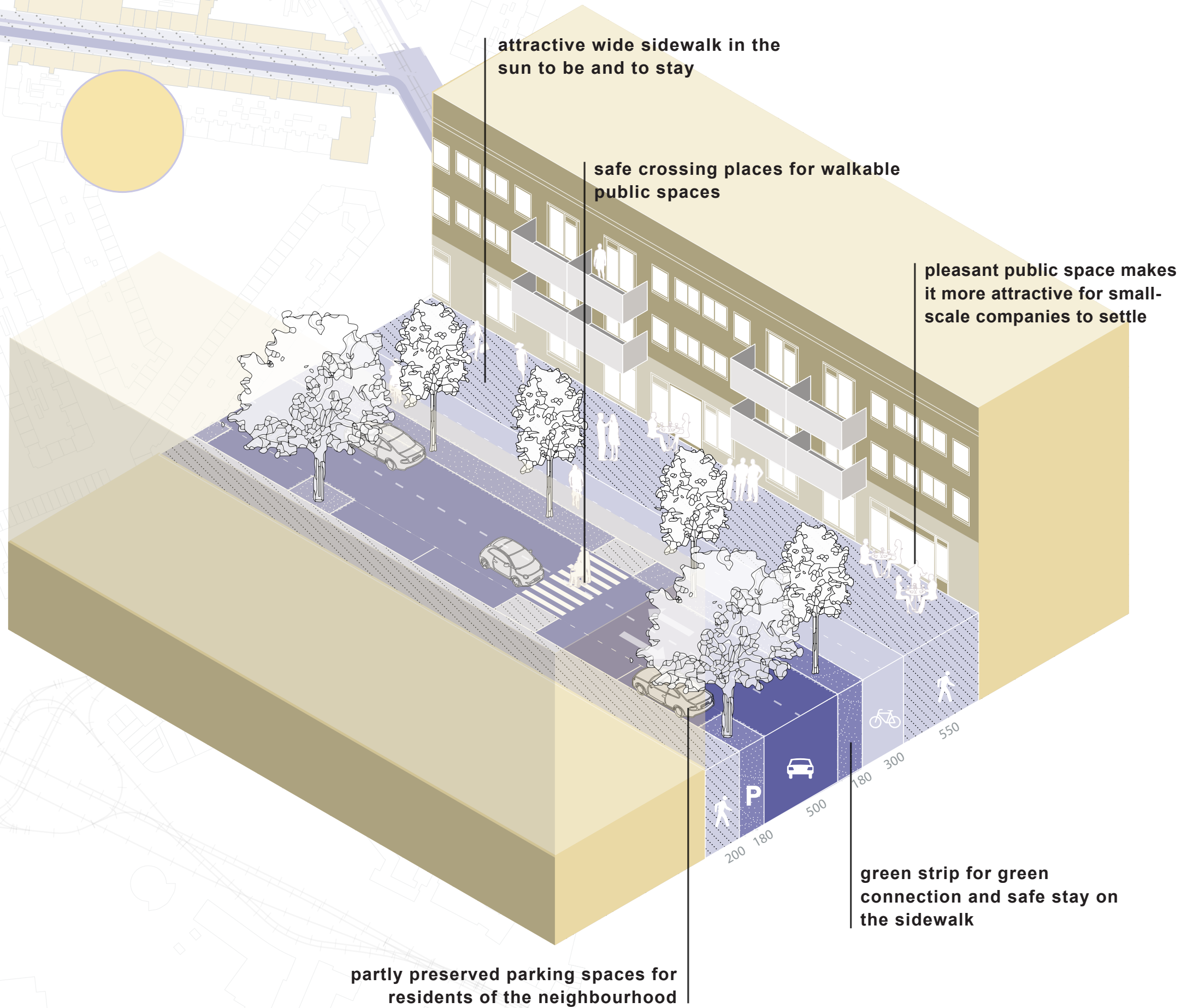
BILDERDIJKSTRAAT

focus on the use of cars and fast traffic

paved, unattractive surfaces

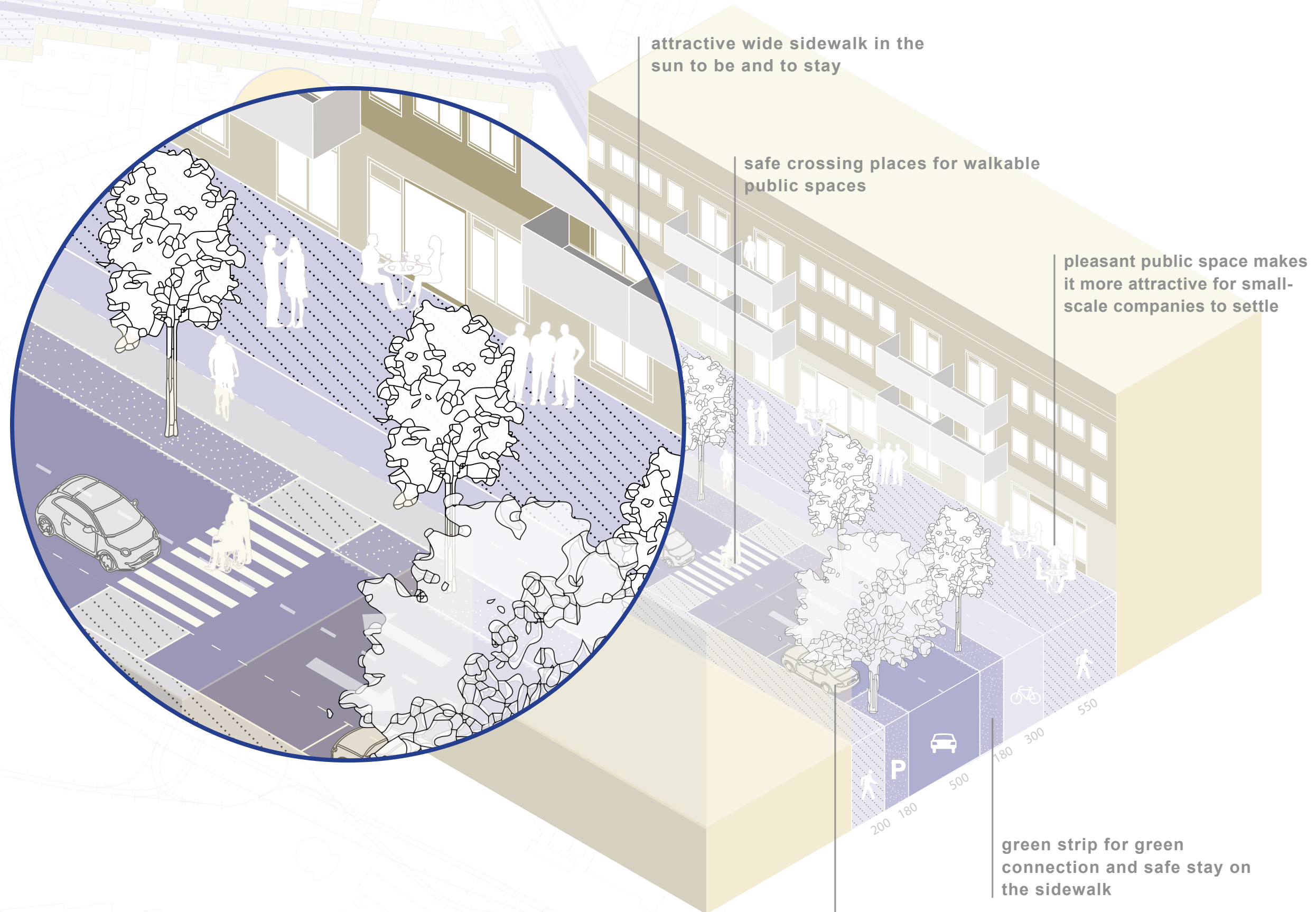
no relation plinth with public space

1



1

BILDERDIJKSTRAAT



attractive wide sidewalk in the sun to be and to stay

safe crossing places for walkable public spaces

pleasant public space makes it more attractive for small-scale companies to settle

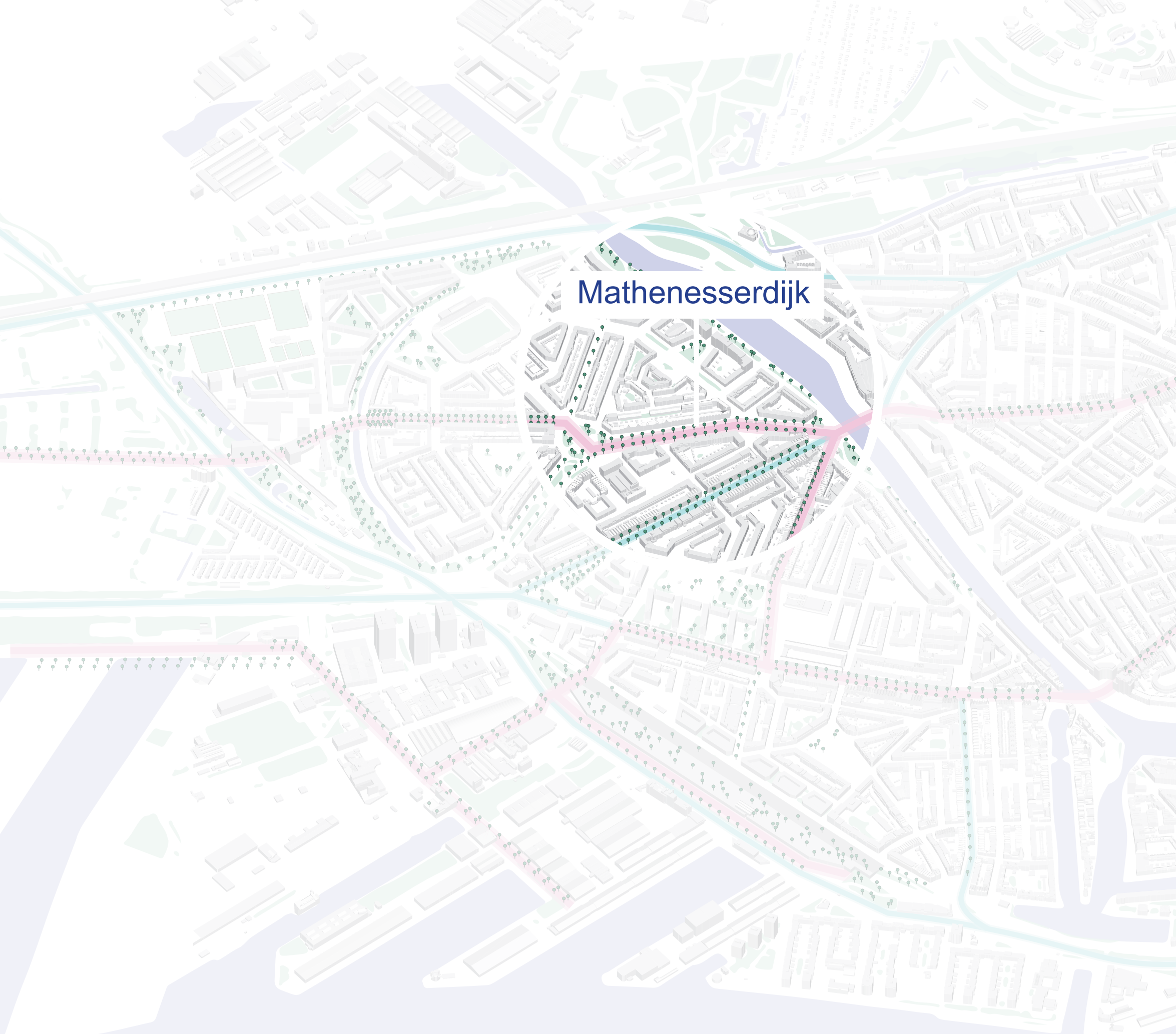
green strip for green connection and safe stay on the sidewalk

partly preserved parking spaces for residents of the neighbourhood

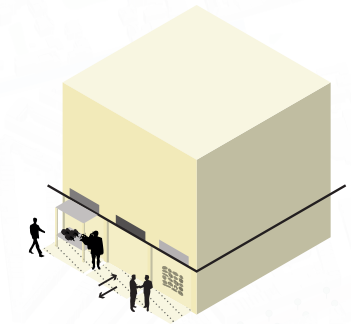


Bilderdijkstraat





Mathenesserdijk



program

Lively and liveable axes are stimulated by facilities that are used during the day.

The characteristic affordable products for everyday use are located in small-scale enterprises.

Legend

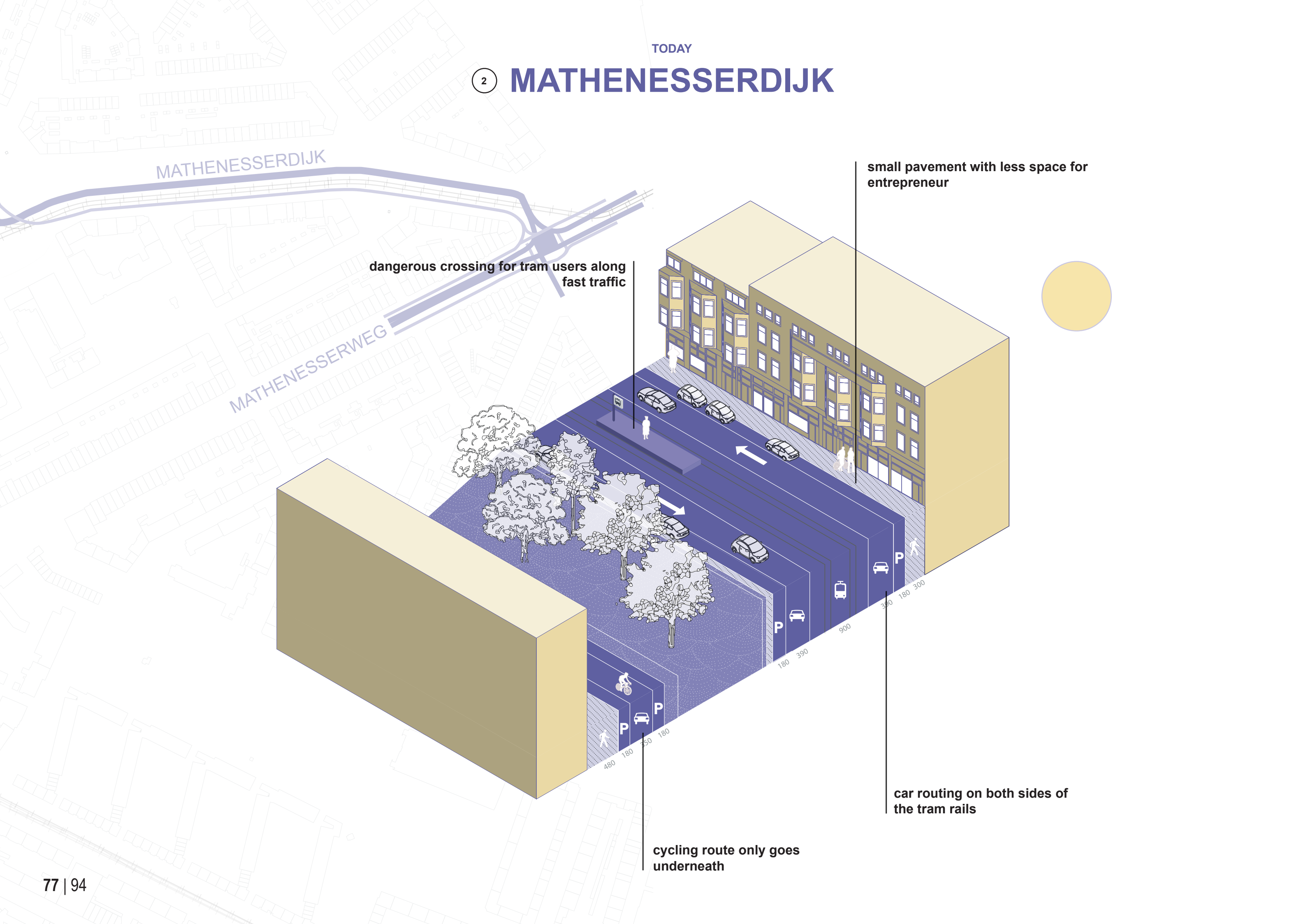
Lively and liveable axis

Main transportation axis

TODAY

2

MATHENESSERDIJK



MATHENESSERDIJK

MATHENESSERWEG

dangerous crossing for tram users along fast traffic

small pavement with less space for entrepreneur

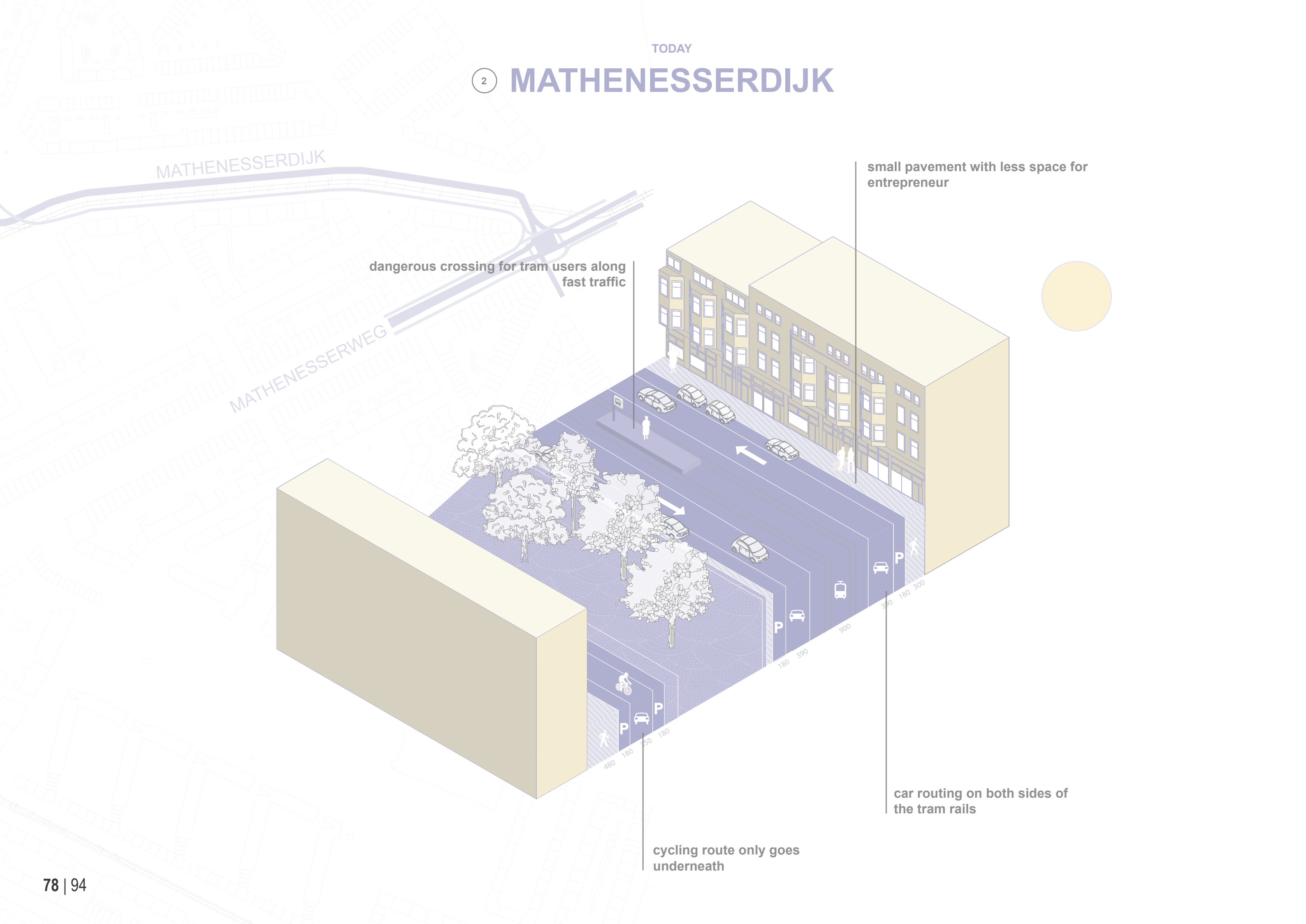
car routing on both sides of the tram rails

cycling route only goes underneath

TODAY

2

MATHENESSERDIJK



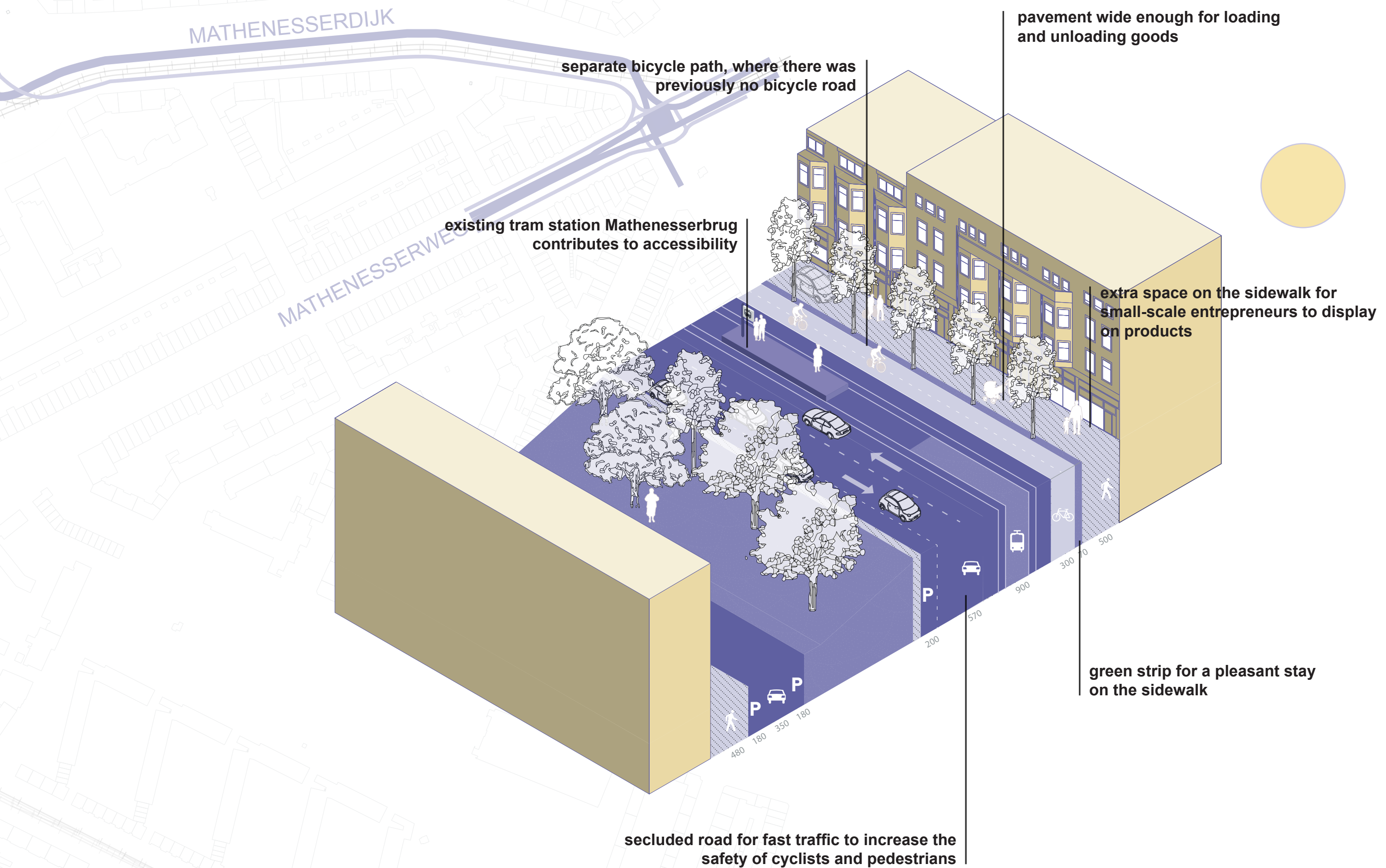
dangerous crossing for tram users along fast traffic

small pavement with less space for entrepreneur

car routing on both sides of the tram rails

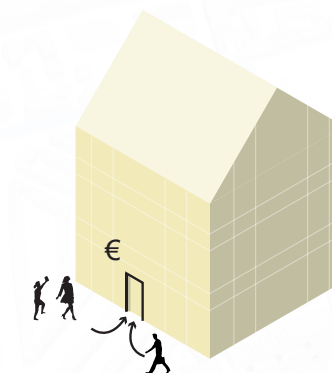
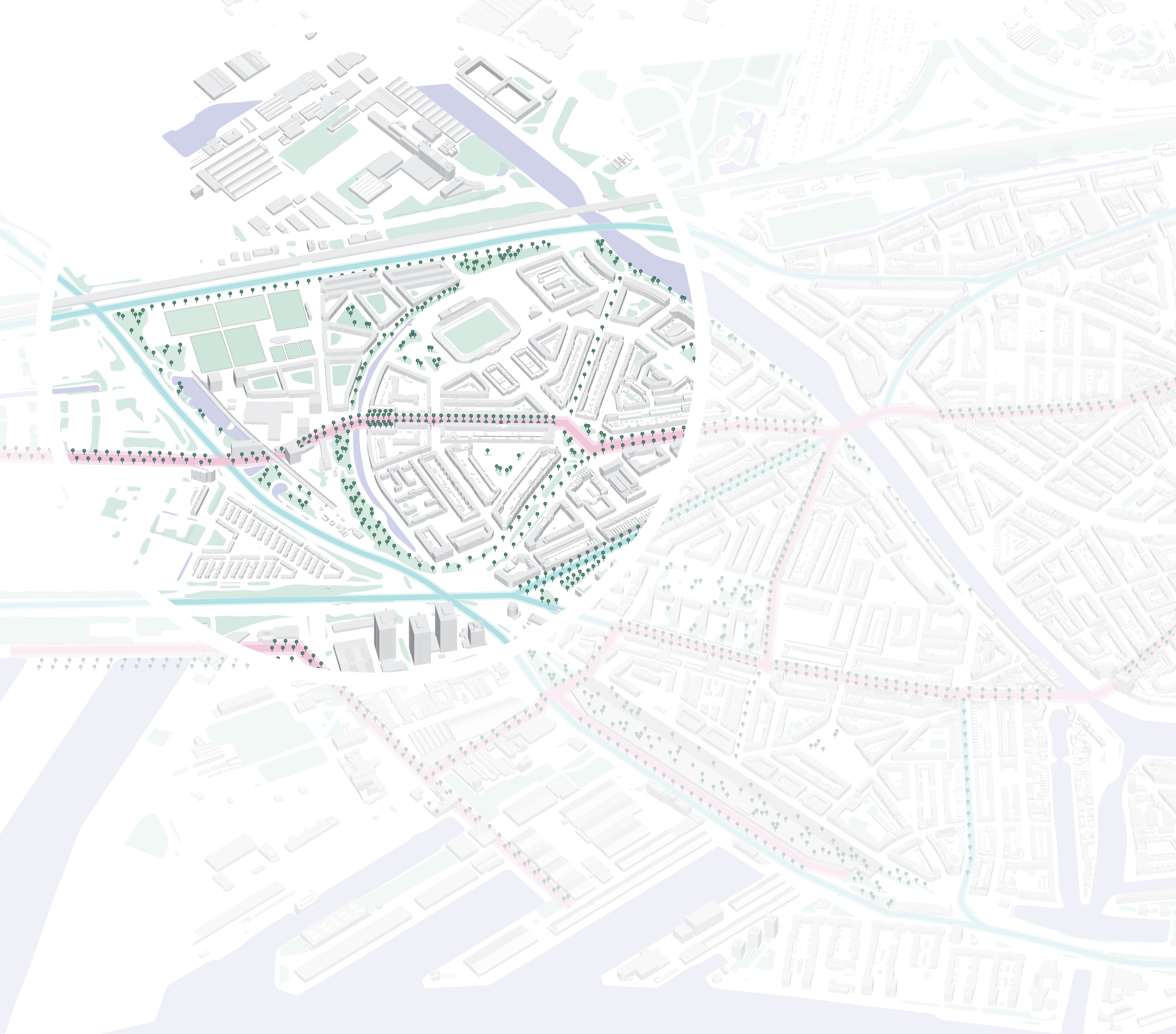
cycling route only goes underneath

MATHENESSERDIJK









building stock

Diversify the building stock for new socio-economic groups. Creating financial support for the characteristic program.

Legend

- Lively and liveable axis
- Main transportation axis



Legend

- public space
- surrounding buildings
- mainly housing program (+- 17-8:00)
- day program (varying hours)
- economic program (+- 8-17.00)

blind sided park

public space experienced by one side providing unpleasant public space by night



Legend

- public space
- surrounding buildings
- mainly housing program (+- 17-8:00)
- day program (varying hours)
- economic program (+- 8-17.00)

two-sided spatial park

public space that can be experienced from both sides instead of one



Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

important junction and
destination point for new and
current residents of the area
for the activation of the new
axis.



Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

Change from side route to
main route



Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

Creating space for housing by shifting the road more close to the train track



Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

Free market houses for socio-economic diversity extending the Spangen design providing financial support for facilities

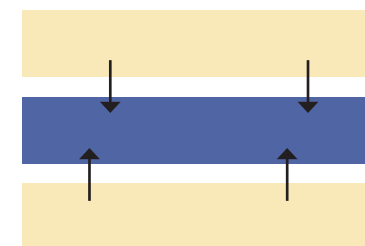




Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

Qualitative bounded public spaces





Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

Social control by 24h program

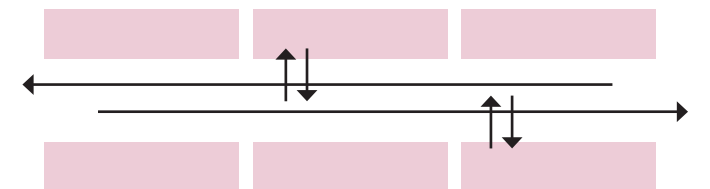


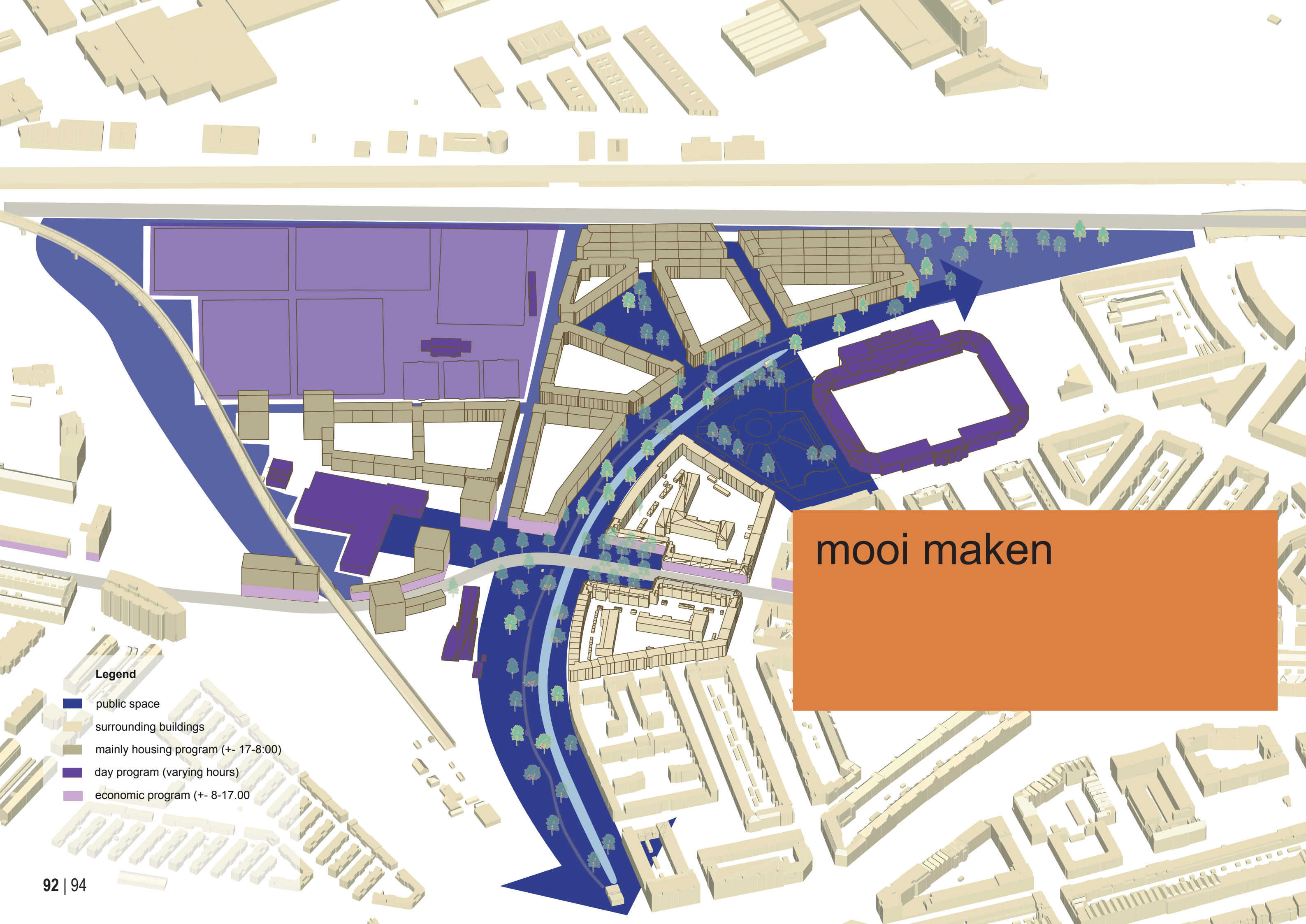


Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

Continuous program for
stimulating the routing and
vibrant public space



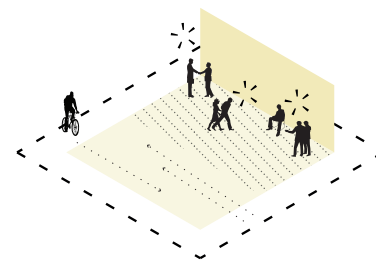


mooi maken

Legend

- public space
- surrounding buildings
- mainly housing program (+/- 17-8:00)
- day program (varying hours)
- economic program (+/- 8-17.00)

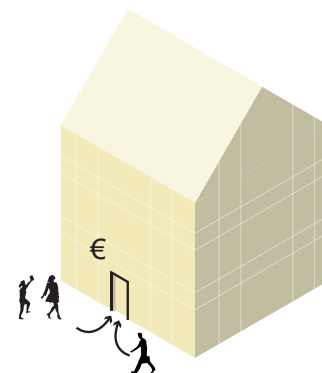
DESIGN DEPENDENCE



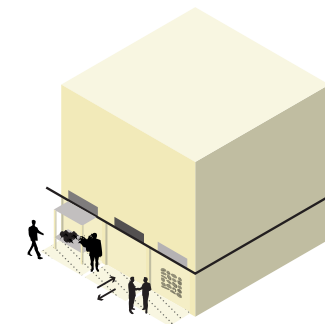
public spaces stimulating slow traffic
to motivate encounters between new
and old residents



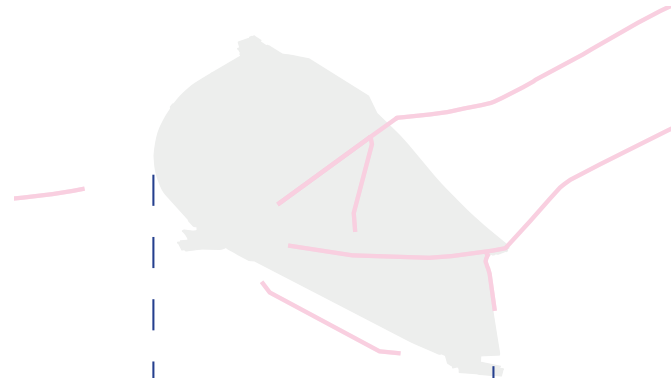
affordable housing with current
architectural aesthetics matched with
new private owned housing



program of small scale affordable
enterprises with inside out storage
meeting current residents needs



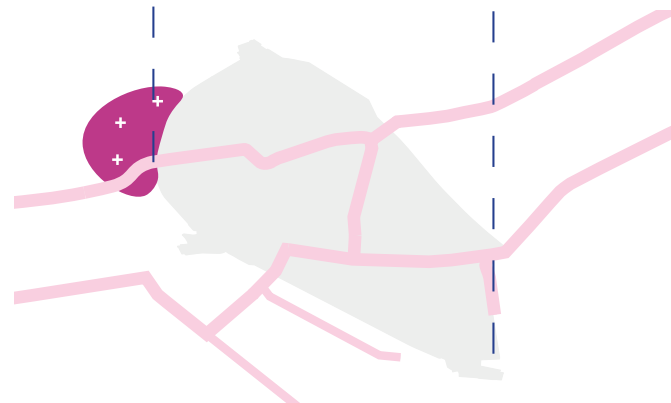
today



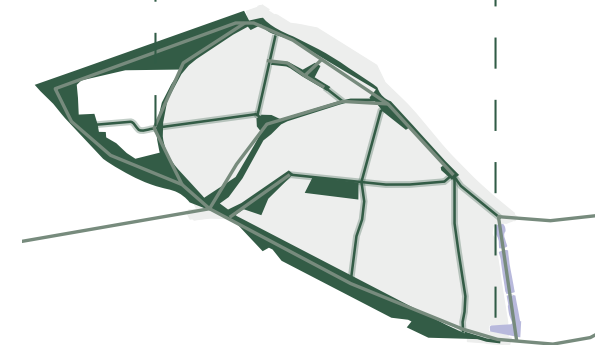
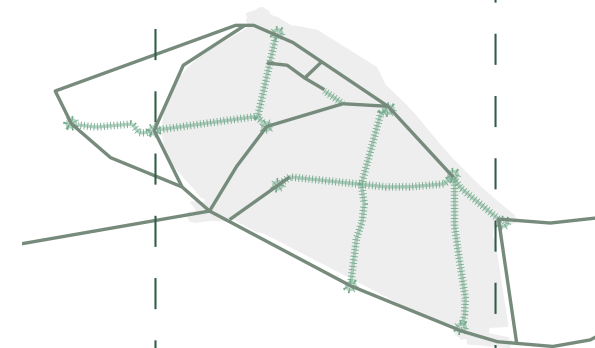
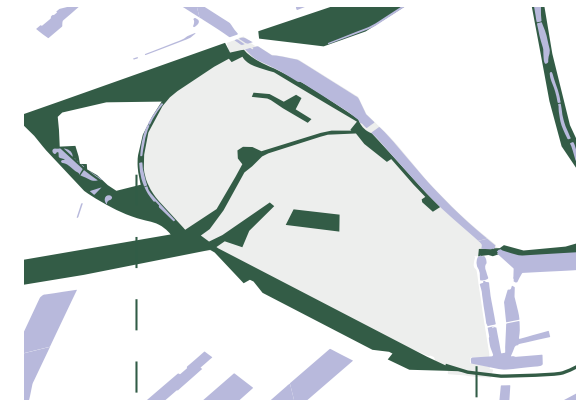
missing links



design
connected
network

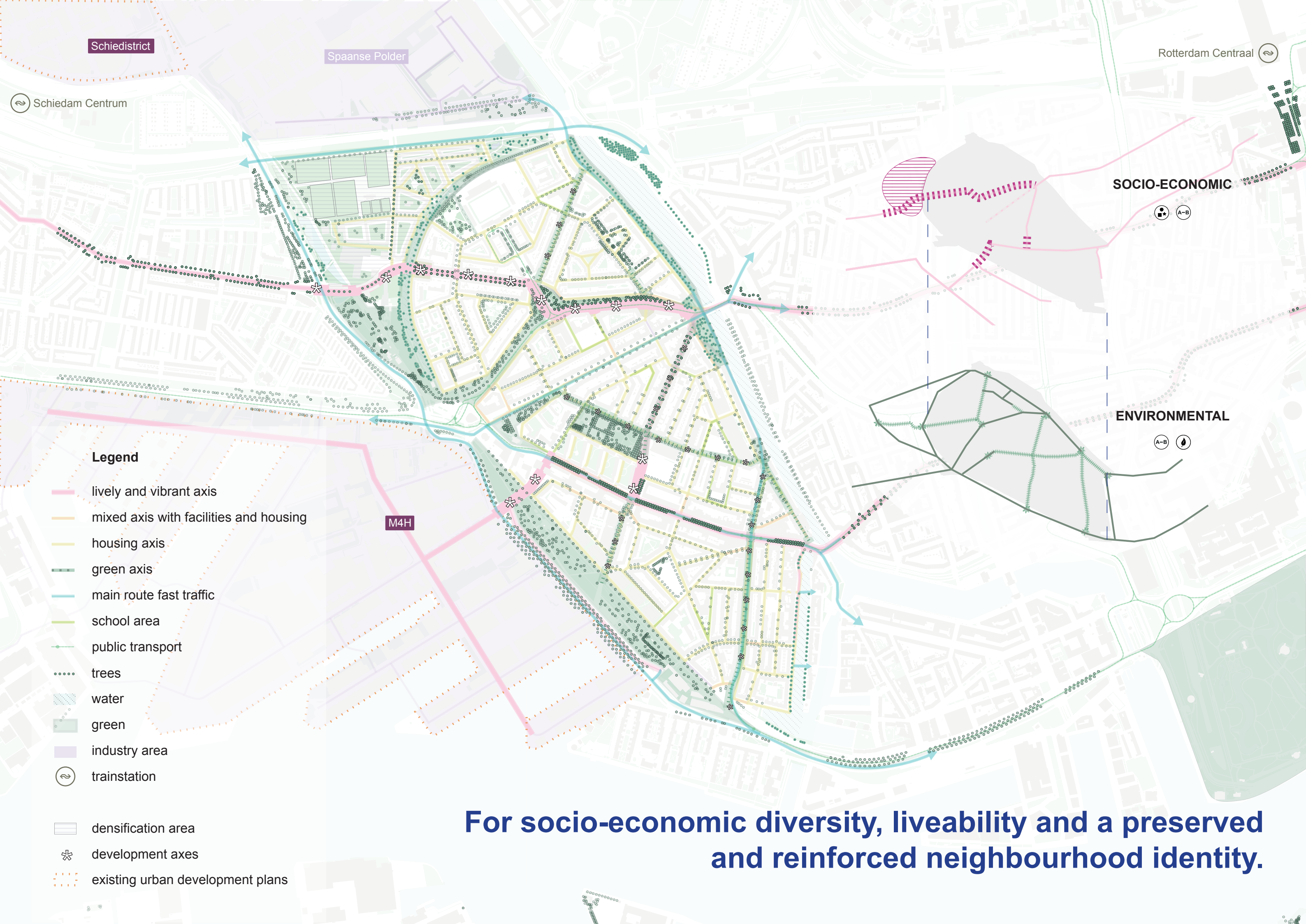


SOCIO-ECONOMIC



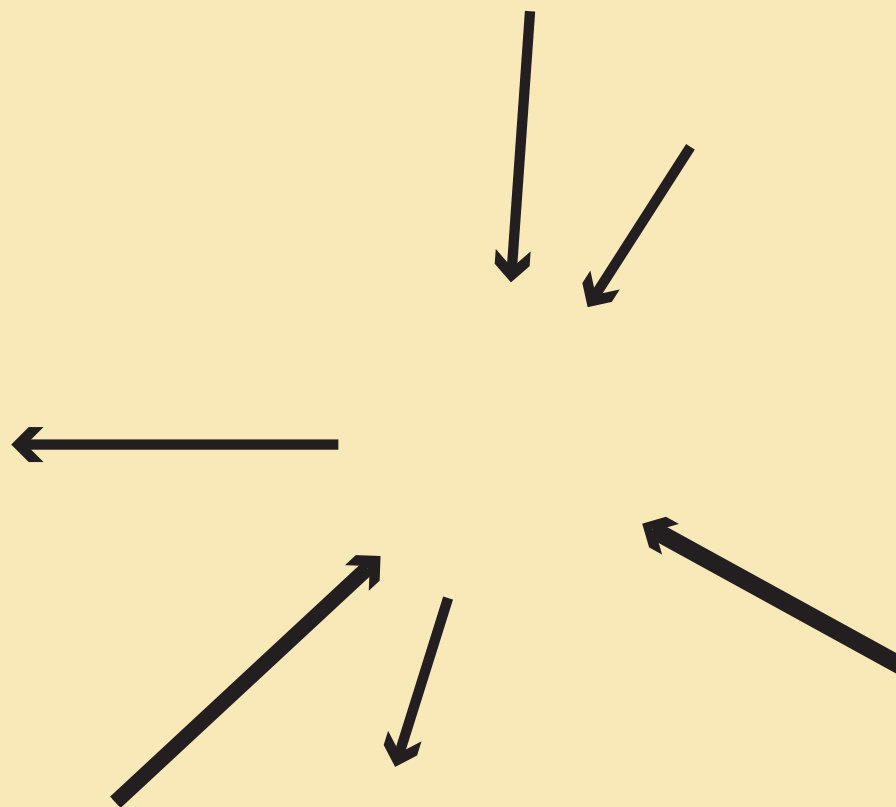
ENVIRONMENTAL





For socio-economic diversity, liveability and a preserved and reinforced neighbourhood identity.

change

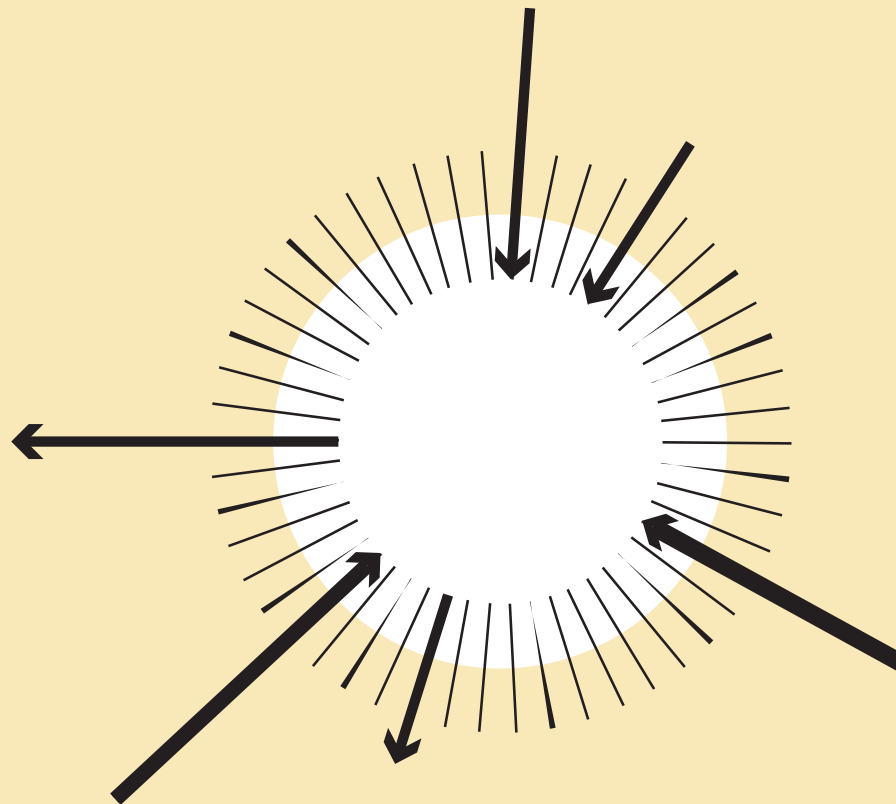


welkom

A sustainable urban development plan for a socio-economically mixed neighbourhood and liveable Spangen, Tussendijken and Bospolder.

change

... to stay same.

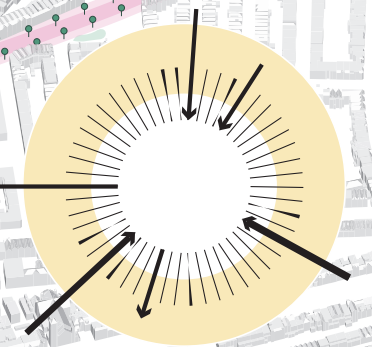


welkom

A sustainable urban development plan for a socio-economically mixed neighbourhood and liveable Spangen, Tussendijken and Bospolder.

welkom

Hoşgeldiniz أهلا بك



Design Principles

the neighbourhood identity

- low price facilities
- no multinationals
- affordable housing
- architectural unity
- architectural rytm
- built before WOII
- symmetry
- supermarkets
- big amount social housing
- important connecting axis
- affordable restaurants
- remarkable public spaces

physical

- qualitative green
- program differentiation
- housing differentiation
- qualitative houses
- pleasant public spaces
- green public spaces

safety

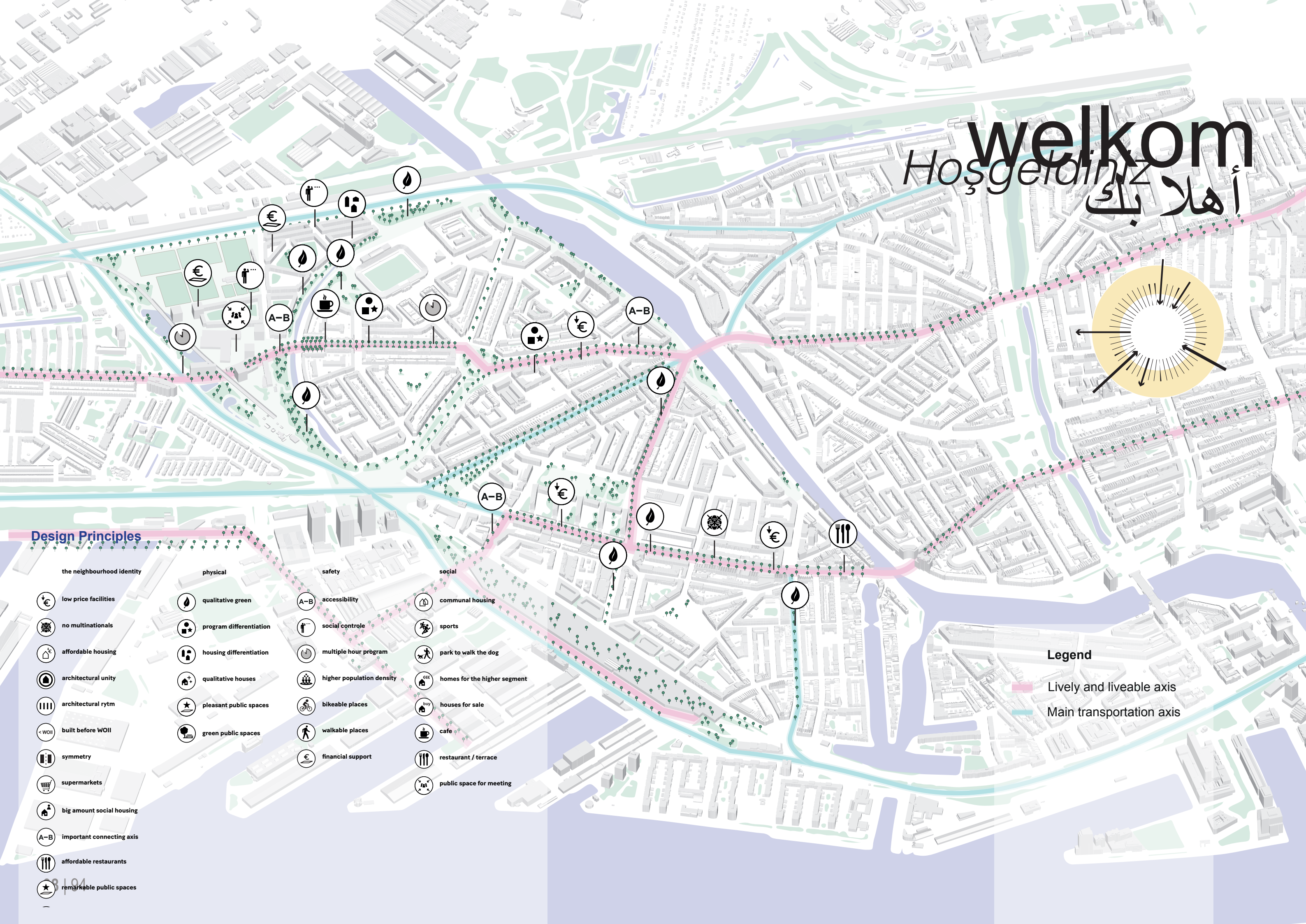
- accessibility
- social controle
- multiple hour program
- higher population density
- bikeable places
- walkable places
- financial support

social

- communal housing
- sports
- park to walk the dog
- homes for the higher segment
- houses for sale
- cafe
- restaurant / terrace
- public space for meeting

Legend

- Lively and liveable axis
- Main transportation axis



APPENDIX

REFLECTIONS

FIELD OF EXPERTISE

- the problem of (extreme) gentrification is not only in urban design
- the design contains an urban approach and does not suggest the ultimate solution

DESIGN

- the design principles apply and are used as starting points
- current design is a possible outcome, but needs refinement

- ..

- ..

Connectivity against
segregation

1a. Improved accessibility

Lively and liveable
streets

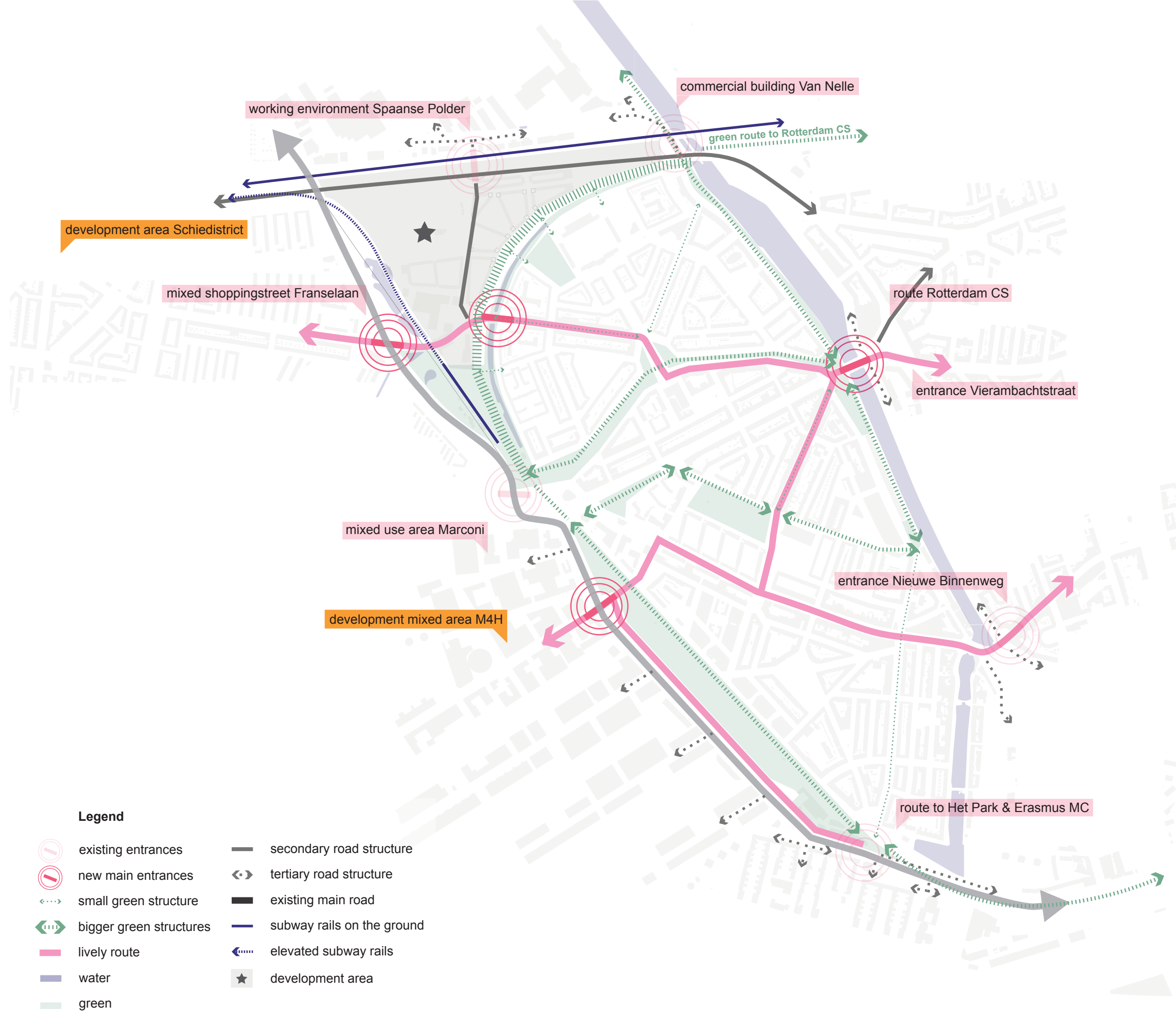
2a. Mathenesserdijk

2b. Bilderdijkstraat

Liveable green
structure

3a. Ring of Spangen

3b. Redesigning car dominant spaces



P

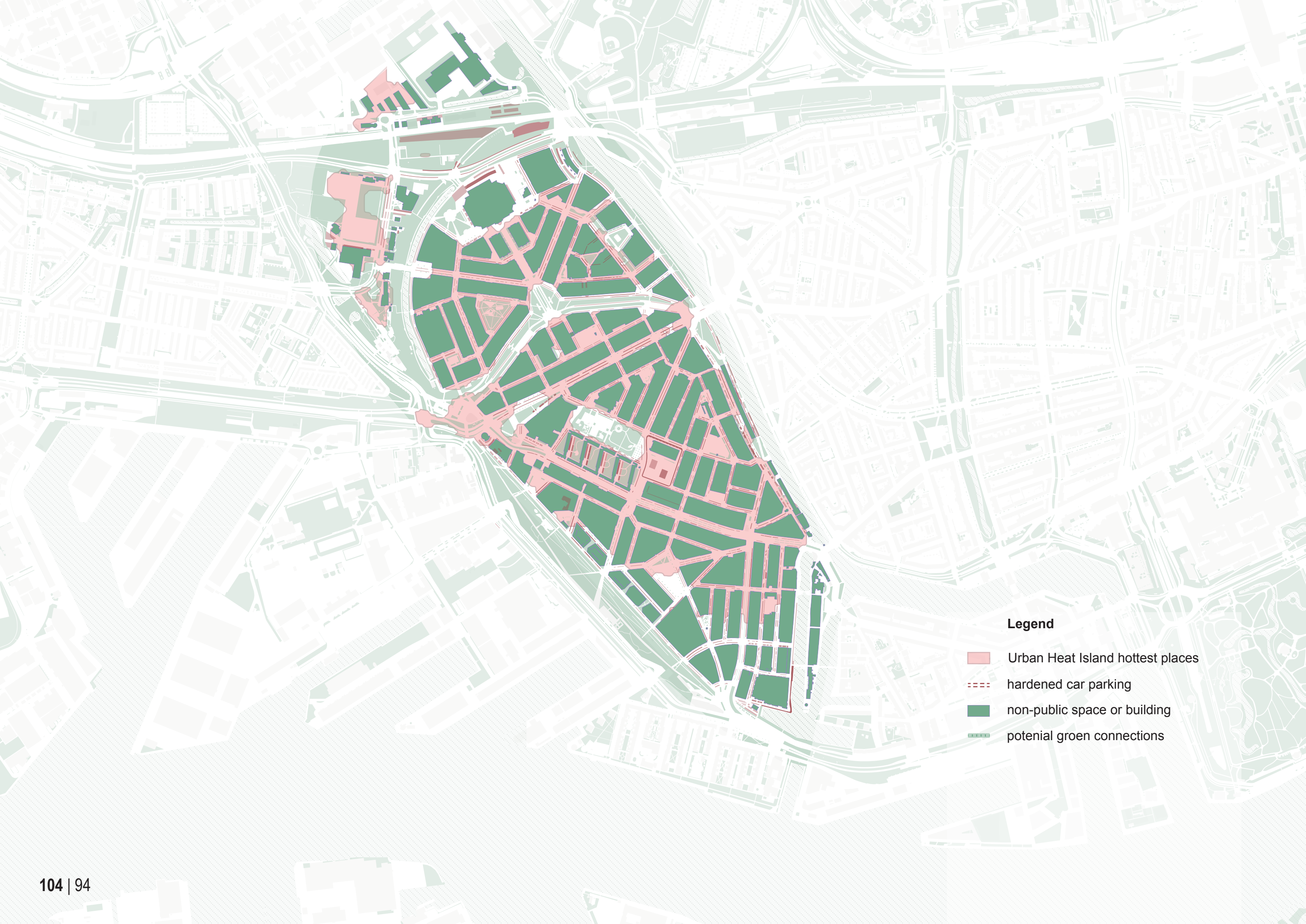
PARKING

FUTURE CITY

- city as growing metropool
- shifting focus from the use of cars towards liveable design
- parking prices are rising
- urban design takes > 10 years time

NEARBY PARKING

- all not included streets have parking
- Marconitorens P
- Mathenesserplein P
- soccerfield P
- walking contributes to the use of public space > lively axes



Legend

- Urban Heat Island hottest places
- hardened car parking
- non-public space or building
- potensial groen connections



Legend

- Urban Heat Island hottest places
- hardened car parking
- non-public space or building
- potential groen connections