

LIMITATIONS TO THE ROW HOUSE PARADIGM

A design study into a alternative and
adaptable strategy of Almere

AR3U115 Graduation Lab
MSc Urbanism, Technische Universiteit Delft

P5 Presentation
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2nd mentor: prof. dr. Zef Hemel (Spatial/ Urban Planning)

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1. Row Houses in the Netherlands

- More than 50% of the housing stock

	Netherlands
Flats (Appartments)	36%
Detached houses	13%
Semi-detached houses/Row Houses	51%

| Problem Analysis

1. Row Houses in the Netherlands

- More than 50% of the housing stock
- 34% more than the average in Europe

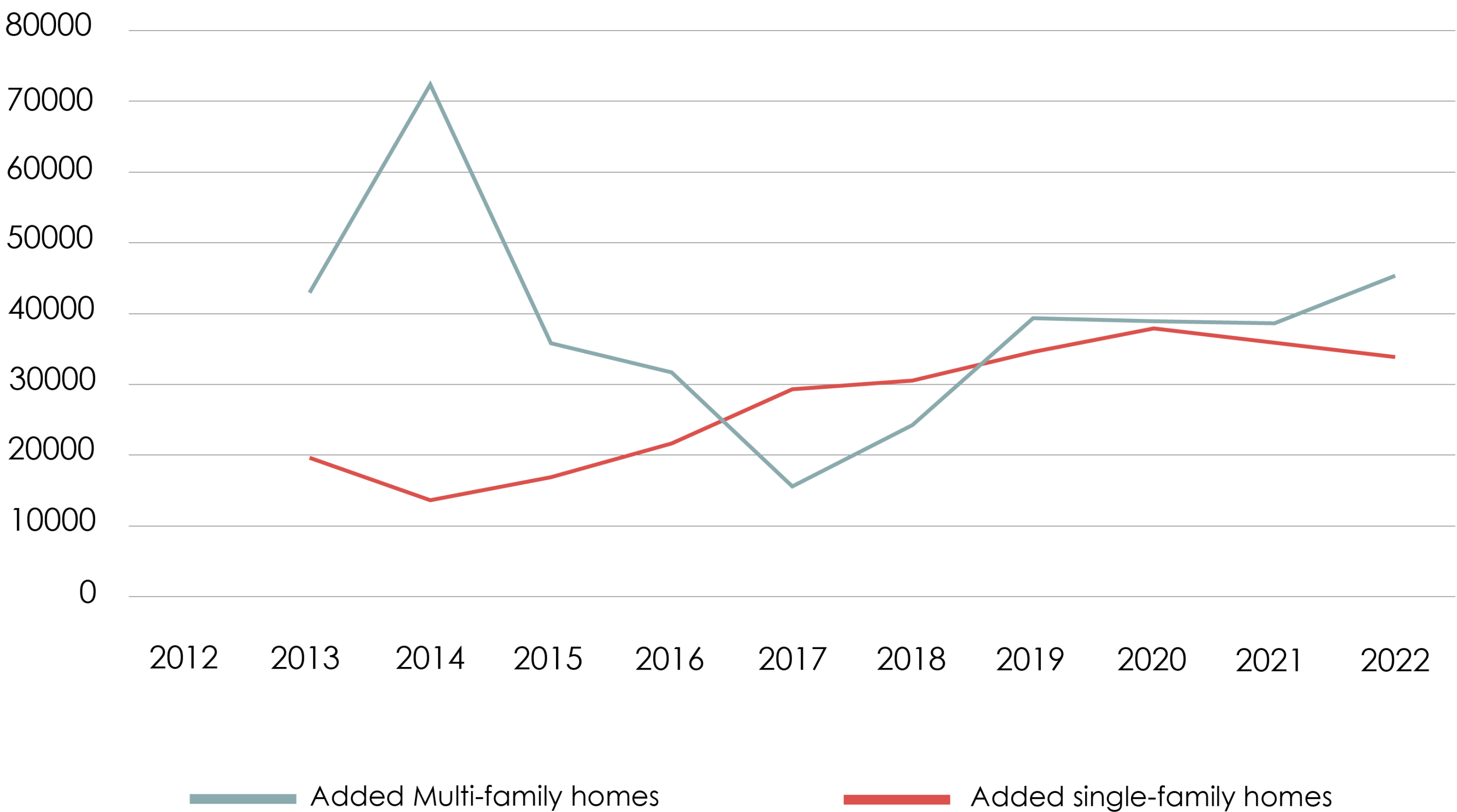
	Netherlands	Europe	Difference
Flats (Appartments)	36%	46%	-10%
Detached houses	13%	36%	-23%
Semi-detached houses/Row Houses	51%	17%	+34%

| Problem Analysis

1. Row Houses in the Netherlands

- More than 50% of the housing stock
- 34% more than the average in Europe
- Are still being added

ADDED HOUSING IN NETHERLANDS



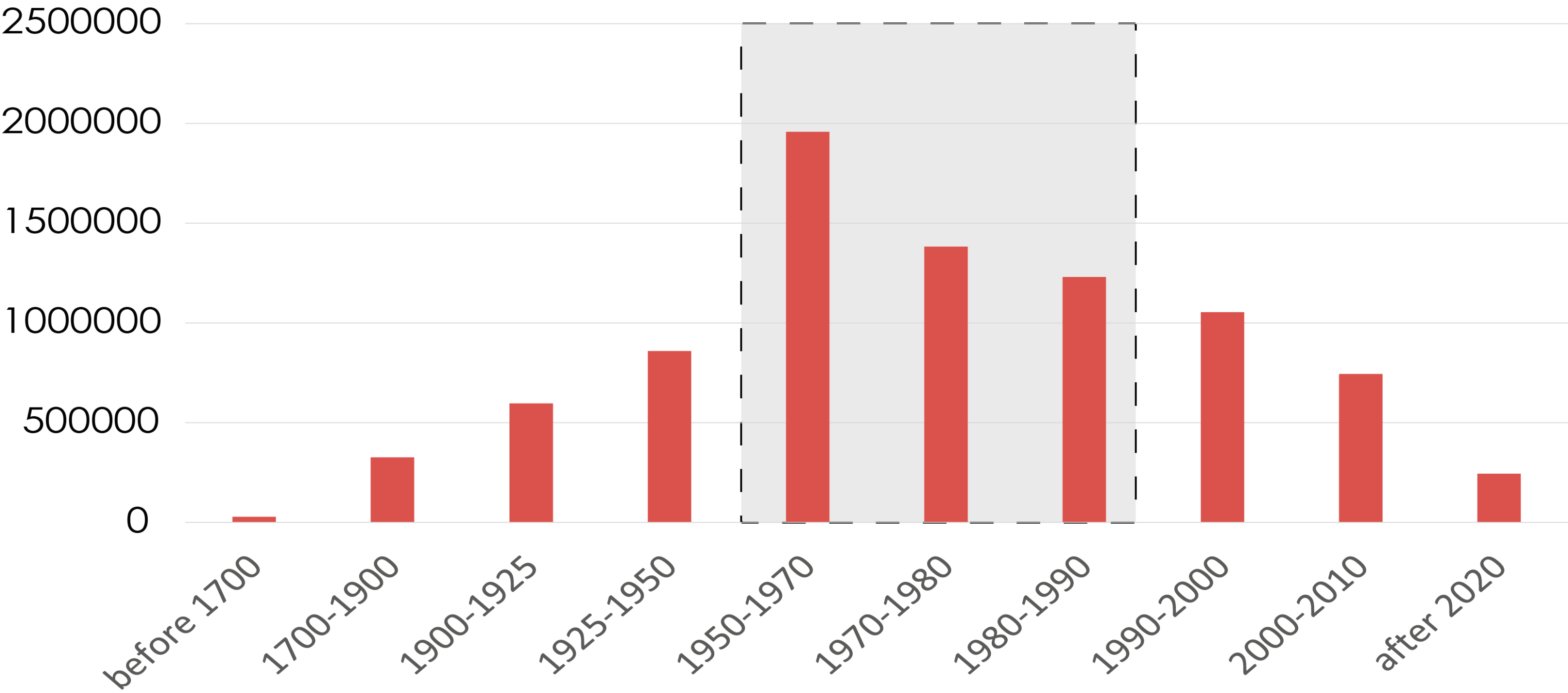
| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- 'Post-war' = 1950 - 1990¹

Era of construction of Urban Environment in the Netherlands²



1. von Meding et al., 2020
2. Centraal Bureau voor de Statistiek, 2023

| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- 'Post-war' = 1950 - 1990¹
- Suburban areas with low density¹
- Aimed at 'Functionalism'

'Nederland omstreeks 2000' ['Netherlands around 2000']²



1. von Meding et al., 2020
2. Ruimschotel, 2019

“National planners recognized that families with children (at that time the almost exclusive concern of housing and planning policy) preferred homes with gardens.”

(Faludi & van der Valk, 1994, p. 133)

| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- 'Post-war' = 1950 - 1990¹
- Suburban areas with low density¹
- Aimed at 'Functionalism'
- Often focused on a specific socioeconomic group²
- Separation between life, work and recreation²

1. von Meding et al., 2020
2. Oosterhoff et al., 2012
3. Ruimschotel, 2019

'Nederland omstreeks 2000' ['Netherlands around 2000']³



| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- Creation of the Zuiderzeepolders
- The city of Almere

Map of Flevoland in 1970



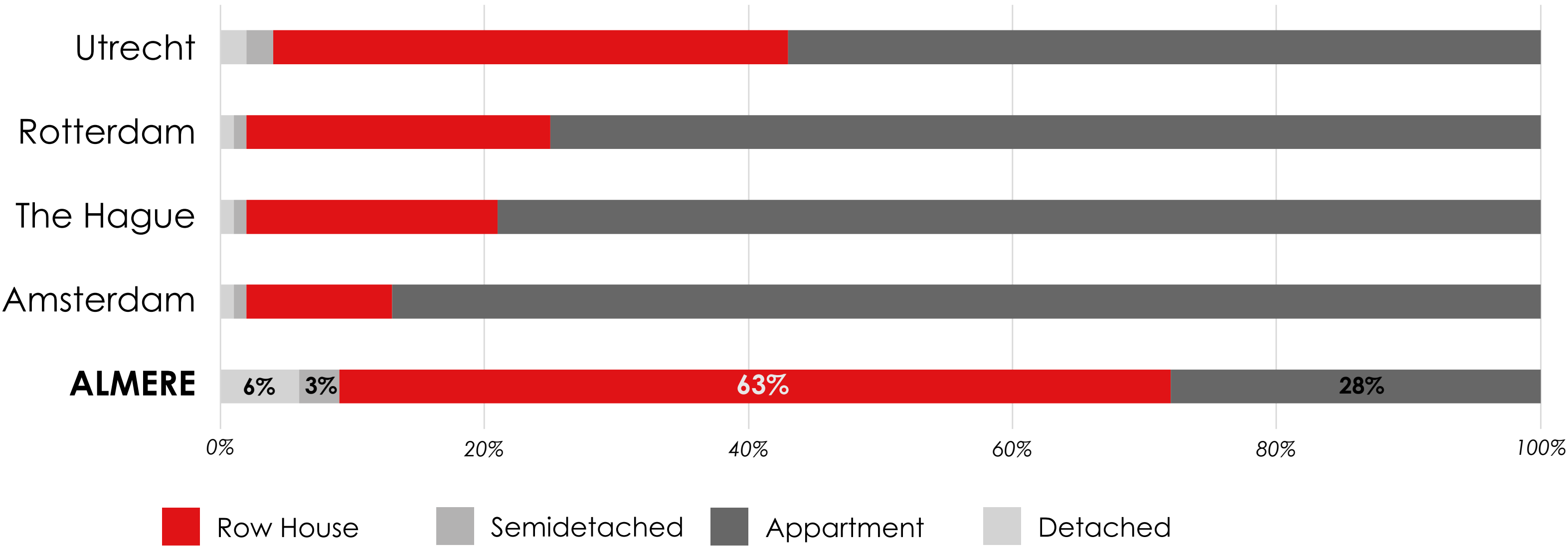
| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- Creation of the Zuiderzeepolders
- The city of Almere
- “Suburban living” embodied by Almere
- Extensive use of Row Houses as main dwelling type

Dwelling types in Almere compared to G4-municipalities



| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- Creation of the Zuiderzeepolders
- The city of Almere
- “Suburban living” embodied by Almere
- Extensive use of Row Houses as main dwelling type
- Causing dispersion and large distances

Urban Environment of Almere



| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

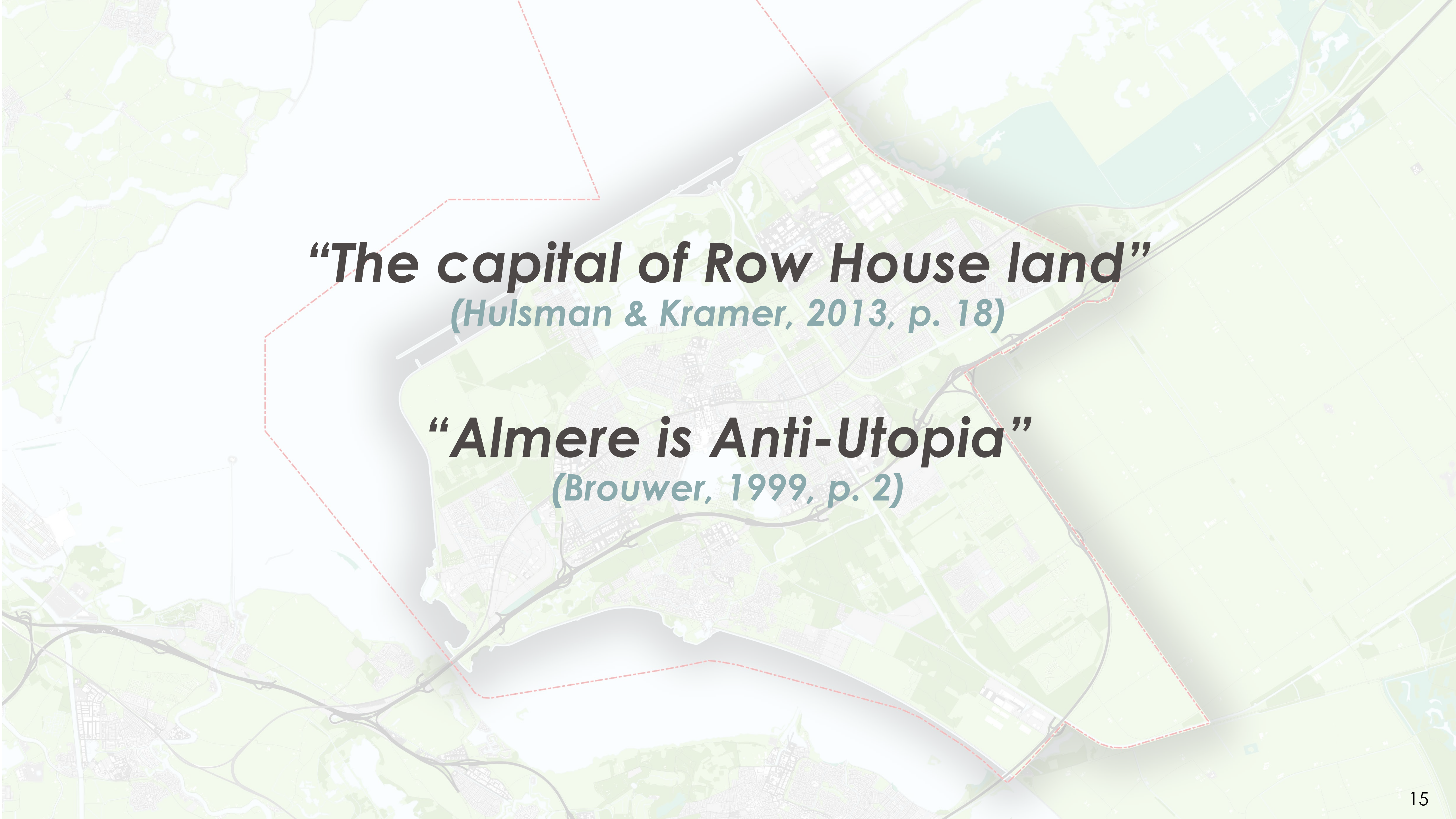
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- The city of Almere
- “Suburban living” embodied by Almere
- Extensive use of Row Houses as main dwelling type
- Causing dispersion and large distances

Dispersion Row Houses in Almere



An aerial photograph of a suburban area, likely in the San Francisco Bay Area, showing a mix of residential development, green spaces, and water bodies. A red dashed line outlines a specific region, and a grey shaded area is visible within this region. The text is overlaid on the map.

“The capital of Row House land”
(Hulsman & Kramer, 2013, p. 18)



“The capital of Row House land”
(Hulsman & Kramer, 2013, p. 18)

“Almere is Anti-Utopia”
(Brouwer, 1999, p. 2)

| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

3. The goal of Almere

- Doubling in population



| Problem Analysis

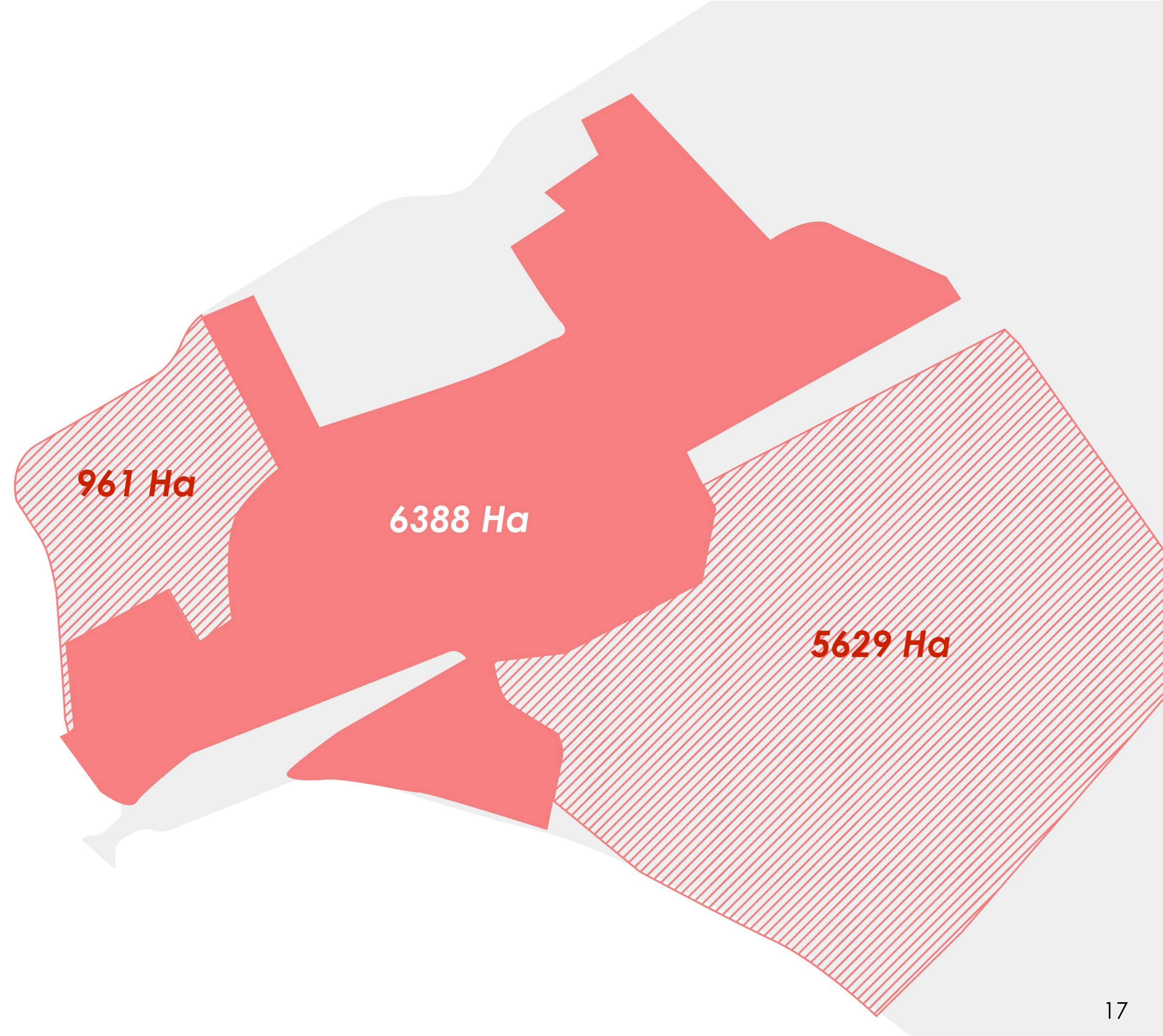
1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

- Suburban areas with low density
- Aimed at 'Functionalism'
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- Separation between life, work and recreation

3. The goal of Almere

4. Shortage of Space



| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

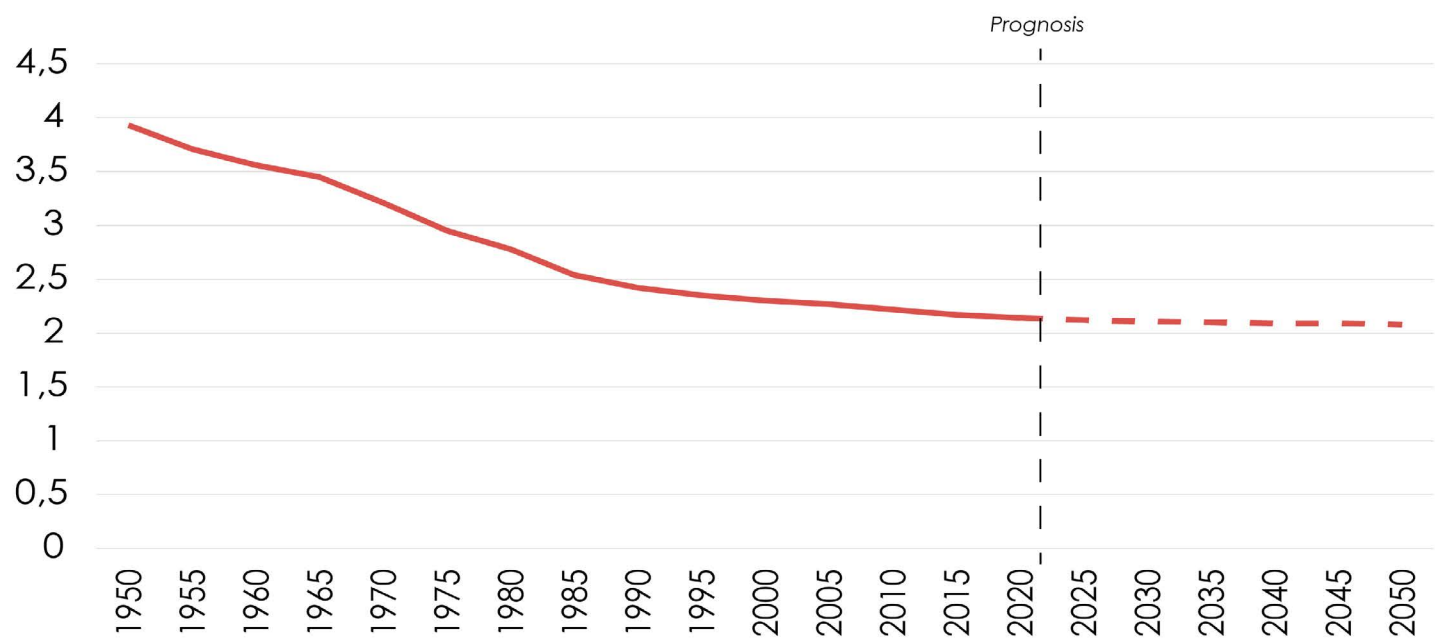
3. The goal of Almere

4. Shortage of Space

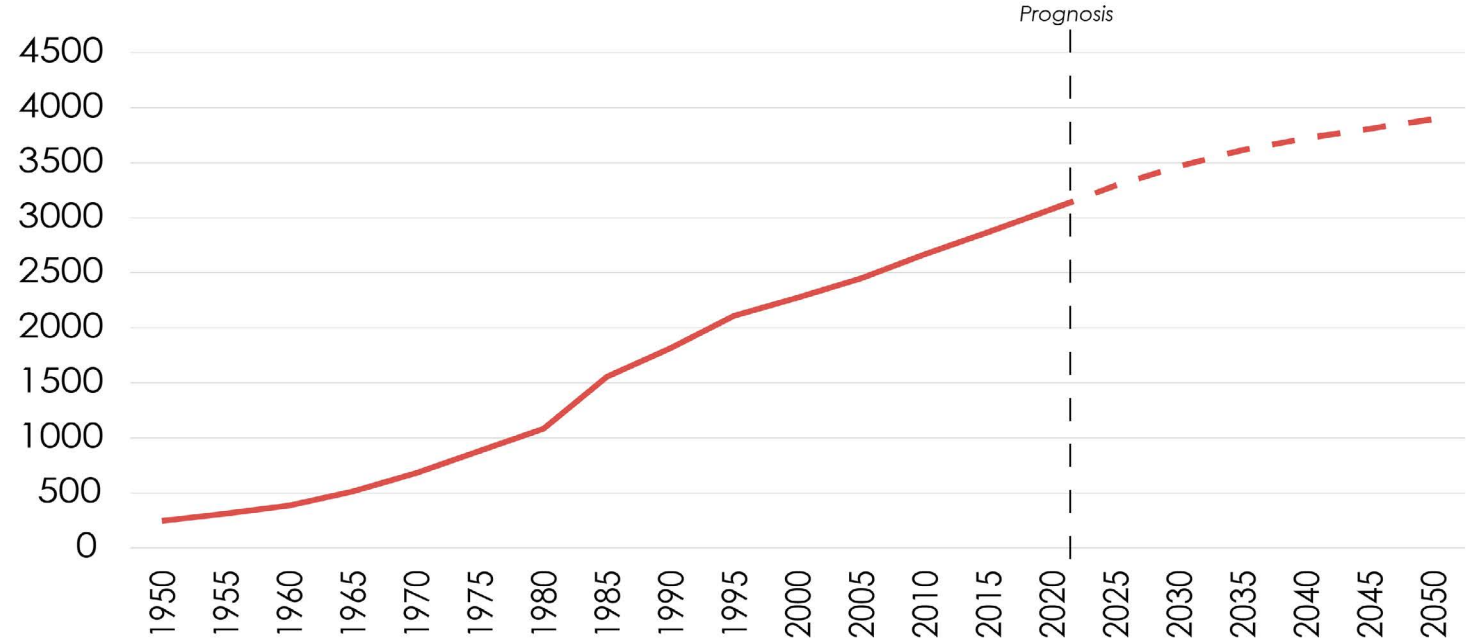
5. Changing Demographics

- Smaller household sizes
- More one-person households
- More elderly people
- Increase in immigration

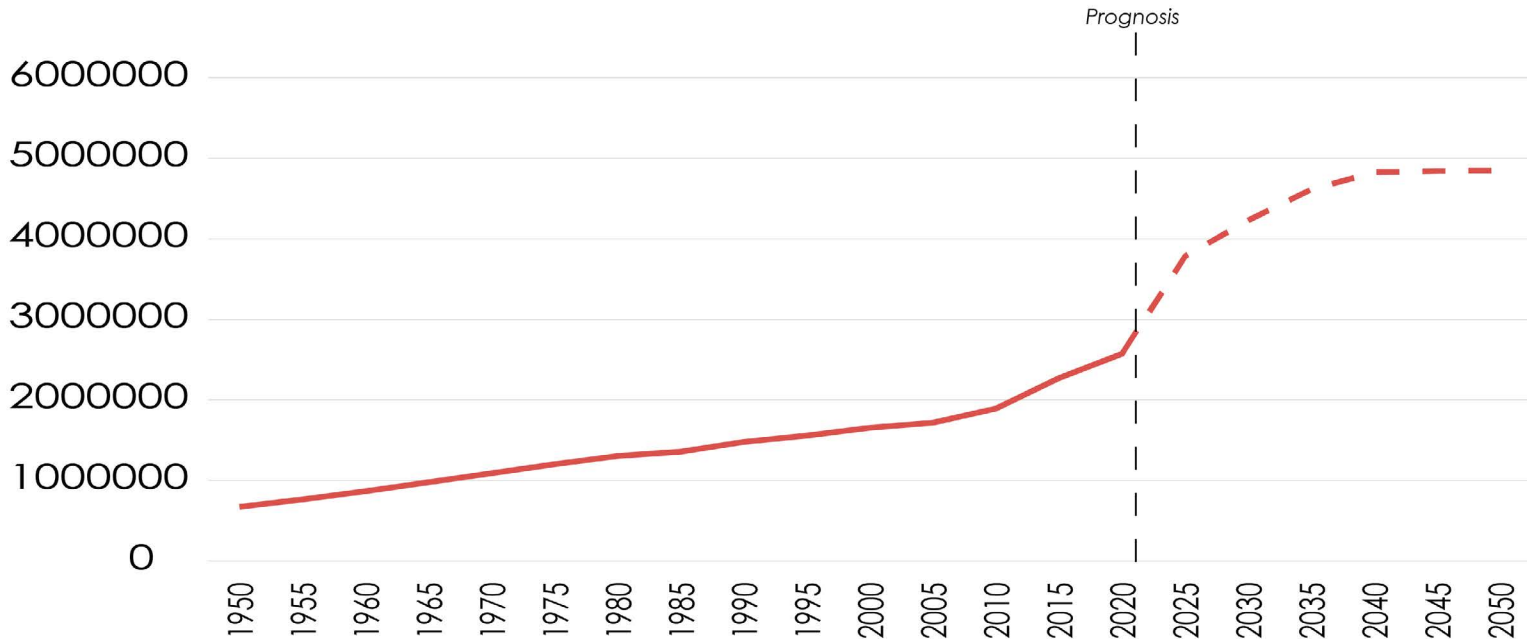
HOUSEHOLD SIZE IN THE NETHERLANDS



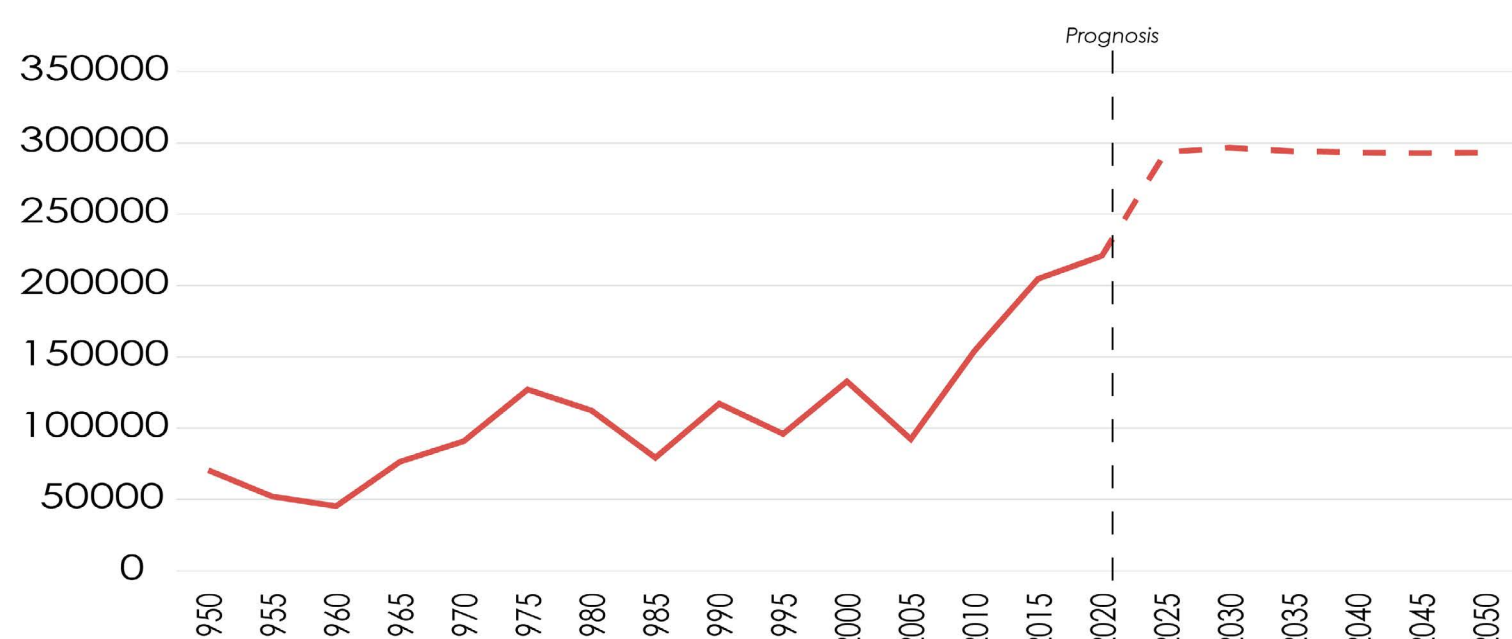
ONE-PERSON HOUSEHOLDS IN THE NETHERLANDS



65 - 80 YEAR OLD IN THE NETHERLANDS



IMMIGRATION IN THE NETHERLANDS



| Problem Analysis

1. Row Houses in the Netherlands

2. Urban Environment of the Netherlands

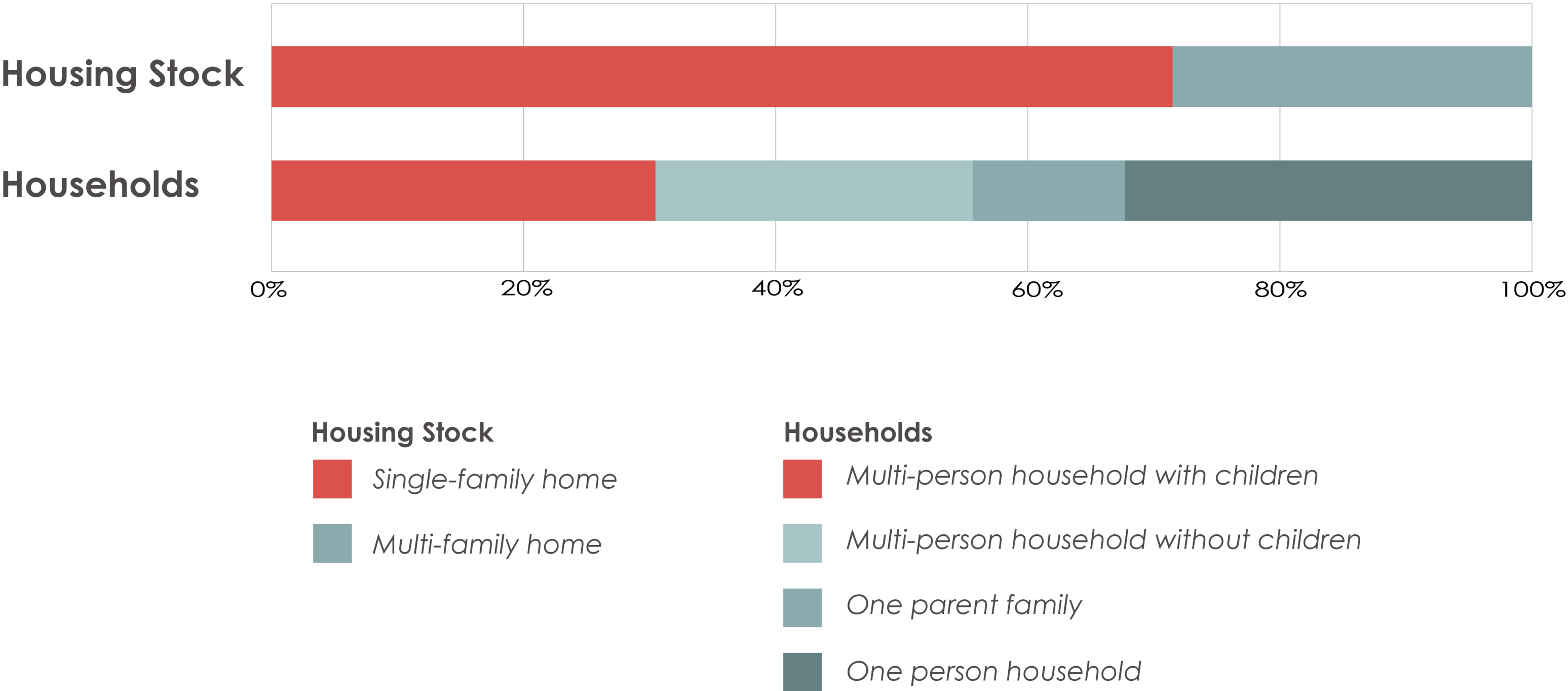
3. The goal of Almere

4. Shortage of Space

5. Changing Demographics

- Imbalance in household types and housing stock

Housing Stock and Household types in Almere



“Only 28% of households consist of two adults with children yet almost two-thirds of the dwellings in the Netherlands are currently one-family homes. It is remarkable to say the least that the focus to this day is still on adding single-family homes in expansion and densification projects.”

(von Meding et al., 2020, p. 36)

Imbalance housing/households

+

Space shortage

=

Unsuitable Urban Environment for future transitions

1) City scale:

How Almere can accommodate the doubling of the population in the existing city

and...

2) National scale:

Question the continued use of the Row House Paradigm in the Netherlands

> What is the **Row House Paradigm** in the **Dutch context**?

***Paradigm* =**

“A model of something, or a highly clear and typical example of anything.” (Cambridge Dictionary, 2023)

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“A model of something, or a highly clear and typical example of anything.” (Cambridge Dictionary, 2023)

“... the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community” (Kuhn, 2012, p. 175)

Paradigm =

“A model of something, or a highly clear and typical example of anything.” (Cambridge Dictionary, 2023)

*“... the entire constellation of **beliefs, values**, techniques, and so on shared by the members of a given community” (Kuhn, 2012, p. 175)*

| The Row House Paradigm

1. Social Context

- Desire for small scale housing
(Nawijn, 1986; Lorzing, 2021)



| The Row House Paradigm

1. Social Context

- Desire for small scale housing
- Individualism & Liberalism
(Hulsman & Kramer, 2013)



Paradigm =

“A model of something, or a highly clear and typical example of anything.” (Cambridge Dictionary, 2023)

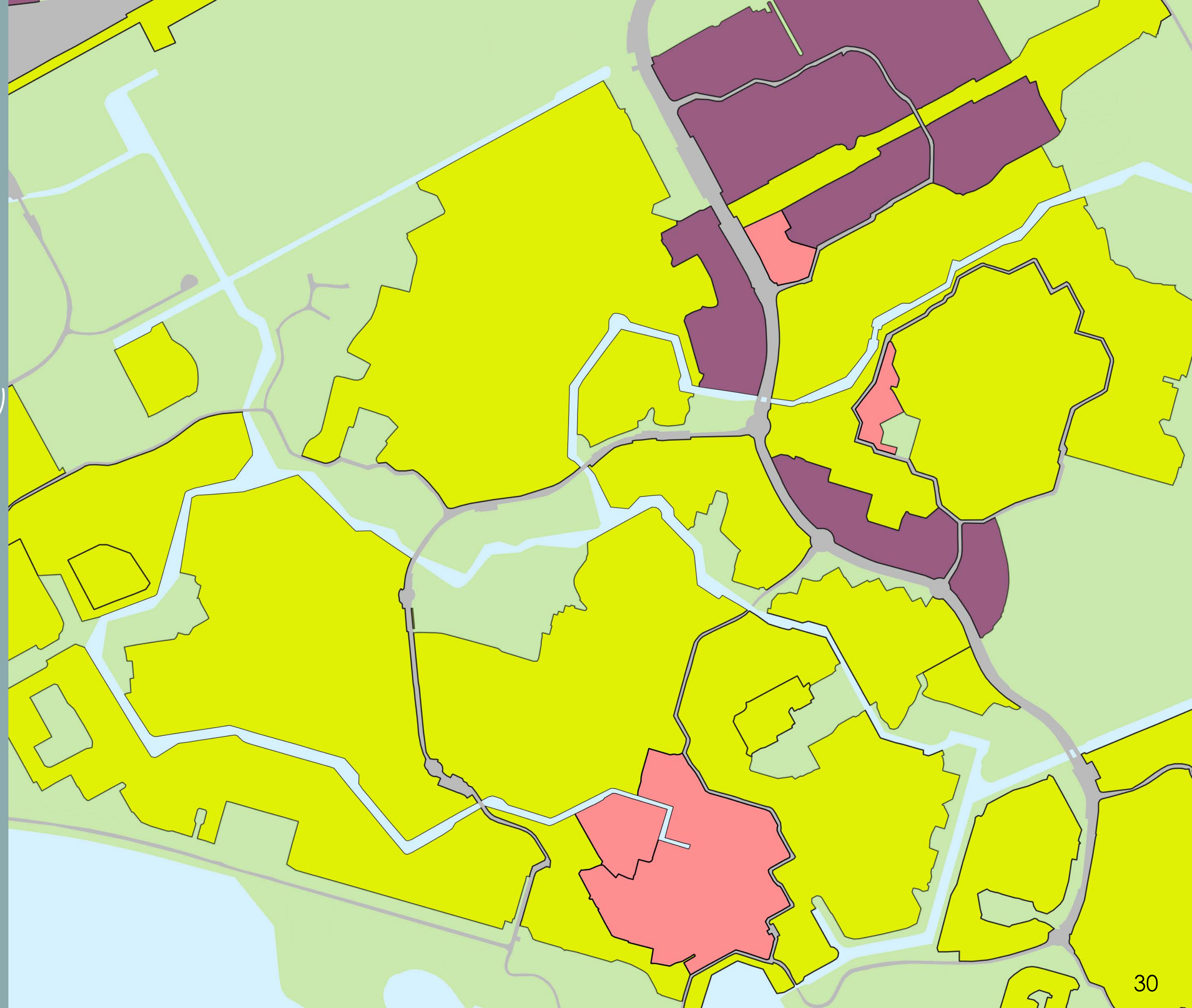
*“... the entire constellation of beliefs, values, **techniques**, and so on shared by the members of a given community” (Kuhn, 2012, p. 175)*

| The Row House Paradigm

1. Social Context

2. Spatial Context

- Separation between living, working and recreating
(De Vries et al, 2006; Geuze, 1995)



| The Row House Paradigm

1. Social Context

2. Spatial Context

3. Economic Context

- Prefabrication and standardisation
(Hulsman & Kramer, 2013; Nawijn, 1986)



| The Row House Paradigm

1. Social Context

2. Spatial Context

3. Economic Context

- Prefabrication and standardisation
- Affordable luxury



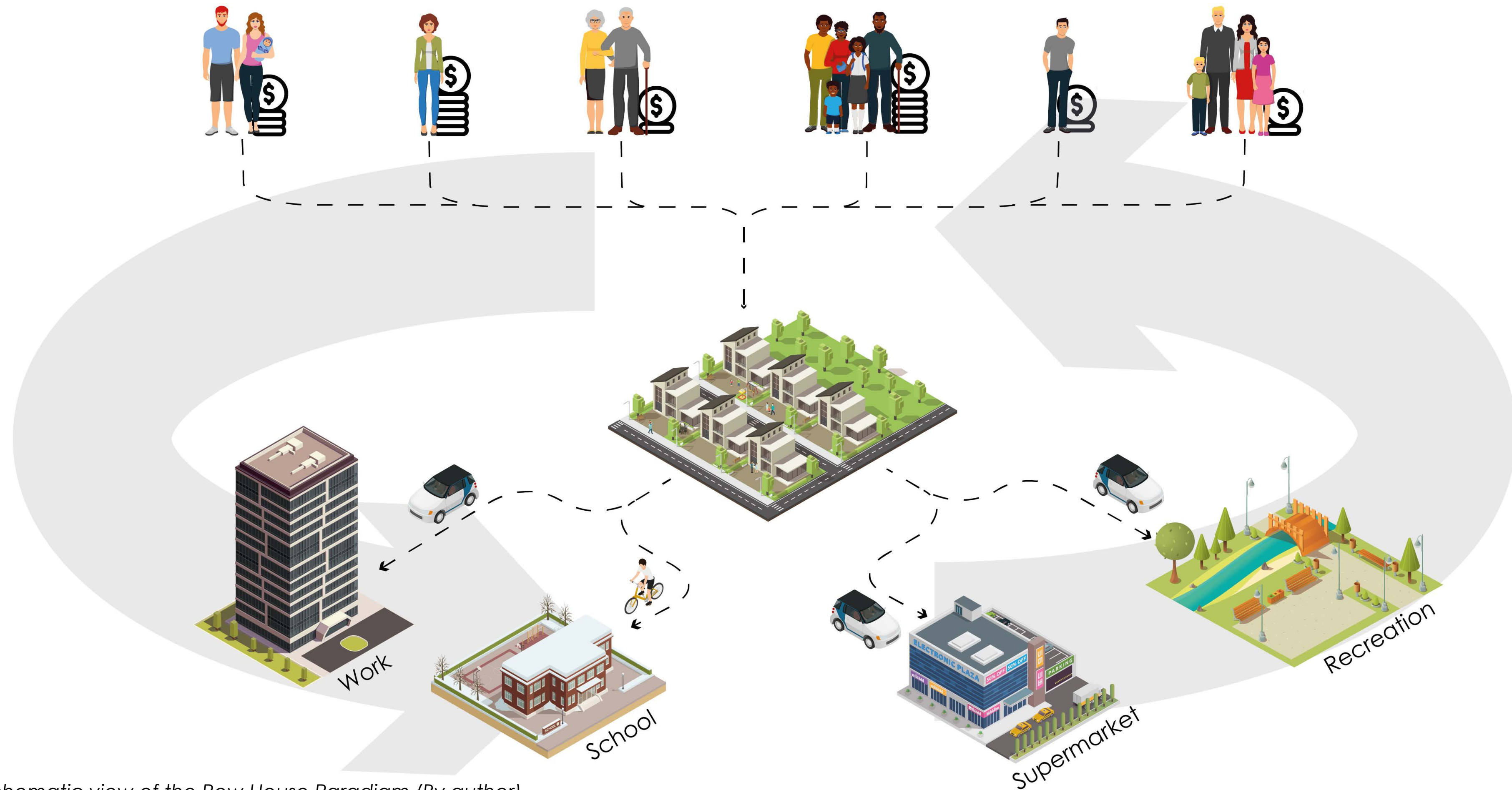
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“... the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community” (Kuhn, 2012, p. 175)

“... a scientific tradition...” (Kuhn, 2012, p. 112)

| The Row House Paradigm



Schematic view of the Row House Paradigm (By author)

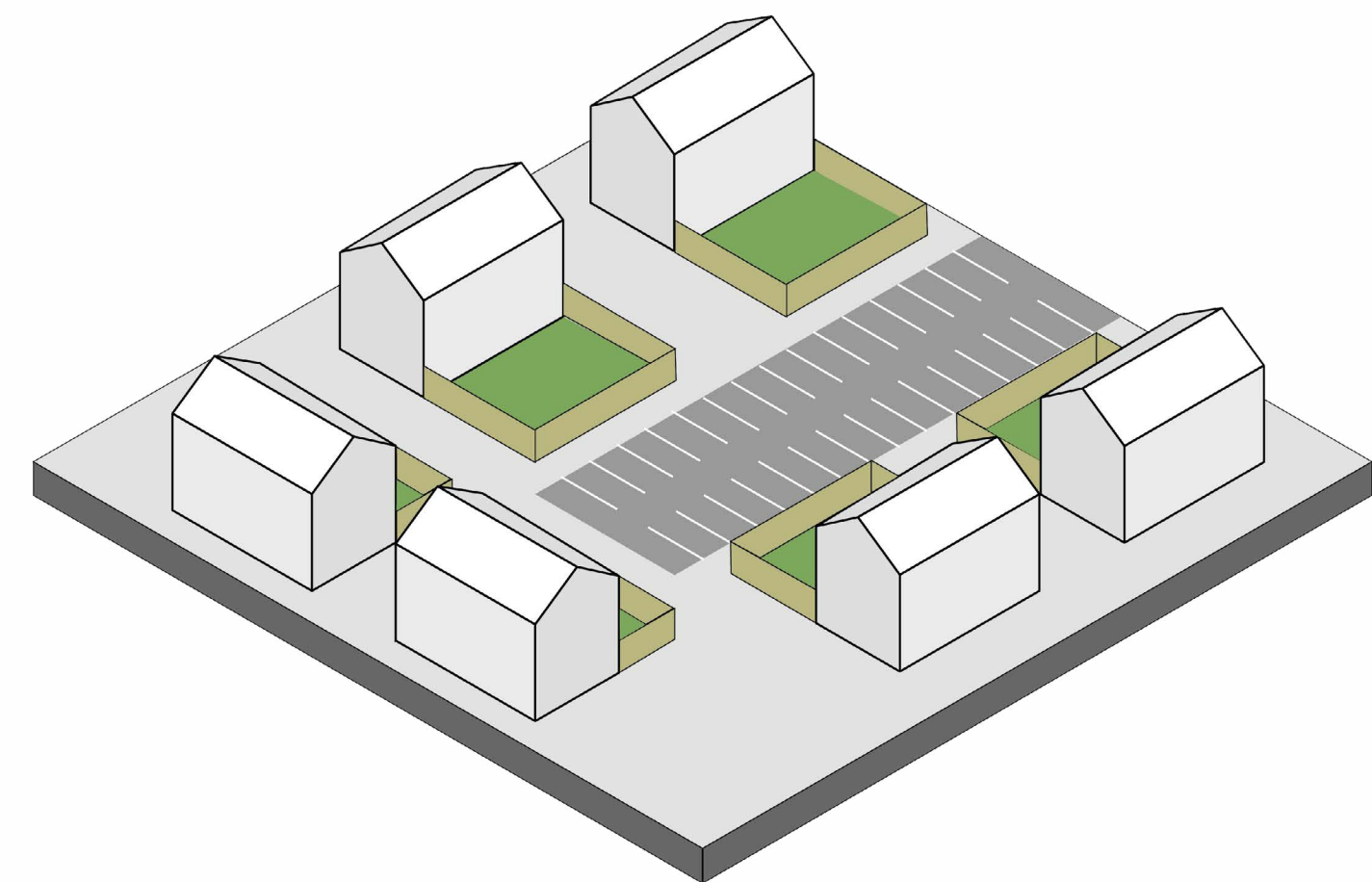
“The tradition (and desire) of building ground-based single-family homes, in particular row houses, in the urban environment of the Netherlands, which enforces upon the society a specific lifestyle, regardless of social and economic background and social (cultural), spatial and economic needs.”

***“... an existing paradigm has ceased to function adequately ...
to which that paradigm itself had previously led the way”
(Kuhn, 2012, p. 92-93)***

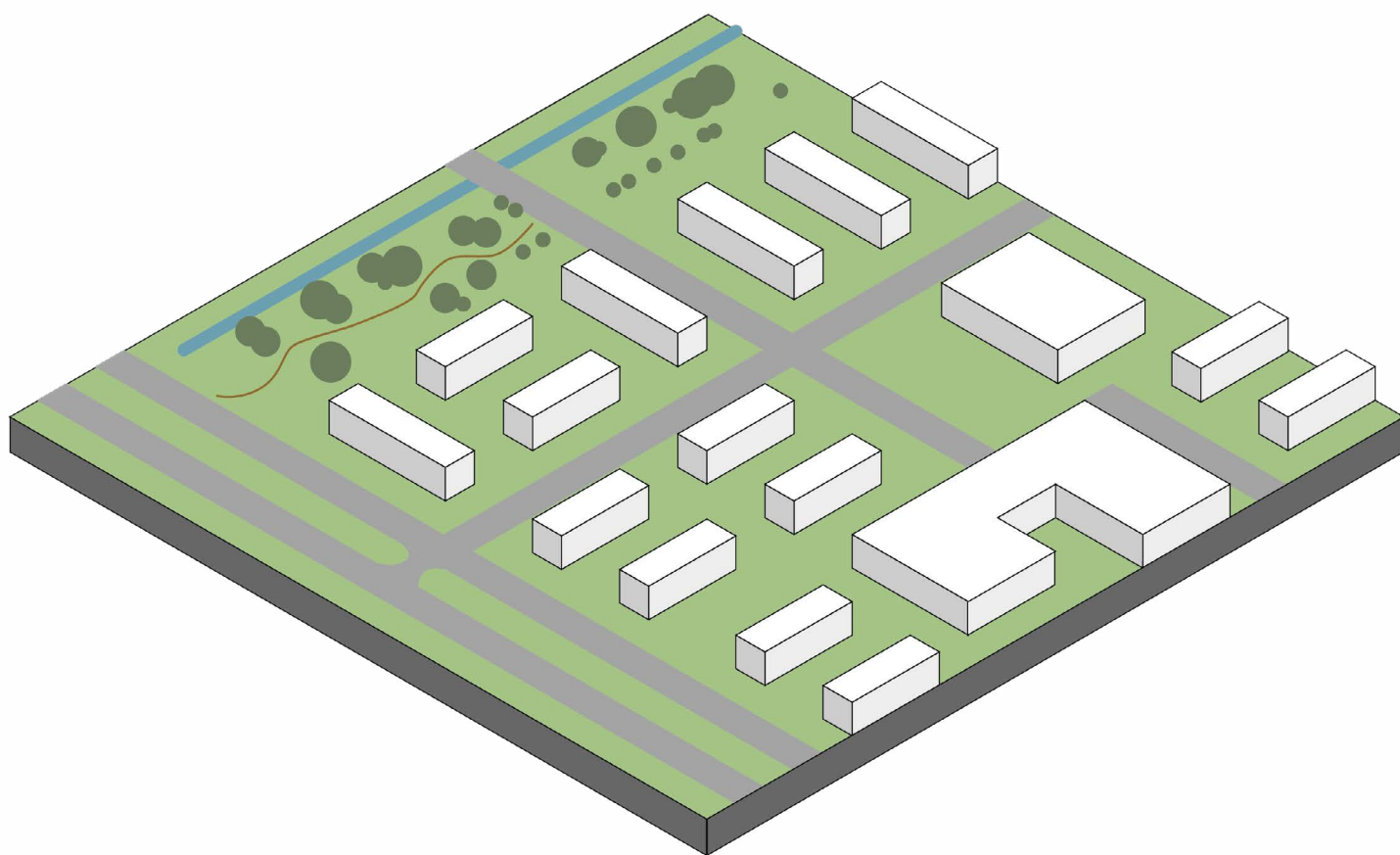
- > What is the *Row House Paradigm* in the *Dutch context*?
- > How can the **existing urban environment** be **densified**?

| Tools to Densify & Diversify

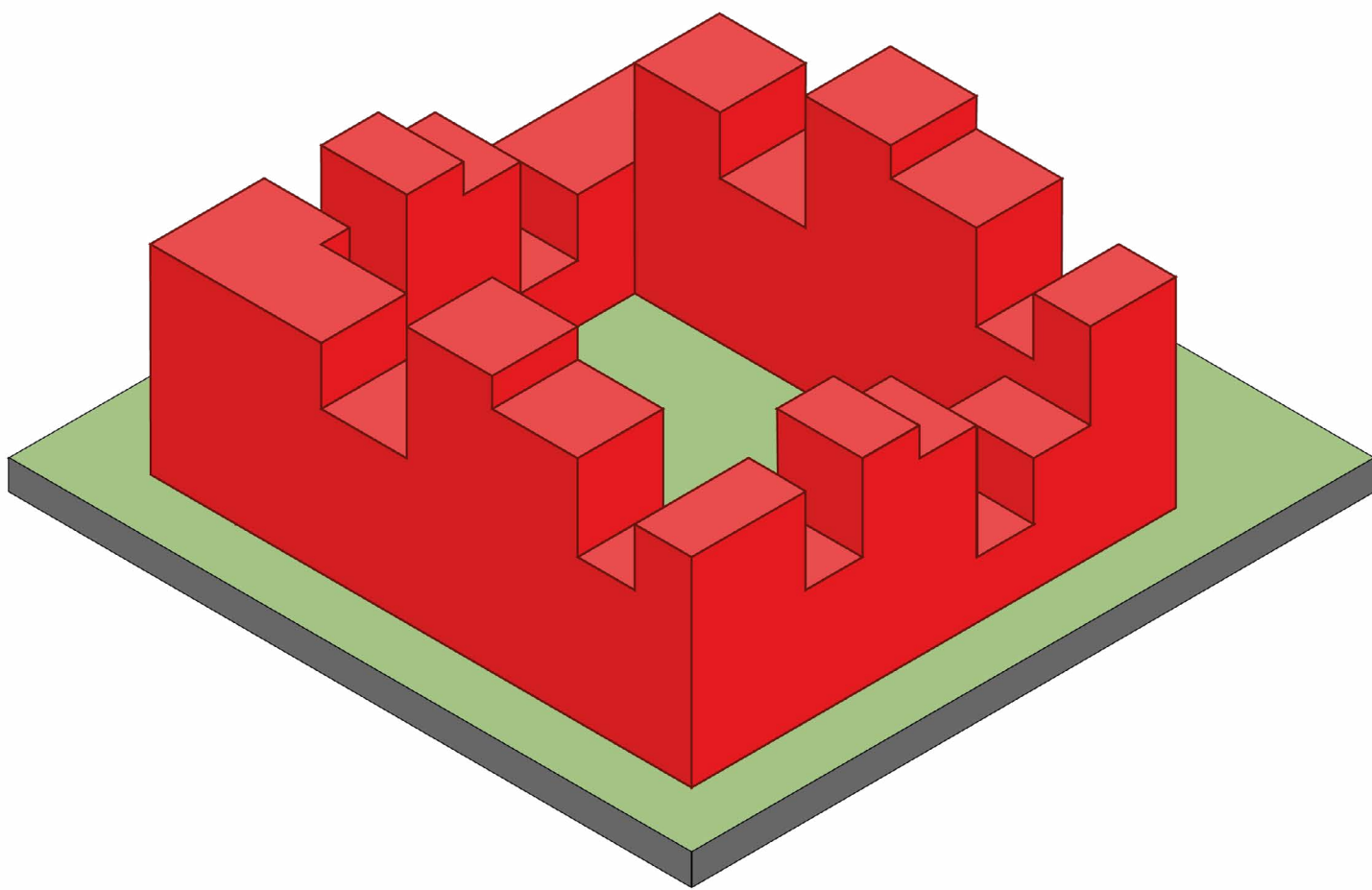
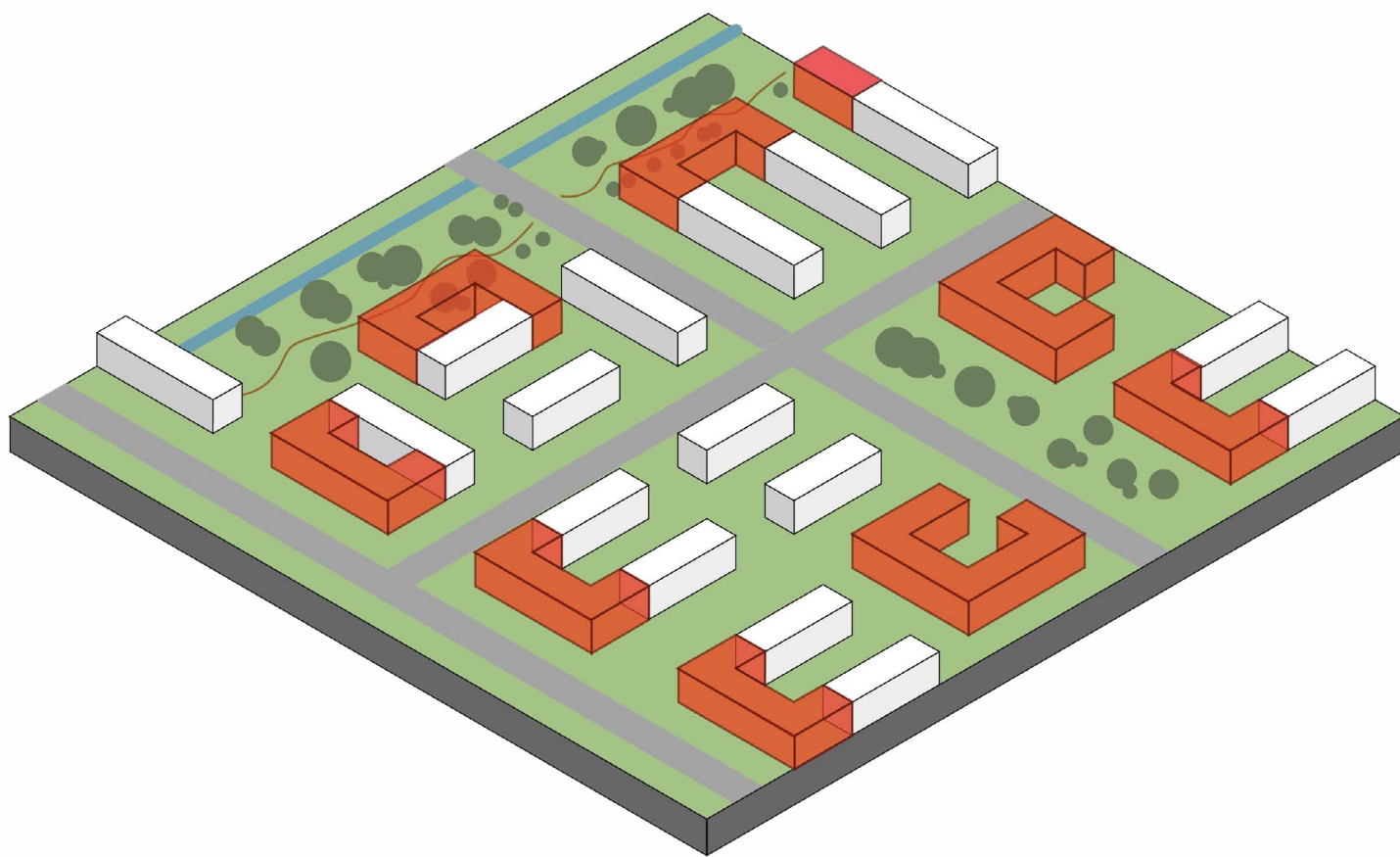
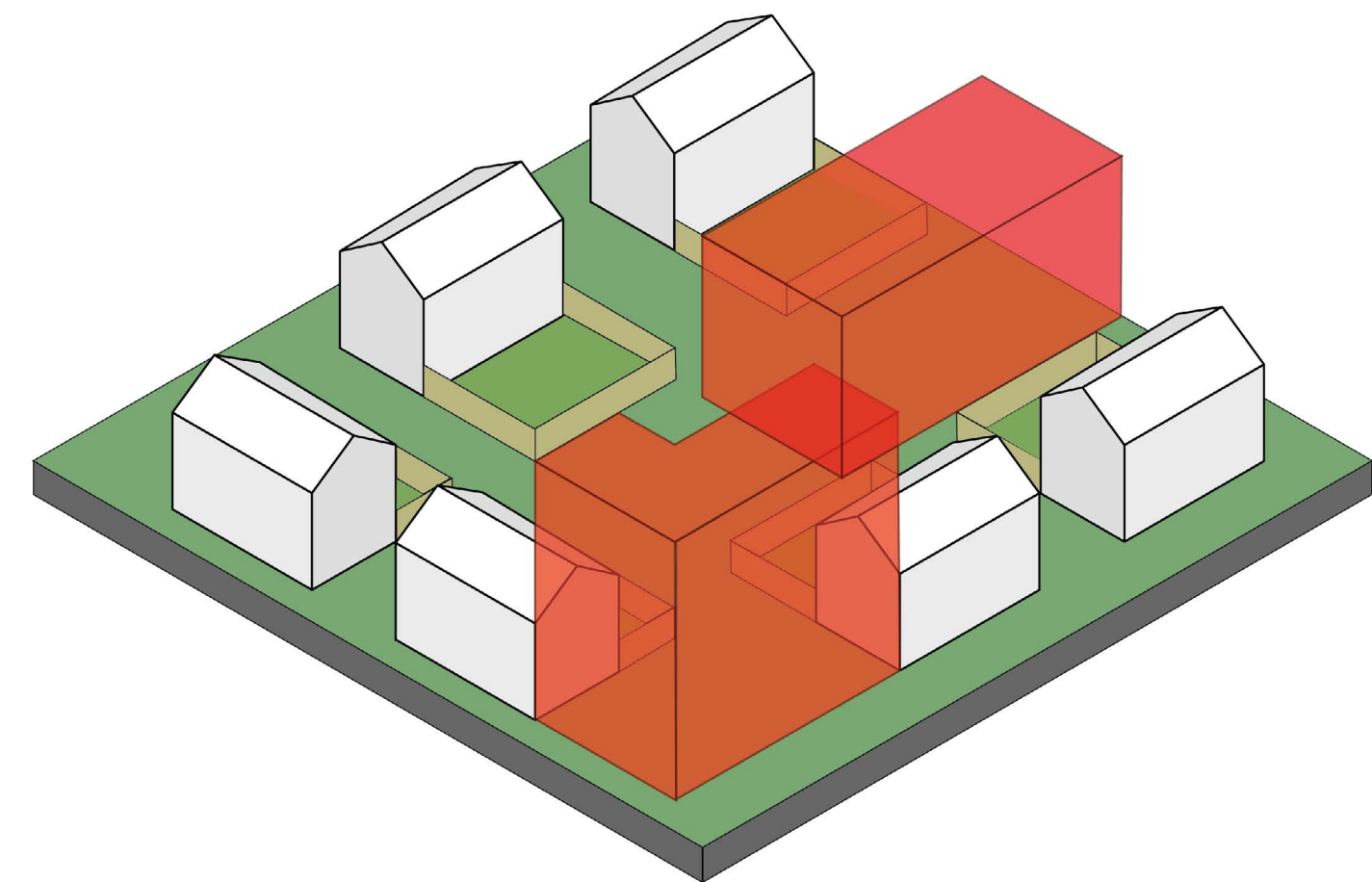
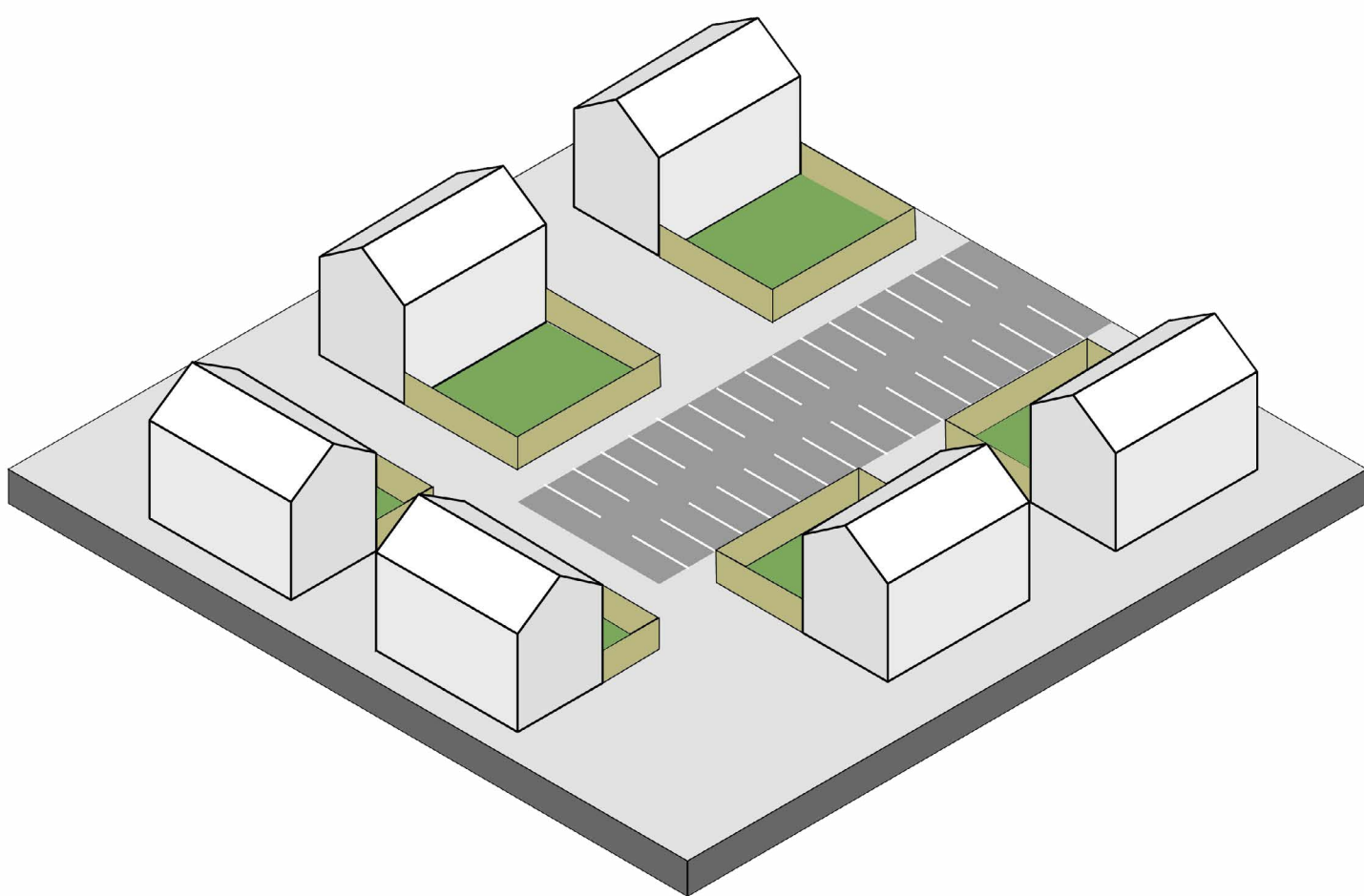
Precision Intervention^{1 & 2}



*At the Edges*¹

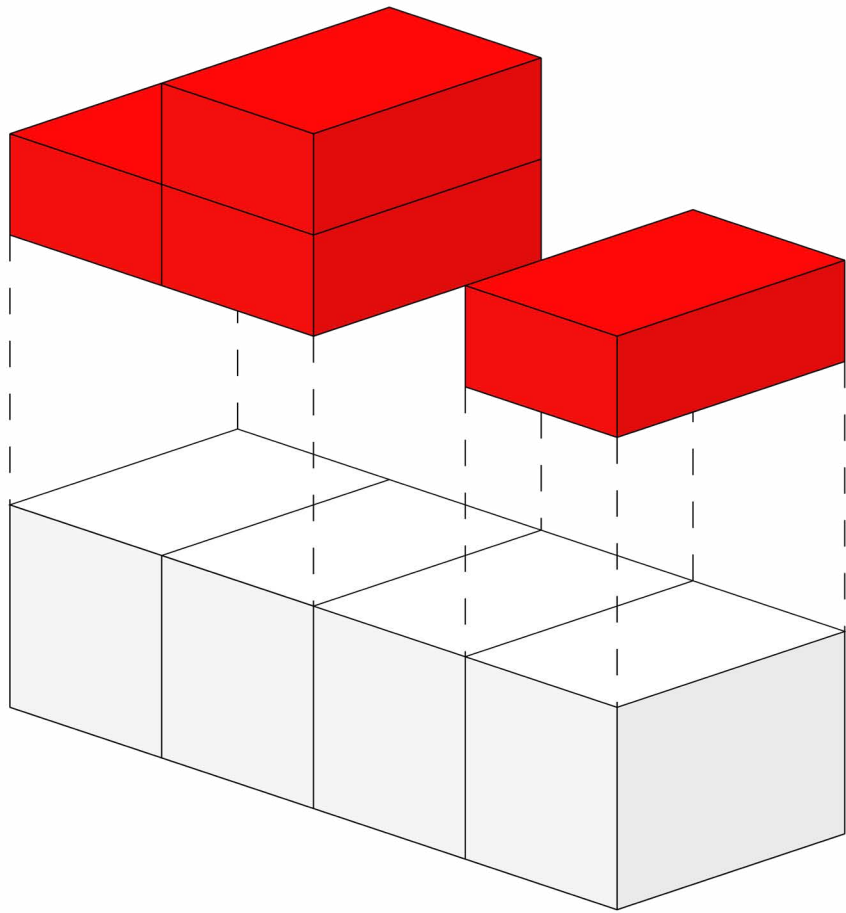
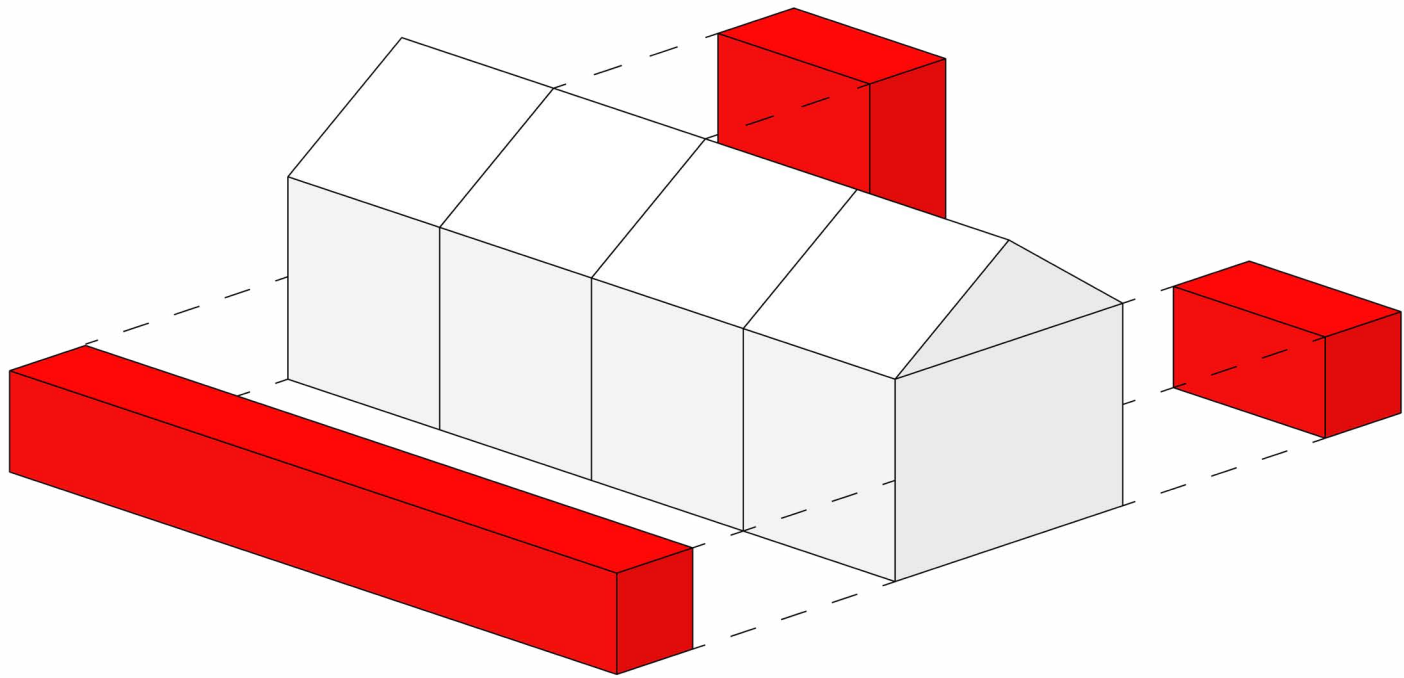
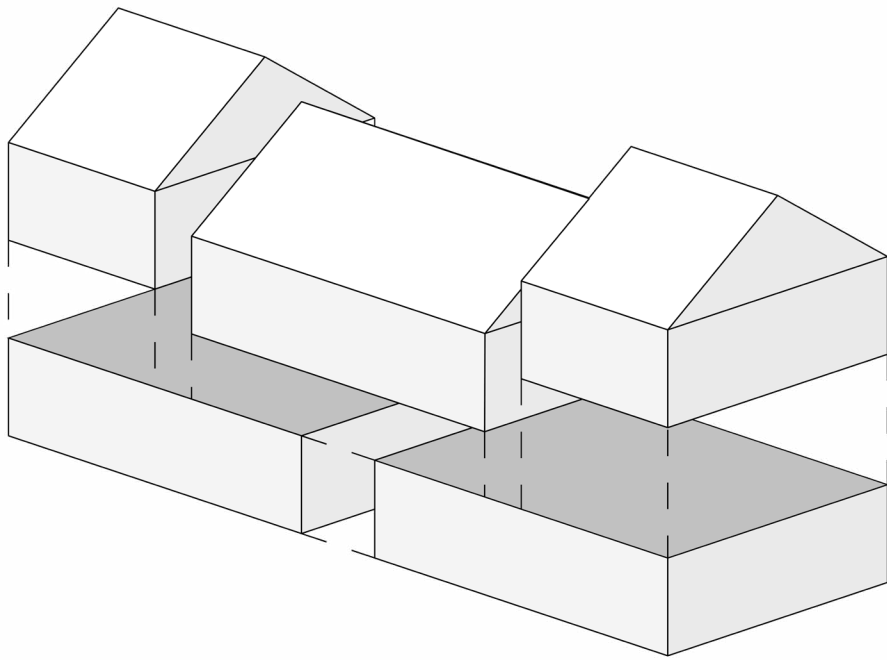
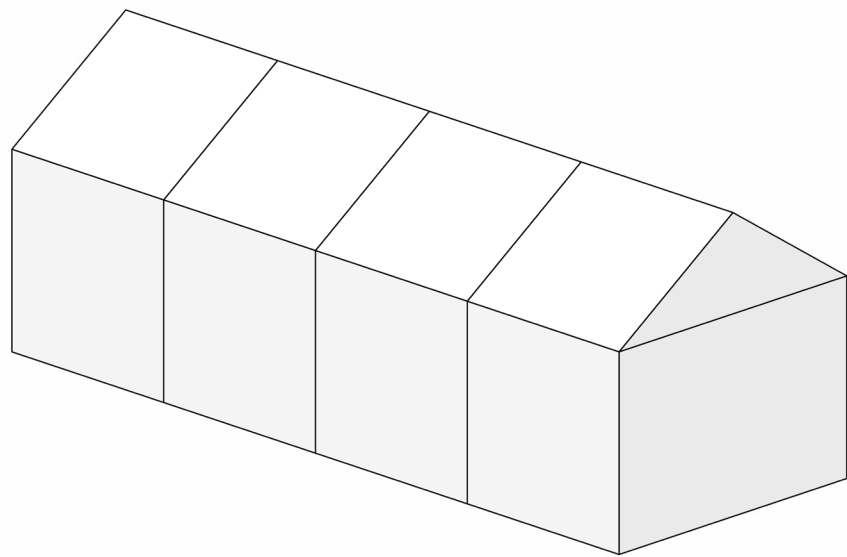


*Restructuring*¹



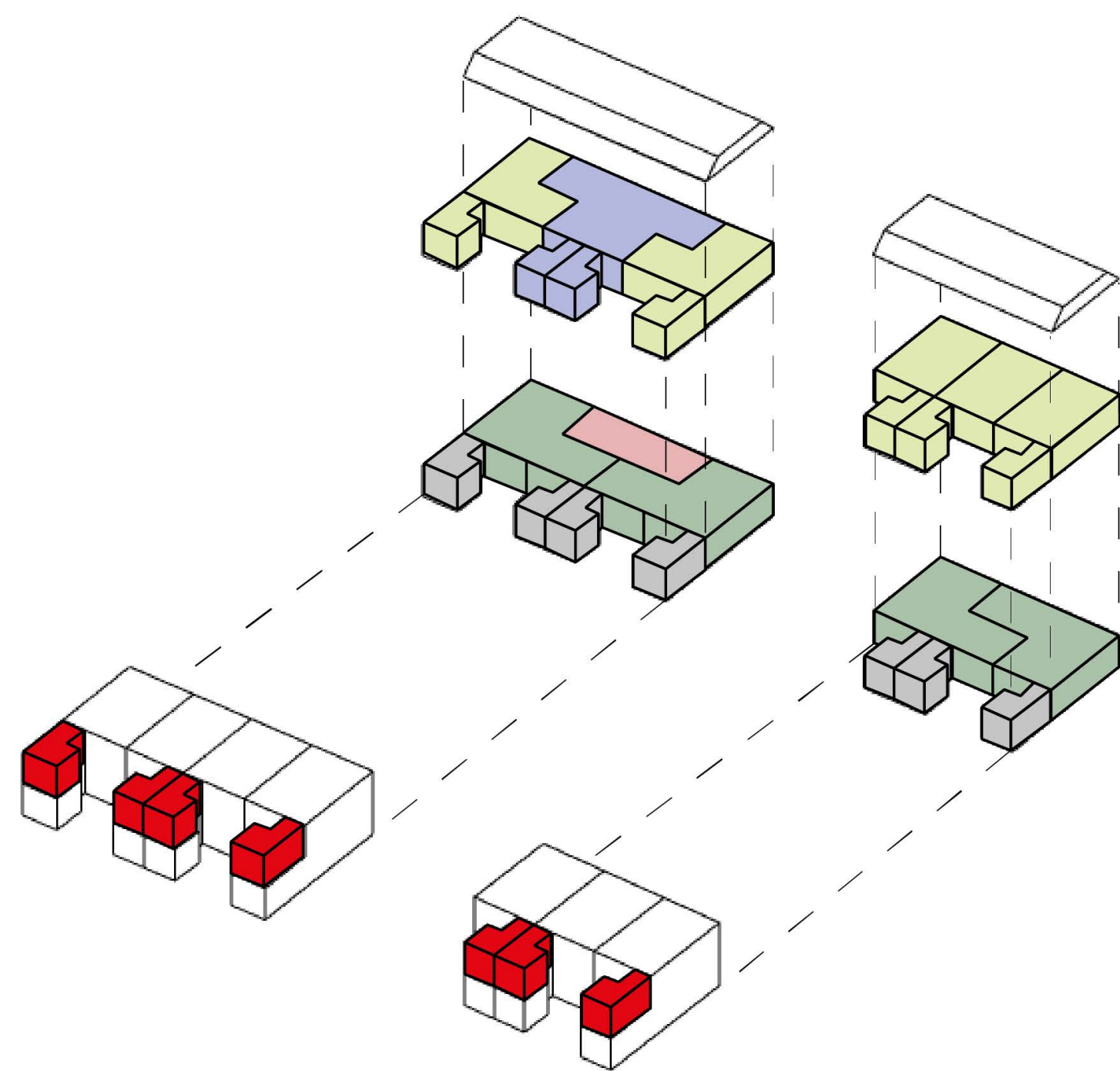
1. von Meding et al., 2020
2. van Klaveren et al., 2021
Images by Author

Existing Dwellings^{1 & 2}



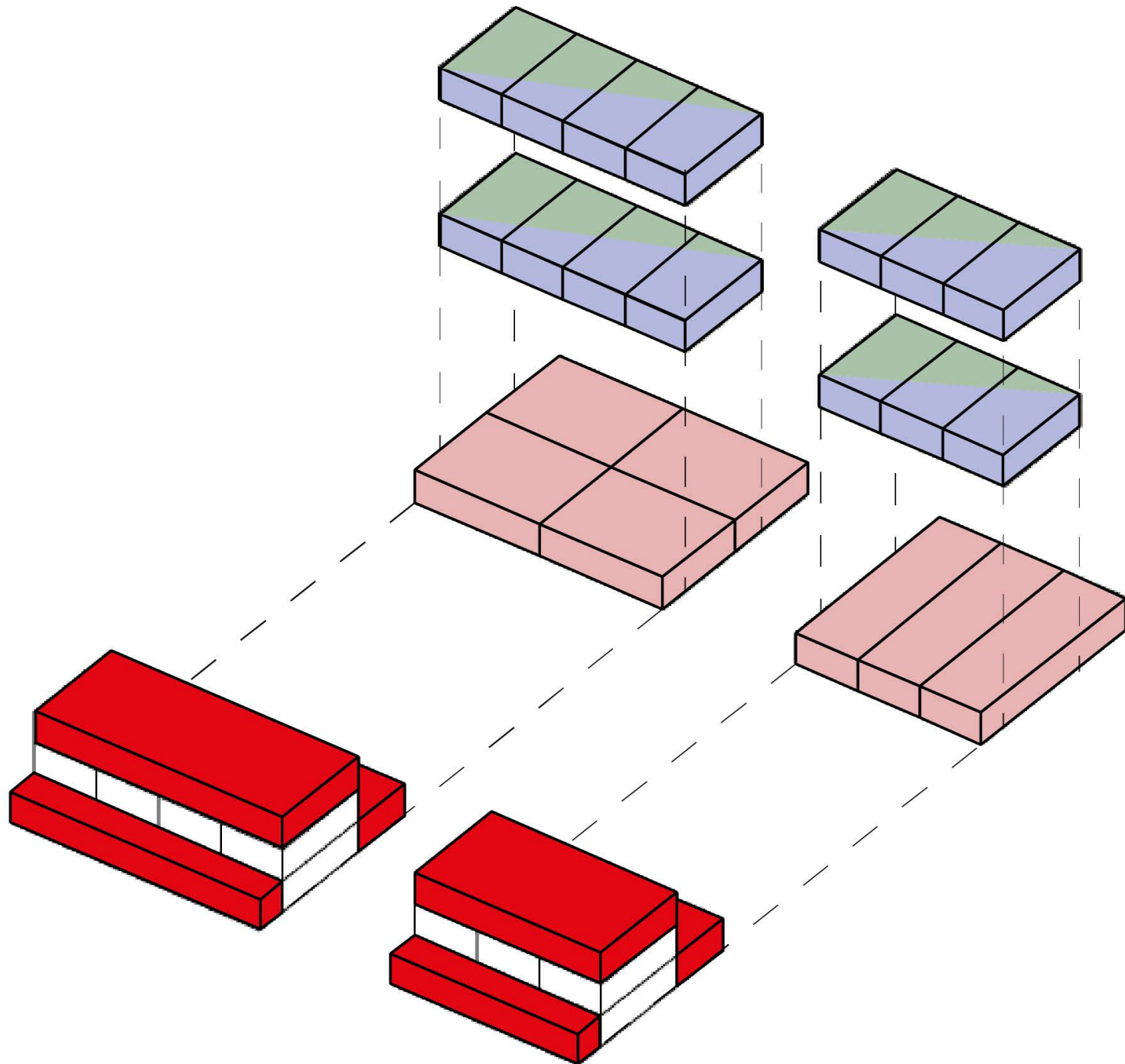
1. von Meding et al., 2020
2. van Klaveren et al., 2021
Images by Author

Density x 1,5



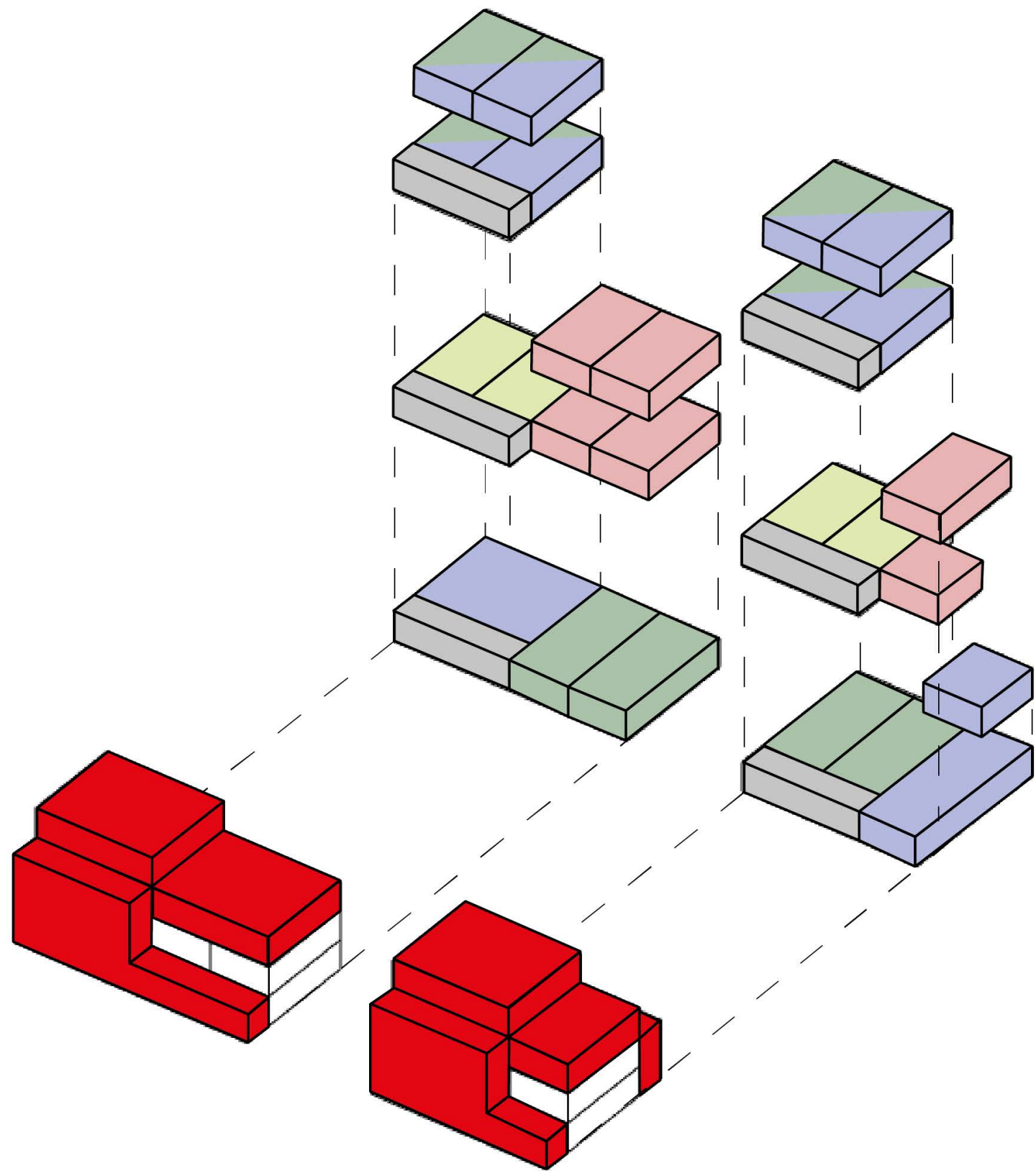
Space per person: 
Diversity in housing: 
Effort: 
Desirable: 

Density x 2



Space per person: 
Diversity in housing: 
Effort: 
Desirable: 

Density x 3



Space per person: 
Diversity in housing: 
Effort: 
Desirable: 

| The case of Almere



- > What is the **Row House Paradigm** in the **Dutch context**?
- > How can the **existing urban environment** be **densified**?
- > What are the **main design principles** and **qualities** of Almere?
- > How are the **urgencies** of the **Row House Paradigm** expressed in Almere?

1. New Town Movement

- To create cities for population overspill

Map of Flevoland in 1970



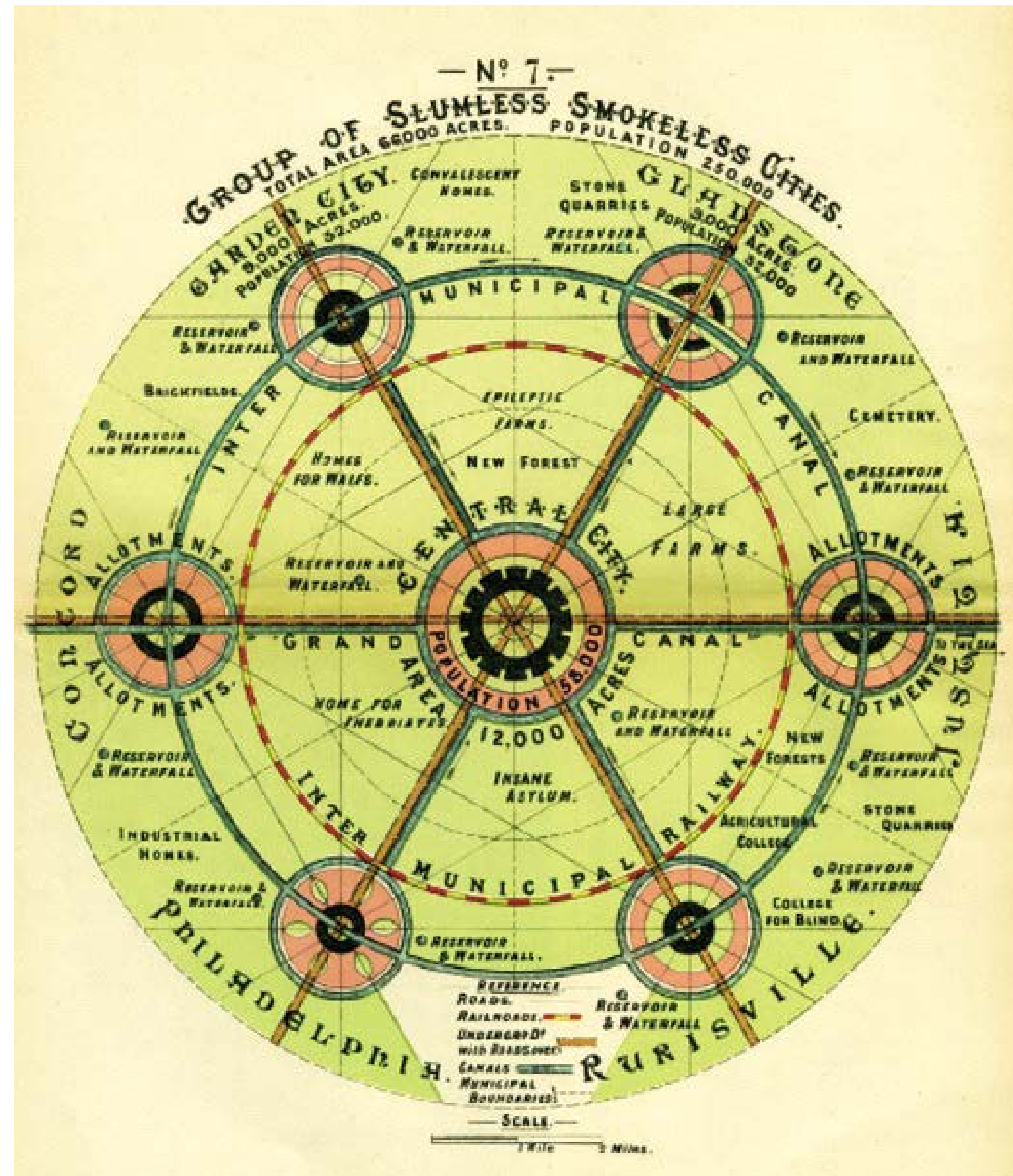
| The Case of Almere

1. New Town Movement

2. Garden City Concept

- Healthier cities
- Designing green structure first
- Urban environment second
- Different Nuclei/Cores

A Group of Slumless, Smokeless Cities¹



1. Howard, 1898;1902

| The Case of Almere

1. New Town Movement

2. Garden City Concept

- Healthier cities
- Designing green structure first
- Urban environment second
- Different Nuclei/Cores

Structuurvisie of Almere by Teun Koolhaas (1971)¹



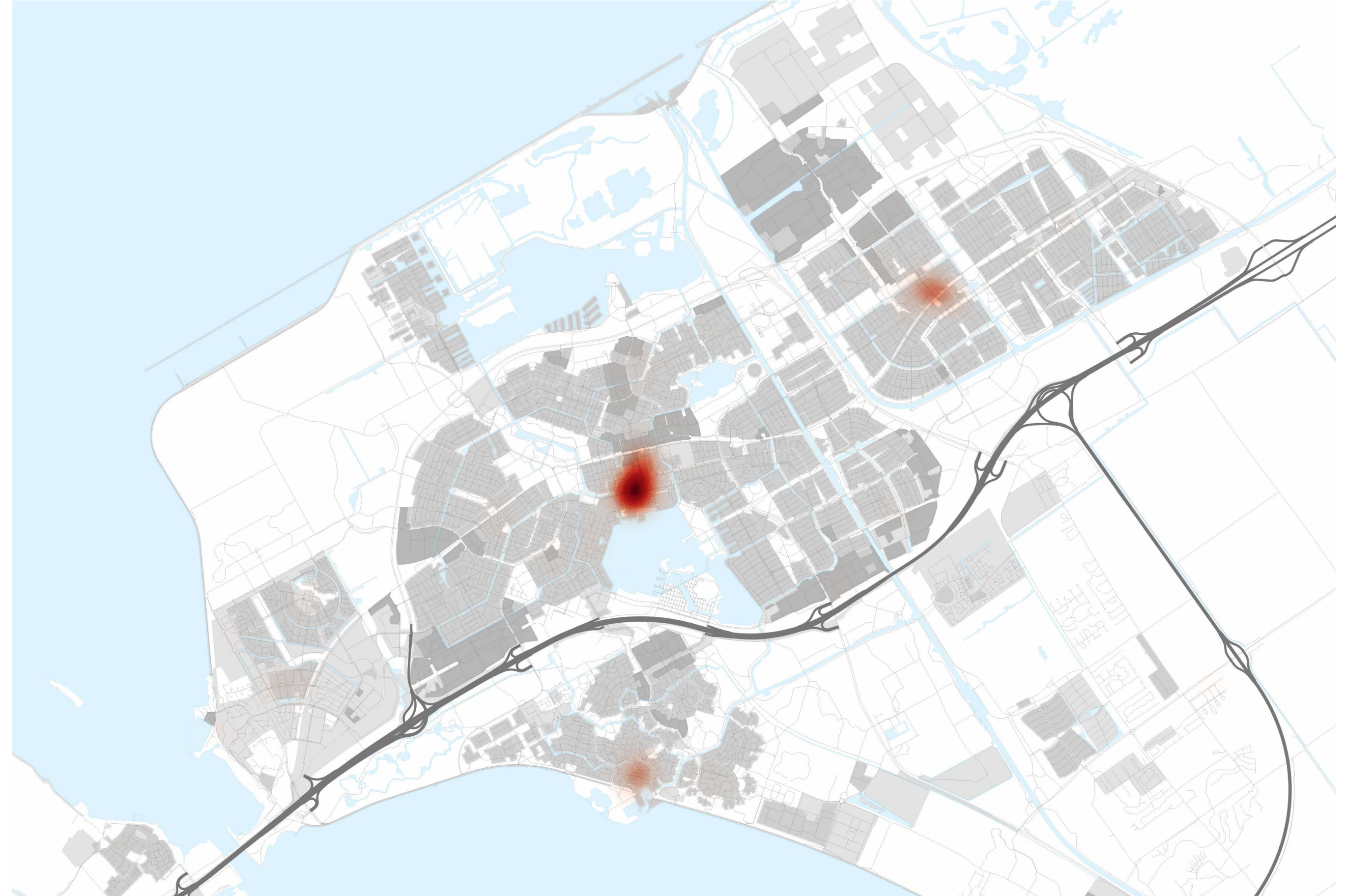
| The Case of Almere

1. New Town Movement

2. Garden City Concept

- Healthier cities
- Designing green structure first
- Urban environment second
- Different Nuclei/Cores
- Hierarchy in Urban Centers

Heatmap Amenities in Almere¹



1. Basisregistratie Adressen en Gebouwen, 2021 (Image by Author)

| The Case of Almere

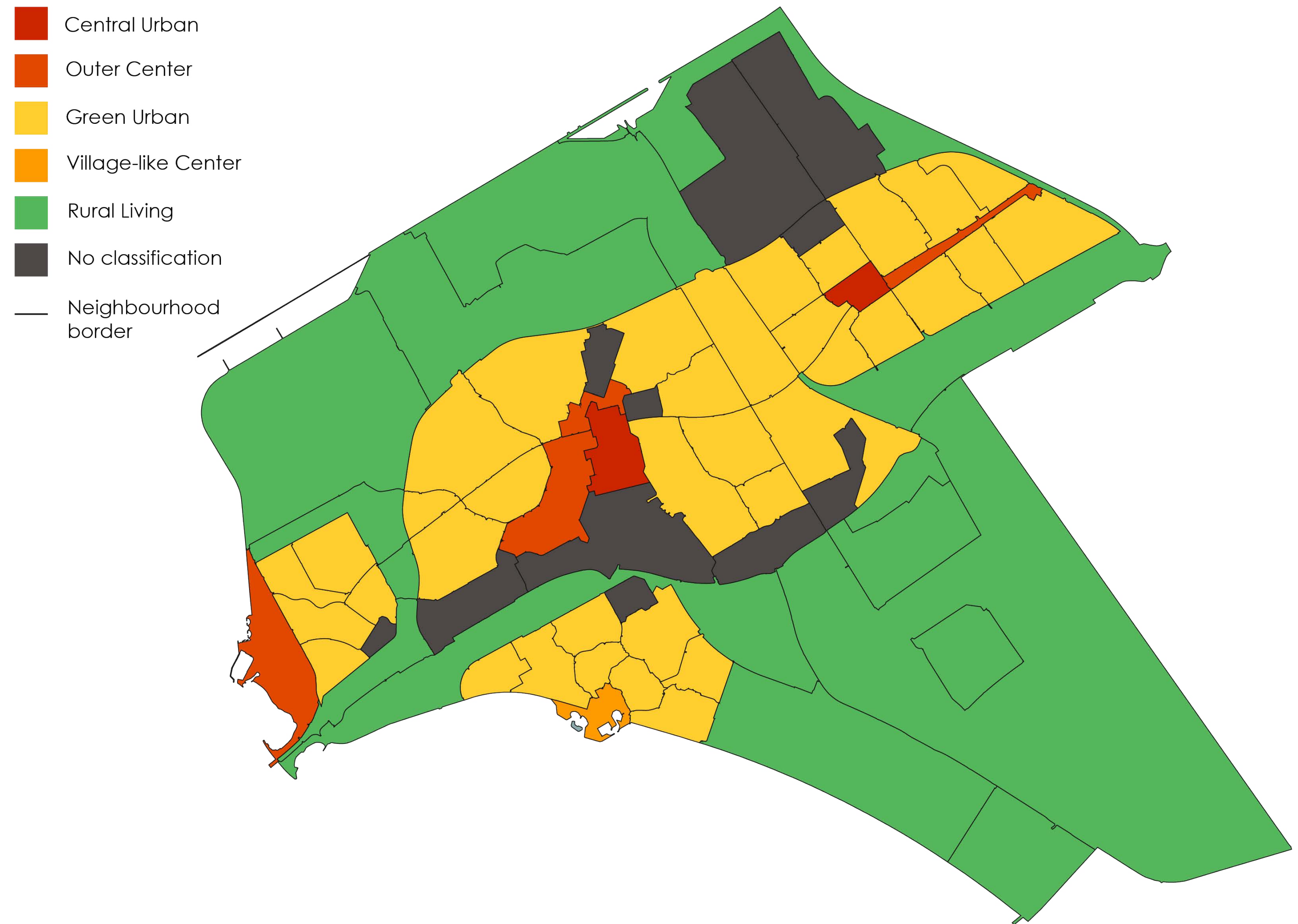
1. New Town Movement

2. Garden City Concept

3. Almere as 'Living City'

- Residential function
- Suburban neighbourhood of Amsterdam

Living environments in Almere¹



1. De Vries et al, 2006 (Image by Author)

| The Case of Almere

1. New Town Movement

2. Garden City Concept

3. Almere as 'Living City'

- Residential function
- Suburban neighbourhood of Amsterdam
- 'Monotonous' and 'Homogeneous'

Monotonous and homogeneous living environment (Oosterhoff et al, 2012)

| The case of Almere

Strenghts



Residential Quality



Green Identity



Public Transport Dispersion

Opportunities



Changing Demographics



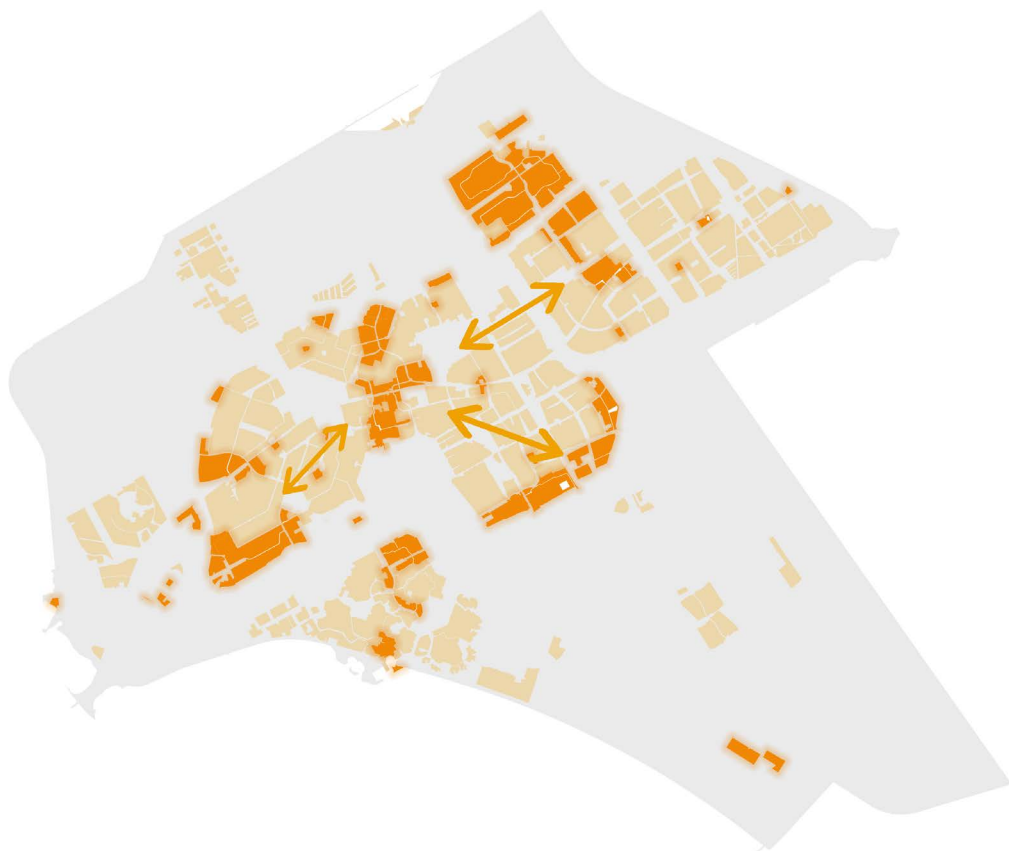
Underutilised Green



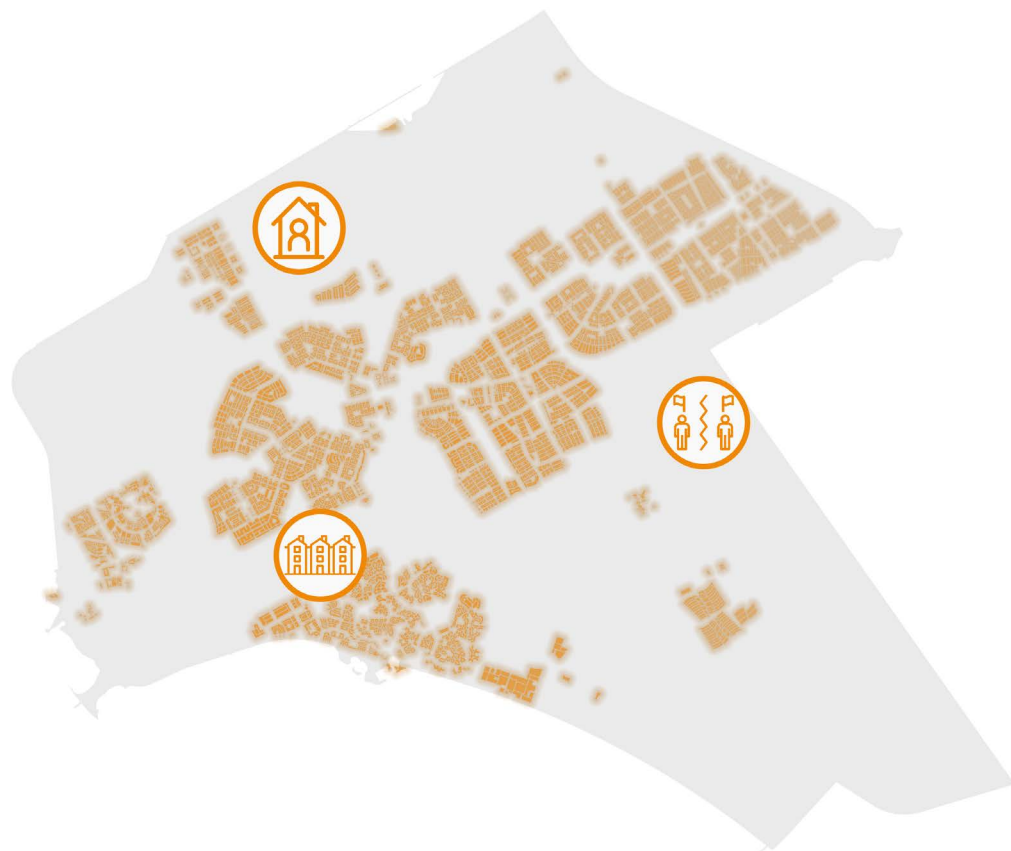
High-Quality Public Transport

| The case of Almere

Weaknesses



Seperation of Functions

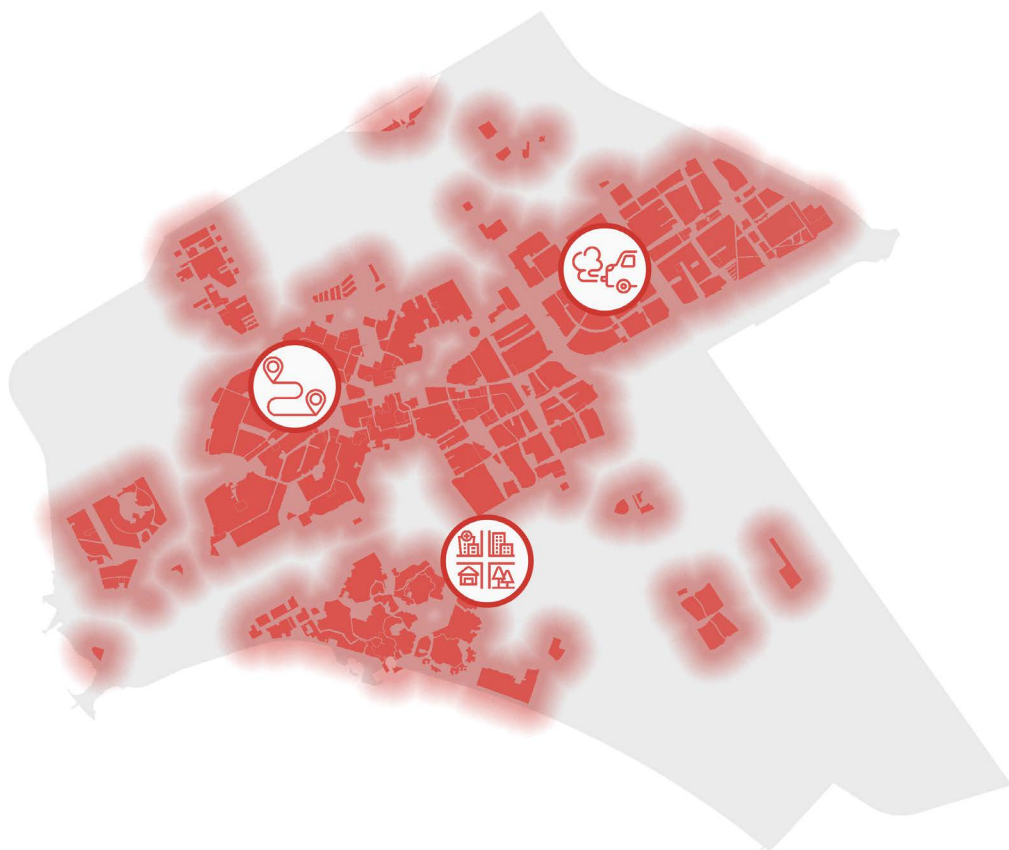


Homogeneous Housing Stock

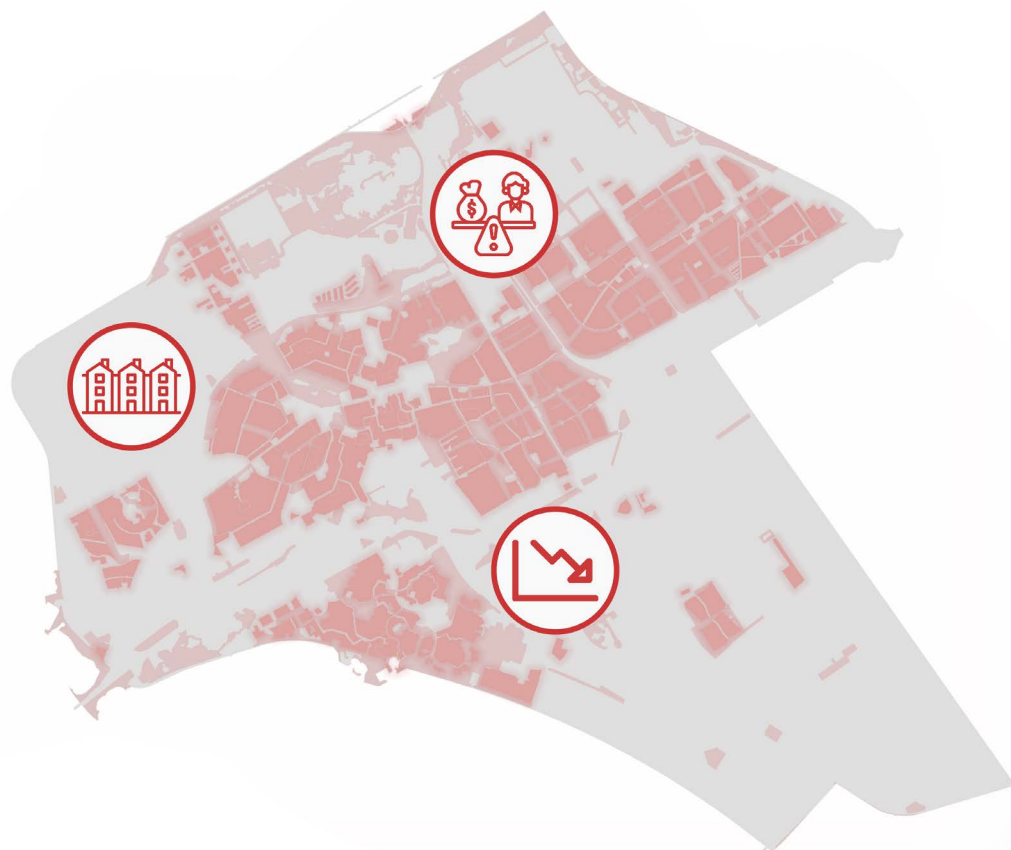


Imbalance in Commuting

Threats



Extensive Urban Sprawl



Losing qualities

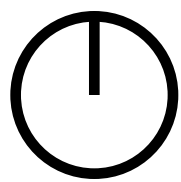


Unsuitable Housing Stock

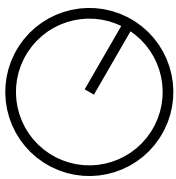
The proposed vision of Almere enables:

1. Enable a **New Perspective** upon the city of Almere
2. Reducing urban sprawl by giving **Opportunities to Density**
3. Reducing distances by **Adding Proximity**
4. Enable unity by **Creating Connection**

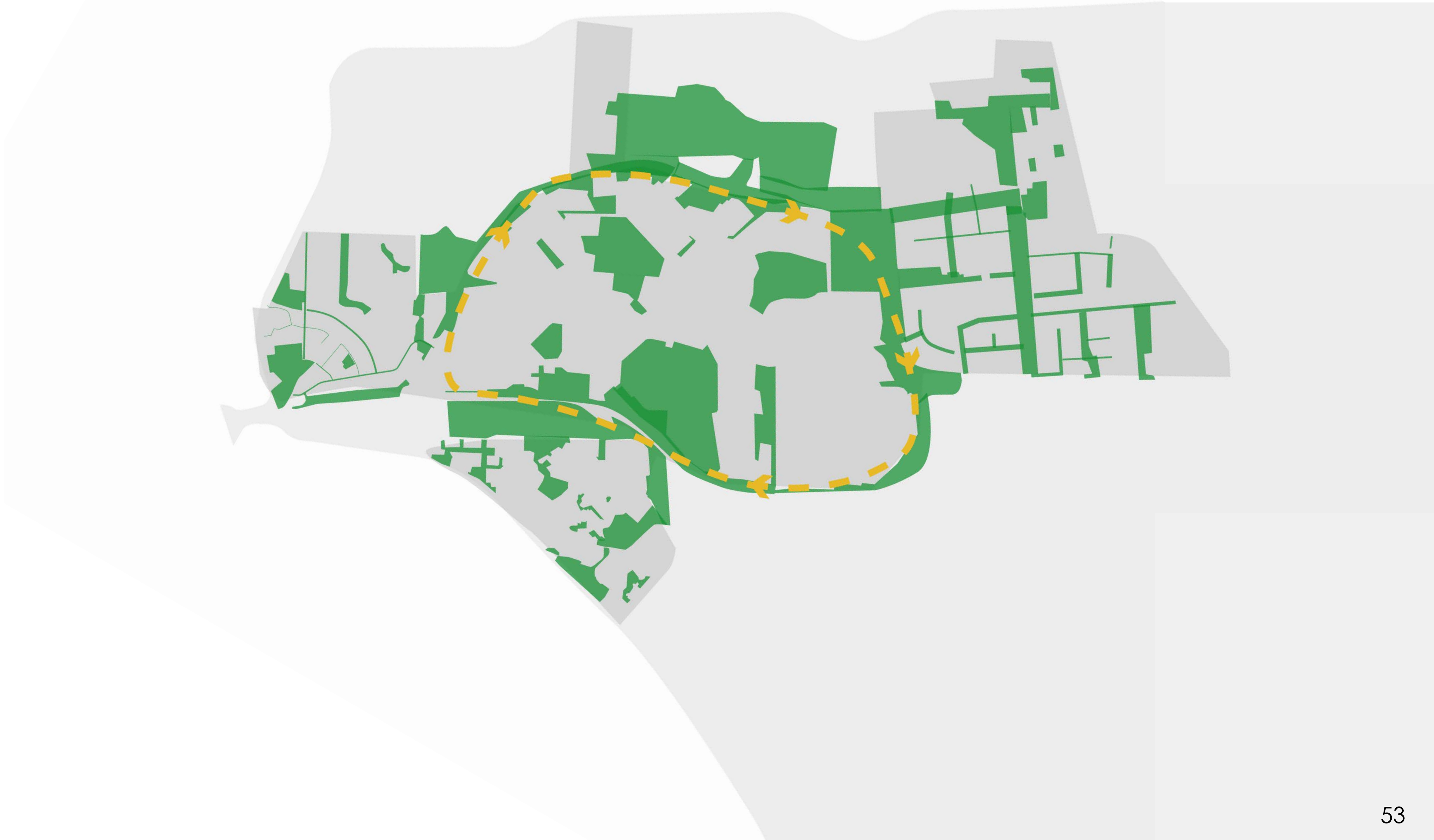
1. New Perspective



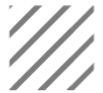
1. *New Perspective*



2. Opportunities to Density

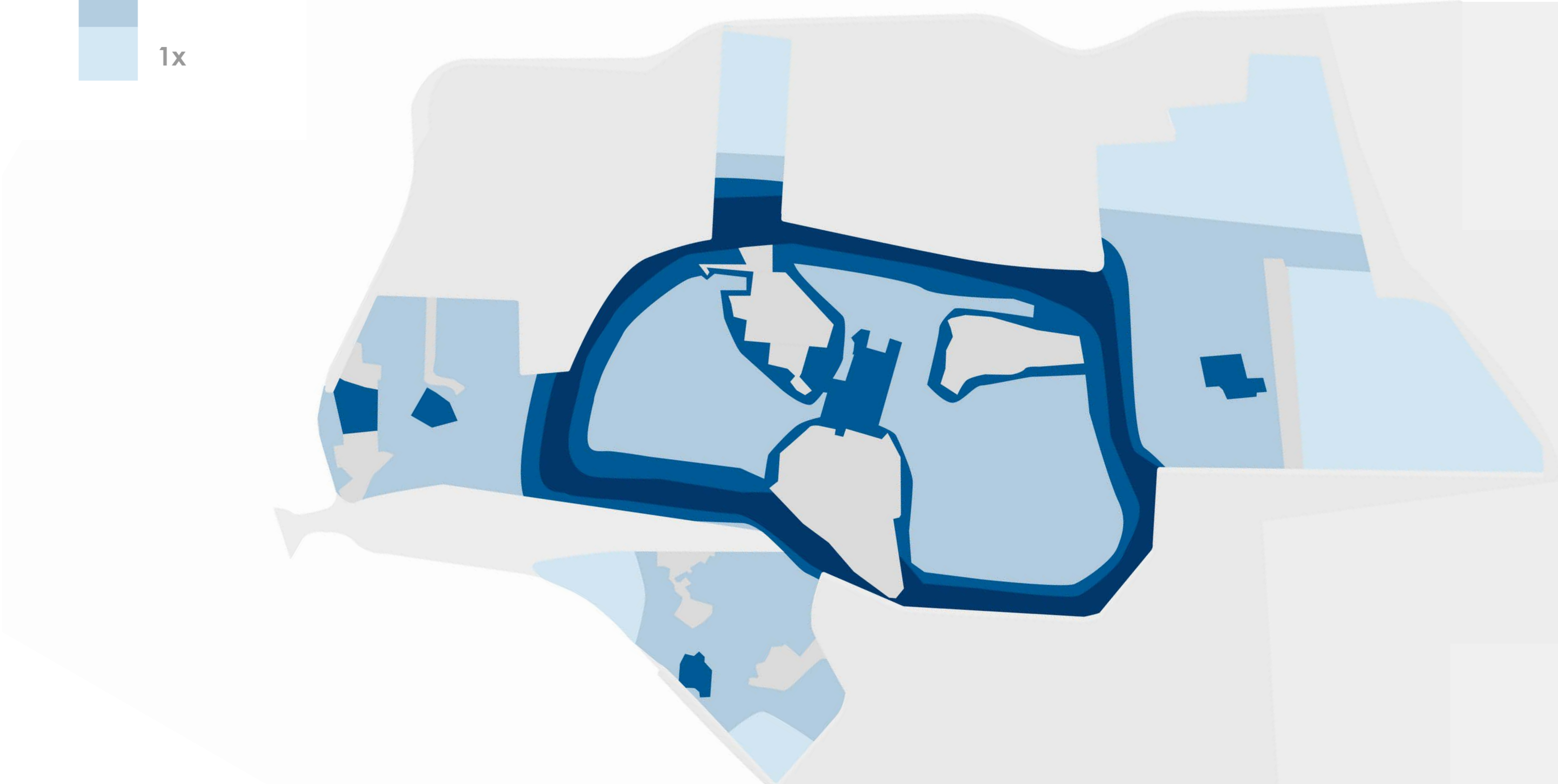
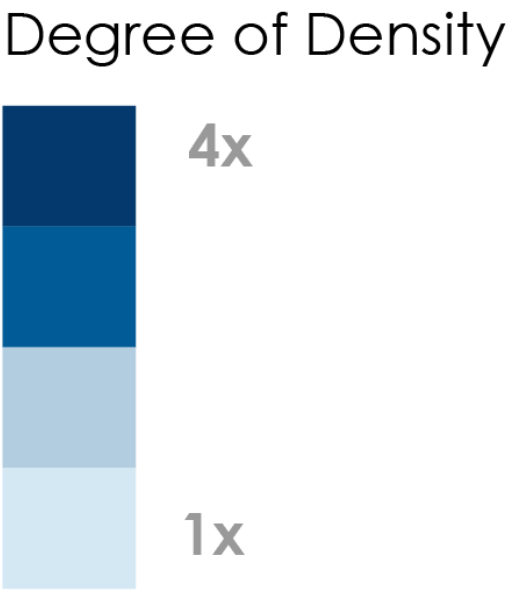


2. Opportunities to Density

-  Splitting/Expanding/Topping up
-  Precision interventions
-  Edge



2. Opportunities to Density



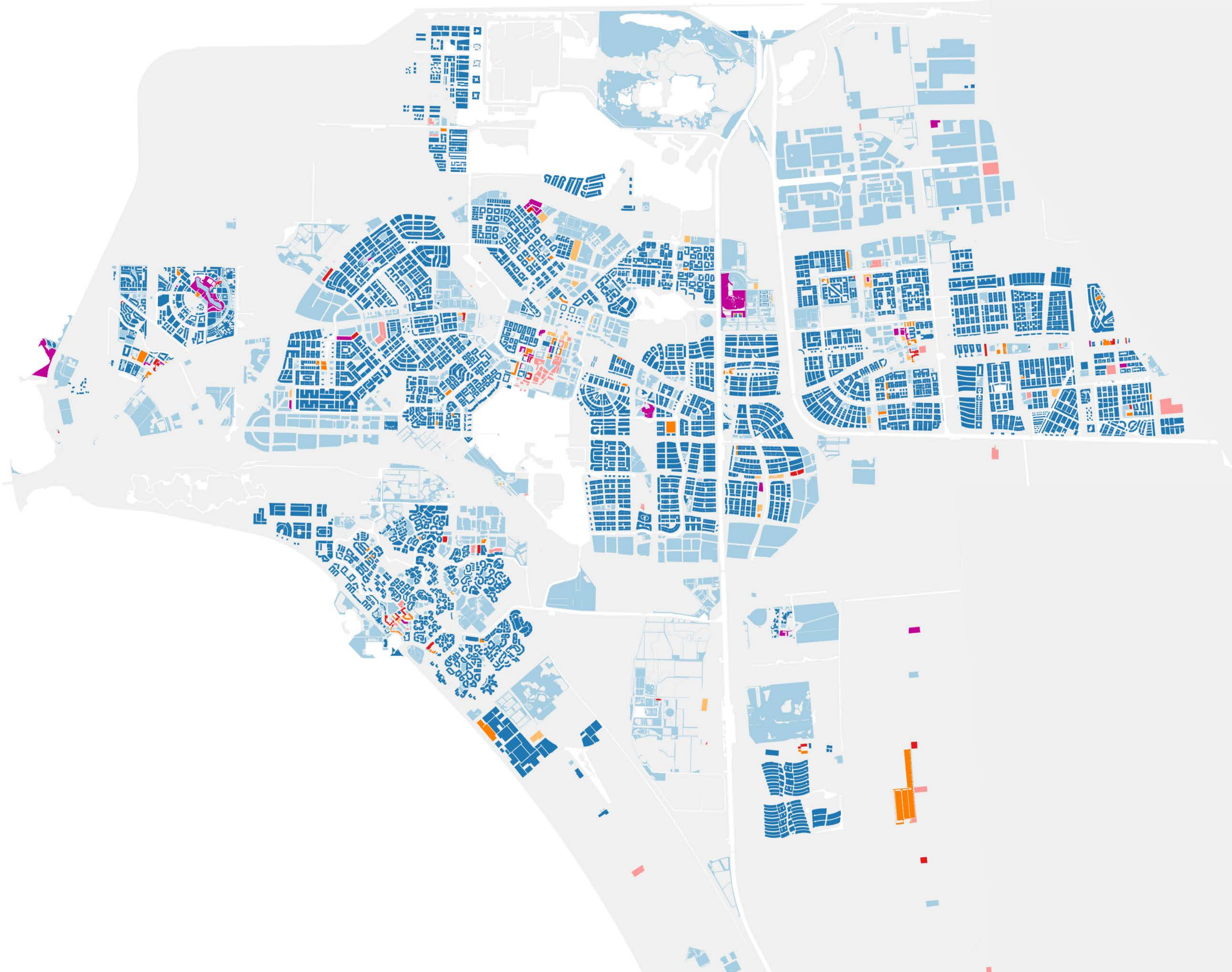
2. Opportunities to Density



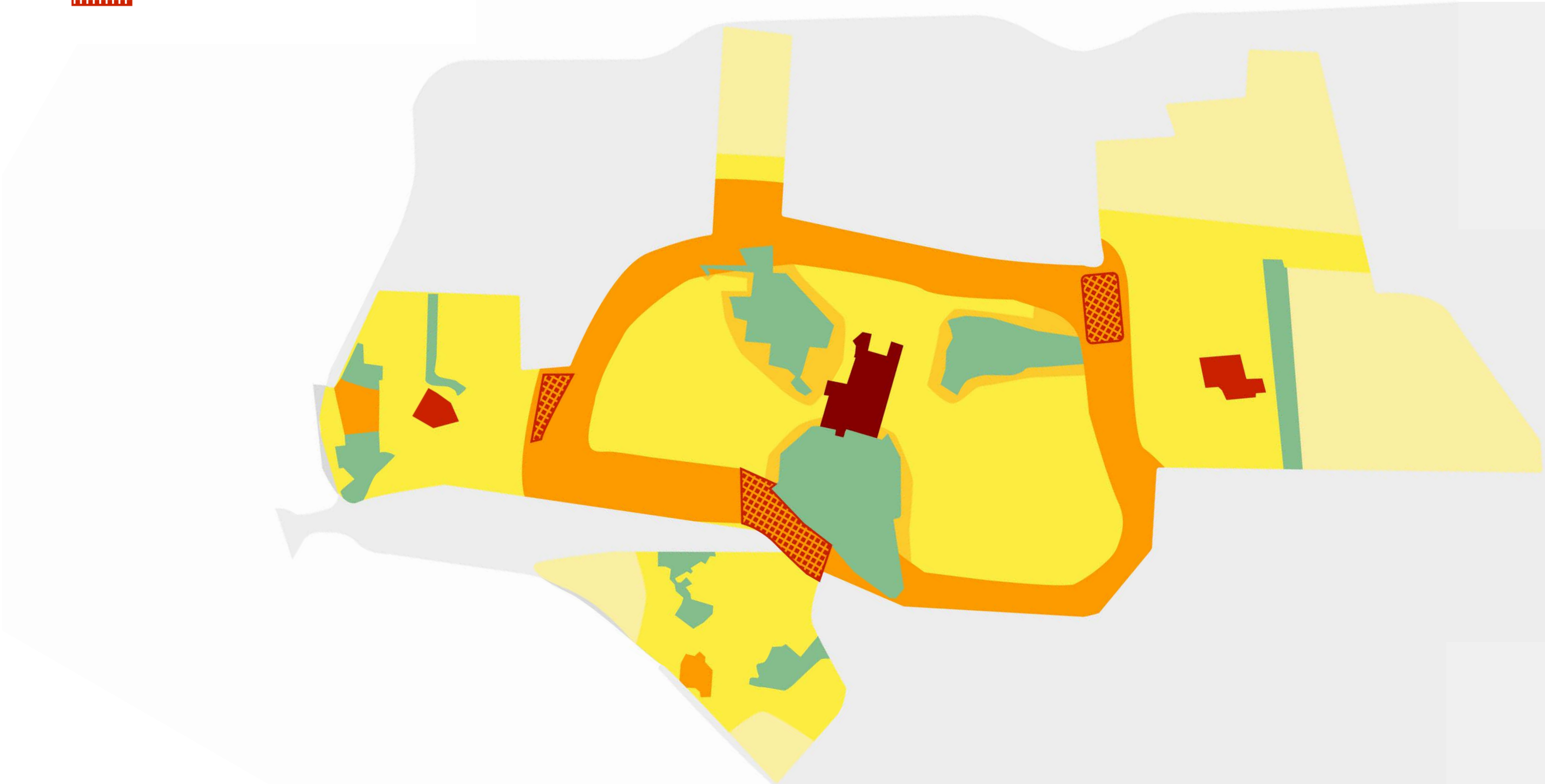
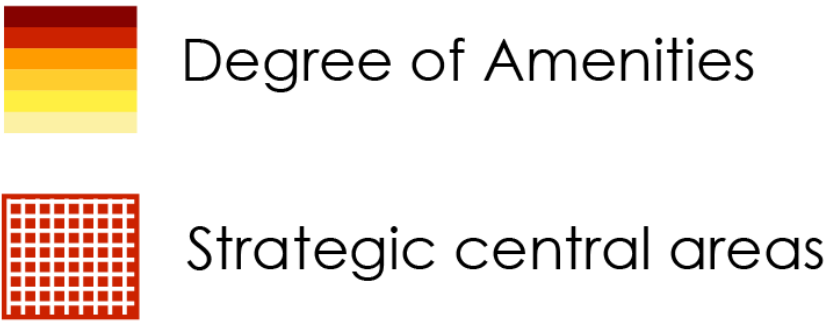
3. Add Proximity

Mix-use index per Urban Block

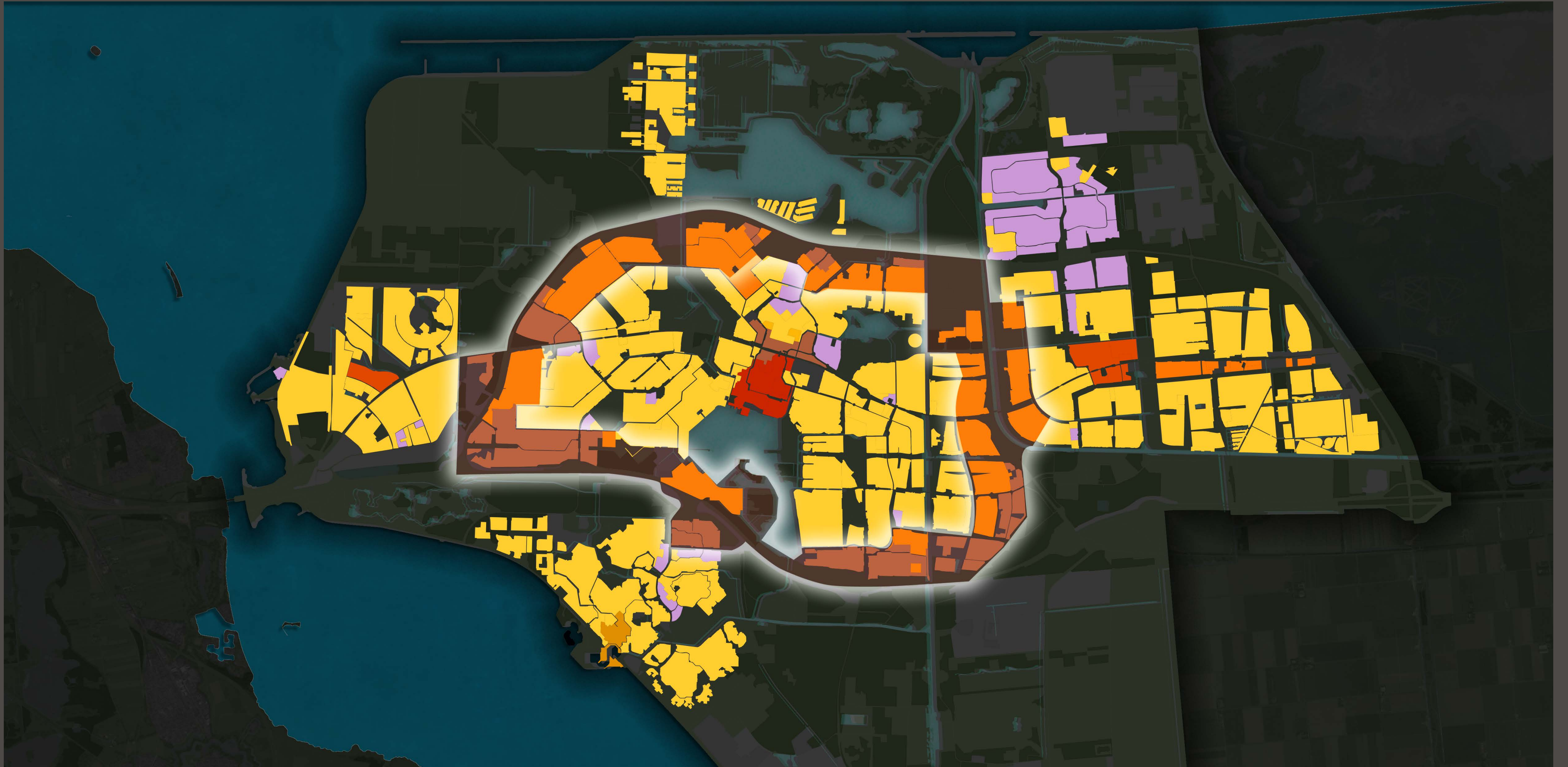
- Industrial
-
-
- Mix-Use
-
-
- Residential



3. Add Proximity



3. Add Proximity



4. Create Connection

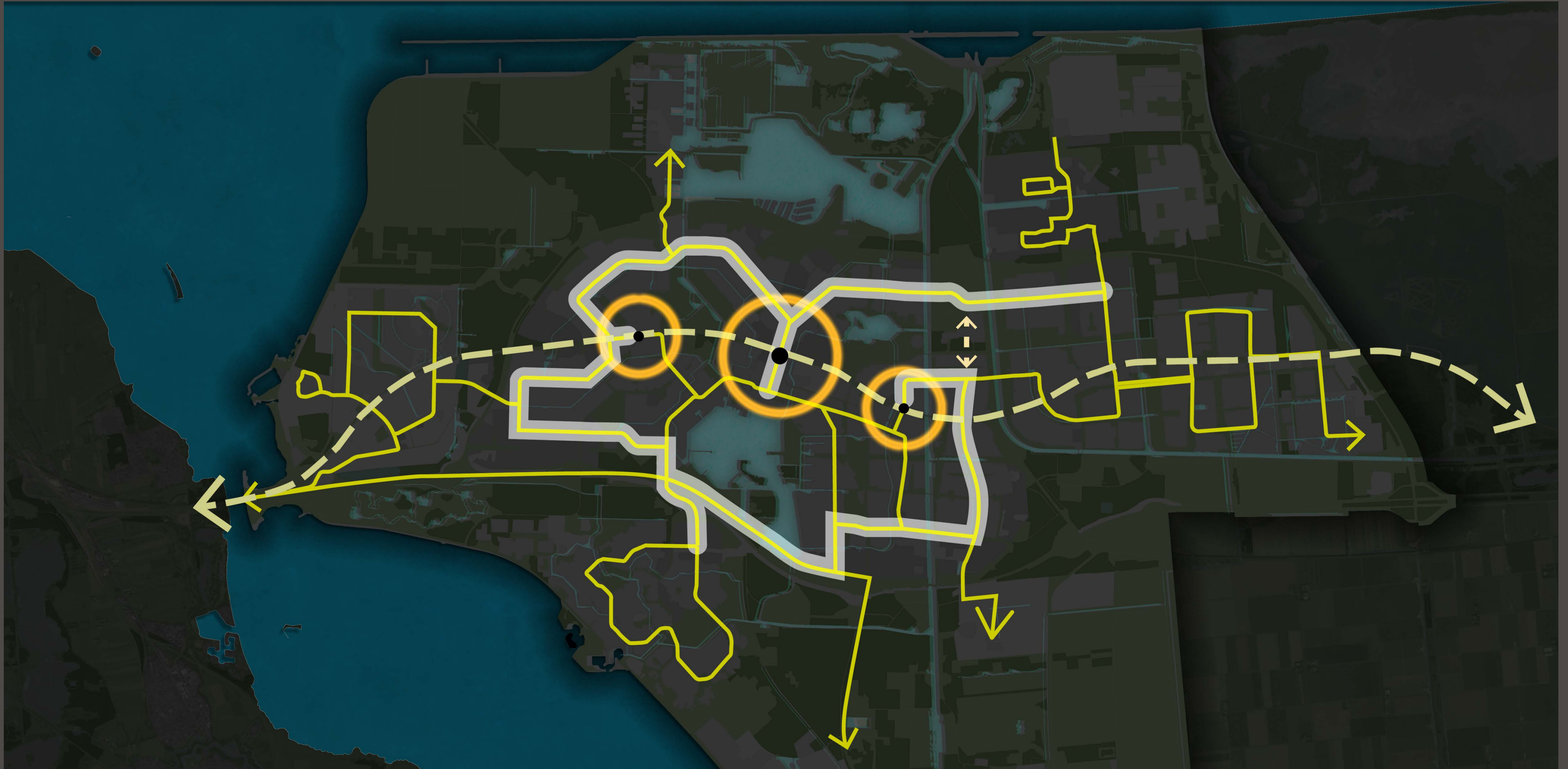


4. Create Connection

- - Railway
- Bus infrastructure



4. Create Connection



Vision Map

Legend

- Urban Environment

 - Central urban
 - Outer Center
 - Green Urban
 - Village-like Center
 - Mix-Use Dense
 - Mix-Use Industry
 - Industrial Area
- Green Structure

 - Recreation
 - Natural
 - Densification transition to Green
 - Green natural connections
- Vision

 - Ring Structure
 - Implementation Areas
 - Strategic Future Areas
 - Bus Infrastructure
 - Increased Quality Bus Infrastructure
 - Railway
 - Trainstation Influence Area
- Water Structure

 - City Scale
 - National Scale



Calculating Density

Current density: 33 *dwellings/ha*
Current density: 79 *residents/ha*

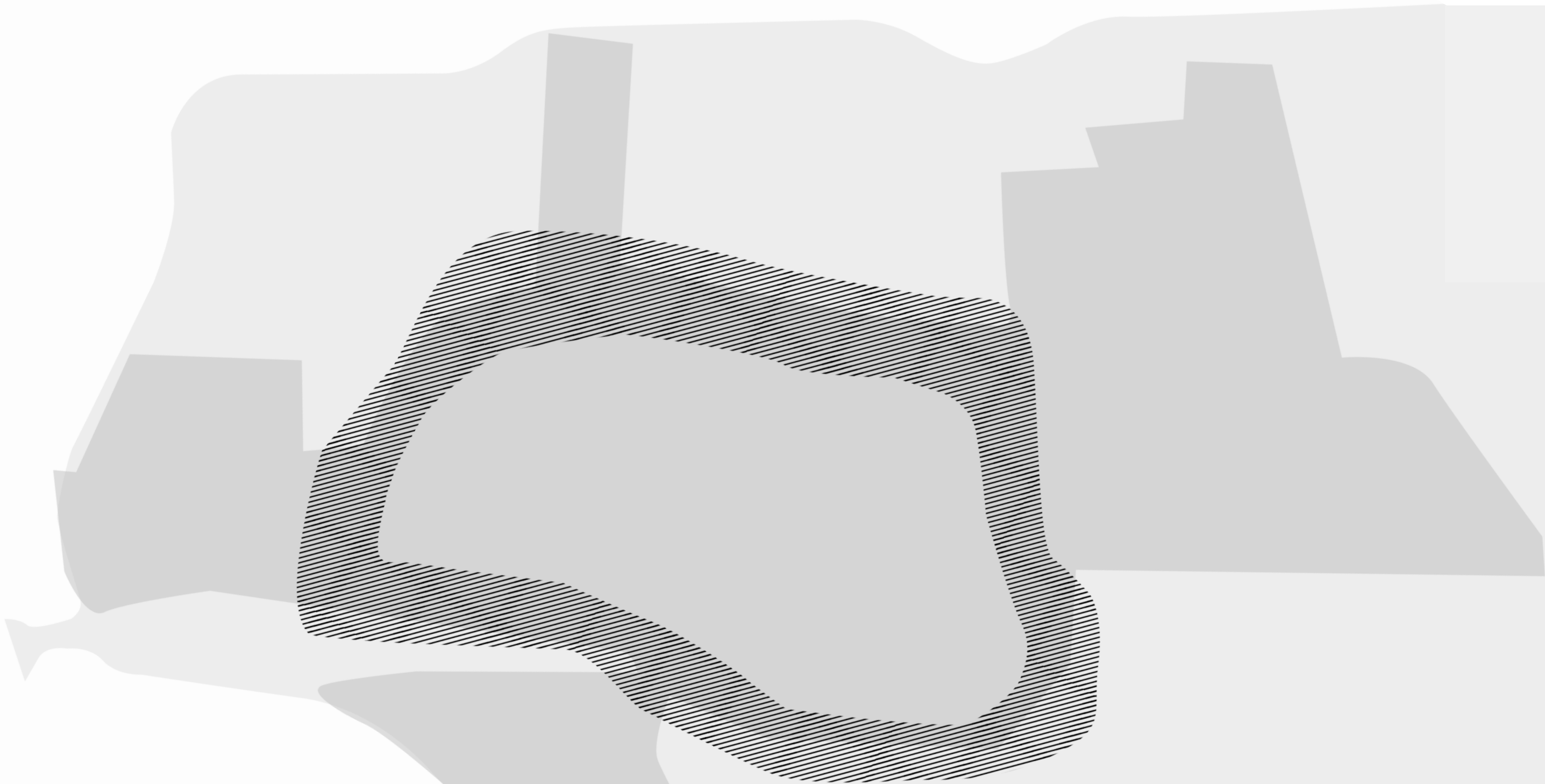
Residents to double: ±200.000
Surface area Ring: ±1200 *ha*

Proposed density in ring:

$$\begin{array}{lcl} 200.000 / 1200 & = & 167 \text{ residents/ha} \\ \text{Existing} & = & \underline{79} + \text{residents/ha} \\ \text{Total} & & 246 \text{ residents/ha} \end{array}$$

or...

Population density = 3,1



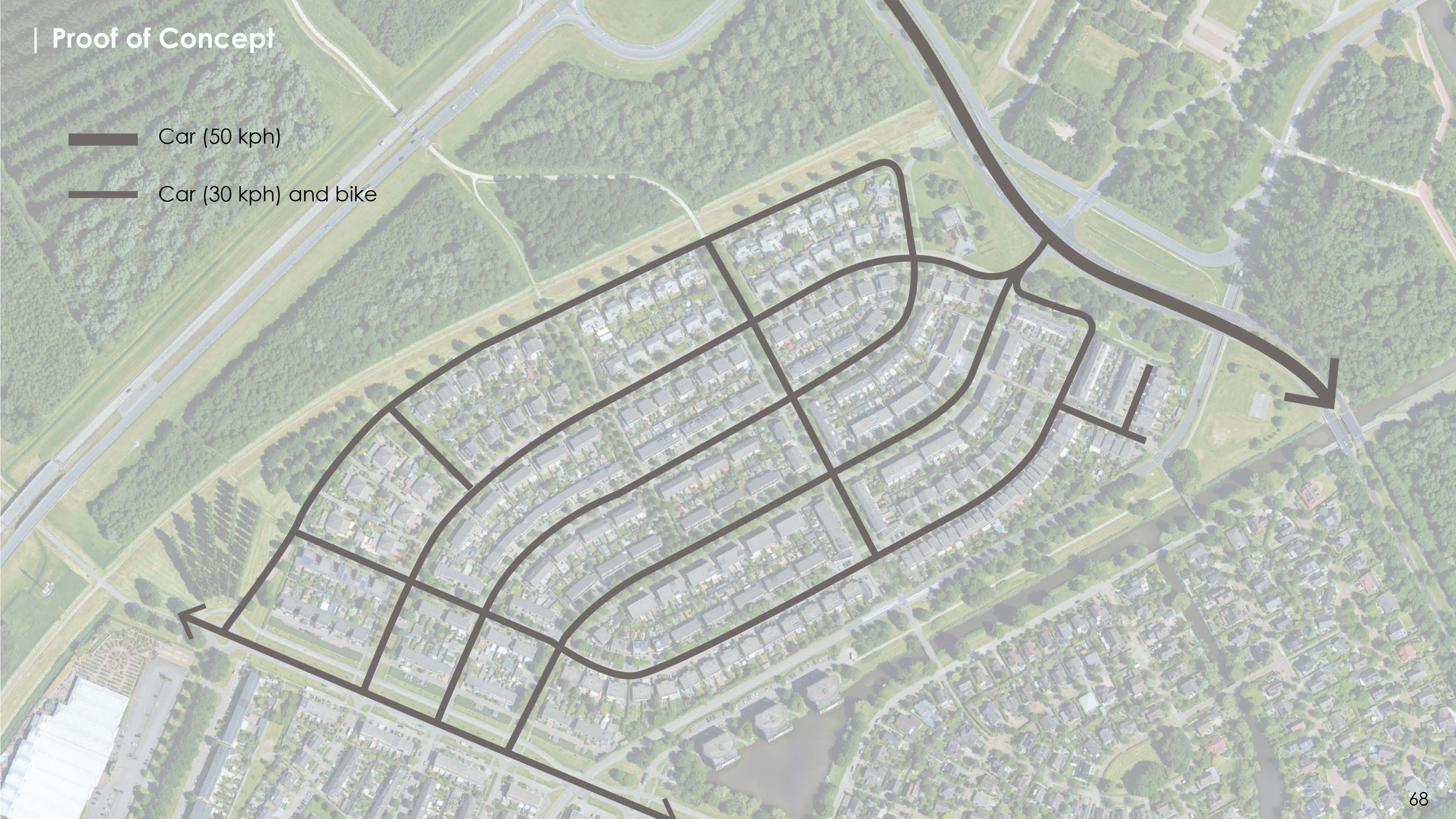






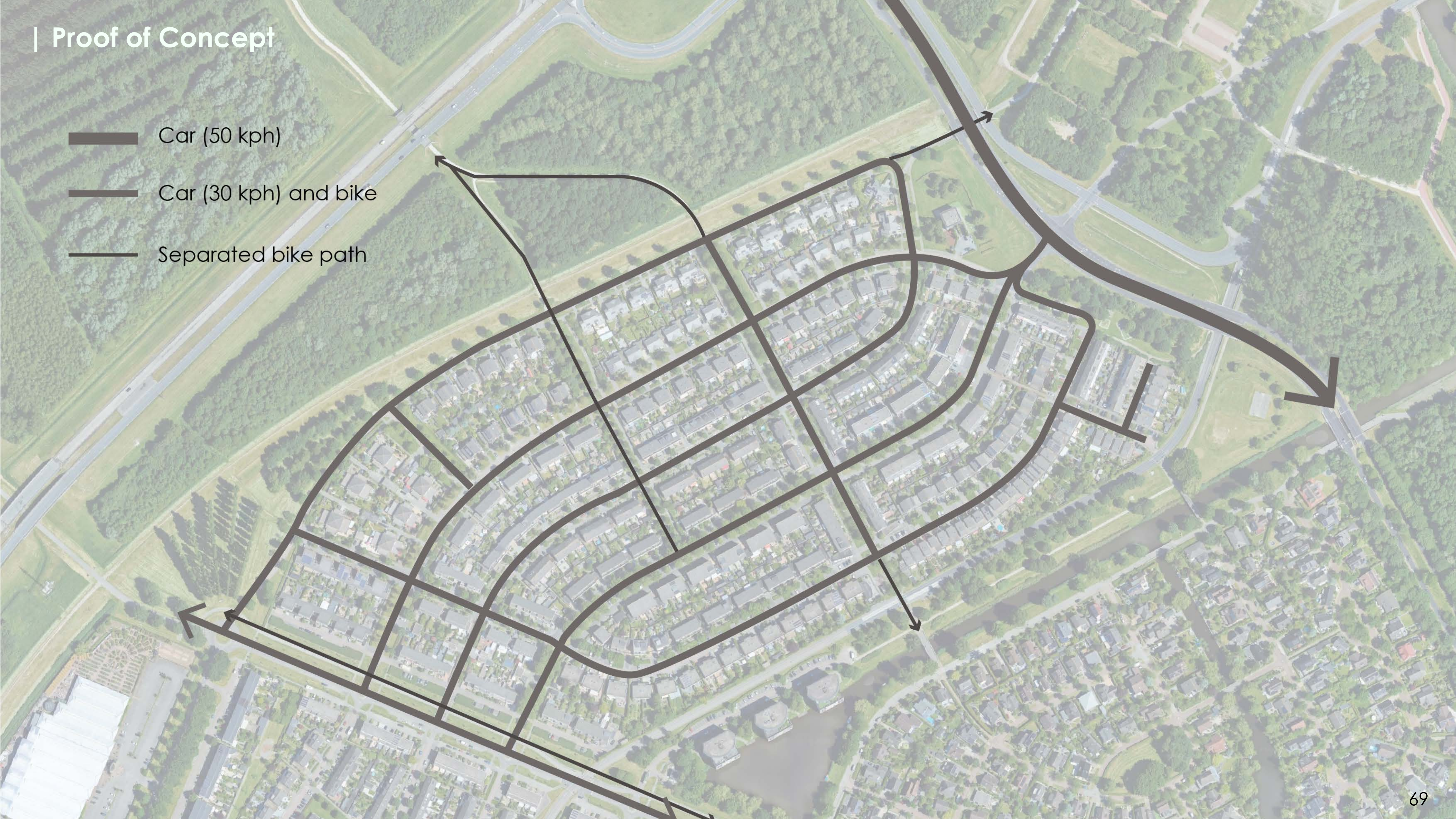
| Proof of Concept

- Car (50 kph)
- Car (30 kph) and bike



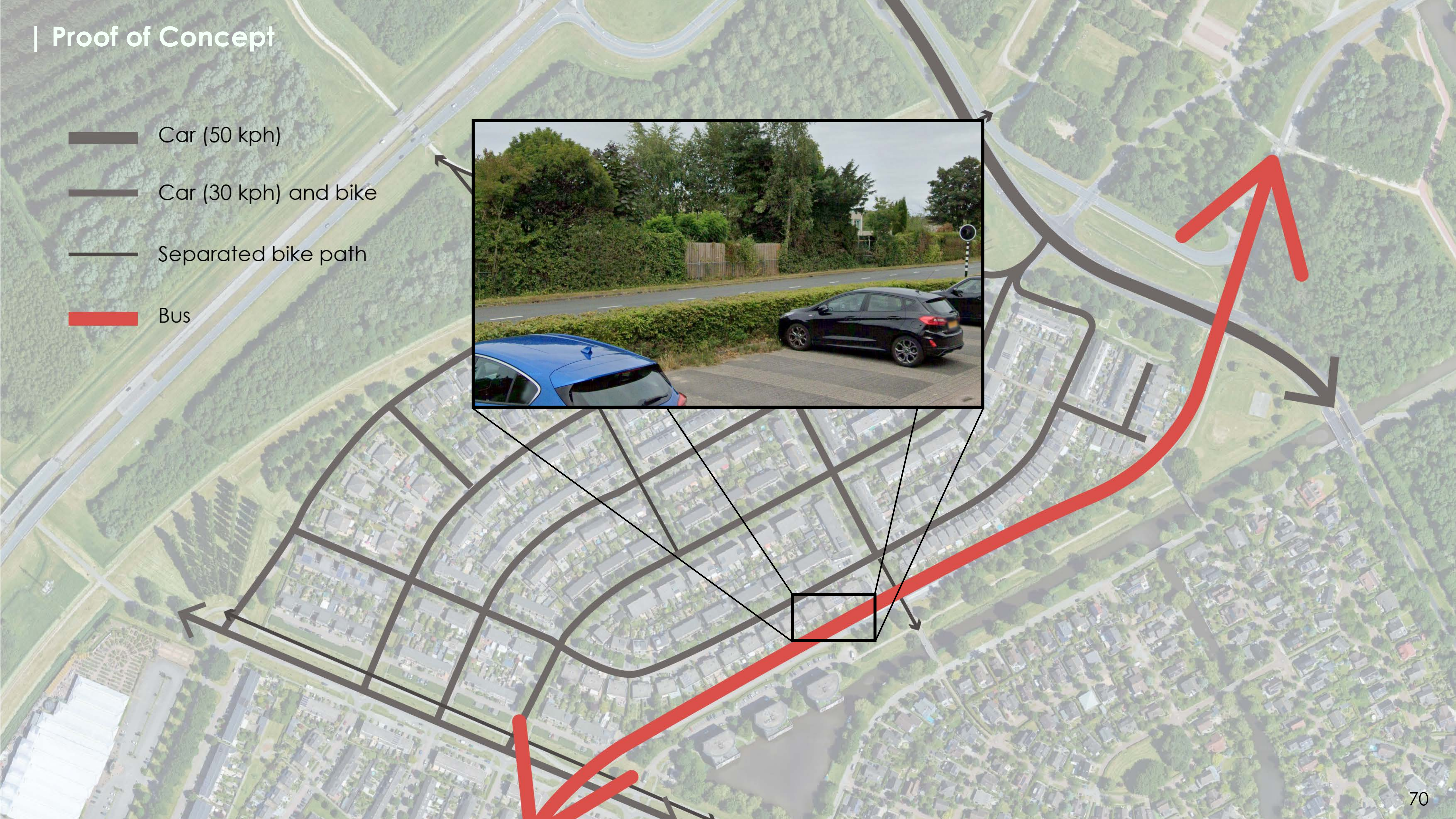
| Proof of Concept

- Car (50 kph)
- Car (30 kph) and bike
- Separated bike path



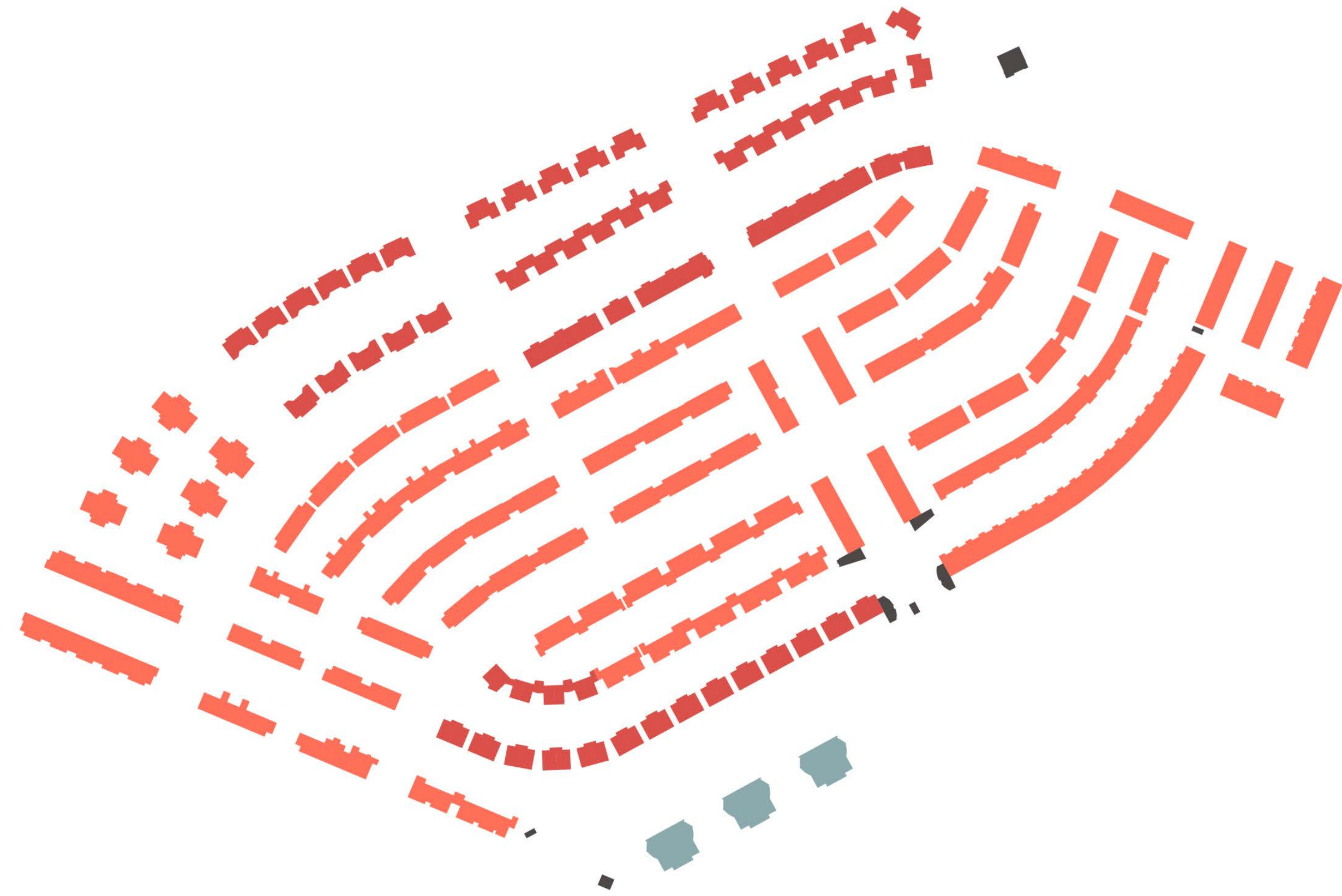
| Proof of Concept

- Car (50 kph)
- Car (30 kph) and bike
- Separated bike path
- Bus

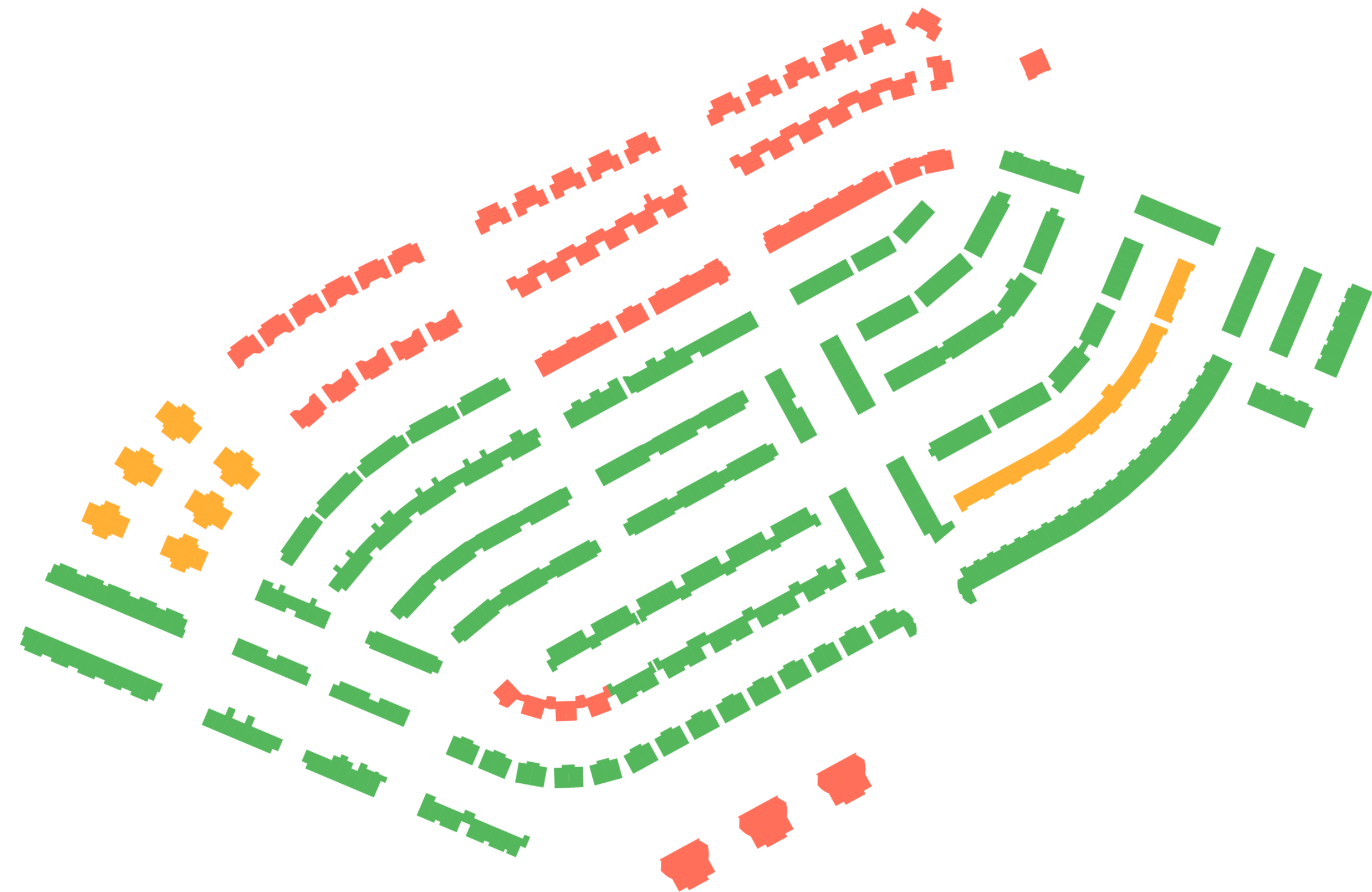
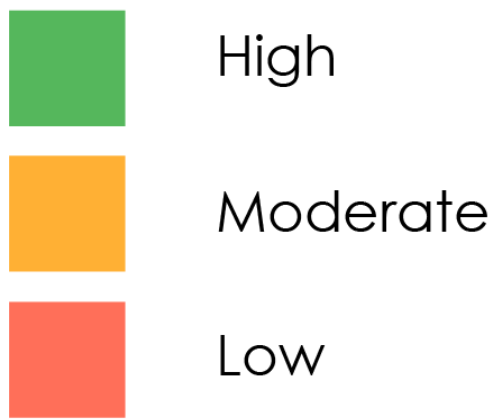


| Proof of Concept

- Semi-detached
- Row House
- Apartment
- Amenities



| Proof of Concept



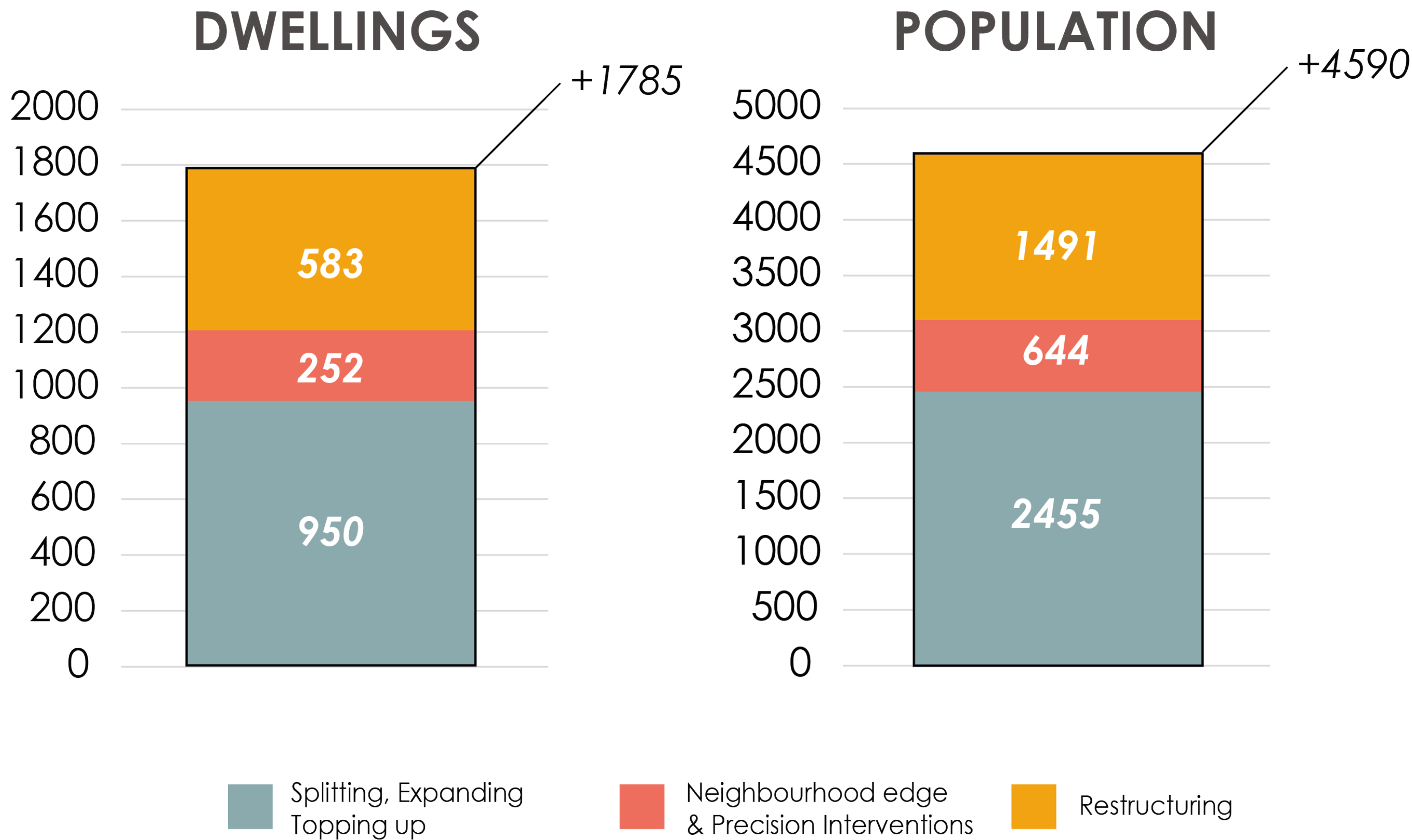
| Proof of Concept



Calculating Density

Current situation: 1358 residents
New situation: 4590 residents

= Density **x3,4/3,1**





| Proof of Concepts

1. Fit within the city

- Keep/enhance existing qualities
- Reduce limitations of the Row House Paradigm



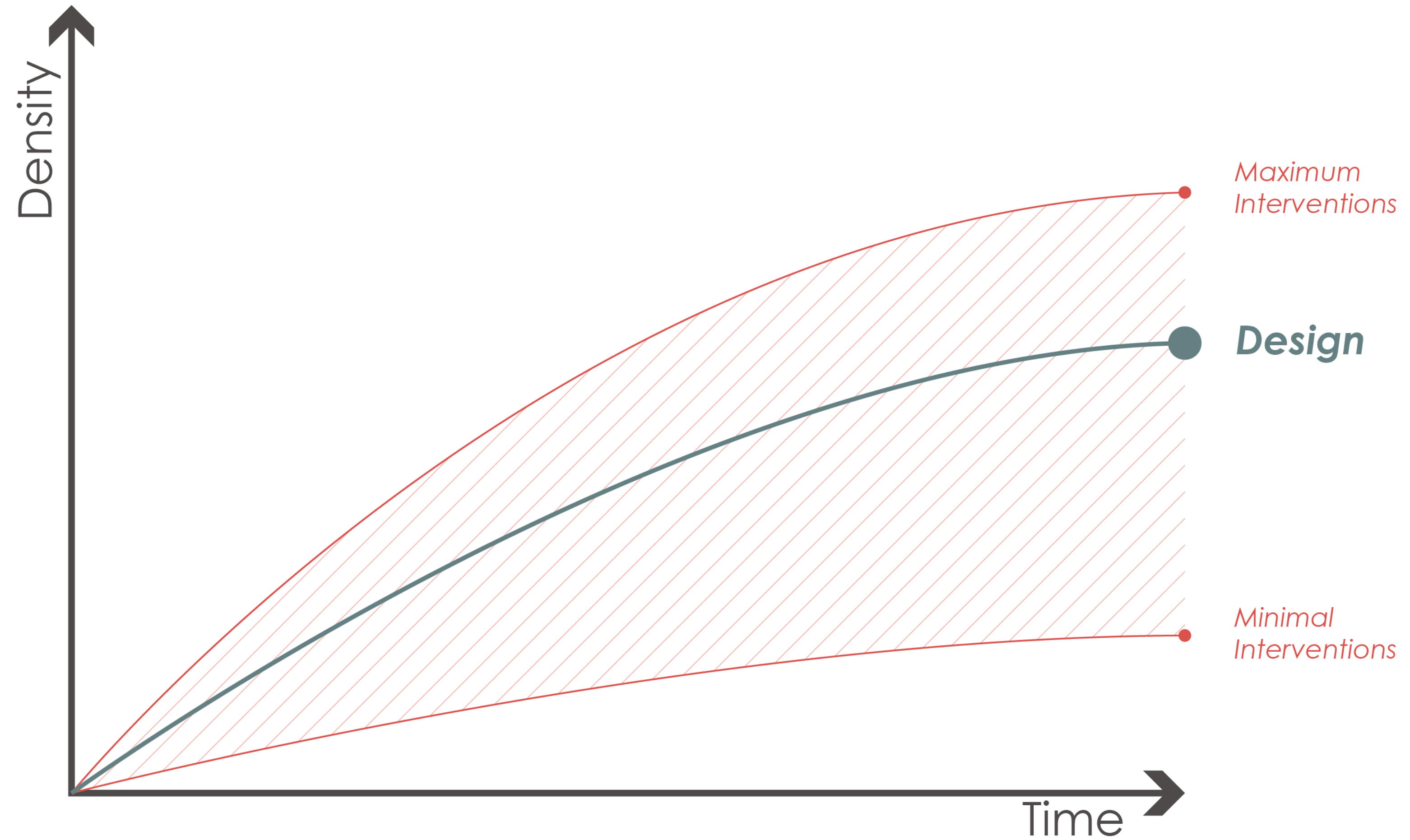
| Proof of Concepts

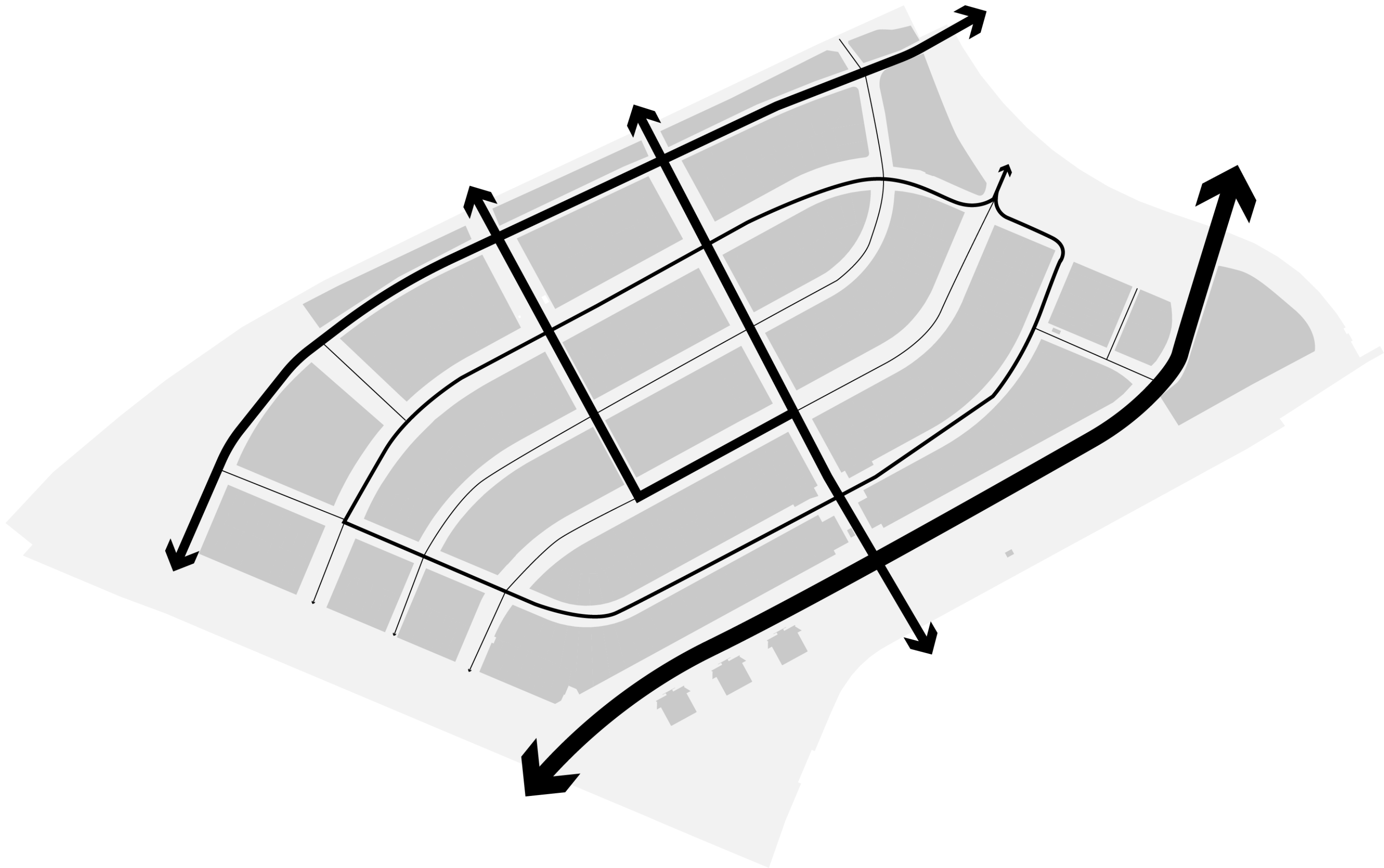
1. Fit within the city

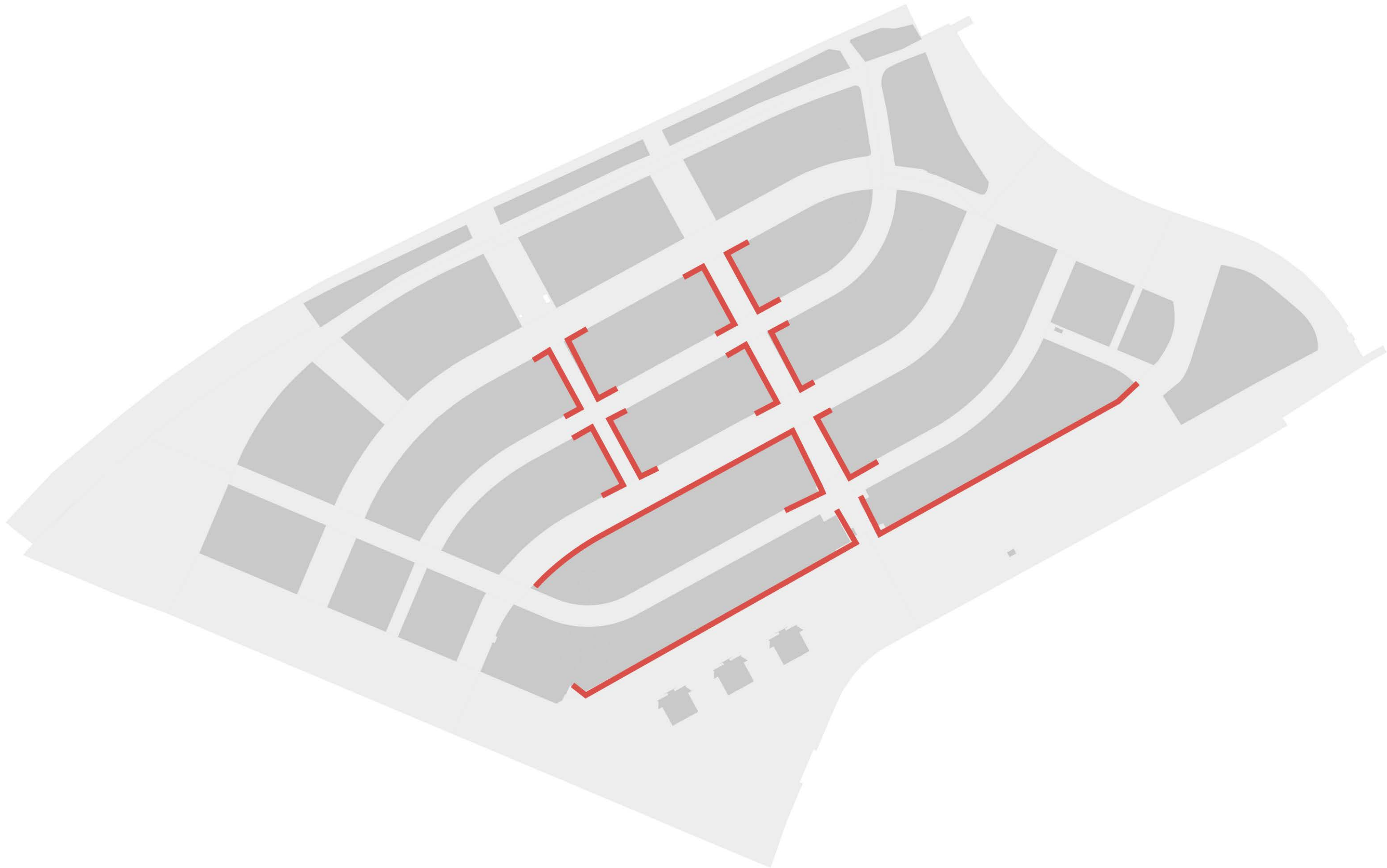
- Keep/enhance existing qualities
- Reduce limitations of the Row House Paradigm

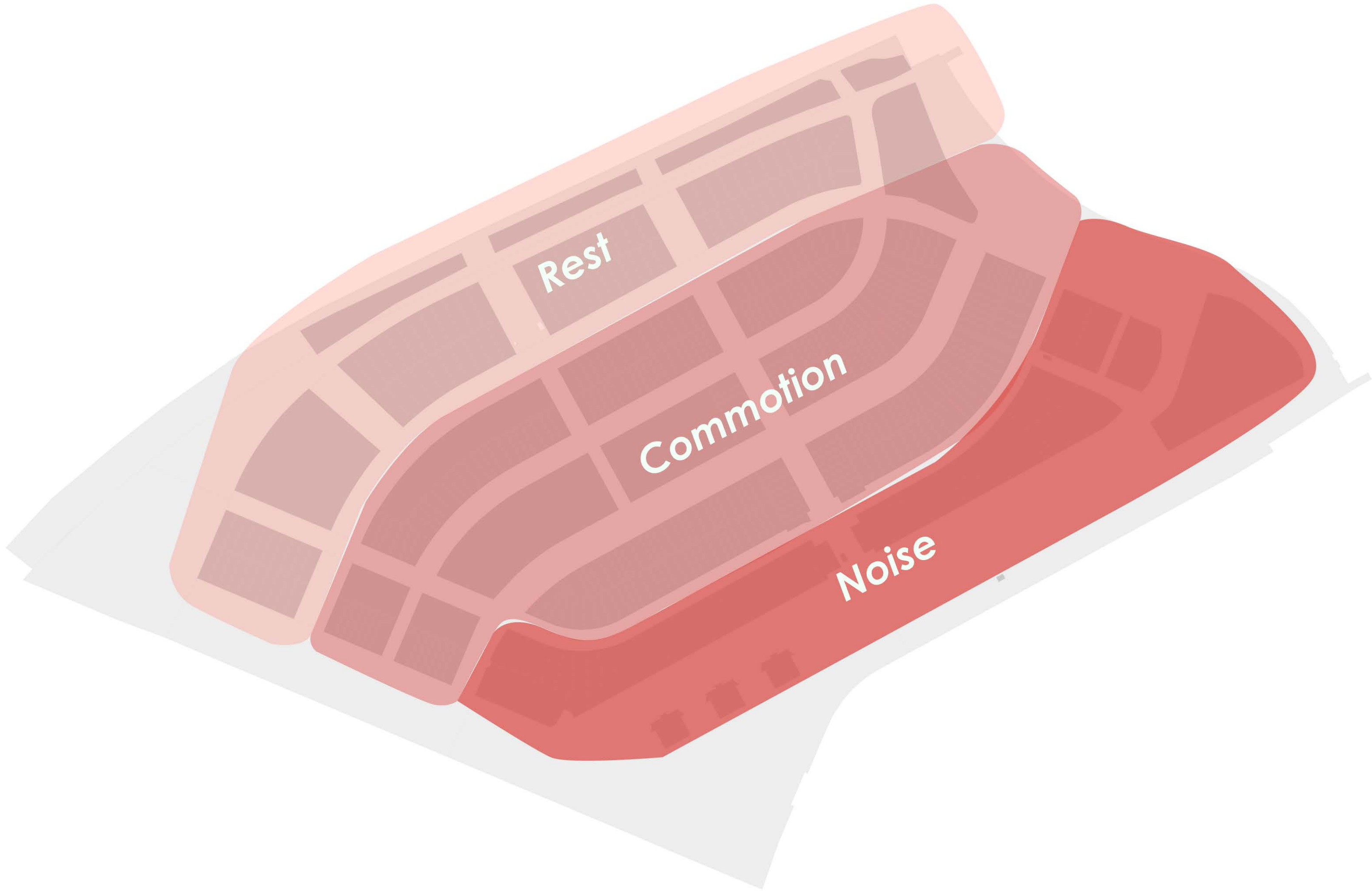
2. Densifying is not only about adding dwellings

- Adding amenities
- Enhancing networks

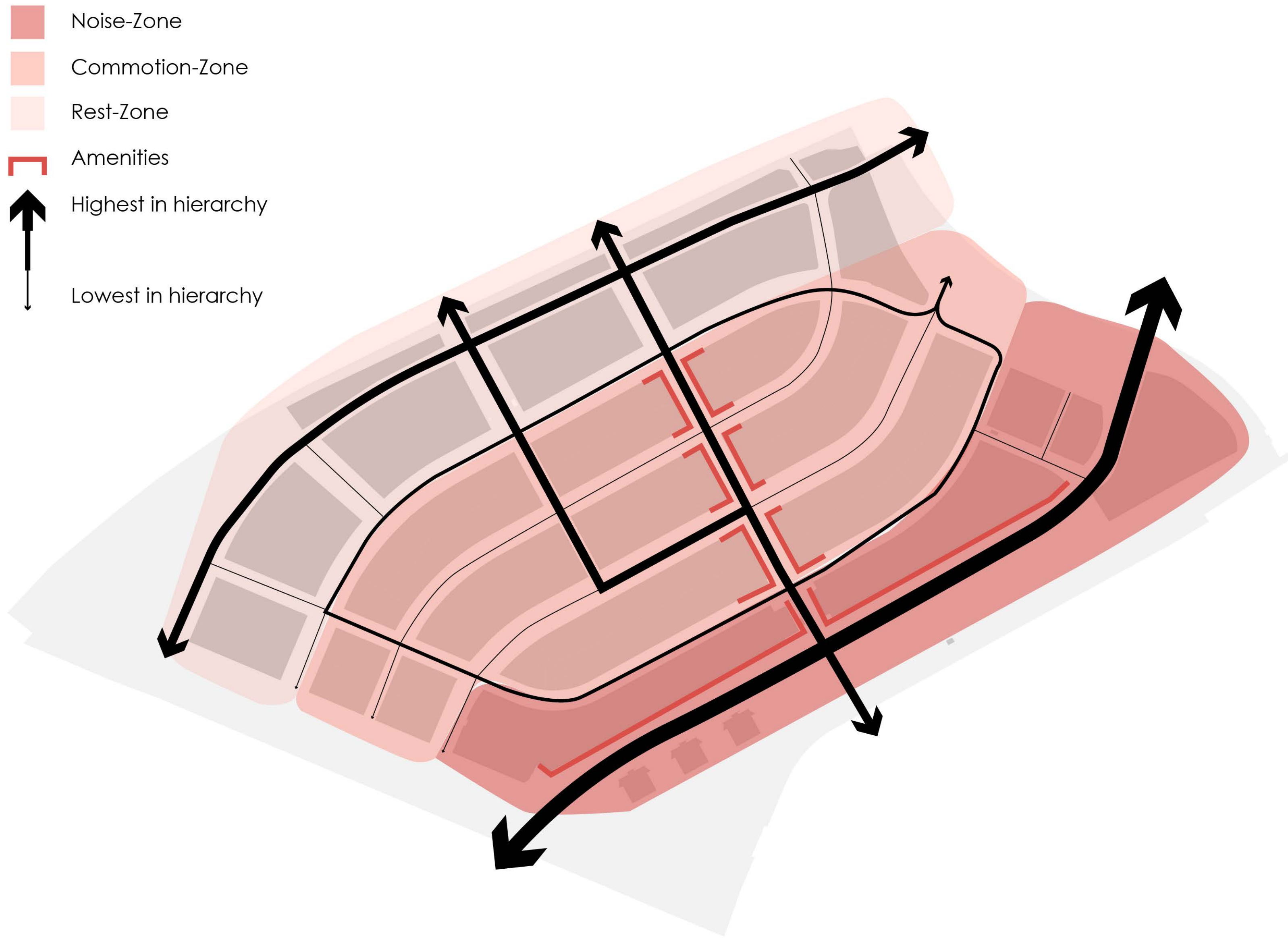








| Proof of Concept

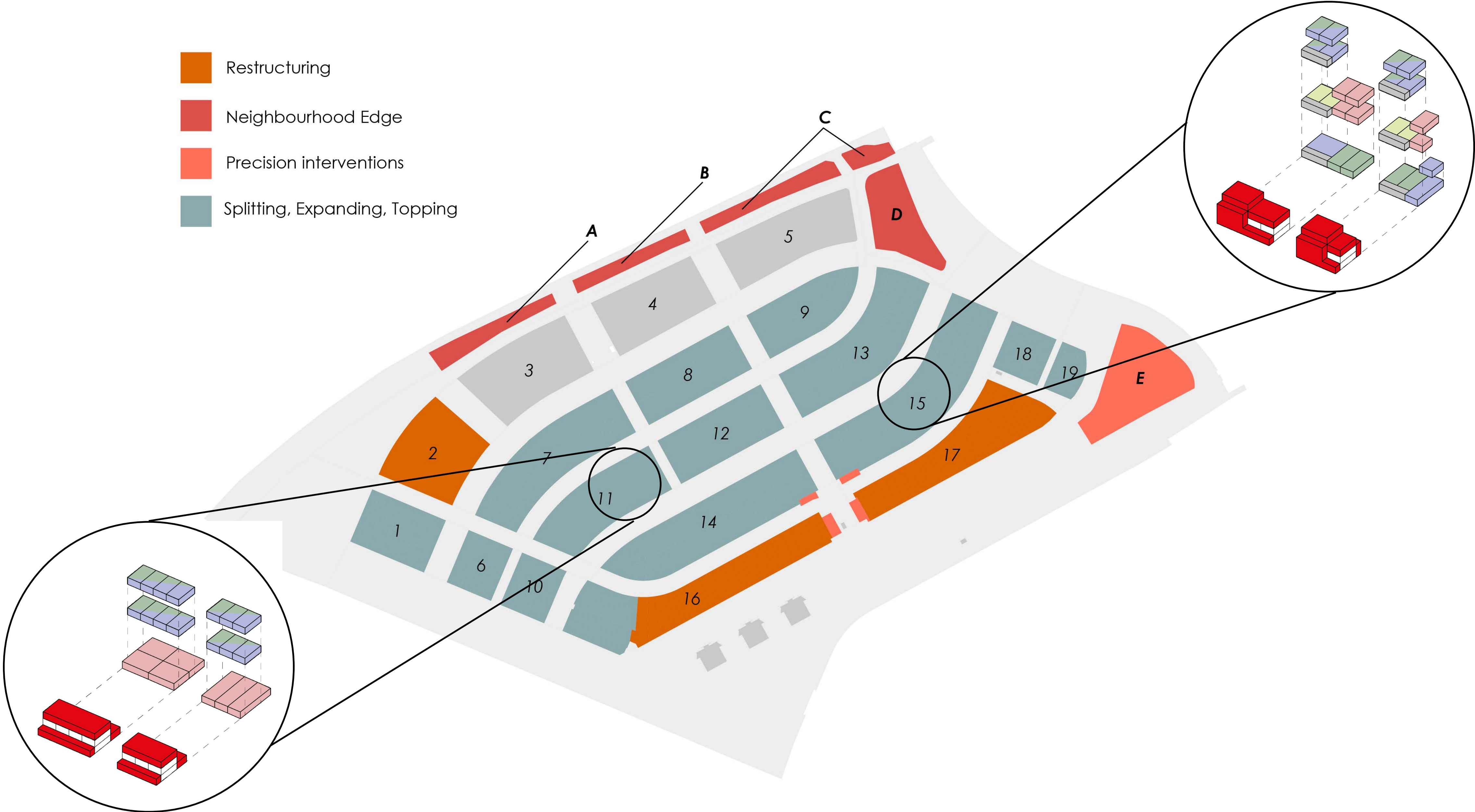


| Proof of Concept

- Density x3
- Density x2
- Density x1



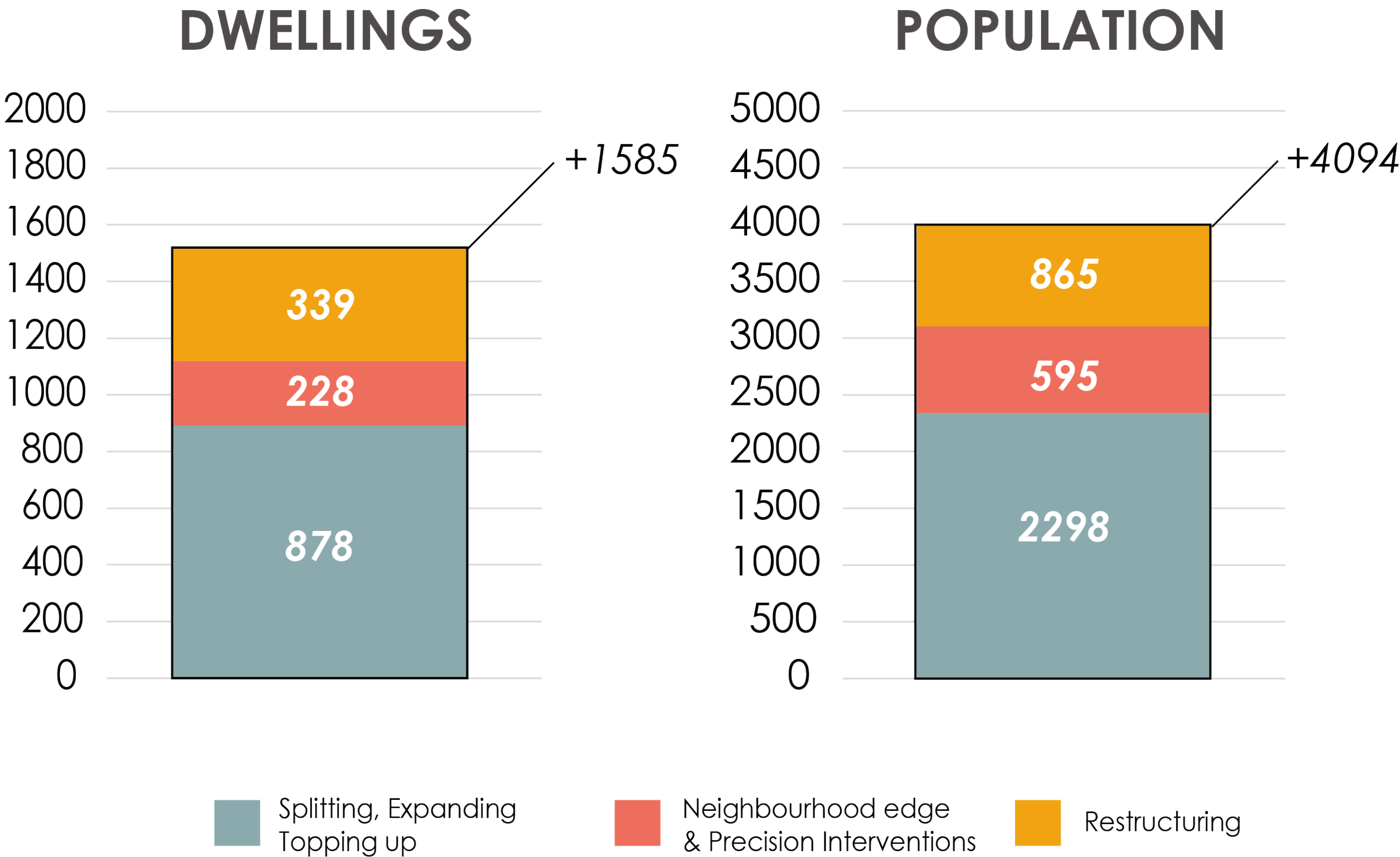
| Proof of Concept



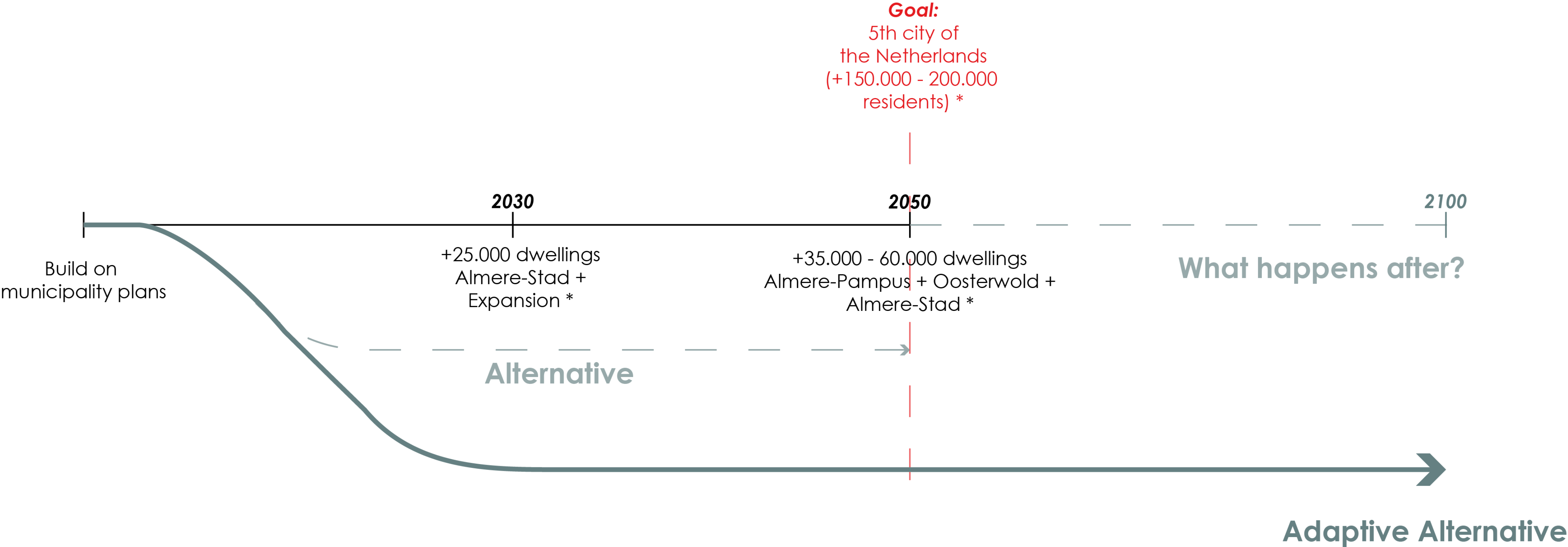
Calculating Density

Current situation: 1358 residents
New situation: 4094 residents

= Density **x3,0**/3,1



| Conclusion



* Gemeente Almere, 2021



Image by Author

LIMITATIONS TO THE ROW HOUSE PARADIGM

Thank you for listening!



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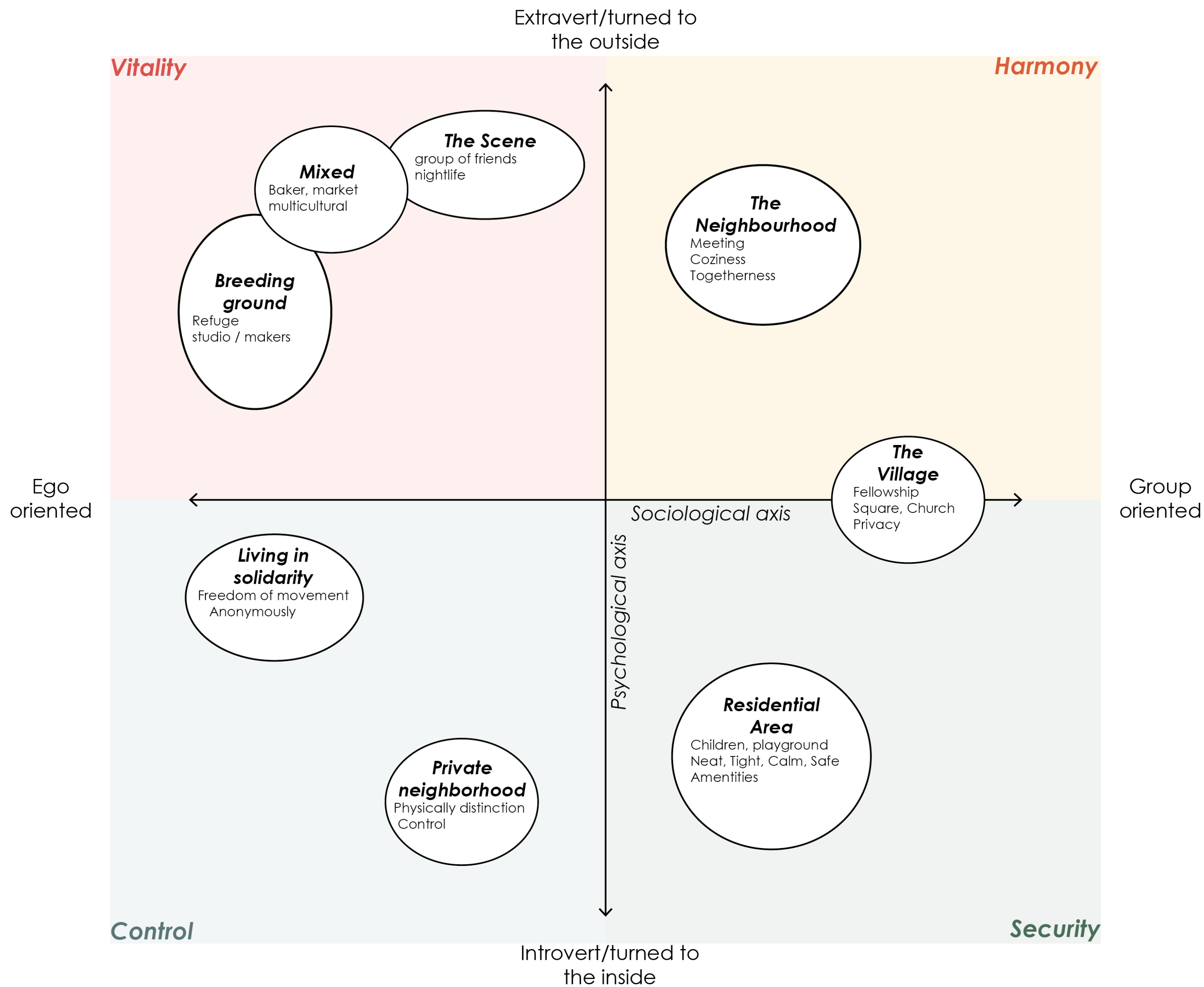
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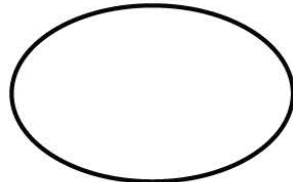
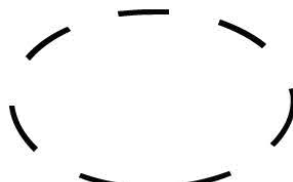
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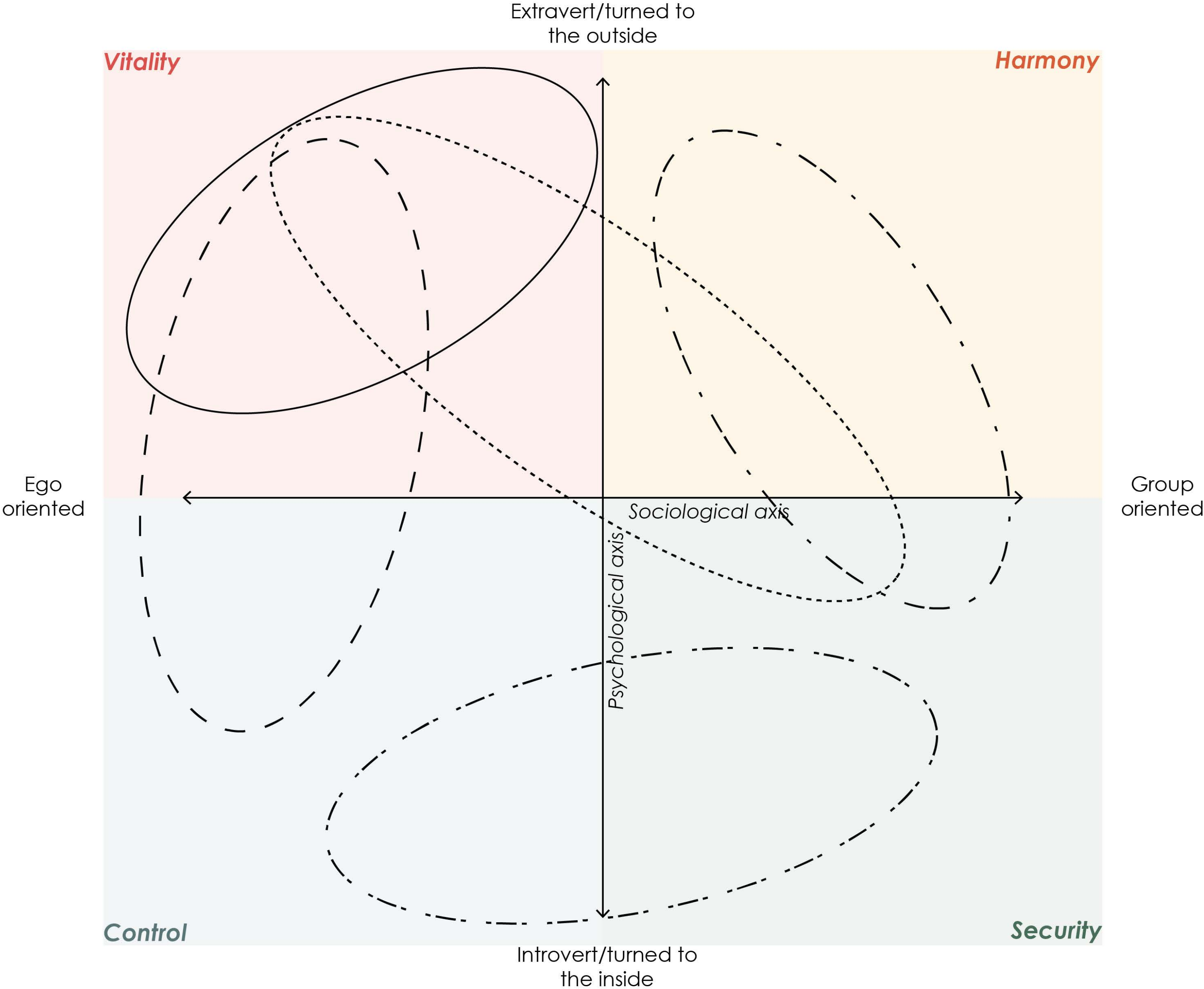
| The case of Almere



De Vries et al, 2006
Ouwehand et al., 2011
Images by Author

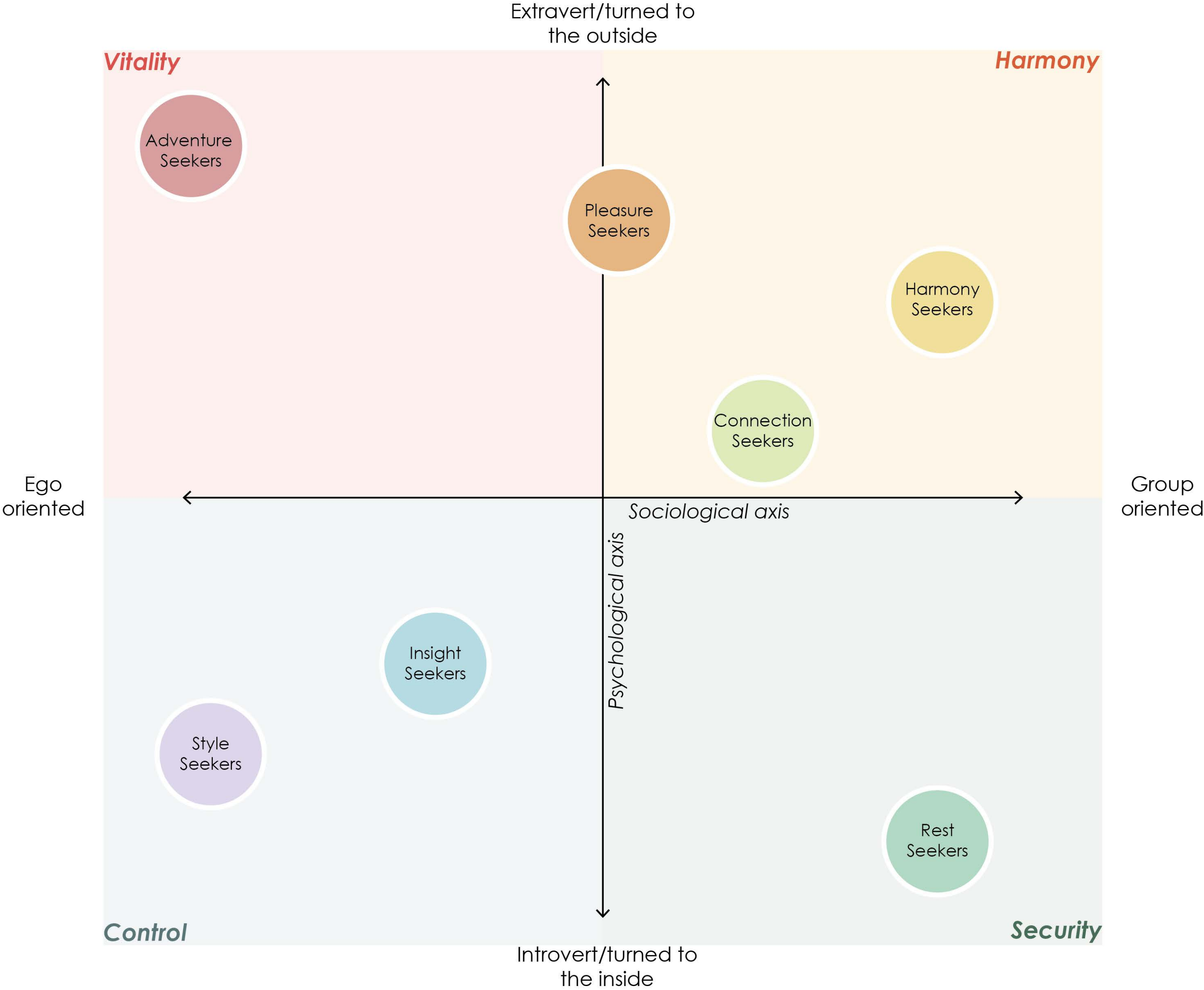
| The case of Almere

-  Central Urban
-  Outer Center
-  Green Urban
-  Village-like Center
-  Rural Living

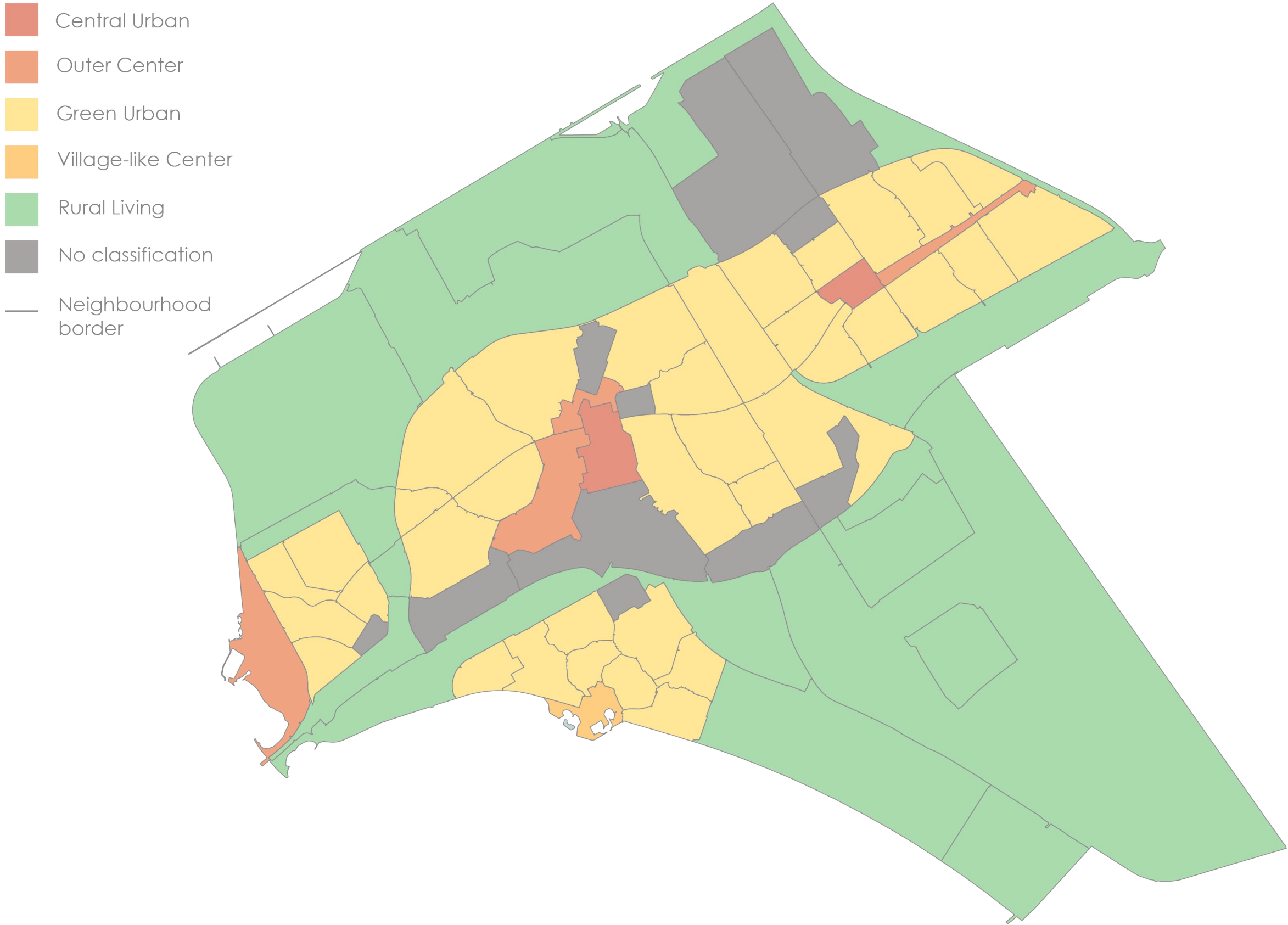


De Vries et al, 2006
Ouwehand et al., 2011
Images by Author

| The case of Almere



Living Environments in Almere



Lifestyles in Almere

