

P5 Presentation

Niels Samuels 5858402

Design of the Urban Fabric
TU Delft





Kruisvaartkade, Utrecht
Groosman Architecten





Damrak, Amsterdam

The Future is Yesterday

Regenerating Amsterdam's city center
through traditional urban design principles
& human experience

*Niels Samuels - 5858402
TU Delft - Master Thesis*

FUNCTIONS AS A LANDMARK WHILE HIDDEN IN A BLOCK:

ZUIDER KERK

ONE OF THE OTHER ENTRANCES TO THE MARKET WHEN COMING FROM NIEUWMARKT

JODENBREESTRAAT

NEMO SCIP

ZWANENBURGWAL

CURRENT WATERLOOPLEIN FLEA MARKET

CHAOS

FOR MANY PEOPLE THIS IS THE ENTRANCE TO THE SITE BY FOOT

"I DON'T LIKE HAVING MY SPOT AT THE MARKET NEXT TO ALL THIS TRAFFIC, BUT I'M USED TO IT BY NOW"

EXCELLENT TOWARDS VIEWPOINT MUNTPLEIN

CAFE & RESTAURANT

RIGHT BENEATH THE COUNCILL HALL

MAIN ENTRANCE FEELS UNINVITING

METRO ENTRANCES HIDDEN TO THE PUBLIC

"I'M NEW TO THIS PLACE & WHEN I STEP OUT OF THE METRO, I GET CONFUSED IT DOESN'T FEEL LIKE AMSTERDAM TO ME"

EL RIVER

AWKWARD MONUMENT CREATES AN EMPTY & UNUSED SPACE

TRAFFIC DOMINATED STREET PROGRAM

STRESS!

CYCLE PATH

"THIS BUILDING DOESN'T BELONG IN AMSTERDAM"

THE STOPERA BUILDING IS SEEN AS TOO LARGE FOR THE SITE & NOT CONSIDERED PART OF THE BUILT IDENTITY

A FEW CAFES & RESTAURANTS

DOCKED BOATS PREVENT THE USERS FROM A CONNECTION TO THE WATERFRONT

MOST CAR TRAFFIC FLOWS IN THIS DIRECTION

THIS DIRECTION FEELS MUCH QUIETER

THE BUILDING BECOMES MORE SIGNIFICANT FROM THIS PERSPECTIVE

BLAUW BRUG

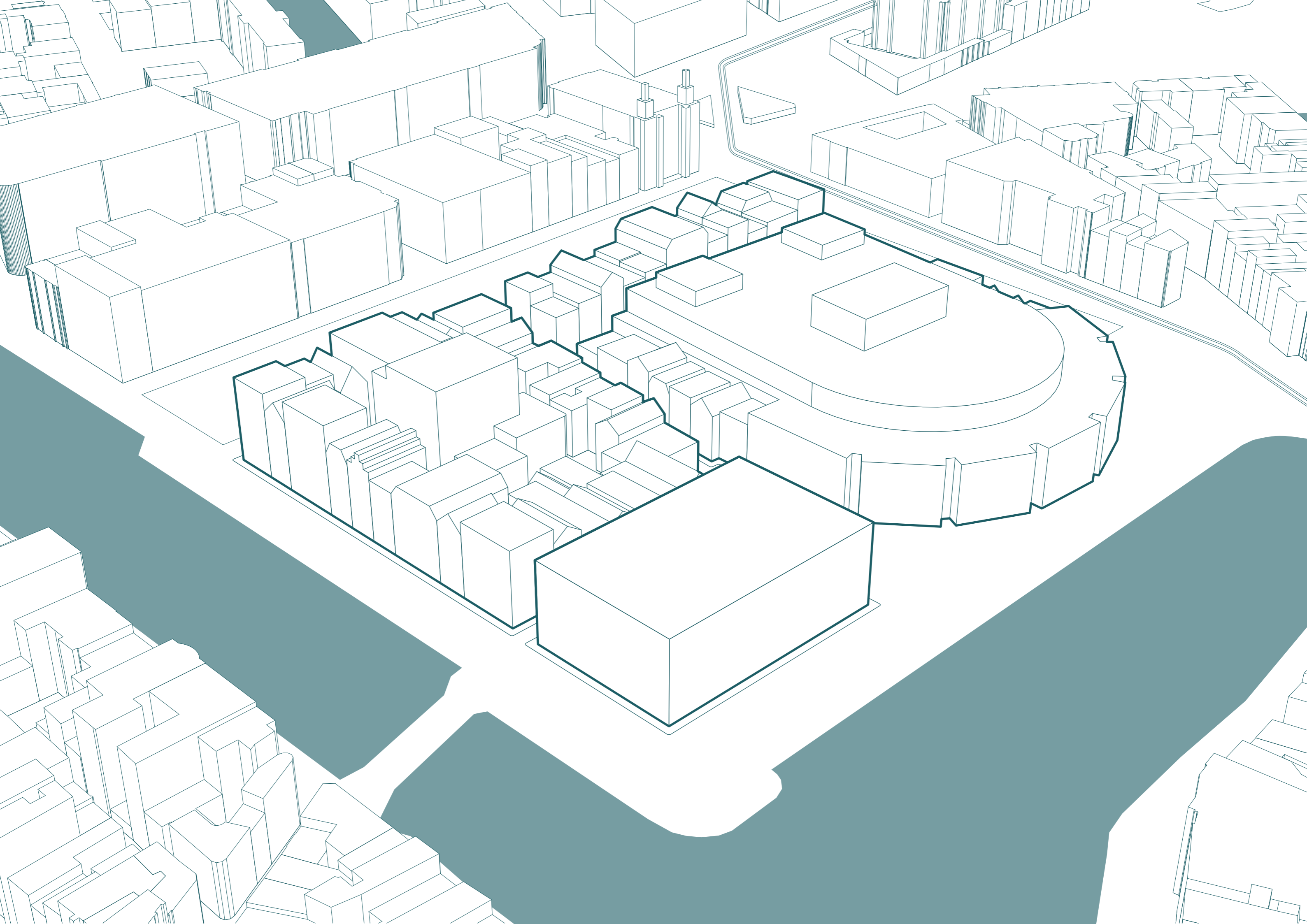
HOUSE BOAT ON THE AMSTEL

NIEUWE HEEREN

THANK YOU! I UNDERSTAND NOW

REMBRANDT SQUARE IS KNOWN FOR ITS LIVELY CAFES AND BARS WHICH PEOPLE USE TO NAVIGATE THEMSELVES

WAY



Contents

Introduction

Problem statement
Location
Goal
Research Question
Theories

Traditional Urban Design
Environmental Psychology
Contrast with Modernism
Sociocultural Factors

Design

Assignment
Urban Conditions
Approach

Experience

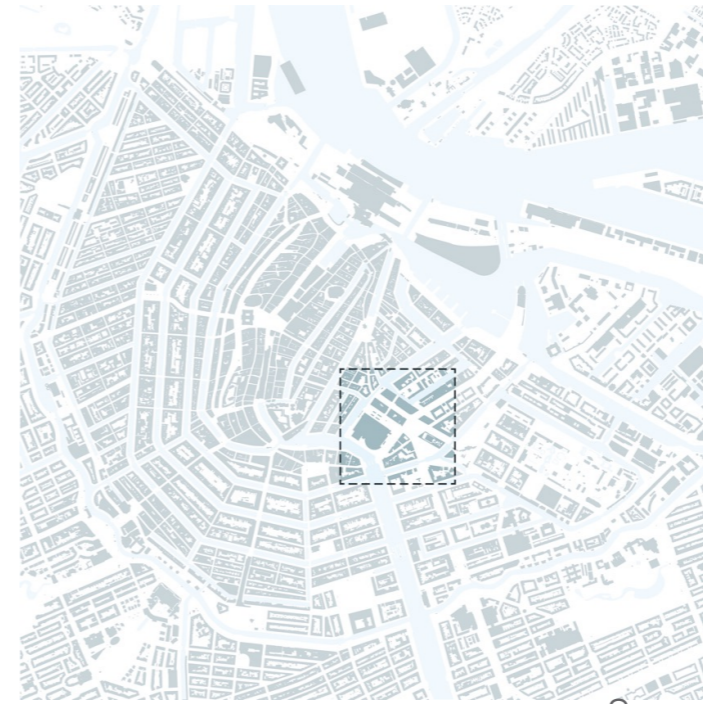
Conclusion
Reflection

Problem Statement

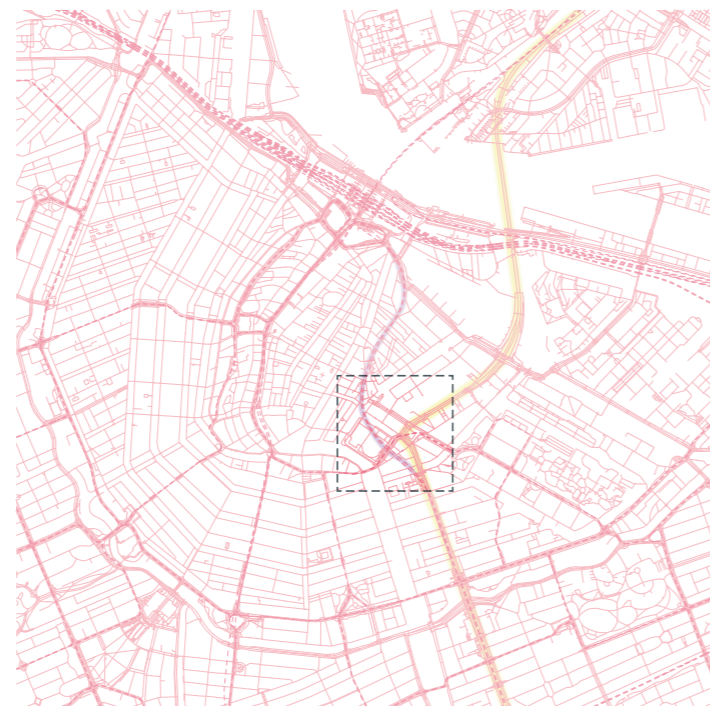
Sustainability is more than efficiency—it is endurance through identity. Cities remain alive when people feel connected to them, when design speaks to identity, memory, and care.

Location

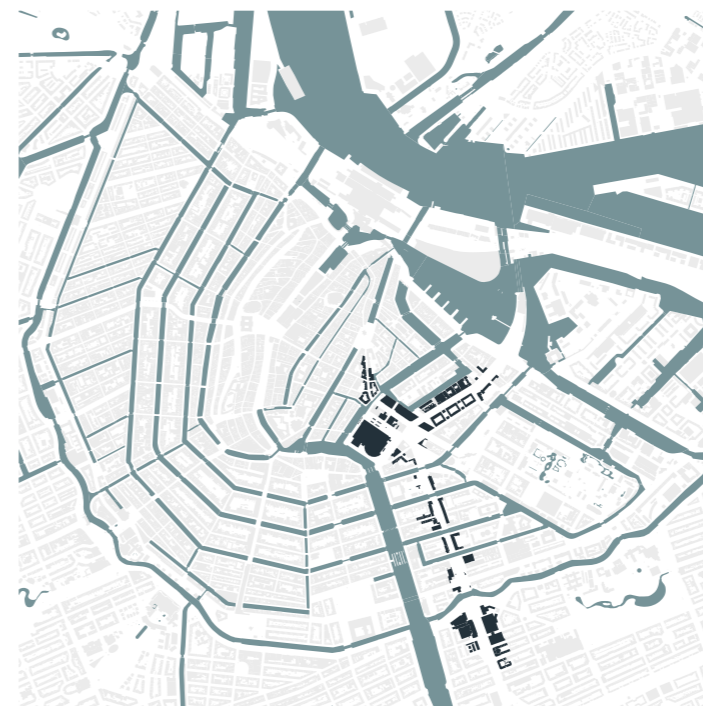
Waterlooplein Neighborhood,
Amsterdam



Scope



Change



Contrast



Vlooienburg

1926



Market

1900



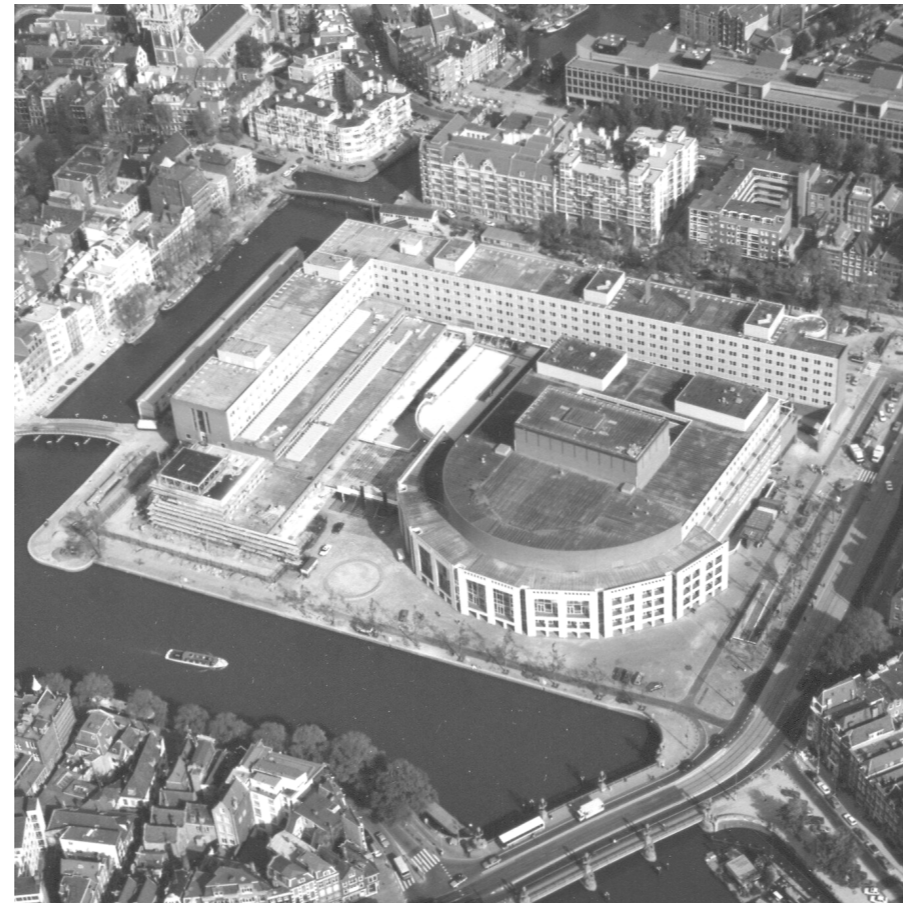
Post-war

1945



Construction

1980



Stopera

1986



Protest

1982

Oh Waterlooplein

*Ik liep een beetje door de stad
Ik had geen doel, ik deed maar wat
En toen ineens, ik stond er weer
Als iedere keer*

Dat ouwe stukkie Amsterdam

*Waar ik al duizend malen kwam
En waar ik altijd weer zal zijn
Het Waterlooplein*

Oh Waterlooplein

Oh, Waterlooplein

't Is mooi en lelijk tegelijk

Argmoedig en toch ook weer rijk

*'t is weemoed met 'n scheutje gein
Het Waterlooplein*

*Een vogelkooi, een manke stoel
Een naaimachine zonder spoel
Een oud bureau, 't kost bijna niets
Een roestige fiets*

*De koopman zegt 't is echt antiek
Je zeurt en pingelt om een piek*

Zo hoort het ook, zo moet het zijn

Op 't Waterlooplein

Oh Waterlooplein

Oh, Waterlooplein

't Is mooi en lelijk tegelijk

Argmoedig en toch ook weer rijk

't is weemoed met 'n scheutje gein

Het Waterlooplein

*Een keulse pot, een kolenkit
Een steelpan waar een gat in zit
Een naakte etalagepop
Maar dan zonder kop*

Die Amsterdamse rommelmarkt

Van alles bij elkaar geharkt

*Een **zooitje en toch is het fijn***

Mijn Waterlooplein...

Local song by Johnny & Rijk
Inspired by 'Les Champs Élysées'

Het Parool

Niet meer van alle markten thuis: waarom de ene
Amsterdamse markt veel beter loopt dan de andere



→ De markt op het Waterlooplein heeft het al jaren moeilijk. Na de renovatie moet het gros van het aanbod vintage of tweedehands zijn. Beeld Eva Plevier

Amsterdamse markten hebben het moeilijk, zeker sinds de pandemie. De uitzonderingen vallen op. Waarom overheerst op het Waterlooplein het chagrijn, terwijl de Siermarkt juist bloeit?

[Anna Herter](#) en [Hannah Stöve](#) 26 november 2022, 03:00

Goal

Bridging the gap between Design & Experience

How can the principles of **traditional urban design** improve the **user-experience** through regenerating degraded urban tissue in the city center of **Amsterdam**?

Research Topics

Design

Traditional Urban Design
Contrast with Modernism

Experience

Environmental Psychology
Sociocultural Factors

Theories

Traditional Urban Design

Traditional urban design principles prioritize human-scale development, walkability, and mixed-use neighborhoods unlike modernist urban planning which neglect the social and experiential aspects of urban life.

Jane Jacobs (1961)

User-Experience

The concept of user-experience in urban design emphasizes designing environments that prioritize the needs and behaviors of people. The success of a city is defined, not based on its physical form, but on the spaces in between the built form.

Jan Gehl (1971)

Urban Identity

Urban identity reflects the unique character and sense of place that defines a city or neighborhood. It emerges from the interplay between physical structures, cultural heritage, and the collective memory of its inhabitants.

Edward Relph, (1976)

Timeless Sustainability

Timeless sustainability integrates environmental & socio-cultural dimensions to create urban spaces that remain meaningful. The role of place, legibility and memorability foster enduring connections between people and their environment.

Kevin Lynch (1960)

Environmental Psychology

Environmental psychology examines the relationship between individuals and their physical surroundings, providing insights into how aesthetics & (urban) environments influence emotional responses, well-being, and connection to place.

Kaplan & Kaplan (1989)

What principles define
Traditional Urban Design?

Historical Development

Significant Outward Growth



1350



1500



1650



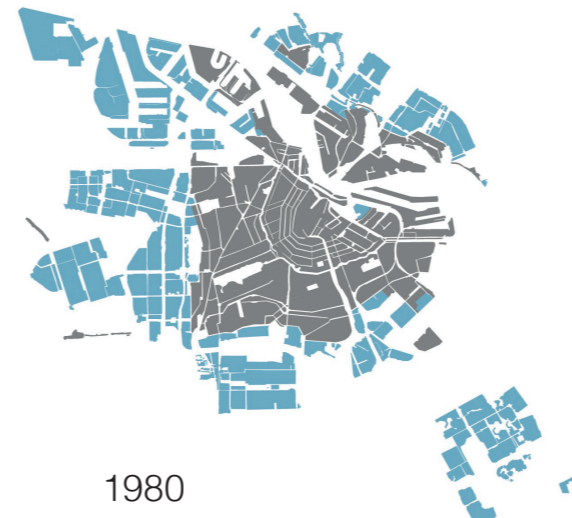
1750



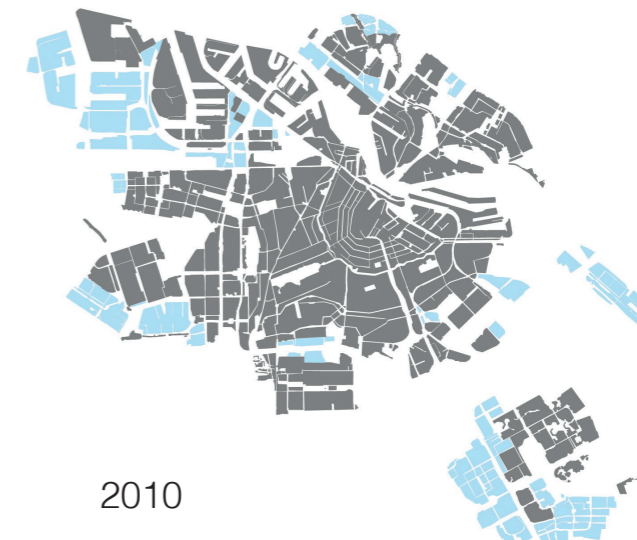
1900



1950

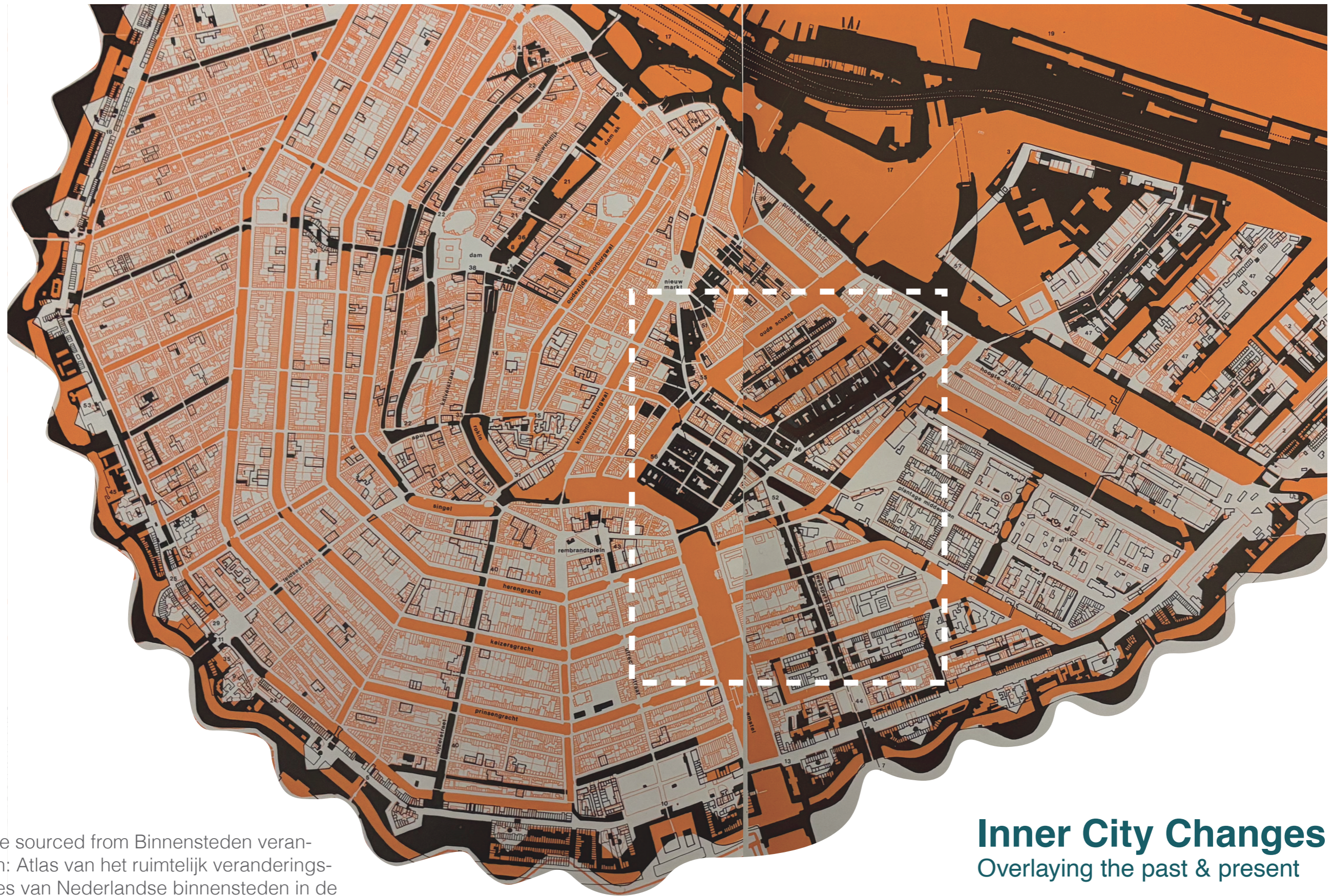


1980



2010

Images sourced from Reinout Rutte's Historische atlas van Nederland:
Hoe ons land in 2000 jaar is ingericht



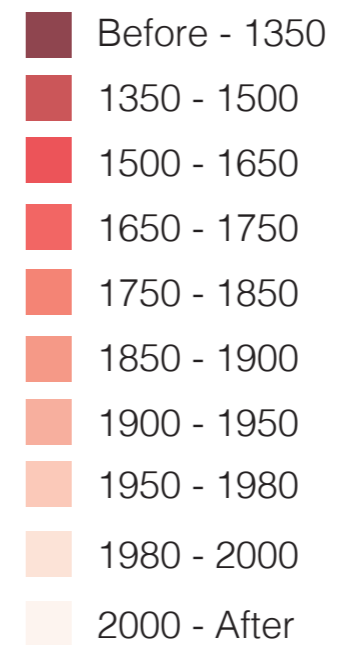
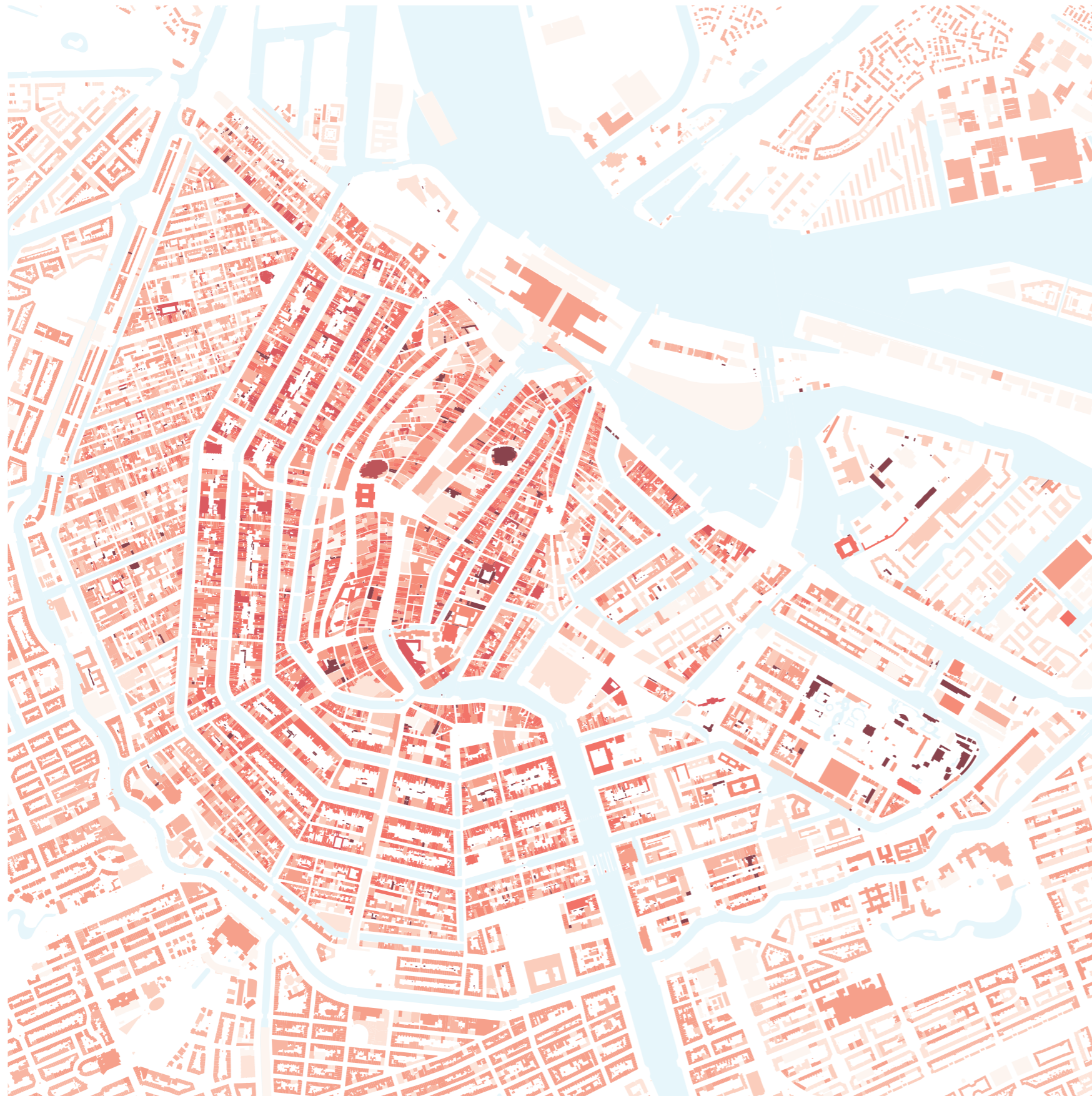
Inner City Changes

Overlaying the past & present

Image sourced from Binnensteden veranderen: Atlas van het ruimtelijk veranderingsproces van Nederlandse binnensteden in de

Variety in Built Years

A variety in built years means a variety in architectural styles

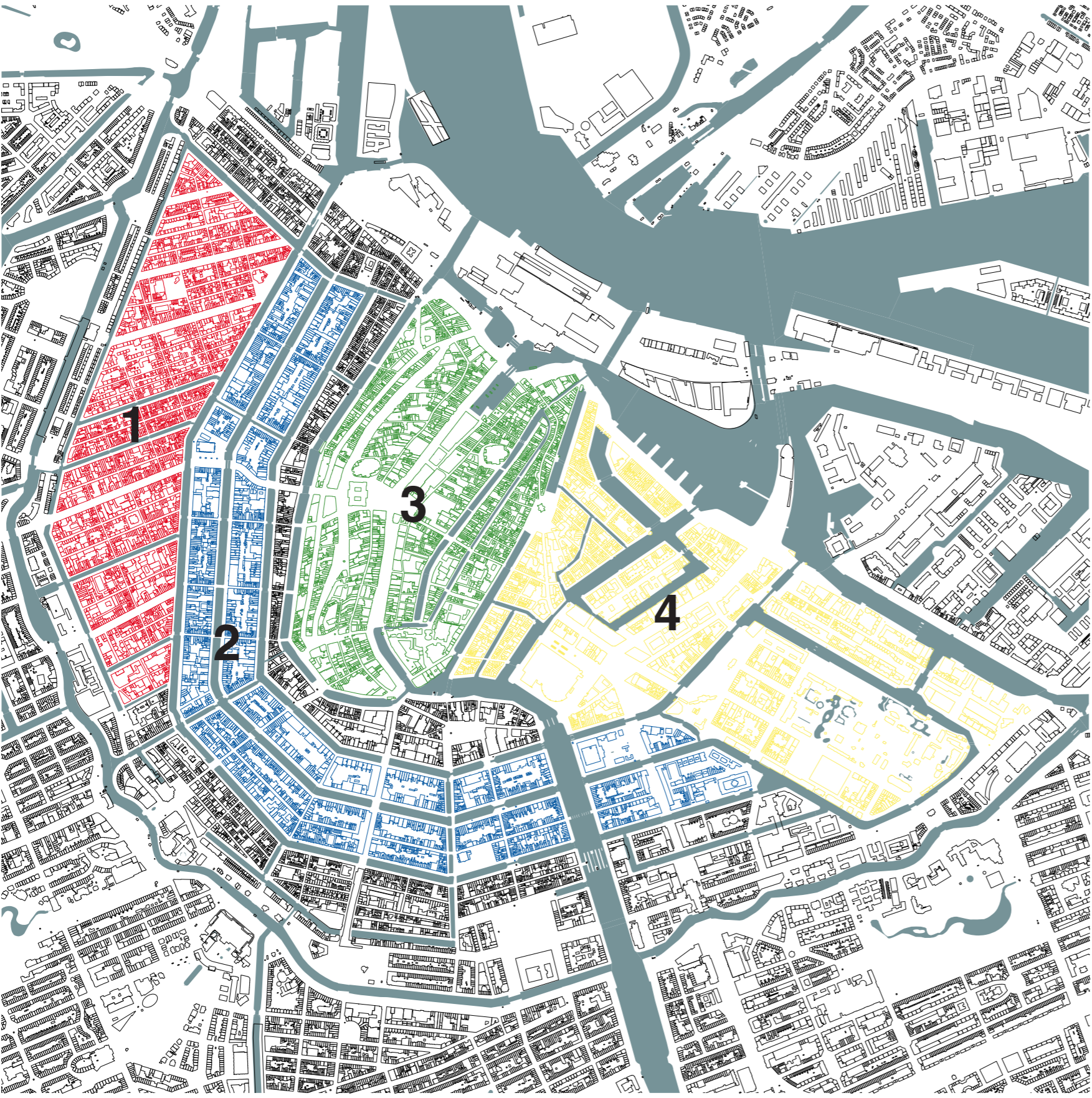


So then we should ask ourselves...

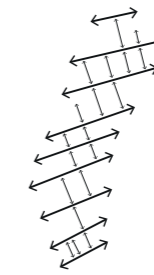
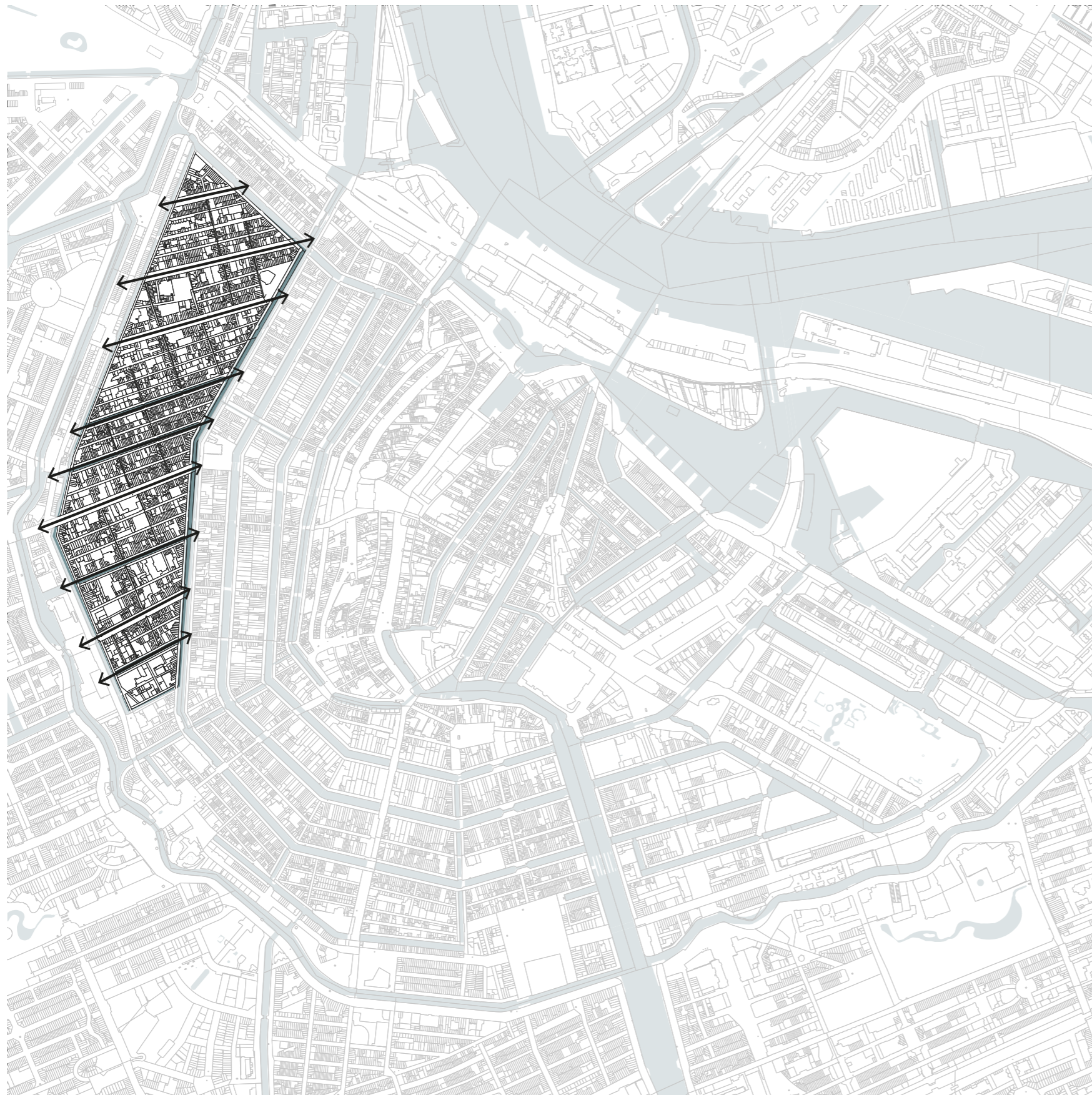
Is traditional urban design bound to specific times, or is there more to it?

Typomorphological Study

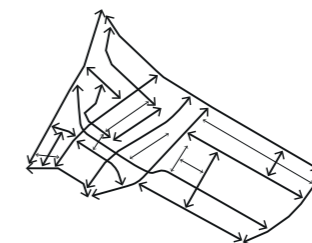
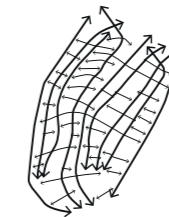
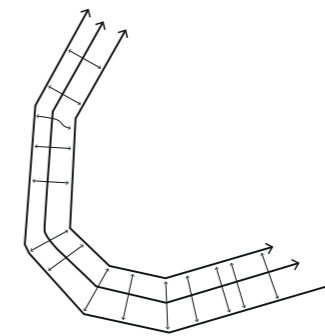
Exploring urban form

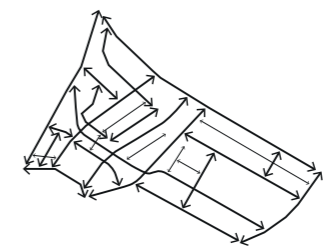
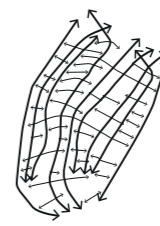
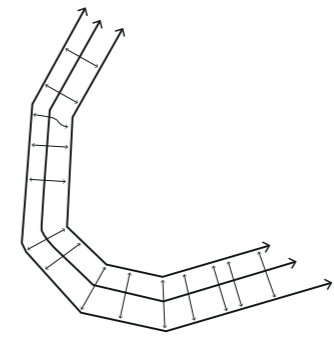
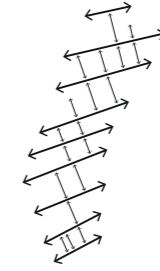
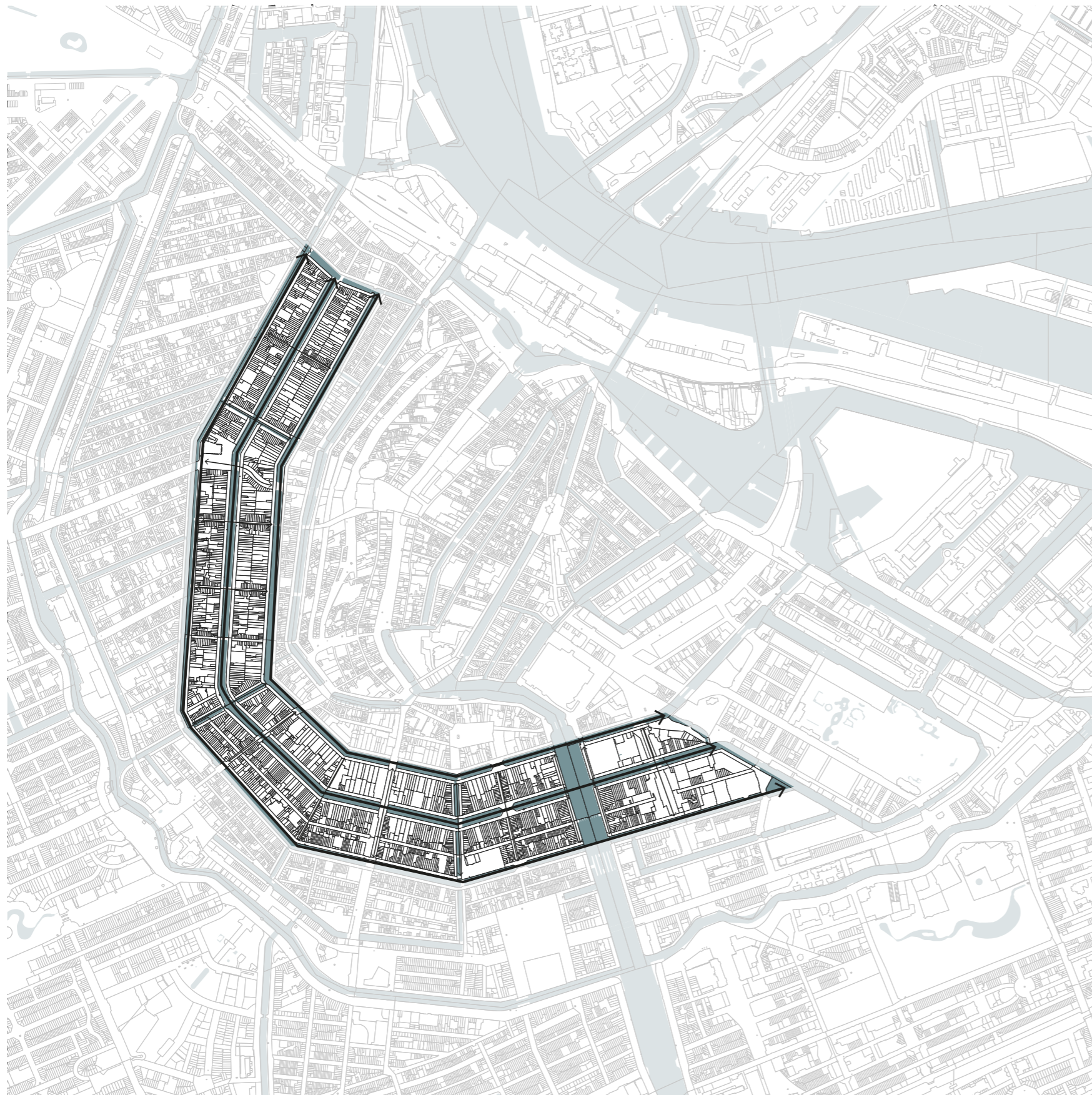


- 1. Jordaan
- 2. Canal Belt
- 3. Historic Core
- 4. 'Eastern Islands'

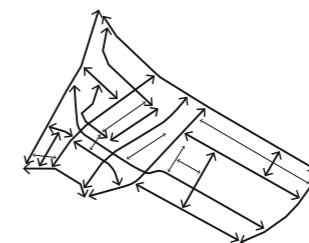
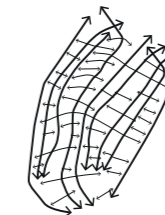
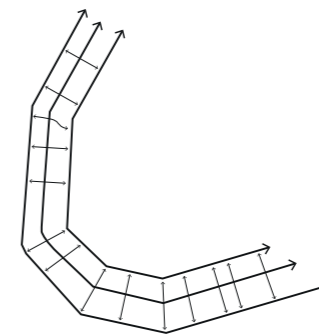
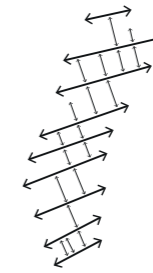
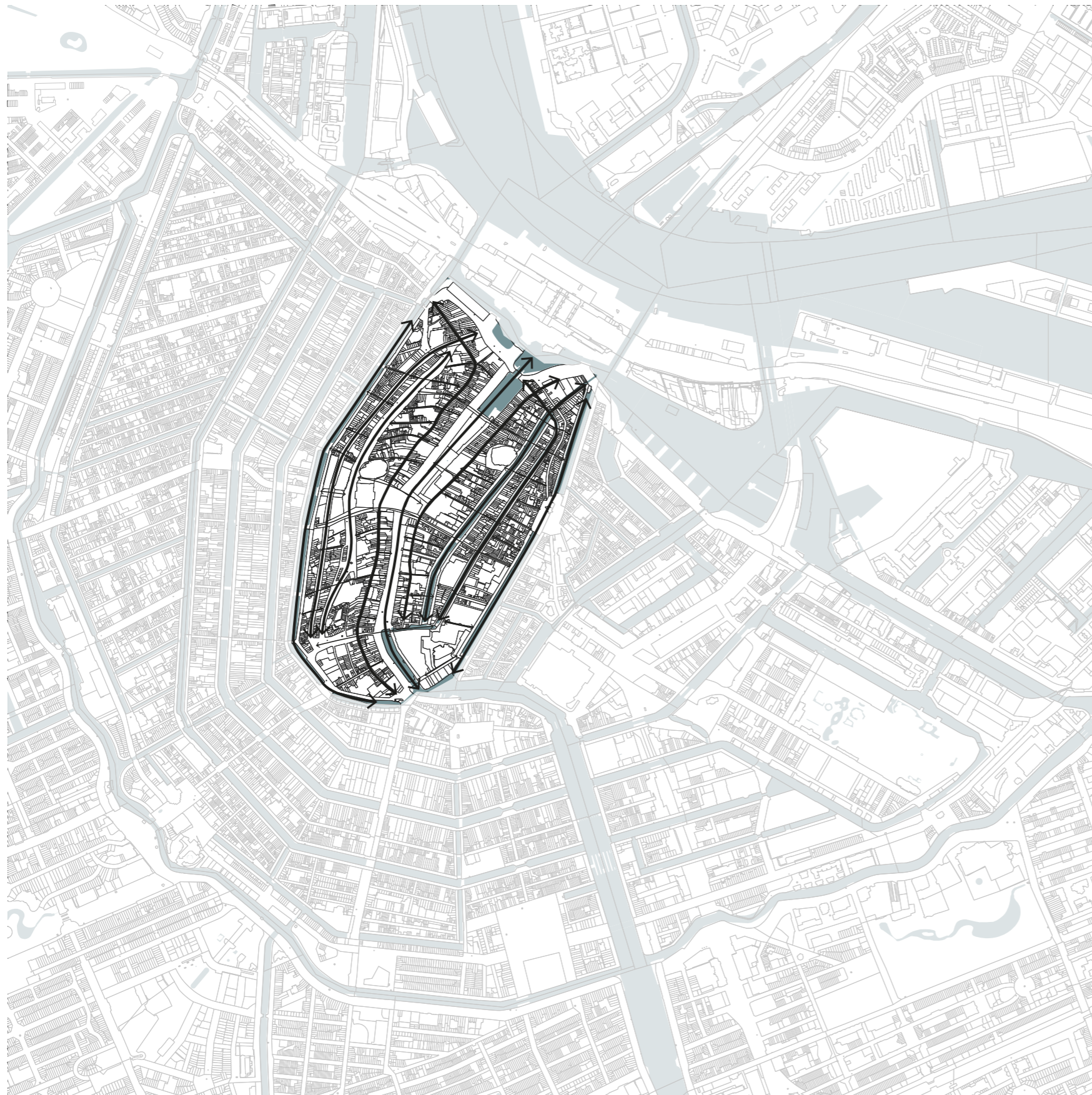


Jordaan
Natural landscape
Smaller plots
Dense blocks

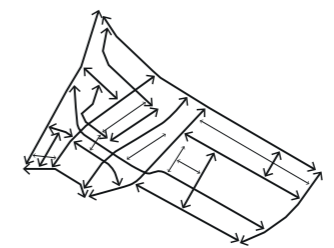
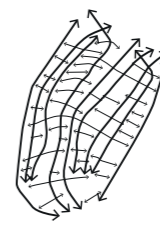
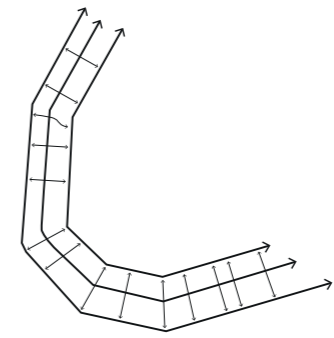
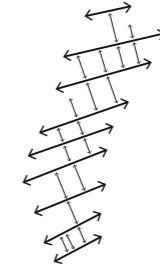
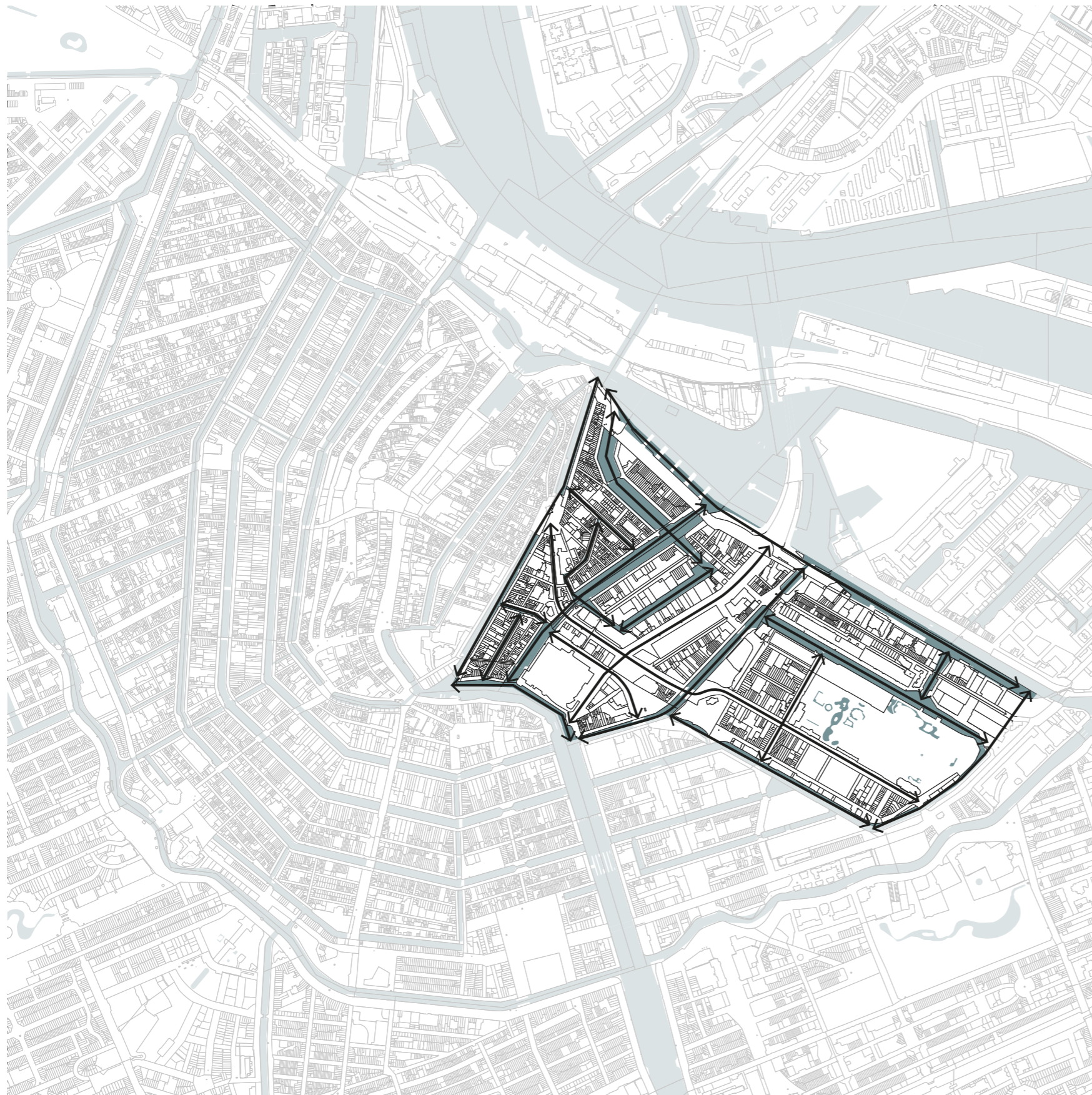




Canal Belt
Rational plan
Longer plots
Spacious blocks

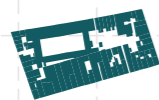


Historic Core
Natural Landscape
Irregular plots
Playful blocks



Eastern Islands
Rational Plan
Difficult Plots
Larger blocks

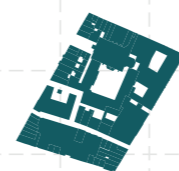
Jordaan



Canal Belt



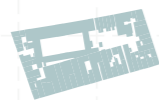
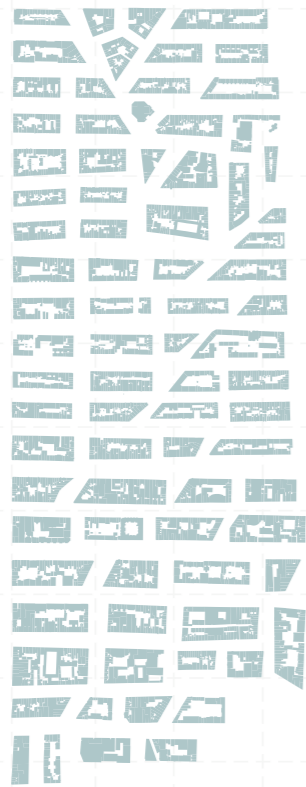
Historic Core



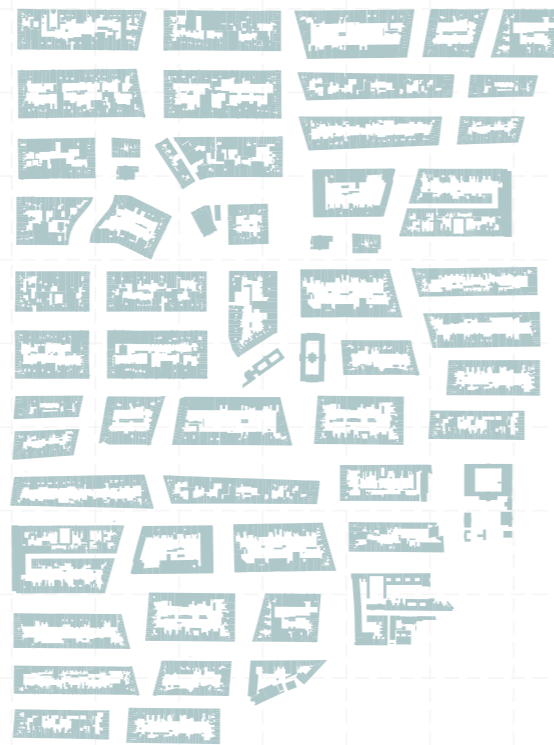
Eastern Islands



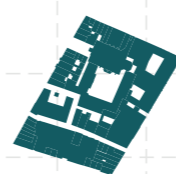
Jordaan



Canal Belt



Historic Core



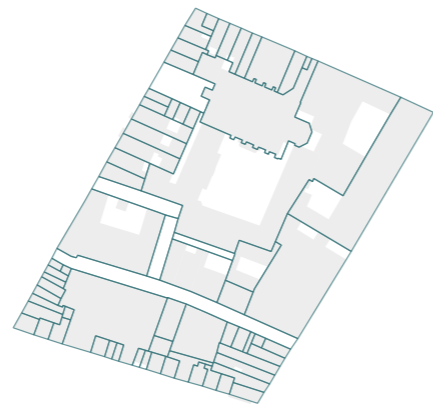
Eastern Islands



Historic Core

Urban richness within the block

- Before - 1350
- 1350 - 1500
- 1500 - 1650
- 1650 - 1750
- 1750 - 1850
- 1850 - 1900
- 1900 - 1950
- 1950 - 1980
- 1980 - 2000
- 2000 - After



Parcel Infill



Building Year

- Building
- Plot

- Cafe & Bars
- Restaurant
- Commercial Retail
- Local Retail
- Storage
- Hotel
- Residential
- Cinema & Culture
- Parking
- Healthcare
- Sport
- Personal Wellness
- Office & Studio
- Research Institute
- Religion



Building Use Ground Floor



Building Use 2nd Floor

- Public Building
- Semi Private
- Private



Degree of Public Access

- Infill Building
- User Flow

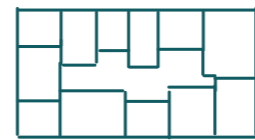


Internal Block Circulation



Principles of Traditional urban design

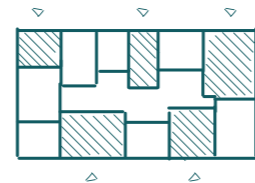
Evolutionary Framework



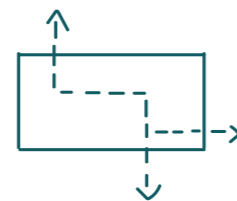
Diversity in plot & typology



Diversity in uses



Degree of public access



Internal block circulation

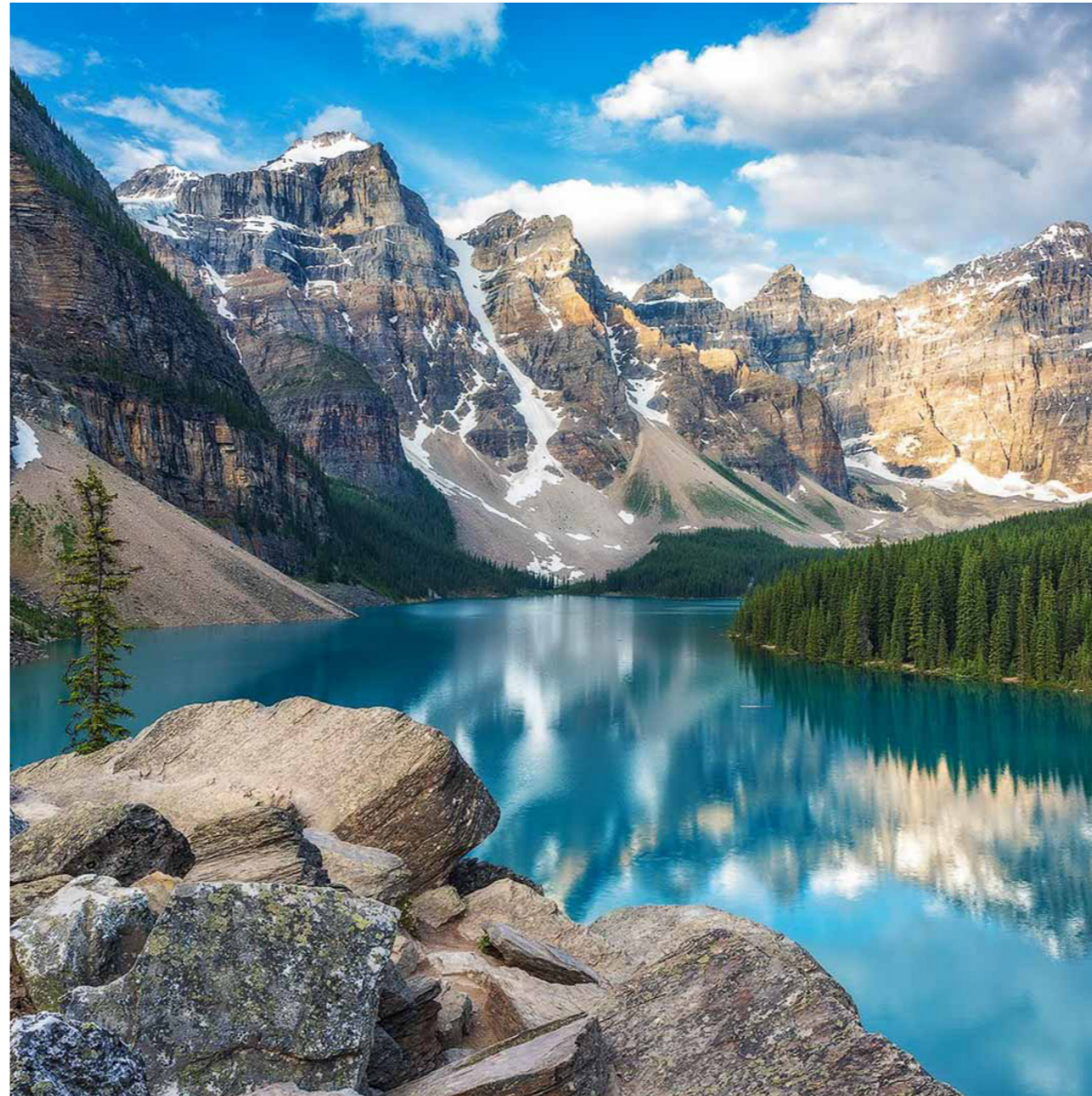


High adaptability

Takeaway

Traditional urban design is not defined by style or era, but by the coherence and adaptability of the urban block as an evolutionary framework.

How does **Environmental Psychology** influence the user-experience in urban spaces?



Banff National Park, Canada

Preference Matrix Model

	UNDERSTANDING	EXPLORATION
Immediate	Coherence Organization – Ease in which the environment can be read or understood	Complexity Richness – Variety of objects [<i>rather than the number of objects</i>]
Inferred	Legibility Wayfinding – Ease of understanding orientation	Mystery^s Sustained interest – Potential for more information

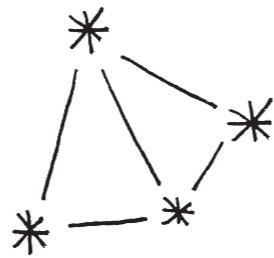
Kaplan & Kaplan, 1989



Coherence



Complexity



Legibility



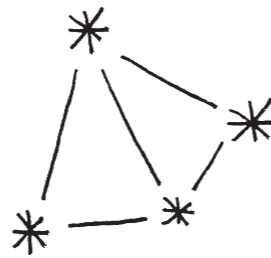
Mystery



Coherence



Complexity



Legibility



Mystery

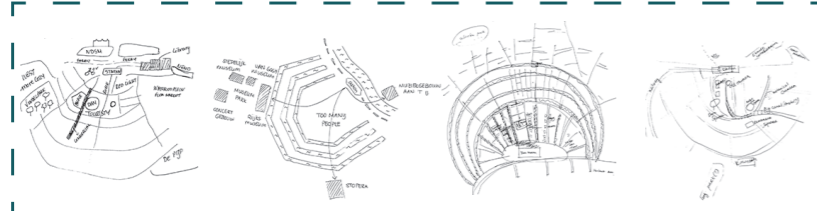
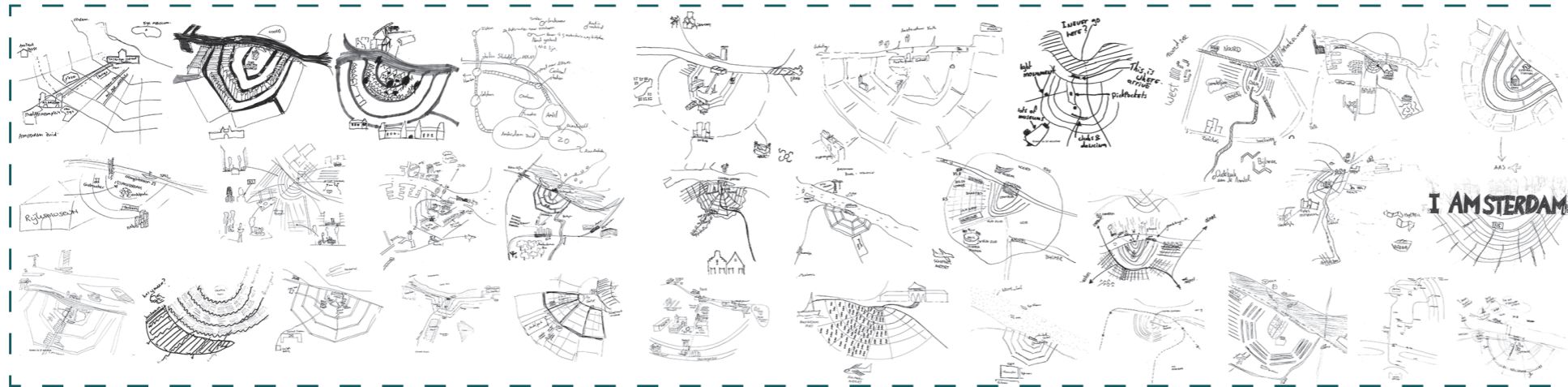
Mental Mapping

The quality of Landmarks

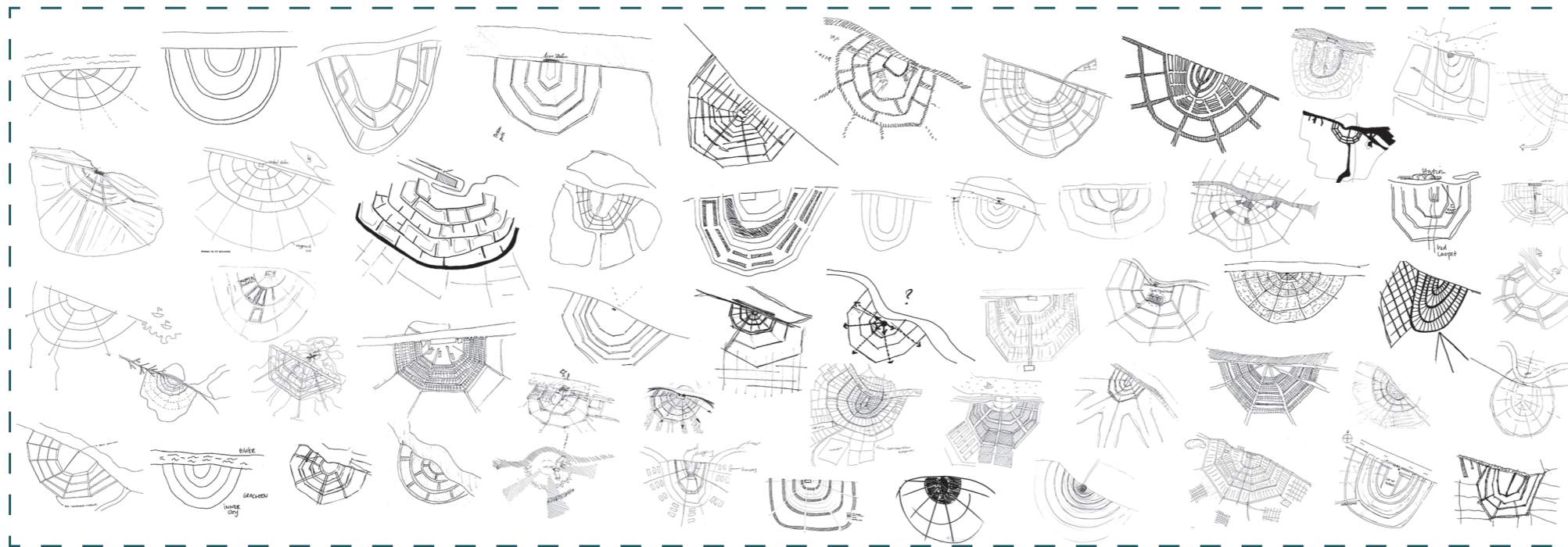
Data Base provided
by Maurice Harteveld

Use of landmarks mostly
by Dutch students

More Accurate

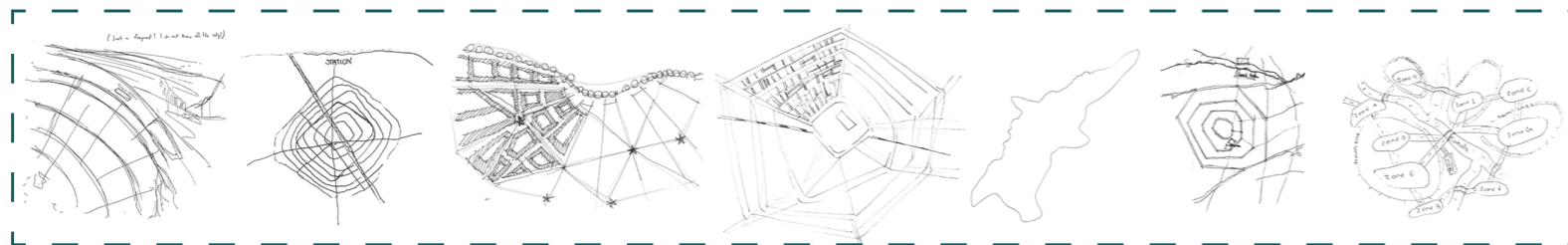


Stopera + study area
mentioned by students



Concentric semi-
circles recognized by
mostly international
students

Less Accurate



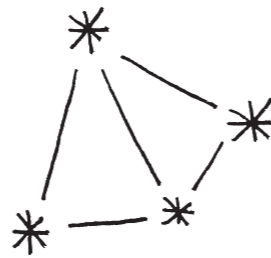
Different structures
drawn by students less
familiar with Amsterdam



Coherence



Complexity



Legibility



Mystery



Coherence



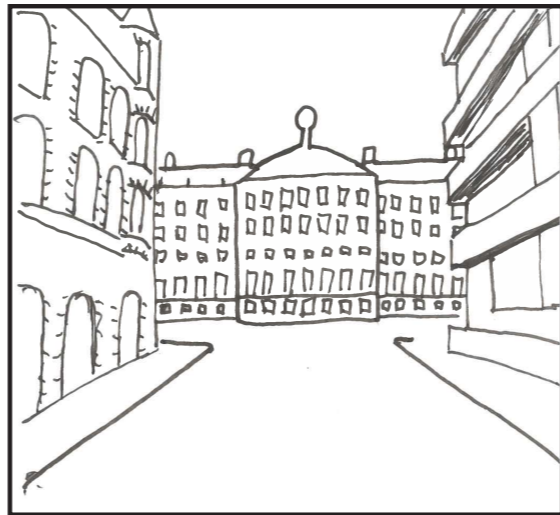
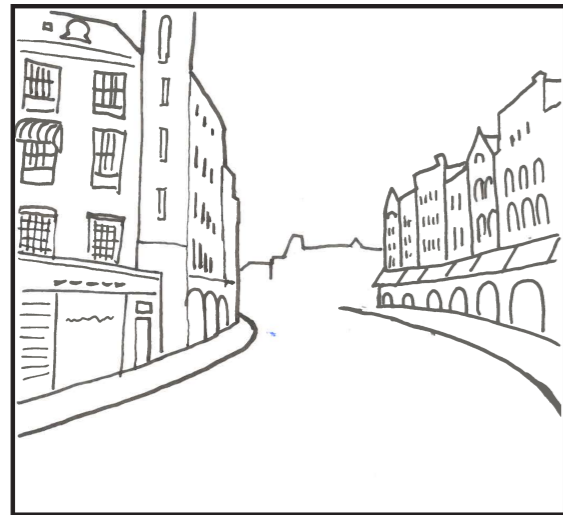
Complexity



Legibility



Mystery



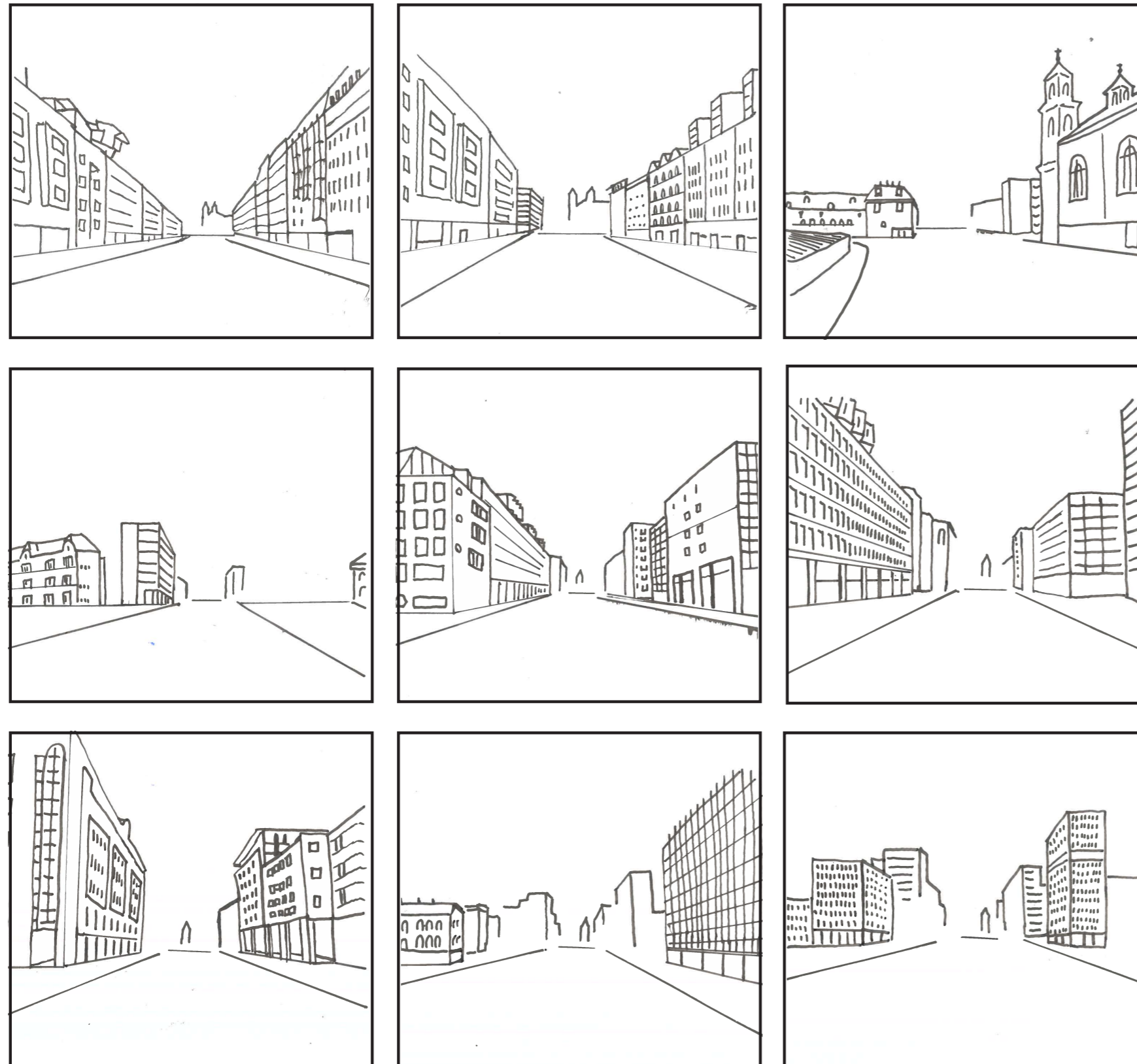
Traditional Urban Route

Moving through the 'Picturesque'

Townscape principles of Gordon Cullen

Route along the Royal





Modern Urban Route

Moving through the 'Repetetive'

Townscape principles of Gordon Cullen

Route along the Stopera

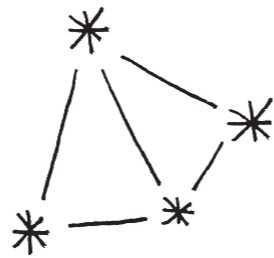




Coherence



Complexity



Legibility



Mystery



Coherence



Complexity



Legibility



Mystery

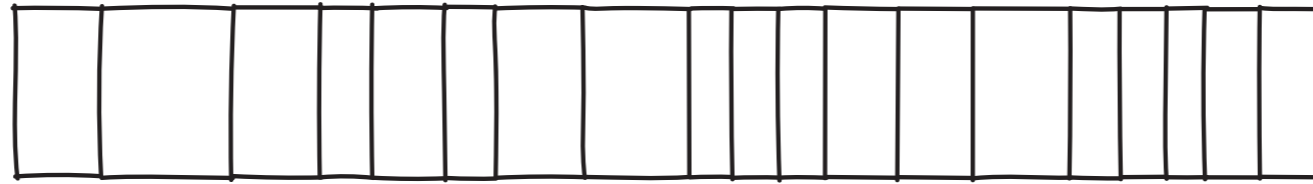
Coherence like a Medoly

Zwanenburgwal across the Stopera

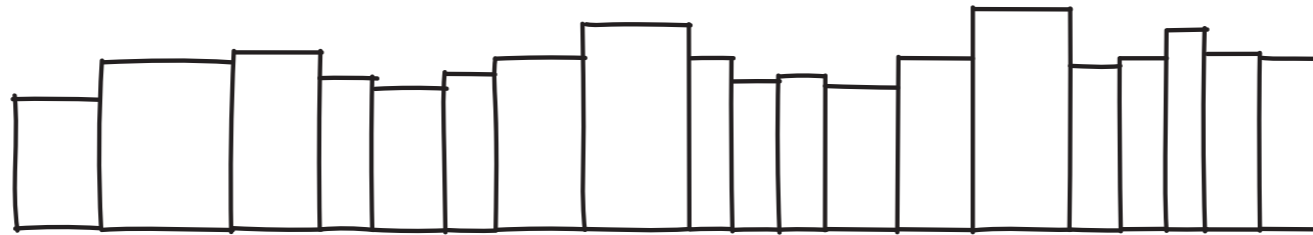


Zwanenburgwal

Dimension



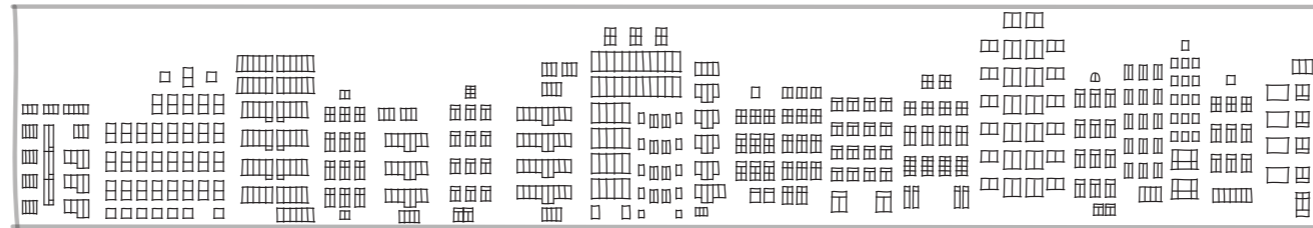
Height



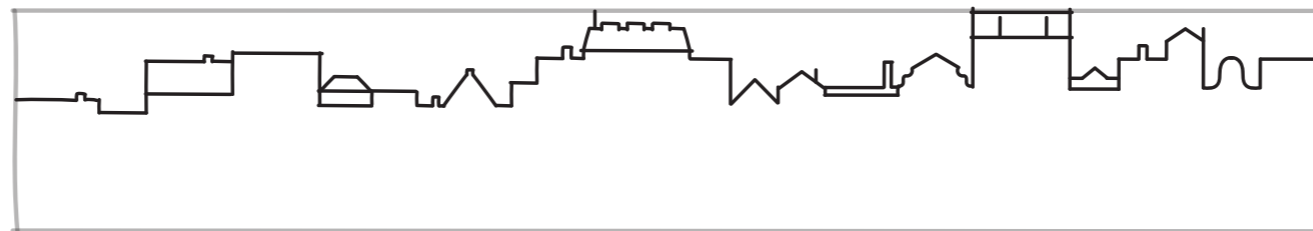
Color



Rhythm



Roof



Plinth



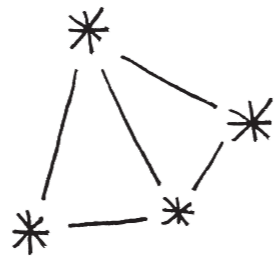
Facade through lenses



Coherence



Complexity



Legibility



Mystery



Coherence



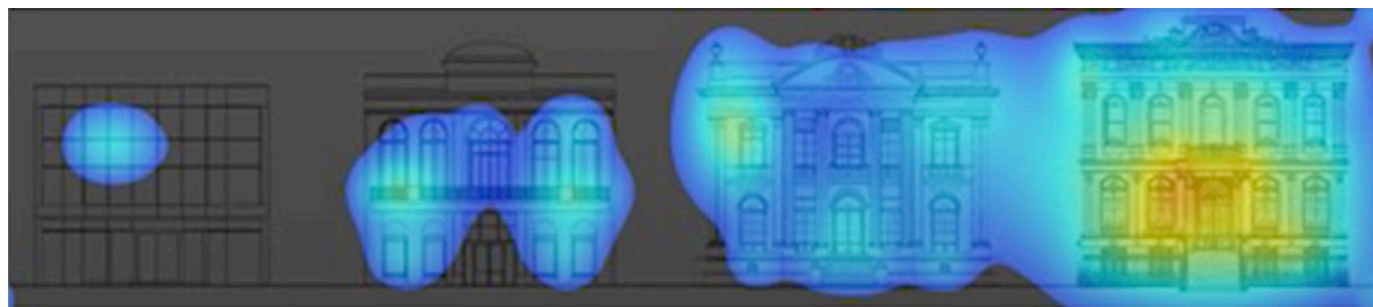
Complexity



Legibility



Mystery



Variety of Detail

Human Visual Behaviour

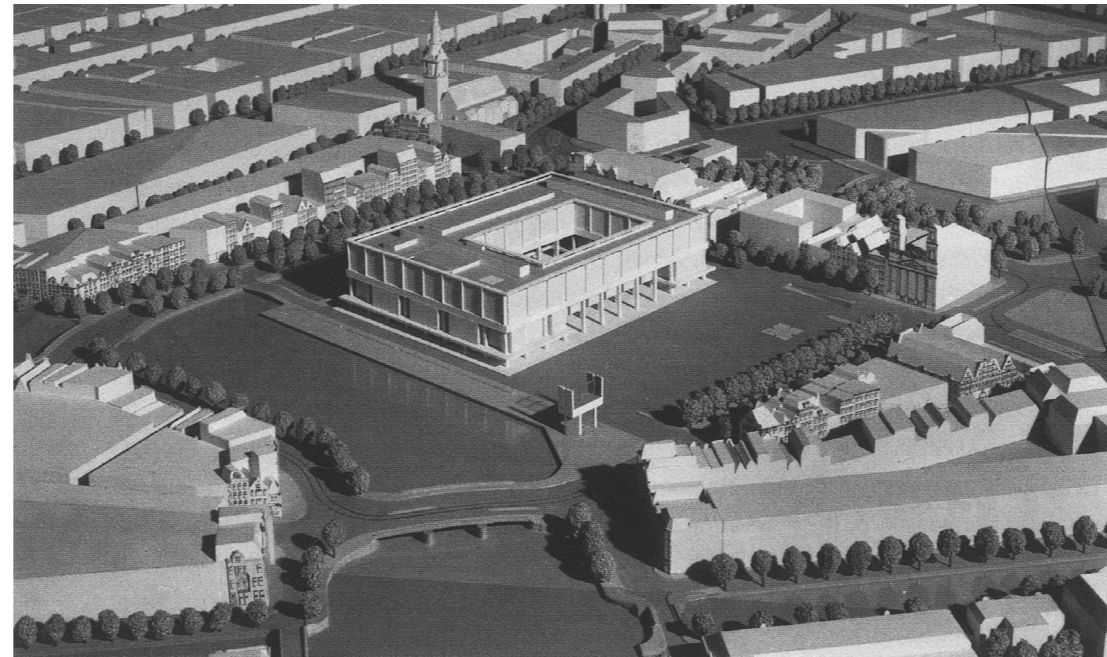
Eye tracking study by
Brandon R. Ro & Xavier Parareda (2024)



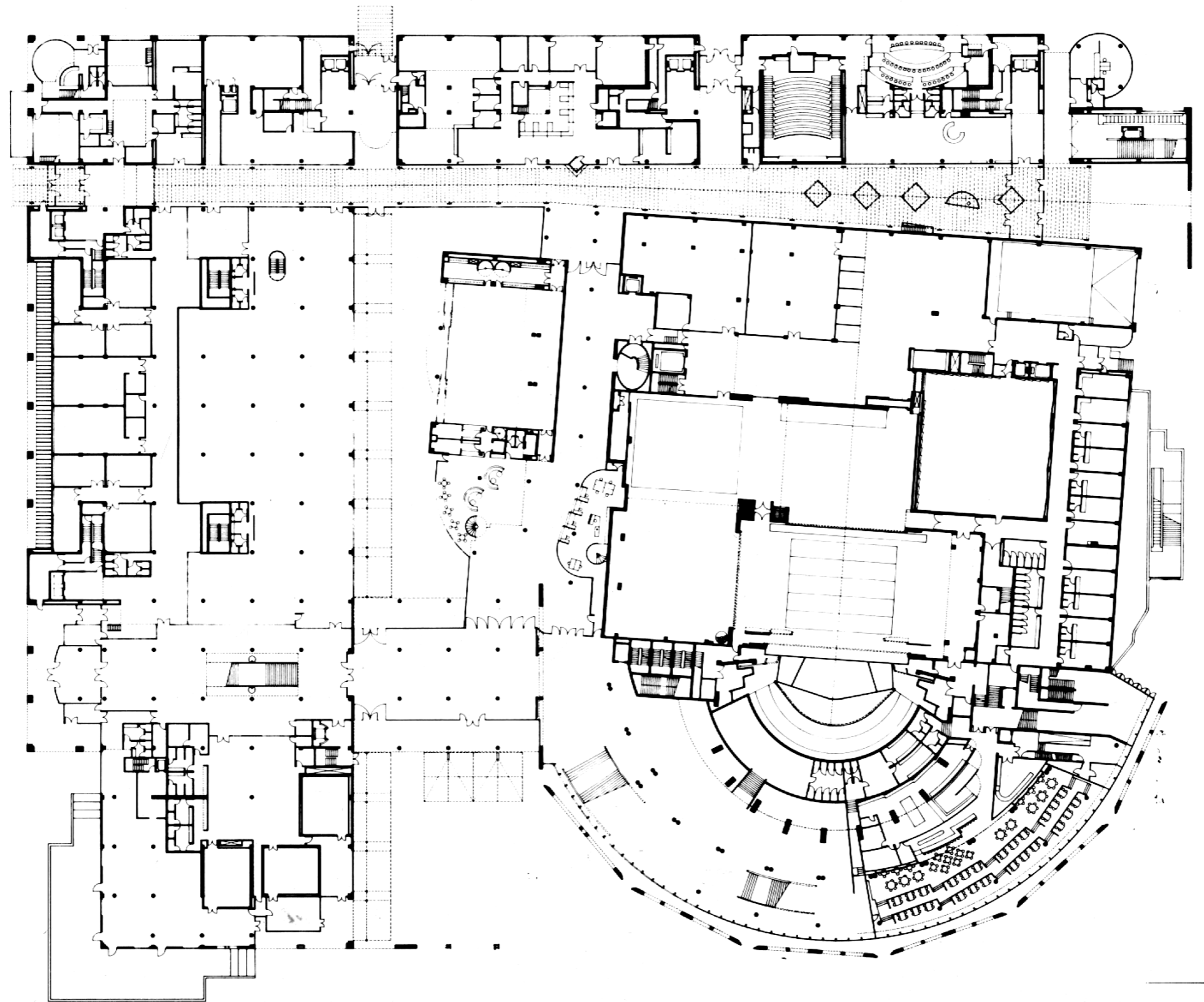
Takeaway

Legibility, coherence, complexity, and mystery shape how we perceive and enjoy space. When balanced, they foster engagement and contribute to human well-being.

How do the principles of traditional urban design **Contrast with Modernist** and contemporary design approaches?



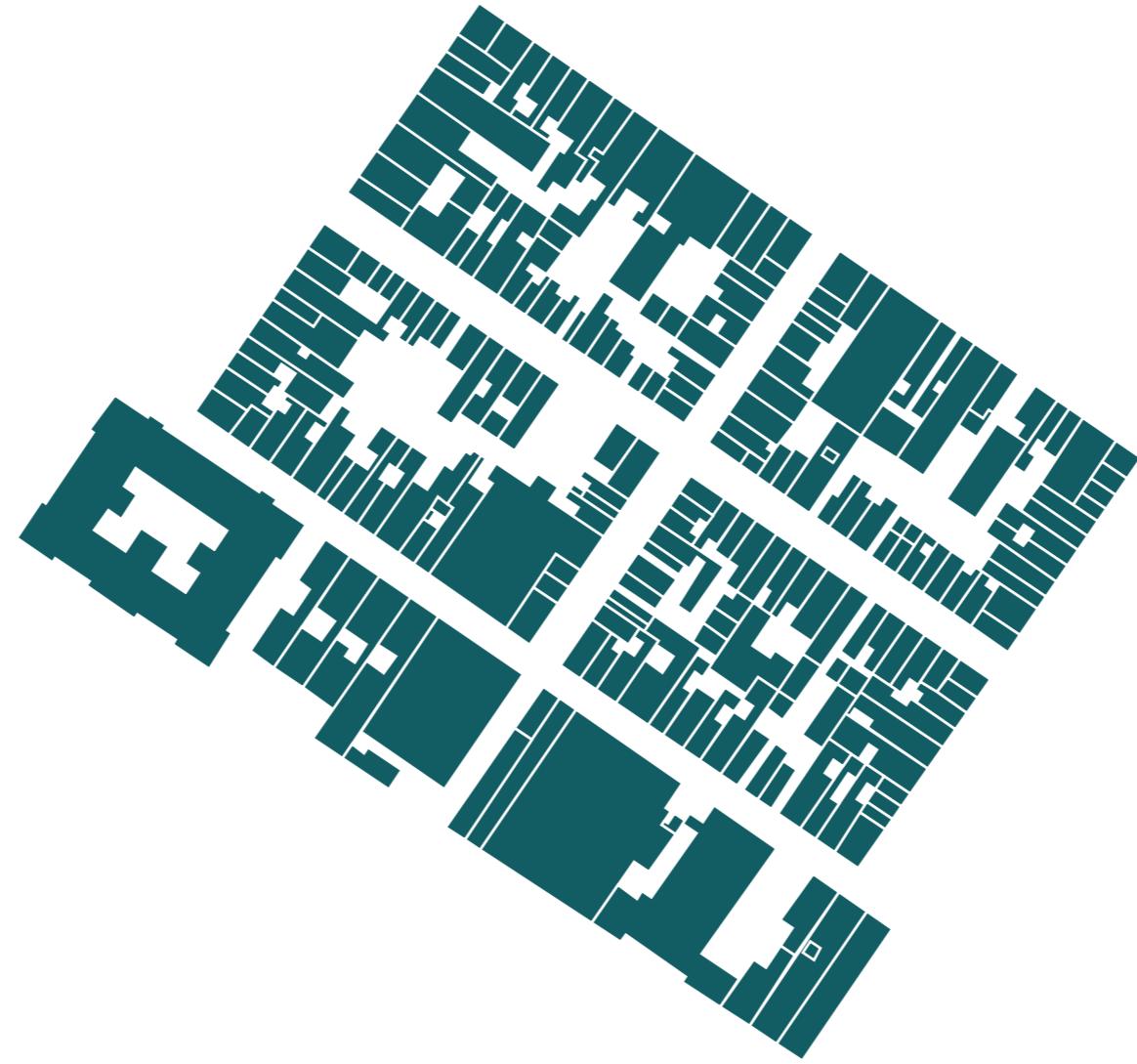
The struggle of designing
the new town hall



Stopera floorplan



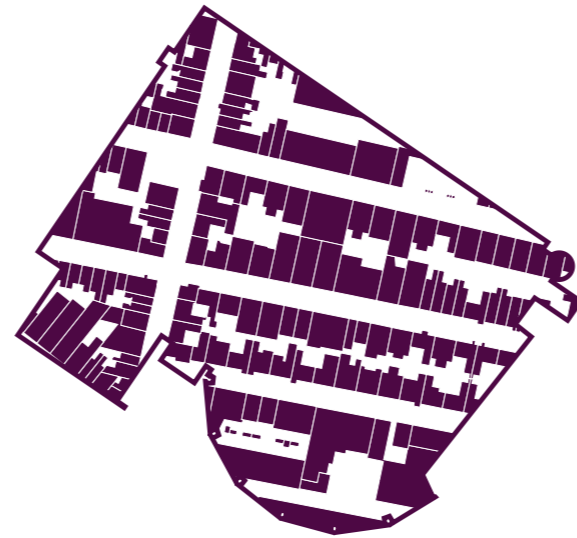
Stopera, 1986



Vlooienburg, 1875



Kalverstraat



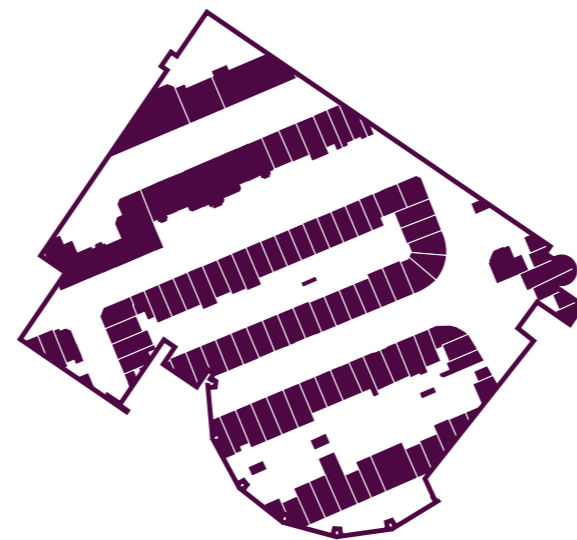
Weteringstraat



Albert Cuypstraat



Rozenstraat



P.C. Hooftstraat

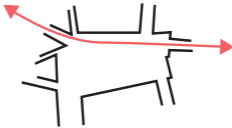


Oosterpark

Neighborhoods in Amsterdam that fit within the current Stopera block

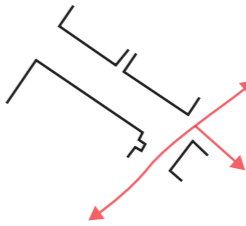
Public Space Comparison

Rembrandtplein



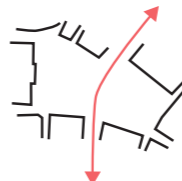
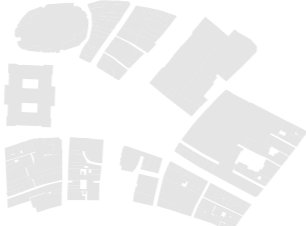
Main Program: Hospitality & Nightlife
Visual/Physical Entrances: 8 Entrances
Surface: 8.500 m²
Diversity Streetfront: 29 Buildings

Waterlooplein



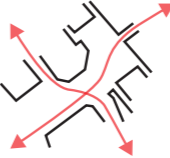
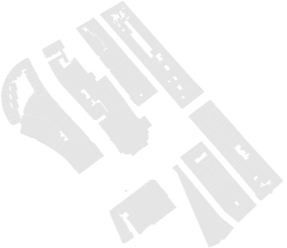
Main Program: (Flea)Market & Culture
Visual/Physical Entrances: 4 Entrances
Surface: 9.500 m²
Diversity Streetfront: 14 Buildings

De Dam



Main Program: Democracy & Tourism
Visual/Physical Entrances: 10 Entrances
Surface: 15.000 m²
Diversity Streetfront: 25 Buildings

Leidseplein



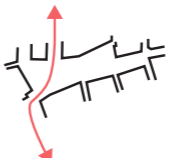
Main Program: Nightlife & Culture
Visual/Physical Entrances: 8 Entrances
Surface: 10.000 m²
Diversity Streetfront: 25 Buildings

Nieuwmarkt



Main Program: Hospitality & Market
Visual/Physical Entrances: 9 Entrances
Surface: 10.500 m²
Diversity Streetfront: 50 Buildings

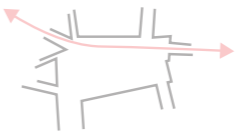
Spui



Main Program: (Book)Market & Hospitality
Visual/Physical Entrances: 10 Entrances
Surface: 6.500 m²
Diversity Streetfront: 32 Buildings

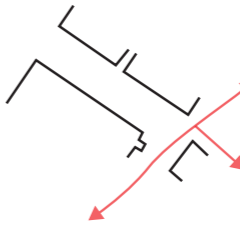
Public Space Comparison

Rembrandtplein



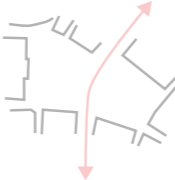
Main Program: Hospitality & Nightlife
Visual/Physical Entrances: 8 Entrances
Surface: 8.500 m²
Diversity Streetfront: 29 Buildings

Waterlooplein



Main Program: (Flea)Market & Culture
Visual/Physical Entrances: 4 Entrances
Surface: 9.500 m²
Diversity Streetfront: 14 Buildings

De Dam



Main Program: Democracy & Tourism
Visual/Physical Entrances: 10 Entrances
Surface: 15.000 m²
Diversity Streetfront: 25 Buildings

Leidseplein



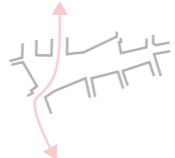
Main Program: Nightlife & Culture
Visual/Physical Entrances: 8 Entrances
Surface: 10.000 m²
Diversity Streetfront: 25 Buildings

Nieuwmarkt



Main Program: Hospitality & Market
Visual/Physical Entrances: 9 Entrances
Surface: 10.500 m²
Diversity Streetfront: 50 Buildings

Spui



Main Program: (Book)Market & Hospitality
Visual/Physical Entrances: 10 Entrances
Surface: 6.500 m²
Diversity Streetfront: 32 Buildings



Takeaway

Where traditional urbanism values gradual growth and human connection, modernist design often seeks efficiency and abstraction, creating distance between architecture and urban life.

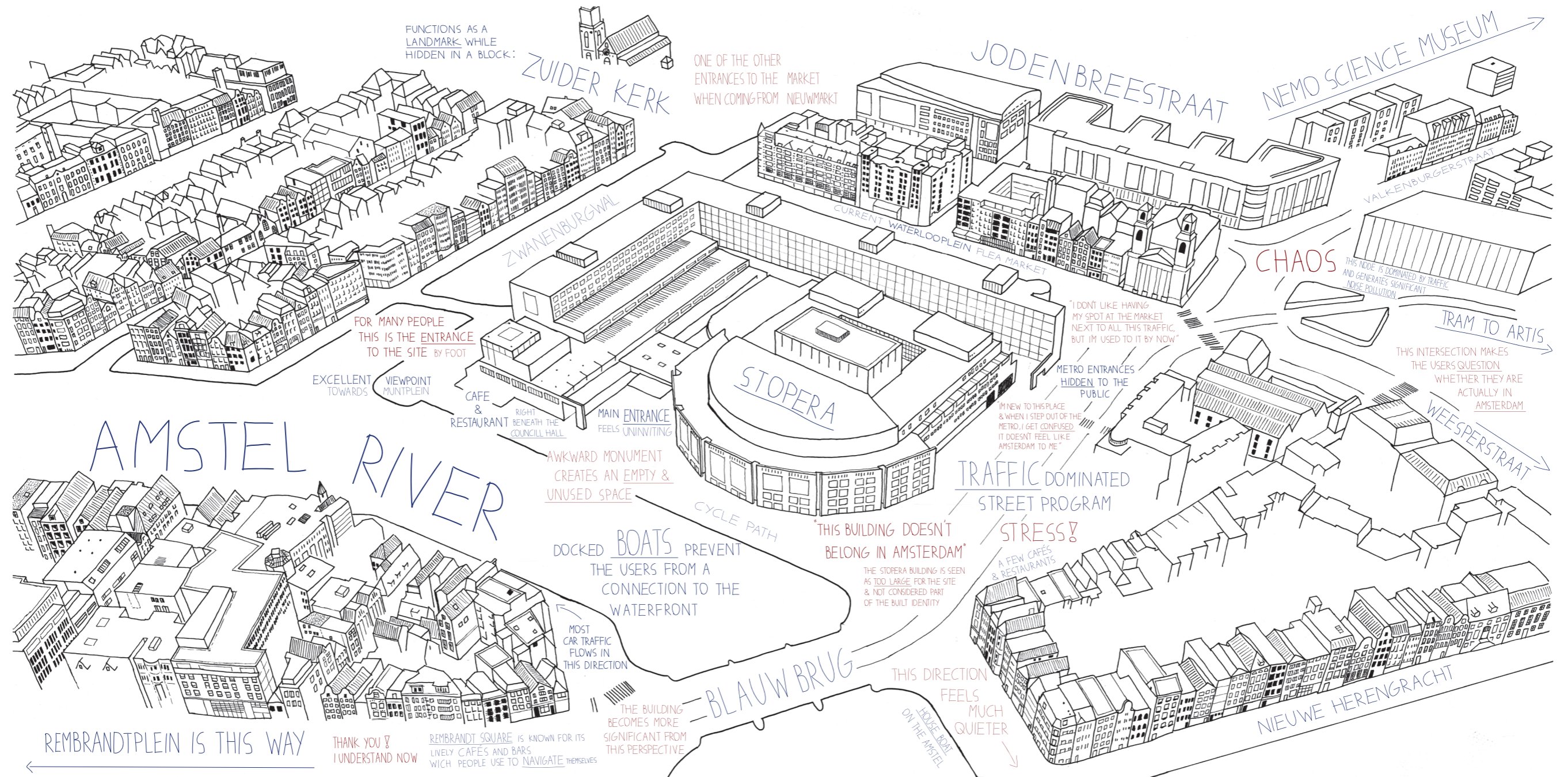
What impact do **Sociocultural Factors** have on the user-experience?

***“First we shape the cities,
then they shape us”***

(Gehl, 2010)

Stopera as Isolated Block

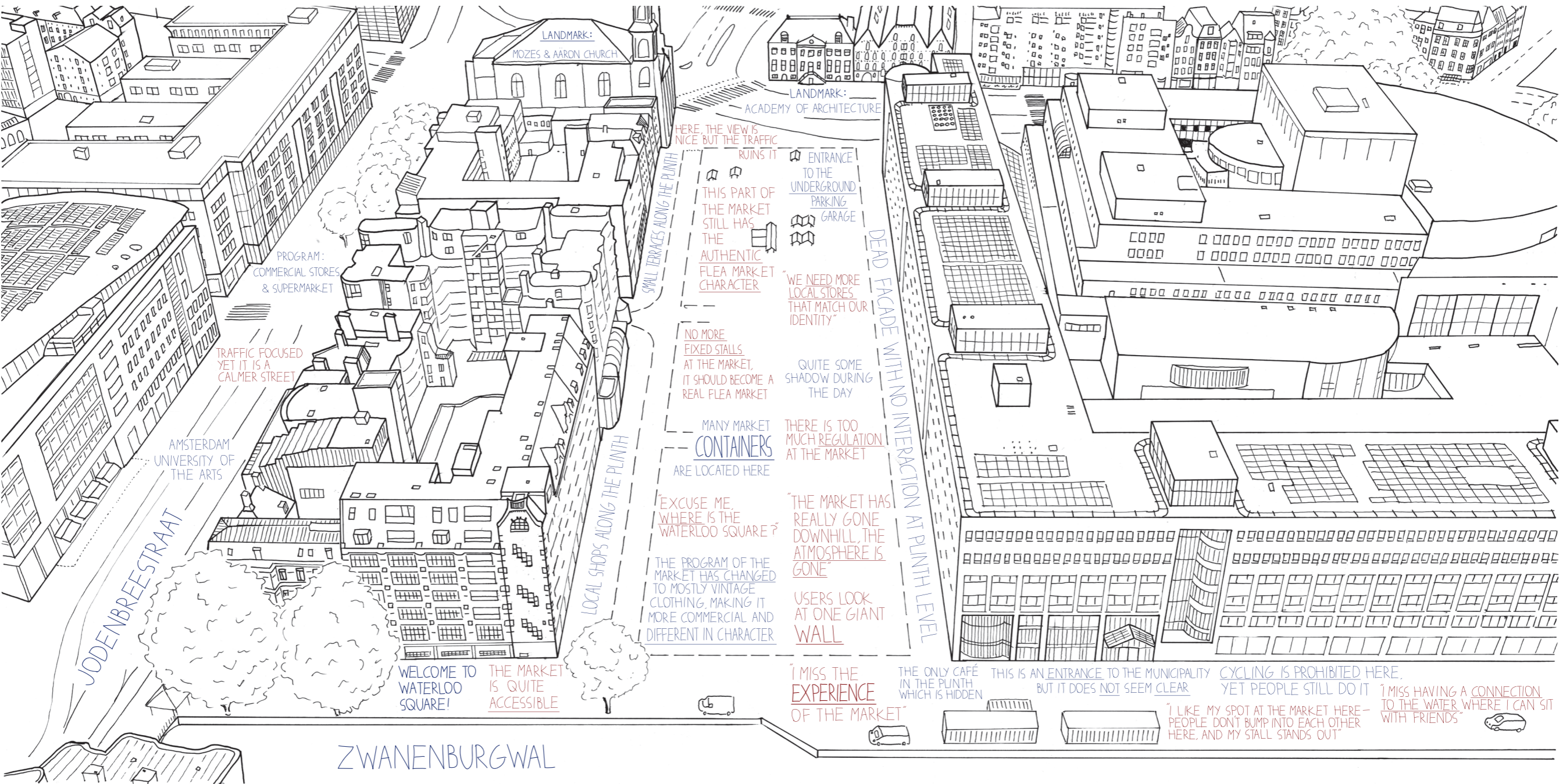
Softmap



- User Perspective
- Urban Designer Perspective

Controversy around the Waterlooplein

Softmap



- User Perspective
- Urban Designer Perspective



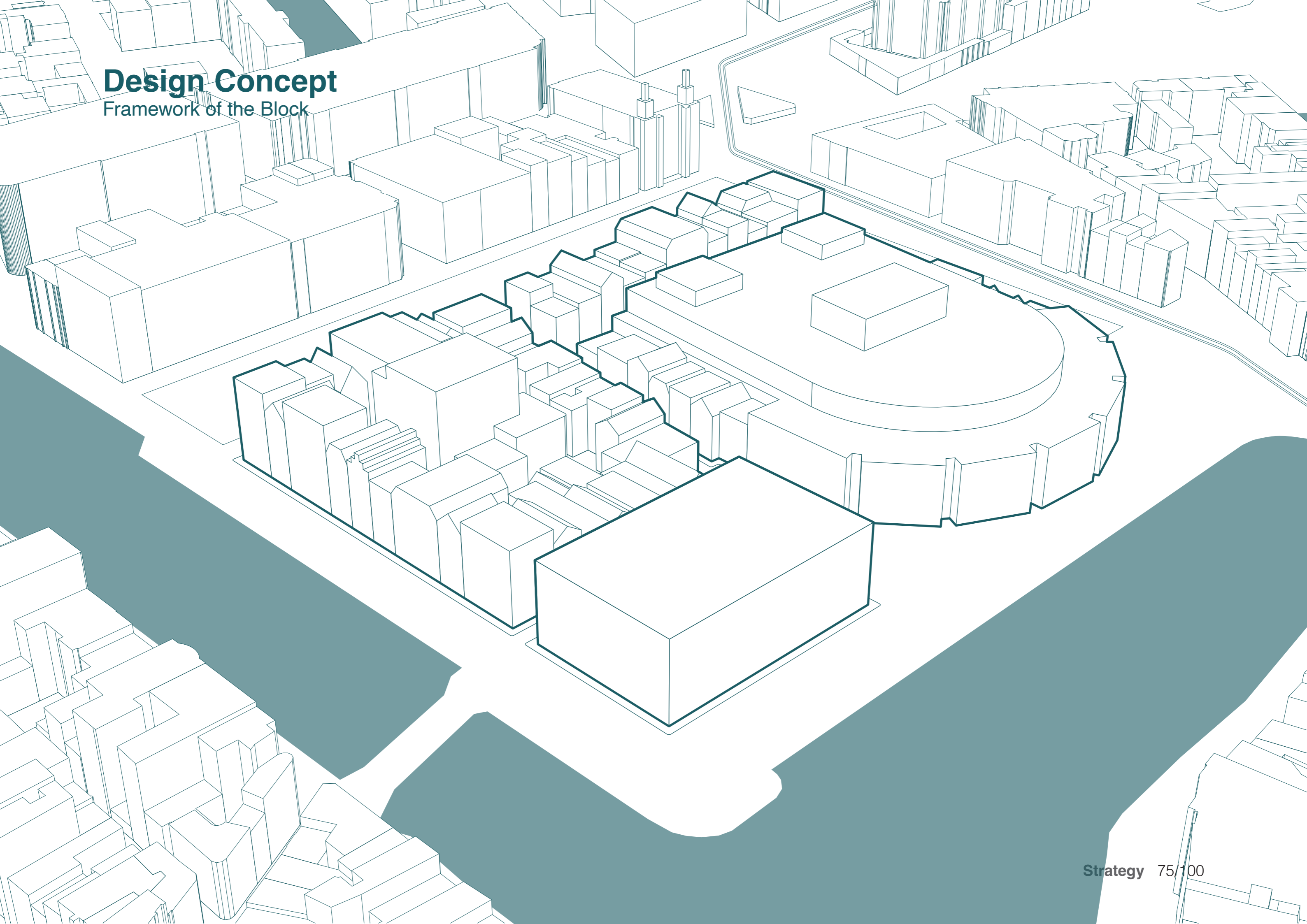
Takeaway

Places gain identity through culture, memory, and shared experience. When design reflects these layers, cities become more resilient and deeply human.

Design Assignment

Design Concept

Framework of the Block



Urban Conditions

Moyses & Aäron Church
The catholic church, built in 1841, visually connects the Waterloo Square and brings the market together.

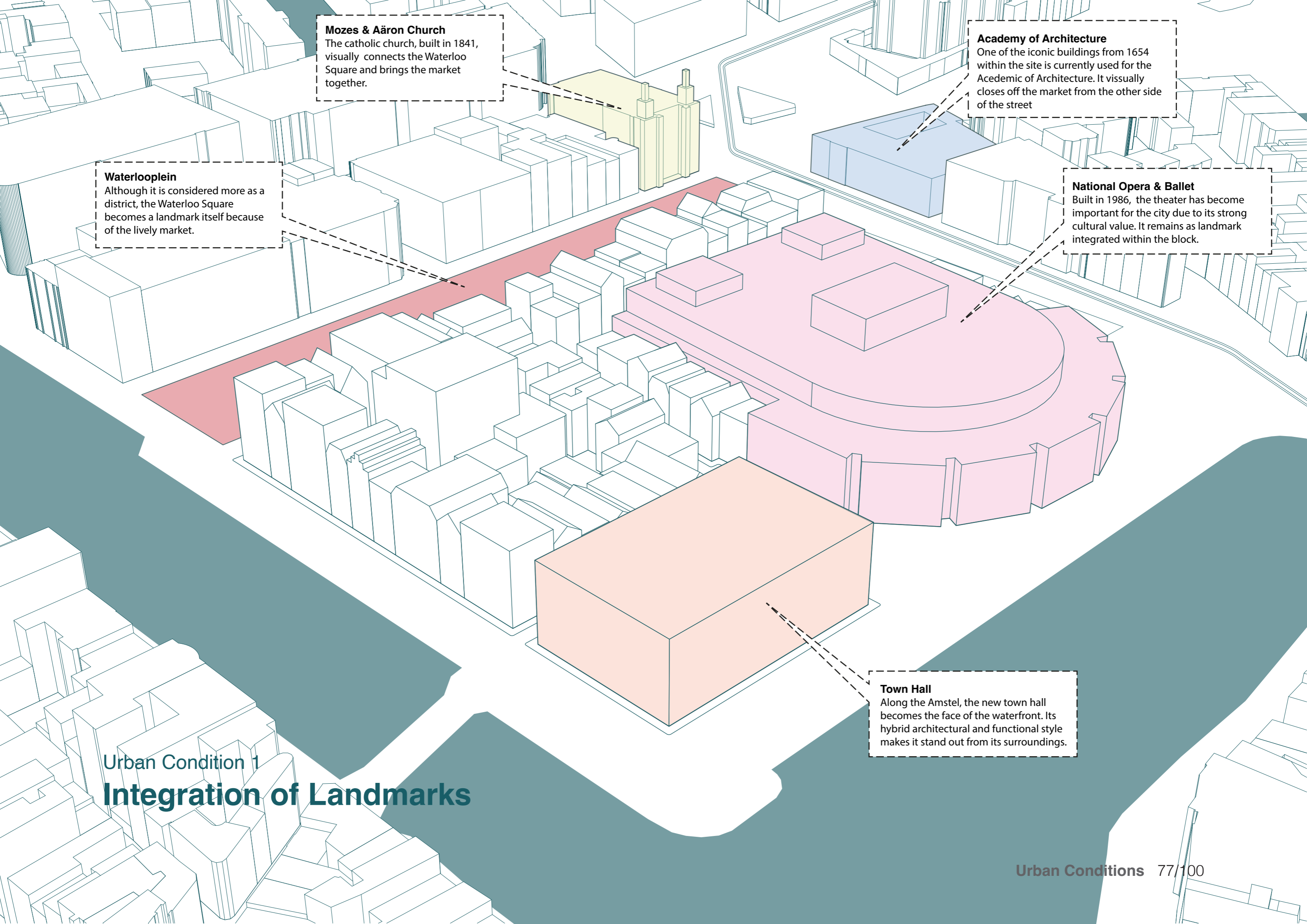
Academy of Architecture
One of the iconic buildings from 1654 within the site is currently used for the Acedemic of Architecture. It vissually closes off the market from the other side of the street

Waterlooplein
Although it is considered more as a district, the Waterloo Square becomes a landmark itself because of the lively market.

National Opera & Ballet
Built in 1986, the theater has become important for the city due to its strong cultural value. It remains as landmark integrated within the block.

Town Hall
Along the Amstel, the new town hall becomes the face of the waterfront. Its hybrid architectural and functional style makes it stand out from its surroundings.

Urban Condition 1
Integration of Landmarks

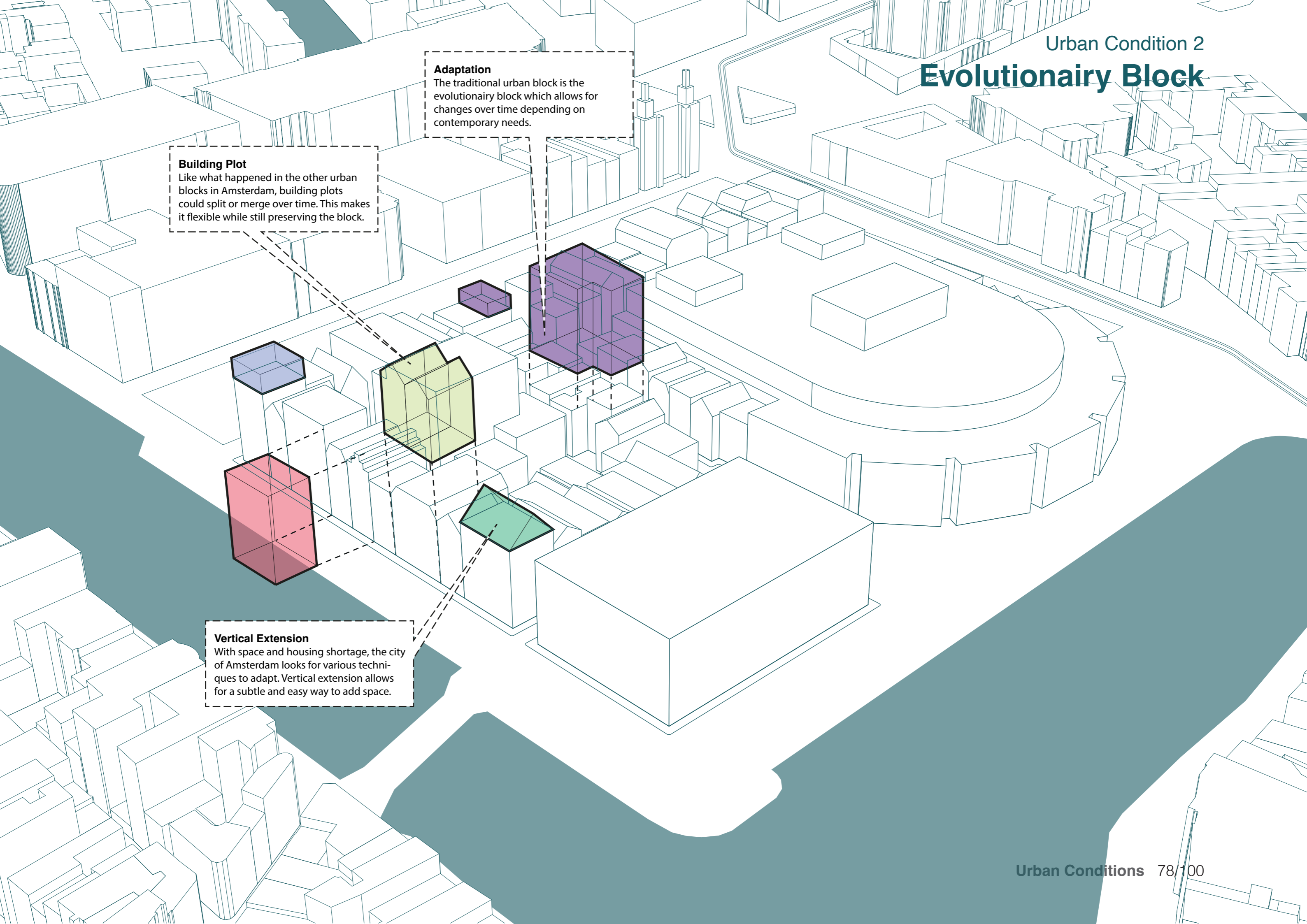


Evolutionary Block

Adaptation
The traditional urban block is the evolutionary block which allows for changes over time depending on contemporary needs.

Building Plot
Like what happened in the other urban blocks in Amsterdam, building plots could split or merge over time. This makes it flexible while still preserving the block.

Vertical Extension
With space and housing shortage, the city of Amsterdam looks for various techniques to adapt. Vertical extension allows for a subtle and easy way to add space.



Permeability through the Block

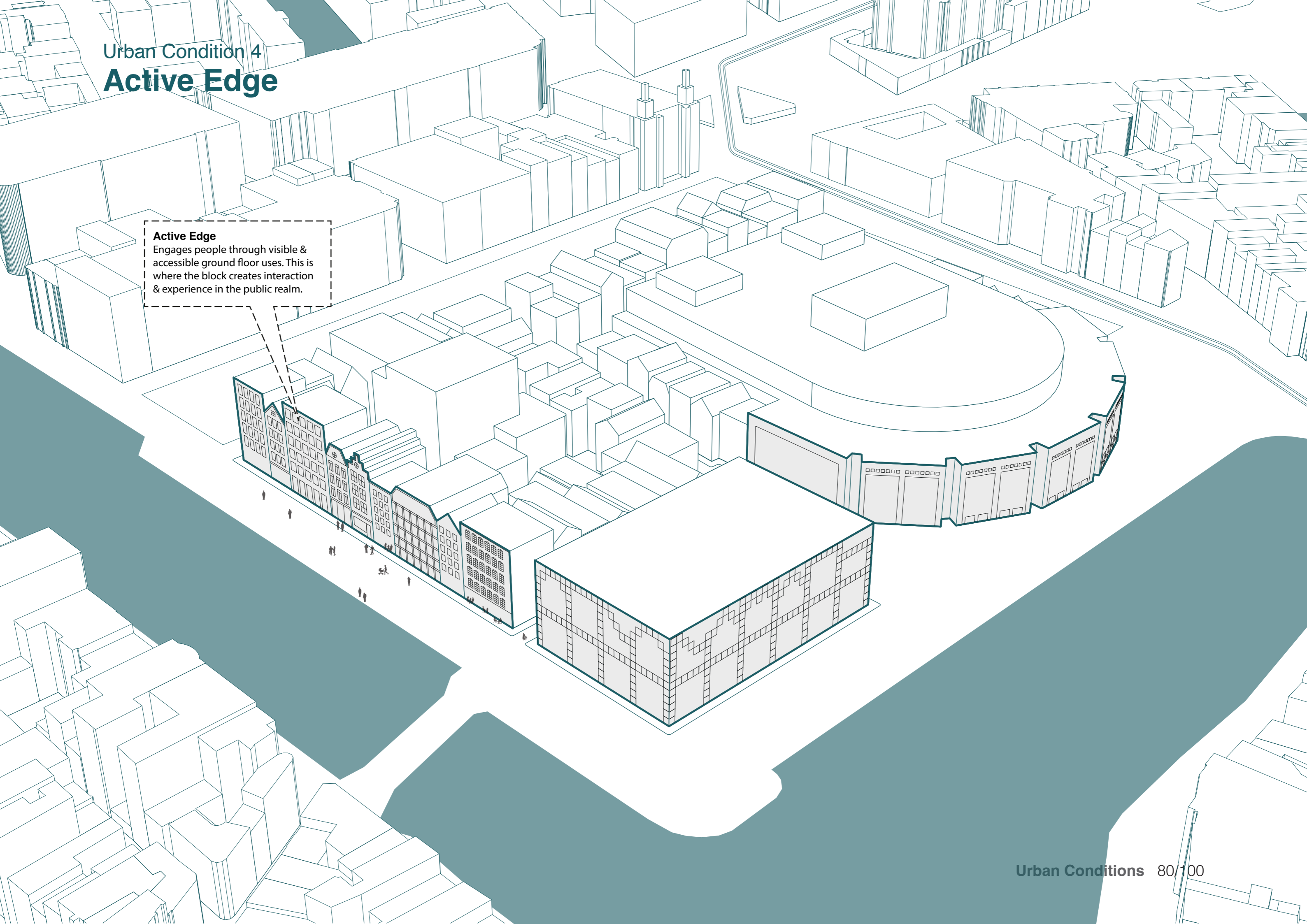
Permeability
The degree of public access throughout the block is high, allowing for a high permeability and internal block circulation.

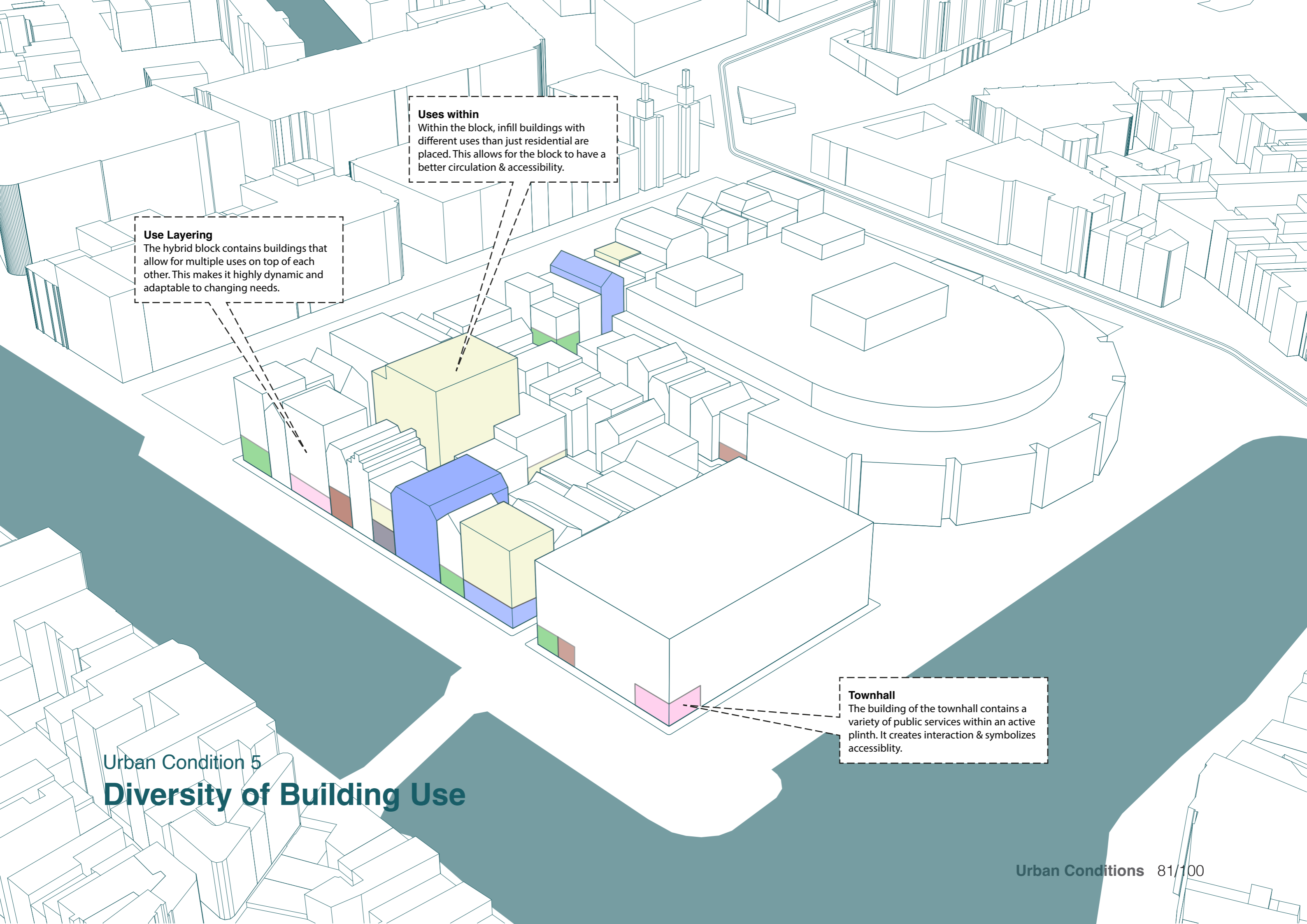
The Courtyard
The block draws people in through a variety of outdoor spaces that differ according to each building's use.

Townhall
Accessible from all sides of the building, it becomes part of the public realm, symbolizing the municipality's openness.

Urban Condition 4 Active Edge

Active Edge
Engages people through visible & accessible ground floor uses. This is where the block creates interaction & experience in the public realm.





Uses within
Within the block, infill buildings with different uses than just residential are placed. This allows for the block to have a better circulation & accessibility.

Use Layering
The hybrid block contains buildings that allow for multiple uses on top of each other. This makes it highly dynamic and adaptable to changing needs.

Townhall
The building of the townhall contains a variety of public services within an active plinth. It creates interaction & symbolizes accessibility.

Urban Condition 5
Diversity of Building Use

Structural Adaptability

Underground

New buildings can make use of the space underneath for a variety of functions such as a supermarket or storage while parking still remains.

Parking

Since parking in Amsterdam remains a challenge, the underground parking garage stays and gets a new entrance & exit that does not disrupt the street.

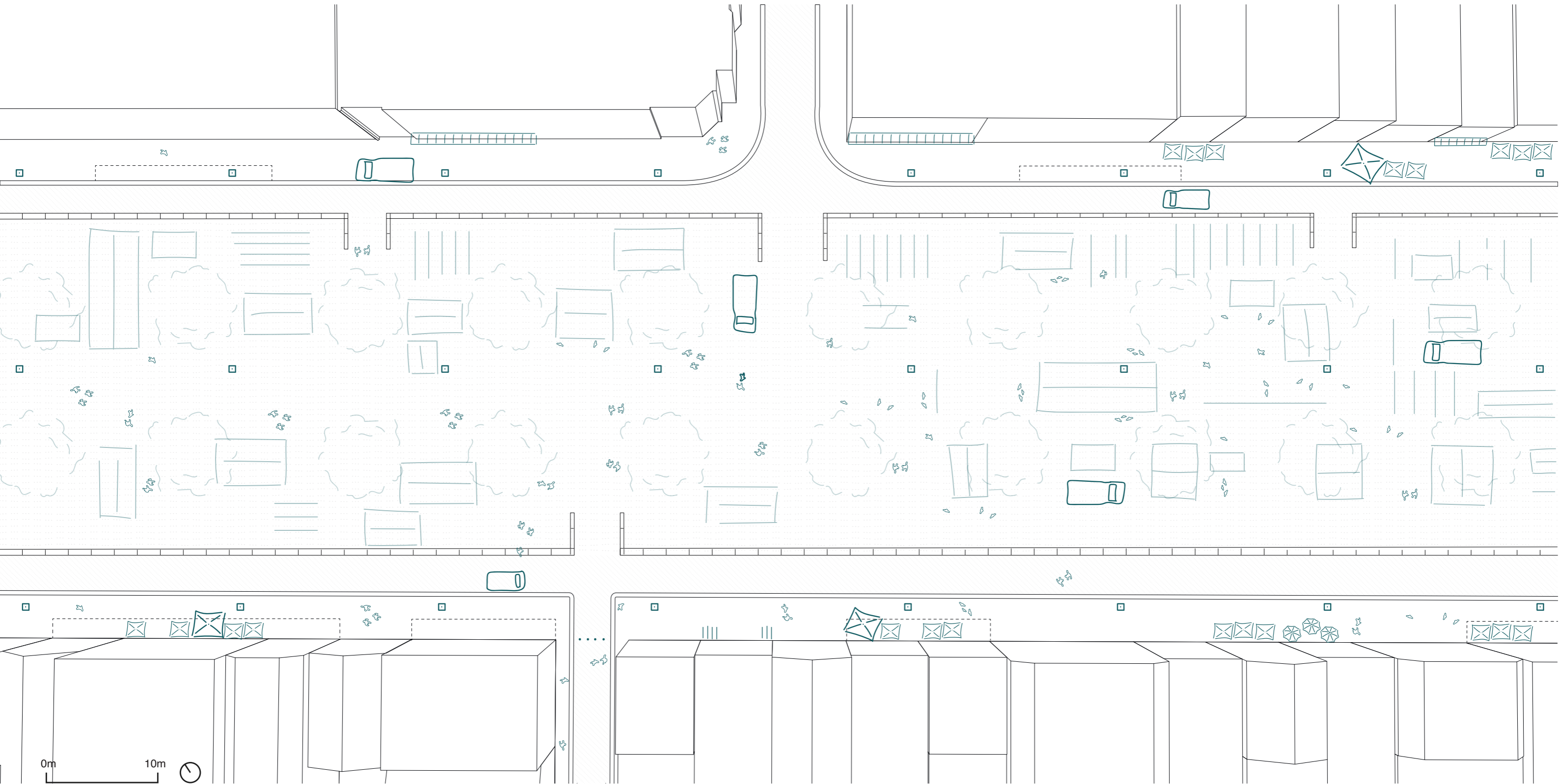
Foundation

The existing foundation of the stopera block is reused which allows for an easier and more sustainable approach to redevelopment.

Design Approach

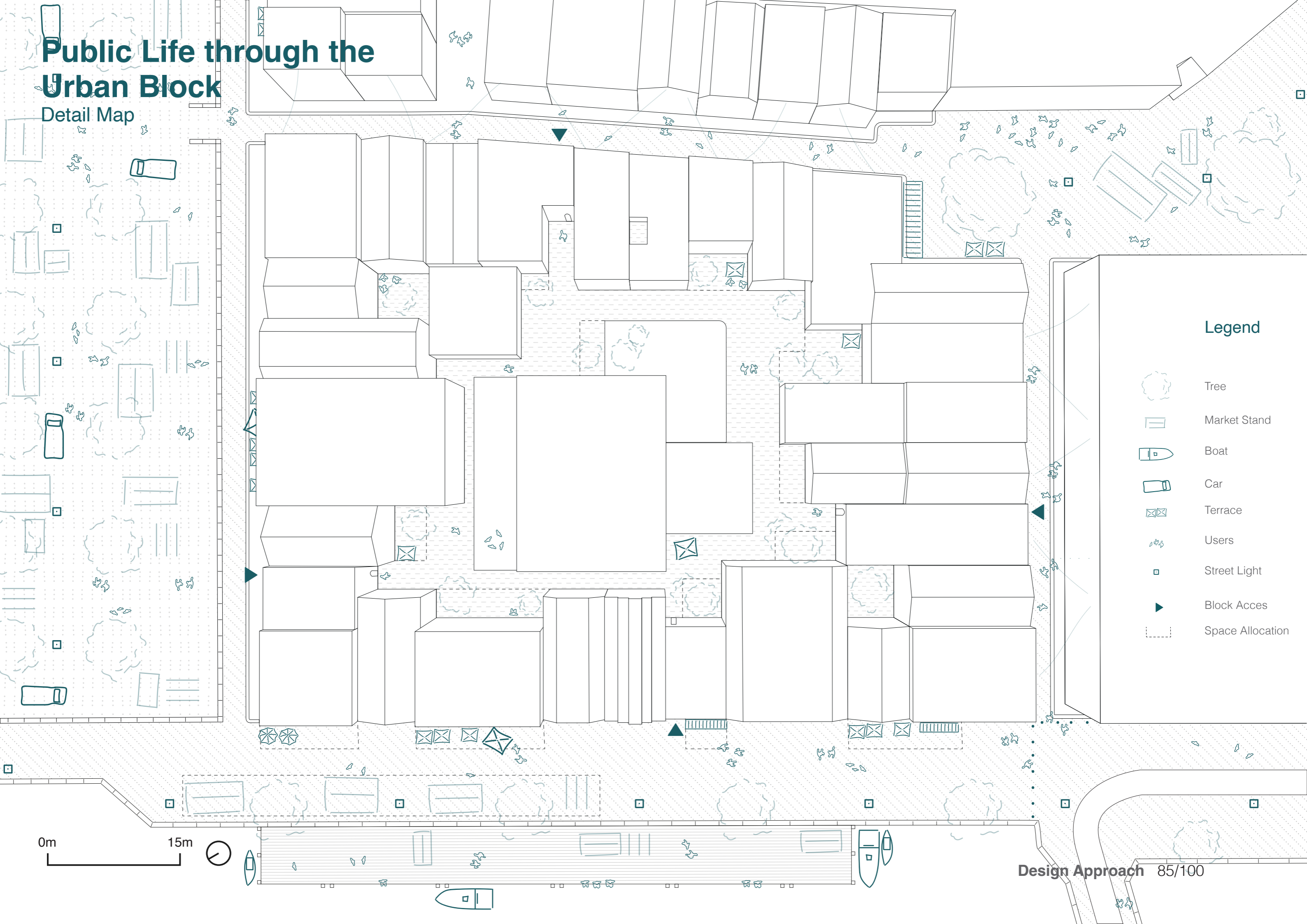
Public life at the Waterlooplein Market

Detail Map












Public Life through the Urban Block

Detail Map



Legend

-  Tree
-  Market Stand
-  Boat
-  Car
-  Terrace
-  Users
-  Street Light
-  Block Access
-  Space Allocation

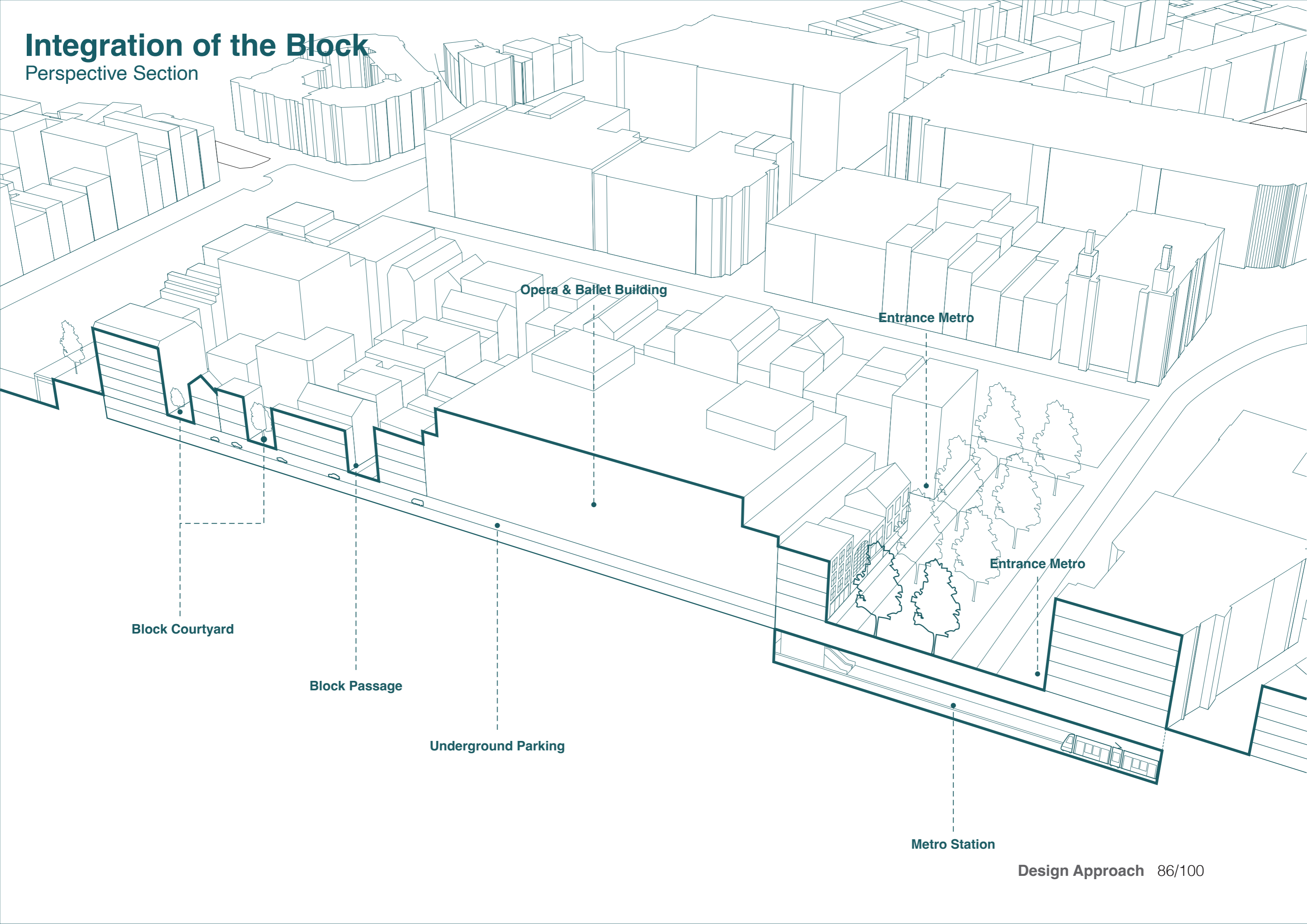
0m 15m



Design Approach 85/100

Integration of the Block

Perspective Section



Opera & Ballet Building

Entrance Metro

Entrance Metro

Block Courtyard

Block Passage

Underground Parking

Metro Station

Public - Private Transition

Perspective Section

Soft Threshold

A soft, inhabited threshold between public & private realms, where different buildings share an active plinth that defines a lively transition space.

Building Use

Within the dynamic hybrid block, the (larger) buildings themselves allow for different uses on different floors such as shared offices and housing.

The Courtyard

Accessible for any user as the block contains infill buildings with different uses. Yet the atmosphere remains semi-private for an intimate character.

Waterfront Deck

The wooden construction allows for the users to connect with the water. It also gives more space for extra activities such as the extension of the market.

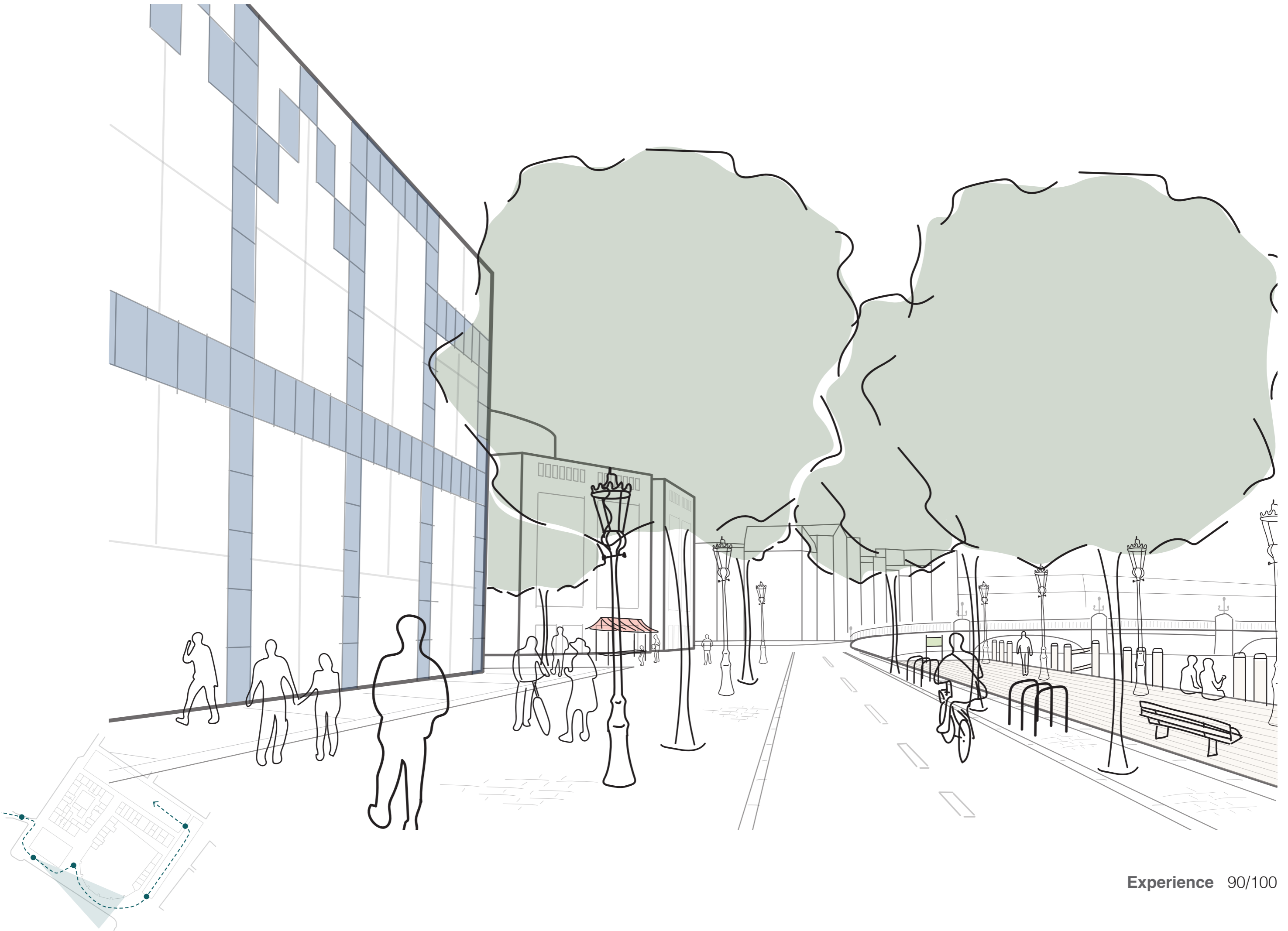
Underground

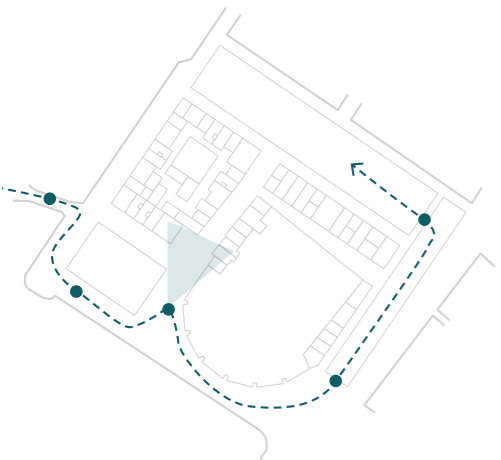
The existing construction is reused and allows for the introduction of new underground uses while parking is still valued within the busy city center.

Experience

A Walk Around the Block

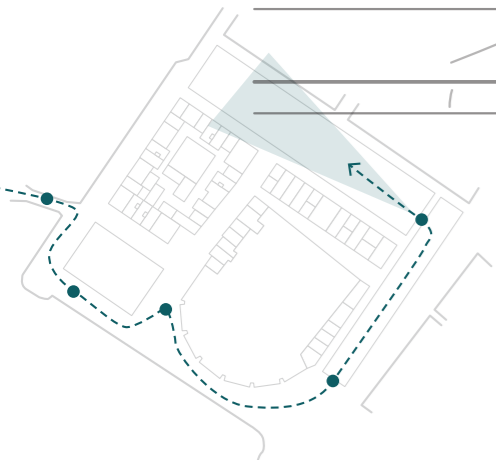
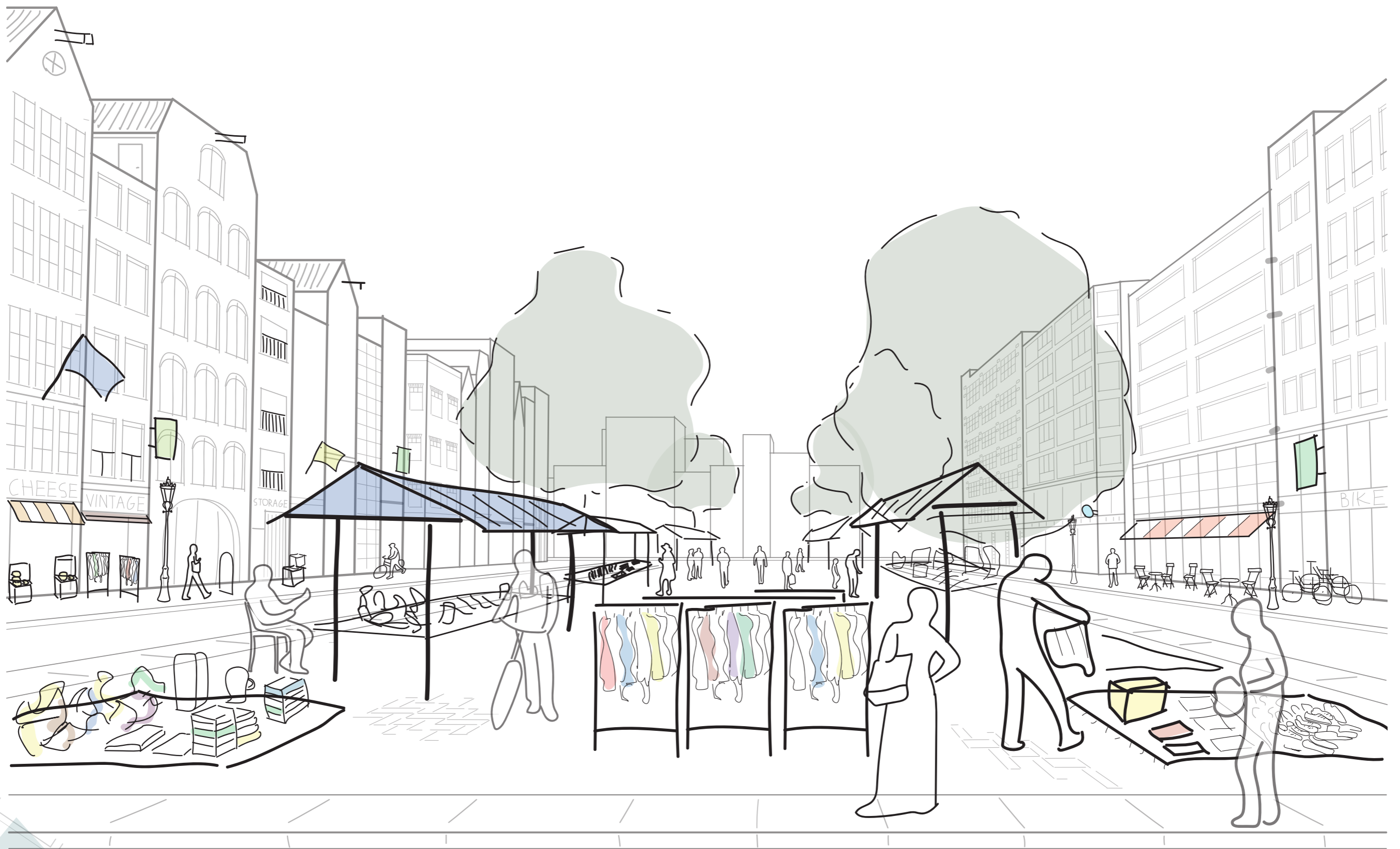












Conclusion

How can the principles of **traditional urban design** improve the **user-experience** through regenerating degraded urban tissue in the city center of **Amsterdam**?

Conclusion

Traditional urban design as an evolutionary framework aligns with human perception, rebuilding identity through place.

Reflection

Relevance

- Socially, the project works with the opinions of the users of the place, by creating a collective vision to enhance sense of place
- Professionally, the project provides a practical example of how urban regeneration can be approached while considering both contemporary needs and historical context
- Scientifically, the project adds to the growing body of research on urban identity. It draws on interdisciplinary theories to bridge the gap further between design and experience

Urban Design

- Project goes through multiple scales to get a deeper understanding and justifying itself
- The project touches various disciplines like architecture and landscape architecture
- The role of urban design in this project is a mediator and through creating a base and framework

Identity

- Blending in with the environment or separating itself?
- Creating conditions that serve the current needs of the community
- Each generation has the right to express itself
- Ultimately, identity creates a sense of place. Place is valued and preserved throughout time and becomes truly sustainable

The Future is Yesterday

Regenerating Amsterdam's city center
through traditional urban design principles
& human experience

*Niels Samuels - 5858402
TU Delft - Master Thesis*