



## Designing for Integration

...with Infrastructure as a tool for Urban re-newal: in the case of Feijenoord

Shruti Maliwar

## Structure for the presentation

1. Introduction- to location and topic
2. Dis-connection Feijenoord- Public Space to Infrastructure
3. Municipal+new development scenarios for the area
4. Masterplan- Highlighting Infrastructure
5. Design Strategies
6. Localized Intervention
7. Reflection

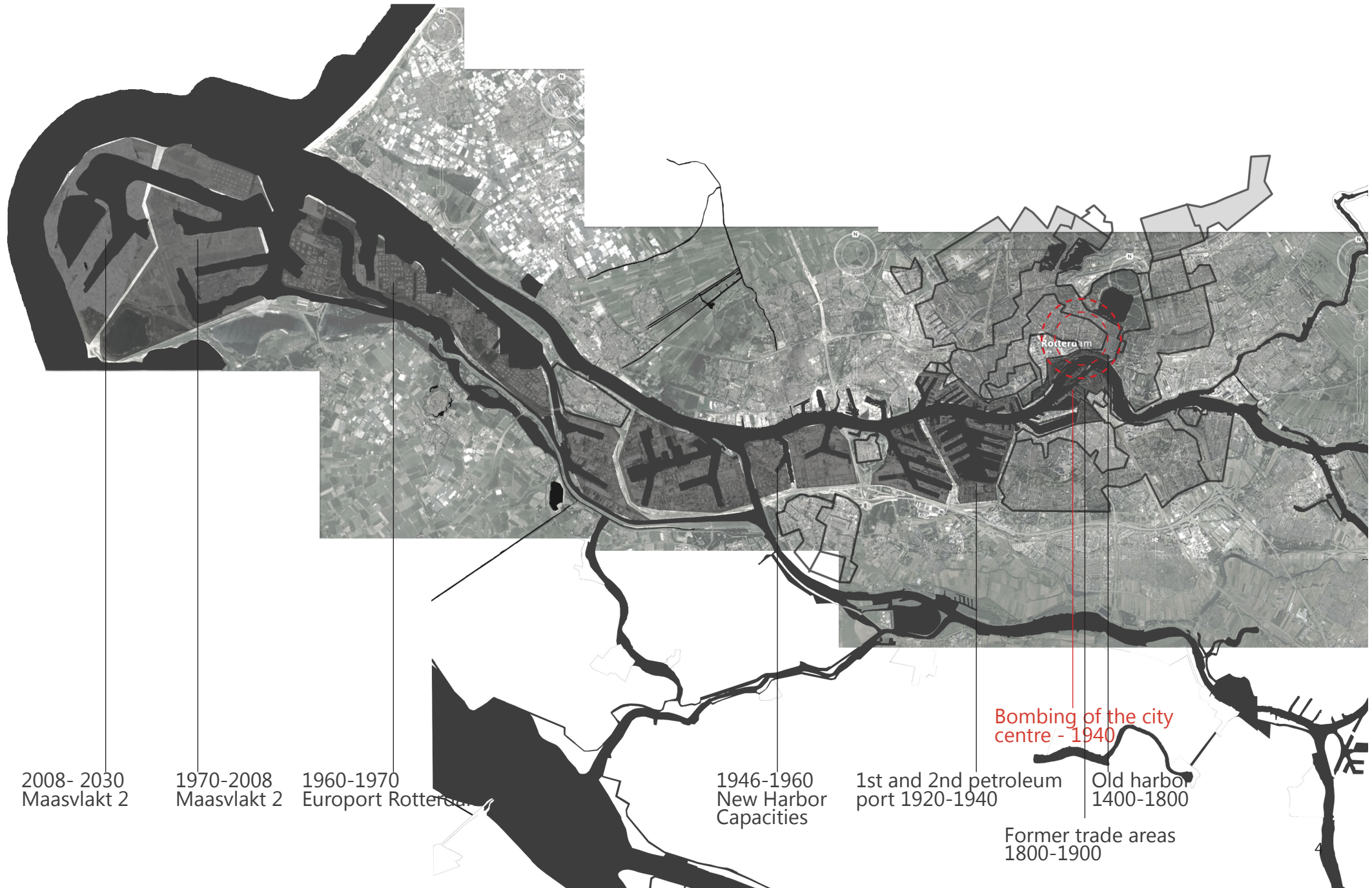






# Location\_Rotterdam\_Shift of Harbors westwards

Development based on 2 events\_bombing of the city  
+ Shift of harbors Westwards

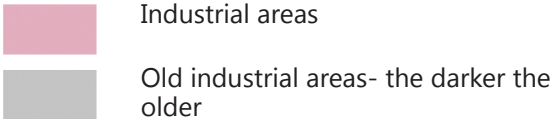
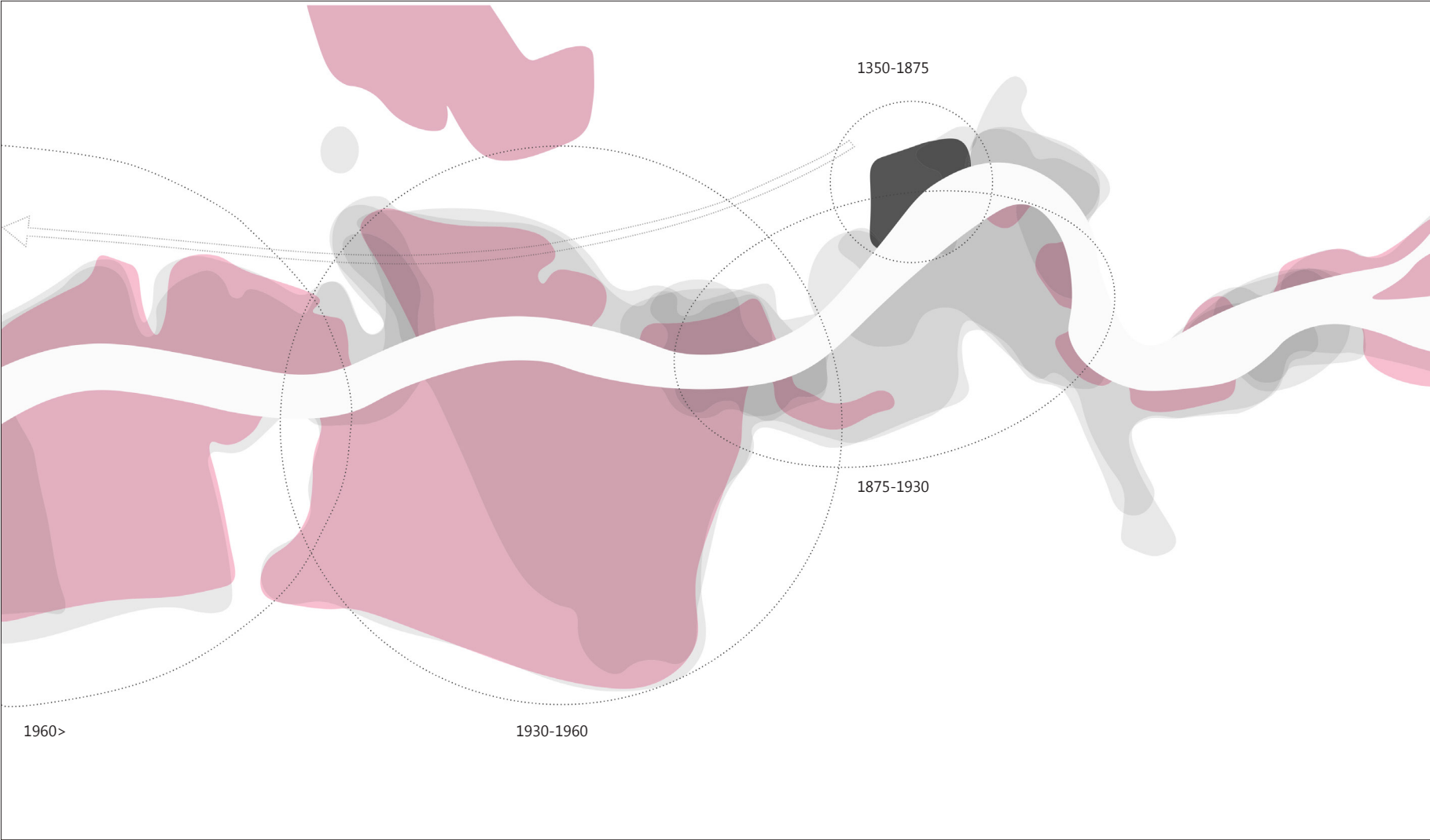






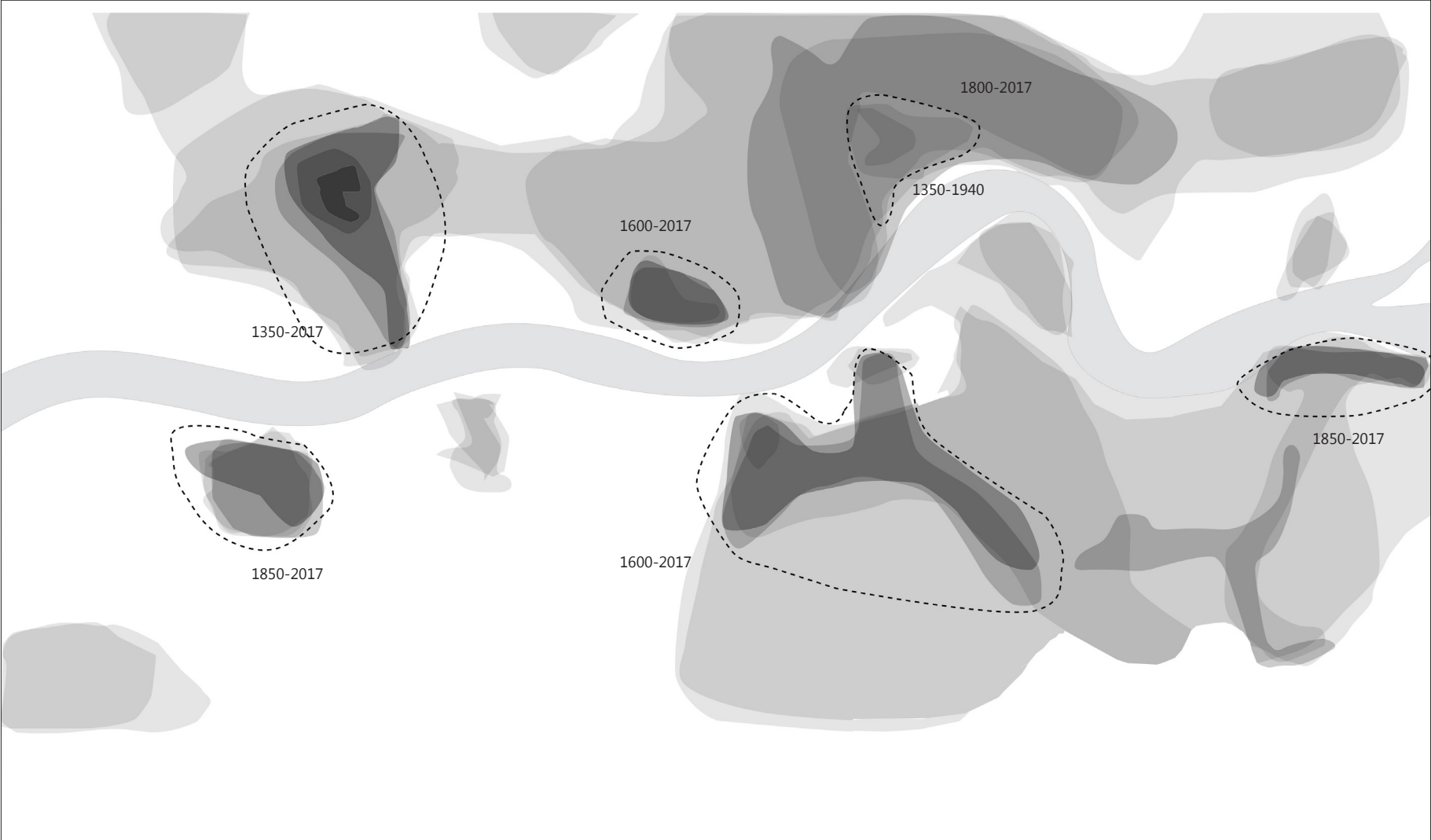
# History\_Industry in Rotterdam\_Shift Westwards

Why? Distance to the sea, depth and size of ships  
Post world war 2- new industry petrol- new harbors  
Living areas where abandoned harbors and industry



# History\_Built Environment

The patch pattern shows a division in different centres of growth- new neighbors and harbors grow in between and around these

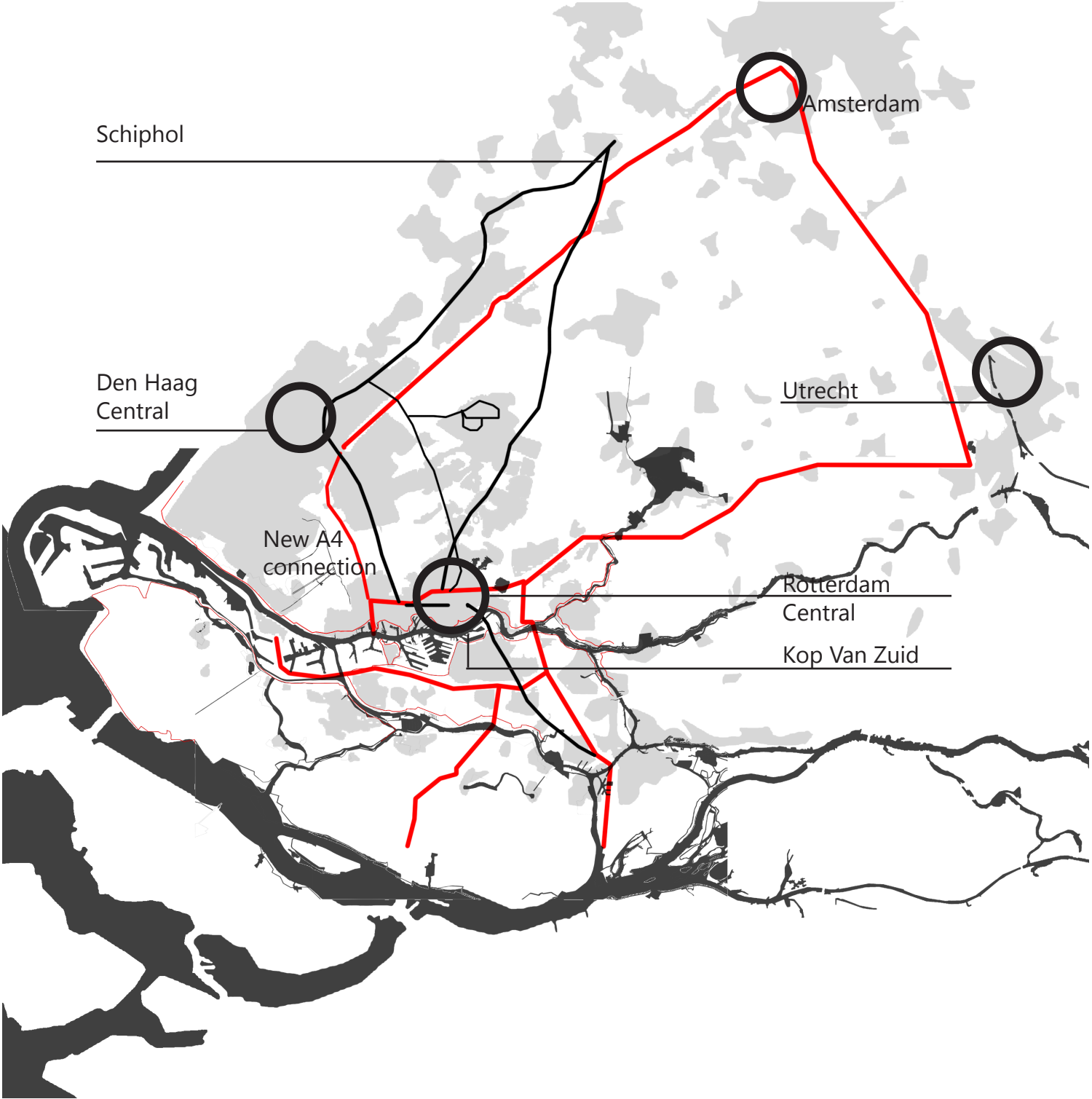


Old Building areas - the darker the older

Feijenoord

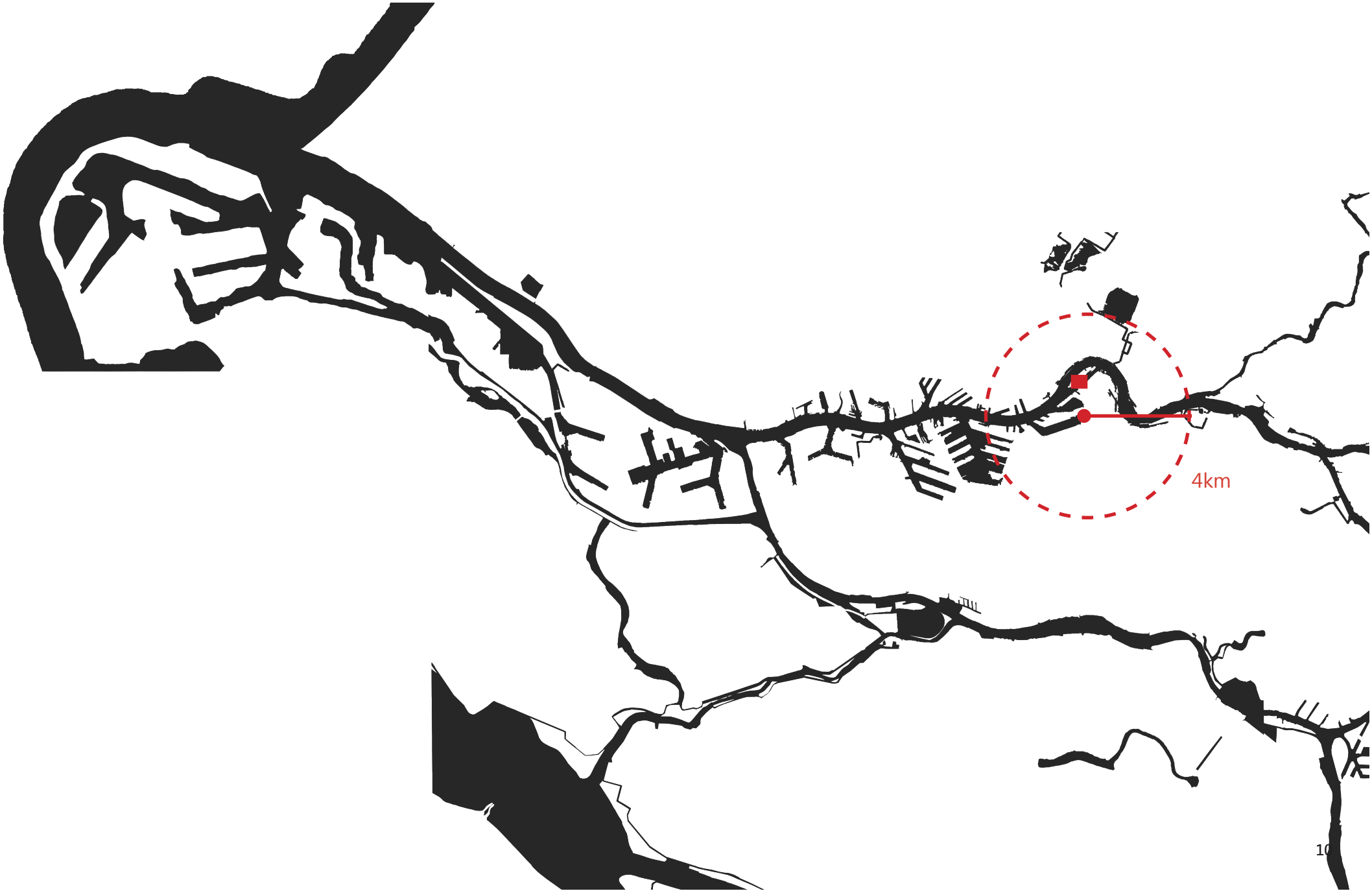


Position in the Randstad Context

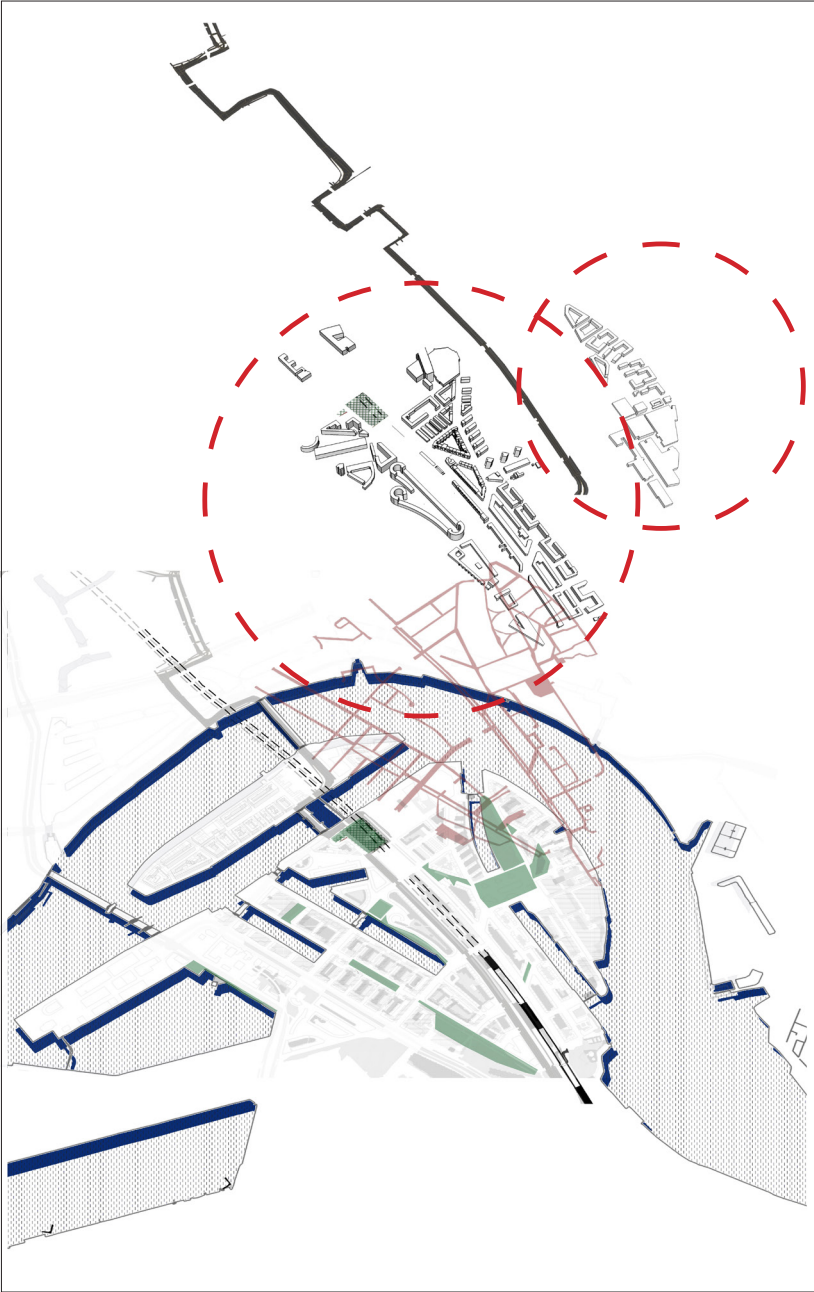


Scope of site

South of Rotterdam\_ Feijenoord



DISCONNECT between public places and their  
Infrastructure in Feijenoord: thematization of segments



Infrastructure



Built



Parks

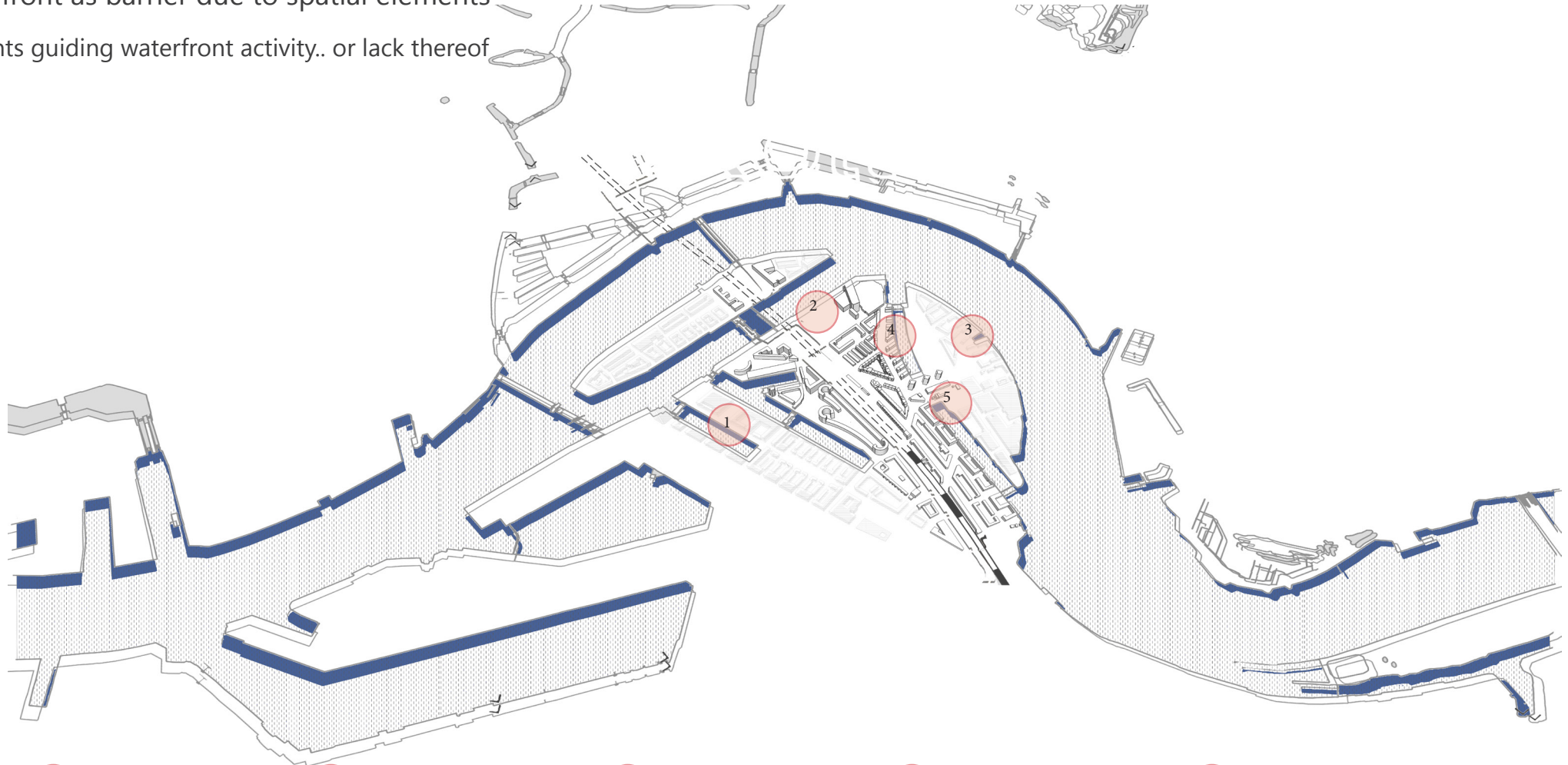


Waterfront



# Waterfront as barrier due to spatial elements

Elements guiding waterfront activity.. or lack thereof



1

2

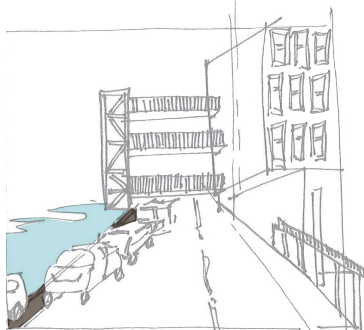
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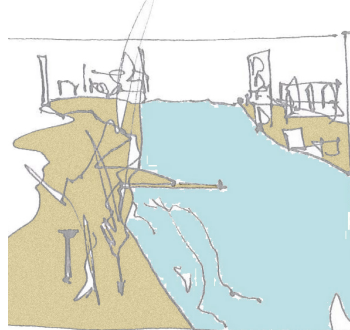
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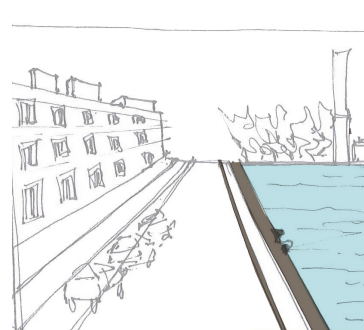
Breakwater- wooden posts - anchors



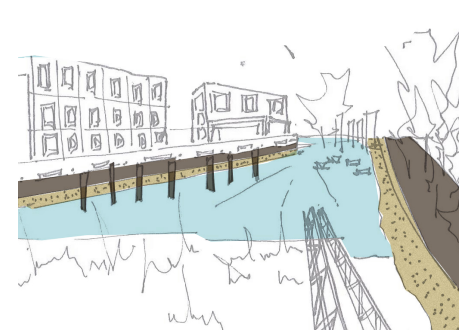
Parking - main road - industry



Natural insert - break water - quiet housing



Tram line - Parking - Anchors - public promenade



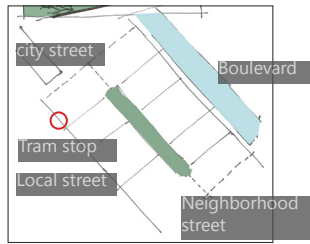
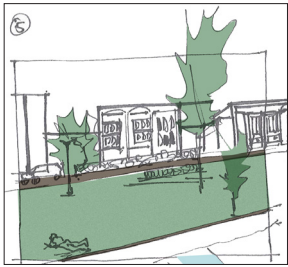
Break water - Wooden posts - open landscape - 'pier'

# Parks- Public Green

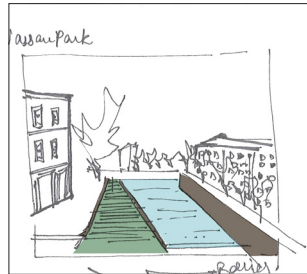
Why? Demarcate degree of potentials in different public spaces typologies- here parks

# Public space x road Hierarchy

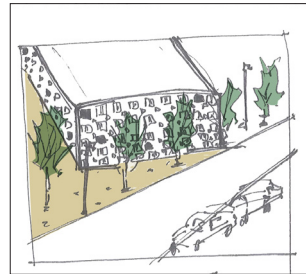
Witteveenplein



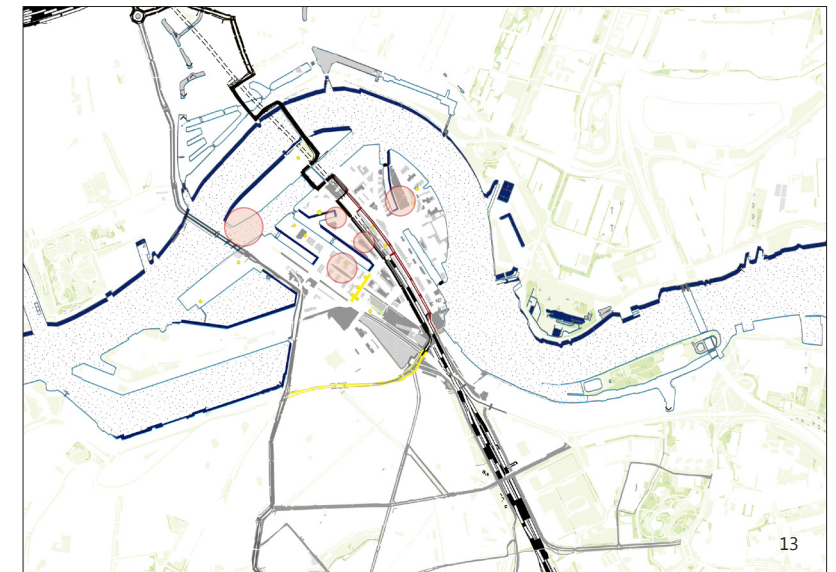
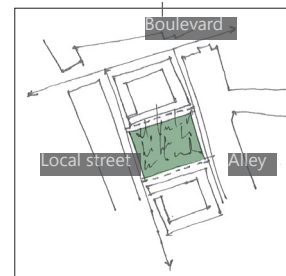
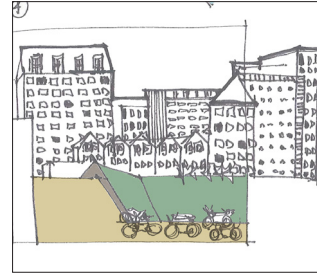
Nassau Park



Lodewijk Pincowsweg

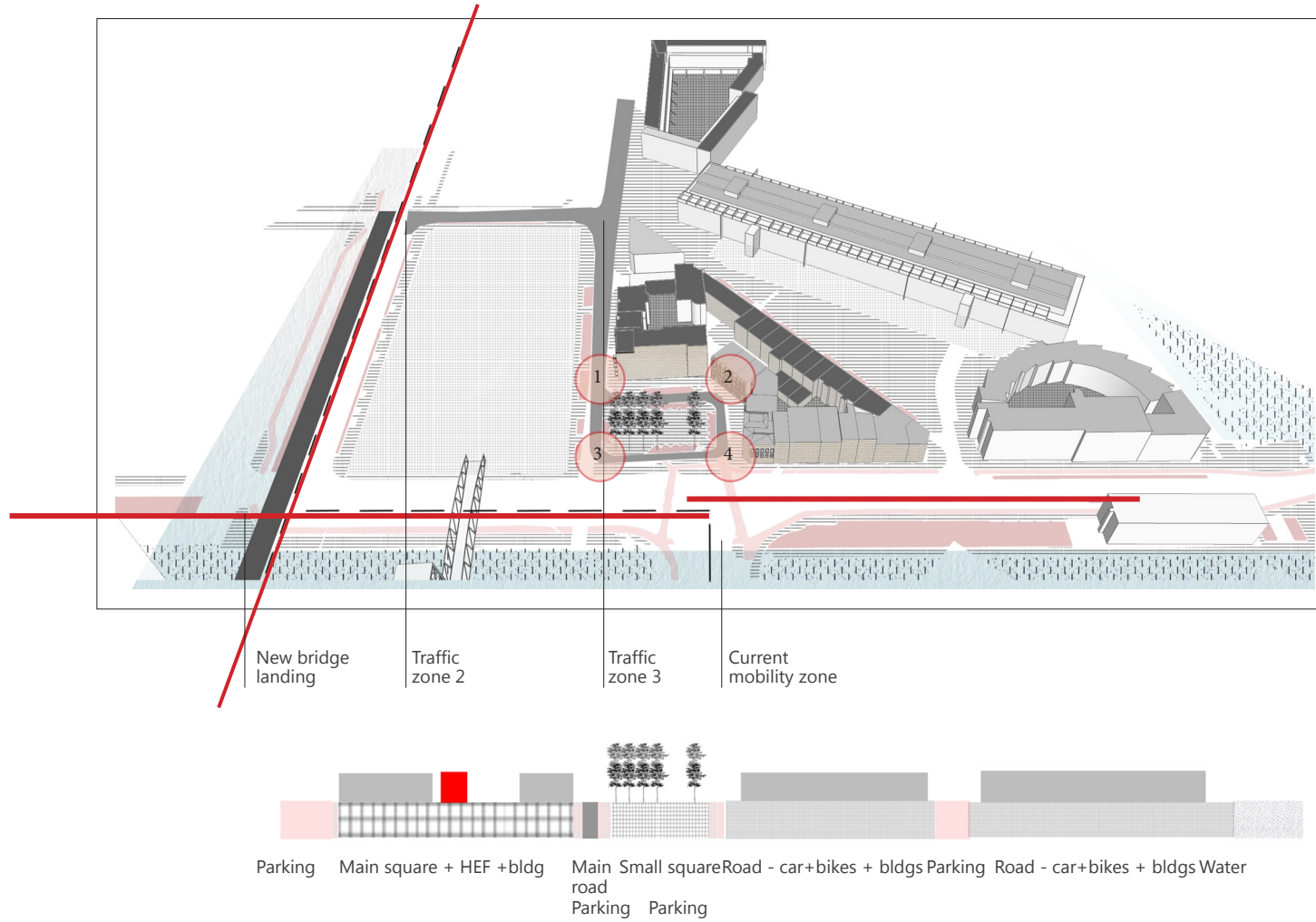


Plein Loods 24



# Built Environment typology at the HEF

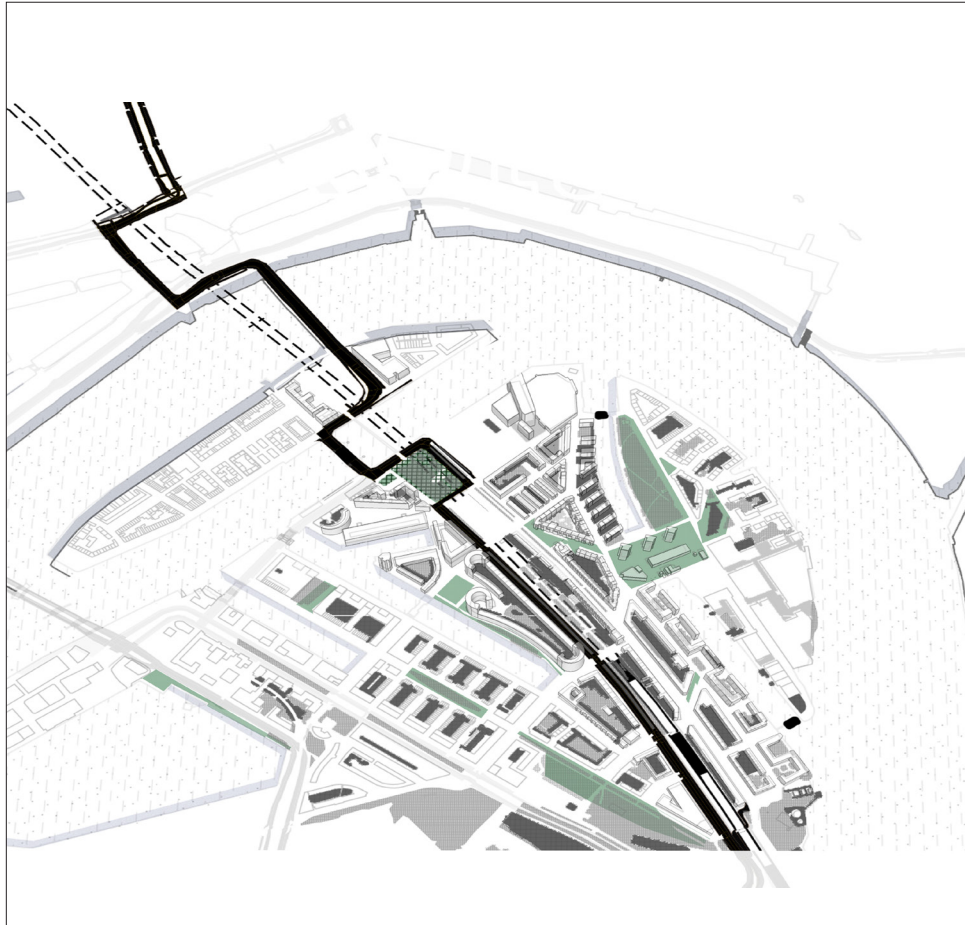
## Scattered Development+Transition zone









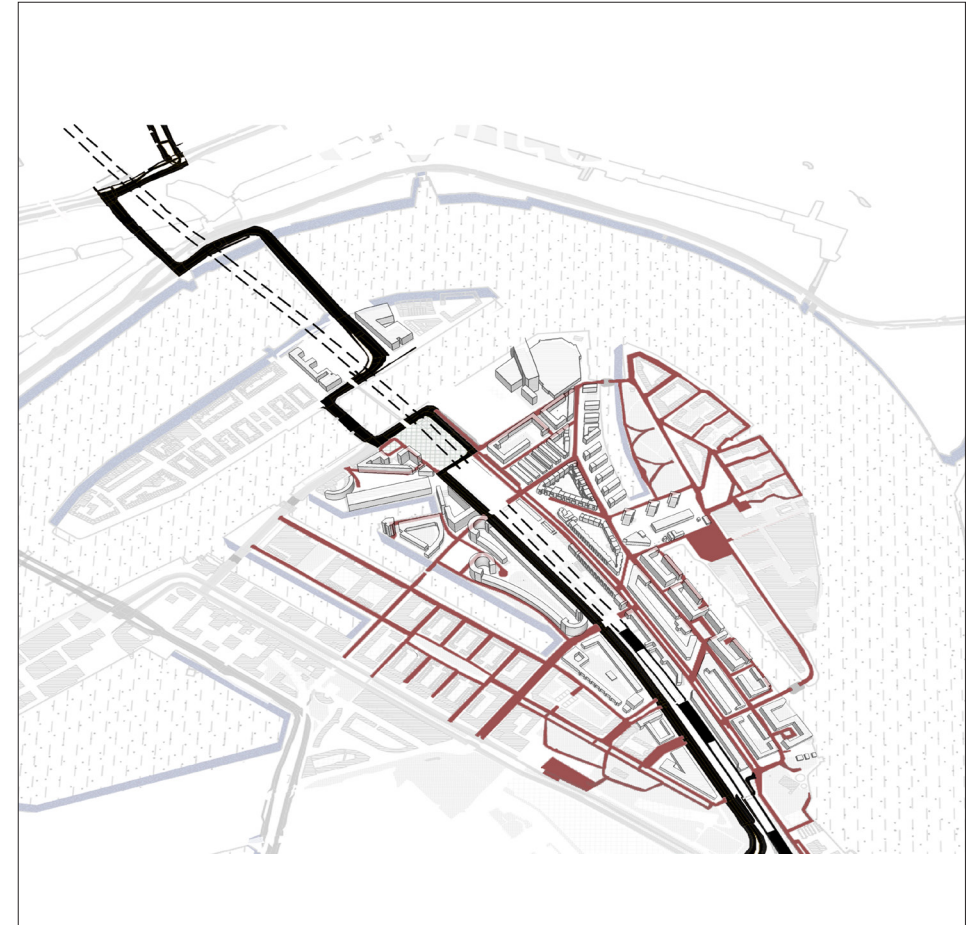
# Disconnect between public places in Feijenoord and Infrastructure

Public Space as barrier due to inland connections (functions), character, morphology



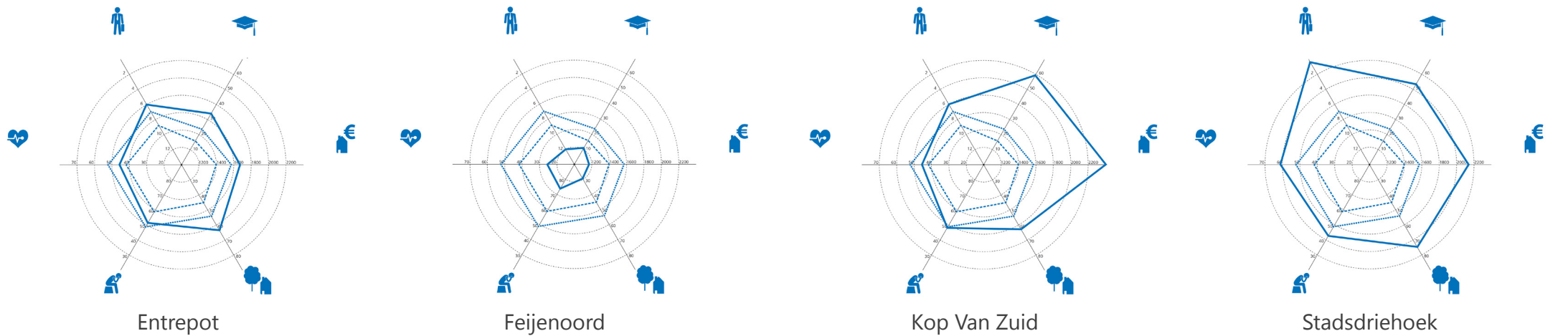
-  Public green
-  Public places-parks and squares
-  Private open space
-  Semi public space

Based on Supporting Infrastructure



-  Secondary Streets

# Comparison of Social data- NPRZ



Work unemployment 19 to 64 years in%



Education completed HBO / WO 15 to 75 years in%



WOZ average woz value per m2 in euros



Housing environment ample 19+ in%



Loneliness moderate to very serious lonely, 19+ in%



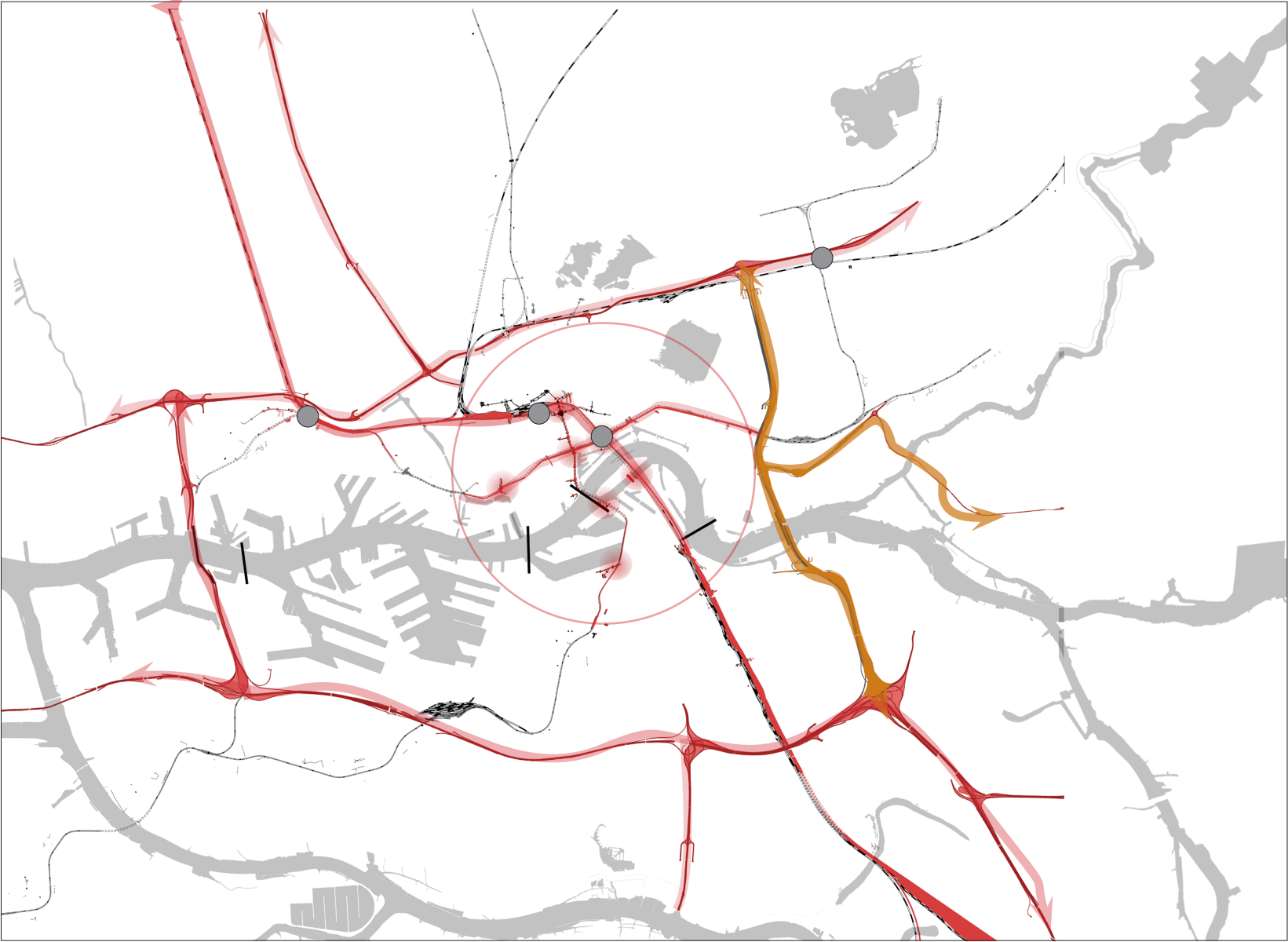
Health experienced health good / very good, 65+ in%



# New Development Scenarios for Feijenoord

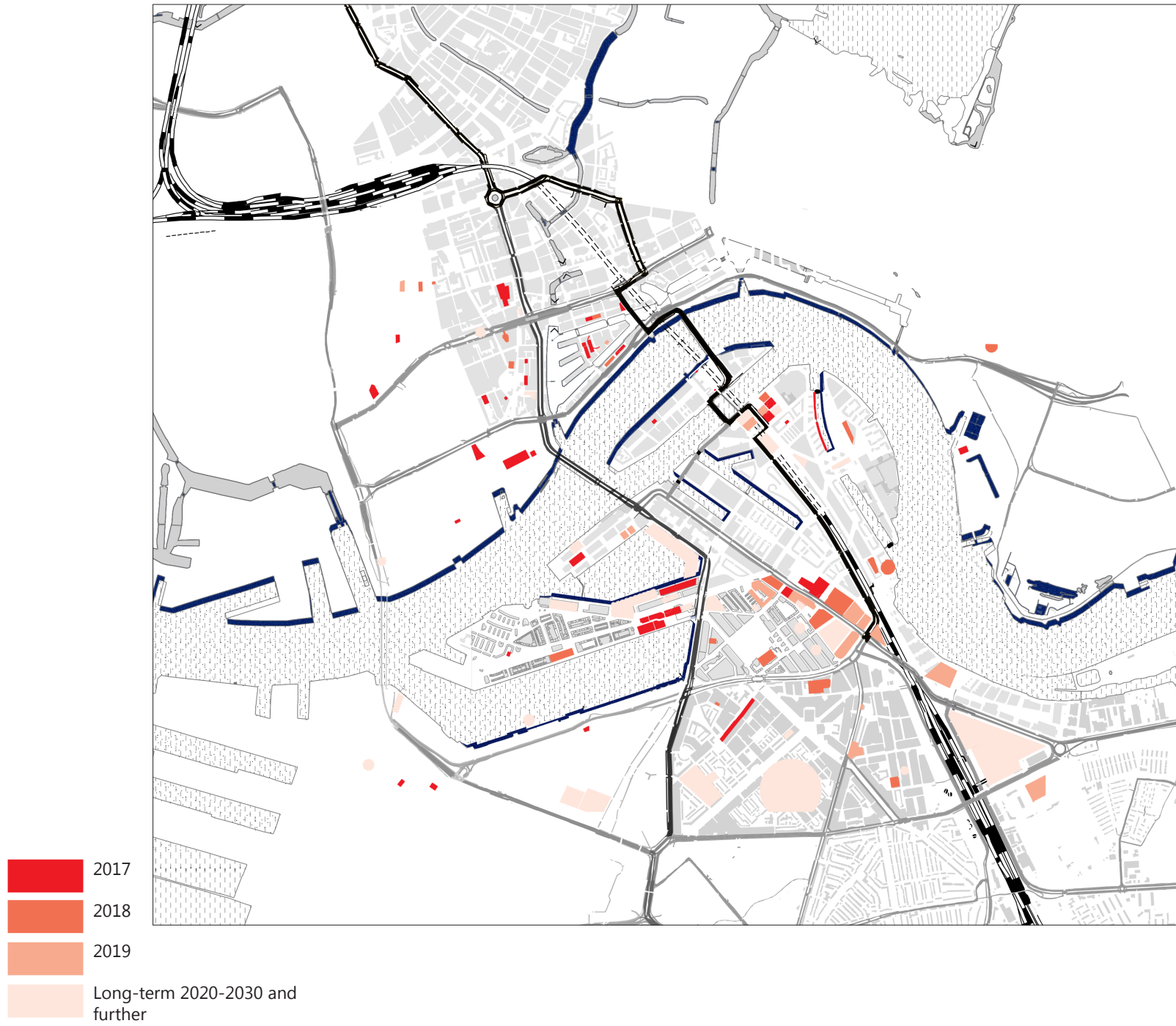
Network Overload- Car and public transport

Urban Traffic Plan Rotterdam- Bottlenecks with growing impact





# Future development as per municipal discussions



Parkstad



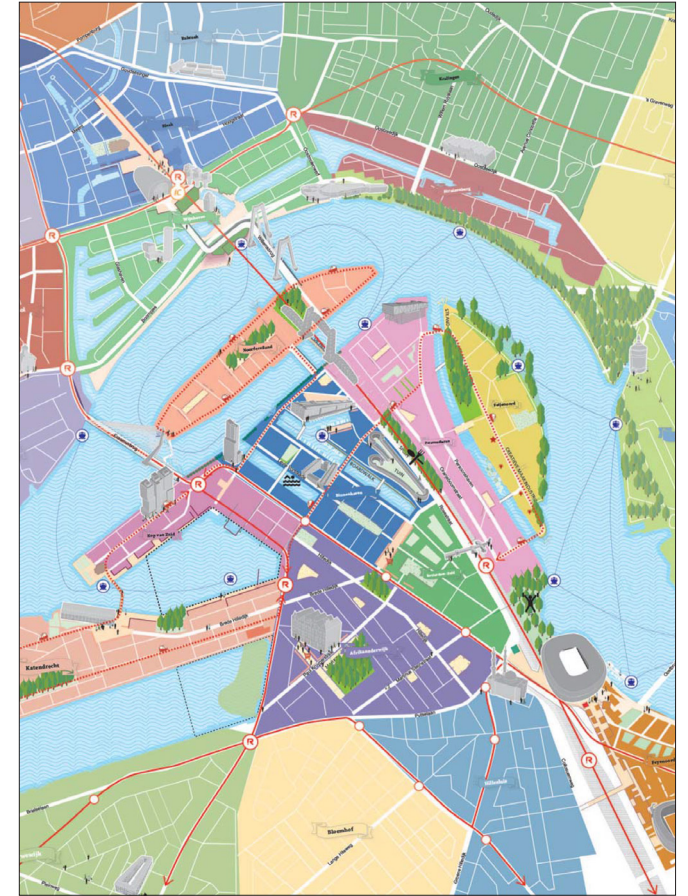
# Municipal Scenarios



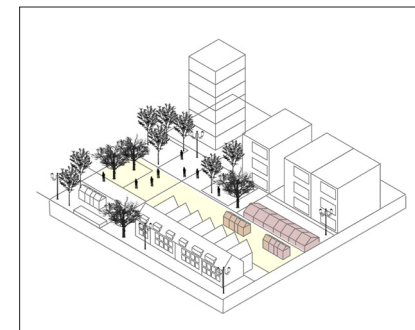
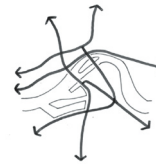
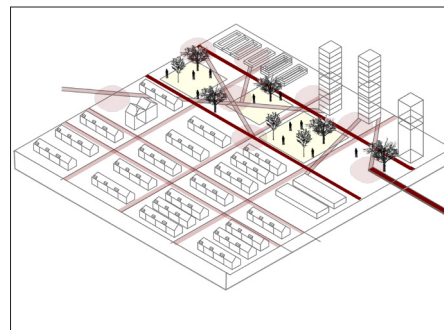
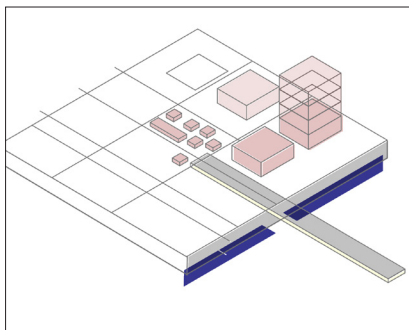
Metropole on the Maas



Streets as vibrant/green centres



Autonomous neighborhoods





With new developments like Feijenoord city, slated to come up actively over the next decade, this will require 2 things:

1. Infrastructure to support **new traffic and movement intake- and plug-in to the larger network of Rotterdam**
2. **To integrate this infrastructure** in the diverse urban fabric and everyday life of Feijenoord- preserving its identity, while still responding to the grand architectural gestures, that initiate innovation and economic growth of Rotterdam.

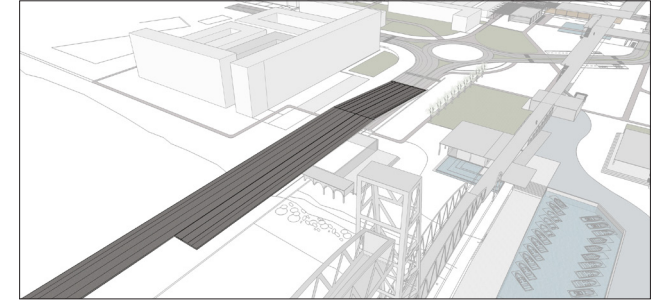
# Masterplan - Highlighting Infrastructure

# Interventions - Spatial Impact

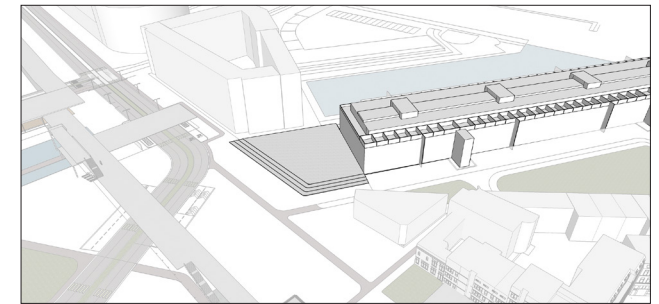




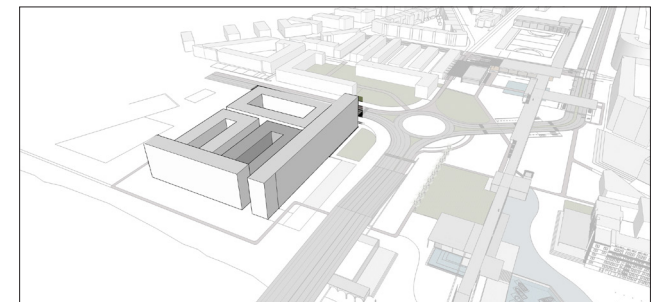
## Design Strategies based on projects derived from Municipal Scenarios



1. The new bridge  
why? Travelling to the South a concern as the other 3 bridges are at maximum capacity

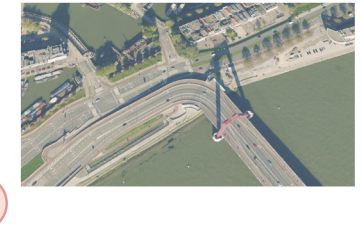
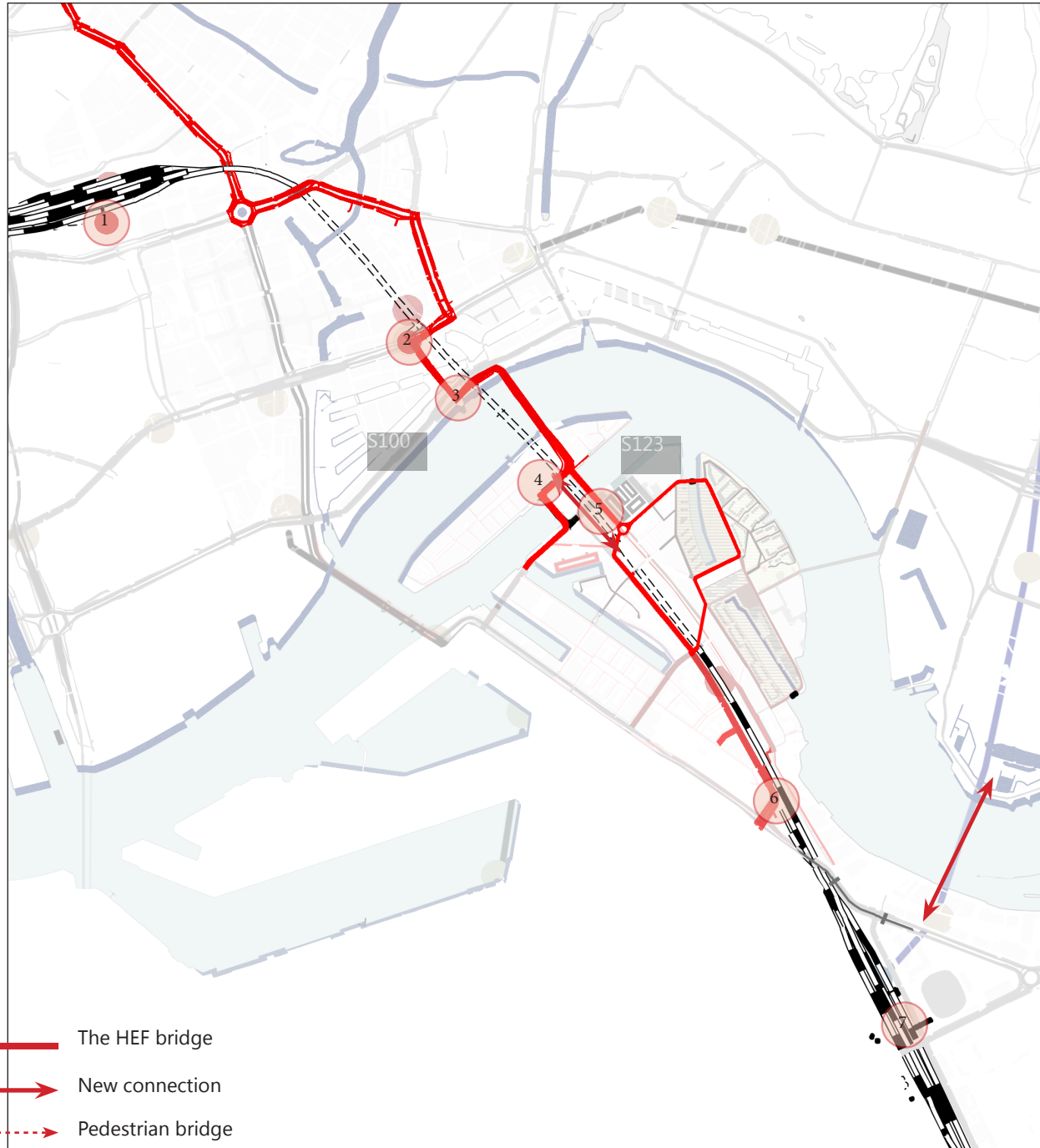


2. Entrepot as a metro station  
New line for regional metro

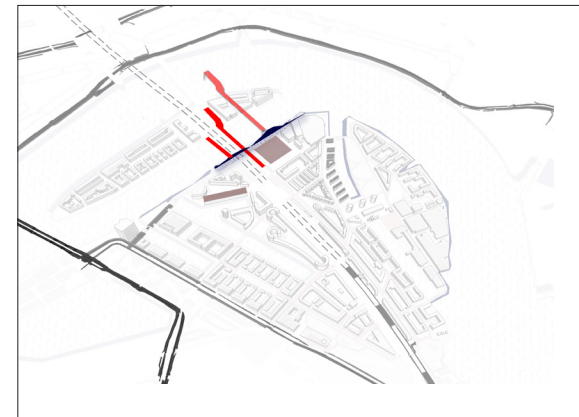
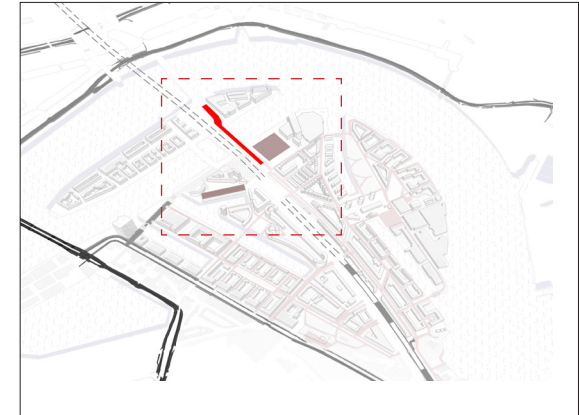
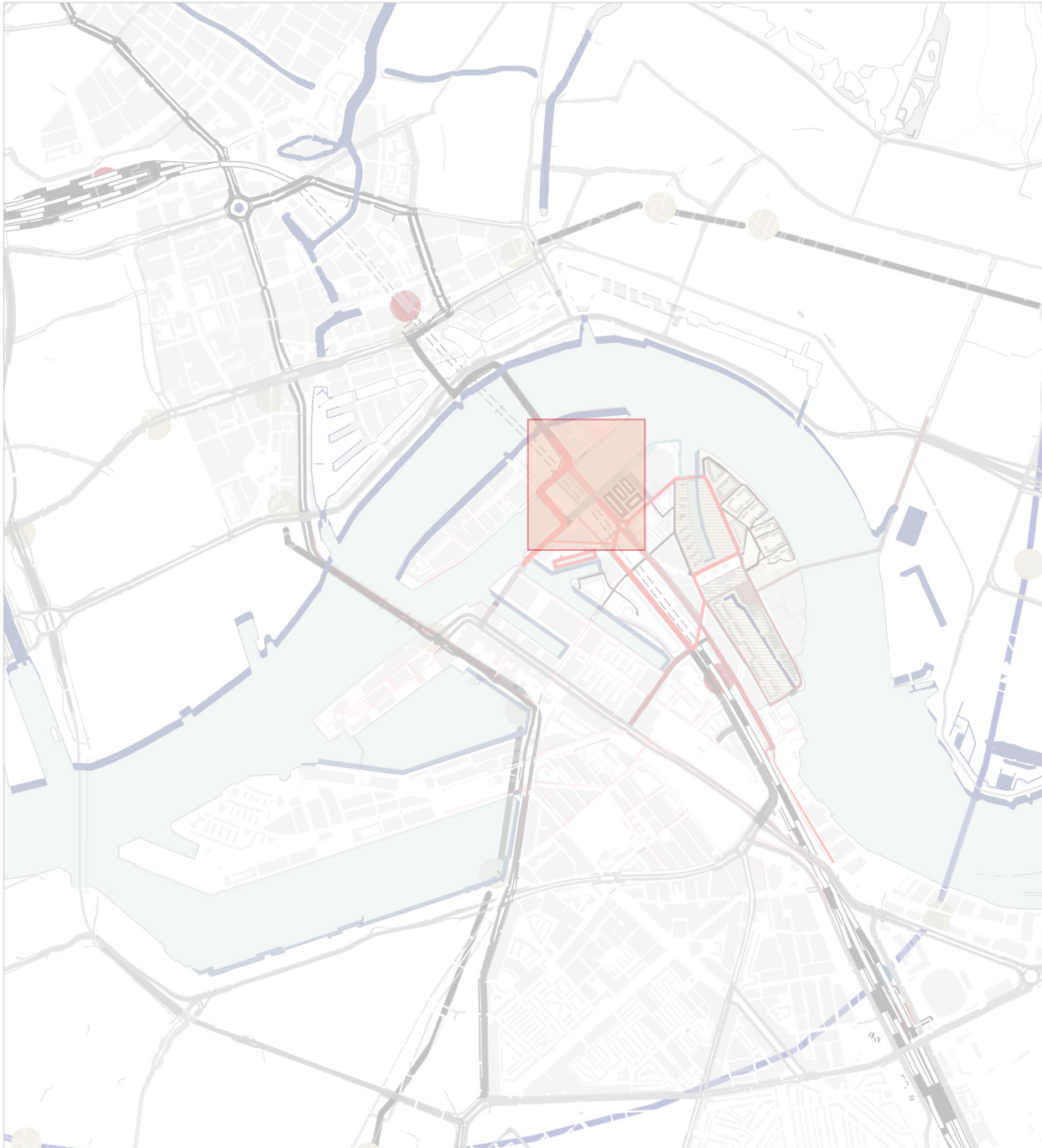


3. HEF Quartier

# The Willems Axis- North Connections



## Interventions - Spatial Impact

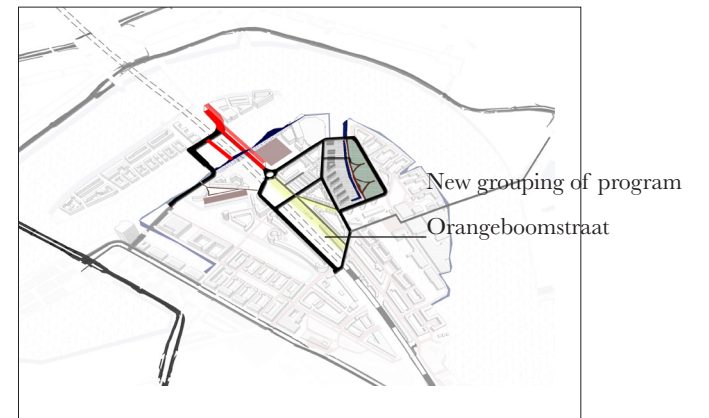
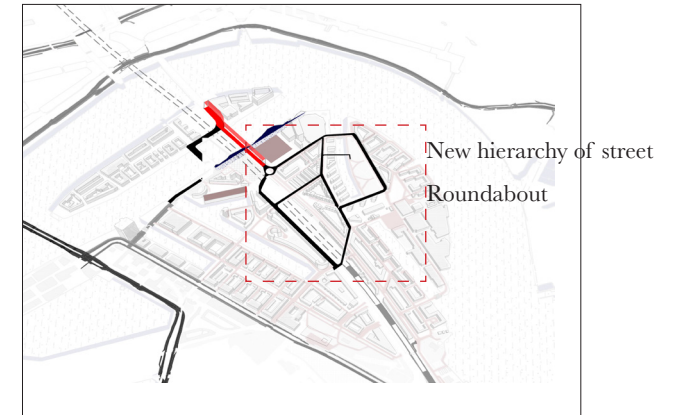
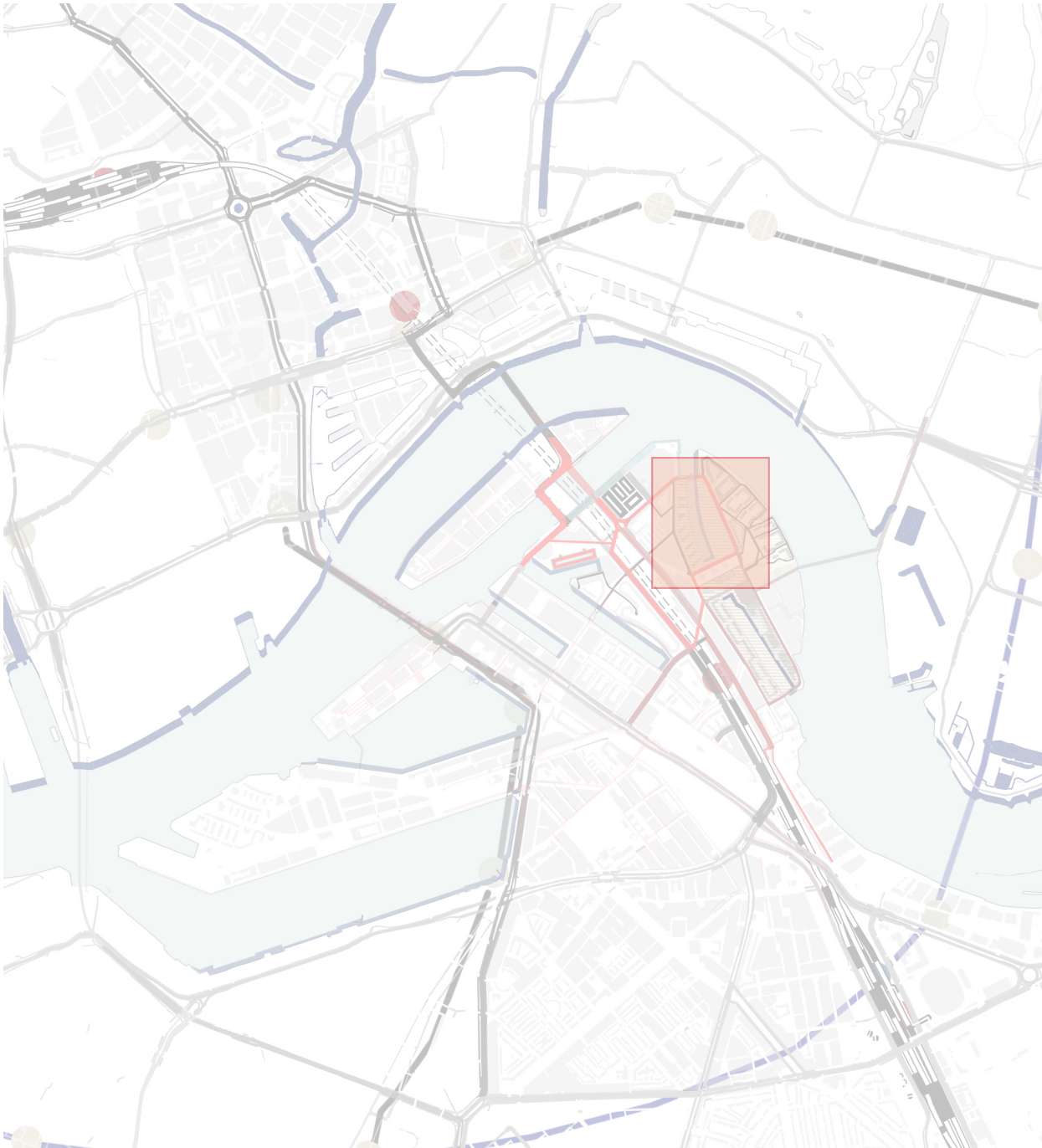


Intervention: New bridge connection

Impact: Elevated to generate porosity.  
Stretch of waterfront pedestrianized.



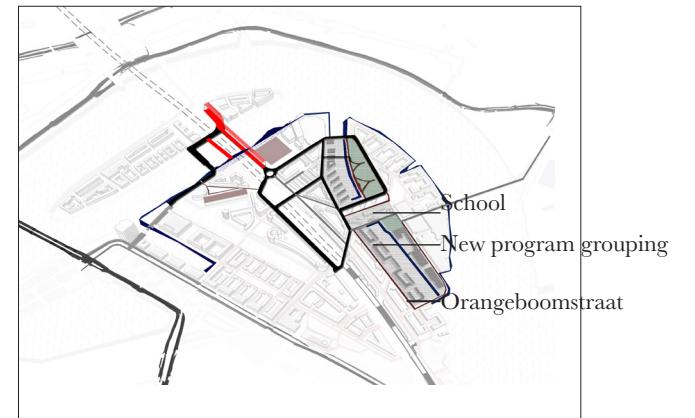
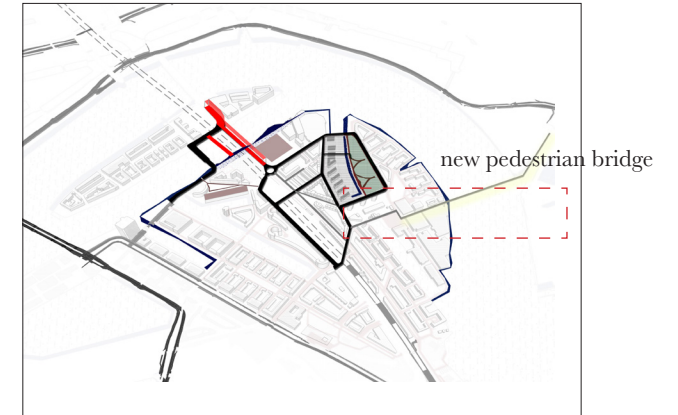
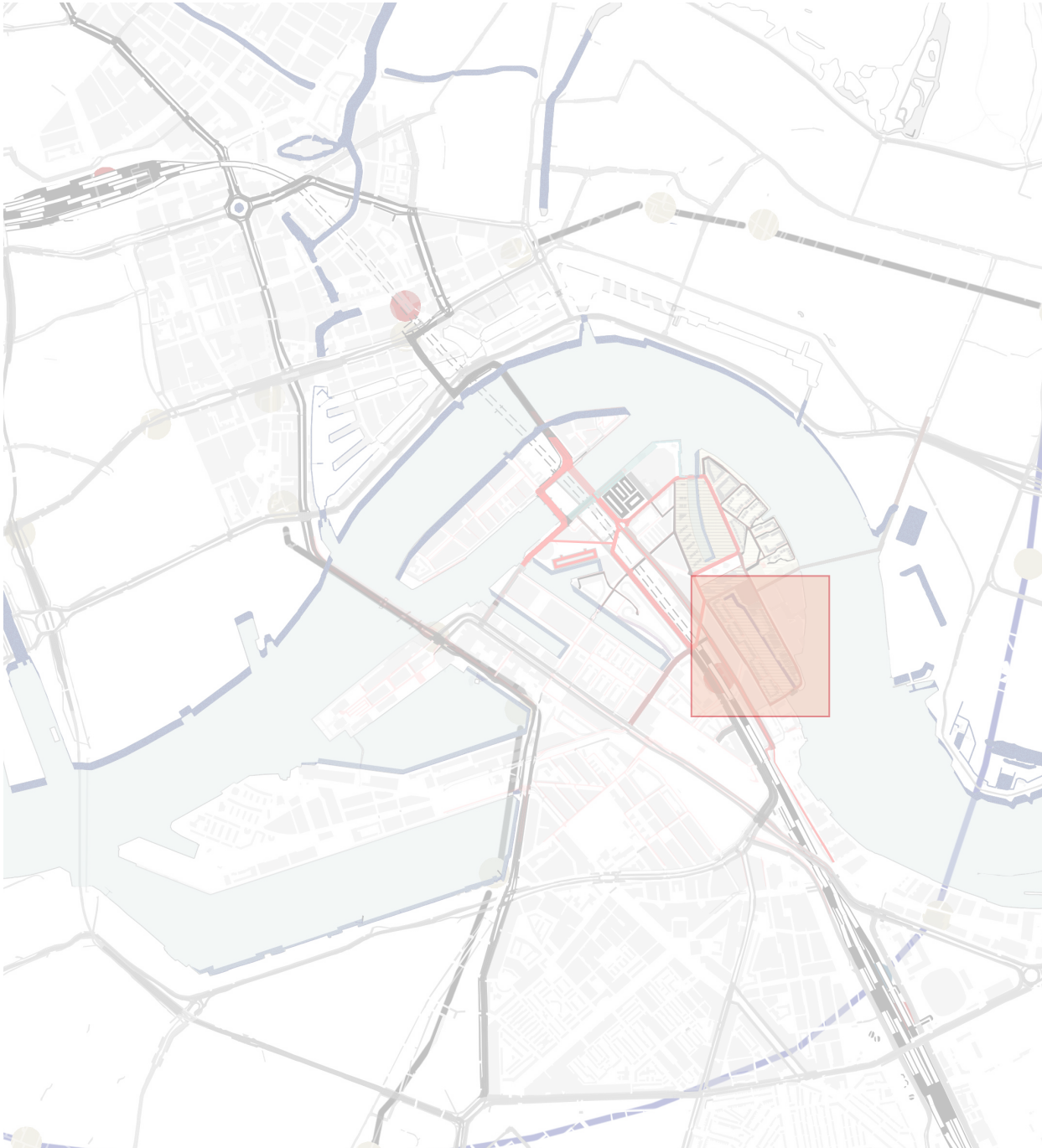
## Interventions - Spatial Impact



Intervention: Loop into Feijenoord, changing the existing hierarchy of street+ roundabout for smooth traffic flow.

Impact: Orangeboomstraat now a shared street with pedestrian and cyclist priority. Loop acts as a catalyst for generating mixed usage of space- by grouping residential, water and park functions- and connecting them to a larger network.

## Interventions - Spatial Impact

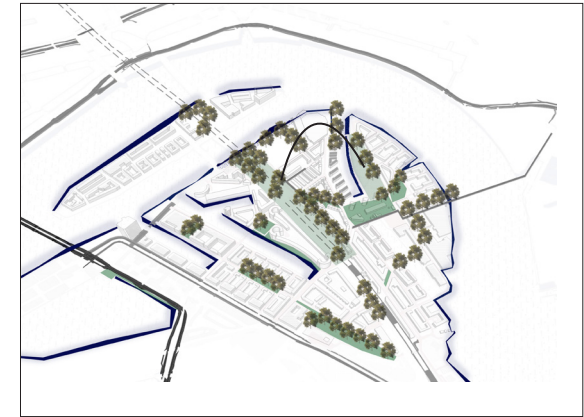
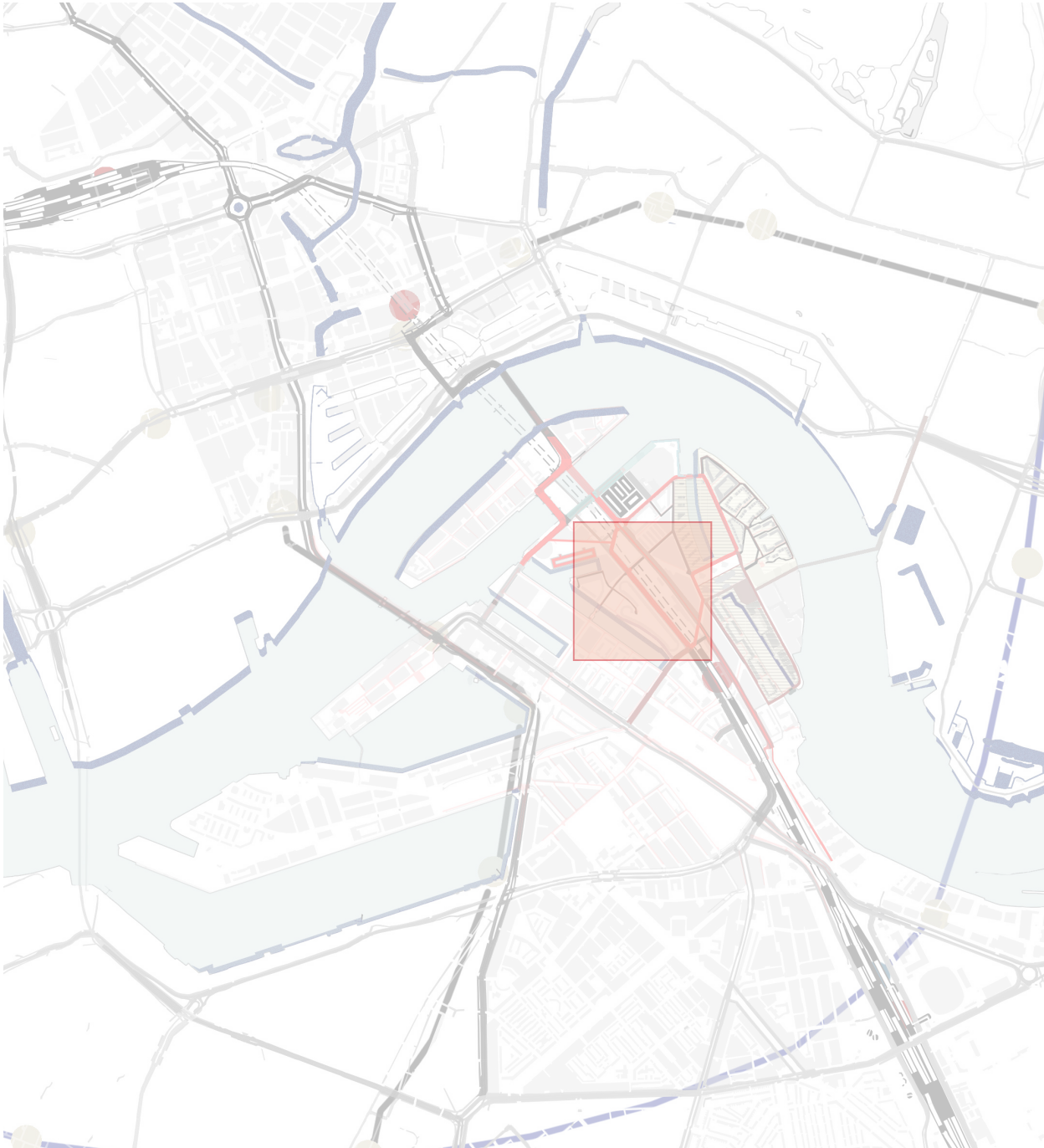


Intervention: Pedestrianization for road outside school + to continue to Erasmus University- as a bridge

Impact:  
Mixed use.  
Continuity over the river.  
Orangeboomstraat also pedestrianized and strengthened in character due to exit.



# Interventions - Spatial Impact



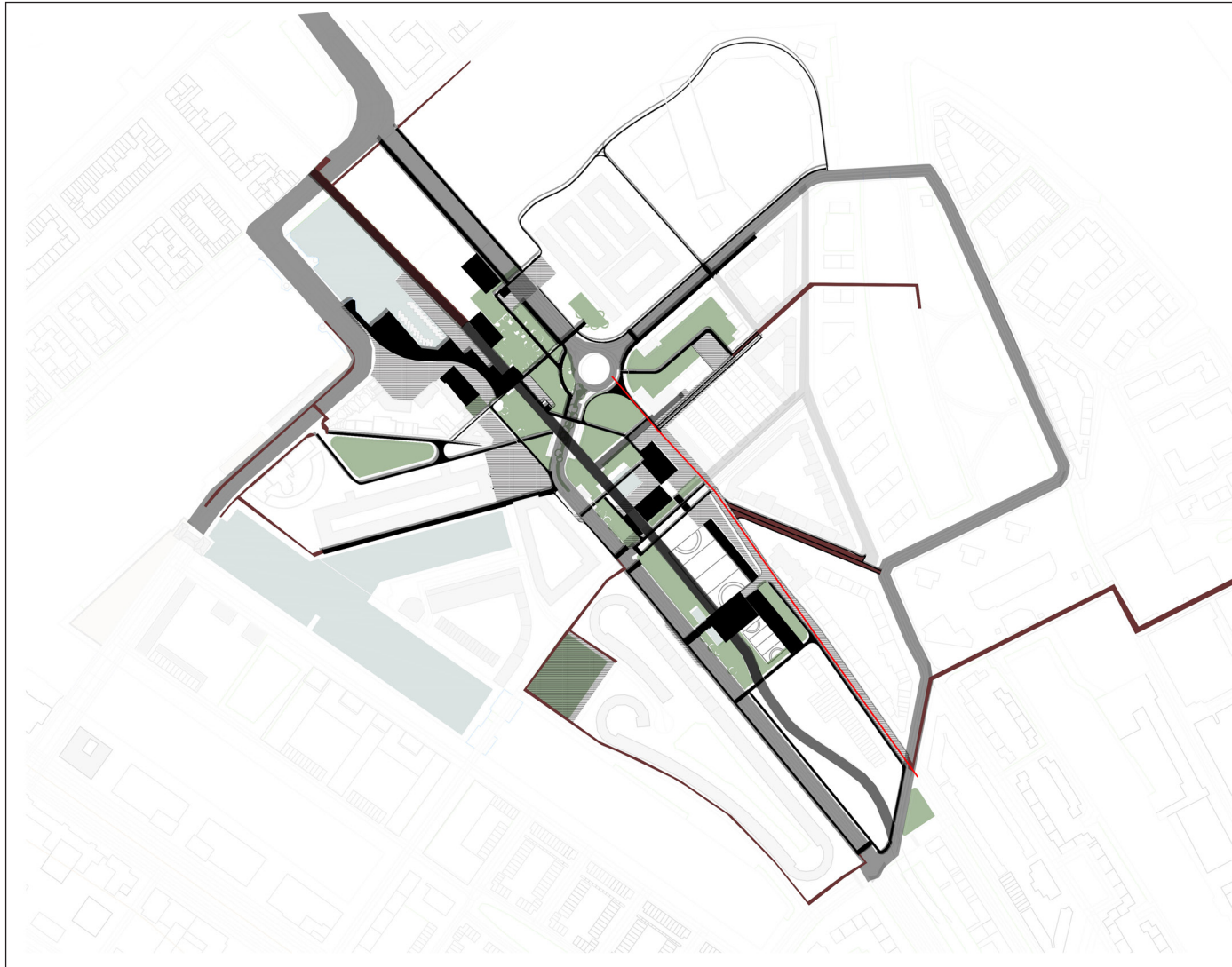



Larger opportunities arising within Feijenoord from masterplan:

1. More integrated and fluent- smooth traffic flow- transit node along the HEF and Entrepot
2. Opportunity for new functions in existing public space- due to new connections

Design Strategies  
Movement + the in-between

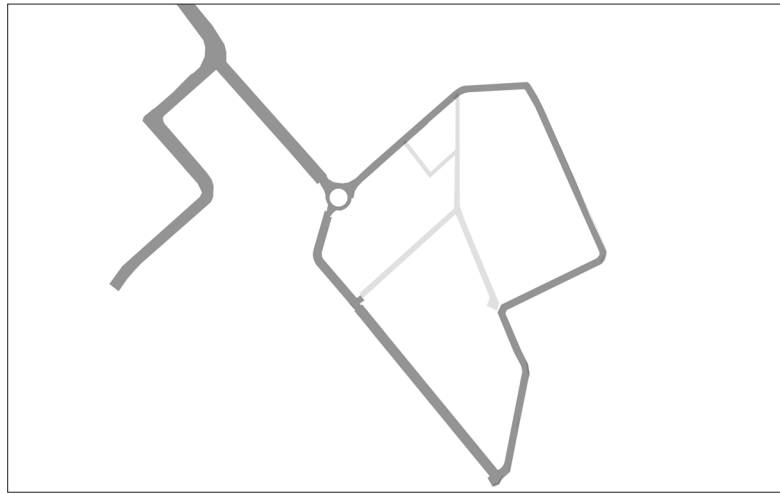
**Most importantly, the design works as a plugin to the larger infrastructure and public space network of Feijenoord- coonected to Rotterdam- CONTINUOUS NETWORK**



-  Landscape
-  Main vehicular road
-  Shared space
-  Secondary road network
-  Pavillions

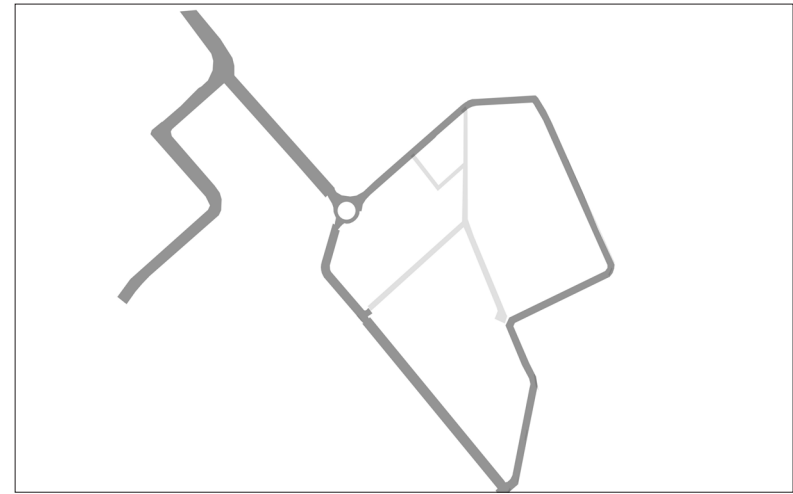


# INTEGRATION of the Willems Axis as a public place, within the everyday life of Feijenoord to address physical and social connections



1. Resolve vehicular movement considering old and new developments in Feijenoord

■ Main vehicular road



2. Organize secondary road network to link East/West Feijenoord and also the main infrastructure

■ Shared space

■ Secondary road network



3. Introduction of program to initiate interaction through the built environment

■ The HEF bridge extention

■ Pavillions



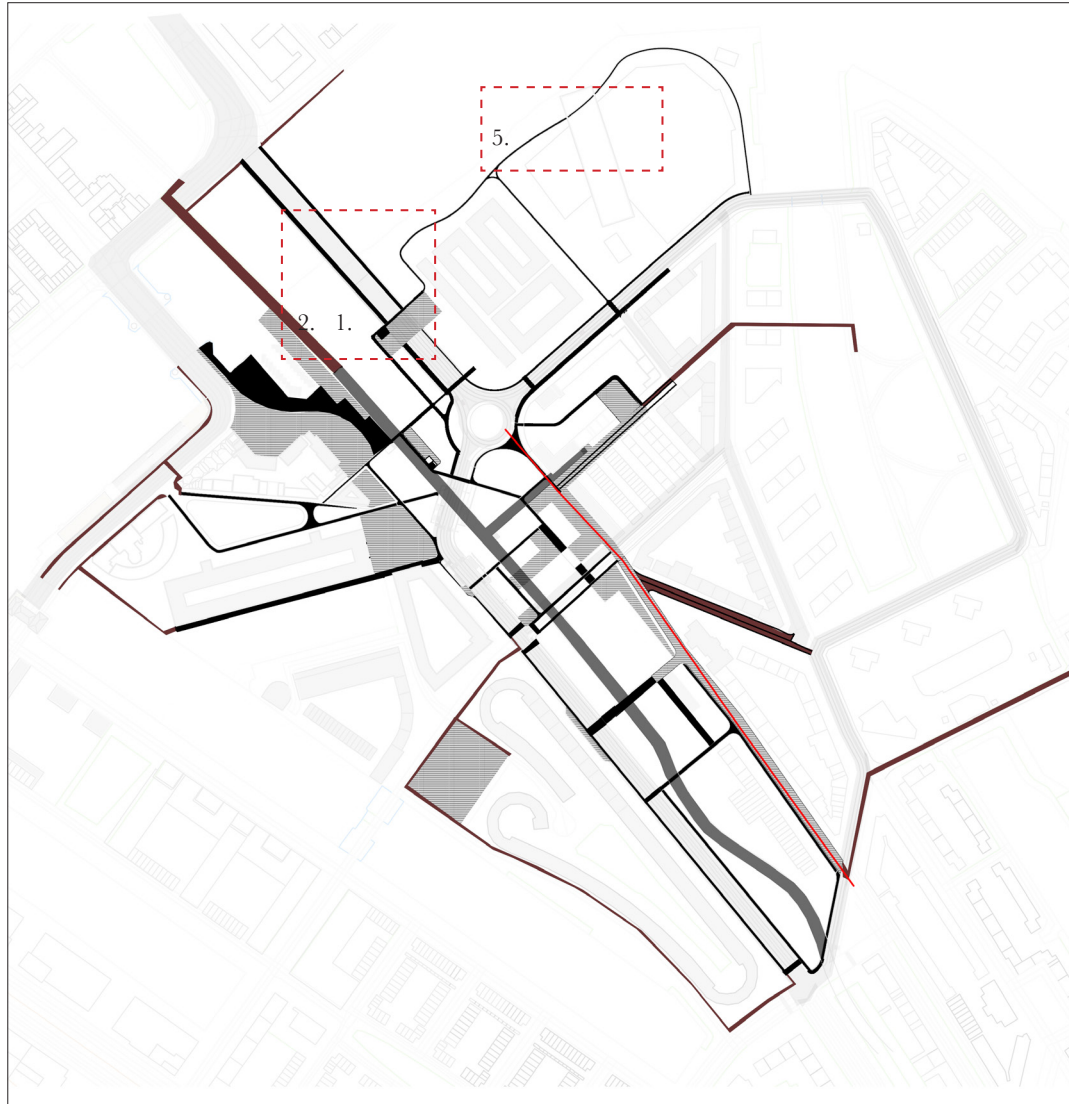
4. Landscape strategy for the in-between spaces- to bind the infrastructure and the built

■ Landscape

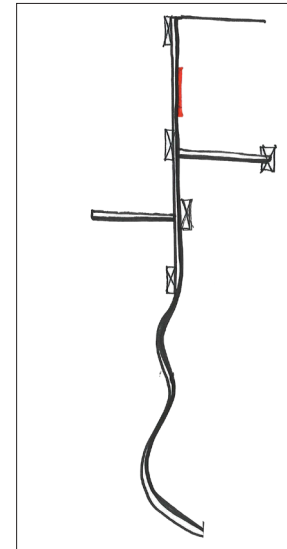


## 2. Secondary Movement Network

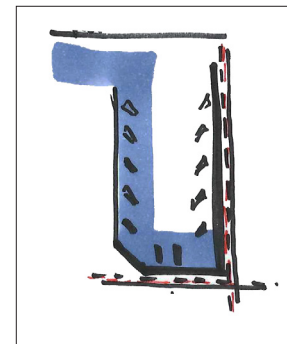
### Activators



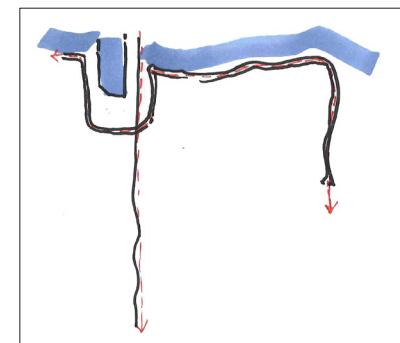
Support network to create better connections in Feijenoord. The main intervention being extension of the HEF to give this smaller network of streets an identity.



1. Extending the HEF + exits



2. Harbor to activate water transport

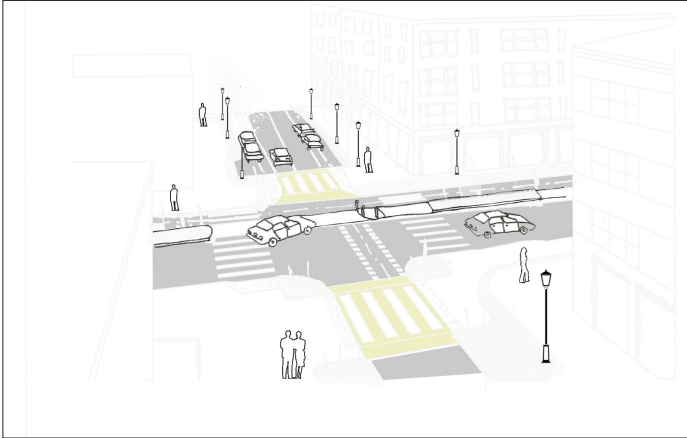


5. Waterfront characters



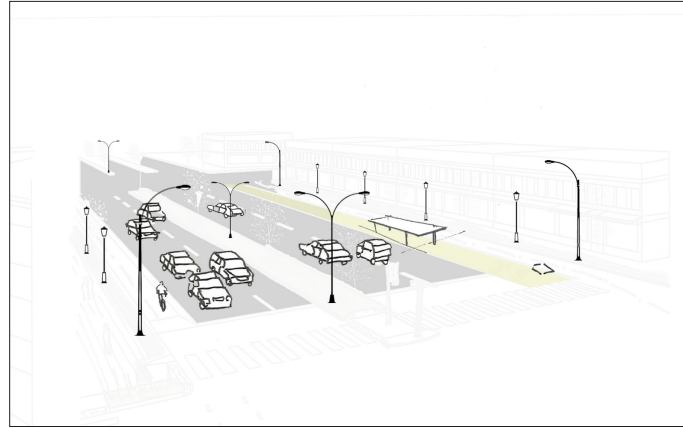
## 2. Secondary Movement Network

Street hierarchy+safety elements



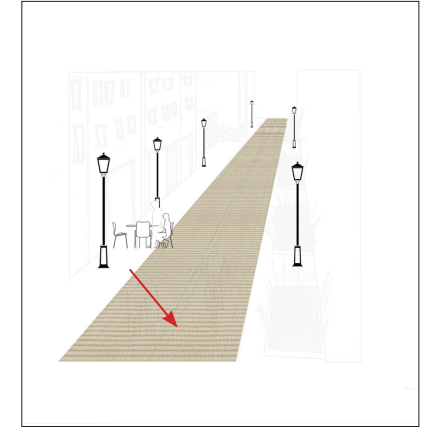
Paperklip Junction

Integration of major junctions into the life of the city + details to ensure maximum safety



For Rosestraat, outside the metro station

Integration of major vehicular road- 5 lanes, with bus service exits + details to ensure maximum safety



Orangeboomstraat

Shared Street



Passeig De St Joan Boulevard



Shibuya Crossing

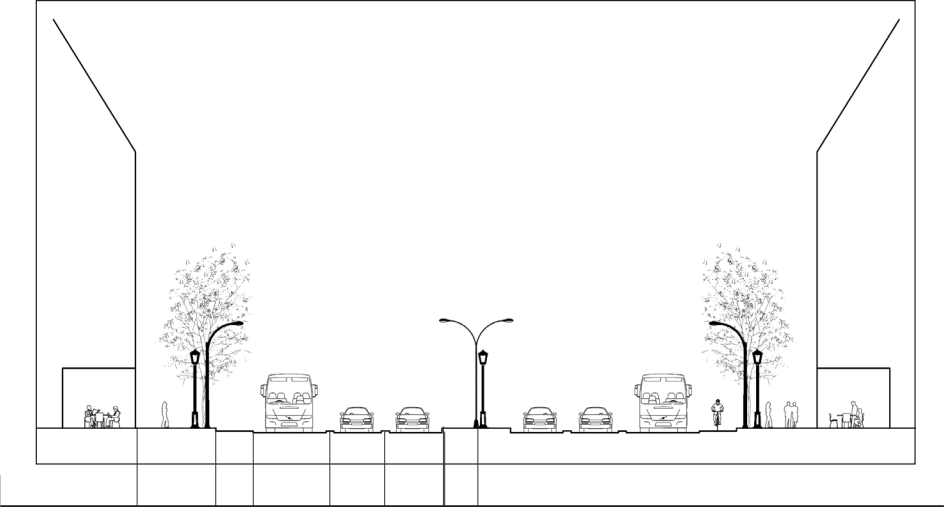


Brighton and Cove, England

# 2. Secondary Movement Network

## Lighting Strategies

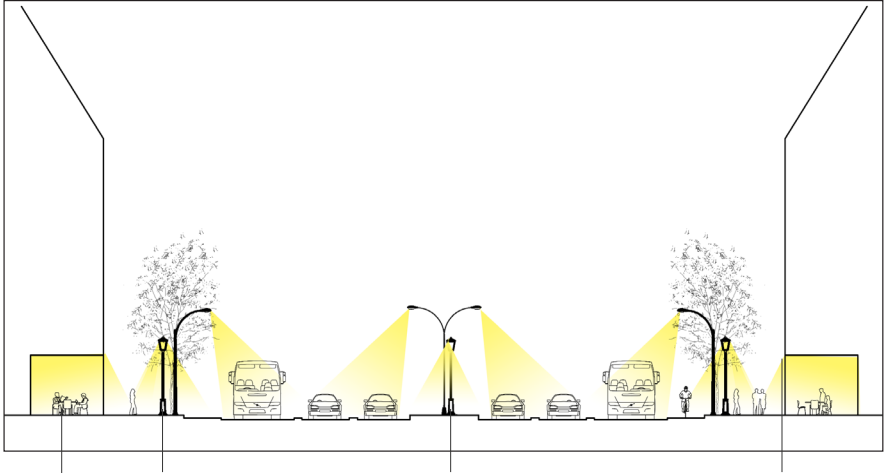
### Eyes on the street- safety



Shops, displays and cafe seats

Efficient walking width- kept free from all kinds of obstacles

Zone for street furniture



Street lights that give a warm light at the footway

Street lights that light up the carriageway

Lights at entrances to improve feeling of safety

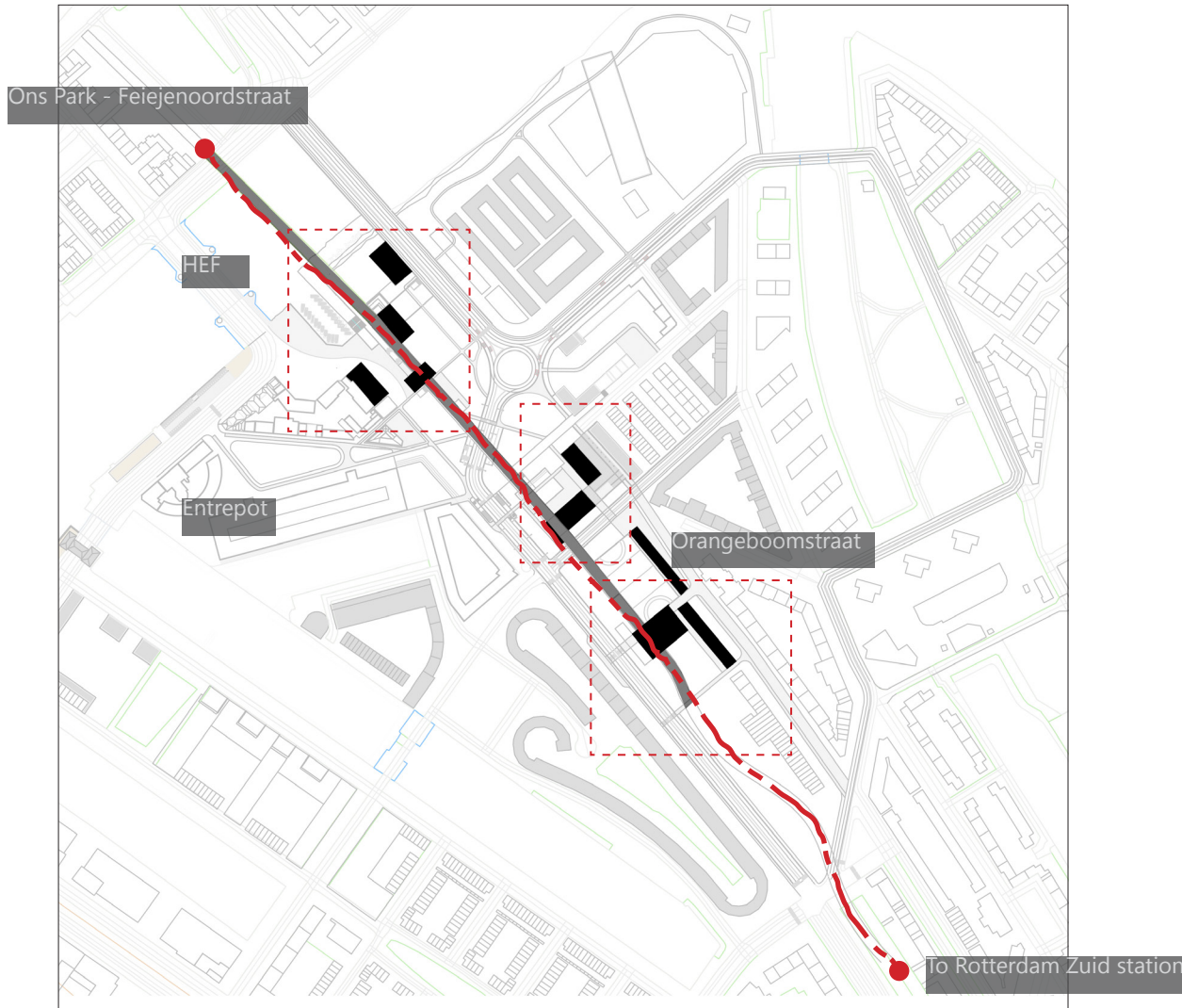
Scenario for night- withdraw activities into the buildings and then light them up

Billboards

Ground lighting in green areas

### 3. In-Between

Program Pavillions- Listed from North to South



The HEF bridge



Restaurant/Cafe for the HEF and the waterfront



Information centre



Gallery space



Bike rental



Event space+Library+Market



Hockey club



Allotment gardens

Placement of pavillions and programming, based on what is happening in its immediate context in Feijenoord.

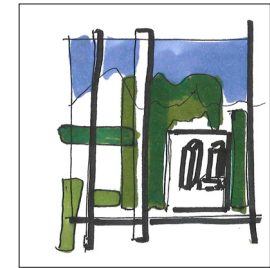


## 4. Landscape

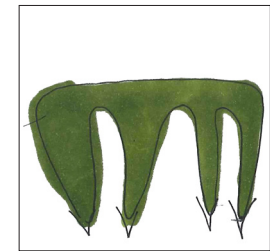
### Activators



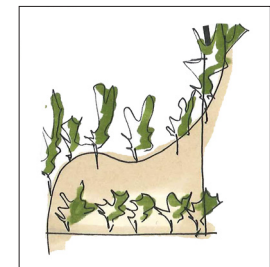
Section showing water retention- filtration and storage for rain water and grey water from neighborhood.



Connections to the waterfront



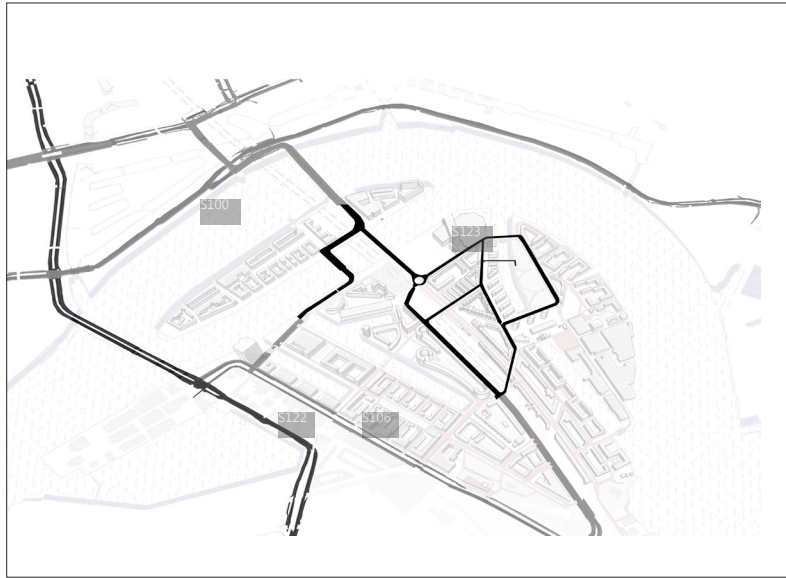
Develop a network of green fingers



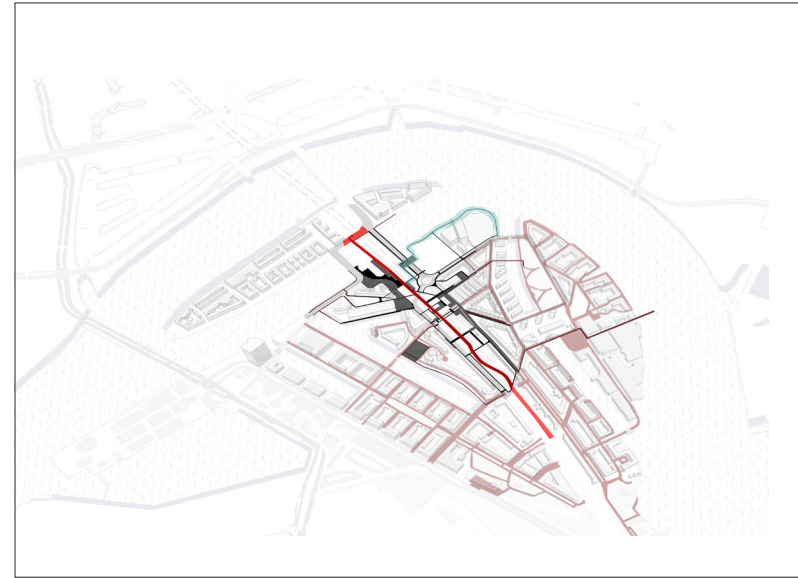
Plant consistent trees- 10,000 trees in 10 years

# 4. Landscape

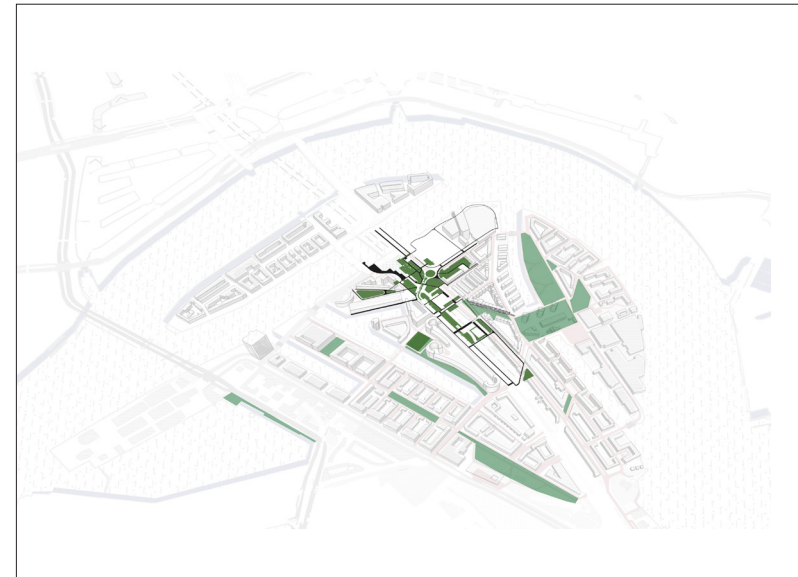
## Overview- Plugin





 Immediate connections     New Road



 Waterfront route     Bike  
 Hef route     Shared  
 Existing

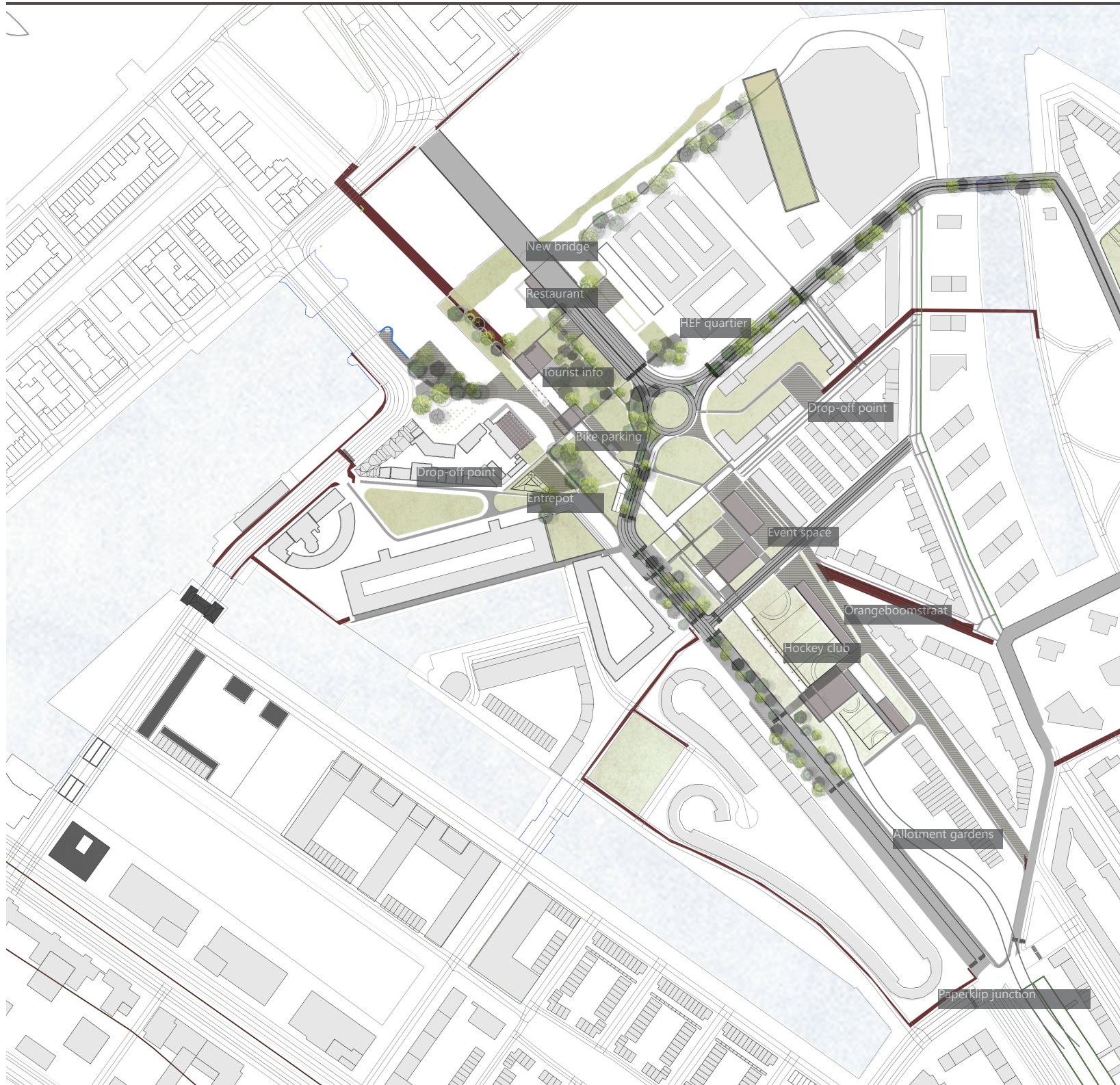


 Existing  
 New green proposed

Detail design



# Ground level composition plan





# Ground level composition plan

## Zone 1\_The approach

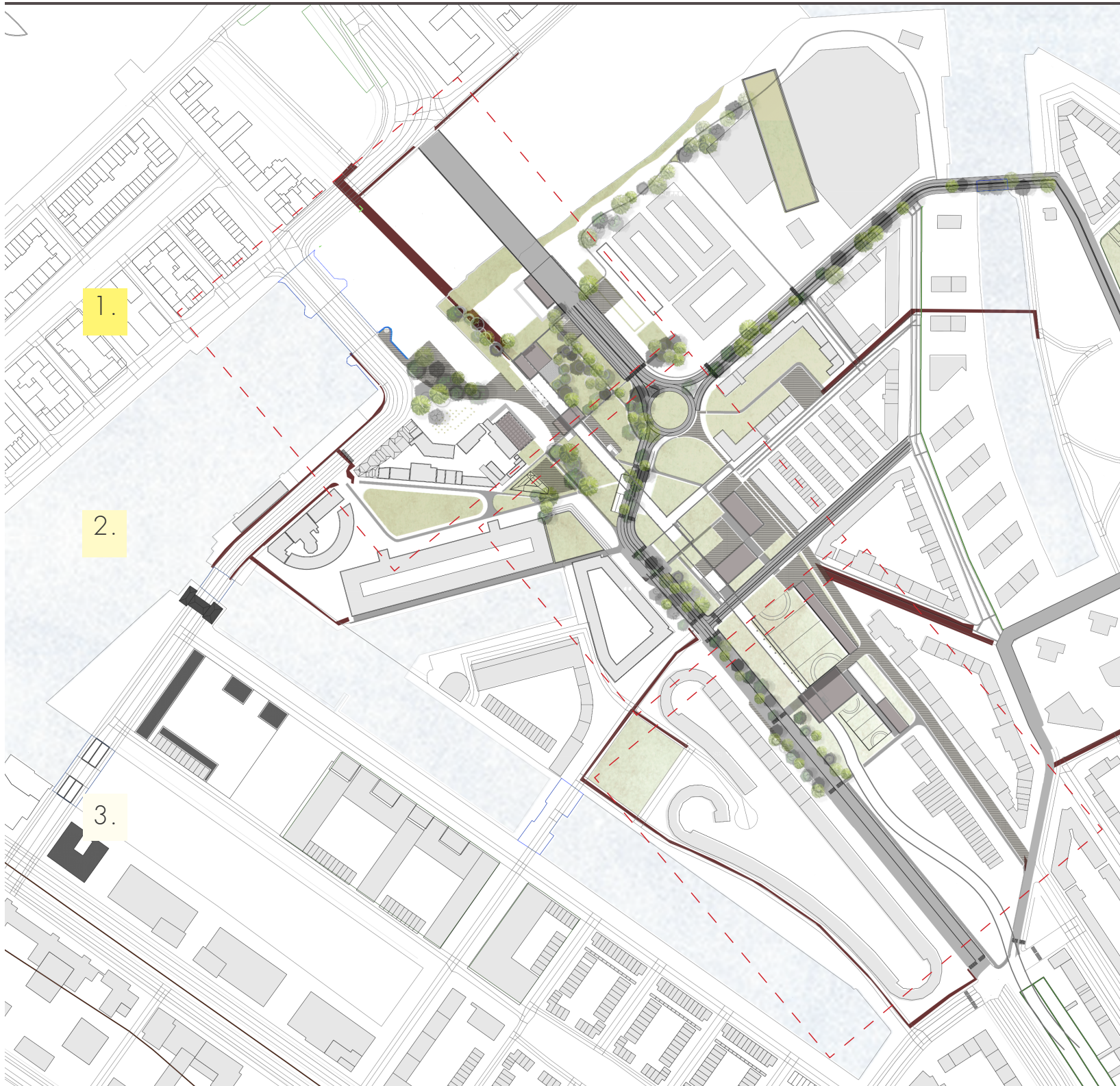
Programs and infrastructure caters to locals and tourists

## Zone 2\_Transit Hub

Program starts to transition towards more community involvement

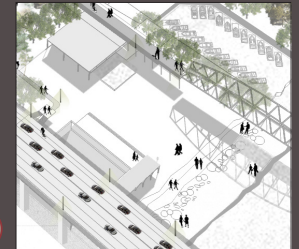
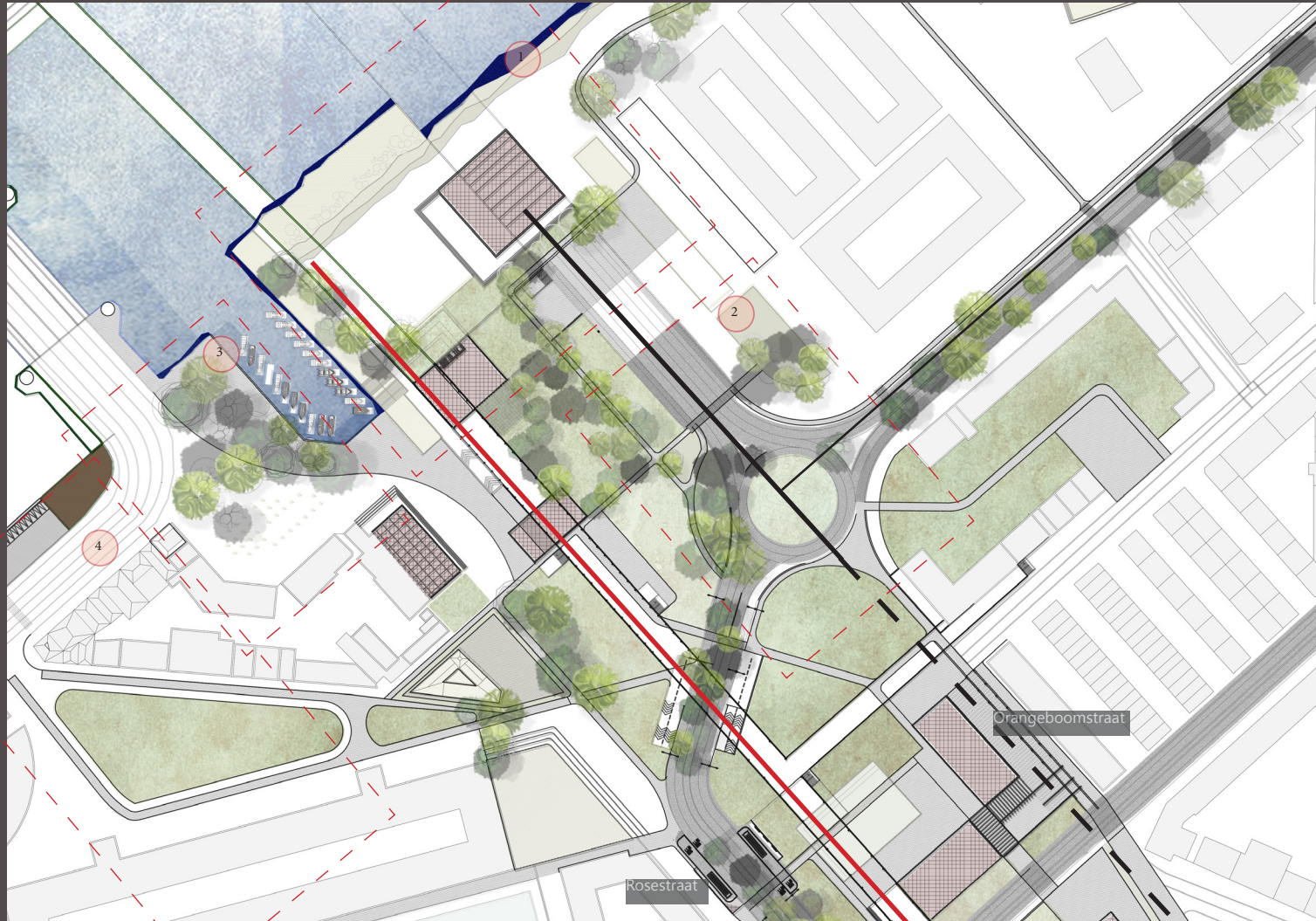
## Zone 3\_Community

Program primarily caters to the community



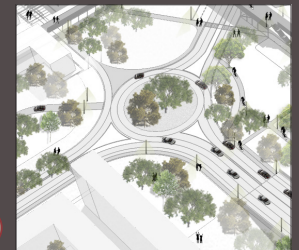


# Zone 1



1

Restaurant+beach



2

Roundabout Extension



3

Harbor Square

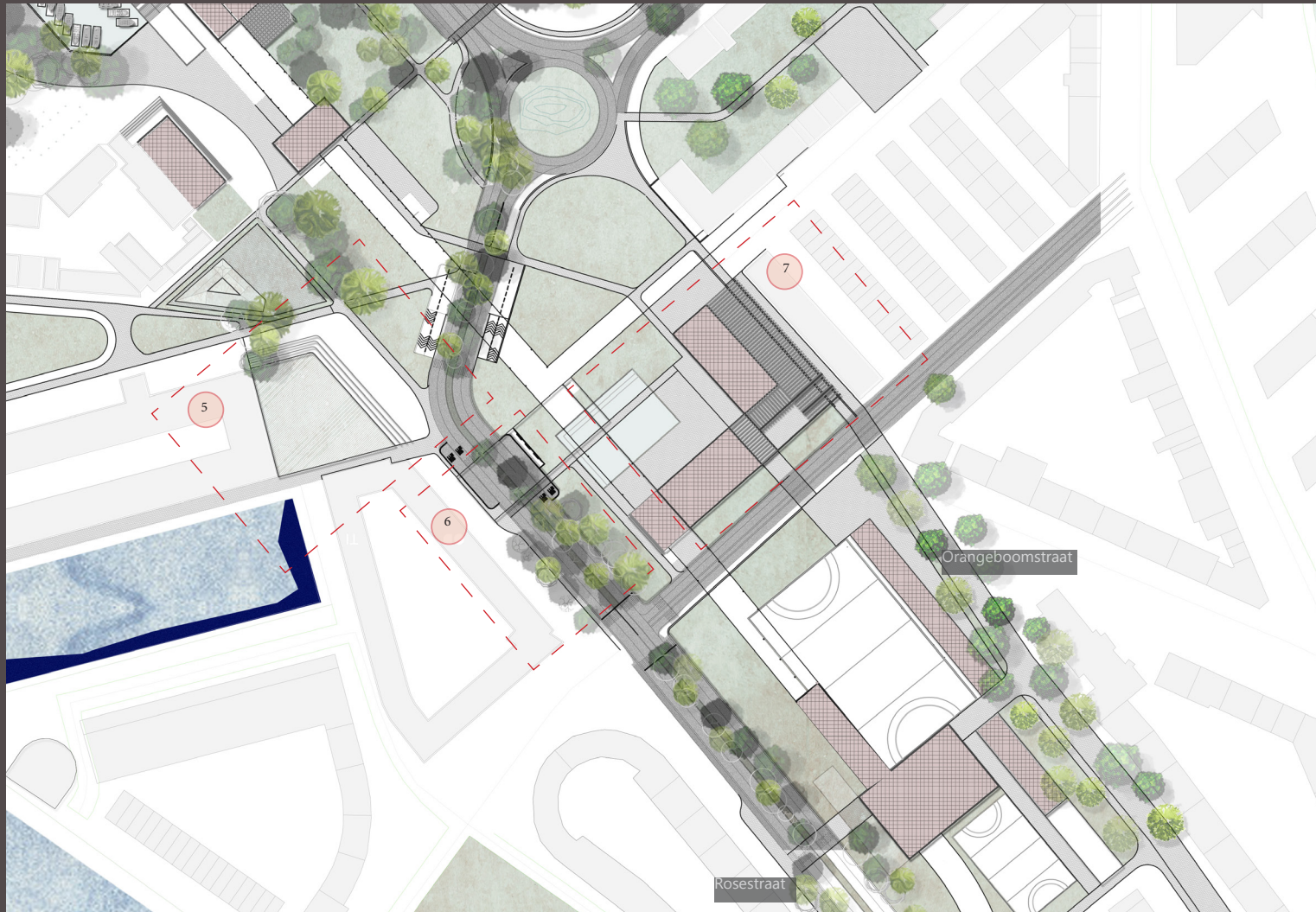


Drop-off Loop

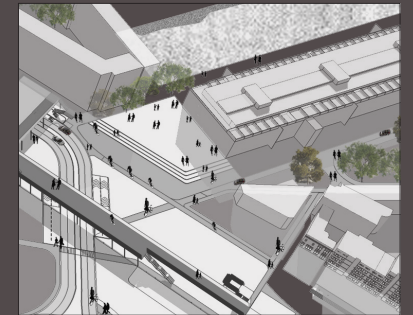
4



# Zone 2

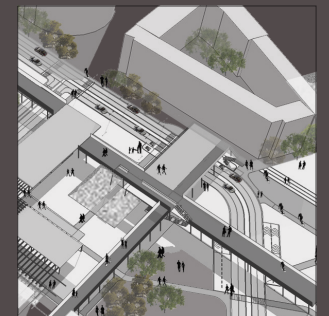


5



Entrepot square- exit

6



Bus Stop

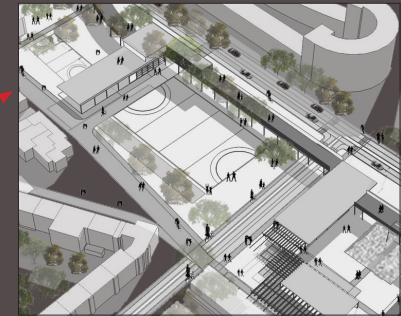
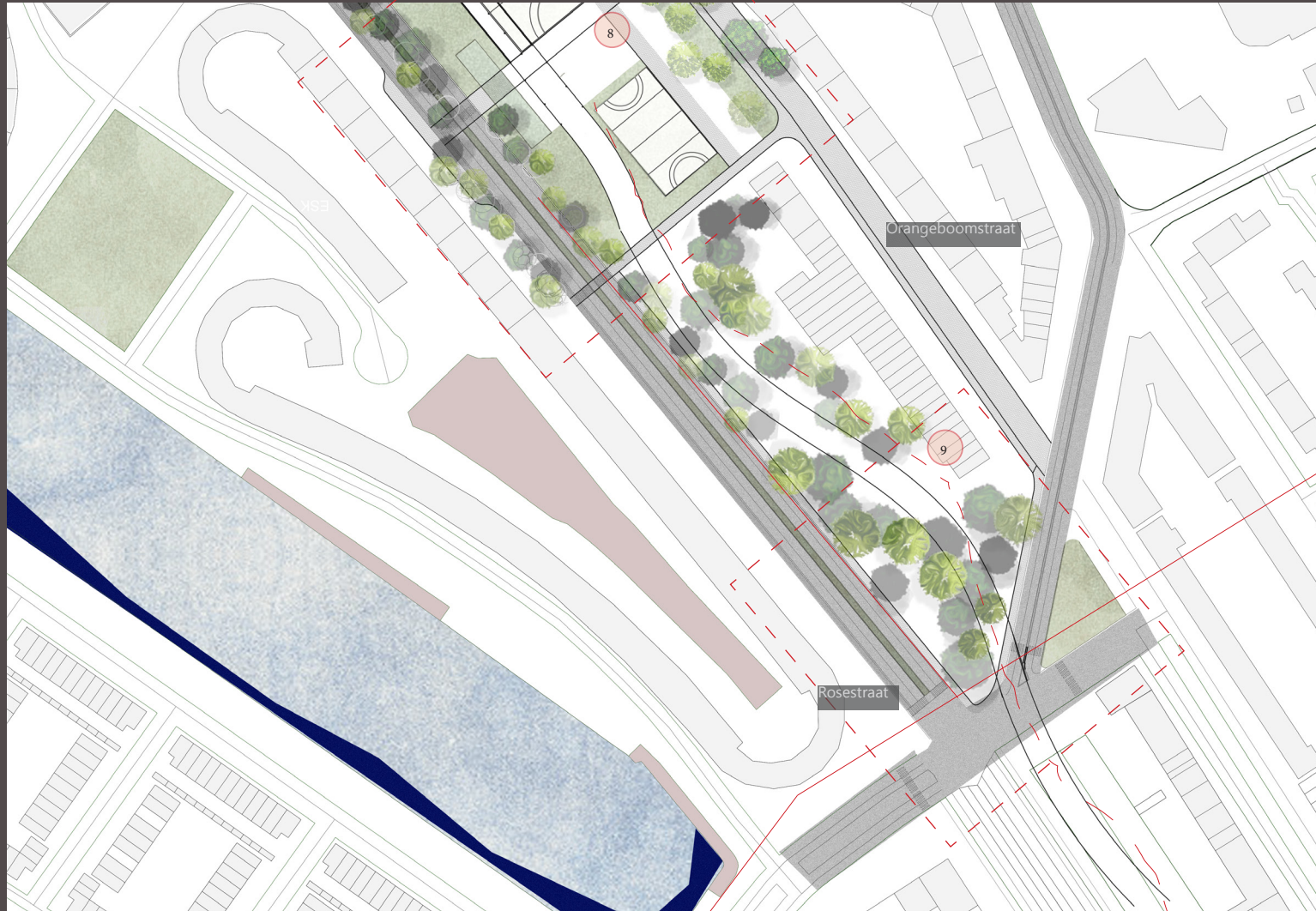
7



Event Space +  
Orangeboomstraat  
connection



Zone 3



8

Hockey Club

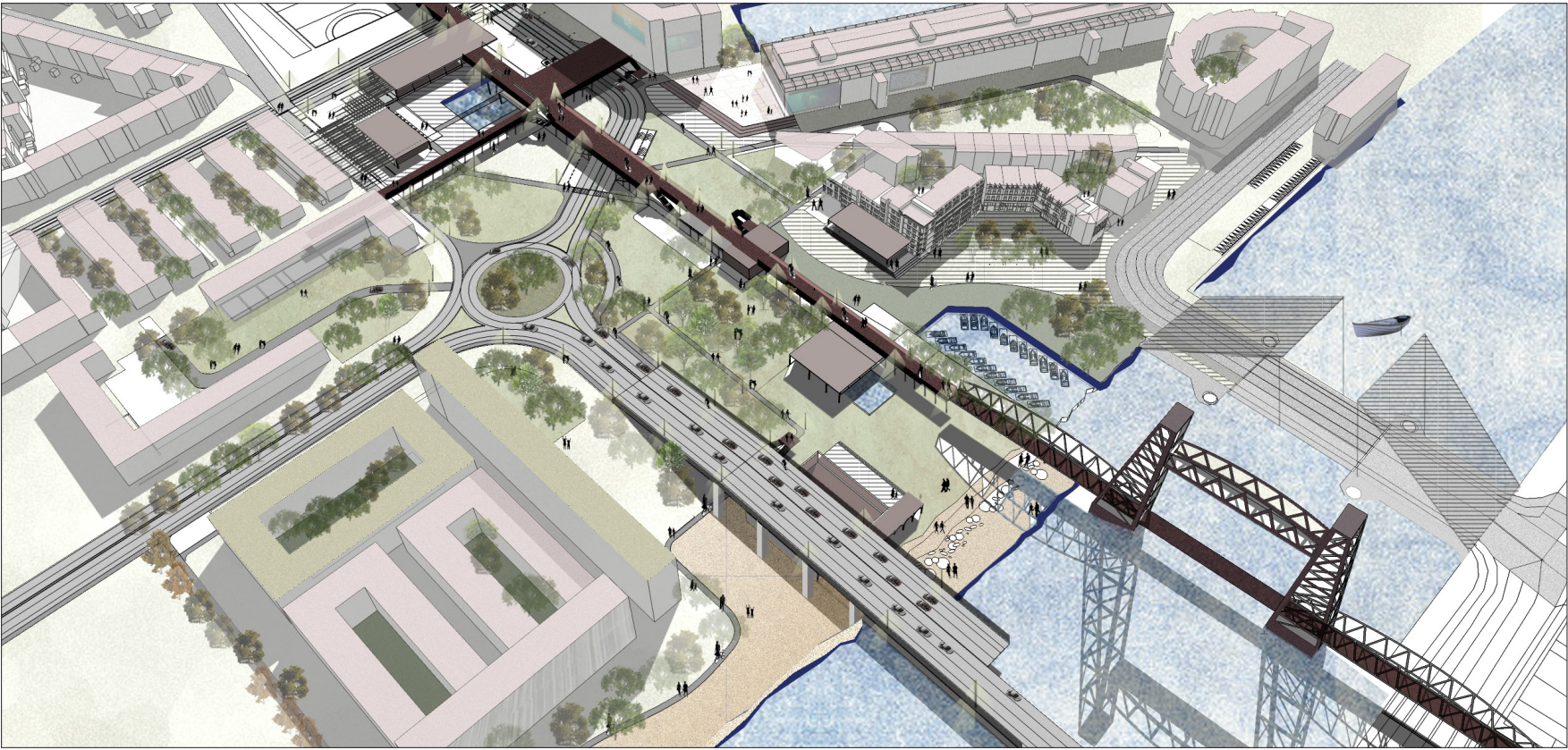


9

Allotment Gardens + Paperclip Junction



Overview 1



Overview showing a cohesive interpretation of the design strategy- movement patterns- vehicular+pedestrian and design of in-between spaces- EXTENSION OF THE HEF



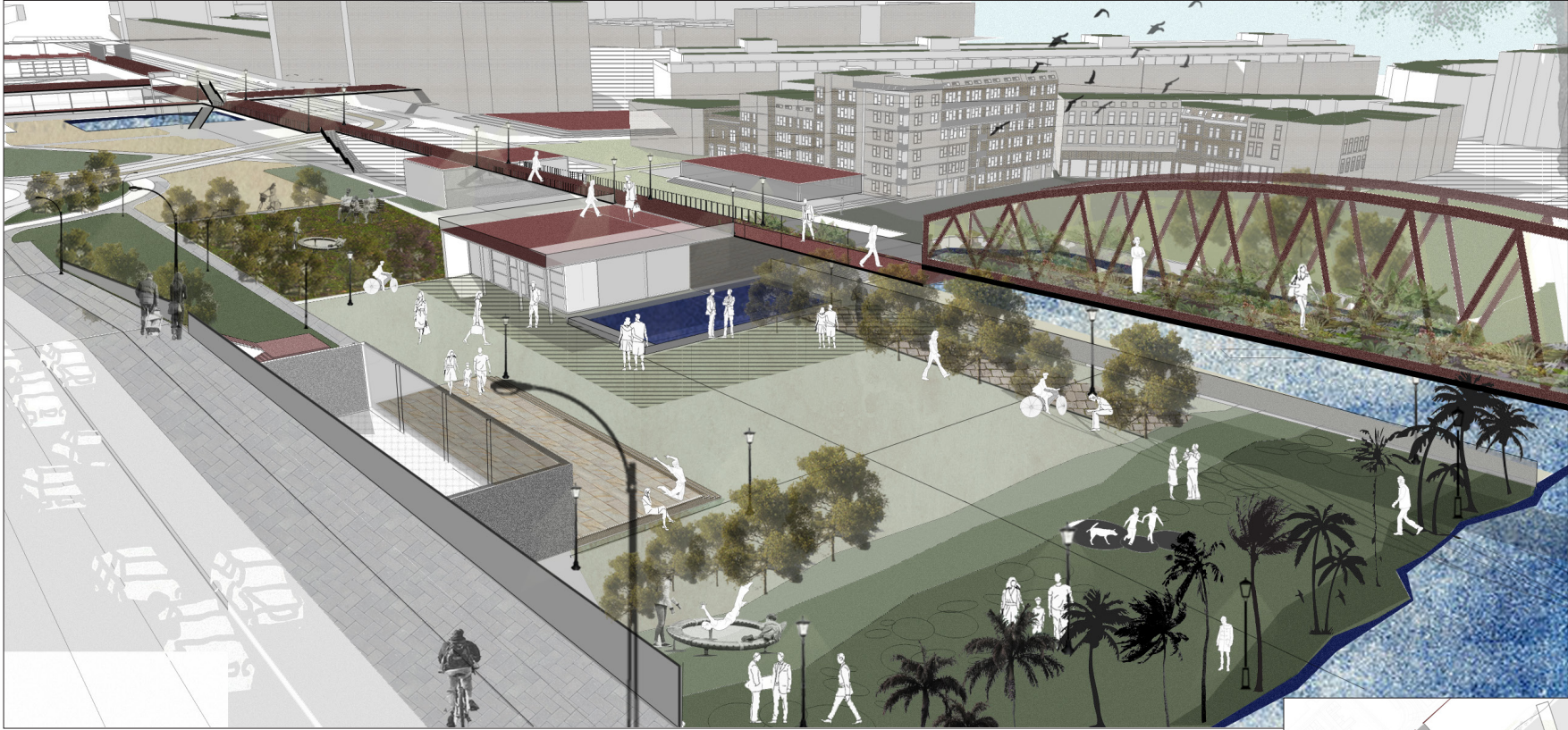
## Overview 2



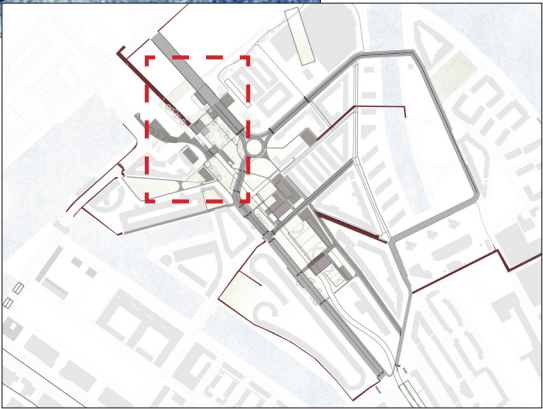
Overview showing a cohesive interpretation of the design strategy- movement patterns- vehicular+pedestrian and design of in-between spaces-  
EXTENSION OF THE HEF



Approach to Site- through the New Bridge

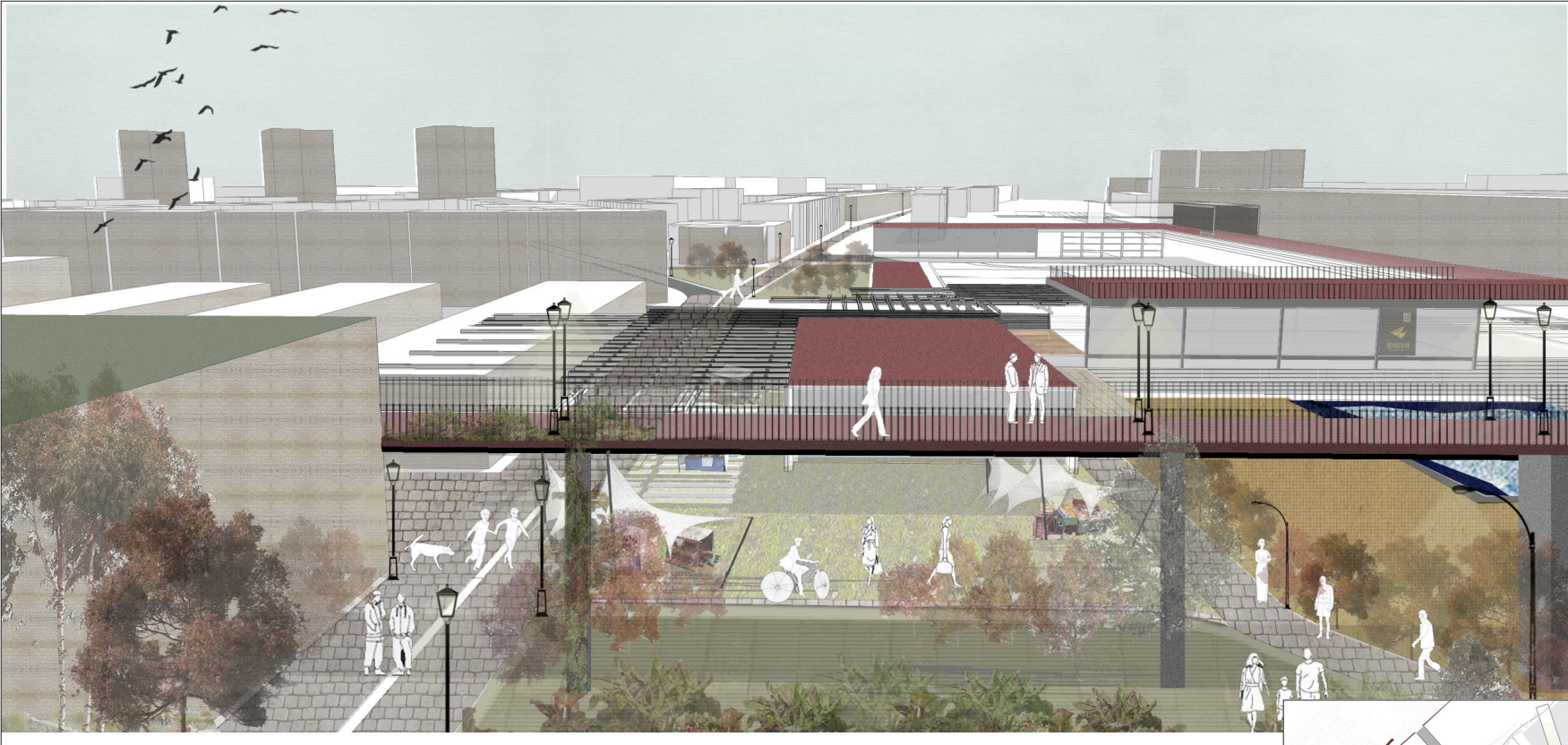


View from the new bridge

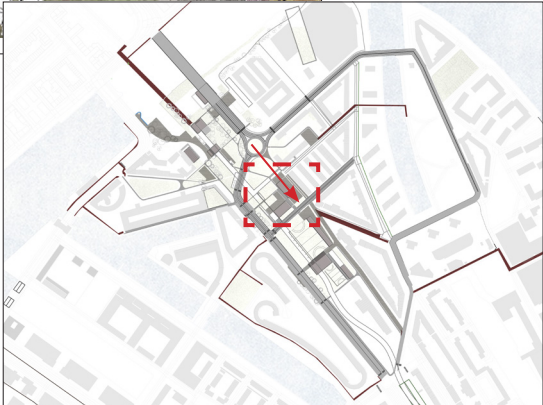




Event area + Continuity of Orangeboomstraat

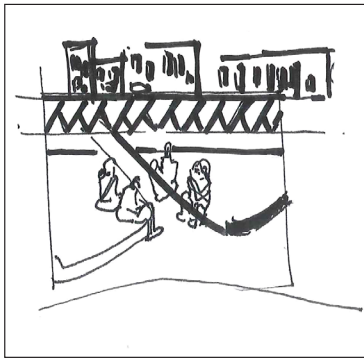
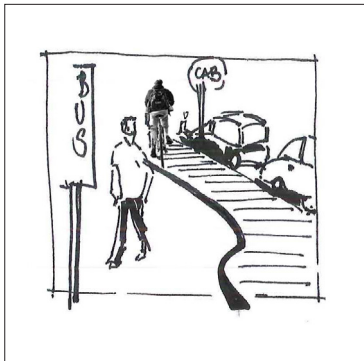
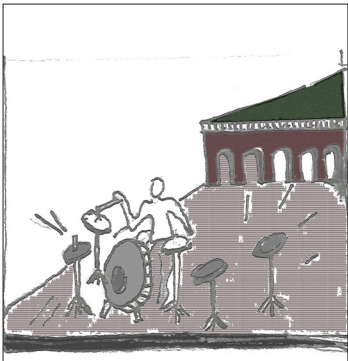
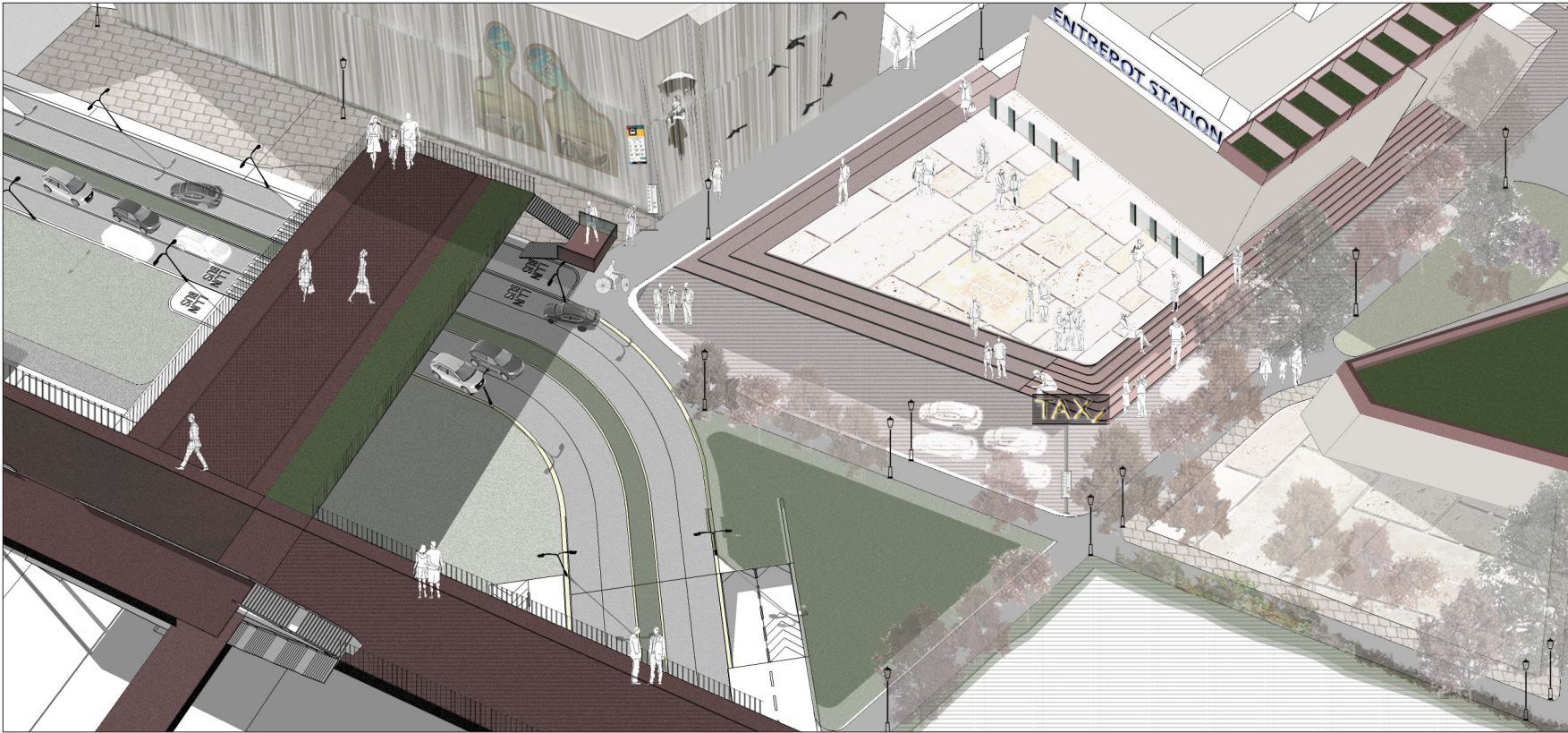


View from Roundabout into Orangeboomstraat

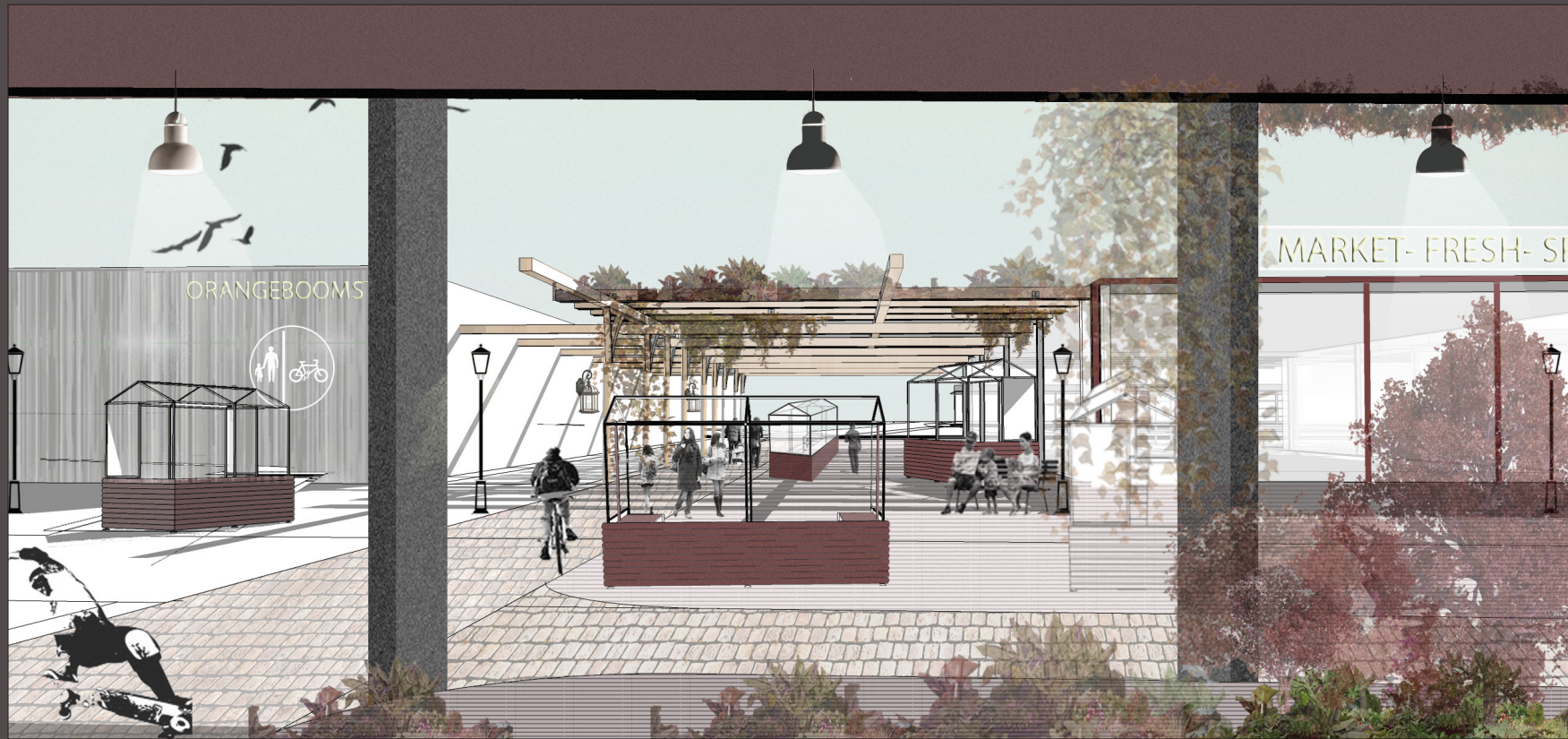




Entrepot\_ as viewed from the HEF









Overview- Continuity



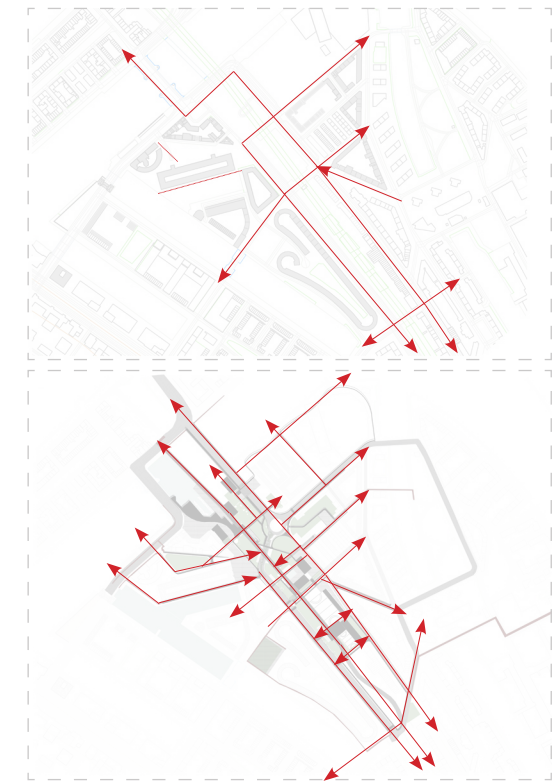
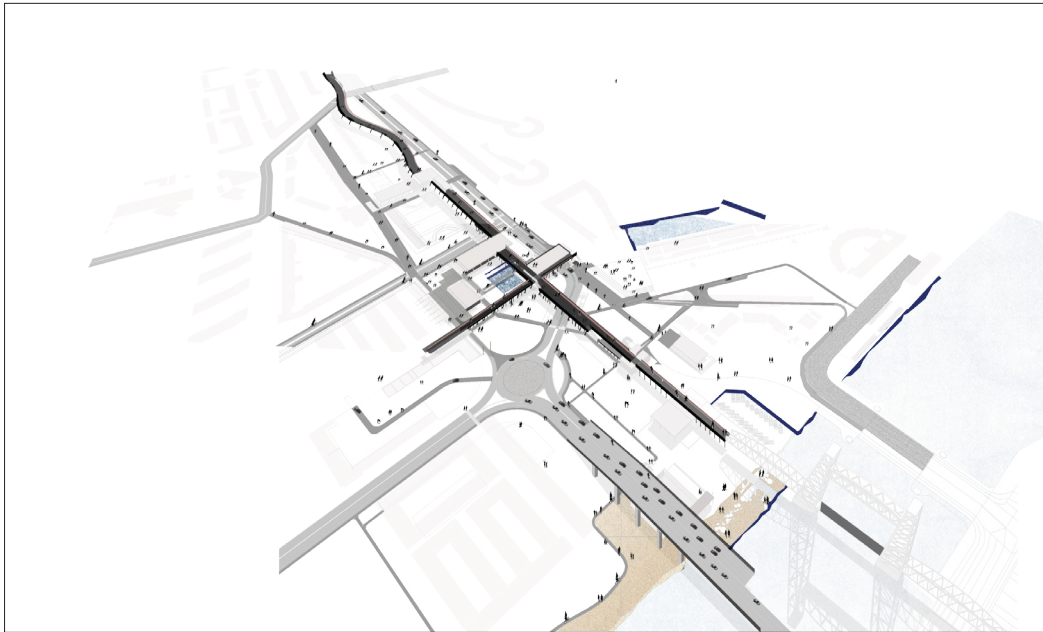


# Overview- Continuity



## Everyday public space- multi-level- leading to different readings of Feijenoord

- Reconnect pedestrian connectivity in the core- via secondary road network and in-between spaces
- Improve pedestrian accessibility of urban dwellers along the project

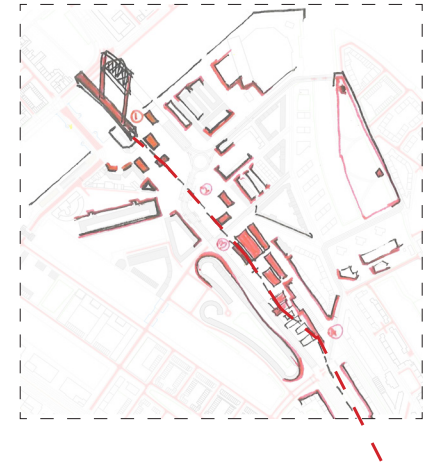
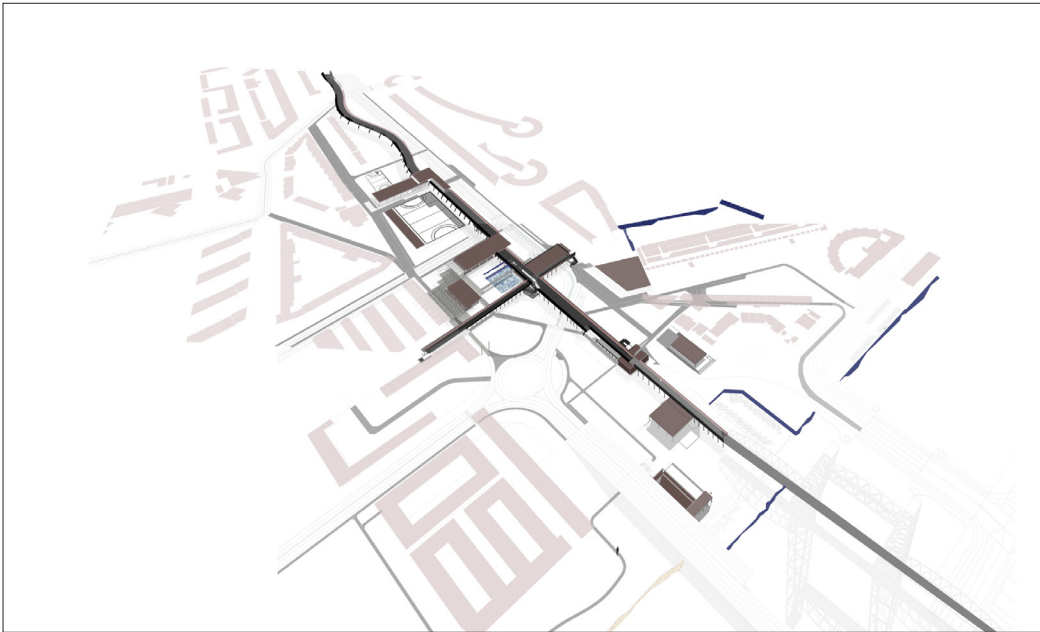


← New connections to activate core and East-West Feijenoord



## The HEF and its support structure- program pavillions

- Pavillions and other programmatic developments like the Entrepot to generate developer interest + improve lack of resources and hence jobs and also informal activity
- Connect with existing open space assets and further serve as guide to them
- Alleviating stress of front station by introducing different urban experiences + connecting with other commercial districts

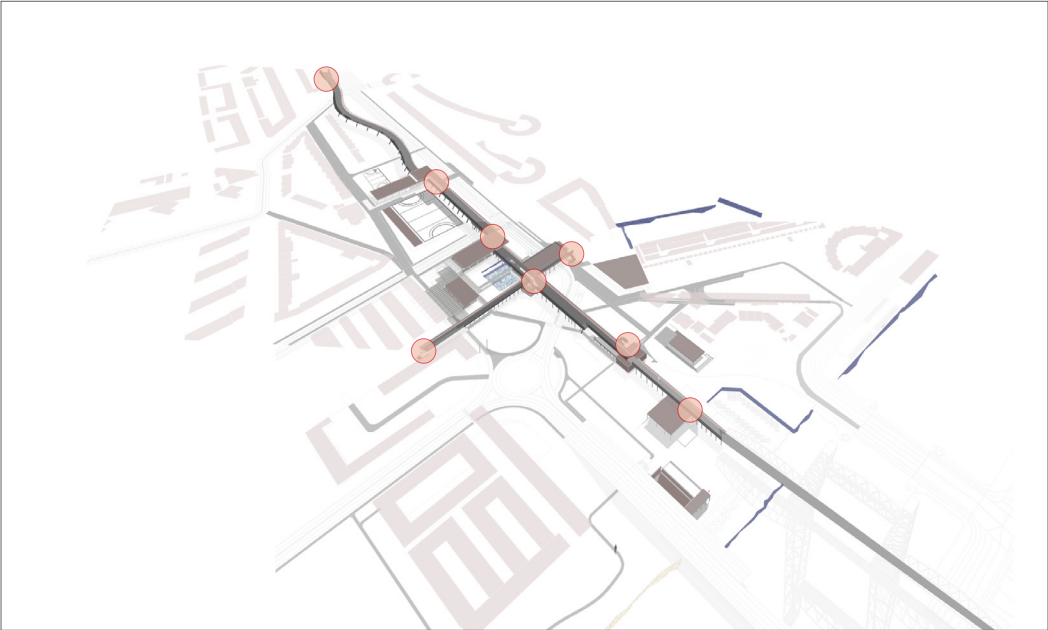


Program Pavillions and the immediate context they activate- are a consequence.

# The HEF and its support structure- program pavillions

HEF as home

HEF as home- Lending Identity to Infrastructure



● Exits from the HEF

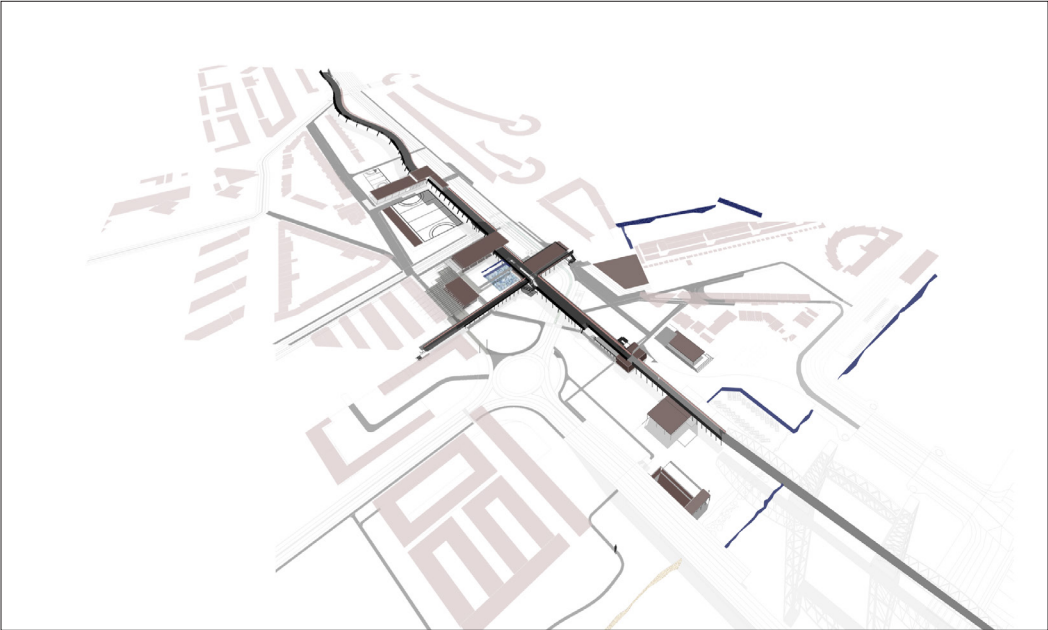


The Highline, New York



The HEF

Reference



Lijnbaan, Rotterdam

# Scope of site

Different qualities of spaces zoned post design intervention- Actions and Interactions

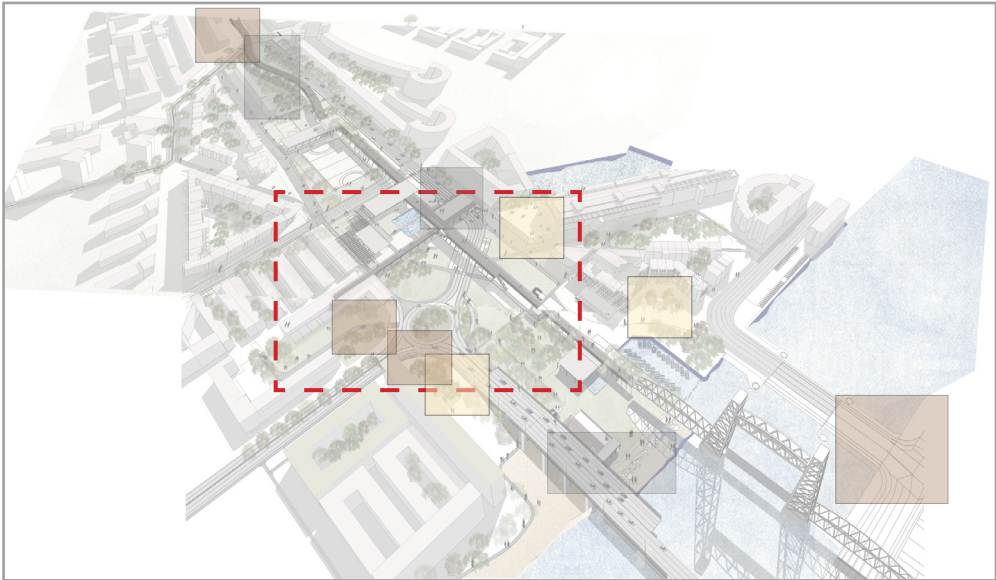


Diagram of Interaction zones

Local meeting point



Inviting Entrance



Junctions

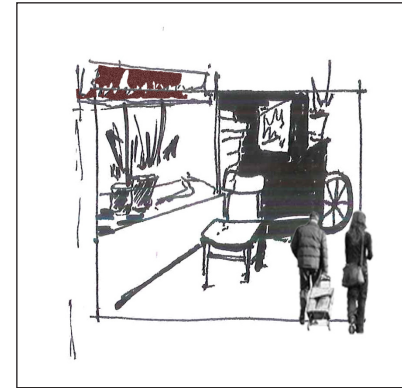
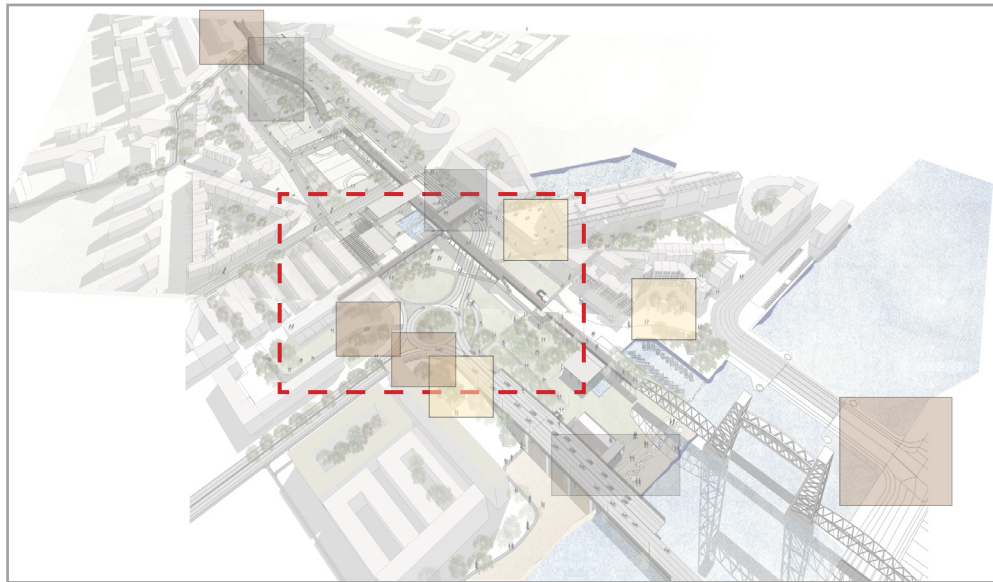


City focal point

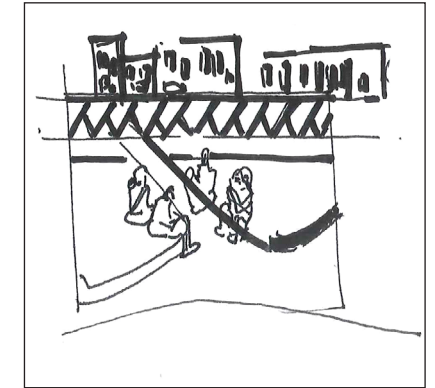


# Scope of site

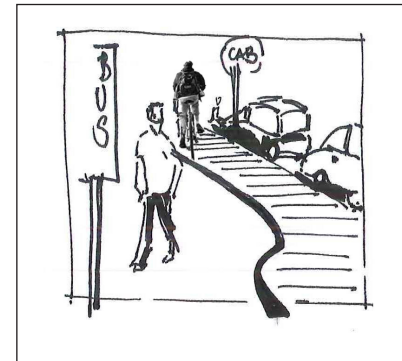
Actions and Interactions- Informal Activity in the area



Thresholds extension



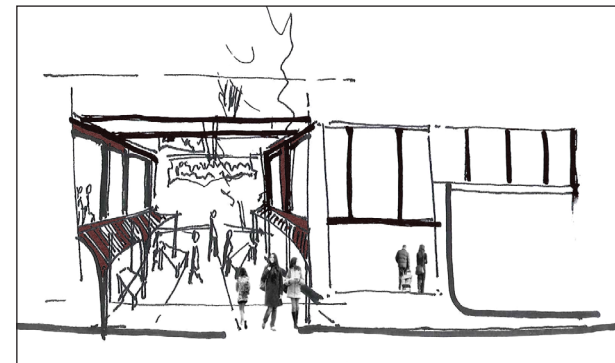
Using the curb for gathering



Waiting zones- shared cab stand



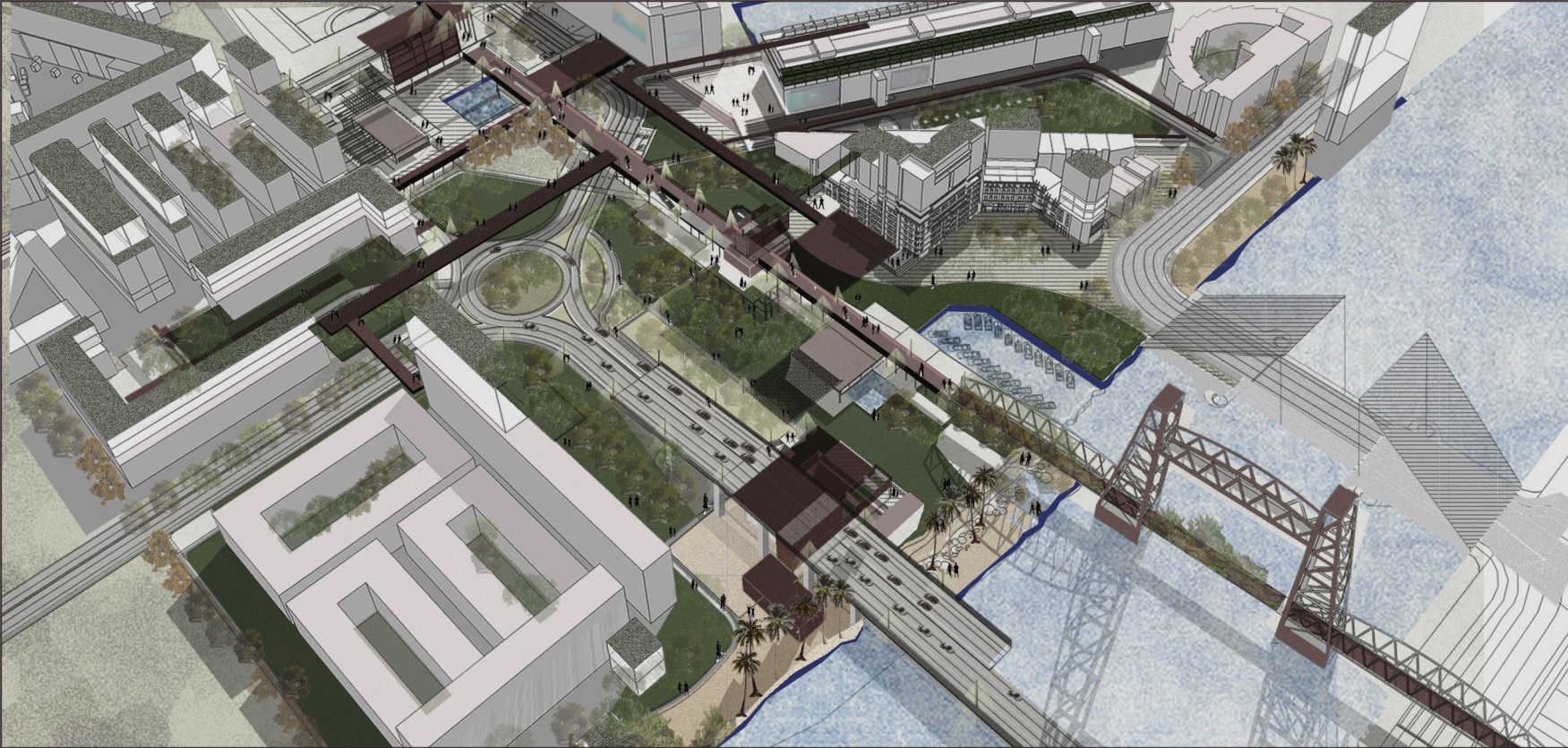
Market street



Oranboomstraat when activated by market

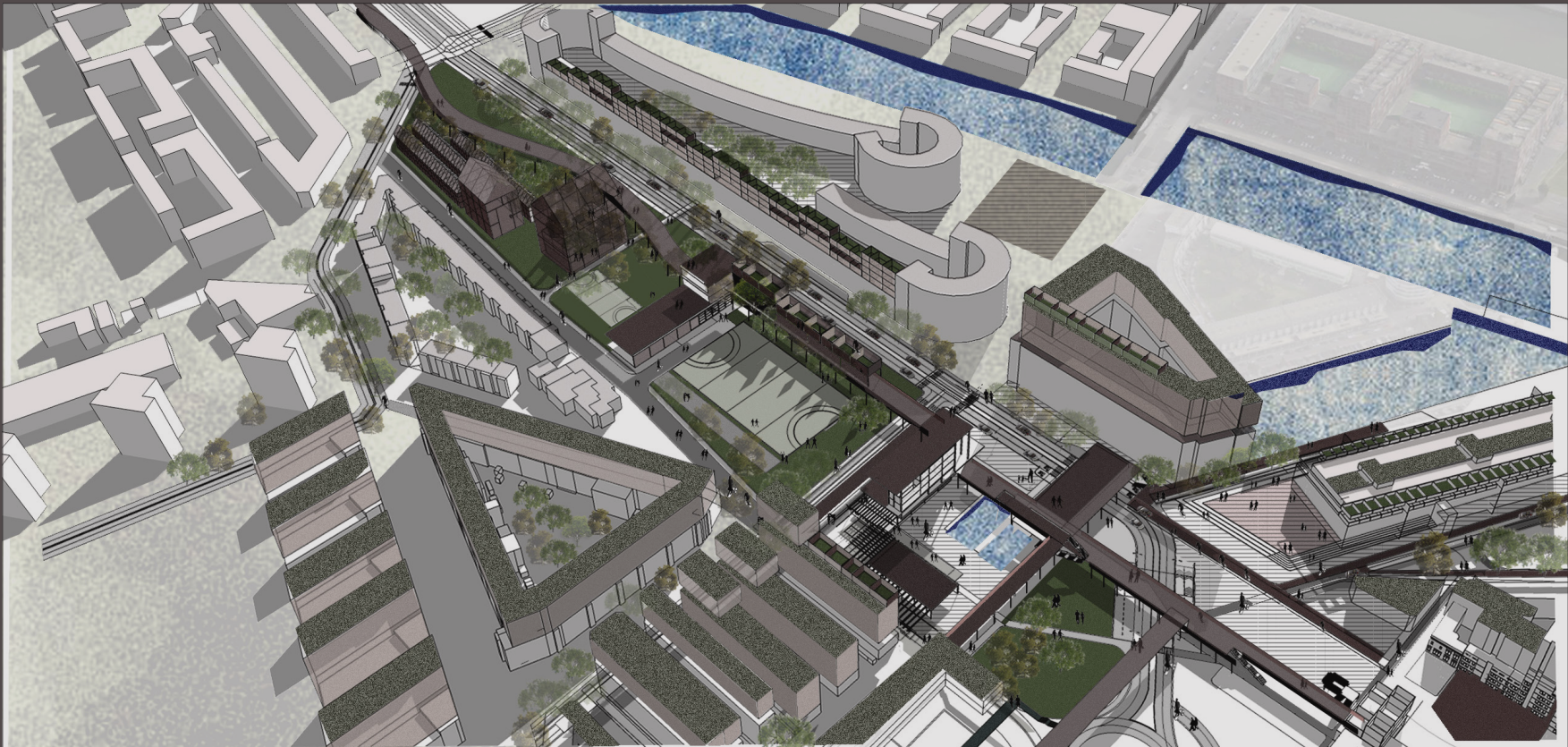


Overview- Continuity





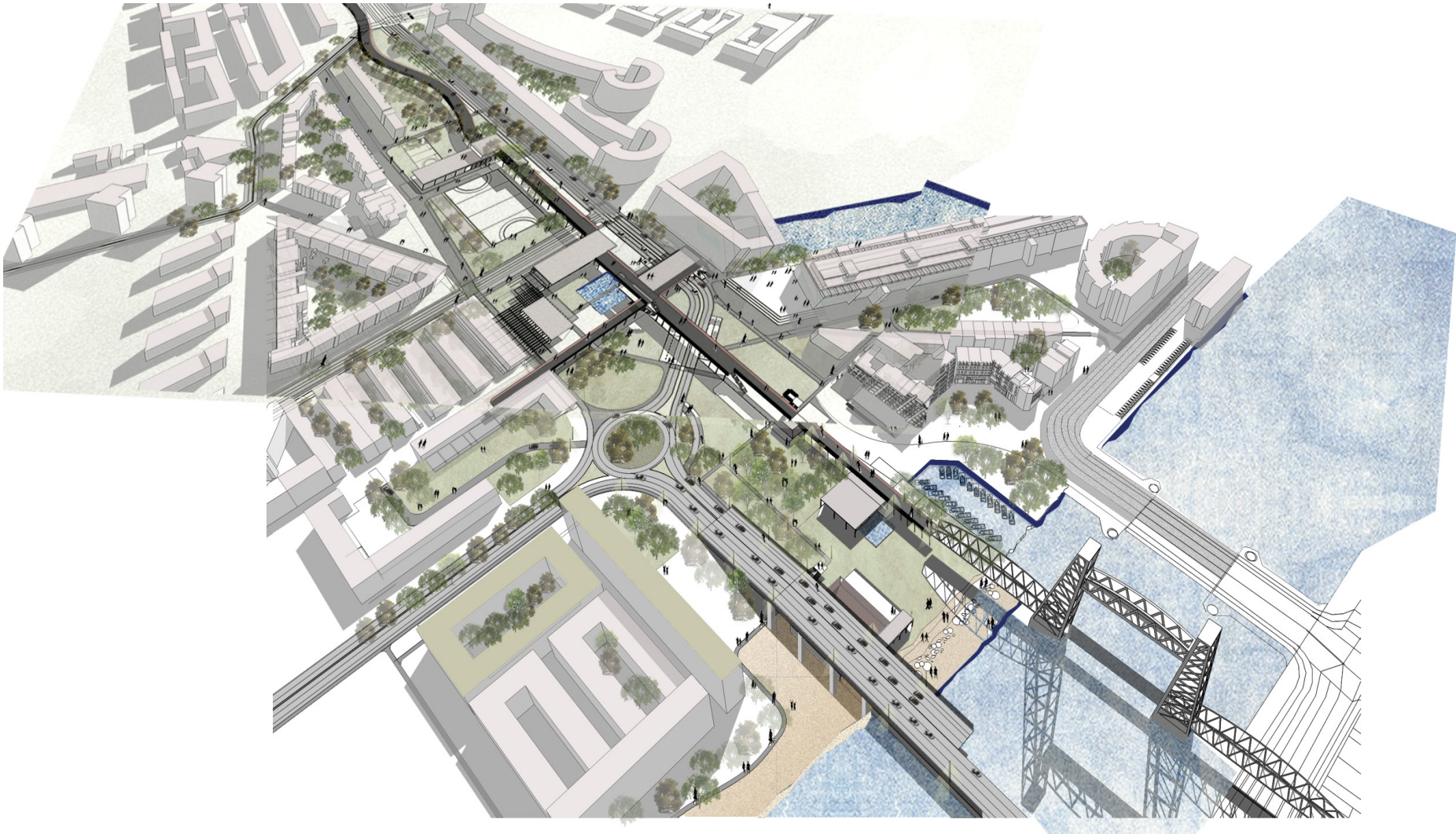
Overview- Continuity







Overview- Continuity



# Stakeholders

## Actors + Approach



Top- Down



Constructing Top-Down transportation infrastructure projects as activators of urban regeneration and growth

Opportunity to implement innovation- and contain all actors

Bottom-Up



Using Bottom-up strategies to mitigate impacts of these developments- integration

Engagement of Actors in the design process



**THANK YOU!**