

DENSIFICATION OF AMSTERDAM

How to improve quality of life and competitiveness

 **TU Delft**

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Master Thesis Presentation
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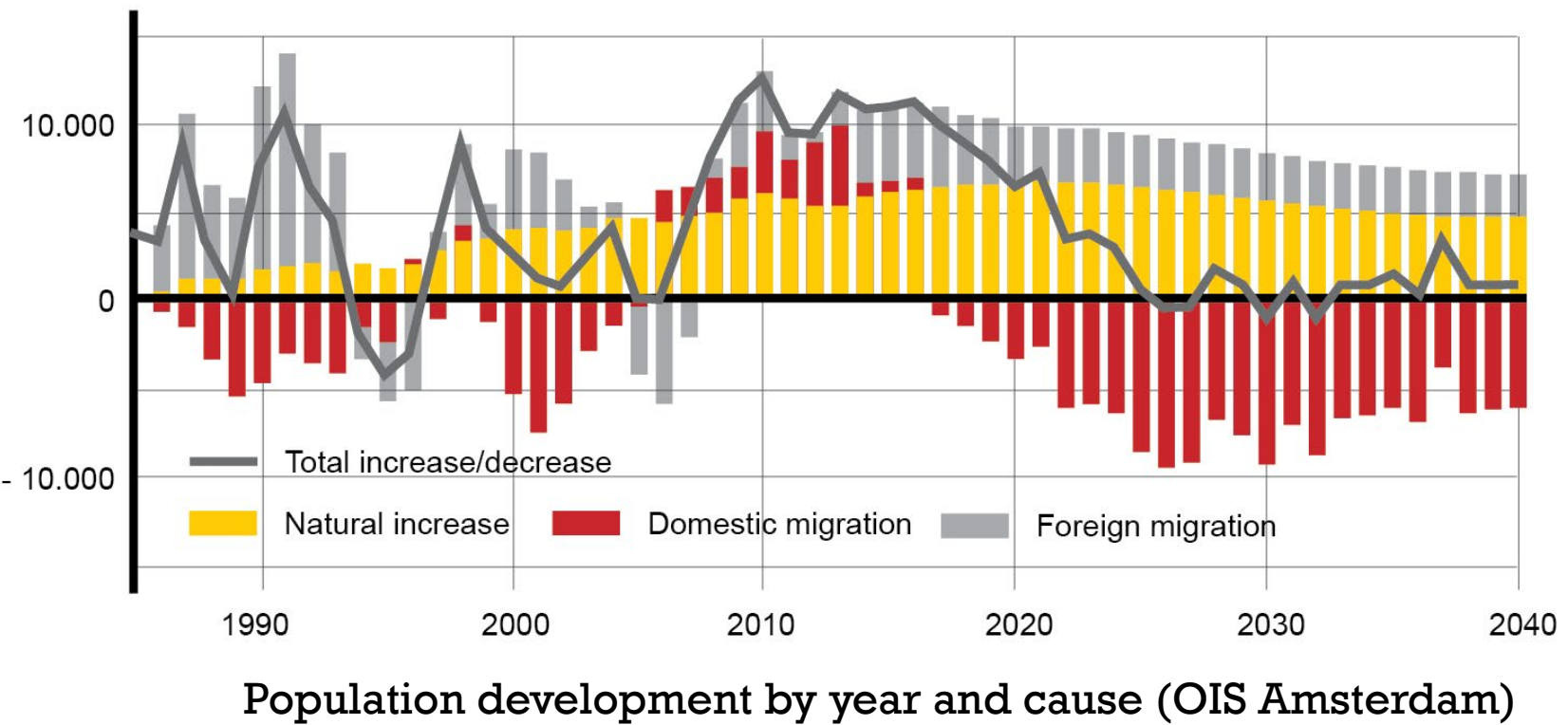
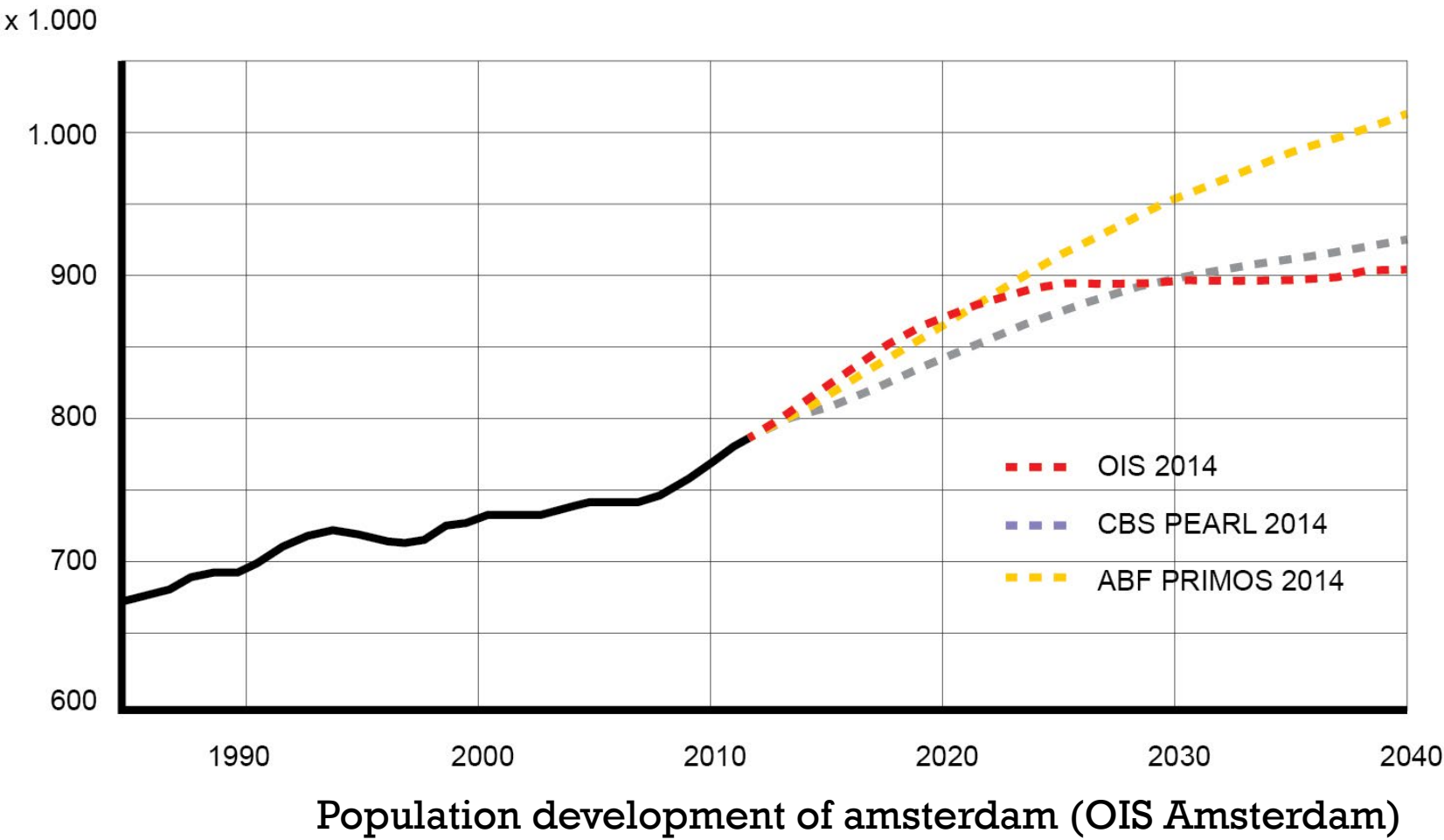
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DENSIFICATION STUDY

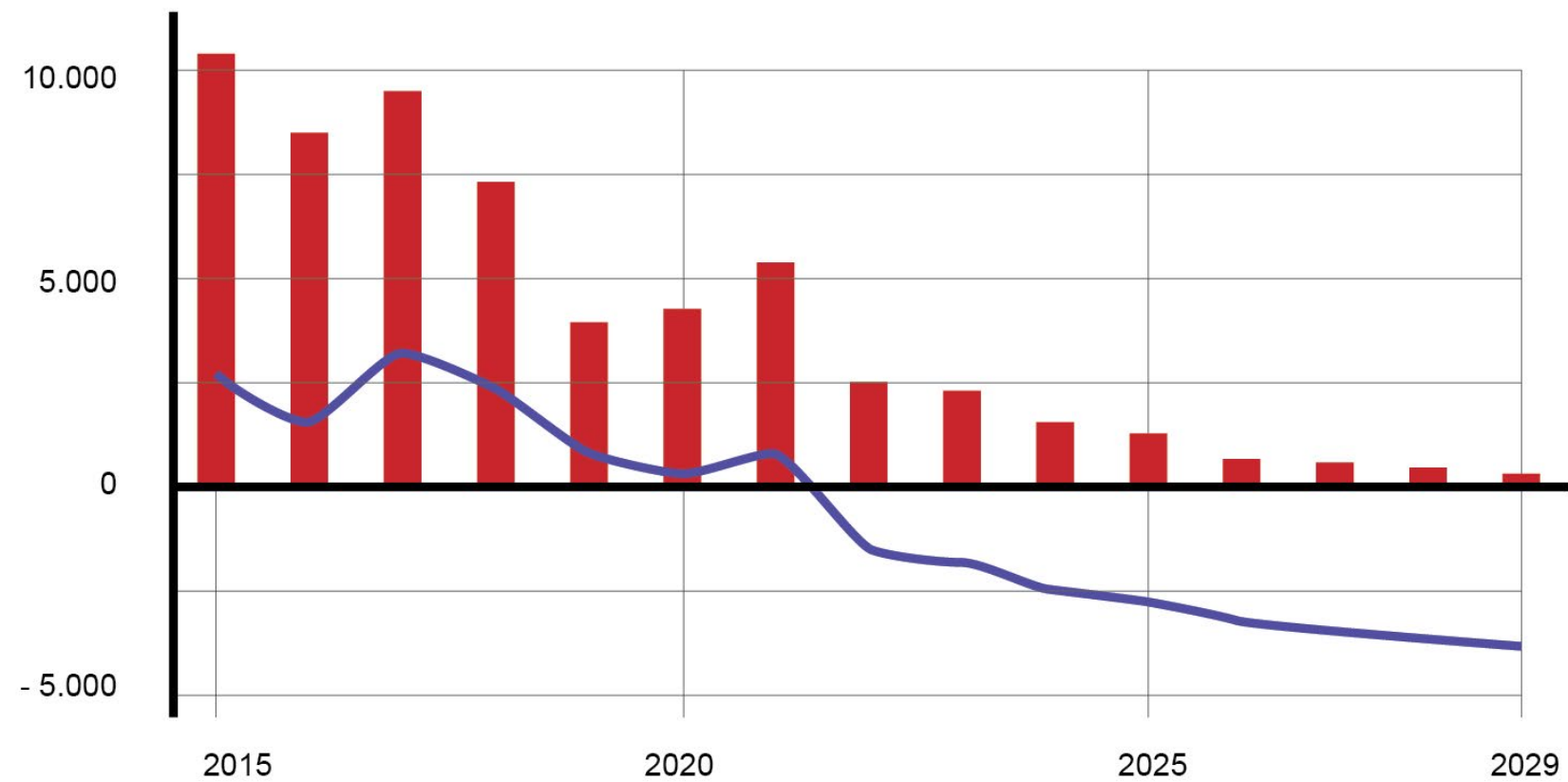
PROJECT INTRTODUCTION

Problem field

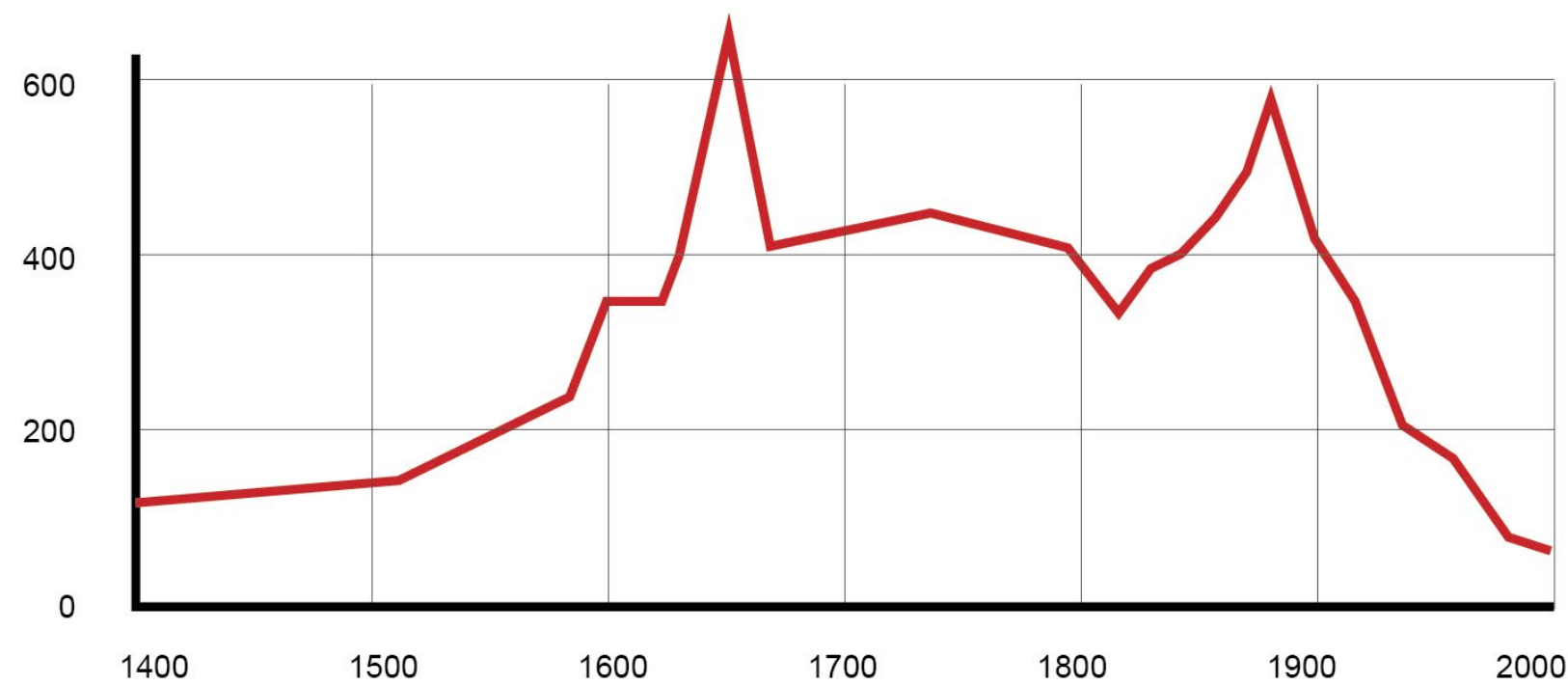


PROJECT INRTRODUCTION

Problem field



Housing production and shortage in Amsterdam (Koers 2025)



Development of Amsterdam's density (Berghauser & Haupt)

Problem field

Zef Hemel

Maak Amsterdam twee keer zo groot

Ewald Engelen

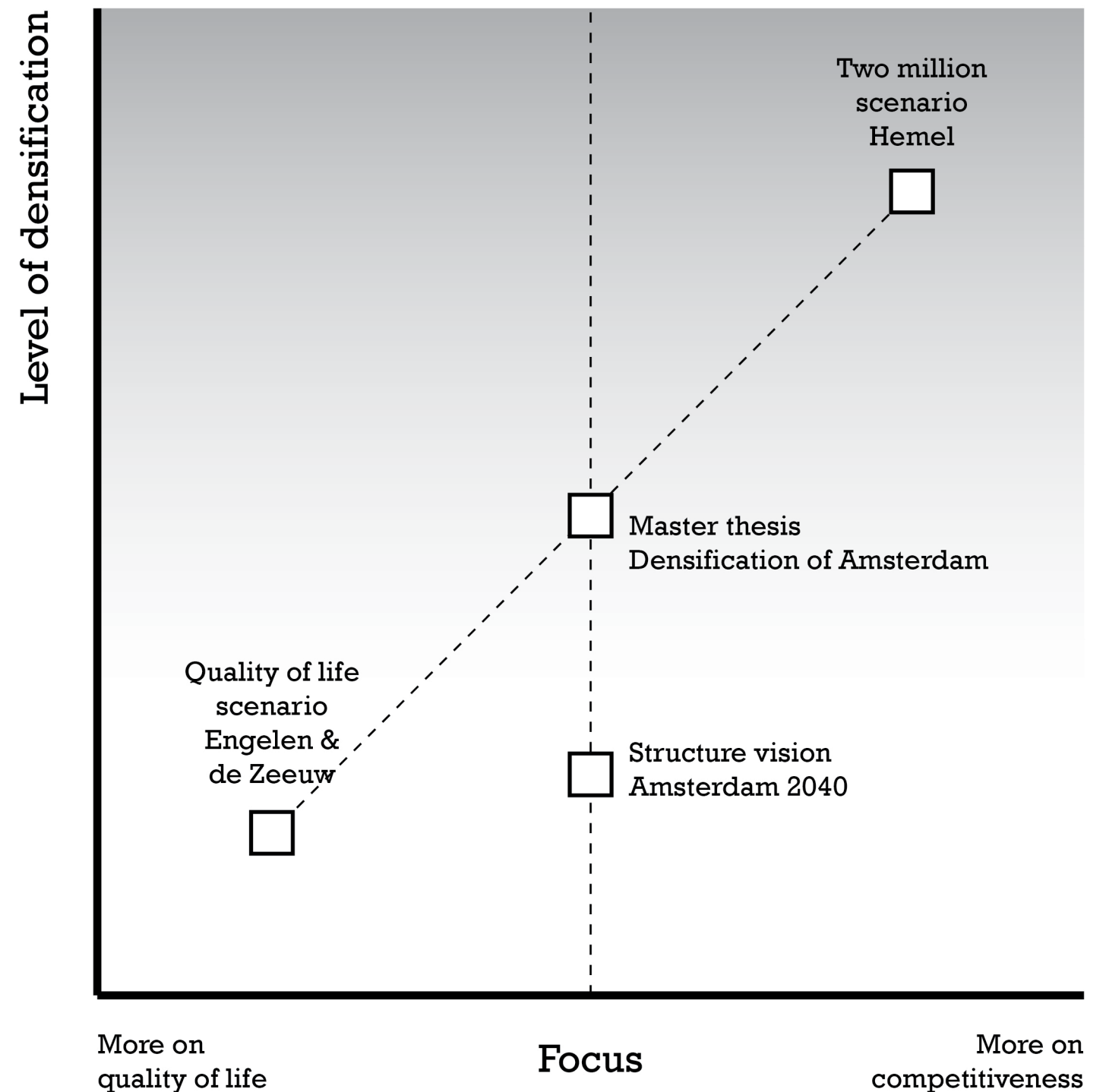
Zo bouwen we een eerlijker stad

Friso de Zeeuw

**'Maak van Mokum
geen megastad'**

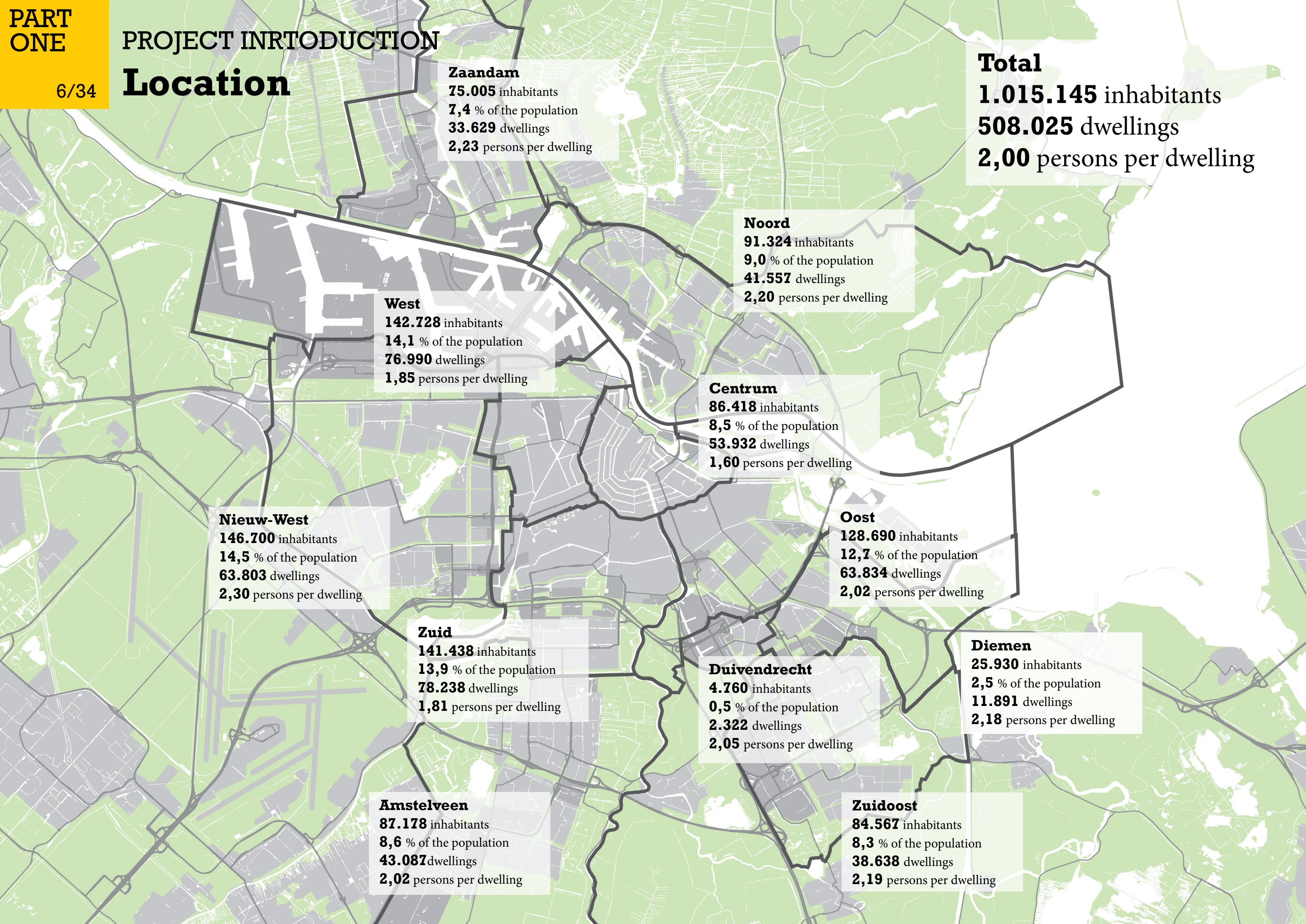
Structure vision Amsterdam 2040

**Economisch sterk
en duurzaam**



PROJECT INTRODUCTION

Location



Research questions

Main research question

M

HOW CAN DENSIFICATION ADD QUALITY OF LIFE TO AMSTERDAM AND
CONTRIBUTE TO ITS COMPETITIVENESS?

Sub research questions

#1

What is quality of life, and
how can it be improved by
densification in cities?

#3

What is the relationship between
quality of life and competitiveness
in the context of Amsterdam?

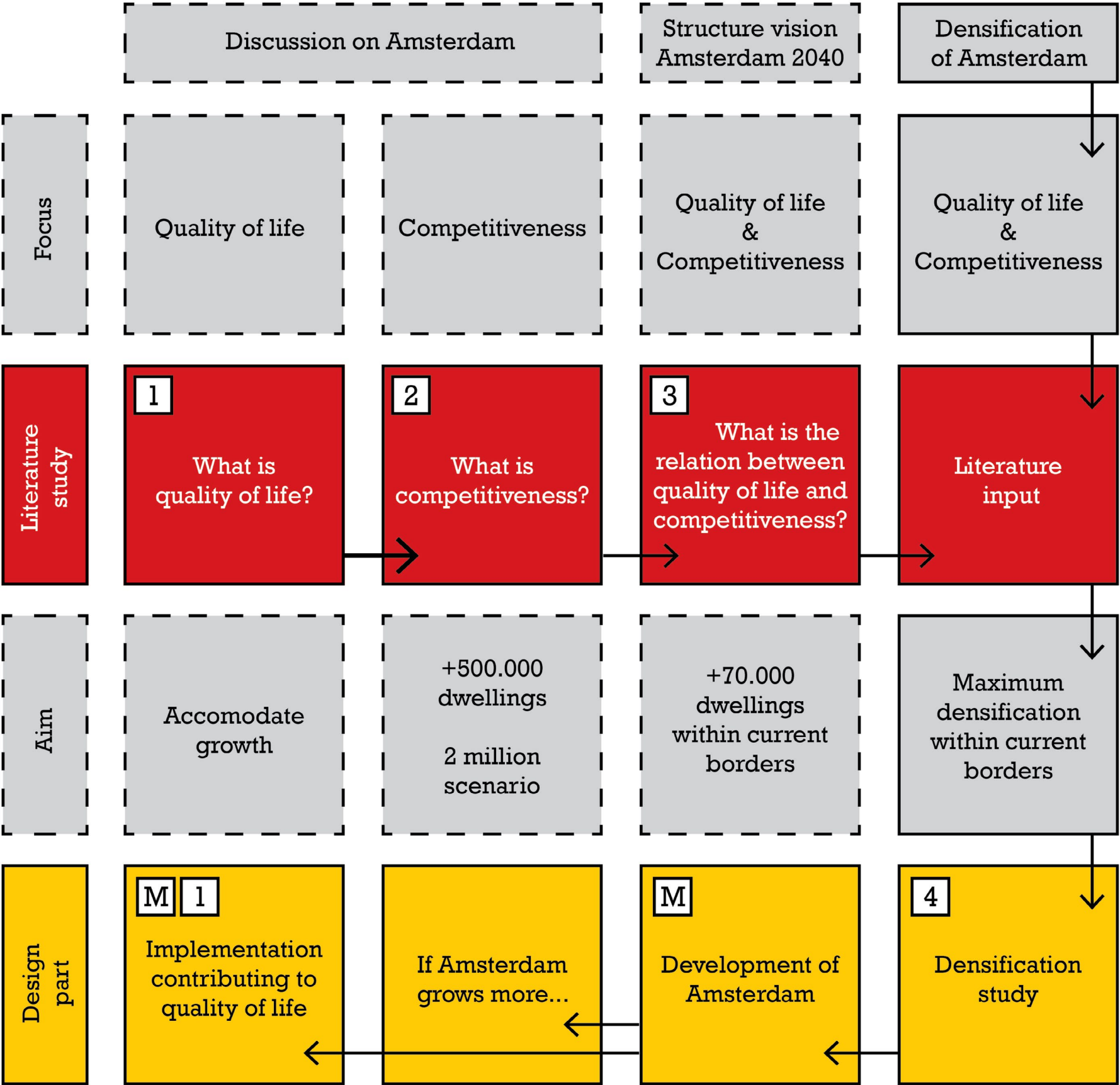
#2

What is competitiveness, and
how can it be improved by
densification in cities?

#4

How and where can Amsterdam
be densified?

Research approach



Densification

DEFINITION

Densification is about efficiency, about making better use of the available space

BENEFITS

Preservation of the countryside

More amenities

Vibrant neighbourhoods

More social security

Less traffic, less pollution

Better affordable housing

Upgrades for existing neighbourhoods

THREATS

Paradox of the compact city

Crowdedness and crampedness leading to nuisance

Congestion and pollution

Reduction of green and recreational space

Impact on individual living values

Competitiveness

DEFINITION

*“The vagueness of a concept open to multiple interpretations has led to confusion in the policy debate. [...] At one level, it is equated, usually loosely, with the ‘**performance**’ of an economy, an absolute measure. At another, because it relates to competition, it implies a **comparative element**”*
(Begg, 1999, p. 796)

The ability of a city to attract companies and employees, in comparison to other cities.

(SPATIAL) COMPONENTS

Unique characteristics

Size / density of a city

Quality of life

Networks / connections

Knowledge institutions

RELATION WITH DENSITY

Big and dense cities have better conditions for competitiveness

> They can offer the vibrant lively neighbourhoods that attracts talented workers

> They offer benefits of proximity for companies

Quality of life

DEFINITION

*“Quality of life is the **appreciation**, or the lack of appreciation, of an individual for his or her living environment.”*
(Van Dorst, 2005, p. 77)

*“The presumed quality of life is the level in which the environment meets the **presumed conditions** for apparent quality of life. Central are here the indicators that describe quality of life.”*
(Van Dorst, 2005, p. 78)

(SPATIAL) COMPONENTS

Green and recreational areas

Parking facilities

Vandalism

Public transport

Spaciousness and well maintained

Shops and amenities

Affordability

Air quality

Segregation

RELATION WITH DENSITY

Crampedness and crowdedness

Congestion

More pollution (locally)

Reduction of green

Vibrant lively neighbourhoods

More amenities

Upgrades for existing neighbourhoods

Quality of life vs. Competitiveness

“In contemporary cities growth seems to be driving the tendency toward greater inequality. Nevertheless, it does not demonstrate that appropriate policy cannot produce both economic development and greater social welfare.”
(Fainstein, 2001, p. 885)

LESSONS

Too much focus on competitiveness can harm the quality of life

Whose quality of life is addressed? Aim at everyone's quality of life

Invest public money fair over the city, as well as the benefits of competitiveness

Densification strategies



CREATE

NEW HOUSING IN
THE ABUNDANT OPEN
SPACES OF THE CITY



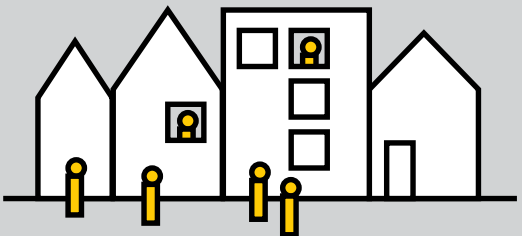
FILL

THE GAPS AND UNUSED
SPACE IN OR AROUND
HOUSING BLOCKS



TOP-UP

ON FLAT ROOFS OF
EXISTING BUILDINGS



RE-USE

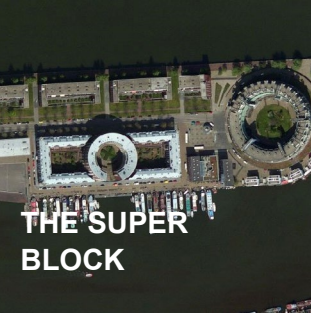
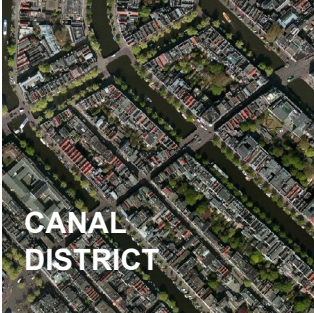
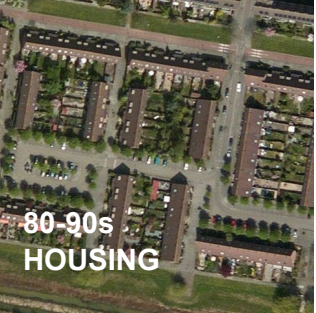
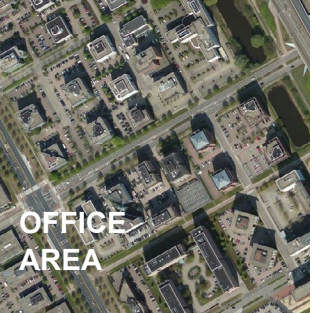
VACANT OFFICES,
DWELLINGS OR
BUILDINGS FOR
HOUSING



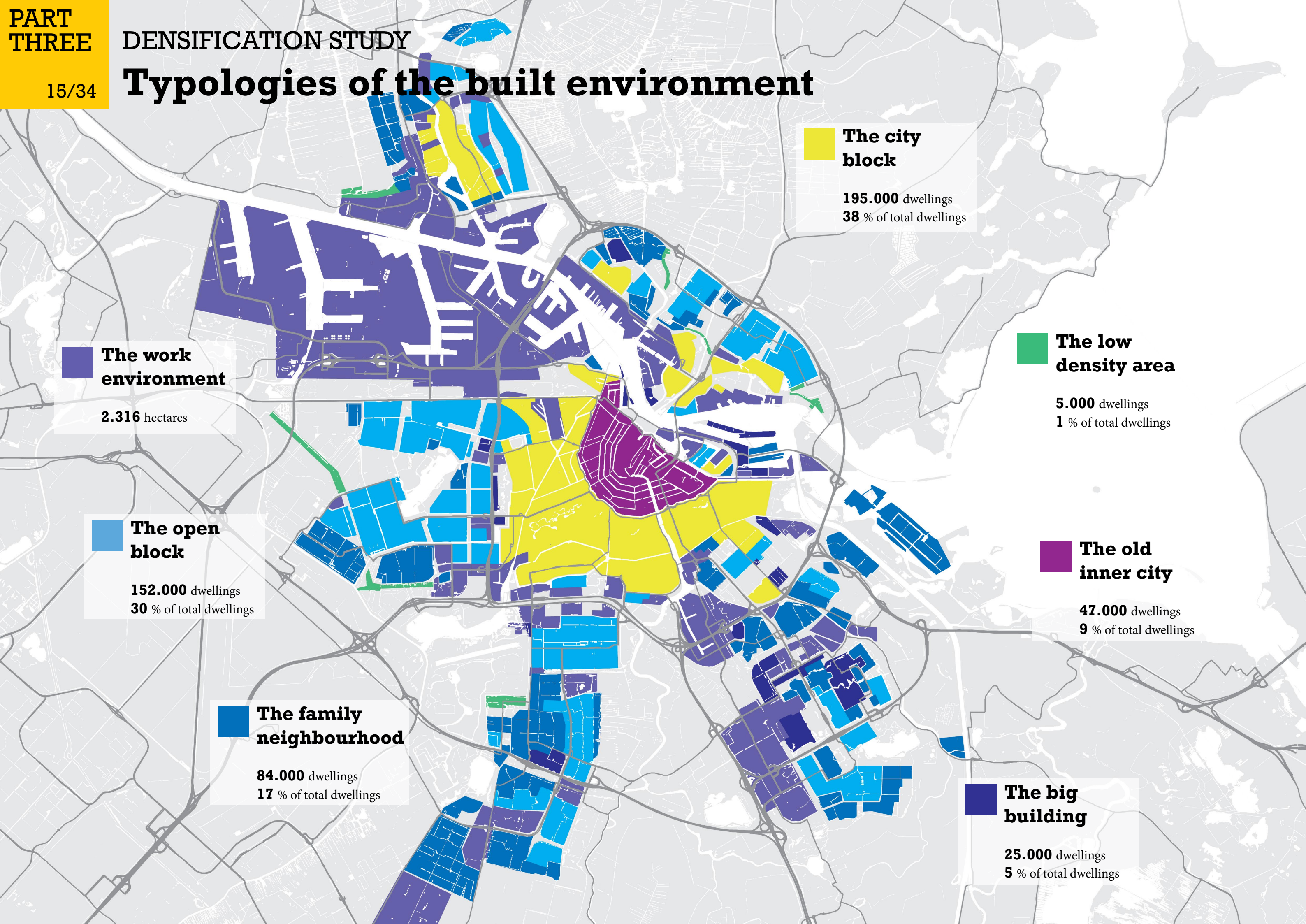
RE- STRUCTURE

ABUNDANT INDUSTRY
AND OFFICE
AREAS INTO MIXED
NEIGHBOURHOODS

Typologies of the built environment

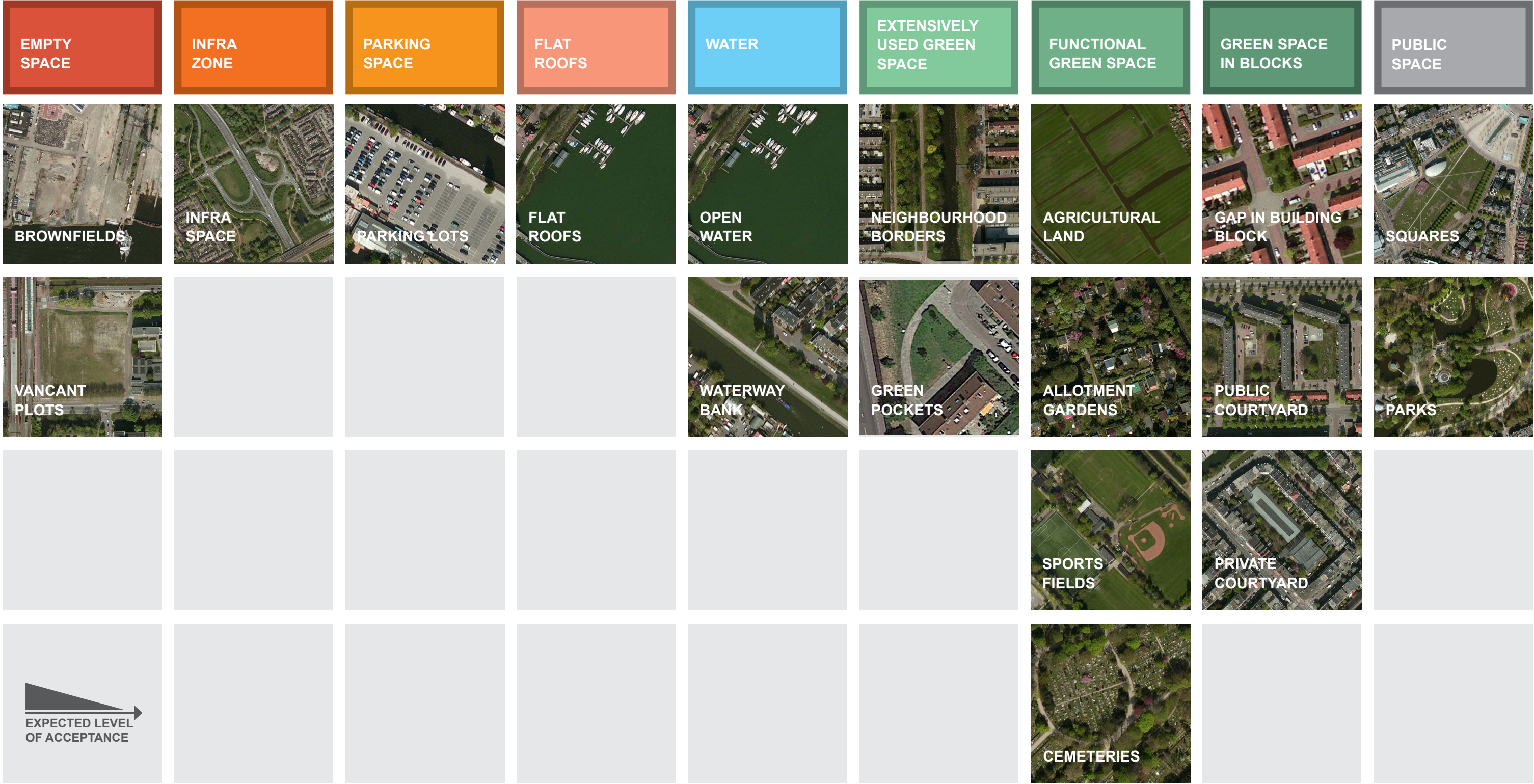
THE OLD INNER CITY	THE CITY BLOCK	THE OPEN BLOCK	THE FAMILY NEIGHBOURHOOD	THE BIG BUILDING	THE WORK ENVIRONMENT	THE LOW DENSITY AREA		
 CITY CORE	 5/6 STOREY BLOCK	 MULTI STOREY HOUSING	 VINEX	 THE SUPER BLOCK	 INDUSTRIAL SITE	 SINGLE DETACHED HOUSING		
 CANAL DISTRICT	 WORKING CLASS NEIGHBOURHOOD	 SINGLE FAMILY HOUSING	 80-90s HOUSING	 THE MODERNIST FLAT	 OFFICE AREA	 RURAL		
 DE JORDAAN			 PRE-WAR NEIGHBOURHOOD		 LOGISTIC AREA			

Typologies of the built environment



DENSIFICATION STUDY

Typologies of the open space



DENSIFICATION STUDY

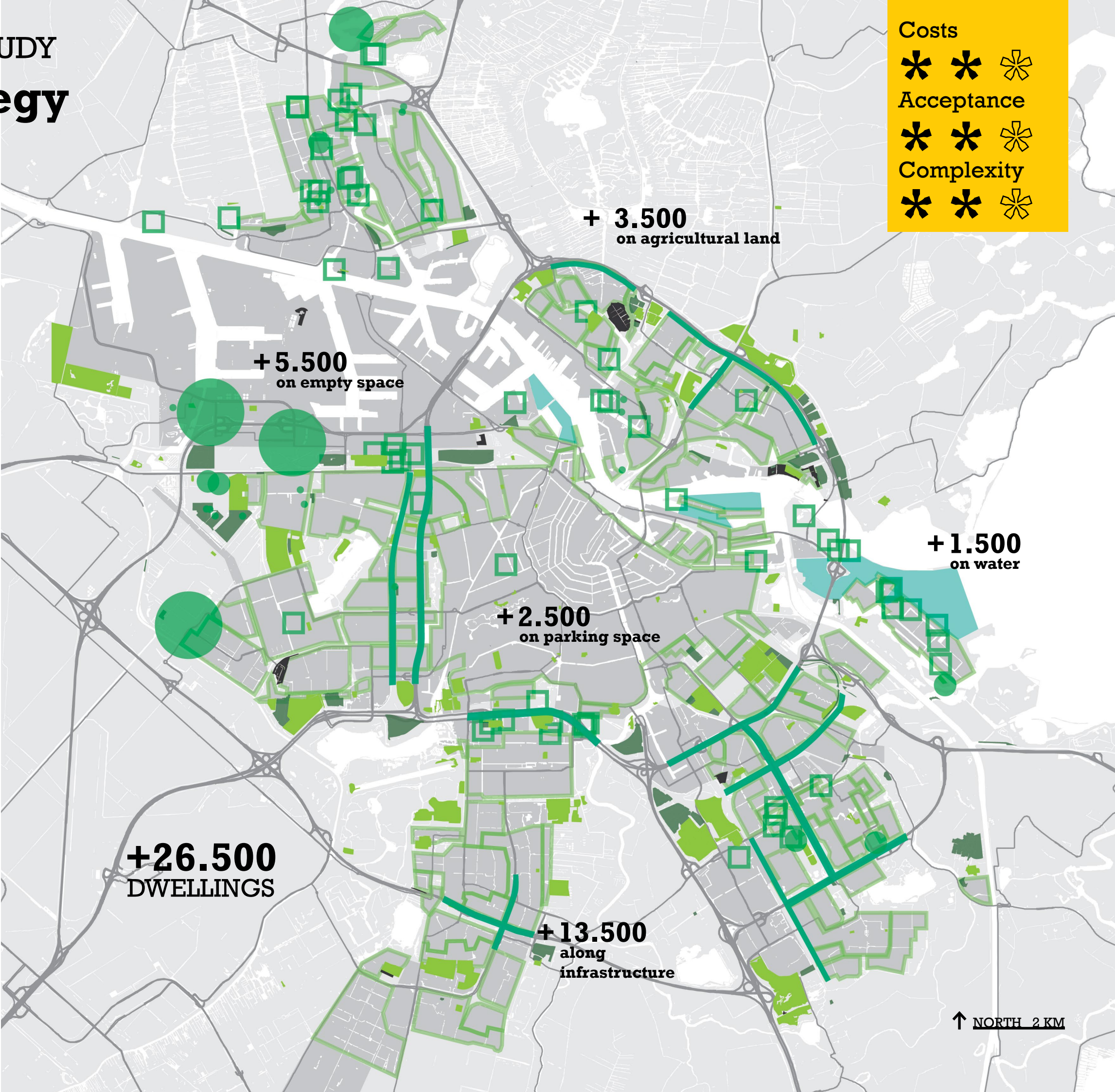
Create strategy

Costs

Acceptance

Complexity

- Agricultural land in the city
- Sport fields
- Allotment gardens
- Potential for dwellings on water
- Permanent empty plots
- Temporary empty plots
- Wide infra zone
- Neighbourhood borders



DENSIFICATION STUDY

Fill strategy

Costs

Acceptance

Complexity

Open block
typology

+17.000
DWELLINGS

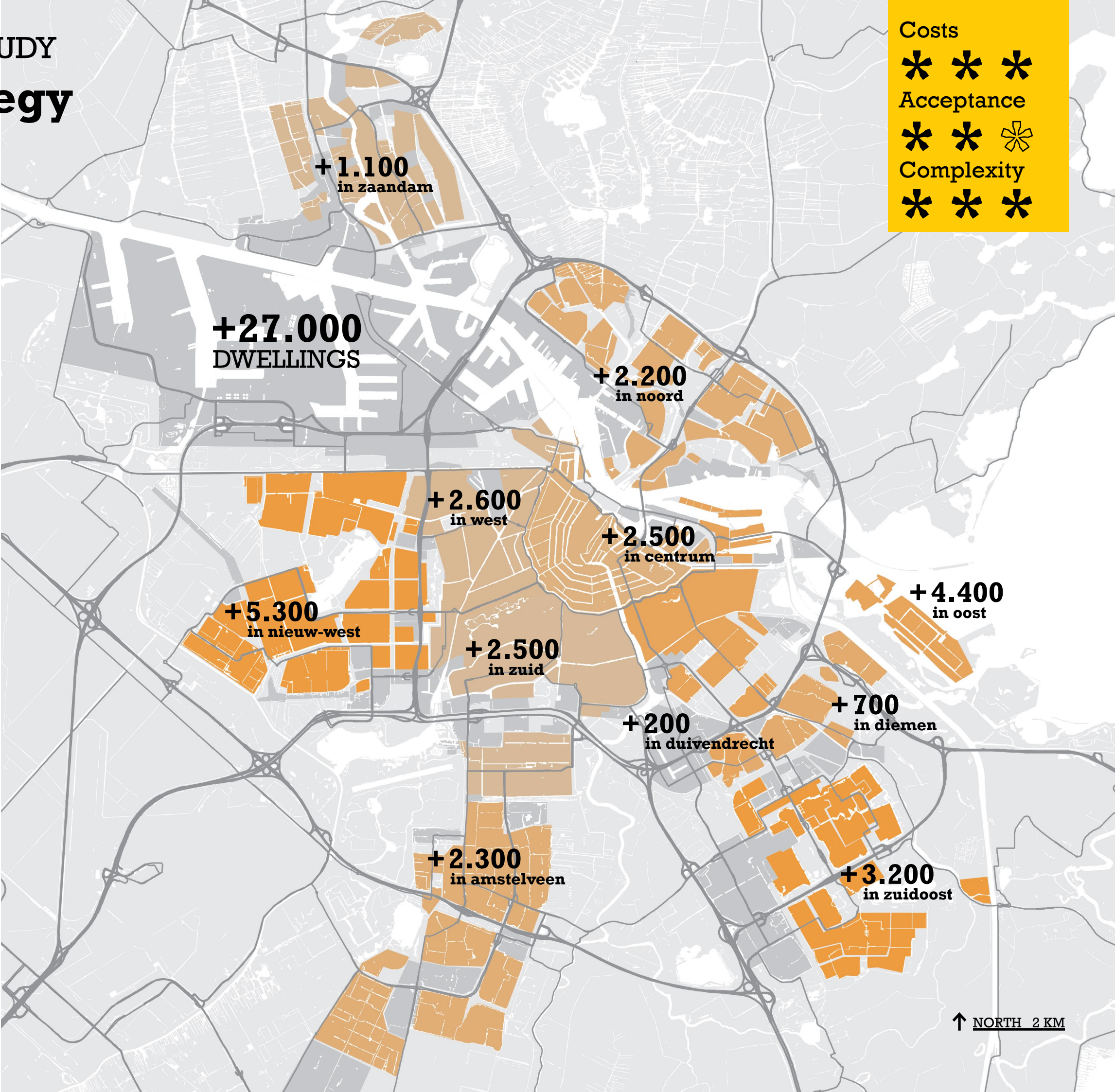
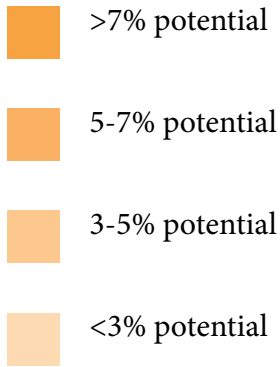
DENSIFICATION STUDY

Top-up strategy

Costs

Acceptance
** *

Complexity



DENSIFICATION STUDY

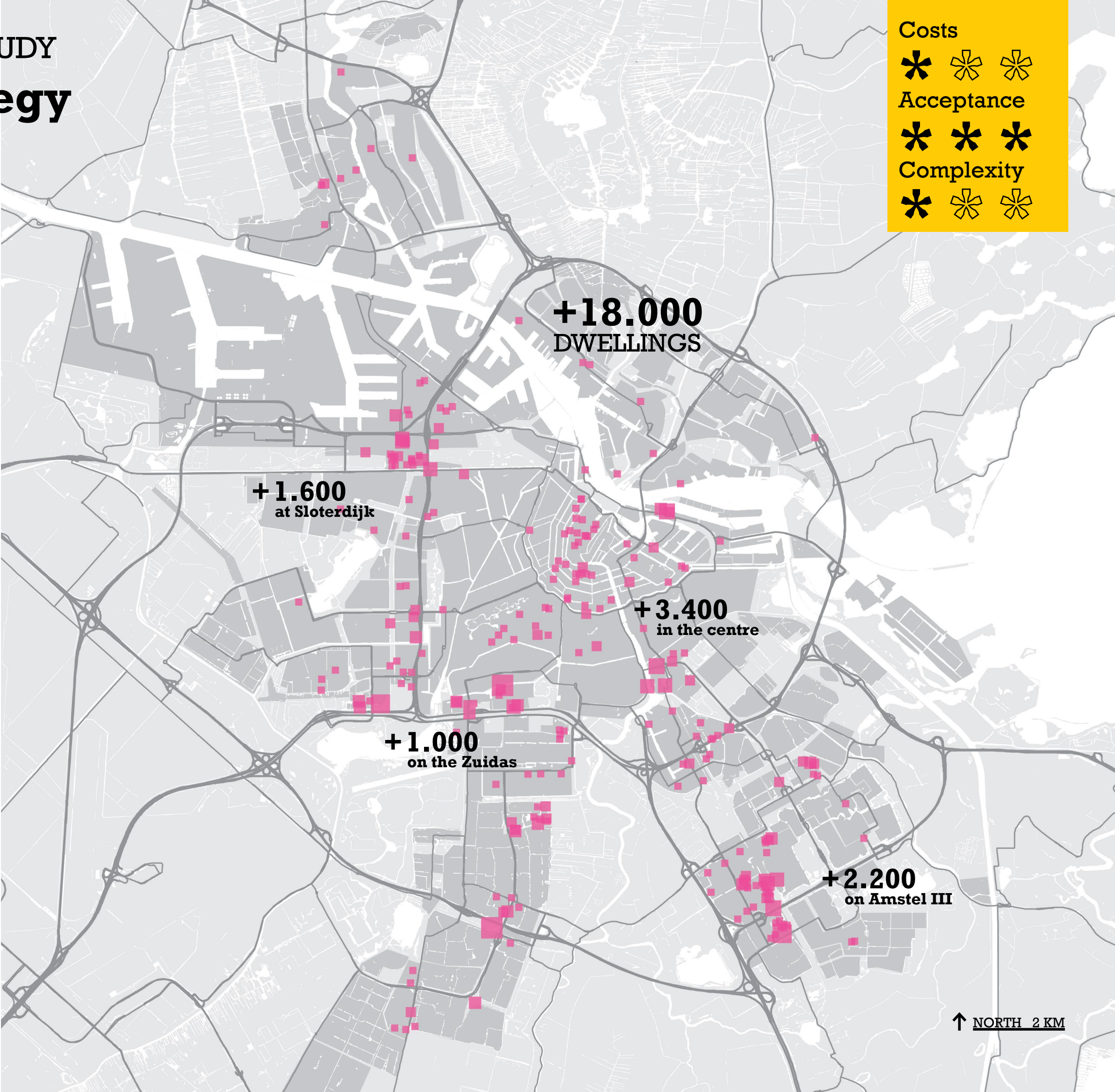
Re-use strategy

Costs

Acceptance

Complexity

- > 25.000 m² vacancy
- 20.000-25.000 m² vacancy
- 15.000-20.000 m² vacancy
- 10.000-15.000 m² vacancy
- 5.000-10.000m² vacancy
- < 5.000 m² vacancy



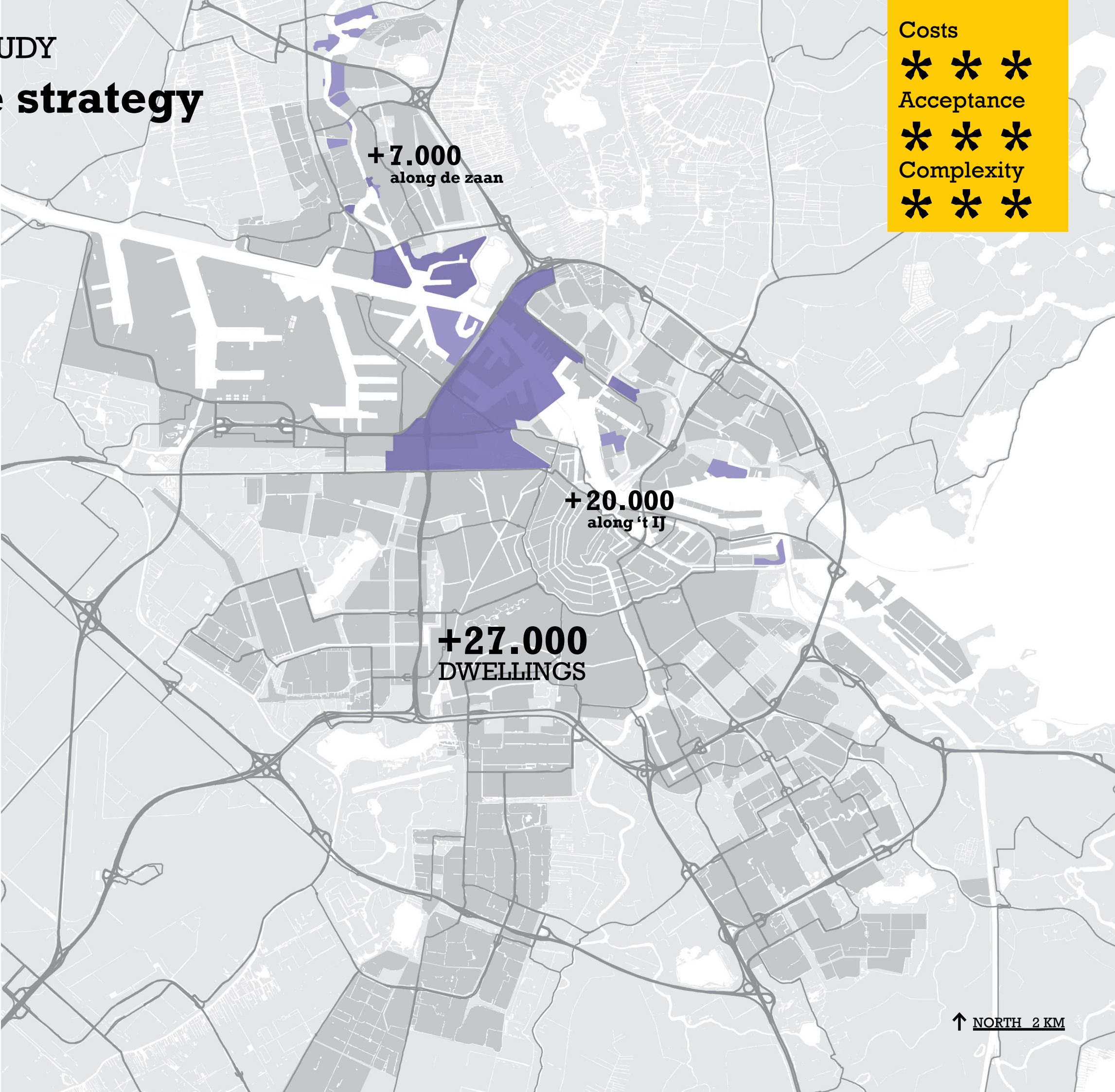
DENSIFICATION STUDY

Re-structure strategy

Costs
* * *

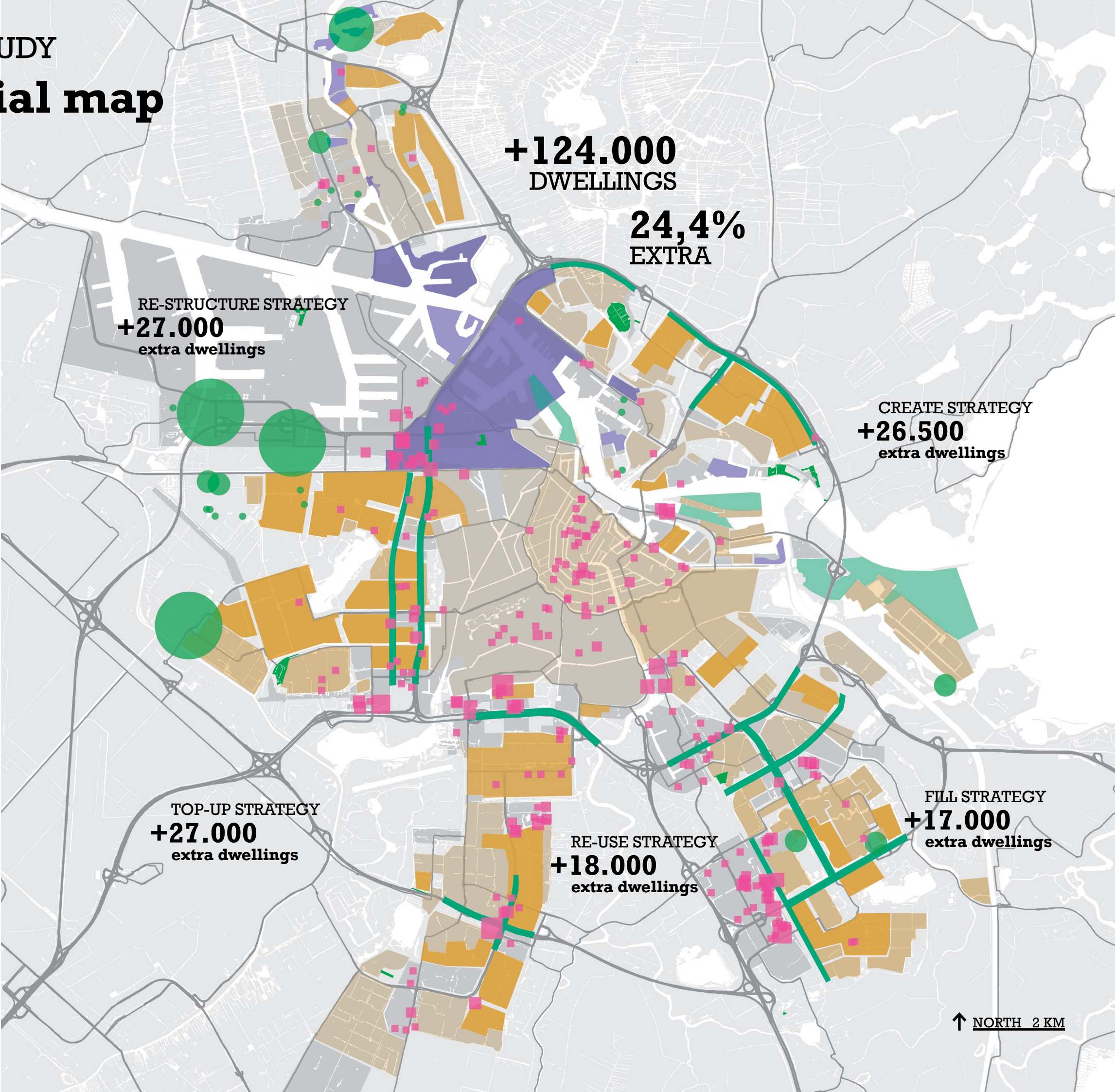
Acceptance
* * *

Complexity
* * *



- Harbour transformation areas currently studied
- Harbour transformation areas future potential

Final potential map



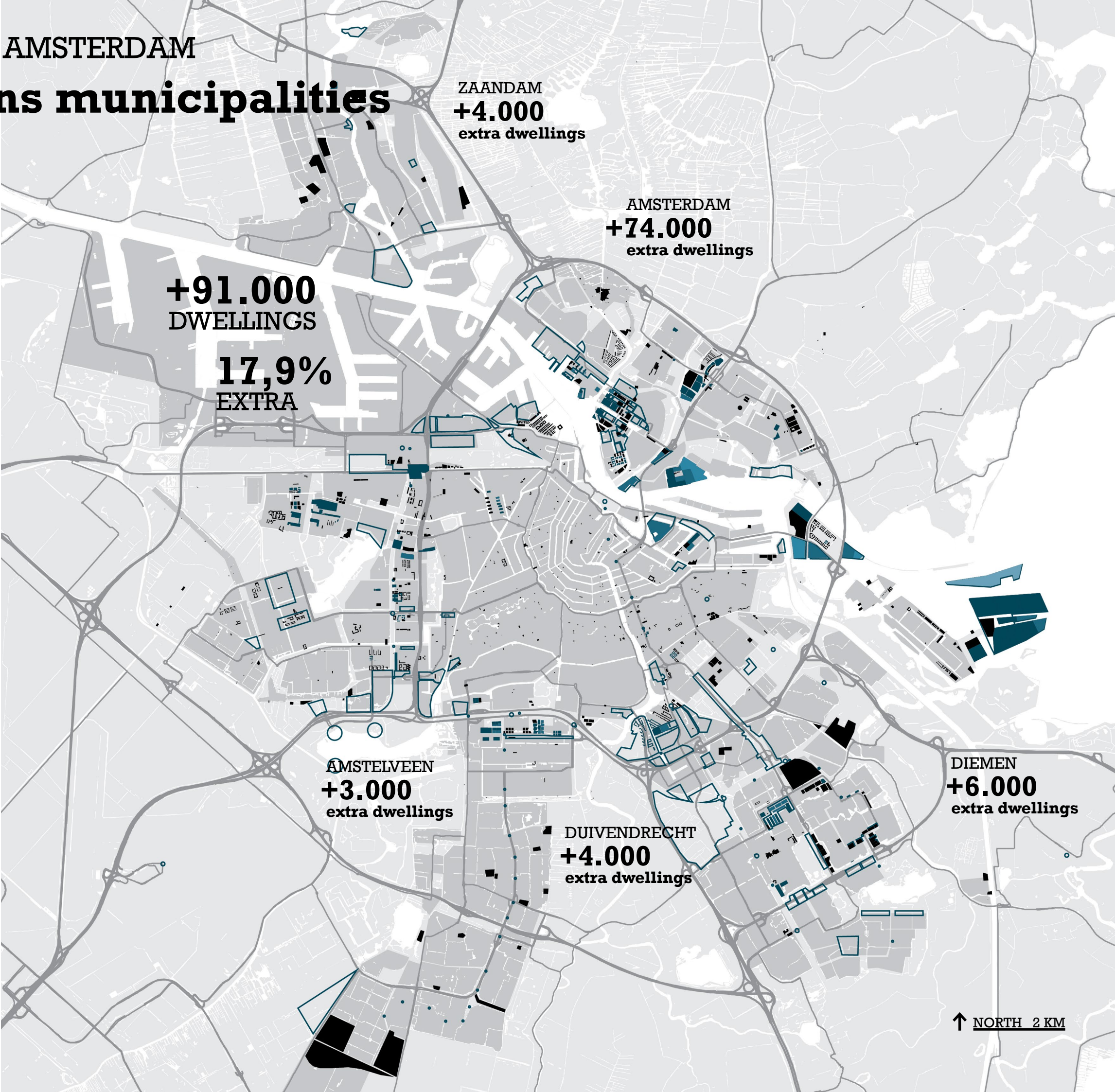
- Potential create strategy
- Potential fill and top-up strategy
- Potential re-use strategy
- Potential re-structure strategy

DEVELOPMENT OF AMSTERDAM

Housing plans municipalities

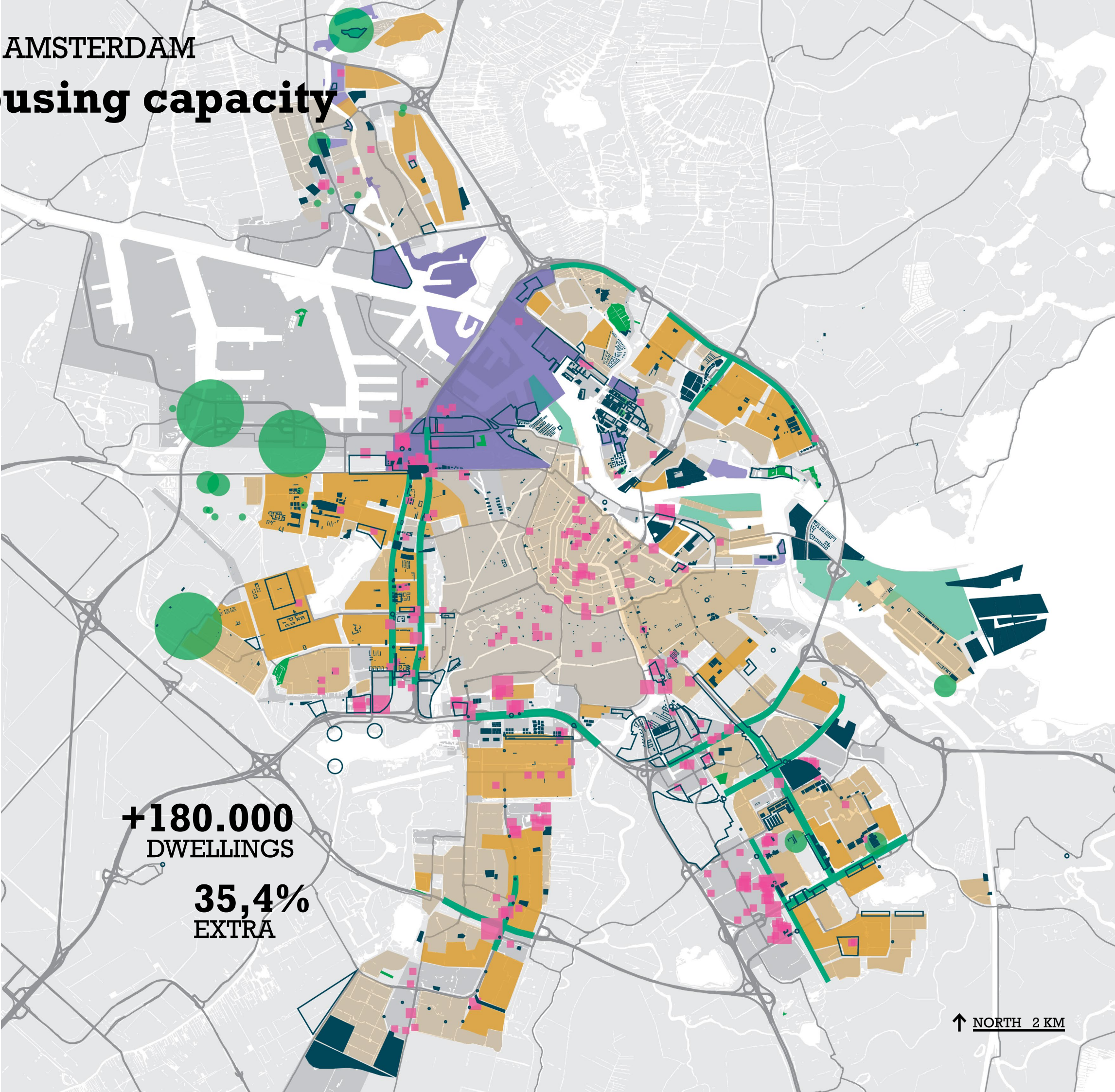
- 2015-2019
- 2020-2024
- 2025-2029
- 2030-2034
- 2035-2040

Strategic space
for new plans



DEVELOPMENT OF AMSTERDAM

Total new housing capacity



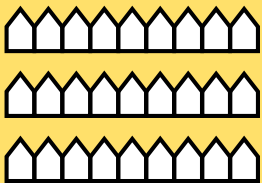
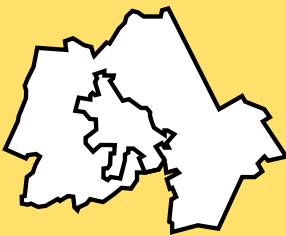
- Potential create strategy
- Potential fill and top-up strategy
- Potential re-use strategy
- Potential re-structure strategy

- Housing plans municipalities
- Strategic space for new plans

+180.000
DWELLINGS

35,4%
EXTRA

Scale effects

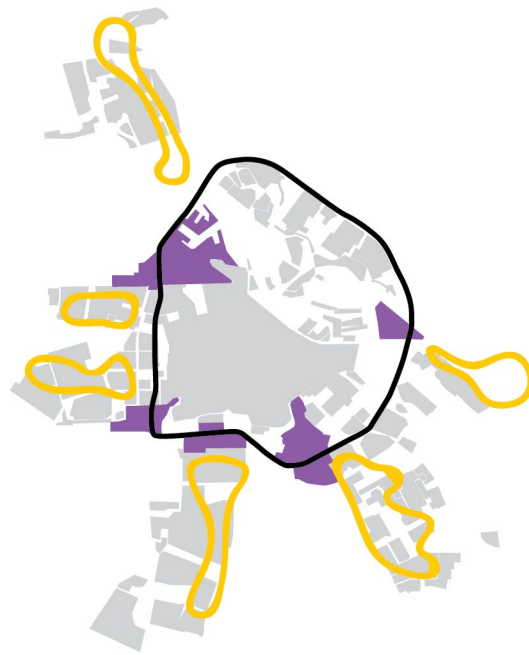
	POTENTIAL BENEFITS	POTENTIAL THREATS	MEASURES NEEDED	SHOULD BE ADDRESSED IN
LOCAL 	Upgrade public space and housing	Decline individual quality of life (e.g. privacy, views, parking space)	Guidelines for implementation	Urban/ Architectural design
NEIGHBOURHOOD 	More amenities (e.g. shops, public transport, recreation, schools)	Crowdedness More pollution Disappearance of green	Guidelines for implementation	Masterplan neighbourhood Land use plan
CITY 	Healthier housing market New interesting innercity housing areas More competitiveness	Crowdedness Congestion Higher pressure on public space	Additional long term development vision based on extra densification Mobility plan	Structure vision Amsterdam 2040
REGION 	Less traffic and pollution Preservation of the natural landscape Surroundings benefit from growing centre	Surrounding towns lose functions Higher pressure on (recreational) facilities	Additional long term development vision based on extra densification	Development vision Metropolitan Region Amsterdam
NATIONAL 	Less traffic and pollution Preservation of the natural landscape More competitiveness	Widening gap between demographically and economically growing and shrinking areas	Nationwide compact city policy with an universal approach National spatial concept for urban development (e.g. polycentric vs. monocentric)	National environmental planning strategy

DEVELOPMENT OF AMSTERDAM

Development vision



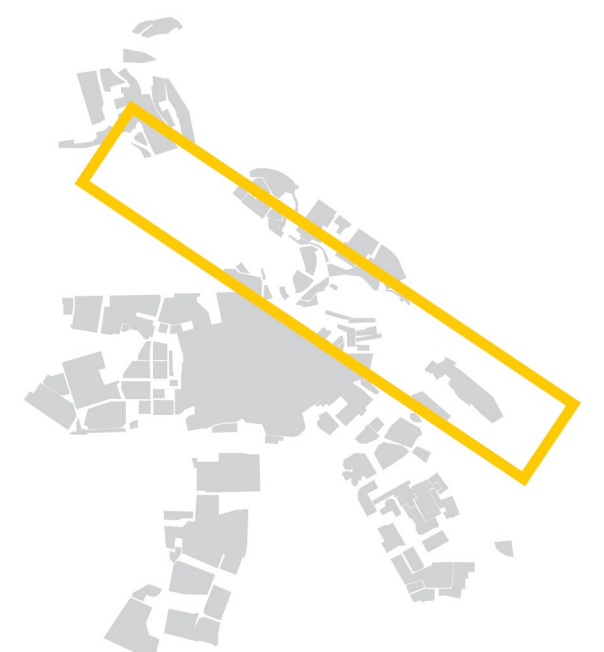
LOCKED CITY CENTRE



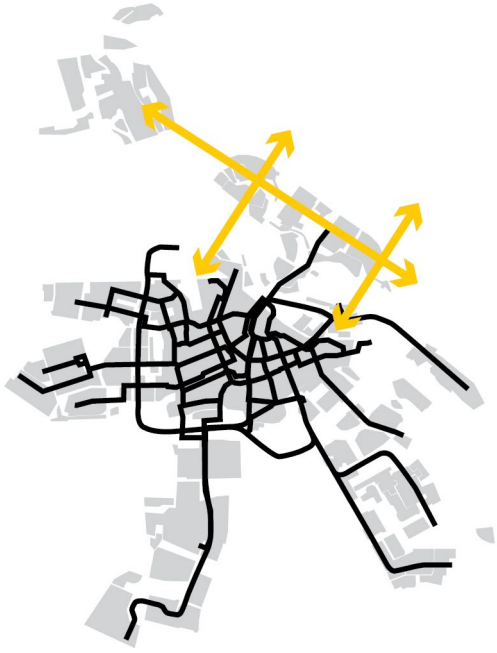
NEW URBAN CENTRES



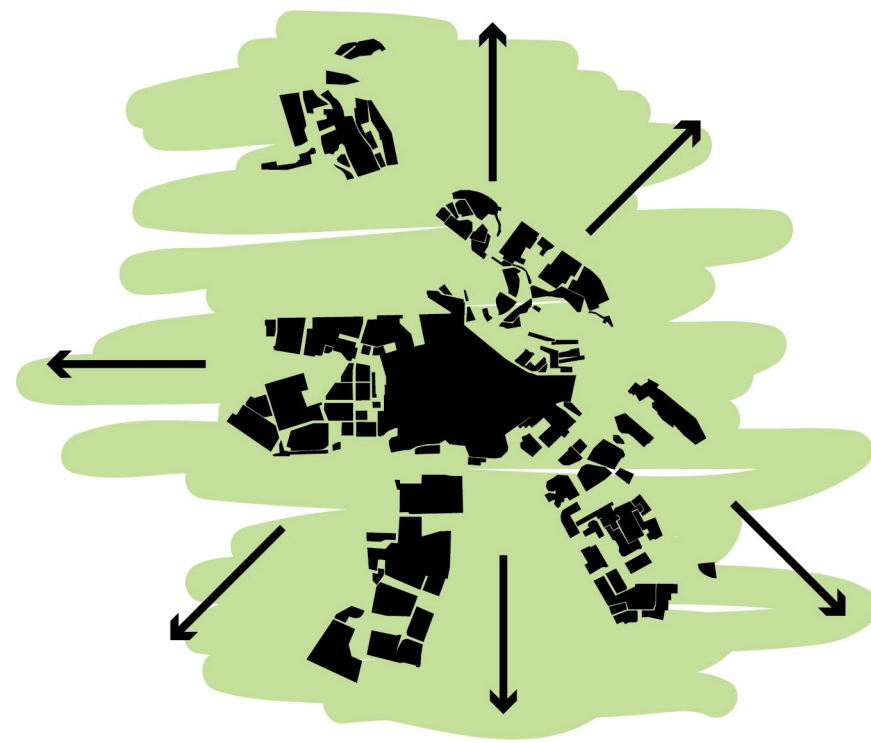
CONNECTION TO ZAANDAM



REDEVELOPMENT OF THE
WATERFRONT



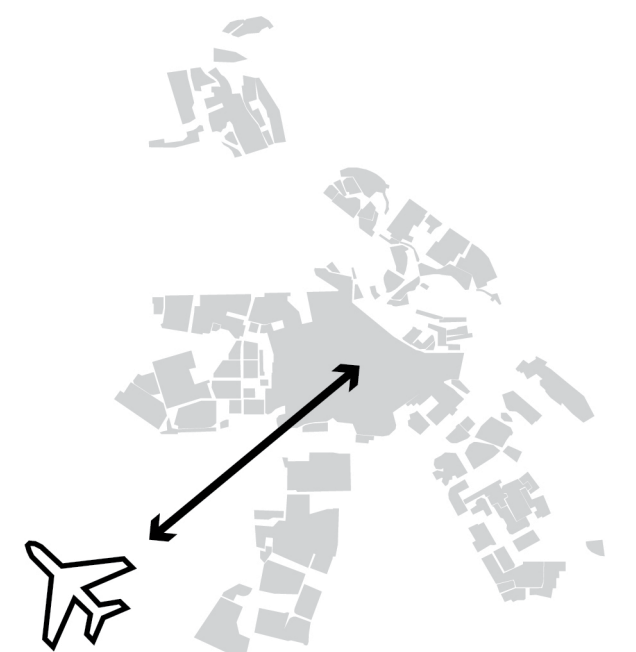
PUBLIC TRANSPORT
EXPANSION TO NORTH



THE COUNTRYSIDE AS
BACKYARD



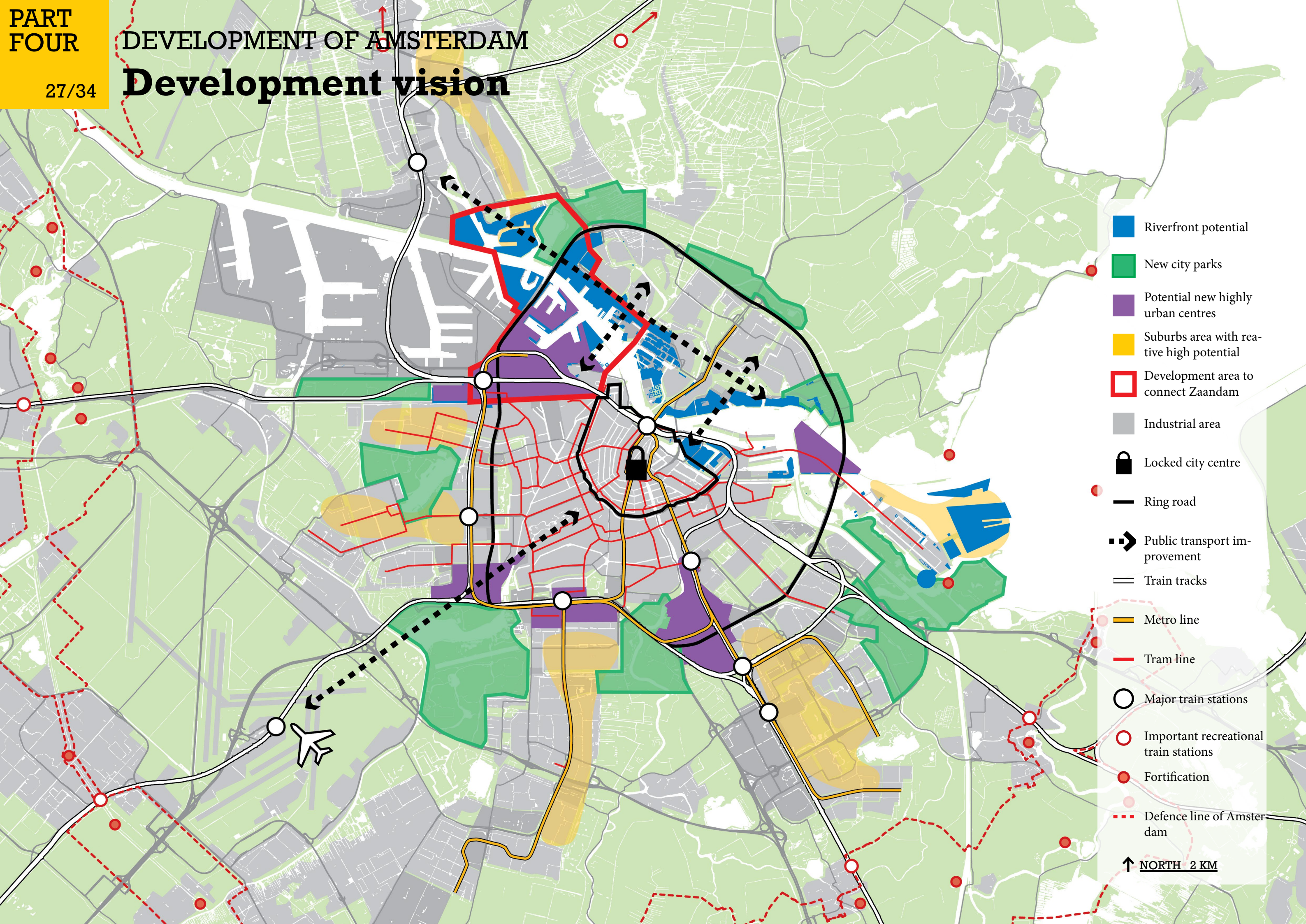
NEW CITY PARKS



CONNECTION TO
SCHIPHOL

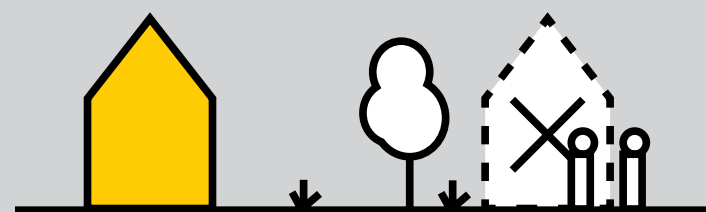
DEVELOPMENT OF AMSTERDAM

Development vision



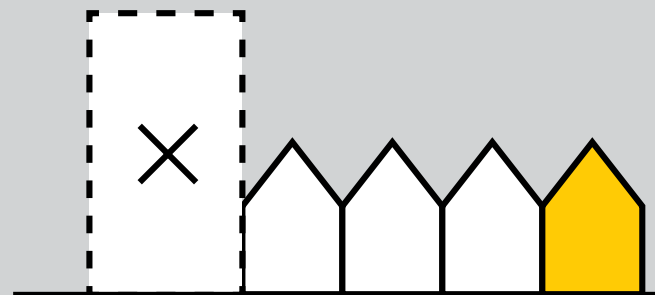
Implementation of densification

1



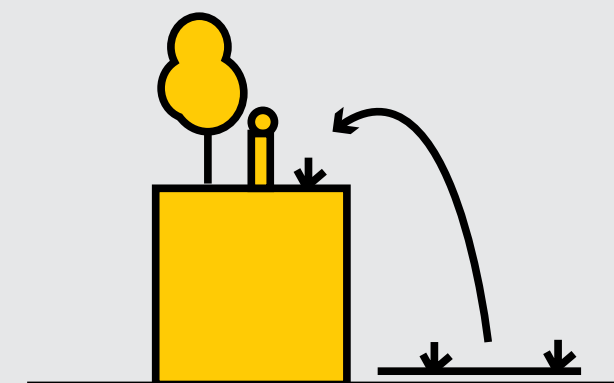
DON'T USE OPEN SPACE WITH
A FUNCTION

2



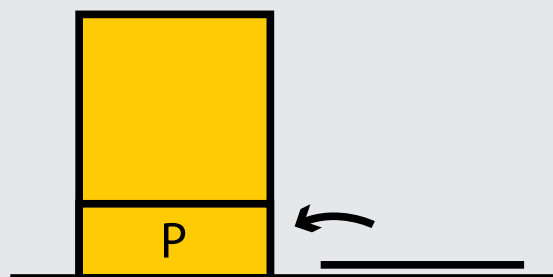
CREATE INTERVENTIONS IN THE
SAME SCALE RANGE THAN ITS
DIRECT ENVIRONMENT

3



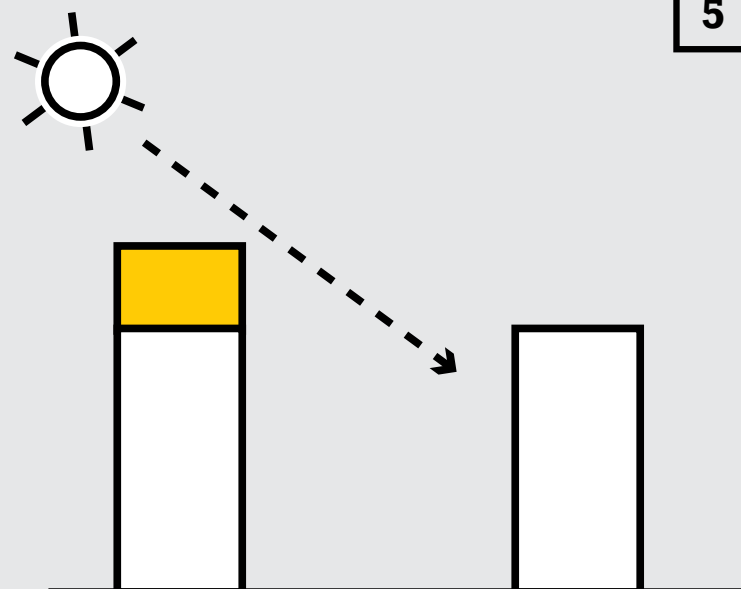
USE ROOFS AND WALLS OF
NEW BUILDINGS AS NEW
GREEN SPACES

4



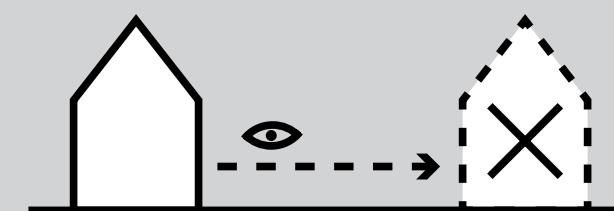
INTEGRATE PARKING SPACE IN THE
NEW BUILDINGS

5



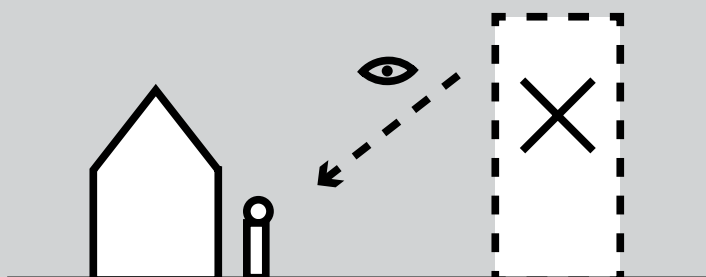
PAY ATTENTION TO SHADE
AND SUN HOURS OF EXISTING
DWELLINGS AND GARDENS

6



DON'T BLOCK VIEWS OF EXIST-
ING DWELLINGS OVER ADJE-
CENT BIG OPEN SPACES

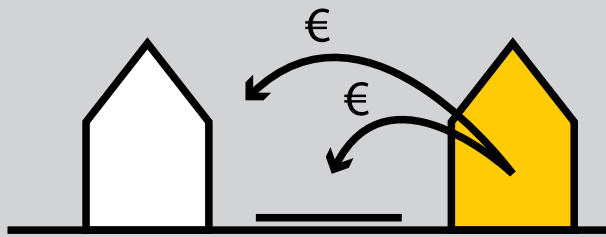
7



DON'T VIOLATE THE PRIVACY OF
EXISTING DWELLINGS

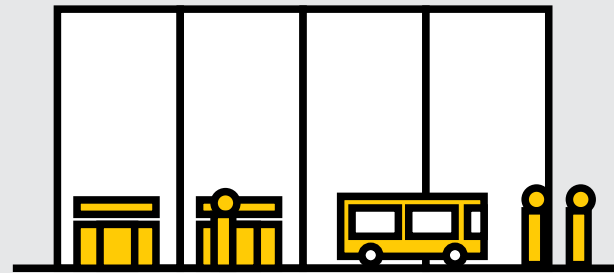
Implementation of densification

A



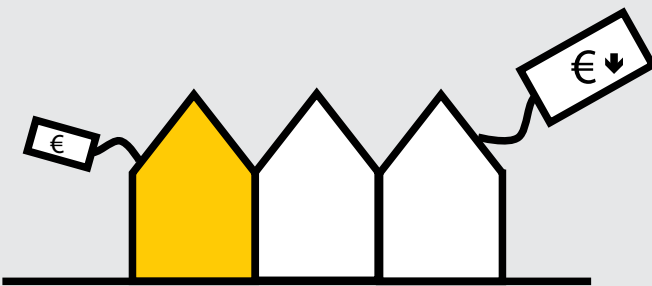
UPGRADE NEIGHBOURHOODS
WITH THE EARNING OF
DENSIFICATION

B



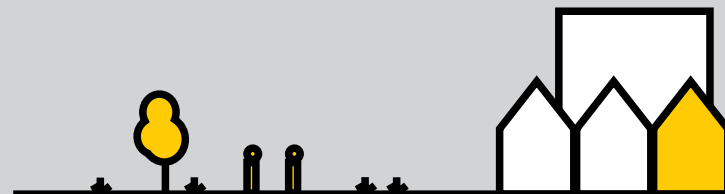
THE EXTRA RESIDENTS CAN
BRING MORE AMENITIES TO
A CITY OR NEIGHBOURHOOD

C



NEW AFFORDABLE HOUSING
CAN BE ADDED TO CREATE A
HEALTHIER HOUSING MARKET

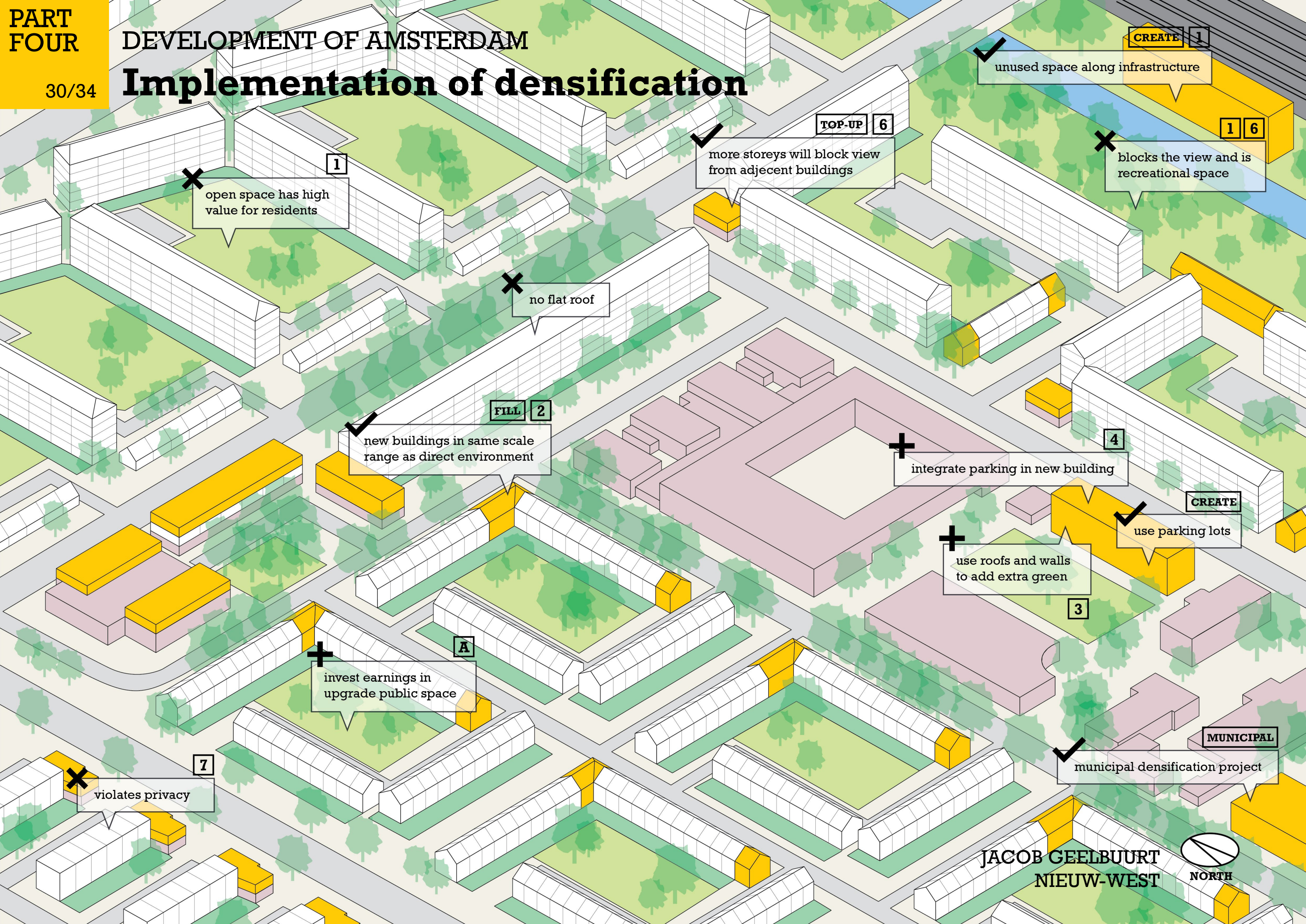
D



THE BIG OPEN COUNTRY
SIDE CAN BE PRESERVED FOR
RECREATION

DEVELOPMENT OF AMSTERDAM

Implementation of densification



✗ open space has high value for residents

✗ no flat roof

✓ more storeys will block view from adjacent buildings

✓ unused space along infrastructure

✗ blocks the view and is recreational space

✓ new buildings in same scale range as direct environment

✗ integrate parking in new building

✓ use parking lots

✗ use roofs and walls to add extra green

✗ invest earnings in upgrade public space

✓ municipal densification project

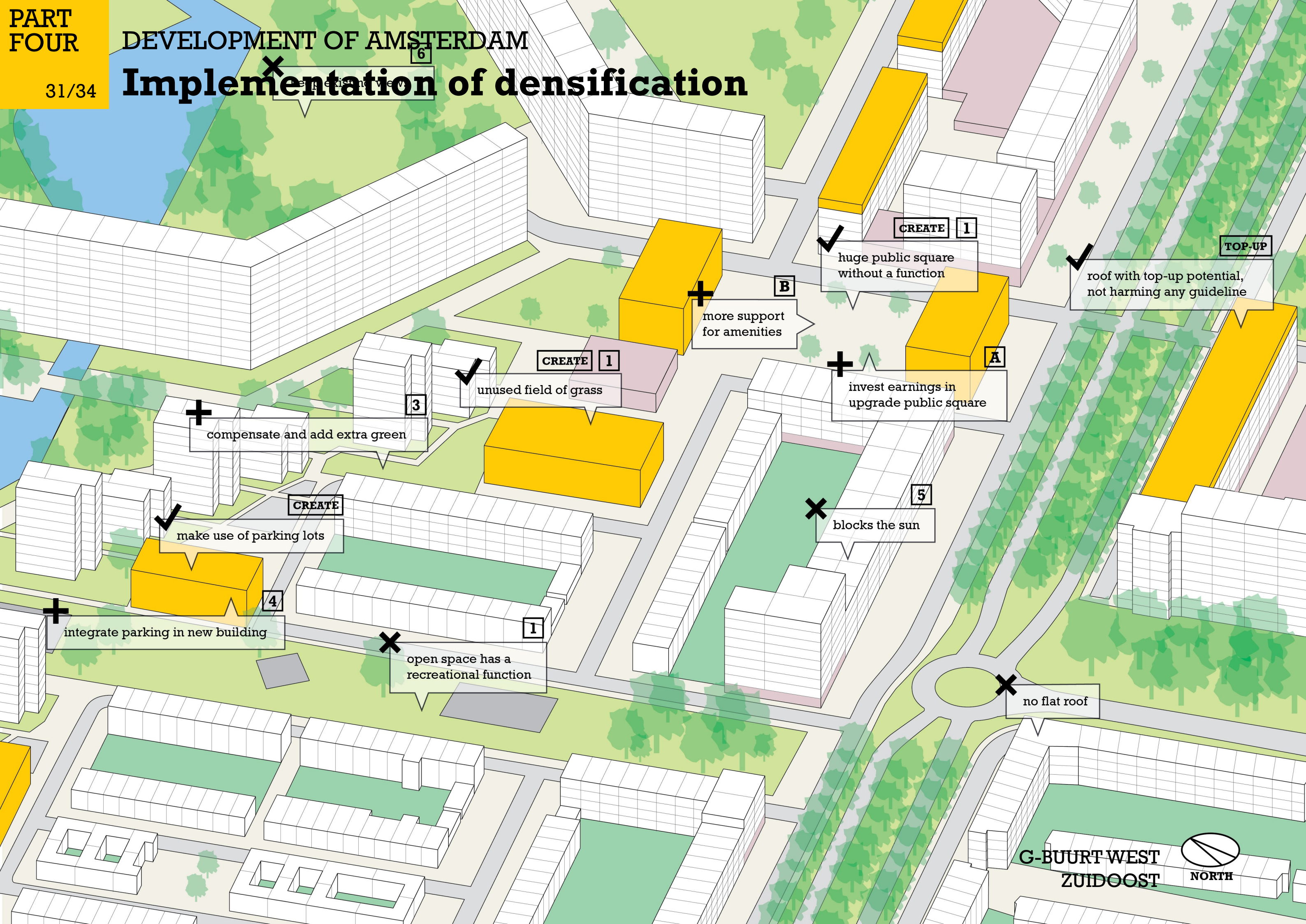
✗ violates privacy

JACOB GEELBUURT
NIEUW-WEST



DEVELOPMENT OF AMSTERDAM

Implementation of densification



+ compensate and add extra green

✓ make use of parking lots

+ integrate parking in new building

✗ open space has a recreational function

✓ unused field of grass

+ more support for amenities

+ invest earnings in upgrade public square

✗ blocks the sun

✗ no flat roof

✓ huge public square without a function

✓ roof with top-up potential, not harming any guideline

G-BUURT WEST
ZUIDOOST



If Amsterdam grows more...

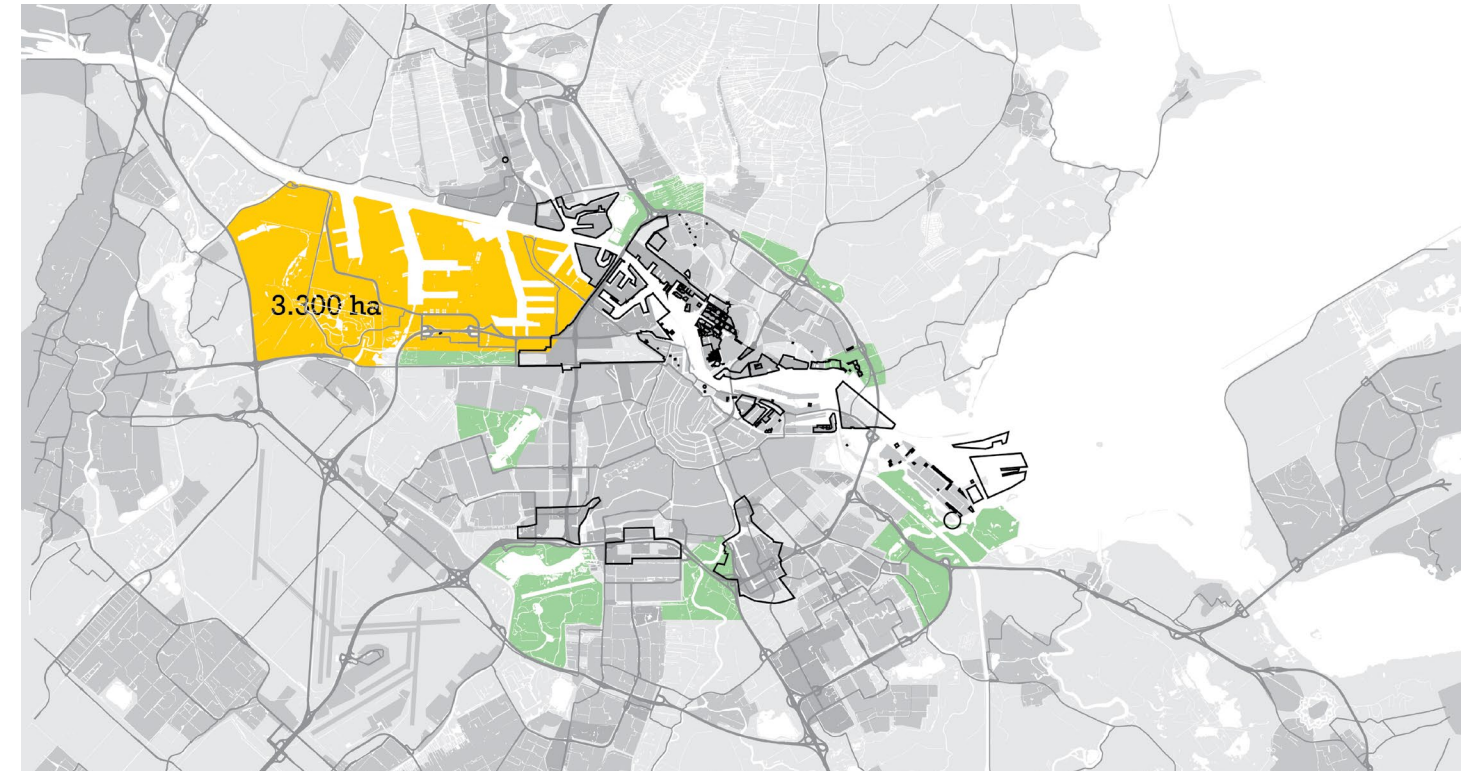
New densification study

Less quality of life

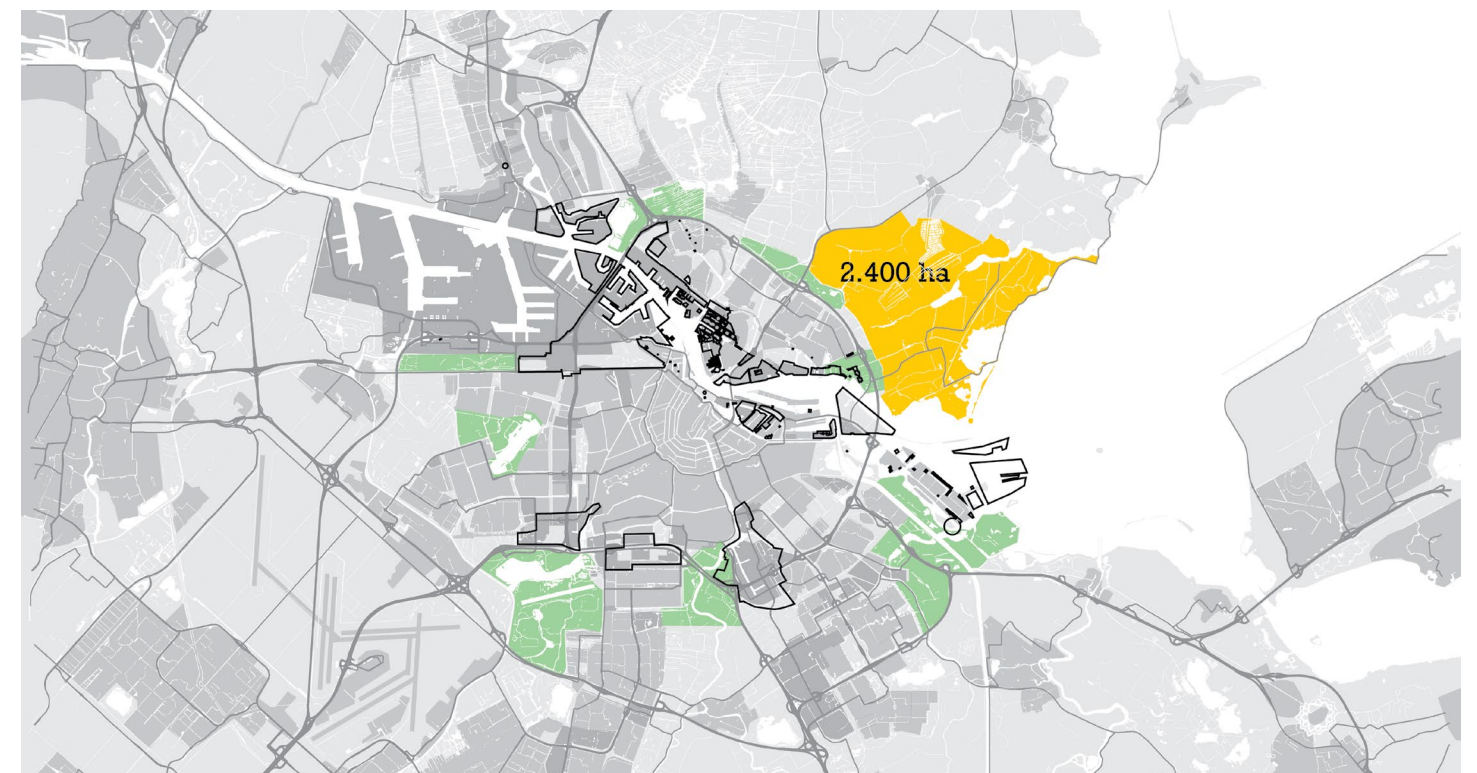
Demolishing and replacing parts of the city

Smaller dwellings

Expansion



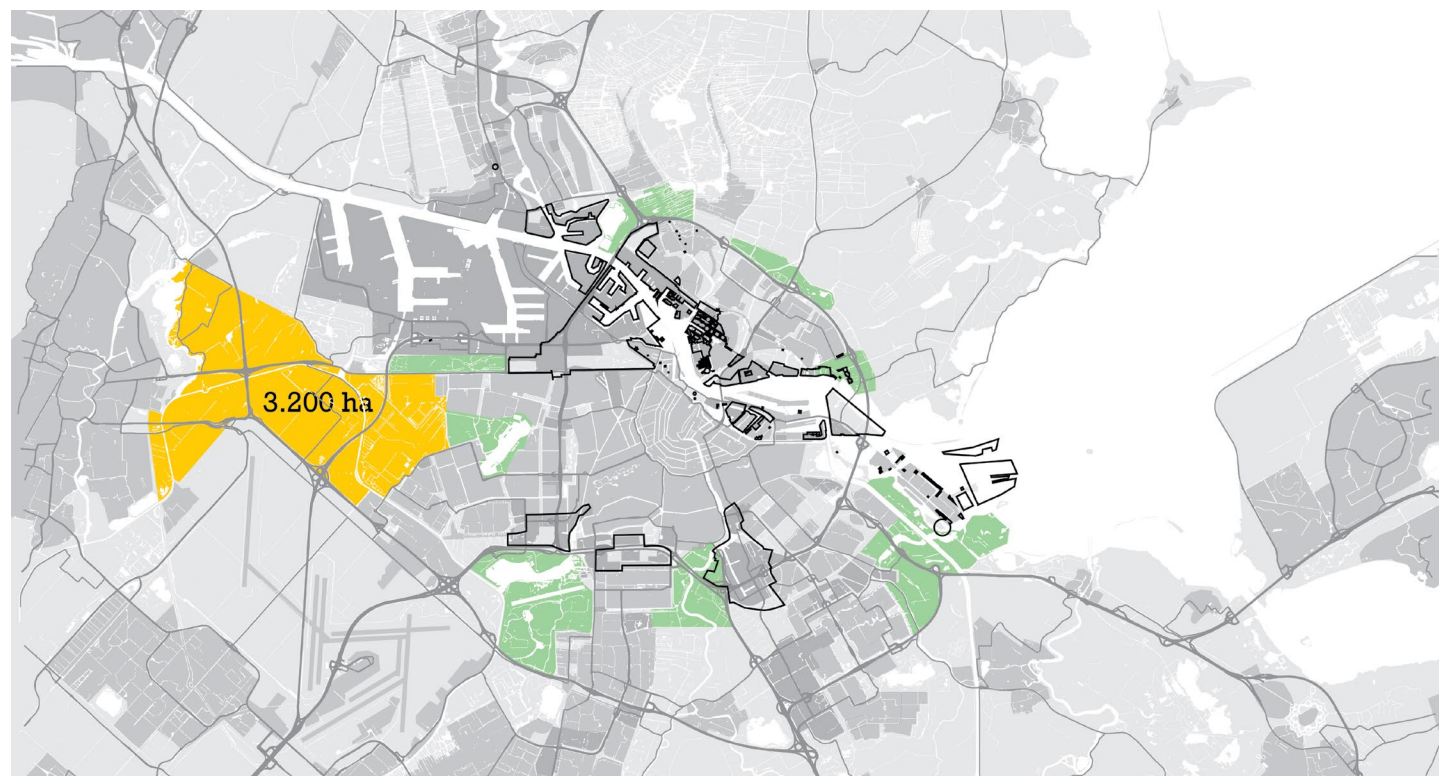
WESTPOORT



WATERLAND

DEVELOPMENT OF AMSTERDAM

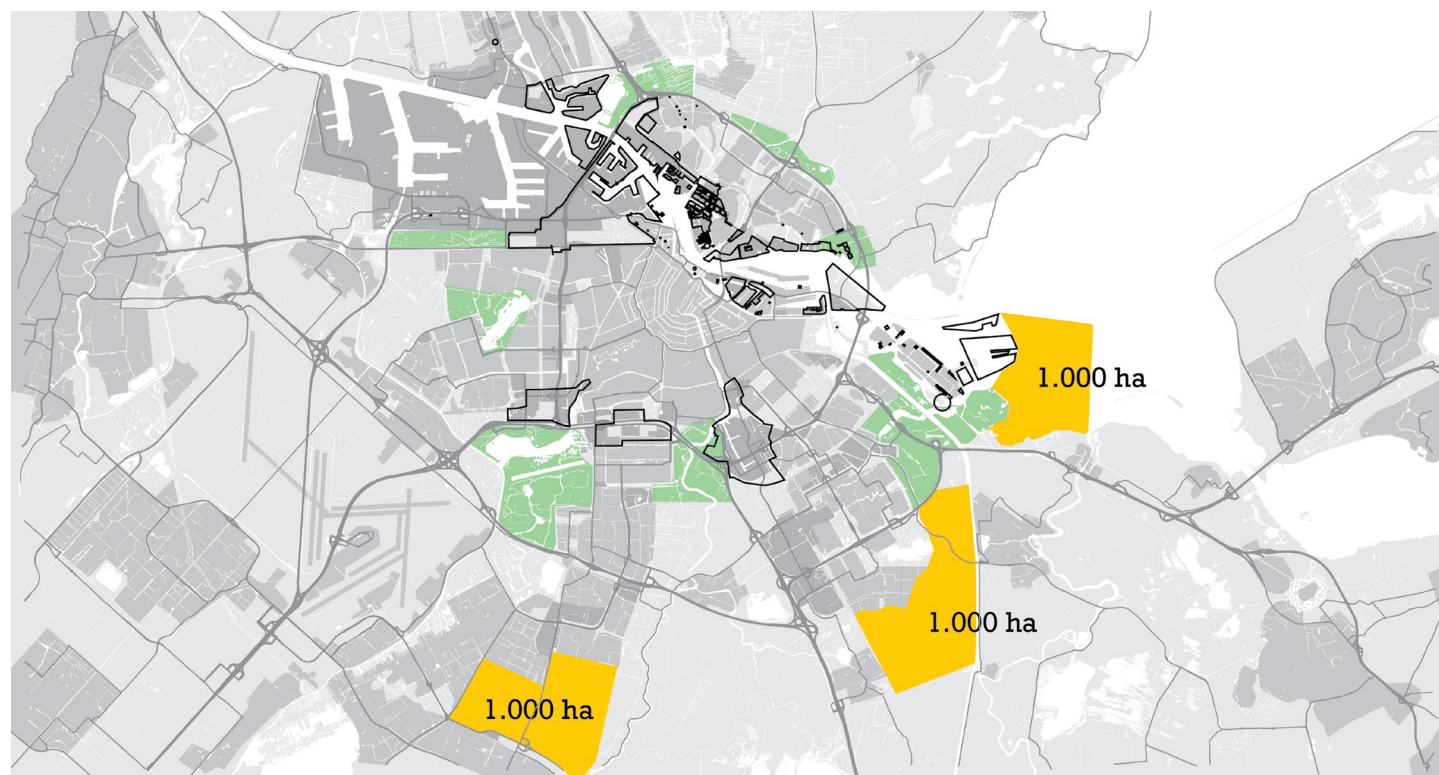
If Amsterdam grows more...



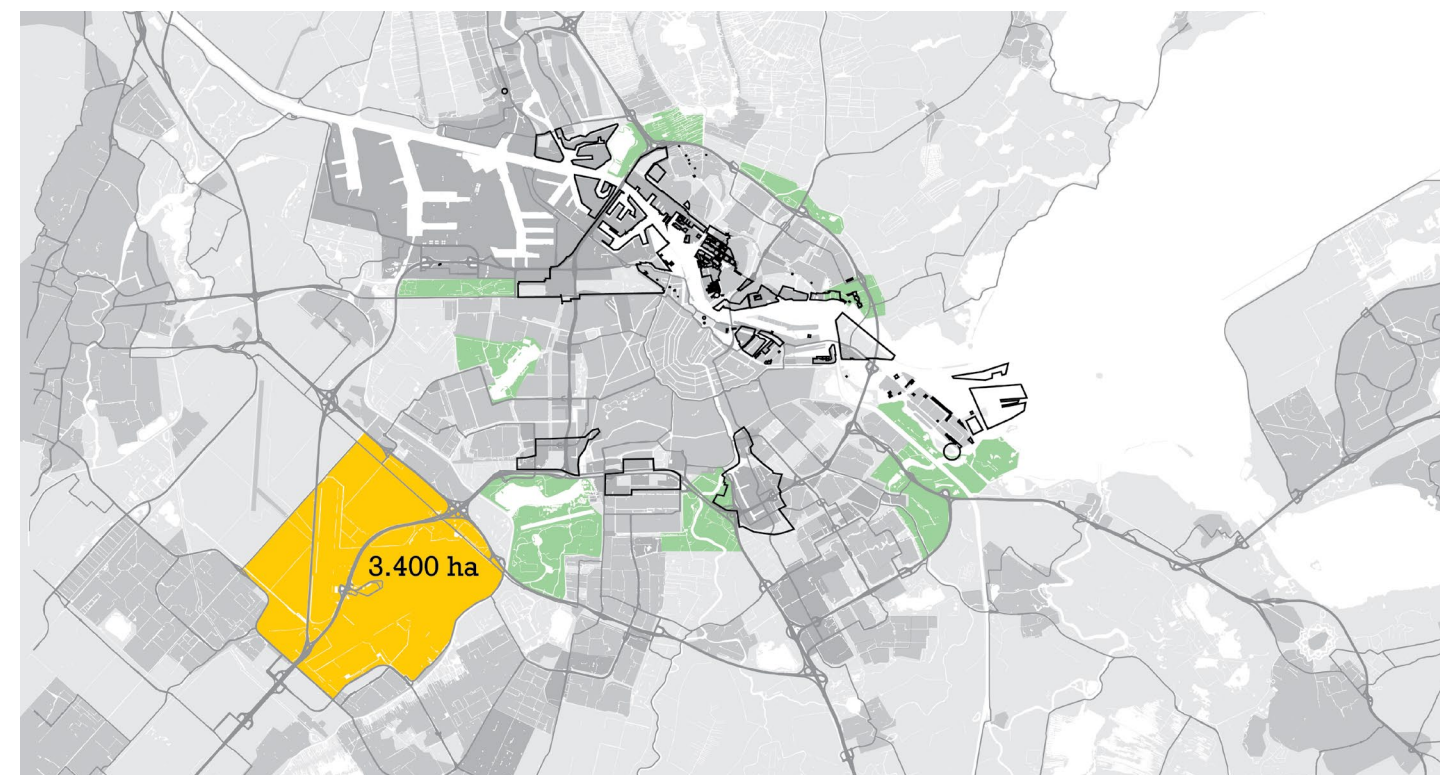
HAARLEM



ALMERE



EXTENDED FINGERS



SCHIPHOL

CONCLUSIONS

Recommendations

- # 1 MAKE USE OF THE GREAT POTENTIAL FOR DENSIFICATION
- # 2 EXPAND THE CENTRE
- # 3 INTEGRATE THE NORTHERN PART OF THE CITY BETTER
- # 4 UPGRADES IN THE INFRASTRUCTURE AND PUBLIC TRANSPORT NETWORK ARE NEEDED
- # 5 STRENGTHEN AMSTERDAM'S UNIQUE CHARACTER
- # 6 INVEST THE EARNINGS OF DENSIFICATION PROJECTS BACK INTO THE NEIGHBOURHOOD.
- # 7 CREATE MORE RECREATIONAL SPACE

8 ADD AFFORDABLE HOUSING

9 DON'T USE SPACE THAT HAS A FUNCTION OR A VALUE

#10 KEEP INTERVENTIONS IN THE SAME SCALE RANGE AS THE DIRECT ENVIRONMENT

#11 COMPENSATE THE AMOUNT OF GREEN AND PARKING SPOTS THAT IS SACRIFICED

#12 PAY ATTENTION TO INDIVIDUAL VALUES

#13 SPREAD BENEFITS OF ECONOMIC DEVELOPMENT FAIRLY