An aerial map of Amsterdam serves as the background. Overlaid on the map are several circular icons representing different modes of transport: a car, a bicycle, a person walking, and a car with a Wi-Fi symbol. In the center of the map, two black silhouettes of people are walking towards each other. The title 'FUTURE MOBILITY' is in large black letters, and 'X LIVABILITY' is in large red letters.

# FUTURE MOBILITY X LIVABILITY

NEW OPPORTUNITIES FOR  
ENHANCING LIVABILITY IN  
**AMSTERDAM**

KENDRA HEIDE

P5 PRESENTATION

5 JULY 2019





Safety

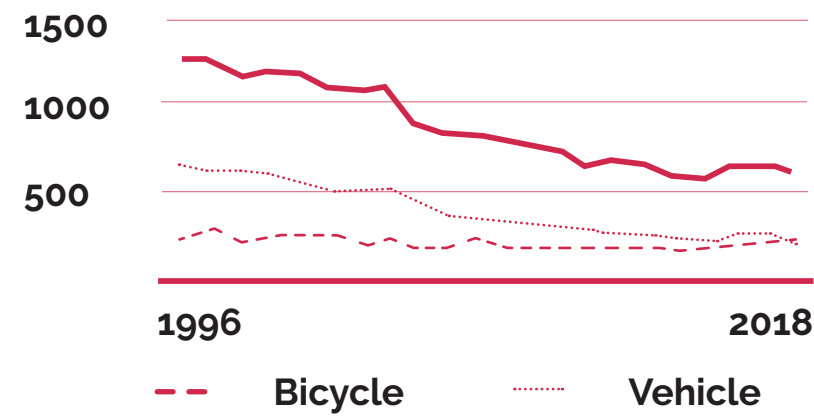


Accessibility



Environment  
& Health

Increased Amount of traffic Accidents



Increased Congestion



Increased Noise Disturbance



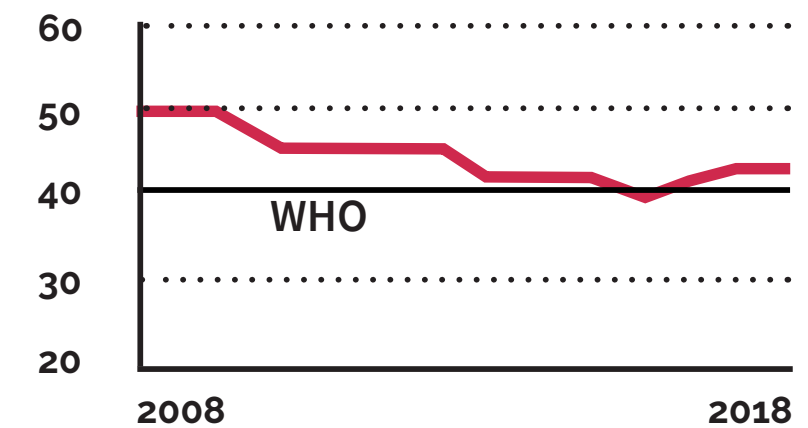
Cycle safety



Increased Parking pressure



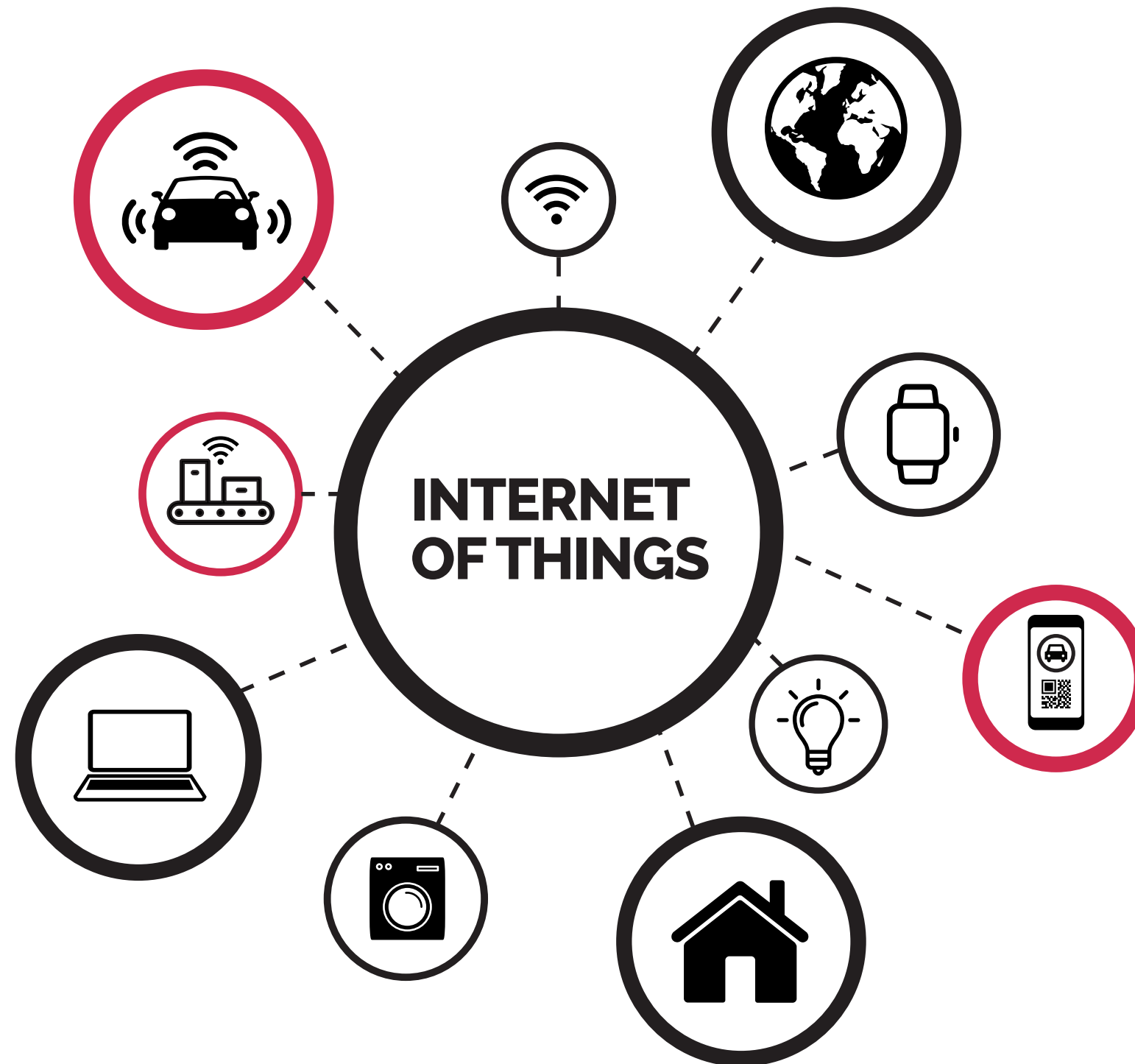
Increased Pollution  
Amount of NO<sup>2</sup>





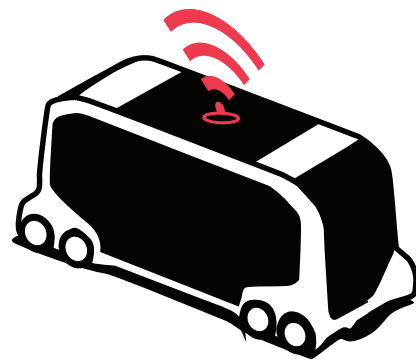




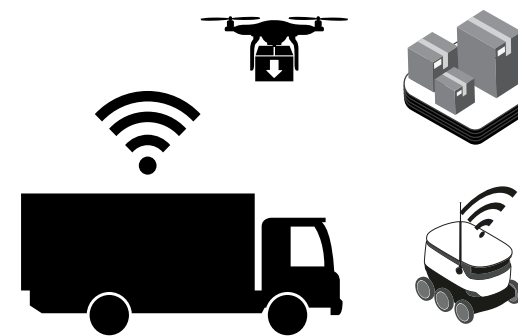




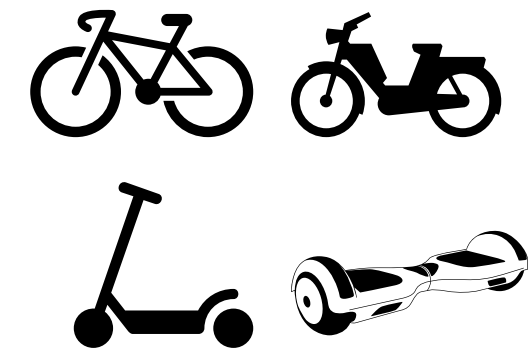
## **AUTOMATED MOBILITY**



**AUTOMATED VEHICLES**



**SMART LOGISTICS**



**MICRO-MOBILITY**







**// WITH RESPECT TO AMSTERDAM'S POPULATION  
GROWTH, HOW CAN THE IMPLEMENTATION OF  
AUTOMATED MOBILITY CONTRIBUTE TO ENHANCING  
LIVABILITY AND THE ENVIRONMENTAL HEALTH IN  
THE CITY? //**

**WHAT IS LIVABILITY?**  
**WHAT ARE THE INDICATORS?**

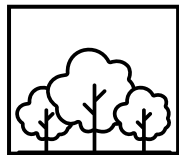


Livability could be seen as a range of issues relating to the 'quality of life and well-being'. It is a place based concept that refers to the elements of a home, neighbourhood, or city that contribute to quality of life and well-being.

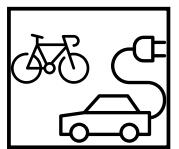
(Giap, Thy & Aw, 2014)



Encourage walkability



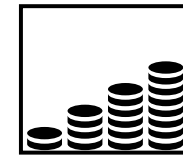
Enhance green spaces



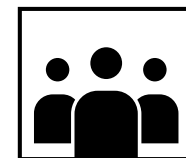
Varied sustainable transportation network



Access to good quality public space



Create economic opportunities



Encourage social interaction



Development of mixed use neighbourhoods



Ensure safety







An aerial photograph of Amsterdam, showing a dense urban landscape with a complex network of canals, streets, and green spaces. A specific area in the center of the city is highlighted with a white dotted line, indicating the focus of the research. The highlighted area includes a mix of residential buildings, parks, and infrastructure. The text 'RESEARCH AIM' is overlaid on the right side of the image in a bold, black, sans-serif font.

## RESEARCH AIM

**To create a healthy & livable urban environment for the growing population of Amsterdam with the implementation of automated mobility**



REALITY  
SLOTERDIJK

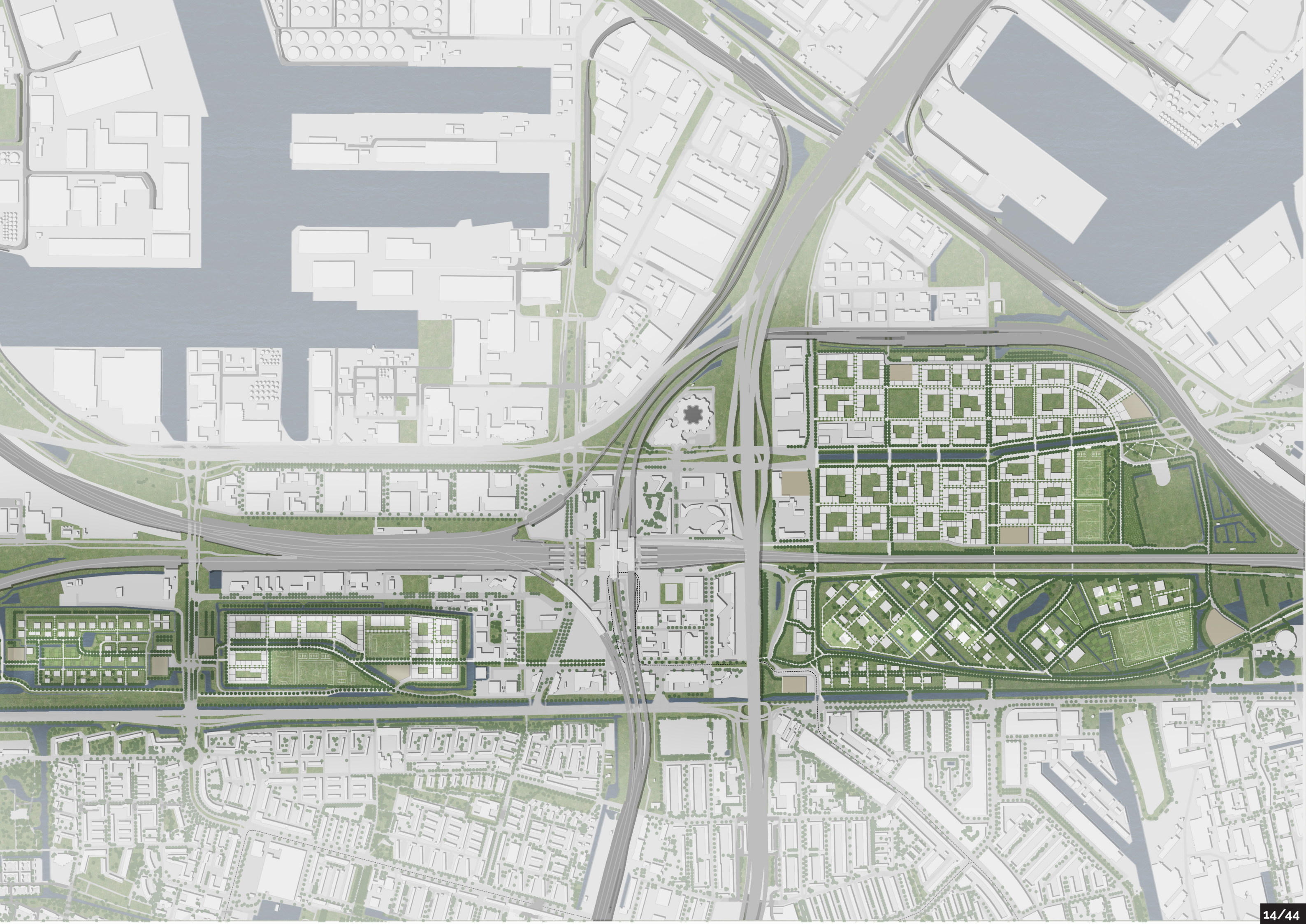




# REALITY CITY CENTRE













# AMSTERDAM 2060









DVG real estate

CRYSTAL TOWER

Amsterdam Sloterdijk

Amsterdam Sloterdijk

SLOTERDIJK STATION

122

HAVEN CITY  
105

AMSTERDAM CENTRAAL STATION  
136

BUSINESS PARK  
SLOTERDIJK  
150

WELCOME ANA!  
YOU ARE SHARING  
A RIDE WITH  
4 PEOPLE

CAR 2 GO  
5 MIN

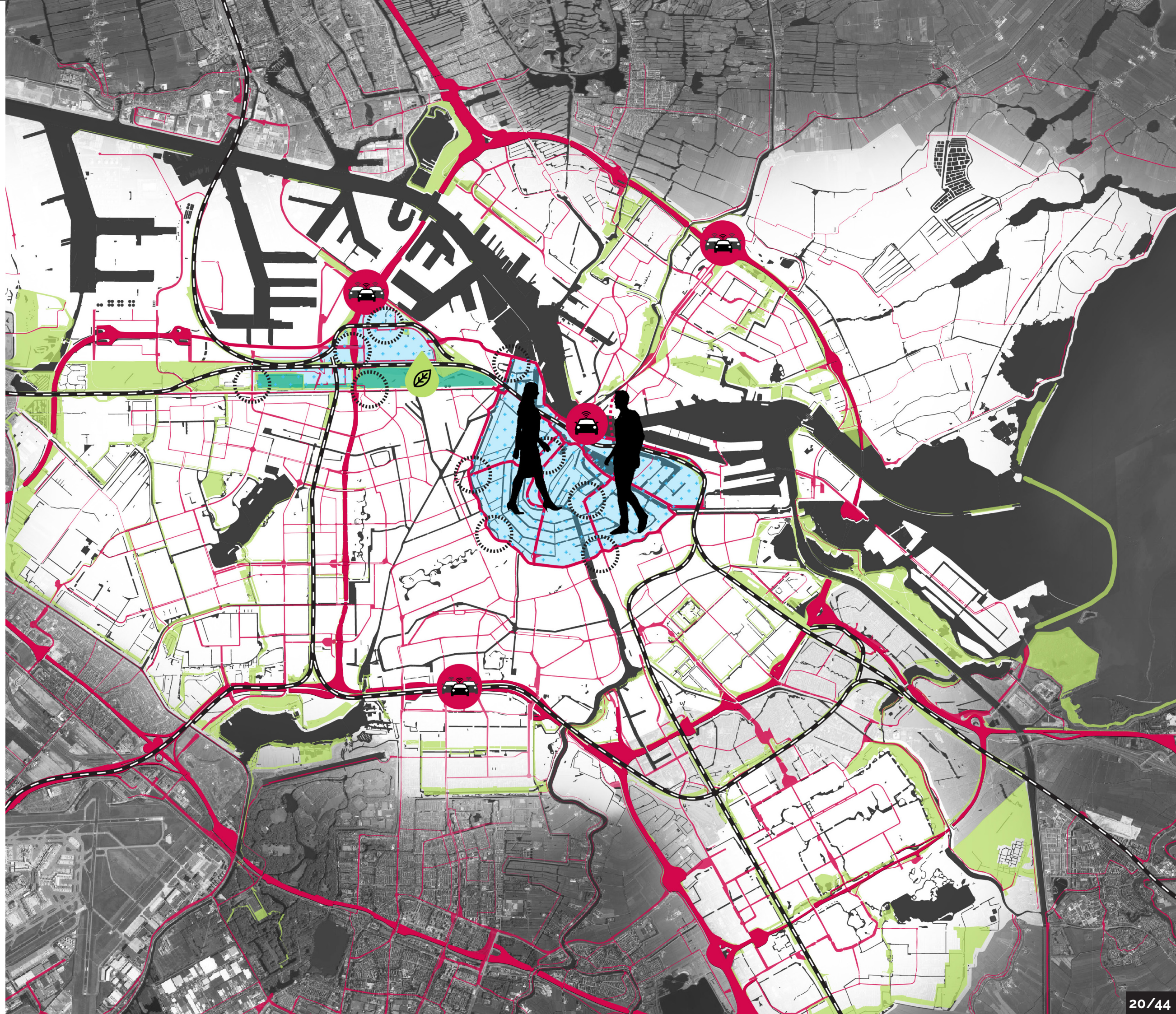






+ **AMSTERDAM**  
SPATIAL VISION

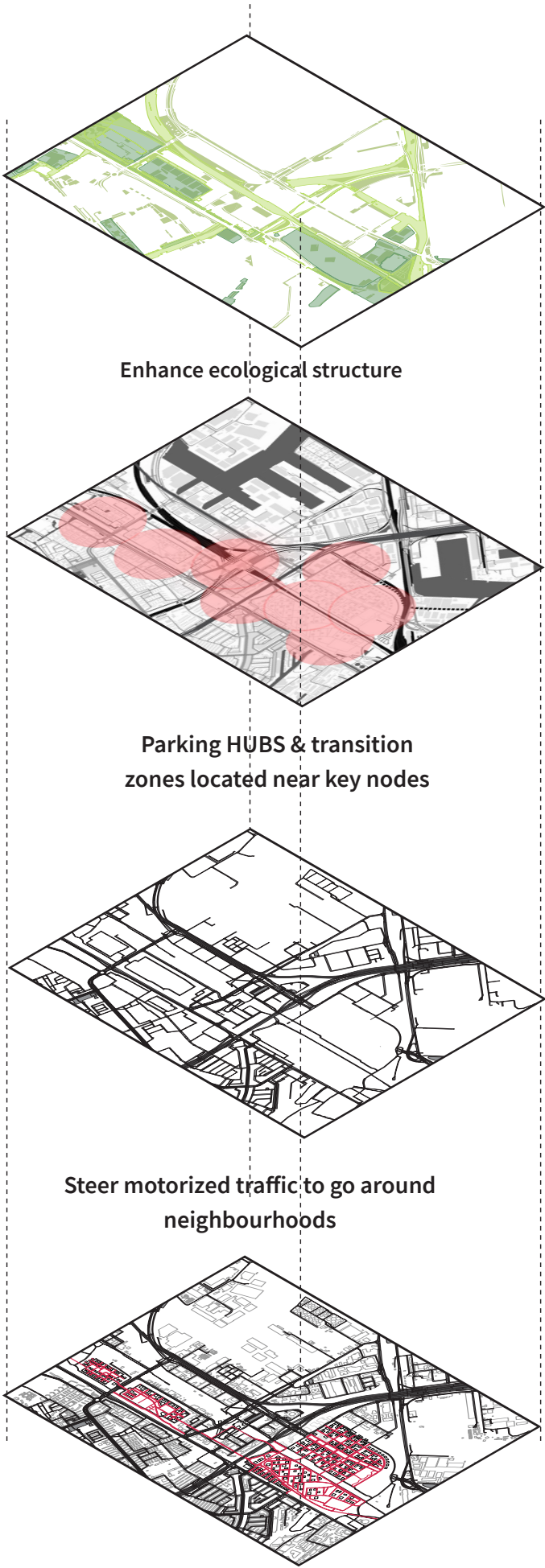
-  FAST AUTOMATED MOBILITY ROUTE HIGHWAY
-  CITY CENTRE CONNECTION ROUTES AUTOMATED MOBILITY
-  MAIN ROADS AUTOMATED MOBILITY
-  EXISTING ECOLOGICAL STRUCTURE
-  NEW ECOLOGICAL CORRIDOR
-  PARKING HUBS/ TRANSITION ZONES
-  IMPROVED AIR QUALITY
-  AUTOMATED CARS ON HIGHWAY
-  AUTOMATED CARS ON MAIN ROADS
-  ENHANCE/PRESERVE ECOLOGICAL STRUCTURE



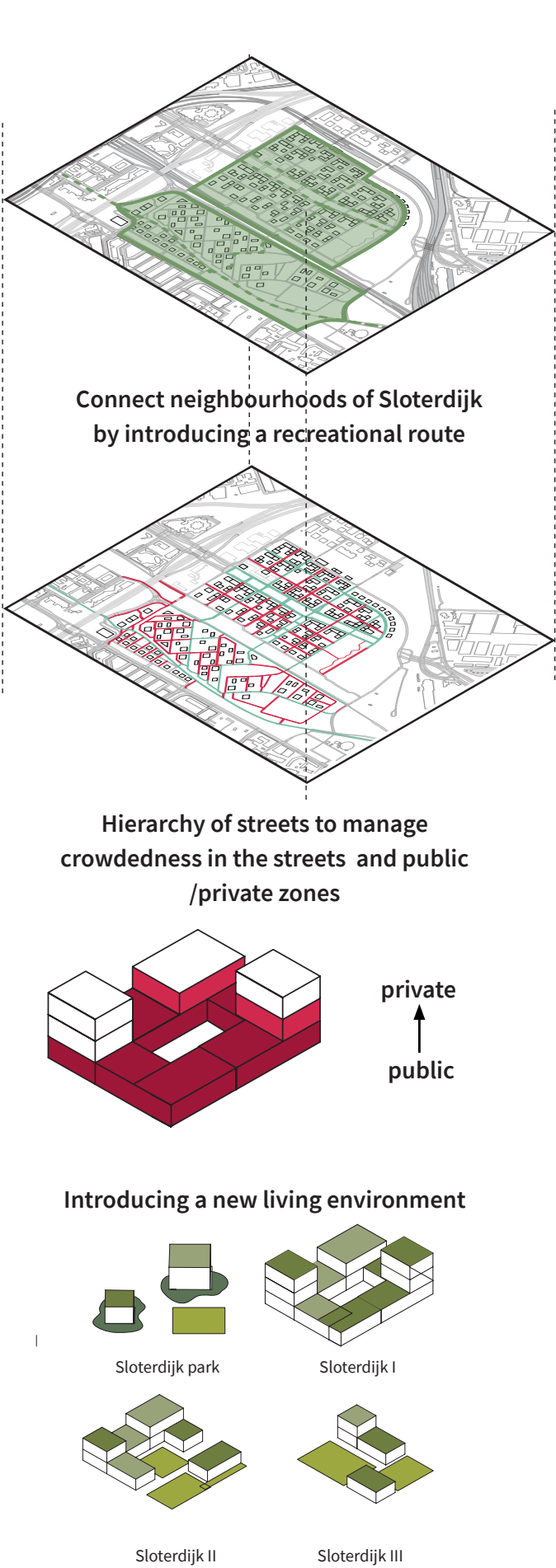




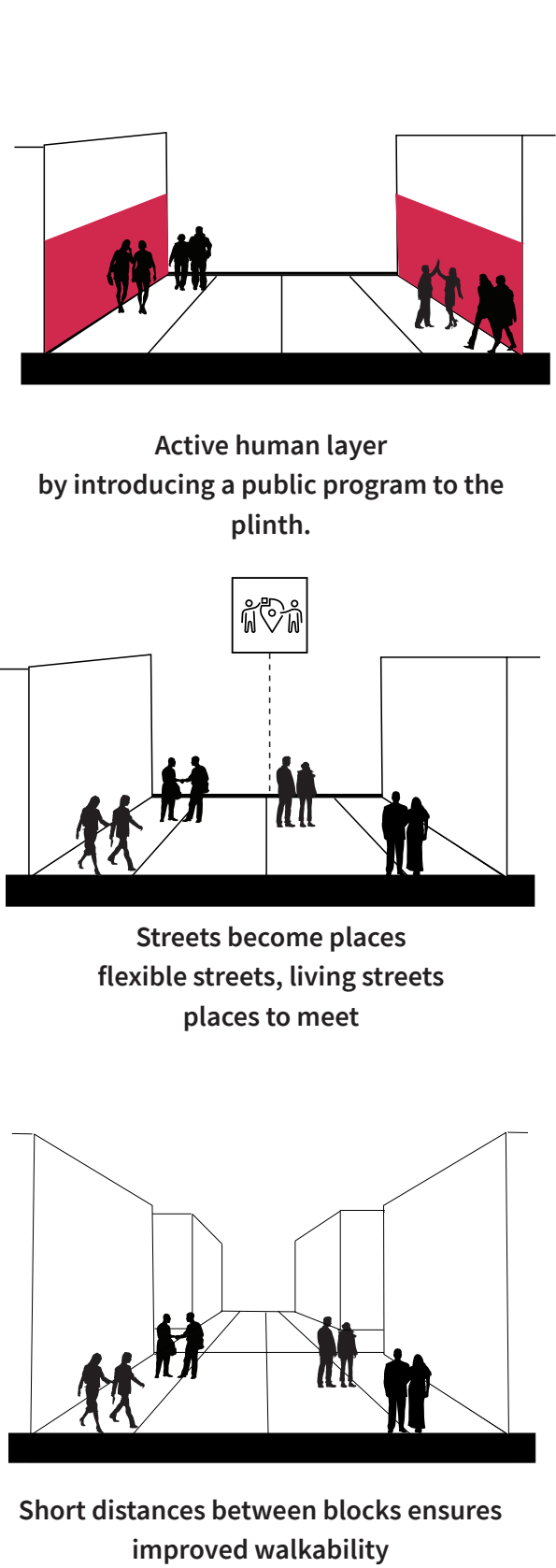
CITY SCALE



NEIGHBOURHOOD SCALE

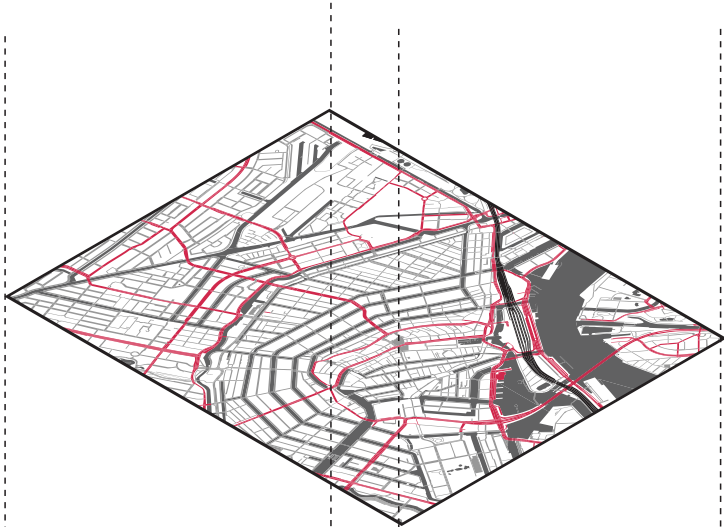


STREET SCALE

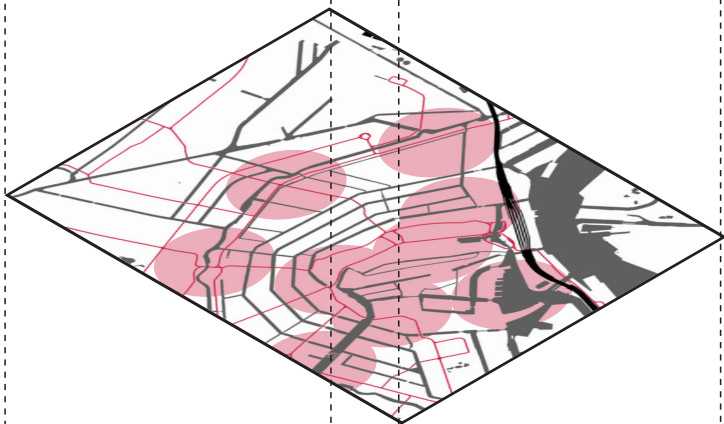


CITY SCALE

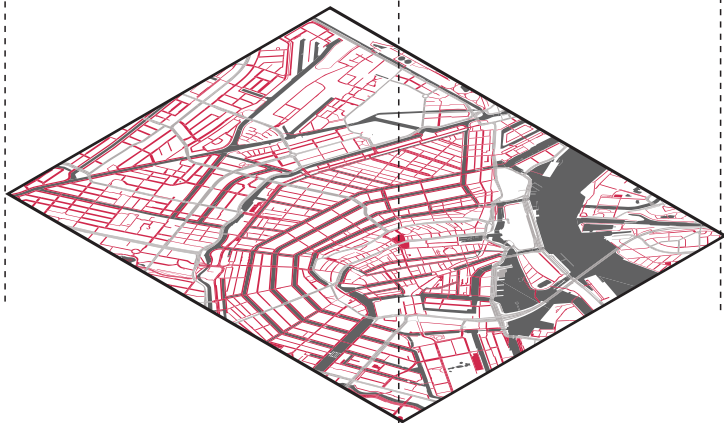
Limit the amount of vehicular activity in the city centre to maintain accessibility



locate transition hubs & parking at key nodes (5m radius - 10min walking)



Create a network of secondary roads (not accessible by car)



NEIGHBOURHOOD SCALE

Separate streets by speed and status  
primary roads or secondary roads



Primary Roads



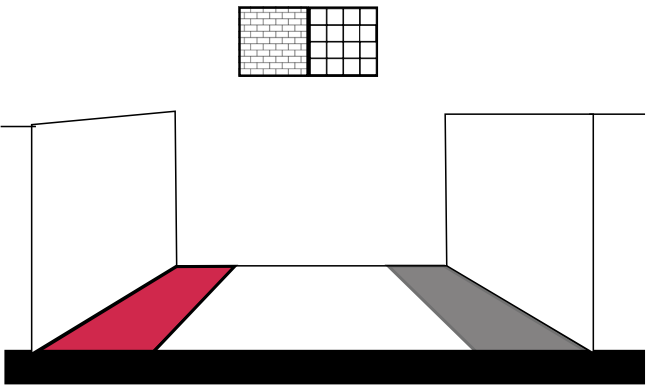
Secondary roads

Status of the streets decides the internal organization of the street and the public spaces

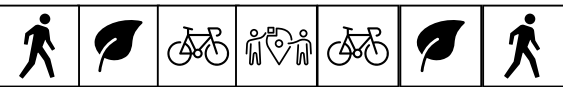
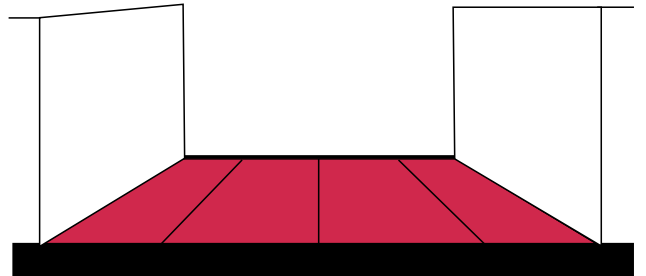


STREET SCALE

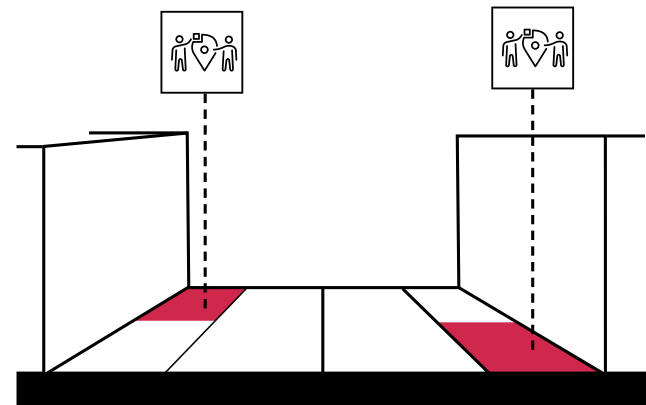
Preserve architectural quality carefully  
replacing materials when adjusting  
street profile



Recapture street space for the public realm



Introduce flexible spaces in street scape







# MASTERPLAN

CENTRUM - WEST

SCALE 1:10.000

## LEGEND

RECREATIONAL ROUTE

SLOW MOBILITY ROUTES

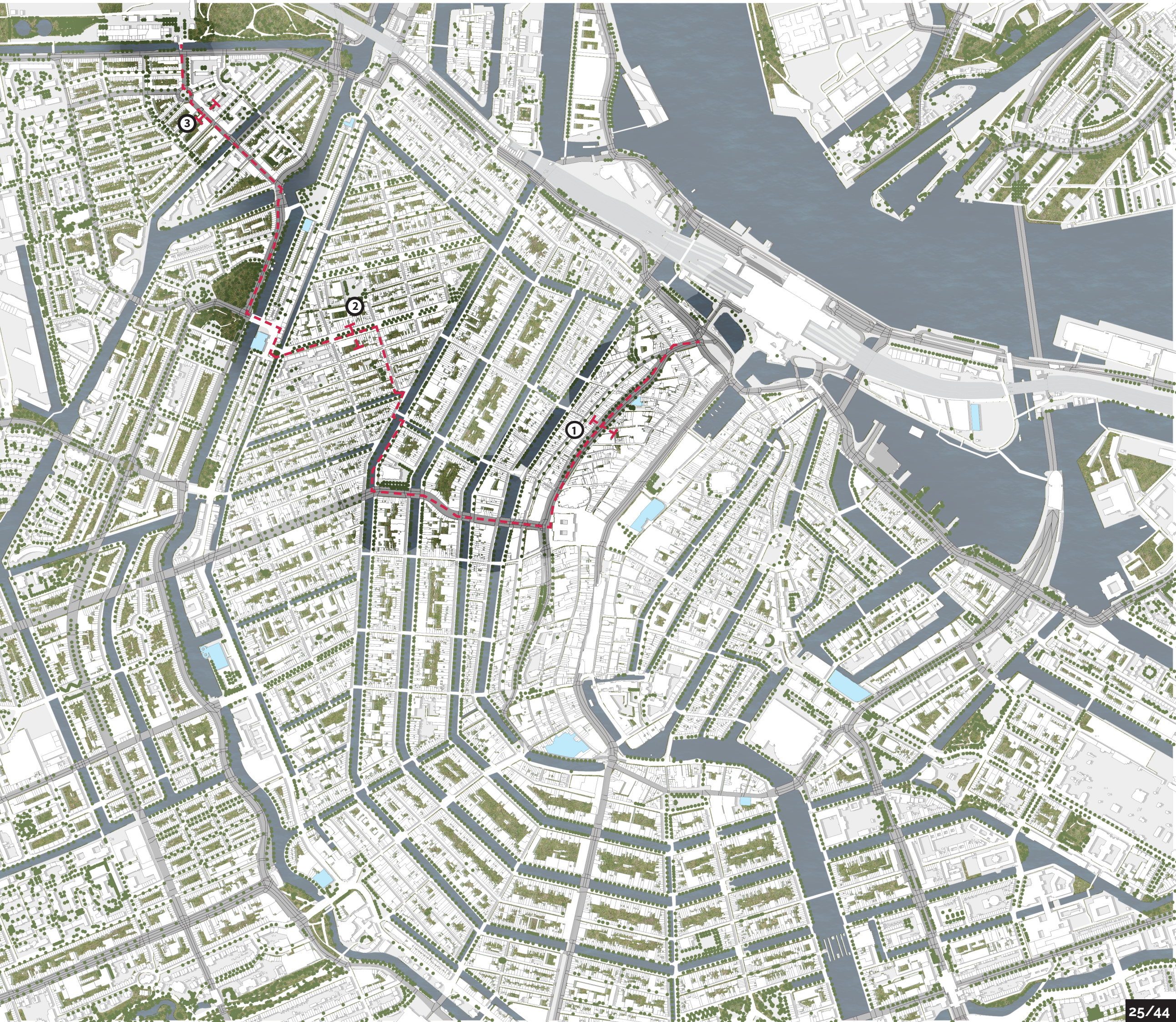
MOTORIZED ROADS

TRANSITION HUB

1 NIEUWZIJDSTOORBURG WAL

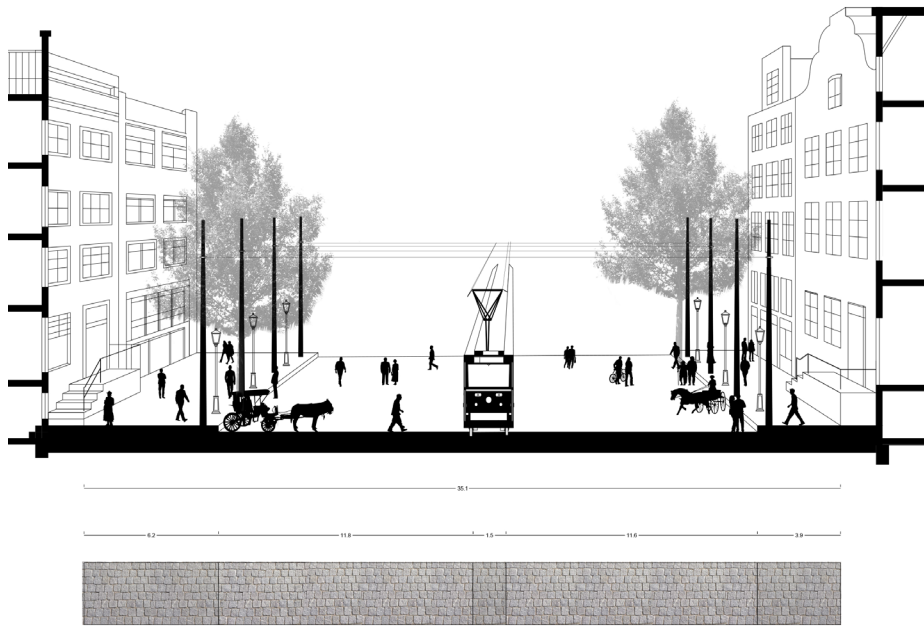
2 WESTERSTRAAT

3 VAN LIMBURG STIRUM STRAAT





NIEUWEZIJD'S VOORBURG WAL



PAST



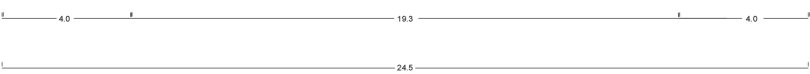
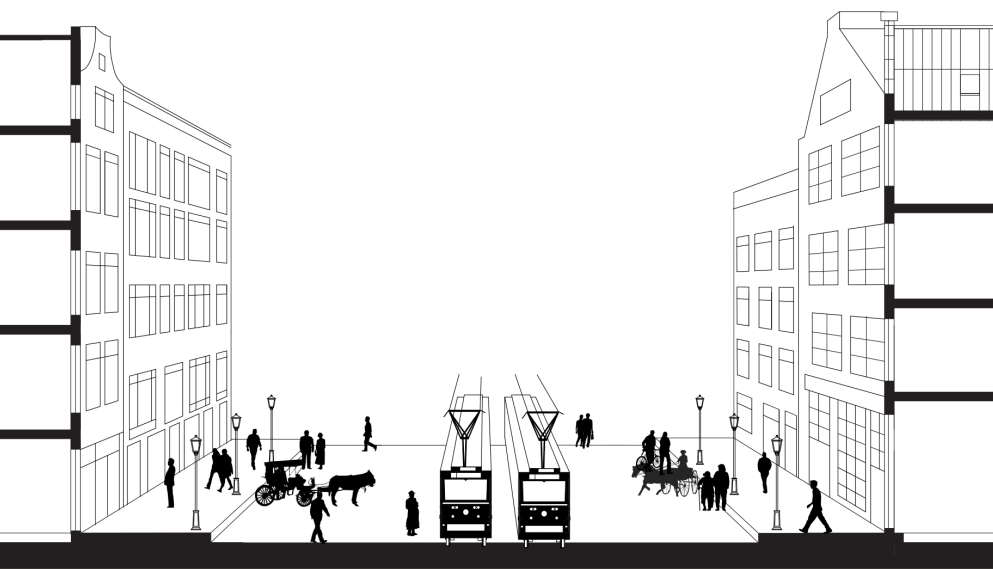
PRESENT



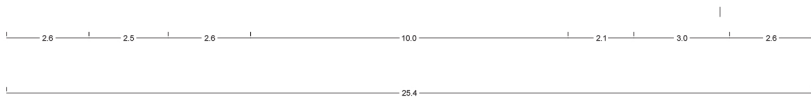
FUTURE



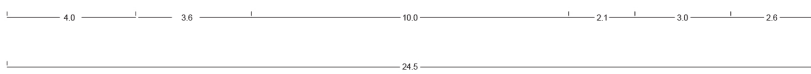
WESTERSTRAAT



PAST



PRESENT

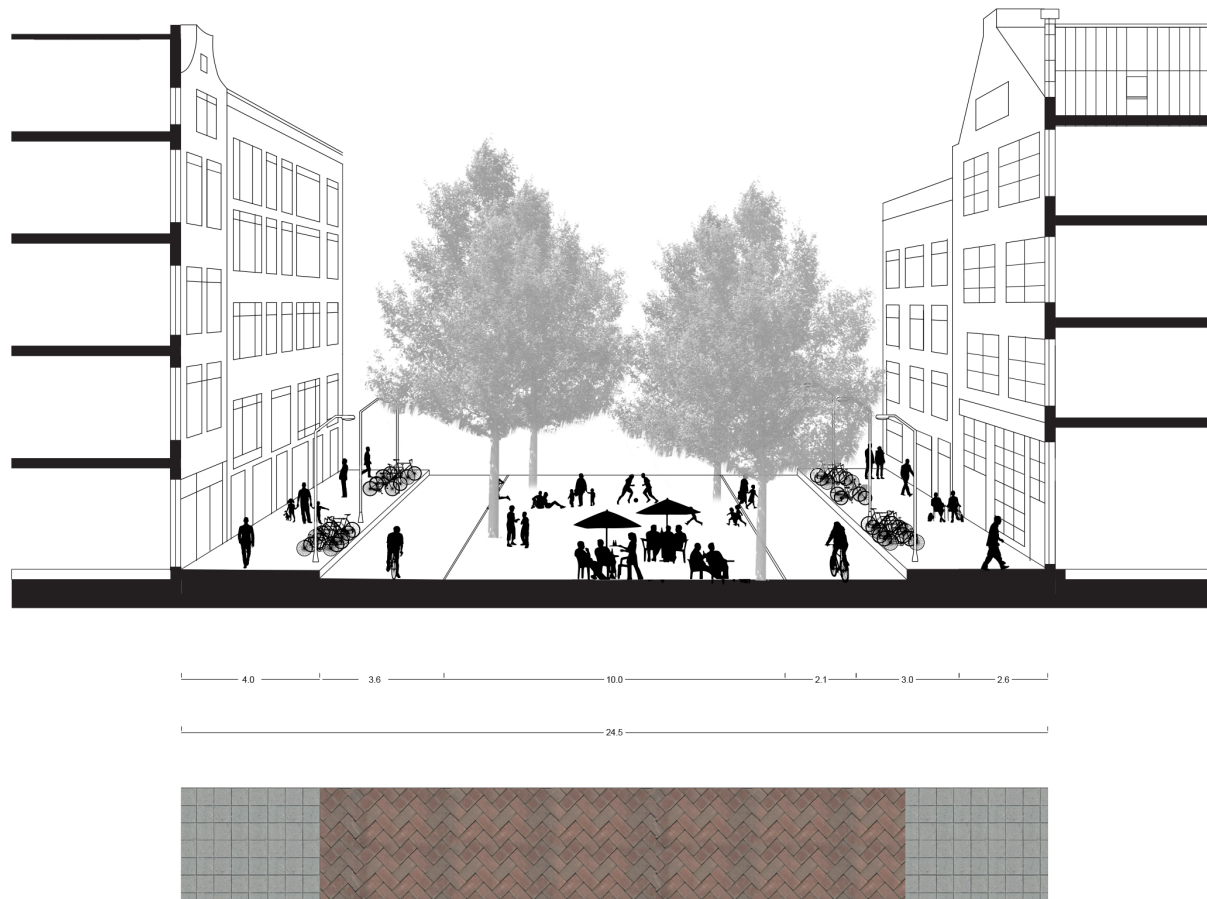


FUTURE





**PRESENT**



**FUTURE**

## FUTURE OF THE STREET PROFILE

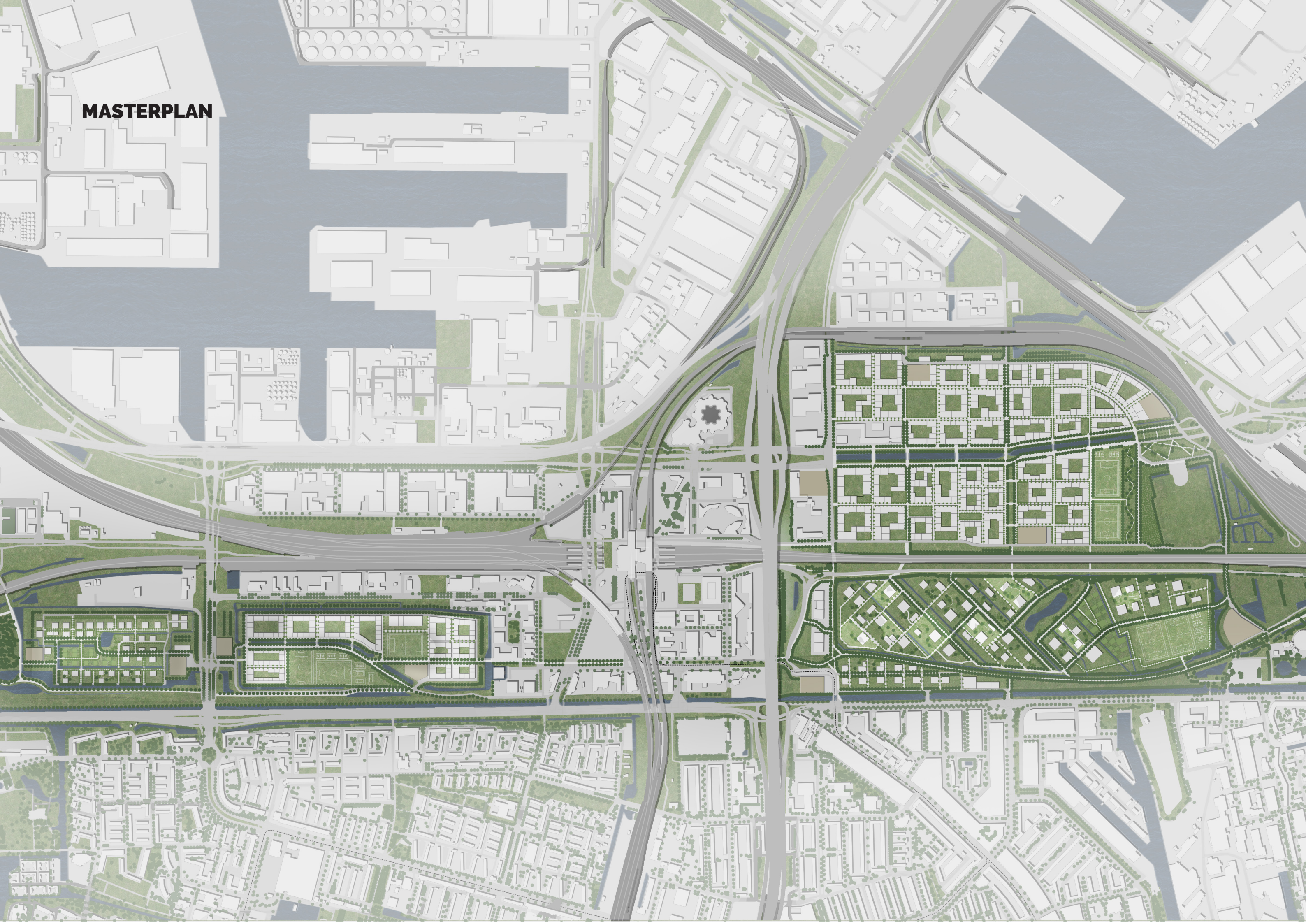
- SOFTER TRANSITION TO ZONES
- REMOVED PARKING SPACES
- EXPANDED CYCLING LANES
- EXPANDED SIDE WALKS
- FLEXIBLE PUBLIC SPACES
- FUTURE STREET FURNITURE & ROAD MARKINGS







**MASTERPLAN**



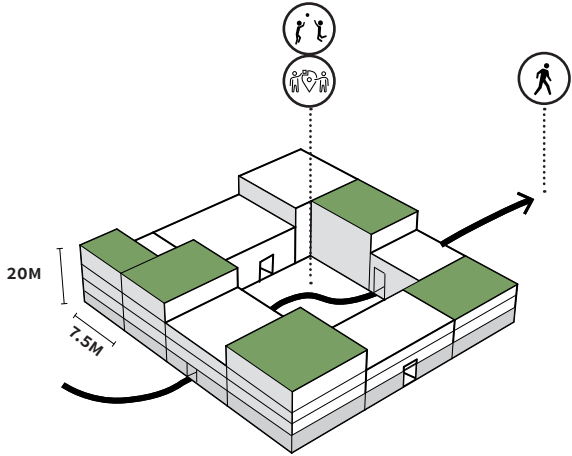


DESIGN

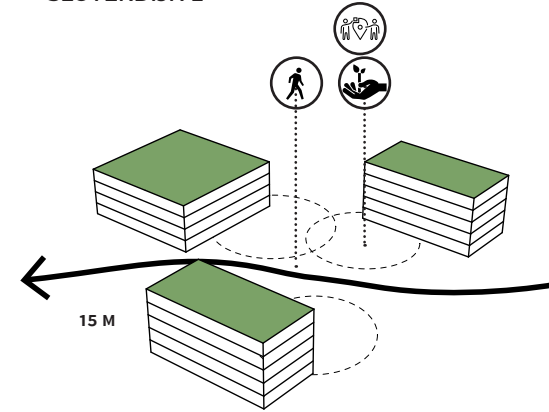
SLOTERDIJK 1 & SLOTERDIJK PARK

LEGEND

- SPORTS FACILITIES
- URBAN FARMING
- SLOW MOBILITY ROUTES
- COMMUNAL GARDENS
- MOTORIZED ROADS
- TRANSITION HUB
- 1 LINEAR PARK
- 2 PARK
- 3 SLOTERDIJK SPORTS
- 4 CEMENTARY
- 5 COMMUNITY PARK
- 6 CITY FARMING
- 7 SPORTS
- 8 COMPOST FACILITY



SLOTERDIJK 1



SLOTERDIJK PARK





DESIGN

SLOTERDIJK 2 & 3

LEGEND

SPORTS FACILITIES

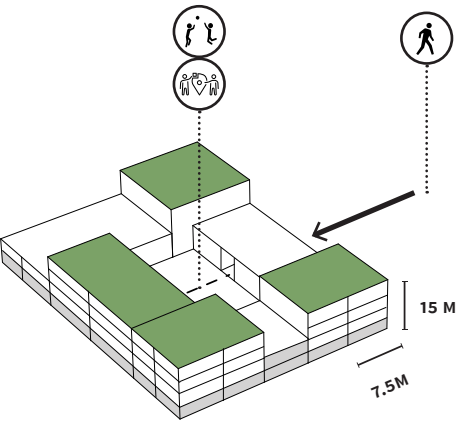
URBAN FARMING

SLOW MOBILITY  
ROUTES

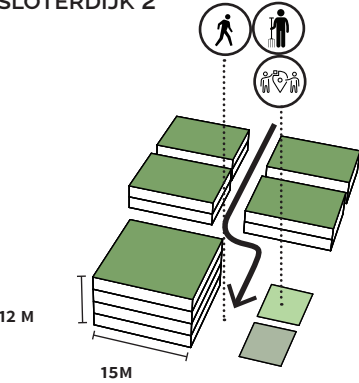
MOTORIZED ROADS

TRANSITION HUB

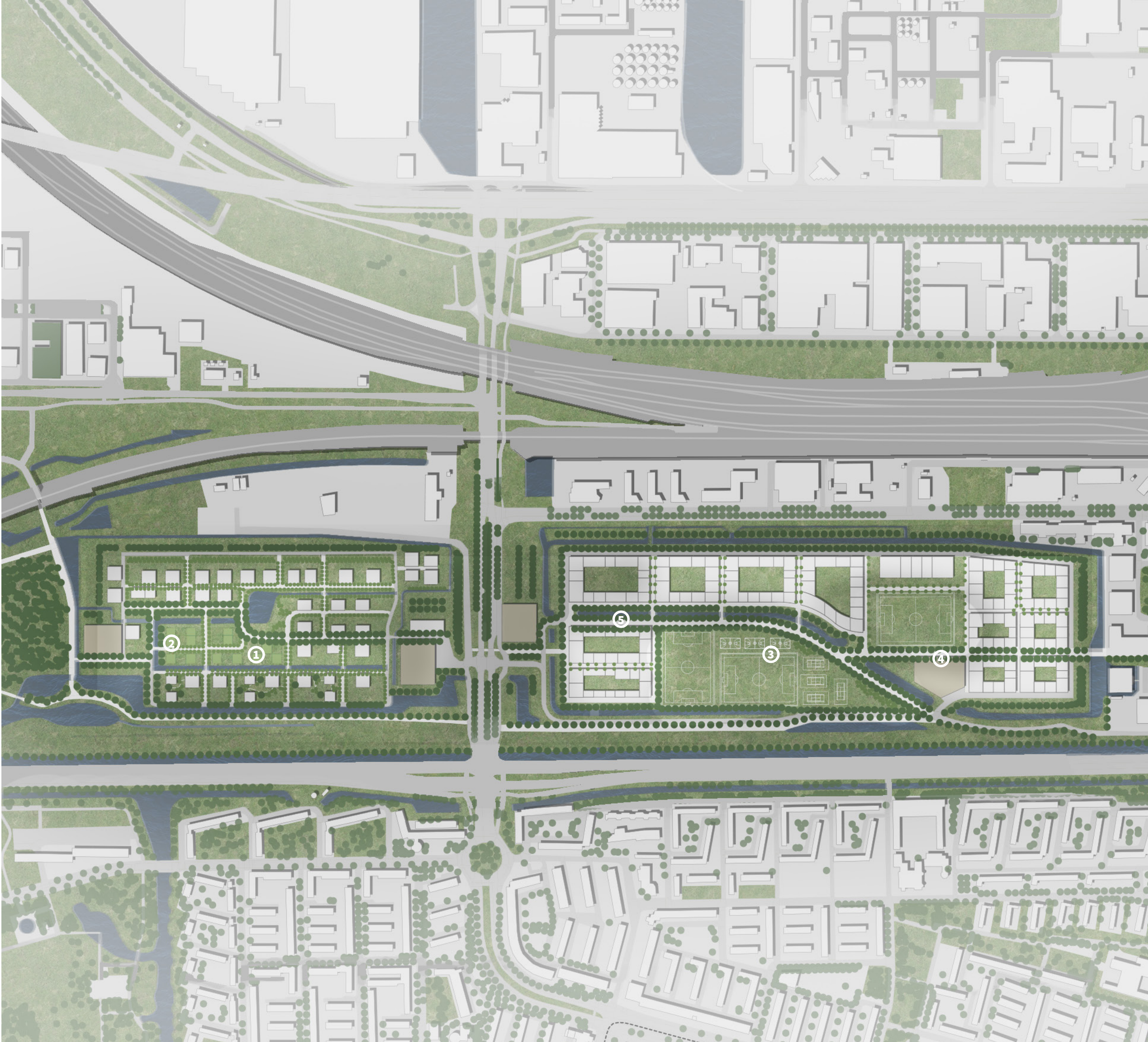
- 1 CITY FARMING
- 2 PARK
- 3 SPORTS
- 4 TRANSPORTATION HUB
- 5 RECREATIONAL ROUTE



SLOTERDIJK 2



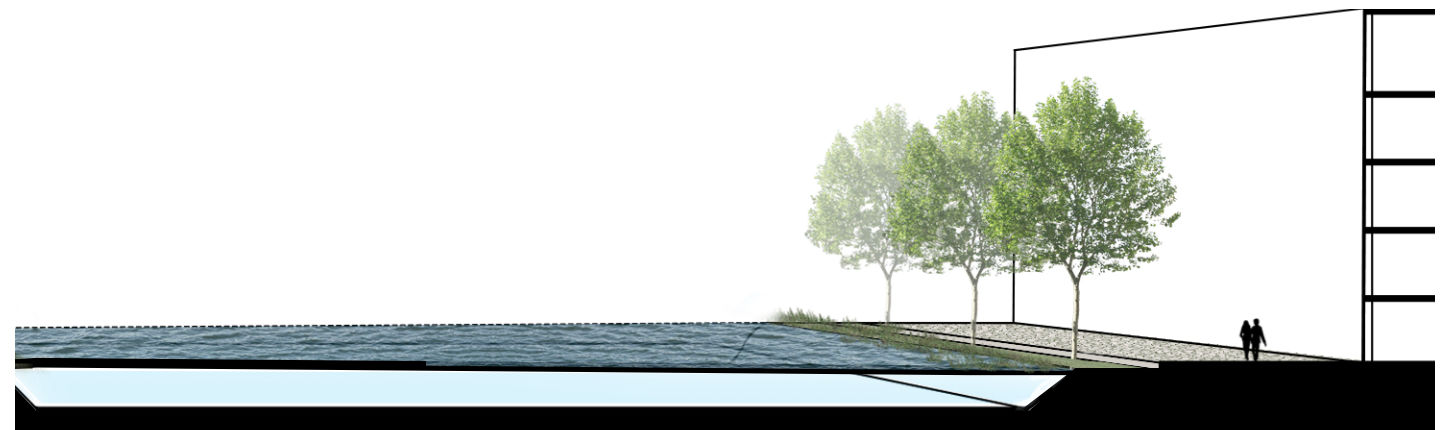
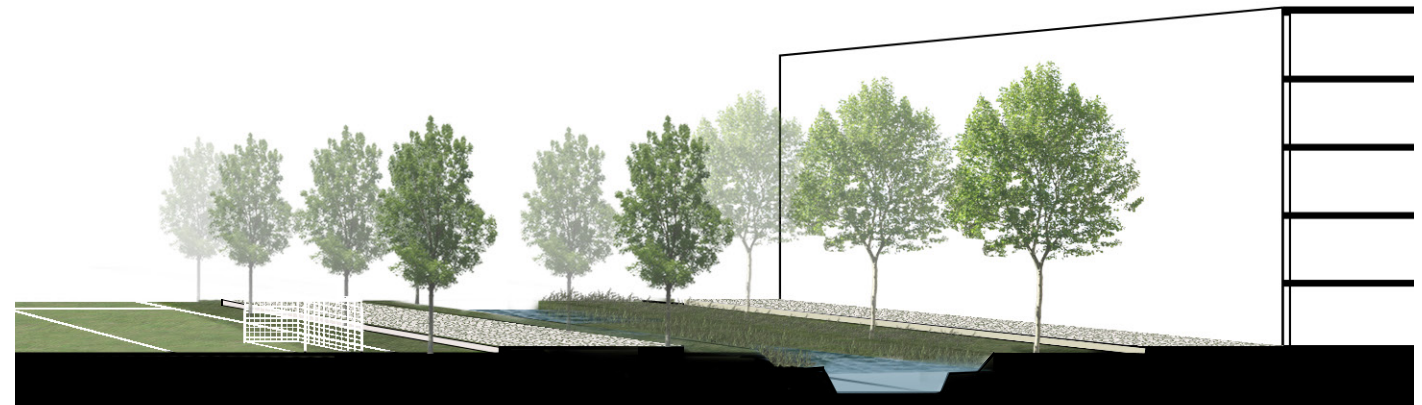
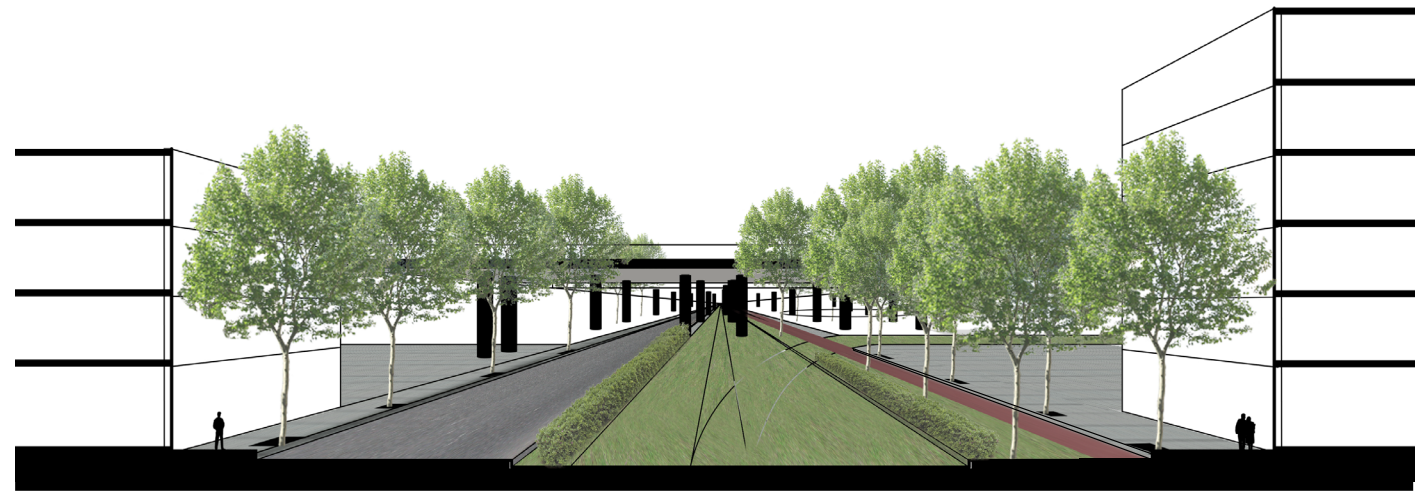
SLOTERDIJK 3





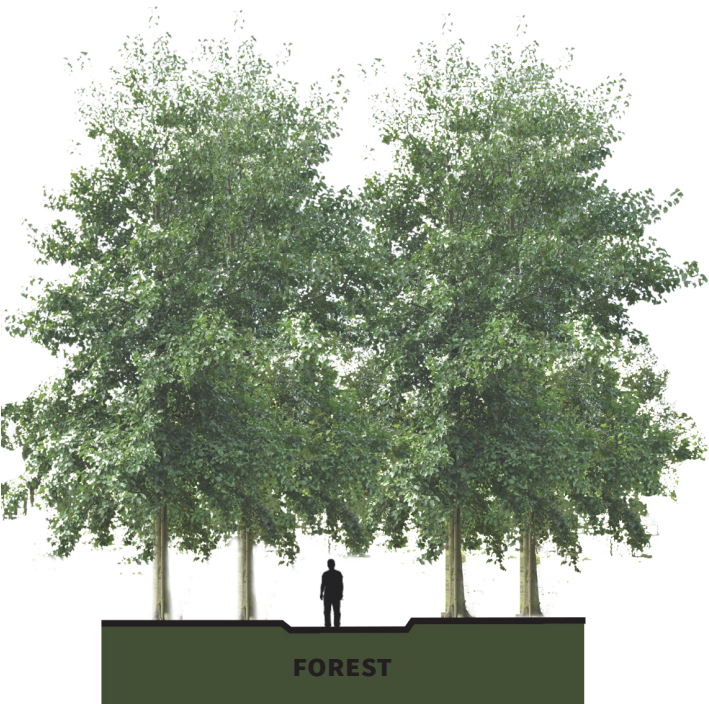




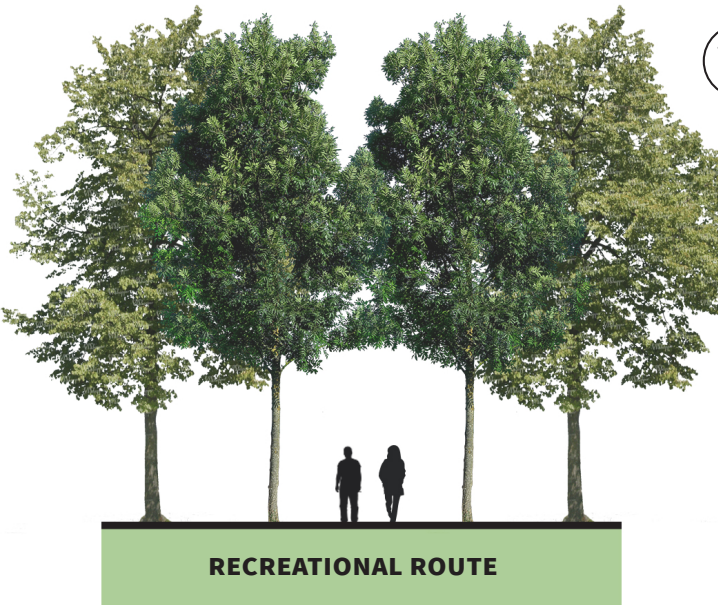




ENHANCING ECOLOGICAL STRUCTURE



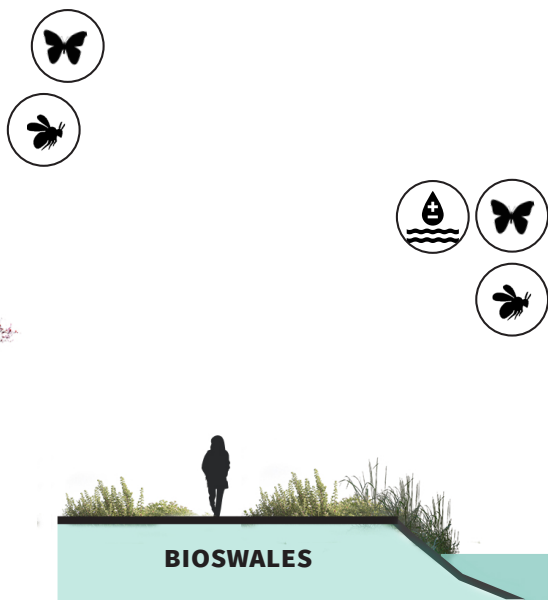
*Alnus cordata*



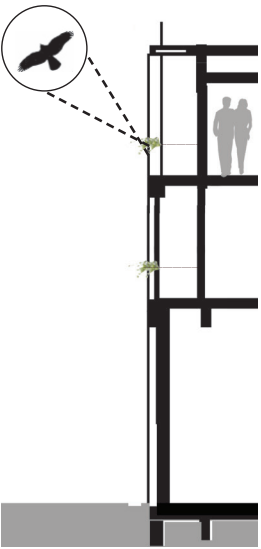
*Fraxinus Excelsior, Tilia cordata*



*Tilia cordata, Acer campestre, Alnus glutinosa, Prunus avium*



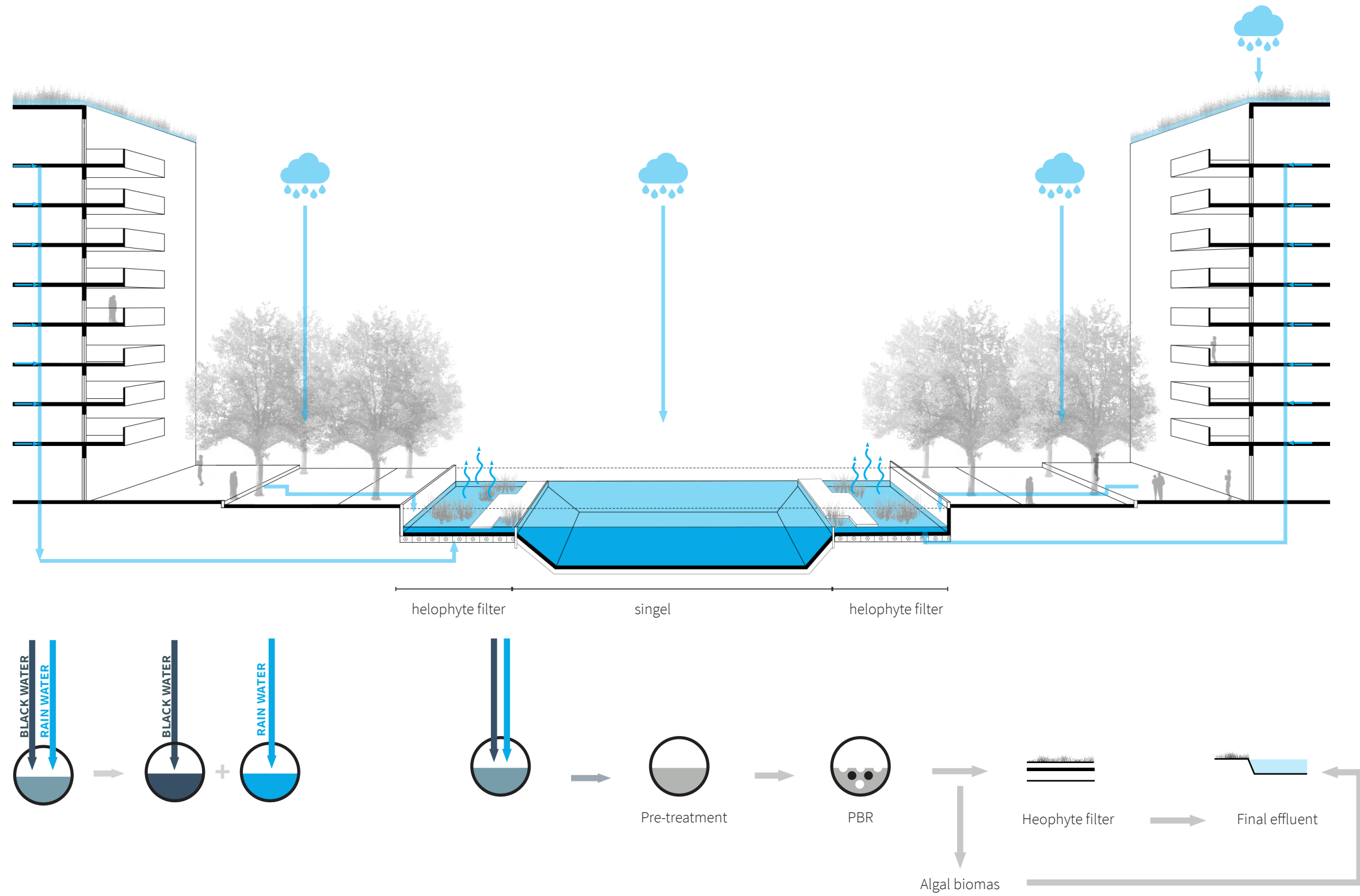
*Iris pseudacorus, Scirpus lacustris, Phragmites australis, Ranunculus lingua*



birds nests in prefab elements in residences



ENHANCING ECOLOGICAL STRUCTURE





## MOTORISED STREET





## PRIMARY STREET

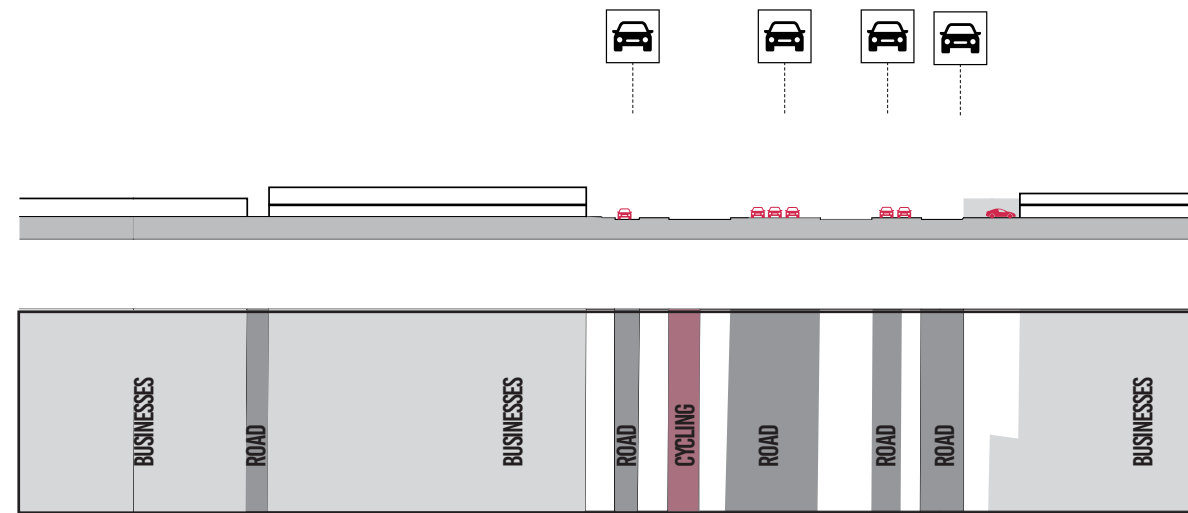




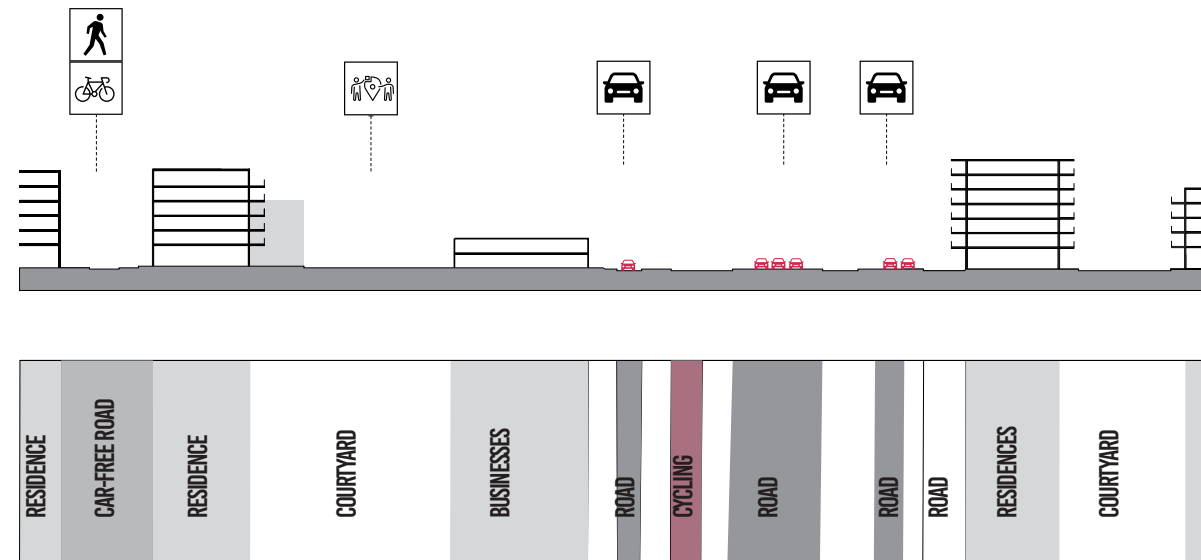
## SECONDARY STREET



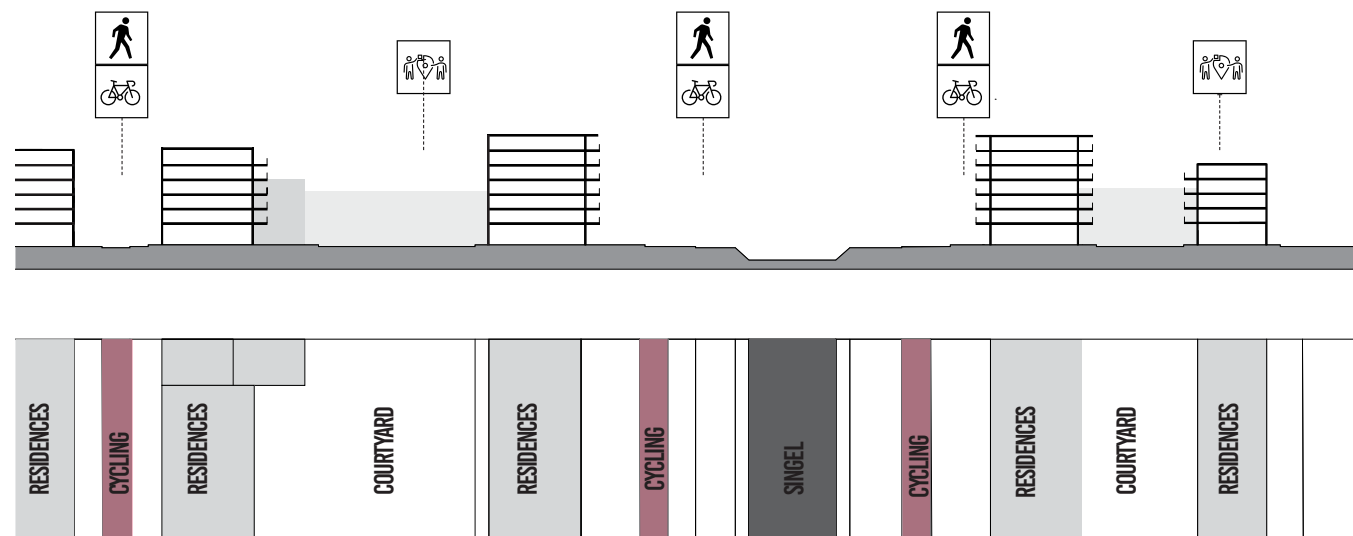




2019 NEGLECTED HUMAN LAYER/INACTIVE NEIGHBOURHOOD



2040 CHAOS OF SYSTEMS



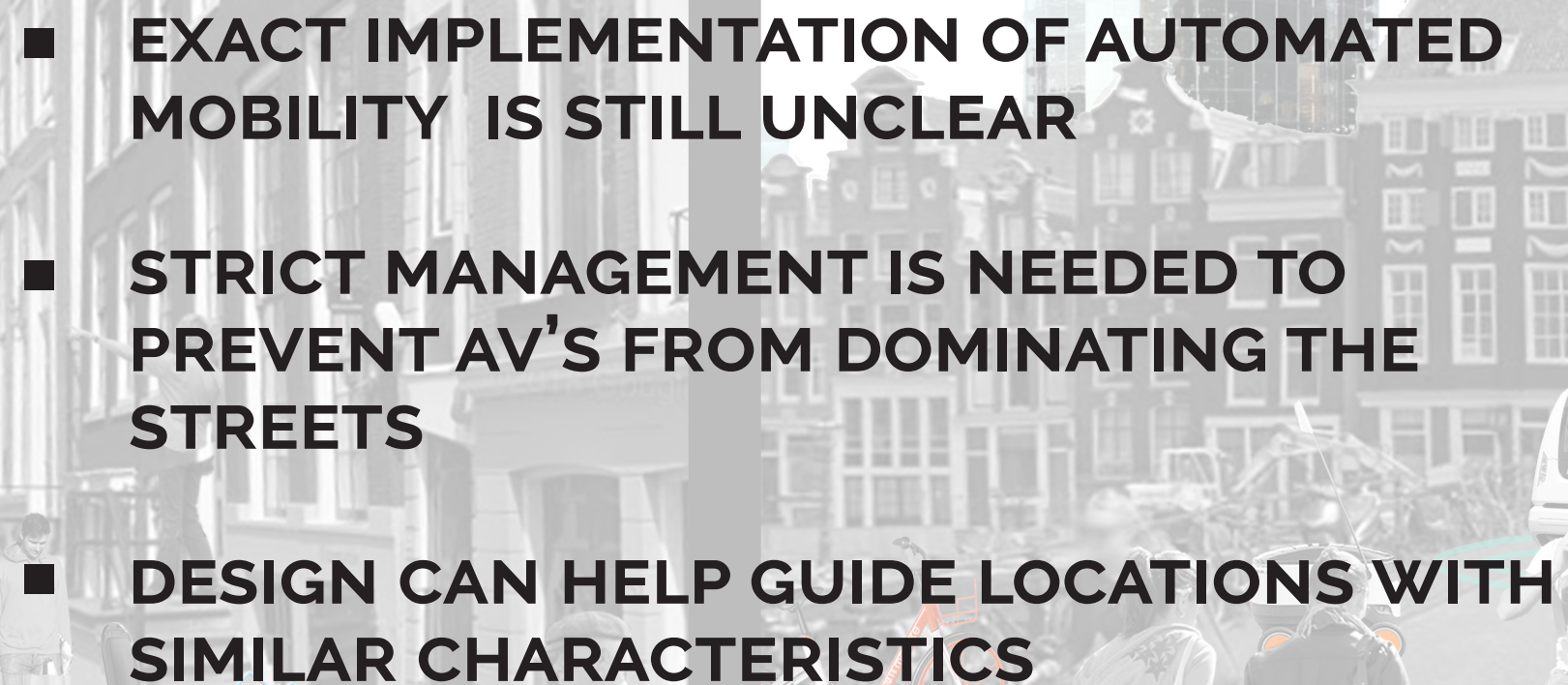
2060 ACTIVE NEIGHBOURHOOD

## PHASING

- GRADUAL PHASING DEPENDING ON TECHNOLOGY
- TRANSFORMATOR WEG SECONDARY ROAD
- BUSINESSES MOVE OUT SLOWLY
- NEW DEVELOPMENTS START  
(NEW BUSINESSES & RESIDENCES)
- CAR-FREE NEIGHBOURHOODS DEVELOP  
GRADUALLY



# FUTURE

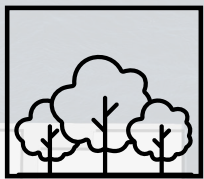
- 
- **EXACT IMPLEMENTATION OF AUTOMATED MOBILITY IS STILL UNCLEAR**
  - **STRICT MANAGEMENT IS NEEDED TO PREVENT AV'S FROM DOMINATING THE STREETS**
  - **DESIGN CAN HELP GUIDE LOCATIONS WITH SIMILAR CHARACTERISTICS**



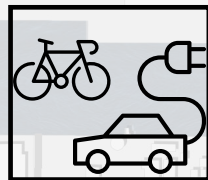


**// WITH RESPECT TO AMSTERDAM'S POPULATION  
GROWTH, HOW CAN THE IMPLEMENTATION OF  
AUTOMATED MOBILITY CONTRIBUTE TO ENHANCING  
LIVABILITY AND THE ENVIRONMENTAL HEALTH IN  
THE CITY? //**





enhance  
green  
spaces



sustainable  
transport  
network



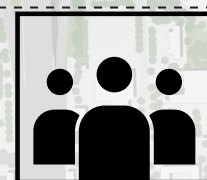
Improve  
environmental  
health



encourage  
walkability



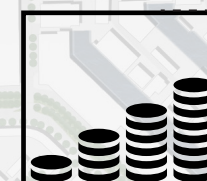
mixed use  
development



encourage  
social  
interaction




access to  
good quality  
public space



economic  
opportunities



An aerial map of Amsterdam, Netherlands, rendered in a light gray tone. Overlaid on the map are several circular icons representing different modes of transport: a car, a bicycle, a person walking, and a person on a bicycle. These icons are placed at various points along the city's road network and near the water. The title 'FUTURE MOBILITY' is in large, bold, black capital letters, and 'X LIVABILITY' is in large, bold, red capital letters, with a large 'X' between them.

# FUTURE MOBILITY X LIVABILITY

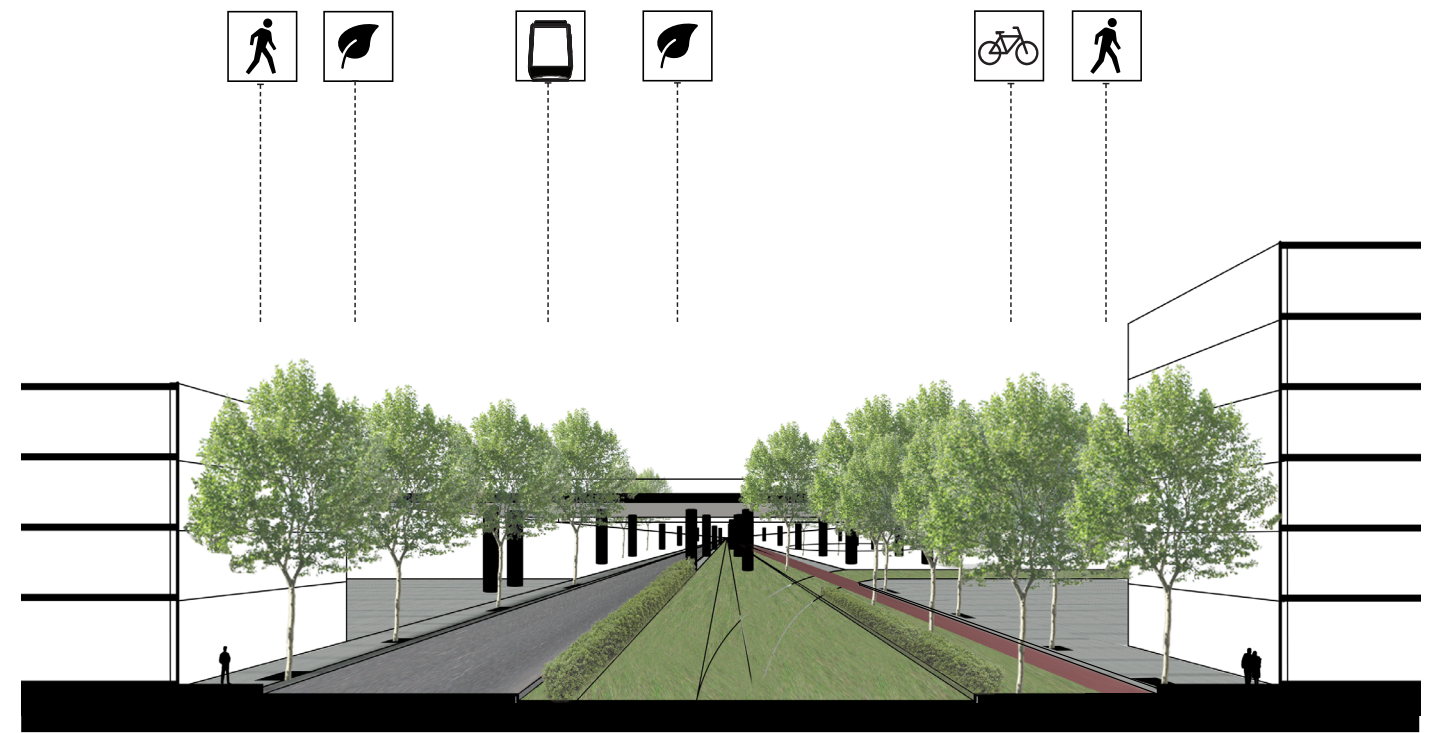
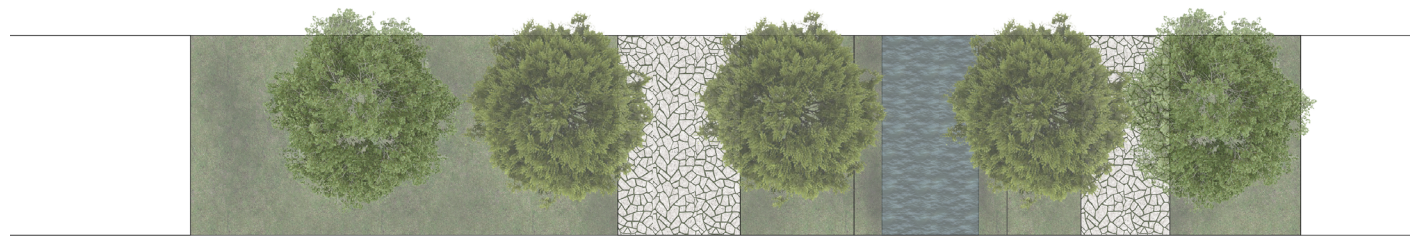
NEW OPPORTUNITIES FOR  
ENHANCING LIVABILITY IN  
**AMSTERDAM**

**KENDRA HEIDE**

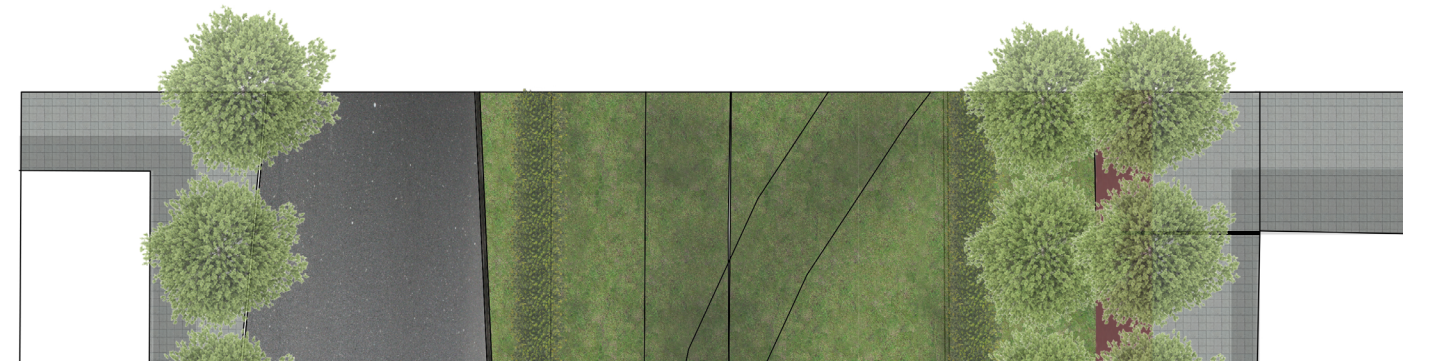




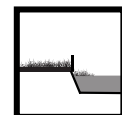
20 5.7 5.3 7.2 3.5 4.2 8.0 0



5.5 3.5 3.6 6 10.9 10.9 10.4 10.4 9.2 9.2 6.5 6.5 6.5 6.4 6.5 6.4



**RECREATIONAL ROUTE**  
ENCOURAGE WALKABILITY



**FILTERING POND**  
IMPROVING WATER QUALITY  
AESTHETIC QUALITY



**TREES ALLONG SIDE LANE**  
HIGHLIGHT RECREATIONAL ROUTE  
ENHANCE ECOLOGY

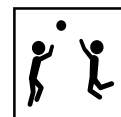
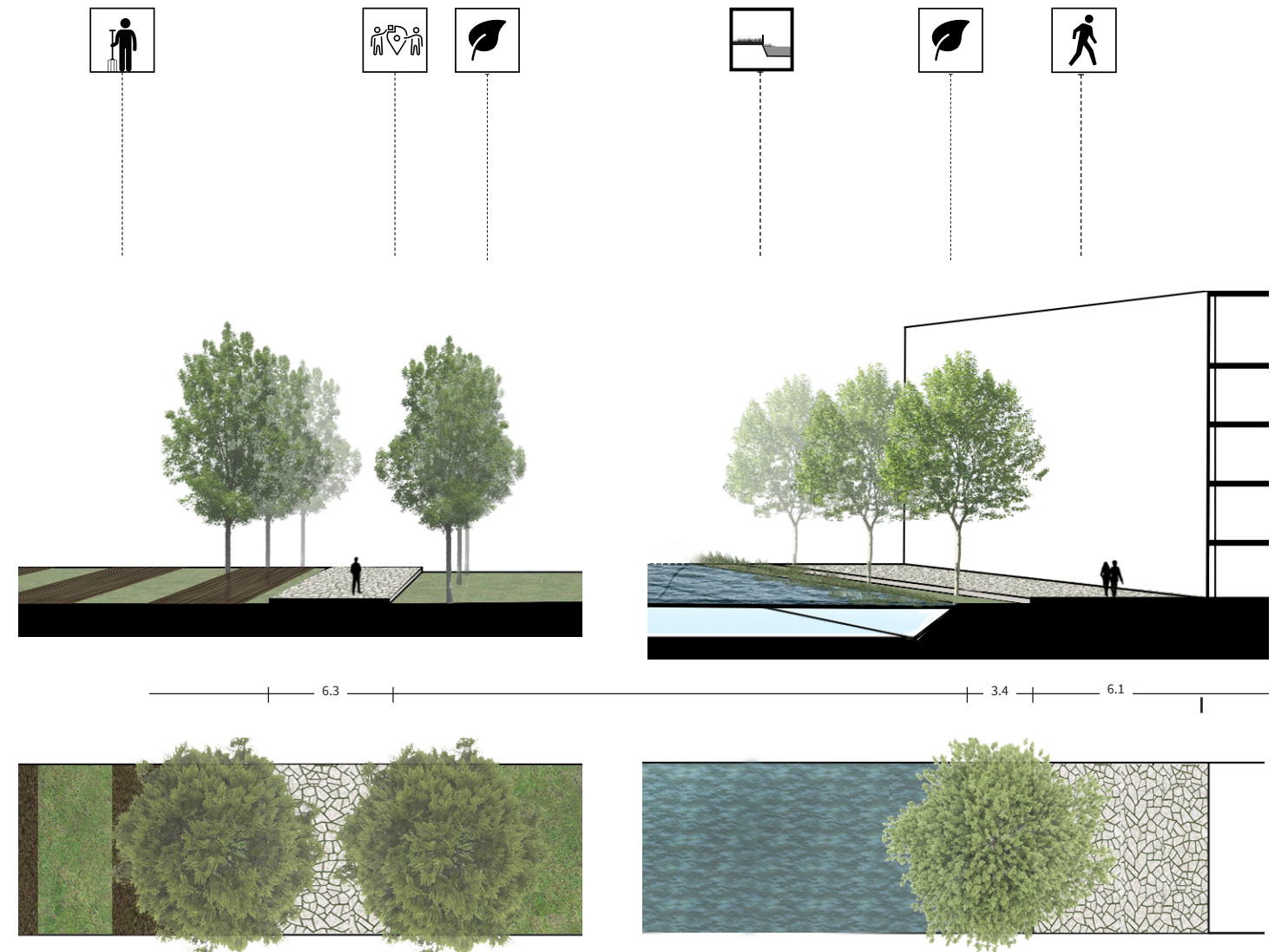
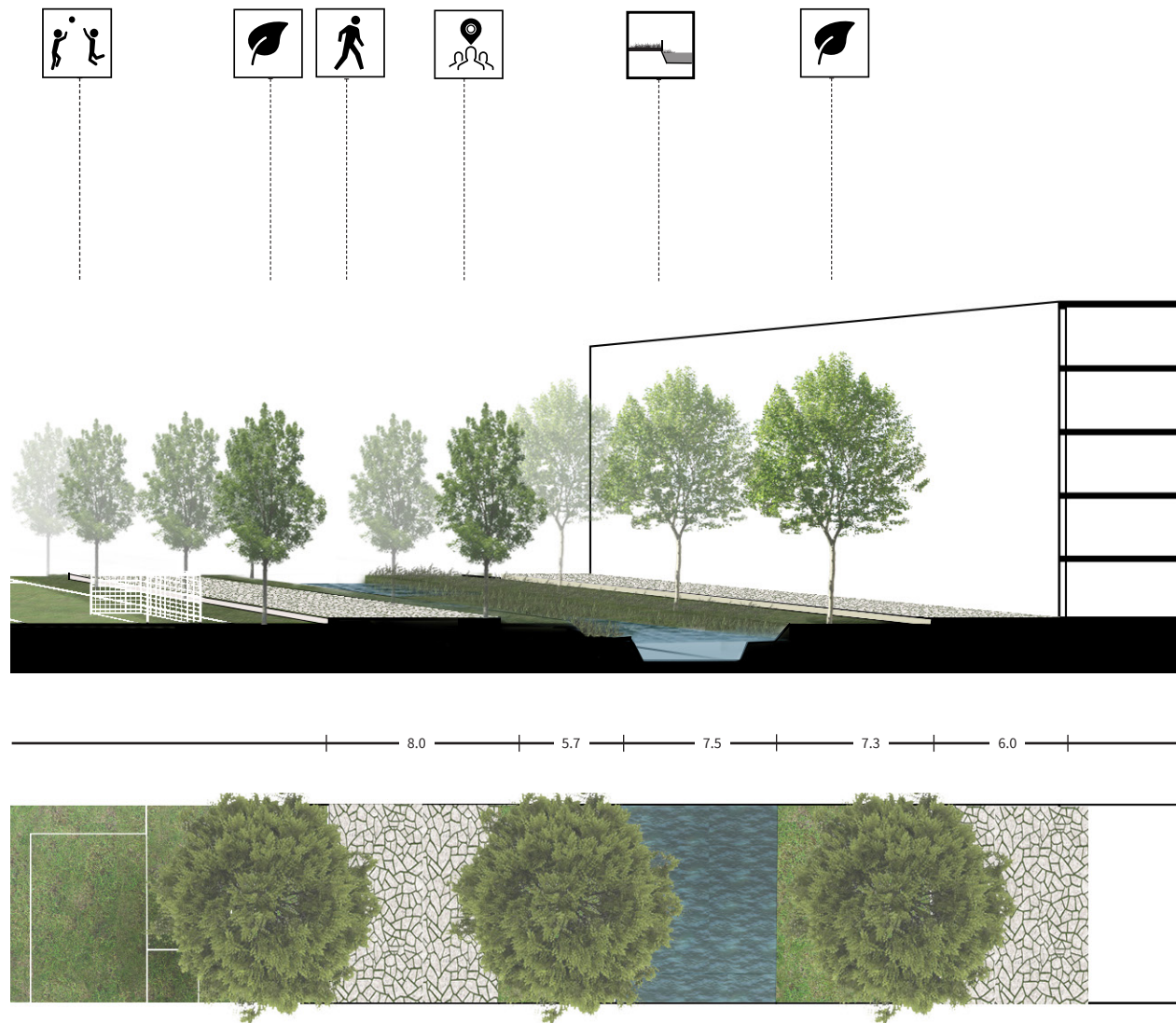


**AV ROAD**  
PRIMARY ROAD



**CYCLING LANE**  
SAFETY





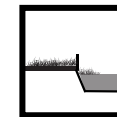
**SPORT FACILITIES**  
ENCOURAGE SOCIAL ACTIVITIES  
& PROMOTE HEALTHY LIFESTYLE



**TREES ALLONG SIDE LANE**  
HIGHLIGHT RECREATIONAL ROUTE  
ENHANCE ECOLOGY



**URBAN FARMING**  
PROMOTE LOCAL FOOD PRODUCTION  
ECOURAGE SOCIAL INTERACTION



**FILTERING POND**  
IMPROVING WATER QUALITY  
AESTHETIC QUALITY