

An architectural model of a city, featuring several tall, rectangular buildings of varying heights. The buildings are light-colored, possibly white or light grey, with a textured surface. They are arranged in a cluster, with some taller than others. The base of the buildings is surrounded by a network of roads and green spaces. Small, stylized trees are scattered throughout the model, particularly around the buildings and along the roads. The overall scene is presented in a clean, minimalist style with a soft, muted color palette.

SCARCITY

Improving the urban fabric of Eindhoven,
while optimizing the use of space

AR0067 Architecture & Urban Design
Daphne Homan, Ilse de Jong & Linde Jorritsma

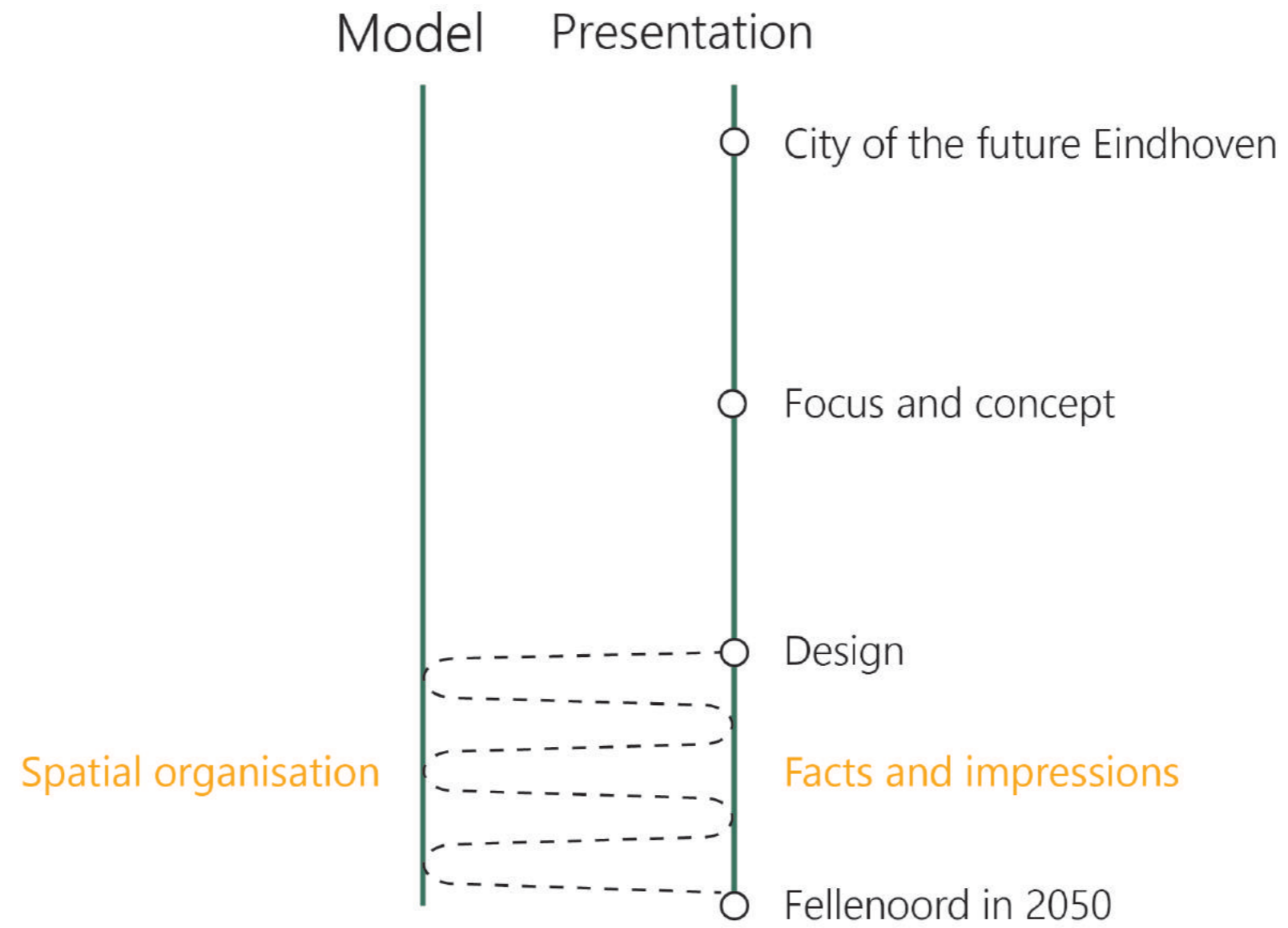
MOTIVATION

The Fellenoord district is one of the most important development areas in the city of Eindhoven, selected as a test case for the BNA City of the Future project.

The area is located right in the center of Eindhoven, including the station area and close to the old city center of Eindhoven and the TU Eindhoven. Infrastructure decisions in the past have led to Fellenoord turning into a non-human scale traffic machine, disrupting the urban fabric of Eindhoven in the heart of the city. Furthermore, the quality of public space is unacceptable due to unpleasant bicycle and pedestrian tunnels, inward-looking buildings, lack of lively functions and low quality green areas.

The city of the future needs more housing, more transport, more public space and so on, but there is only a limited amount of square meters. In other words: in the city of the future there is scarcity of space. This design proposal aims to attend the problems of the past and present in Eindhoven Fellenoord, while also attending to the scarcity of space in the future. It does so by introducing a platform to the site, which enables the layering of program and thus optimizing the use of space. The quality of public space and program improves, while keeping an efficient transport system. This means that in the future, Fellenoord will be a pleasant place to pass through, but stay as well.

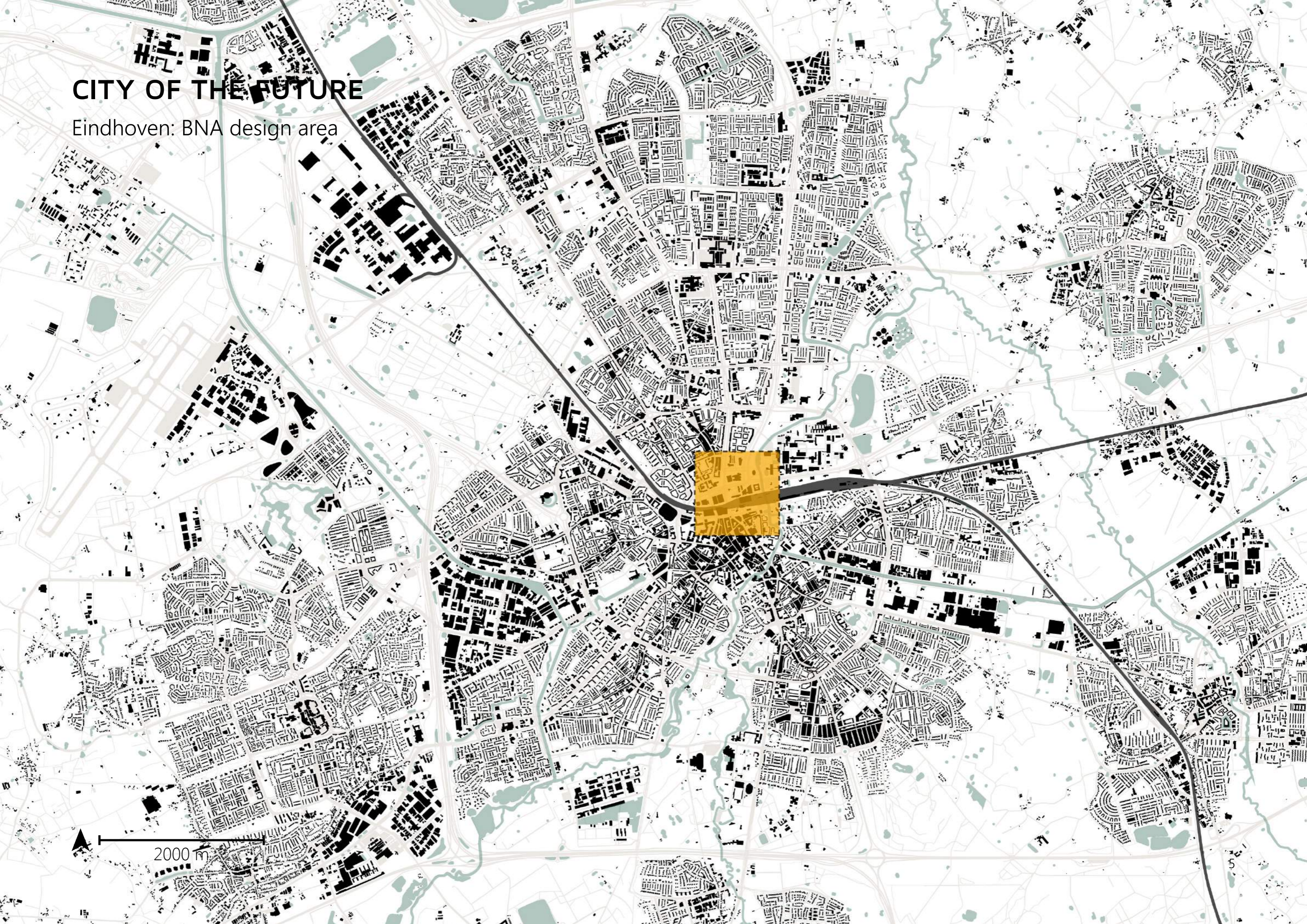
CONTENT



CITY OF THE FUTURE

CITY OF THE FUTURE

Eindhoven: BNA design area



2000 m

CITY OF THE FUTURE

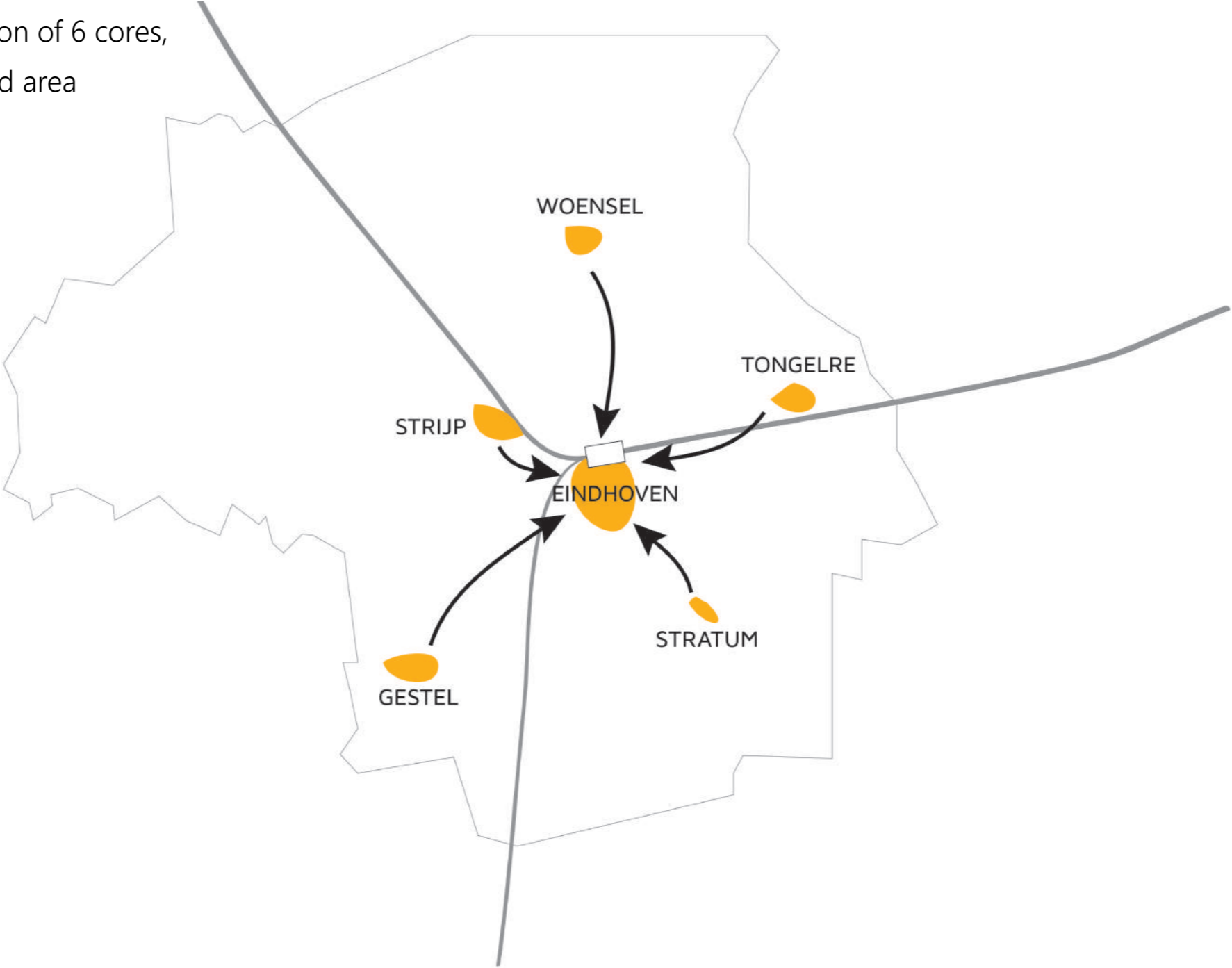
Strategy

**SOLVING PROBLEMS CREATED IN THE PAST
TO IMPROVE THE PRESENT SITUATION
WHILE PREPARING FOR THE DEMANDS OF THE FUTURE**

THE CITY OF THE FUTURE

Past: historic development

Eindhoven formed from annexation of 6 cores, coming together in the Fellenoord area



THE CITY OF THE FUTURE

Past: construction of the Fellenoord road



Dividing the urban traffic

CITY OF THE FUTURE

Present: Fellenoord as a traffic machine



Dominance of the car infrastructure



Unpleasant cycling routes



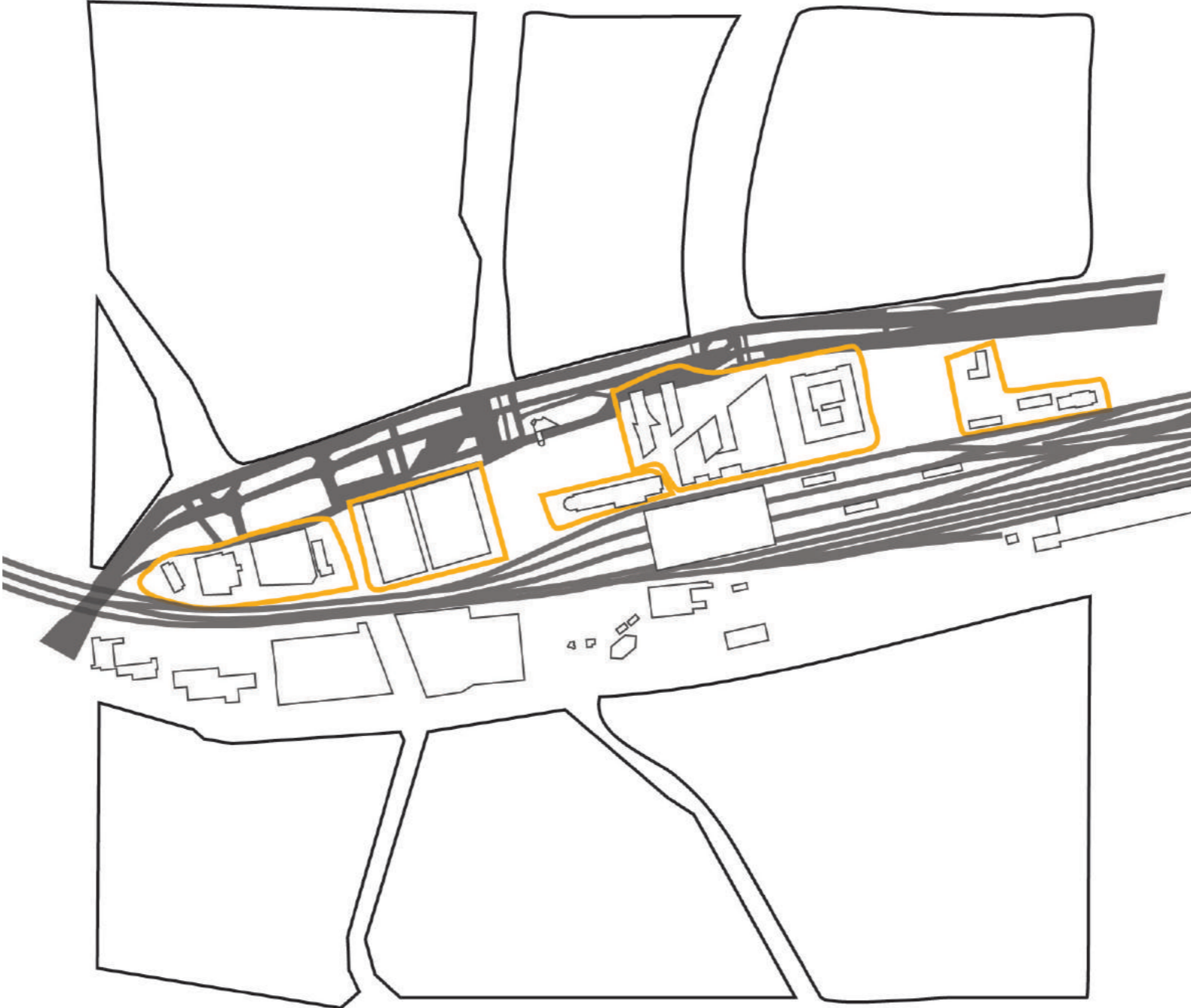
Unsufficient bicycle parking



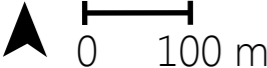
Unsafe and unsufficient busstation

THE CITY OF FUTURE

Present: effects of infrastructure decision



Scars from the past resulting in fragmented zone



CITY OF FUTURE

Present: low quality public space and non futureproof area



Low quality green



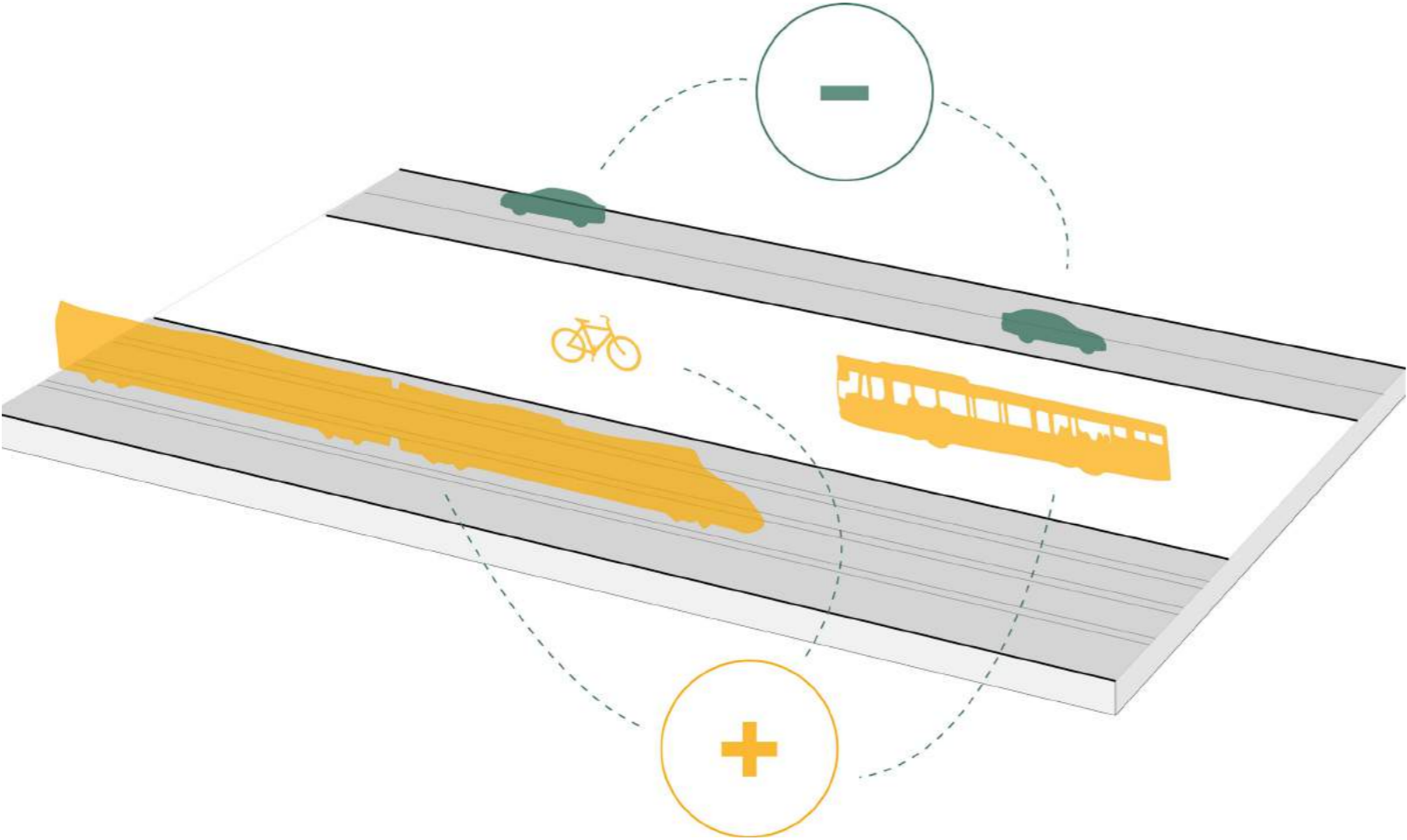
Closed plinth



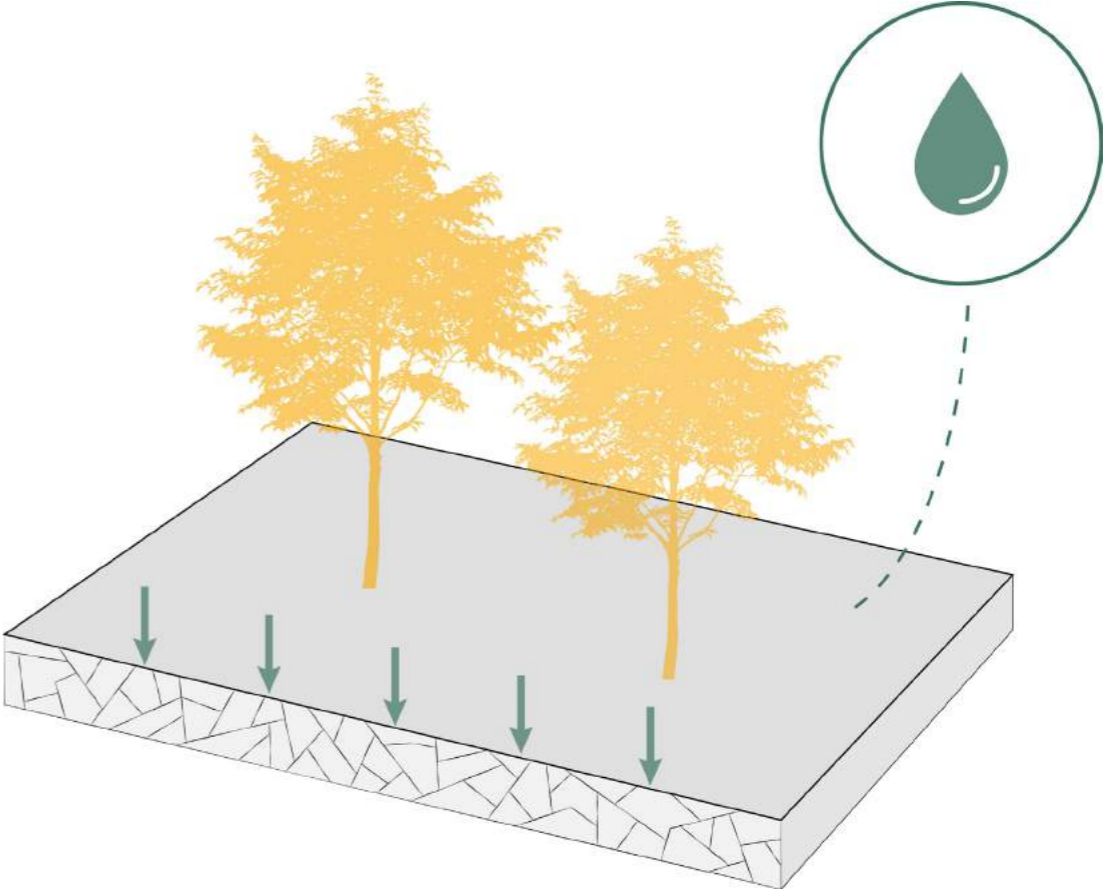
Flooding of tunnels

CITY OF THE FUTURE

Future: developments and demands



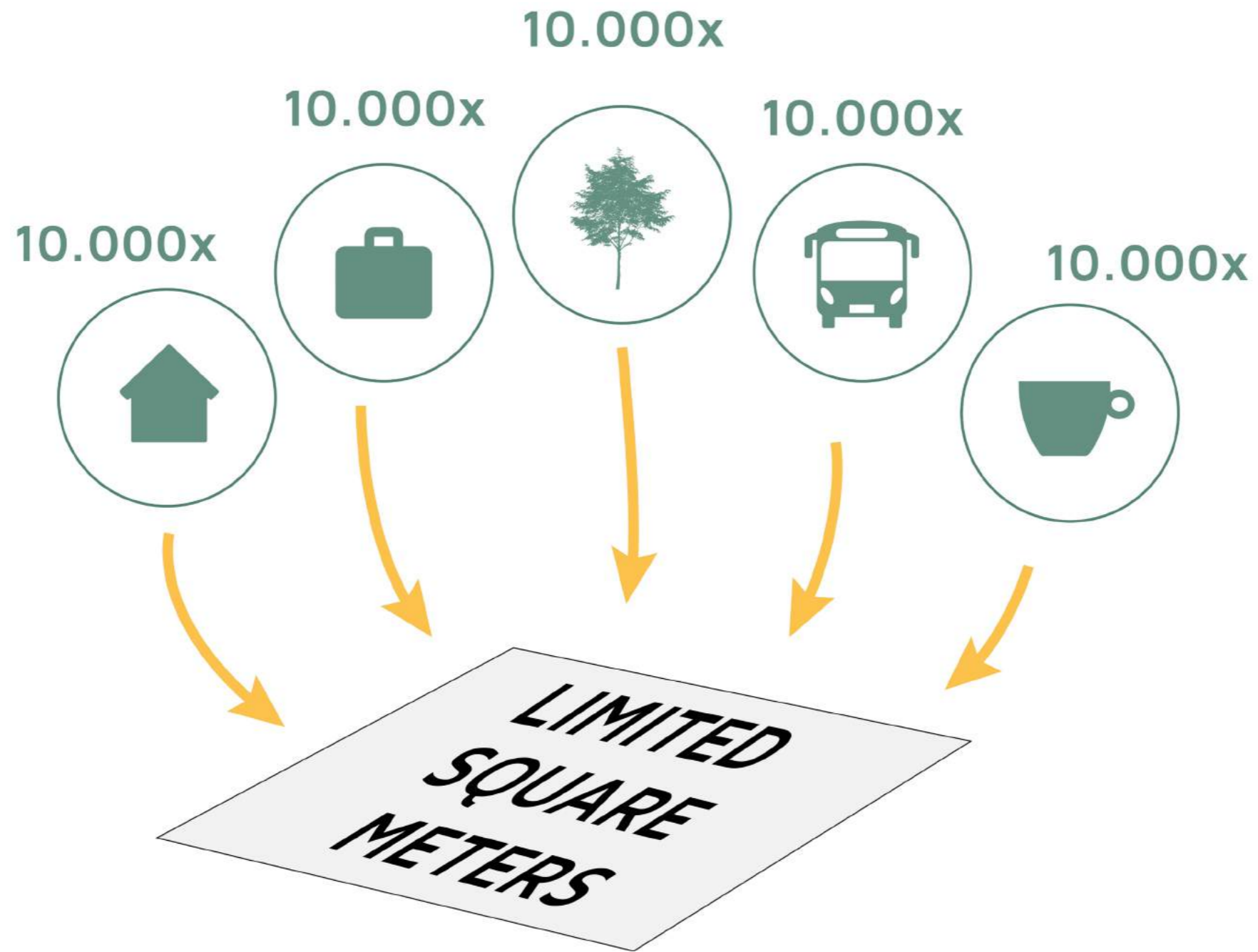
Increase public transport and bicycle traffic, change in car use



Climate adaptiveness

CITY OF THE FUTURE

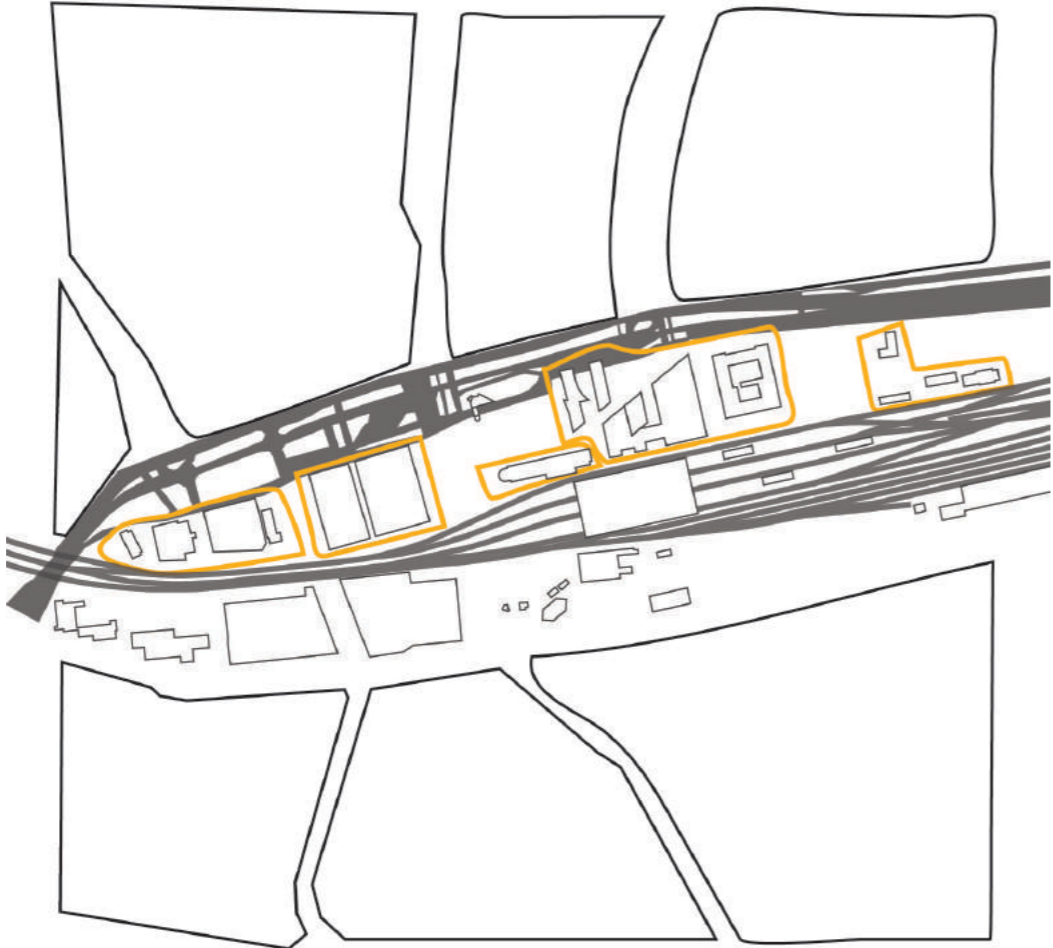
Future: demands for Fellenoord



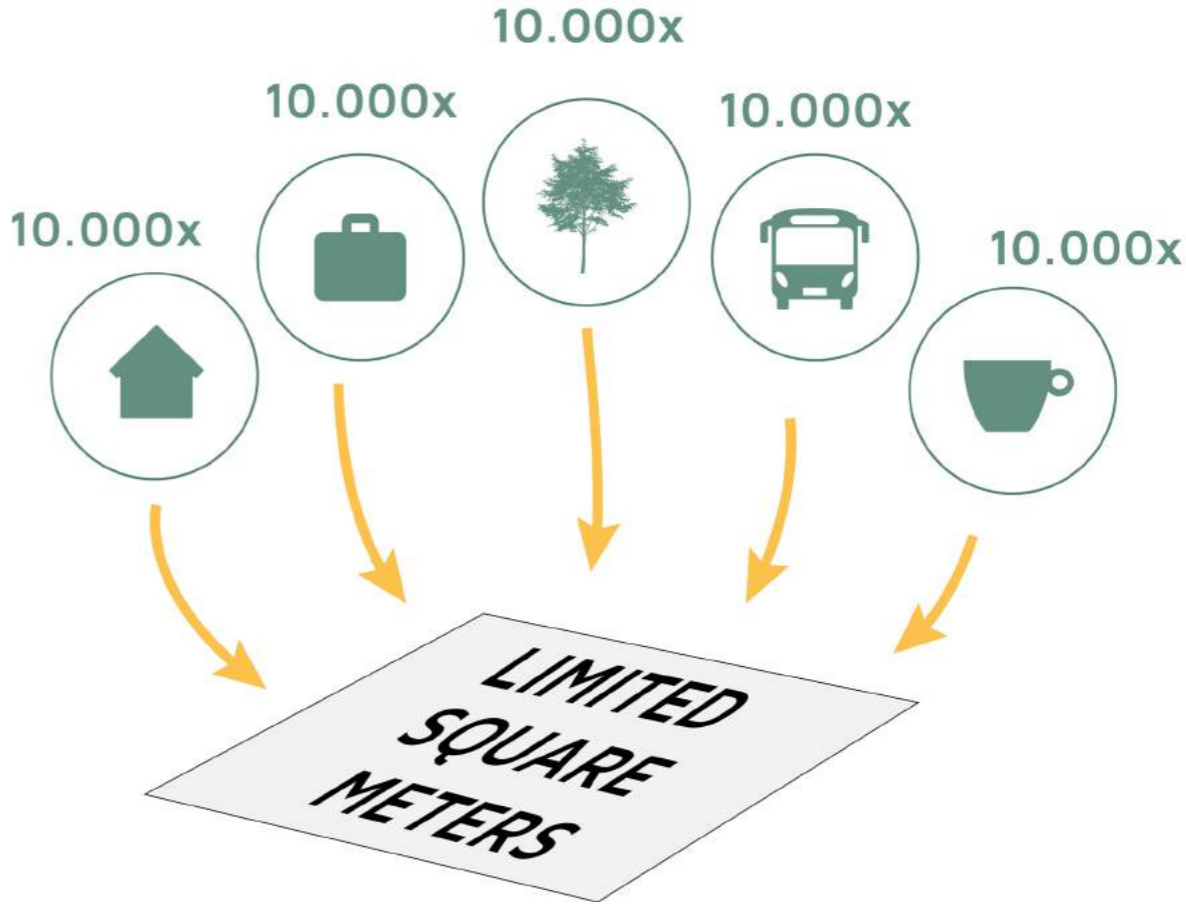
High demand creates scarcity of space

CITY OF THE FUTURE

Future: attending to scars and scarcity



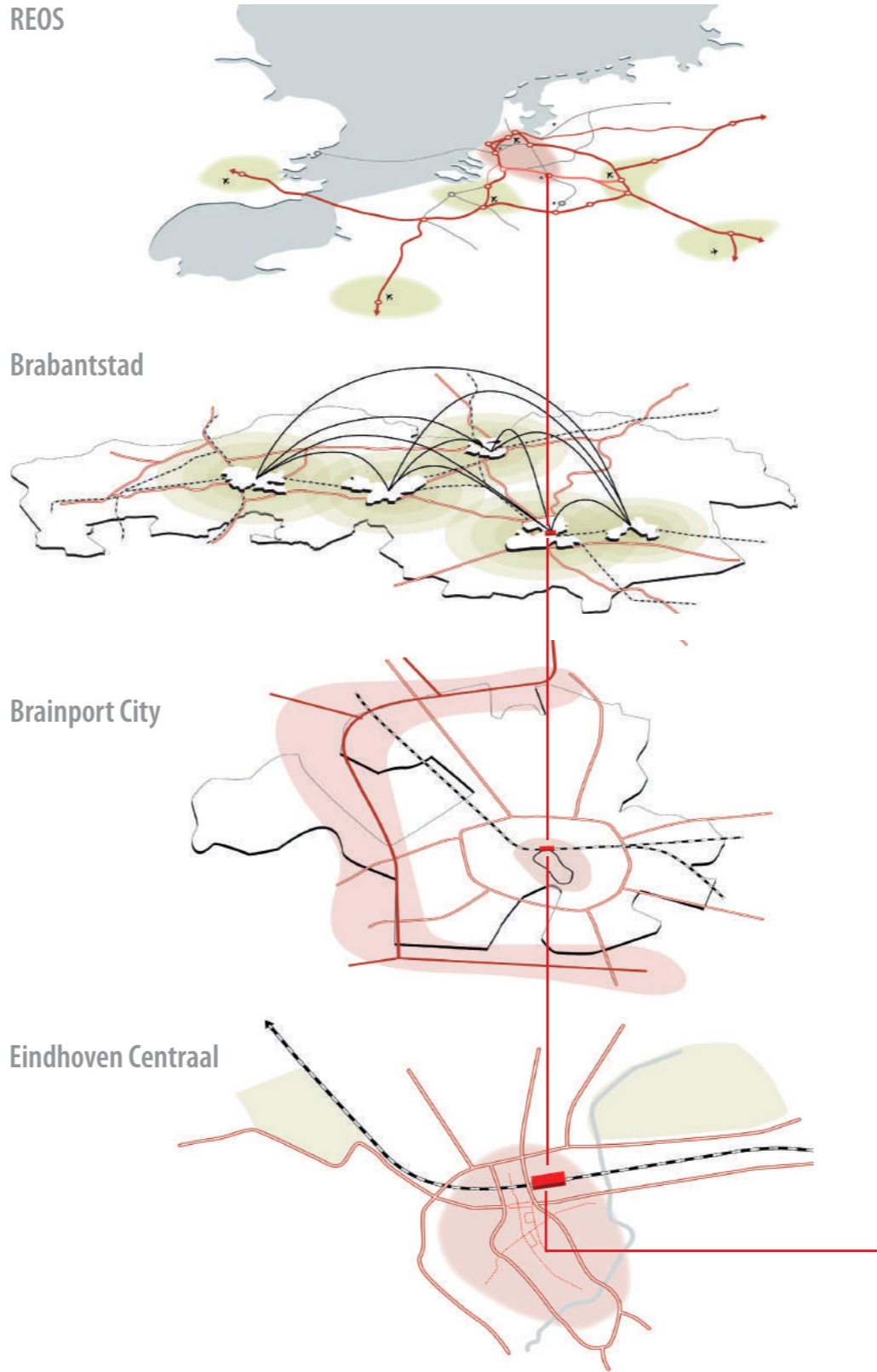
Scars of the past



Scarcity of the future

CITY OF THE FUTURE

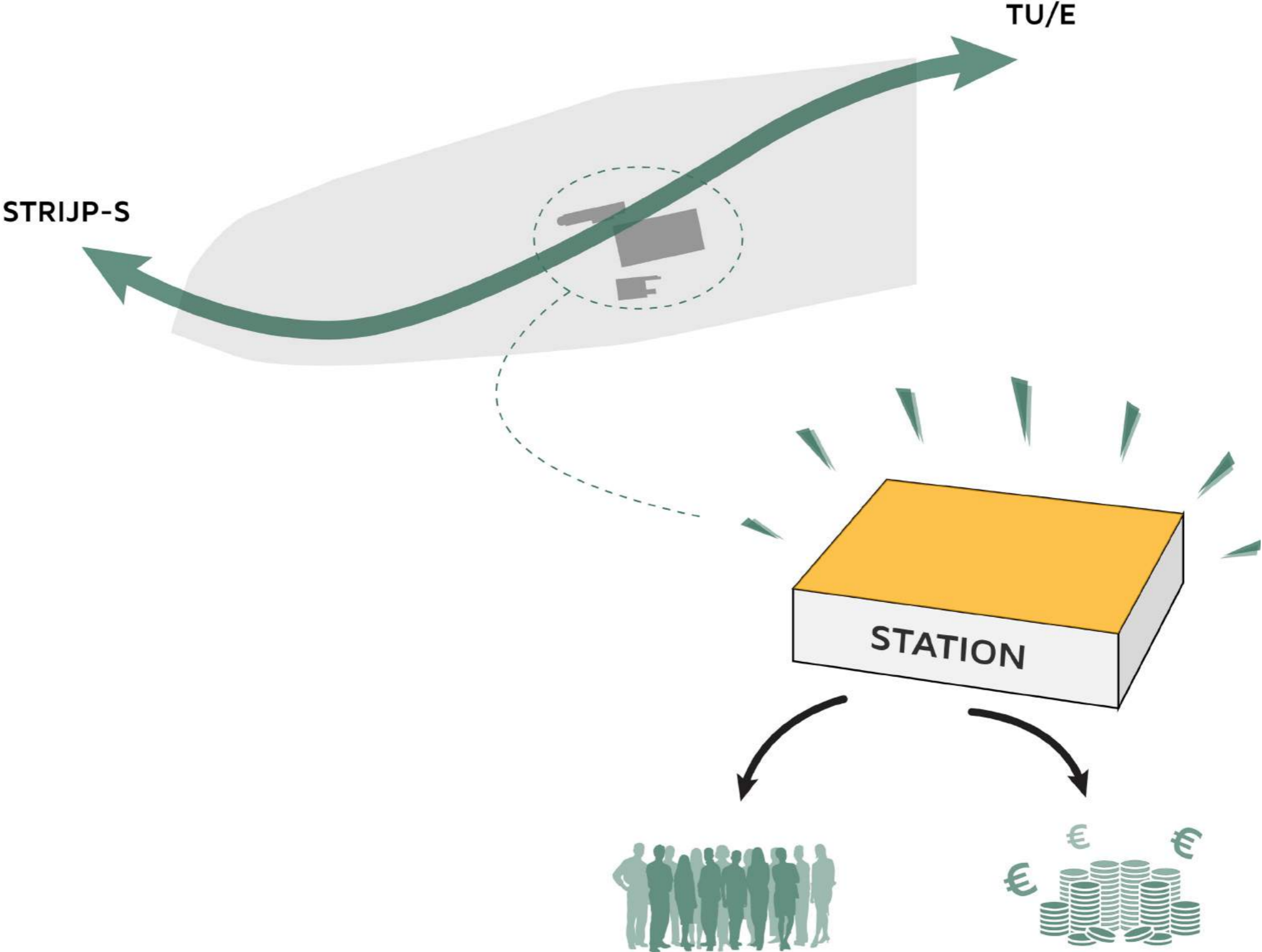
Present opportunities: central in Brainport



Source: Urhahn | stedenbouw & strategie in opdracht van gemeente Eindhoven December 2017

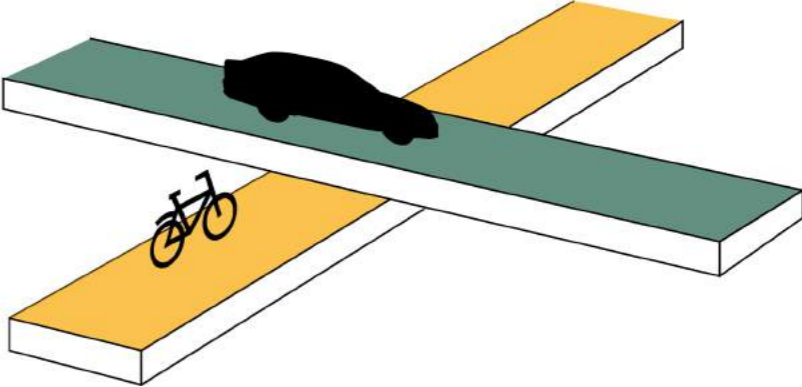
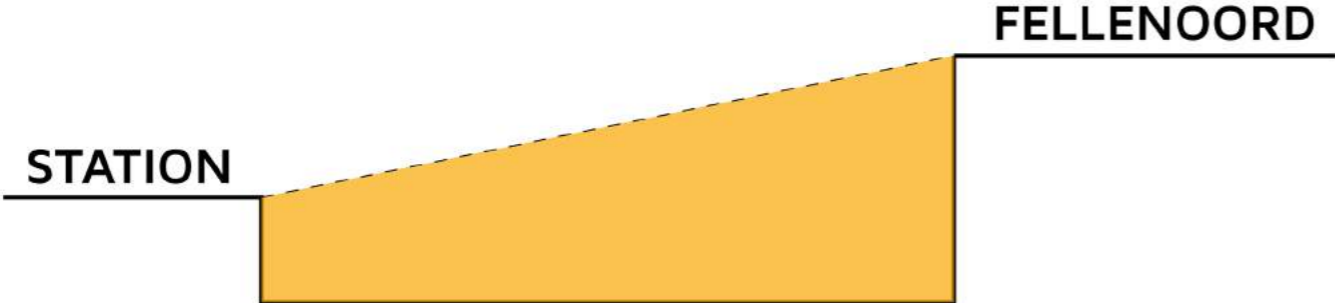
THE CITY OF THE FUTURE

Present opportunities: strategic location



THE CITY OF THE FUTURE

Present opportunities: height differences

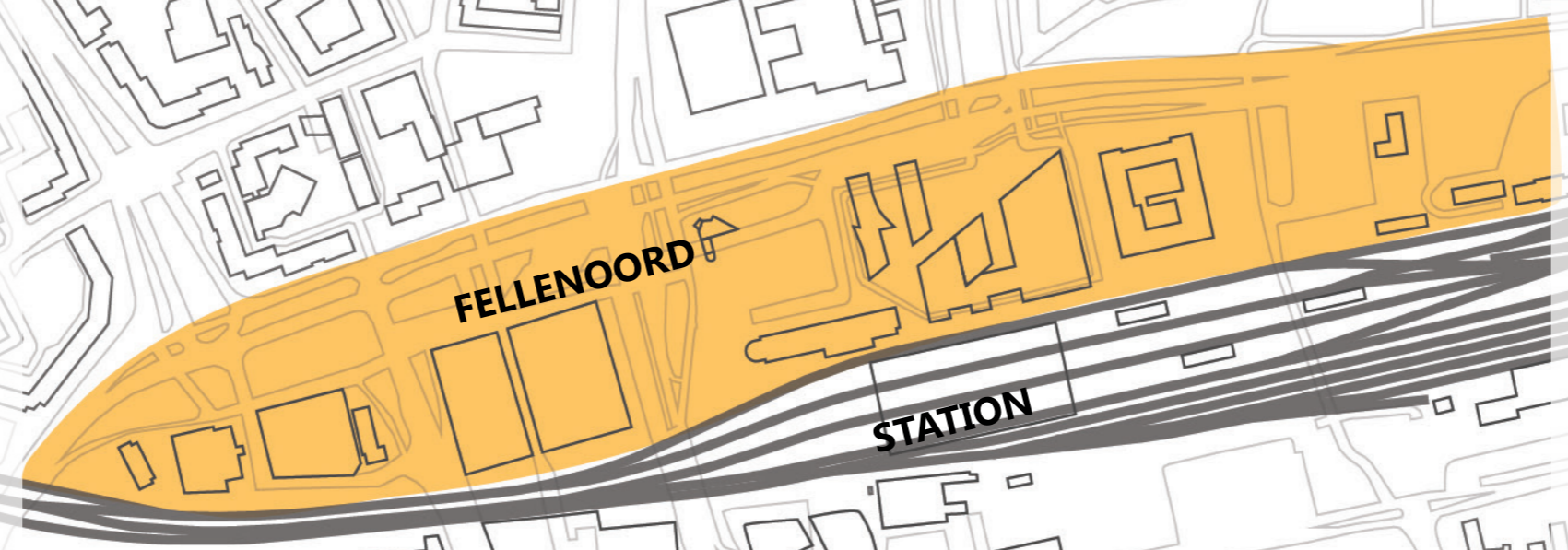


Efficient infrastructure system

FOCUS AND CONCEPT

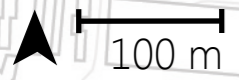
FOCUS AND CONCEPT

Focus area



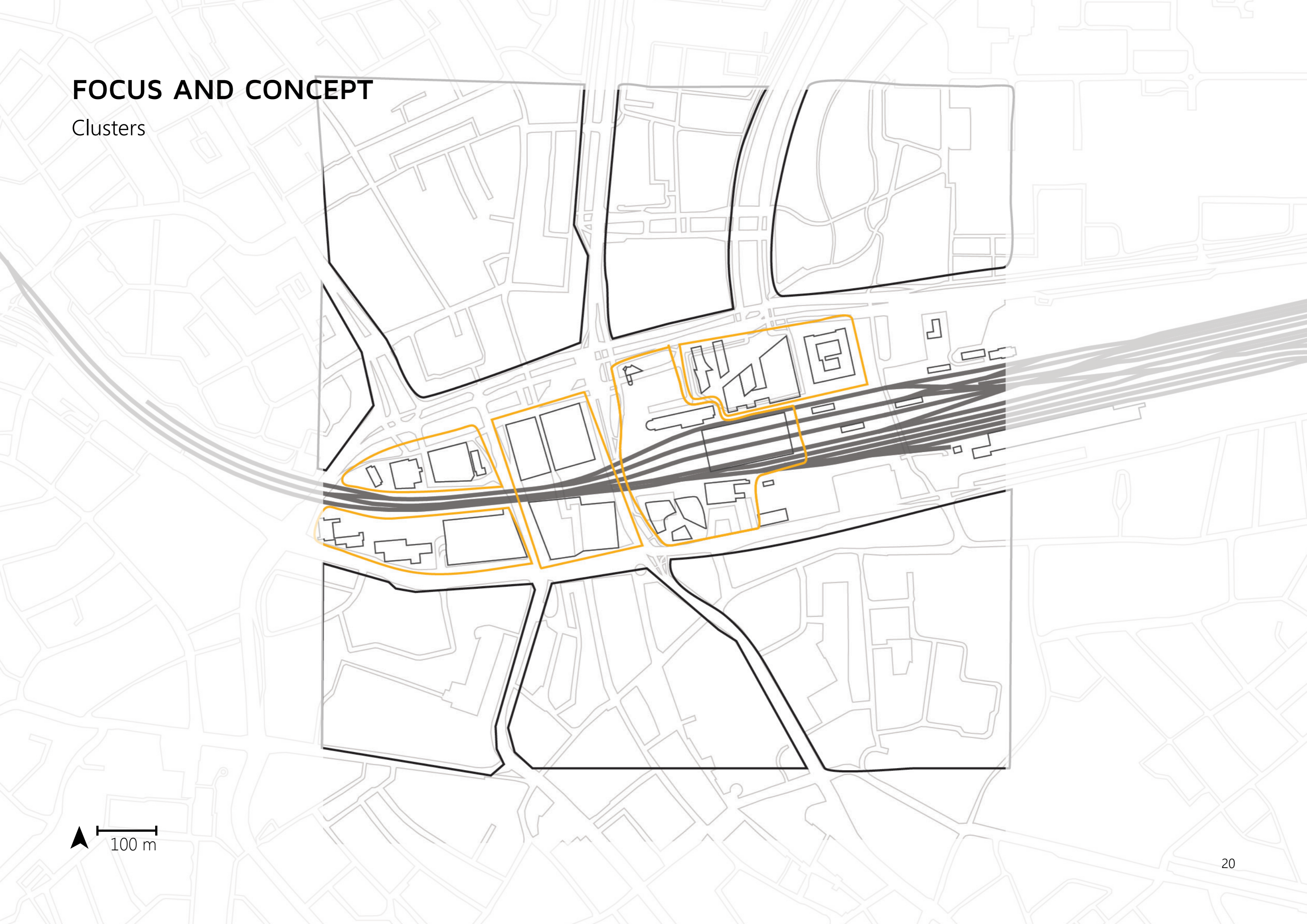
FELLENOORD

STATION



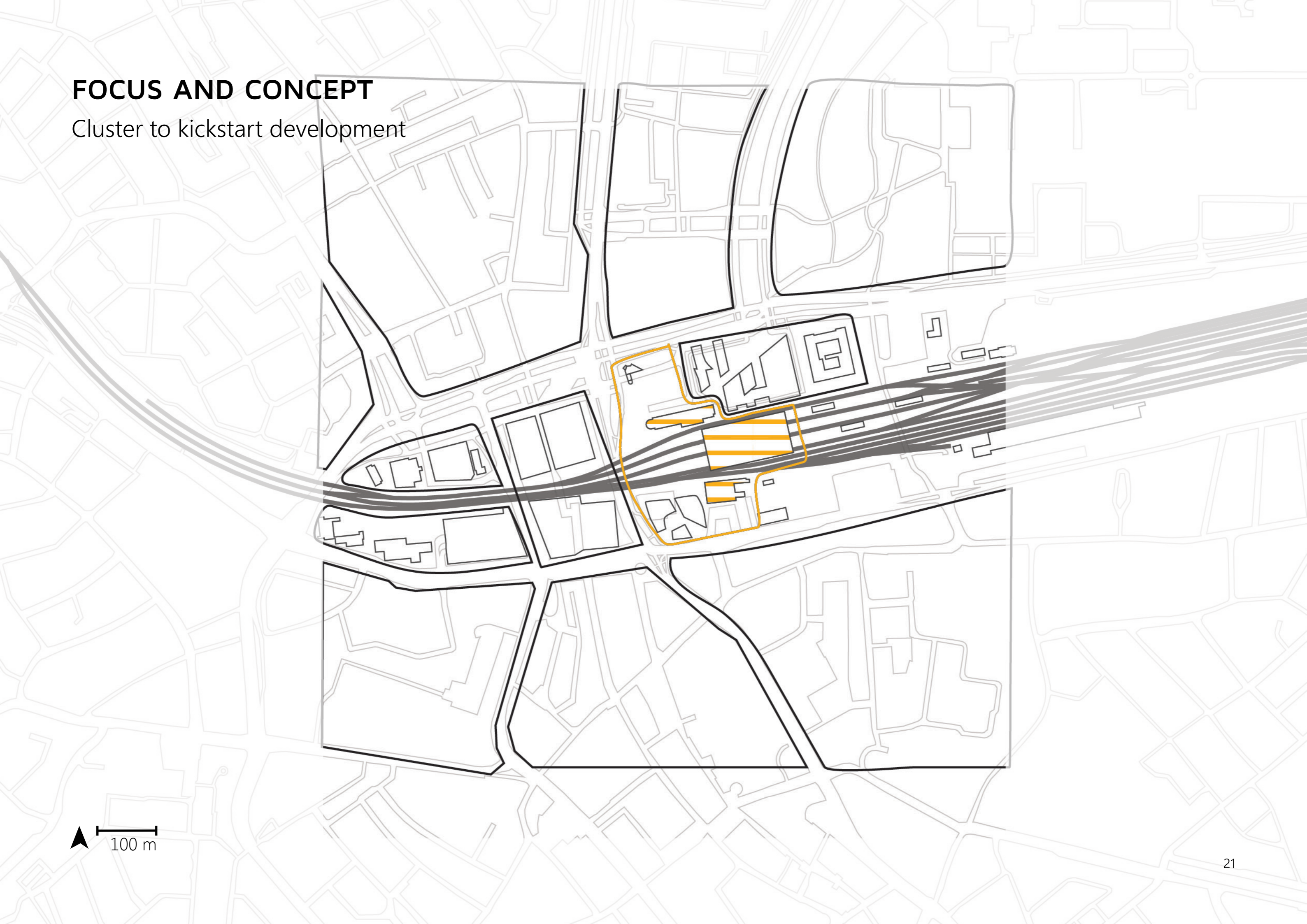
FOCUS AND CONCEPT

Clusters



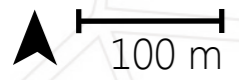
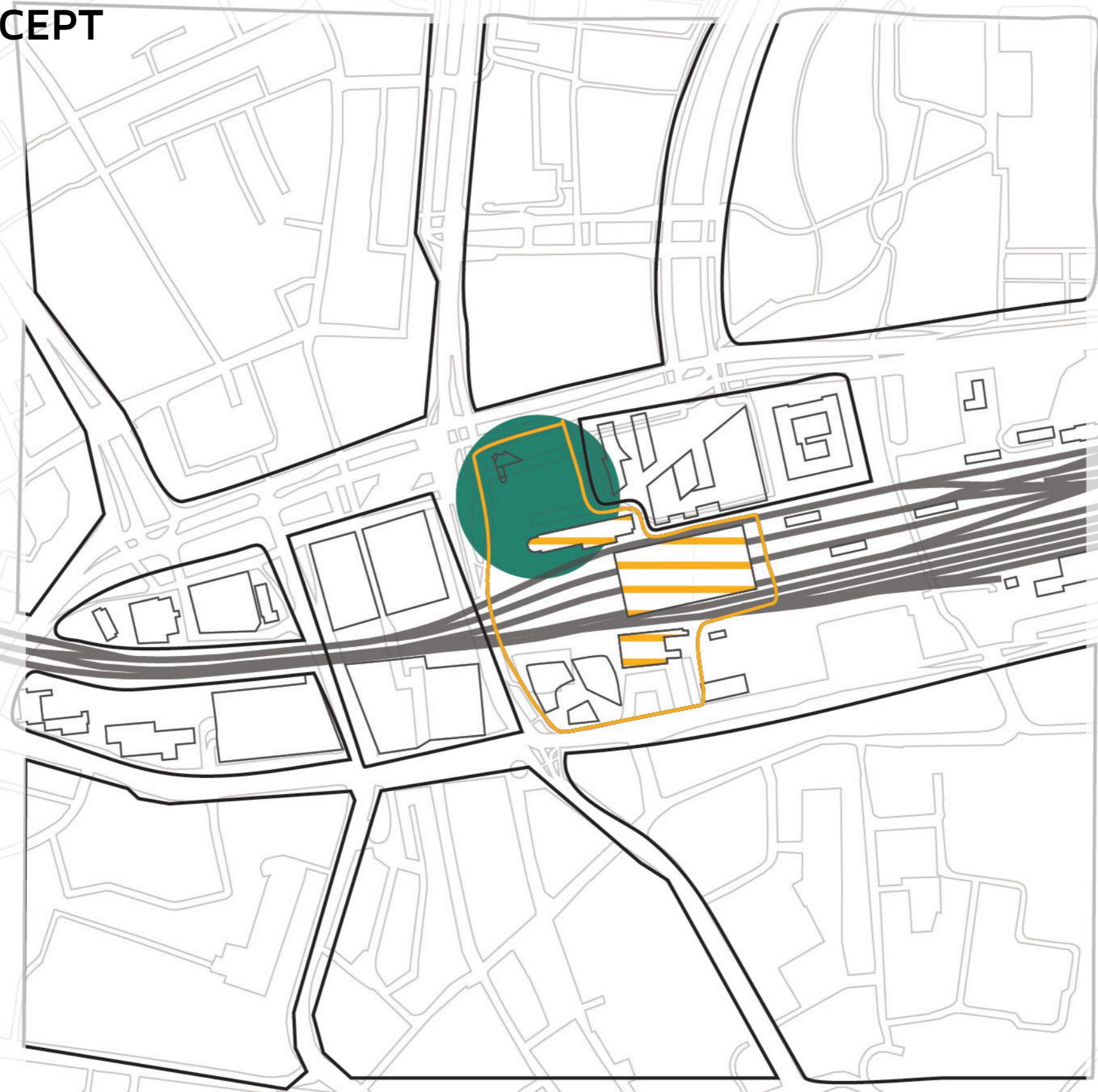
FOCUS AND CONCEPT

Cluster to kickstart development



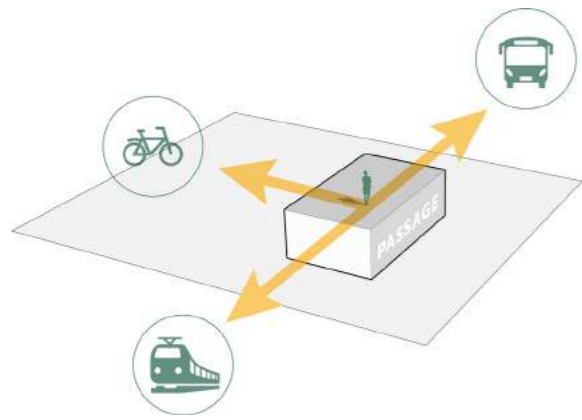
FOCUS AND CONCEPT

Selected area

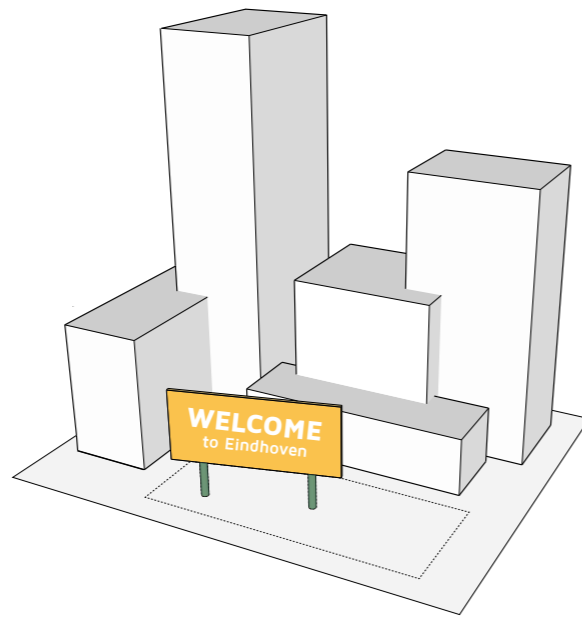


FOCUS AND CONCEPT

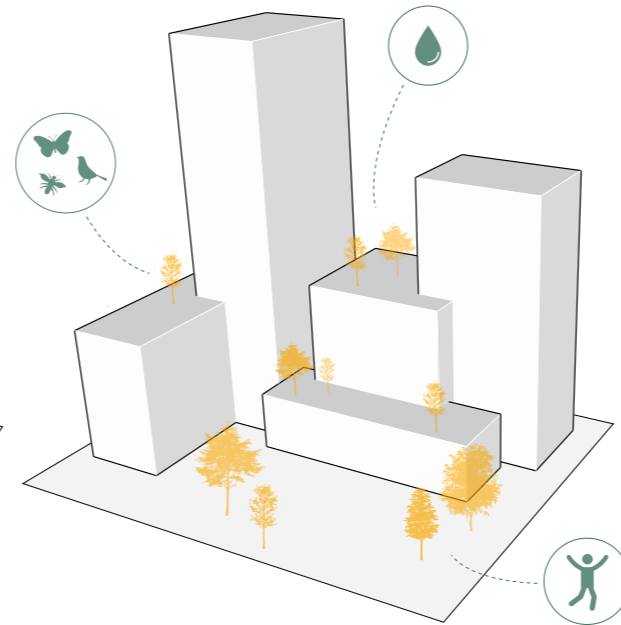
Design goals



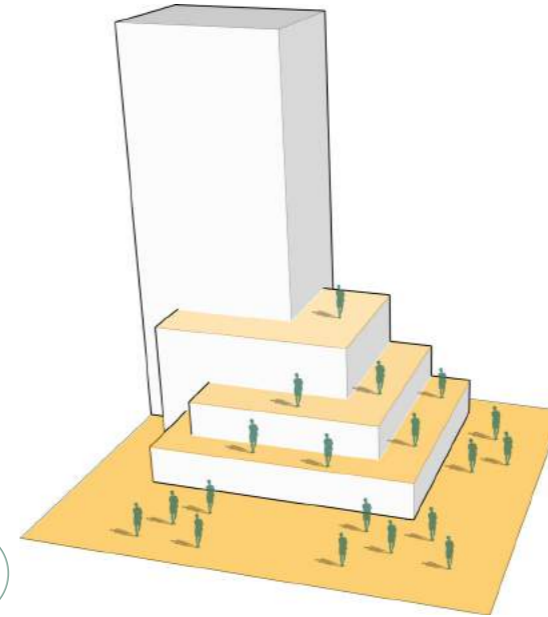
Well connected
public transport



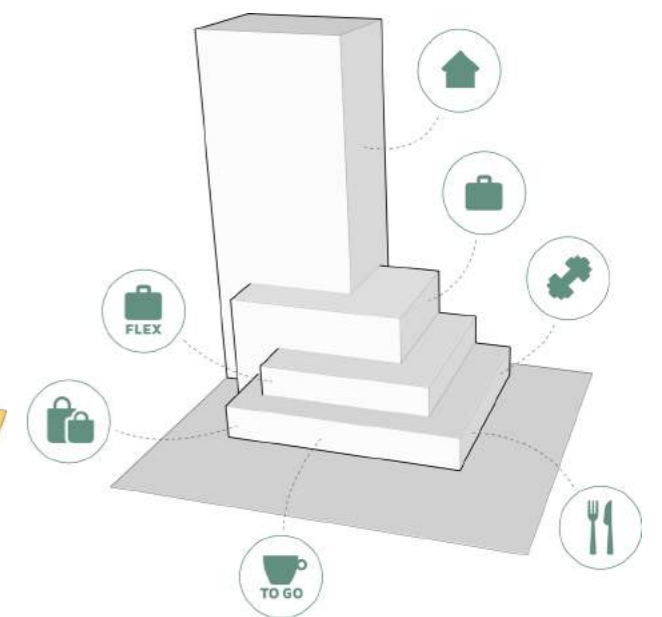
Entrance to the north
of the city



High quality green, for water,
biodiversity and people



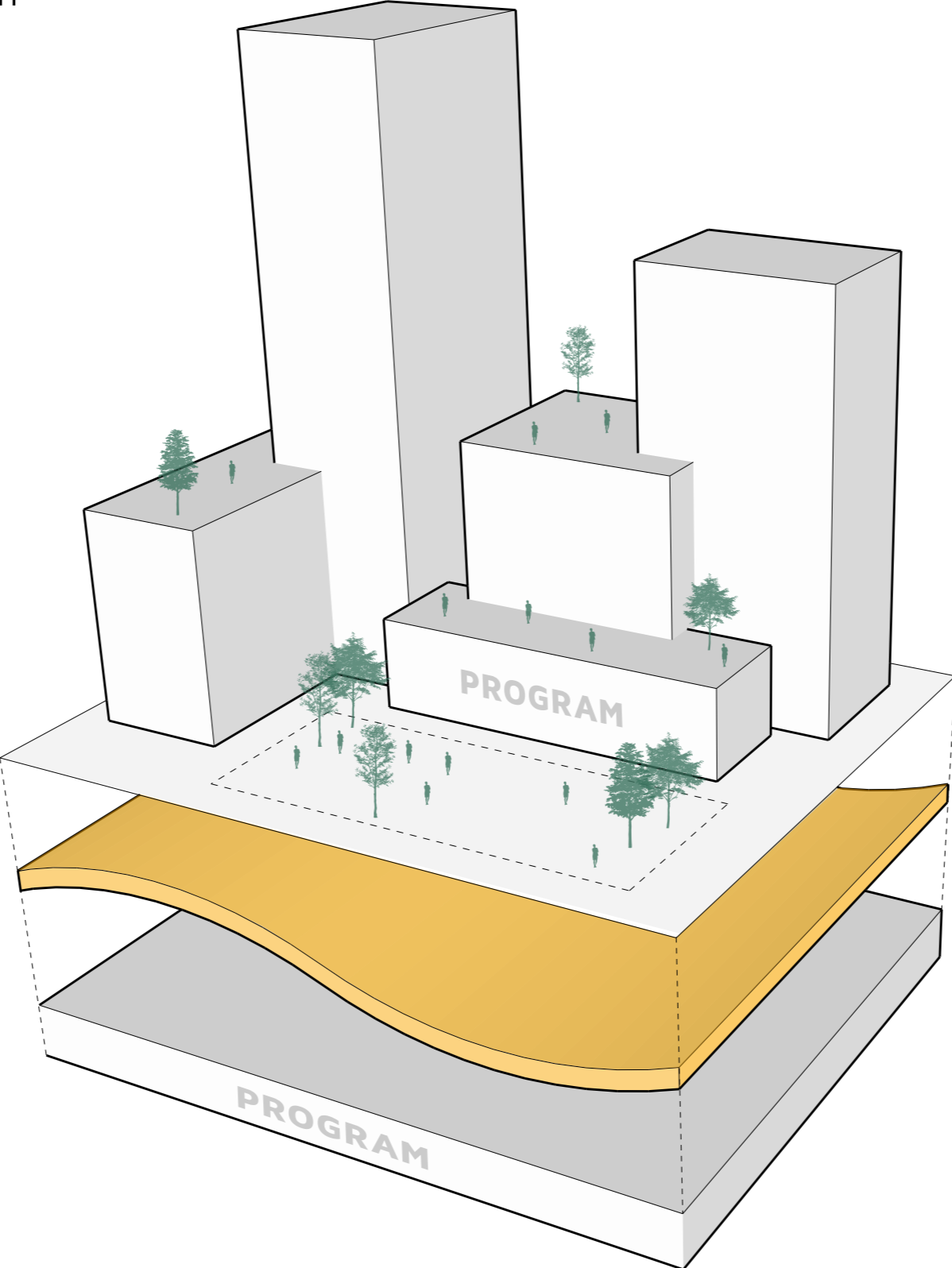
Lively environment



Diverse program

FOCUS AND CONCEPT

Design concept: layering of program and public space

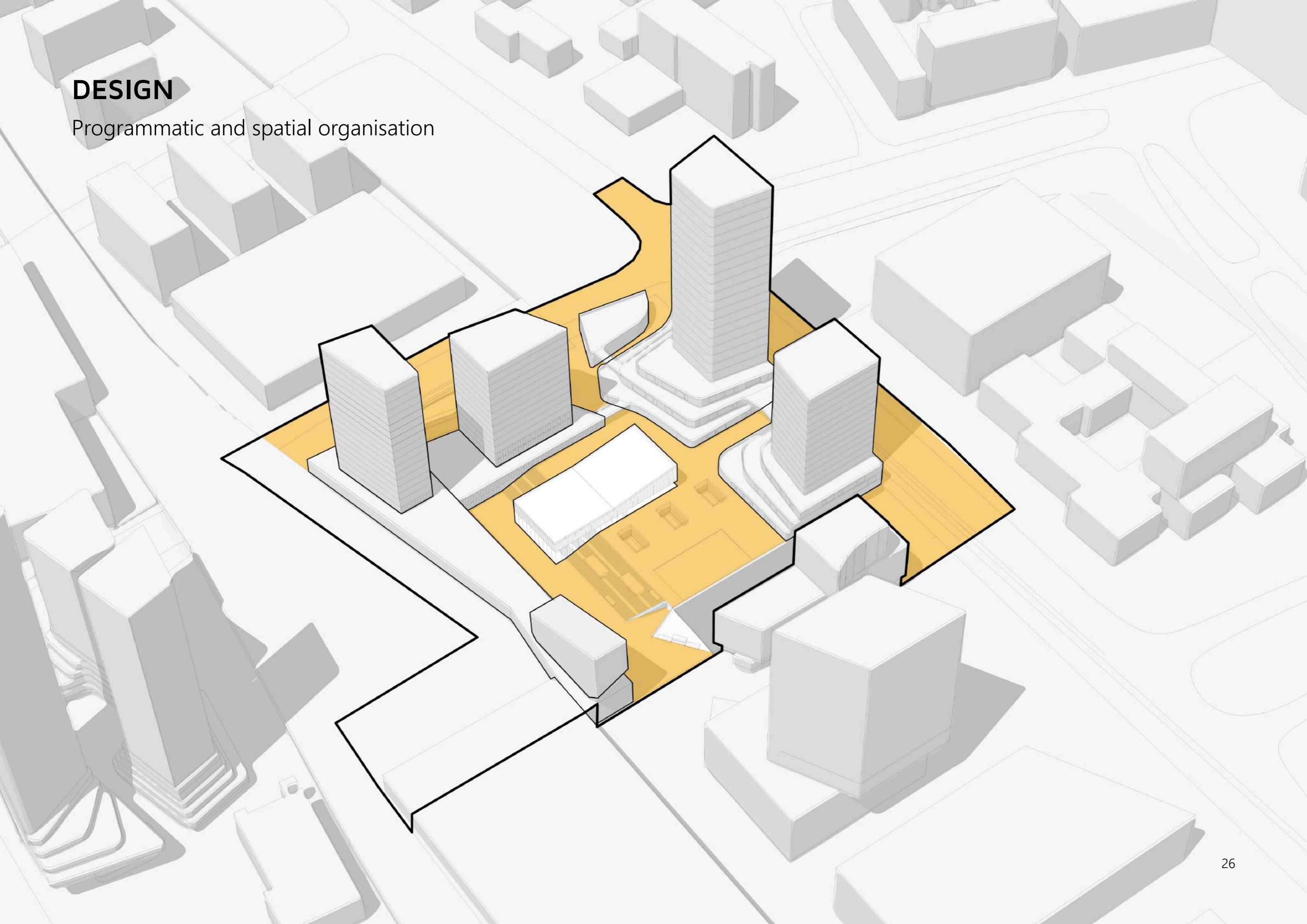


Adding a platform to optimize the use of space

DESIGN

DESIGN

Programmatic and spatial organisation



CITY BOULEVARD

Adjustment of the profile



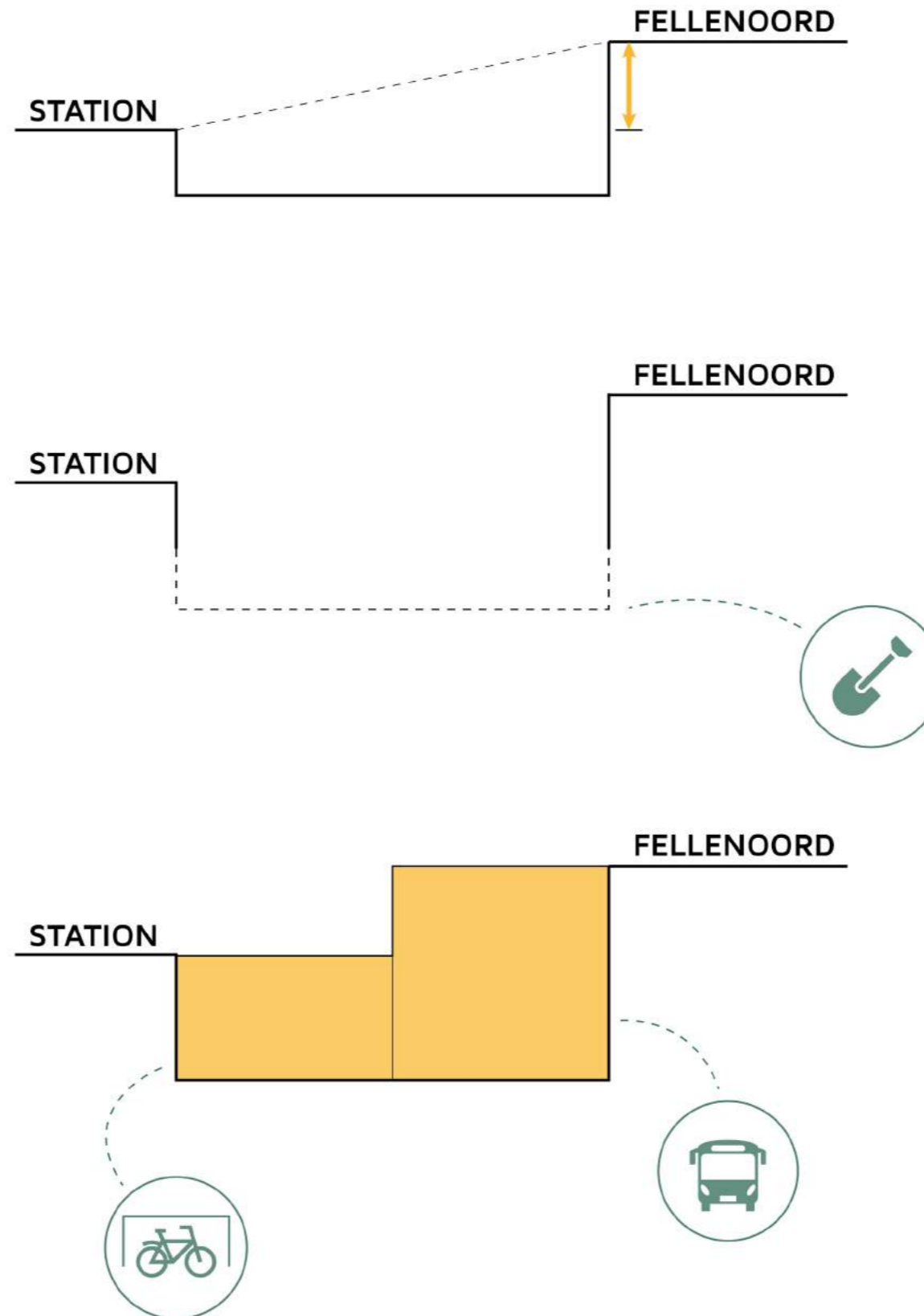
Width reduced from 45 m to 23 m



City boulevard New street profile

DESIGN

Taking advantage of the height differences



DESIGN

Public transport



Increased passengers from 75.000 to 85.000 people per day

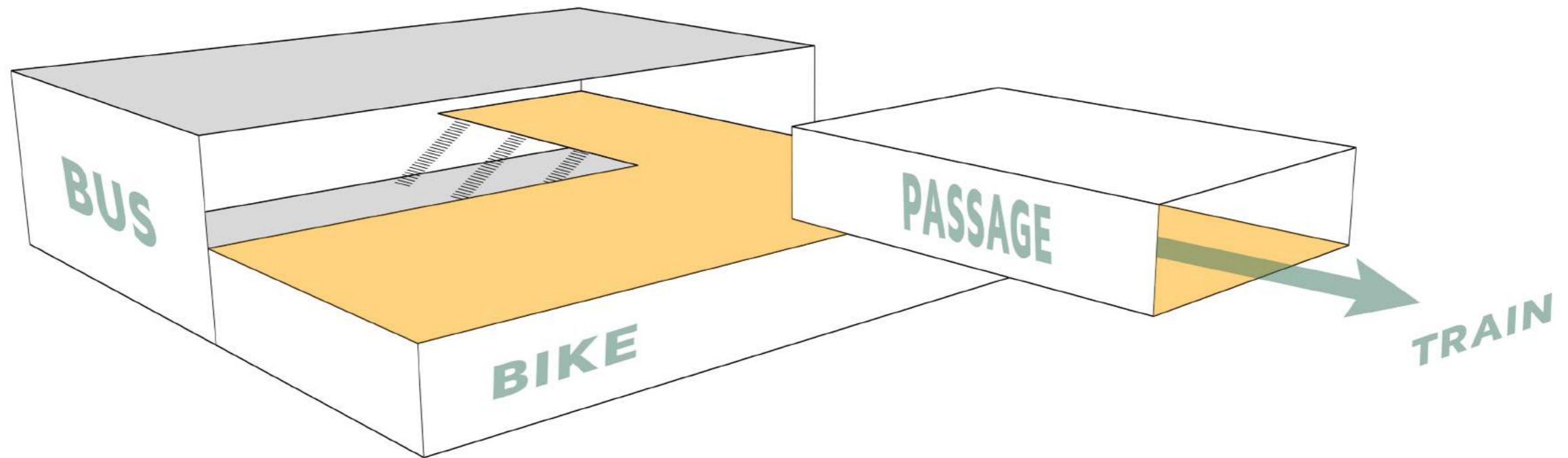
Improving the efficiency and safety of the busstation

Total area: 11.000 m²

Bicycle parking 5000 m², room for 5000 bicycles

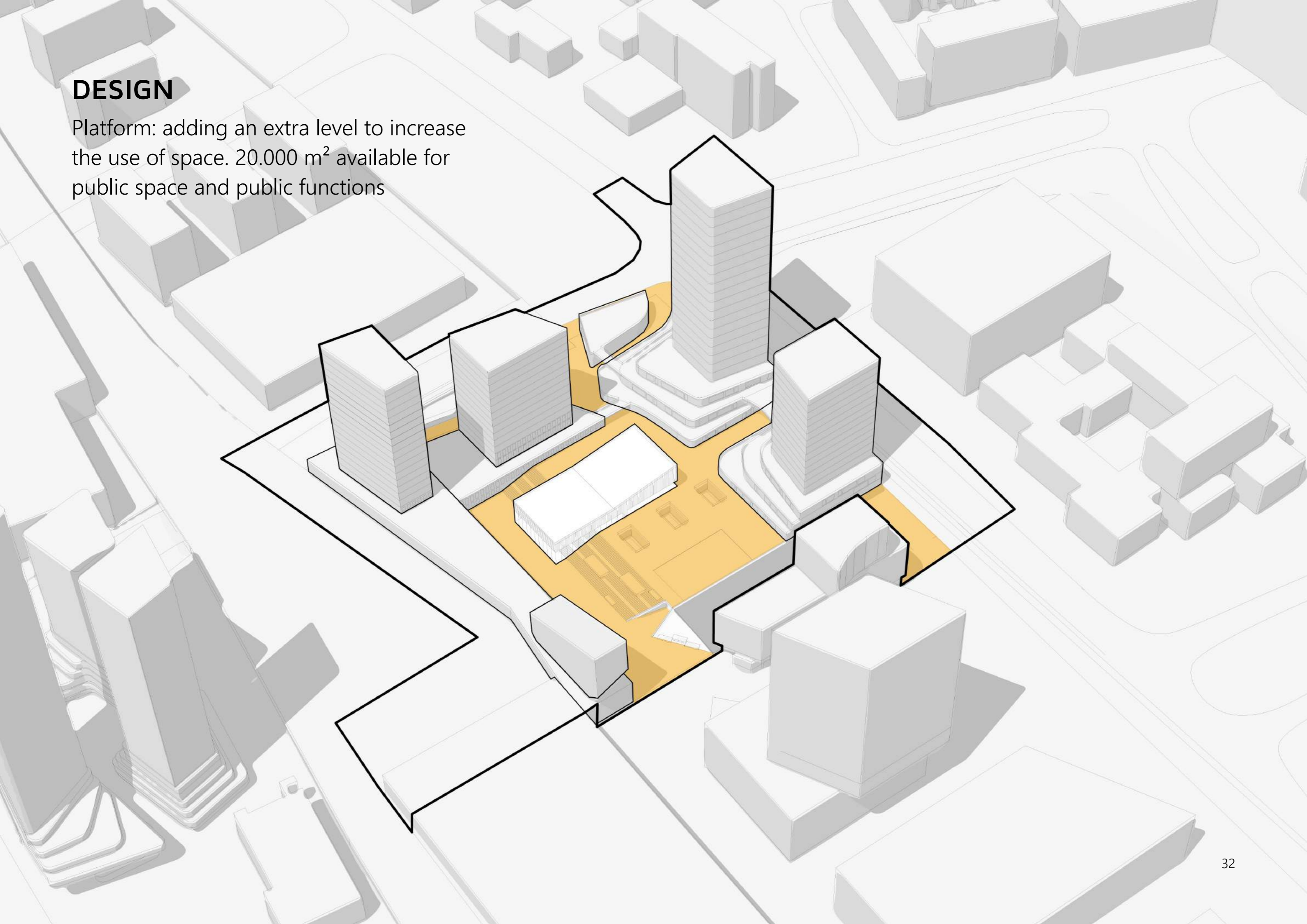
DESIGN

Public transport: highly efficient organisation to improve the safety and experience of the traveller



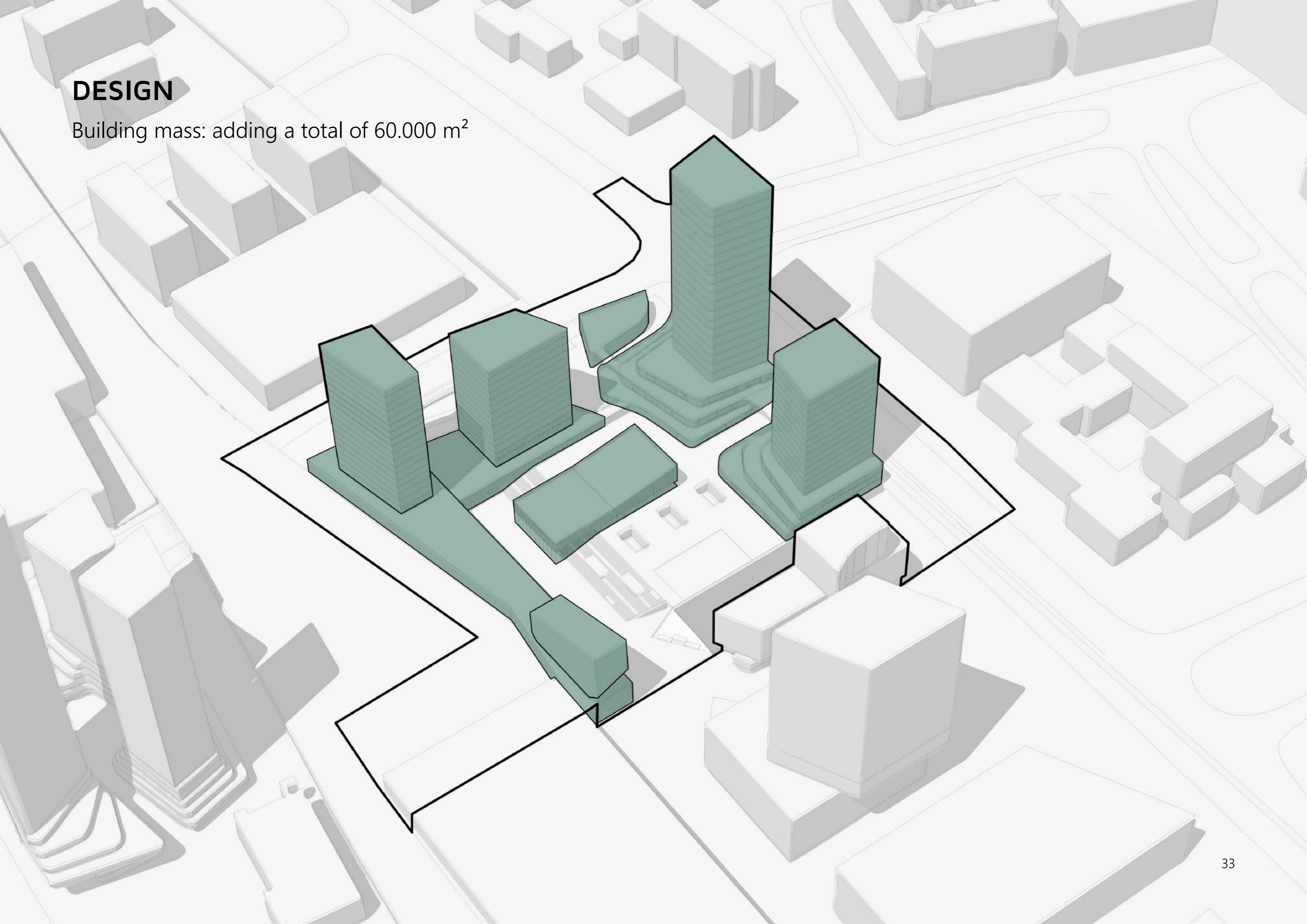
DESIGN

Platform: adding an extra level to increase the use of space. 20.000 m² available for public space and public functions



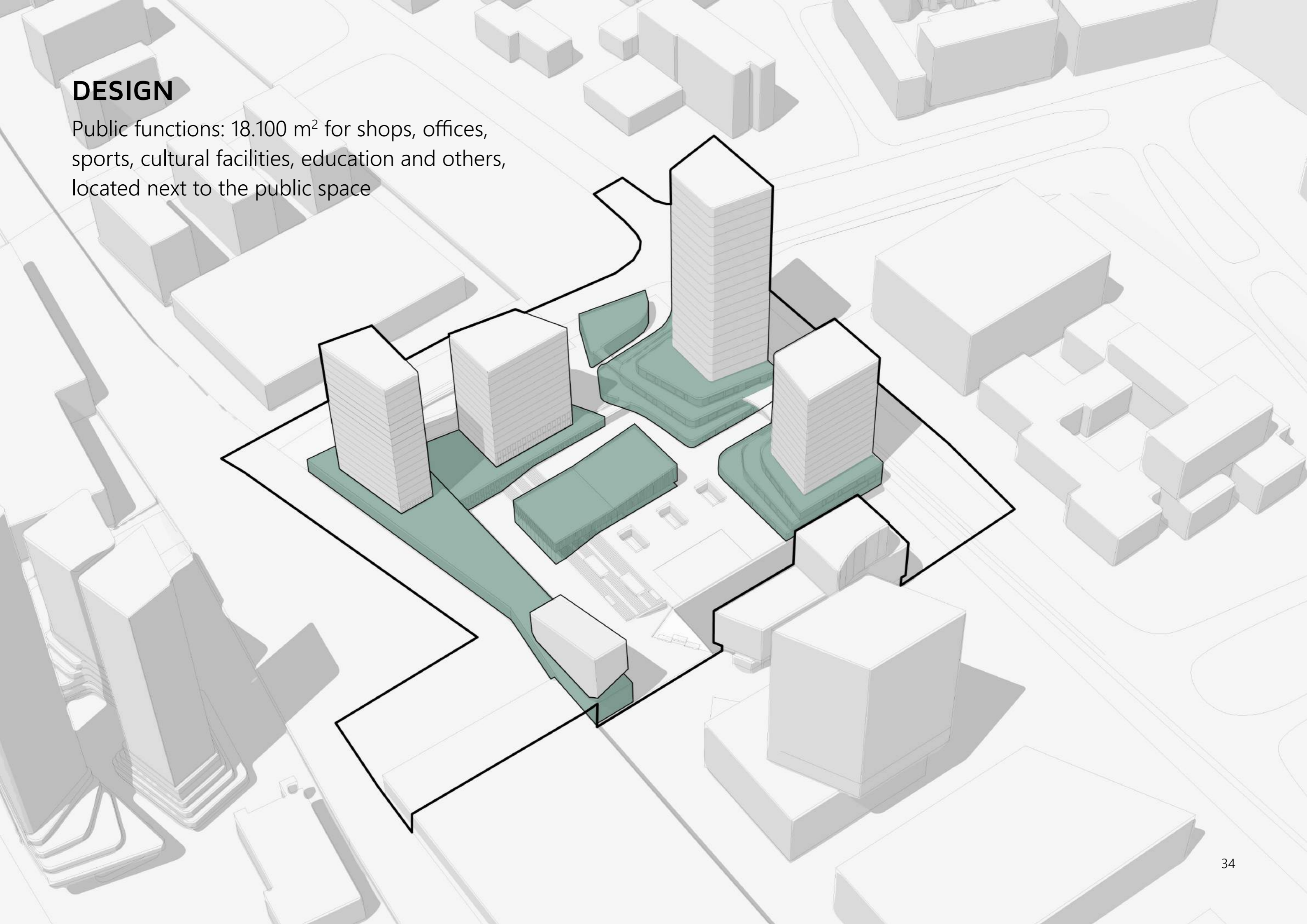
DESIGN

Building mass: adding a total of 60.000 m²



DESIGN

Public functions: 18.100 m² for shops, offices, sports, cultural facilities, education and others, located next to the public space



DESIGN

Living or working: 42.000 m²

In case of all space used for dwelling, with an average of 100 m² per dwelling

Resulting: 182 dwellings per hectare



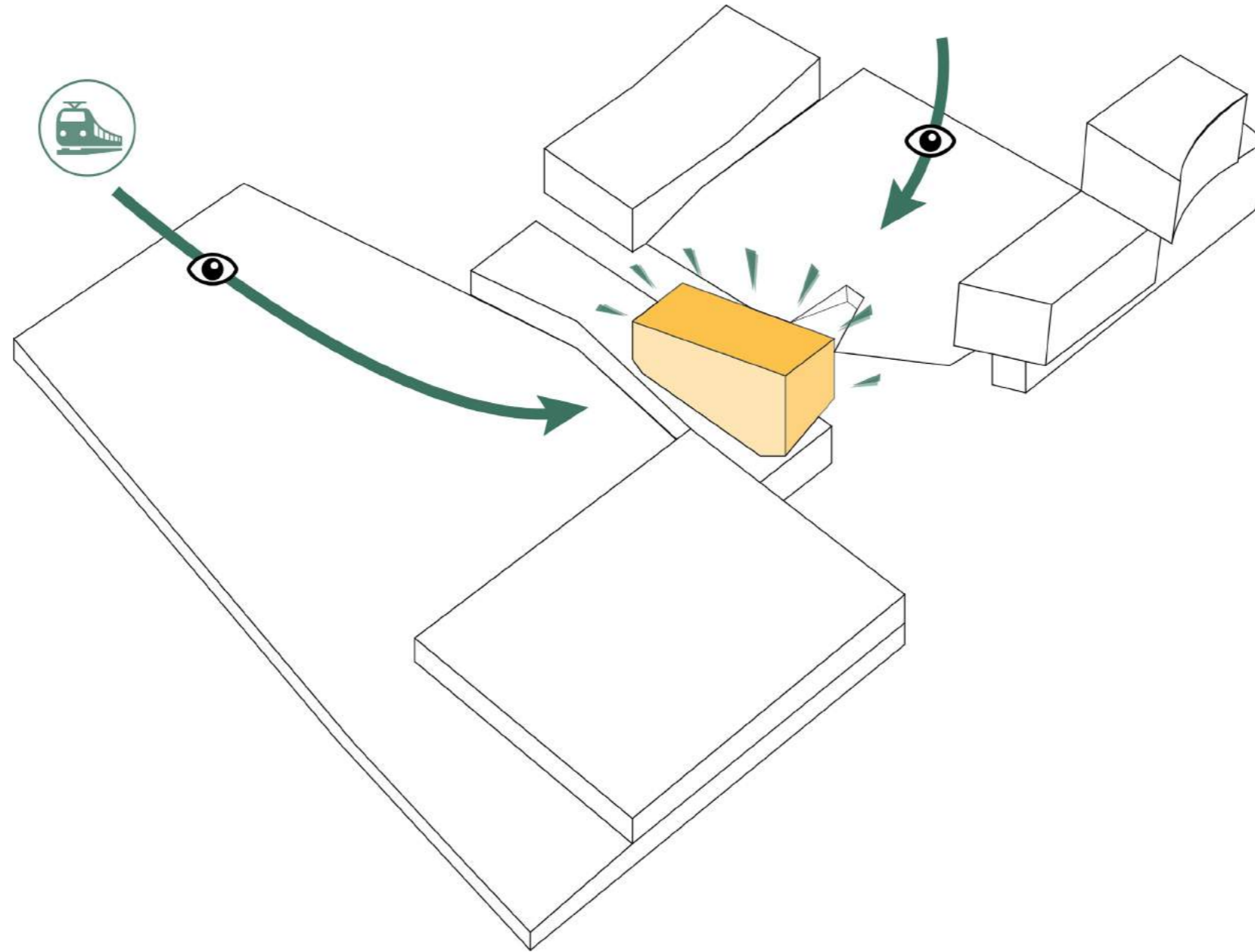
DESIGN

Landmark indicating the entrance of the station and showing the identity of Eindhoven



DESIGN

Landmark indicating the entrance of the station and showing the identity of Eindhoven



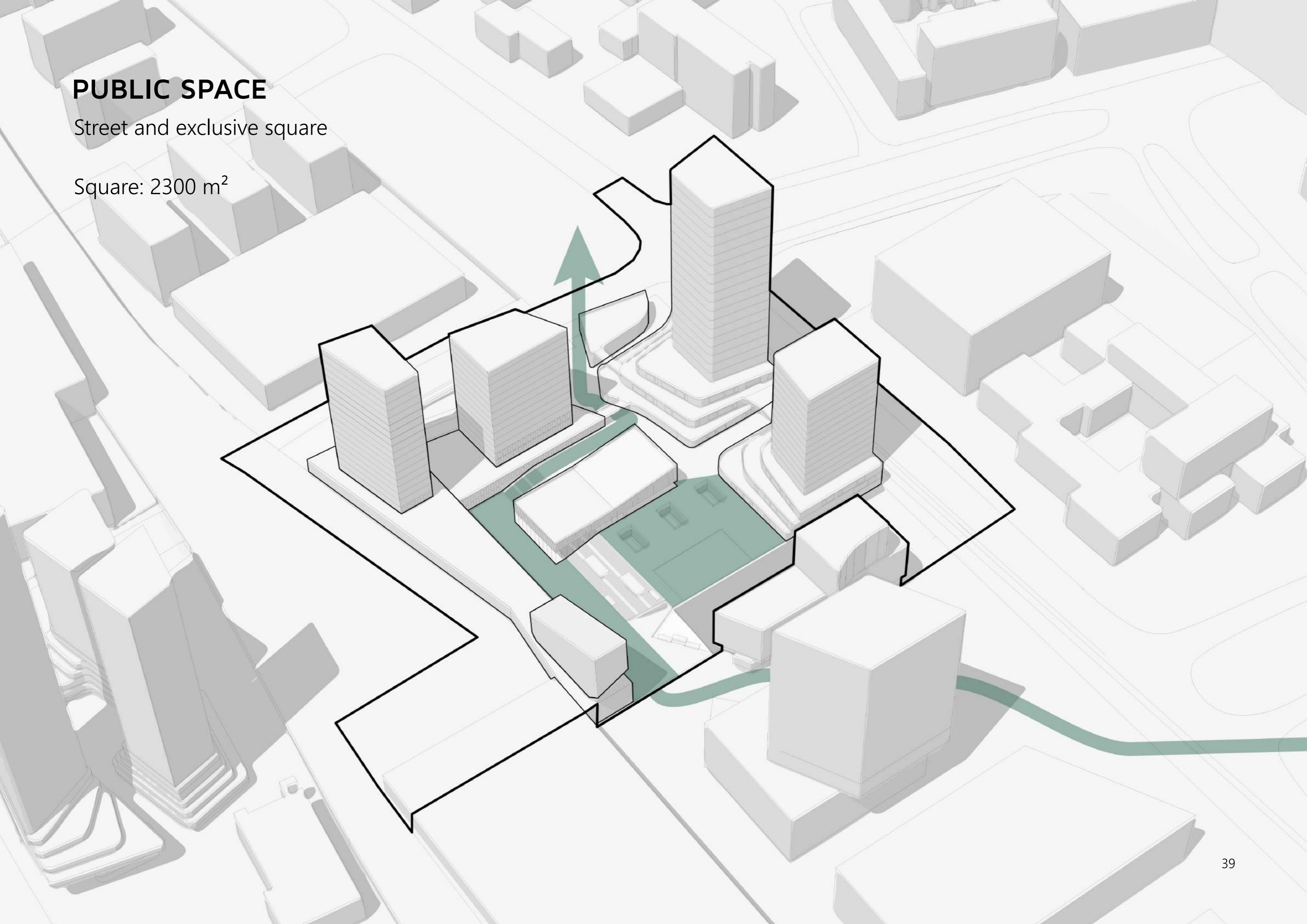


Station Entrance Showing the innovative identity of Eindhoven and serving as a landmark

PUBLIC SPACE

Street and exclusive square

Square: 2300 m²



DESIGN

Bufferzones

Quality created by vegetation and trees and allowing water to enter the soil



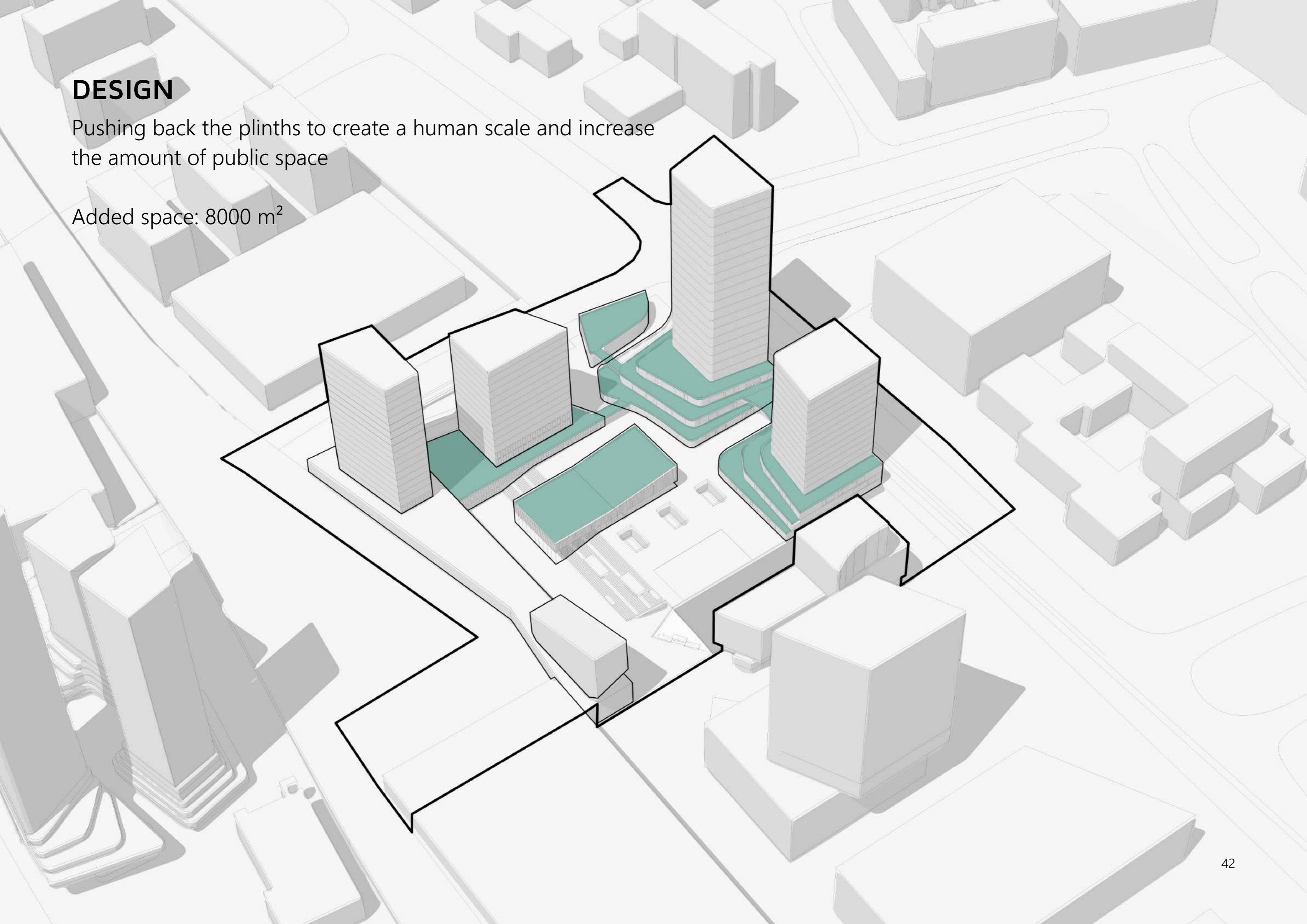


Green buffer Public space and climate adaptiveness

DESIGN

Pushing back the plinths to create a human scale and increase the amount of public space

Added space: 8000 m²

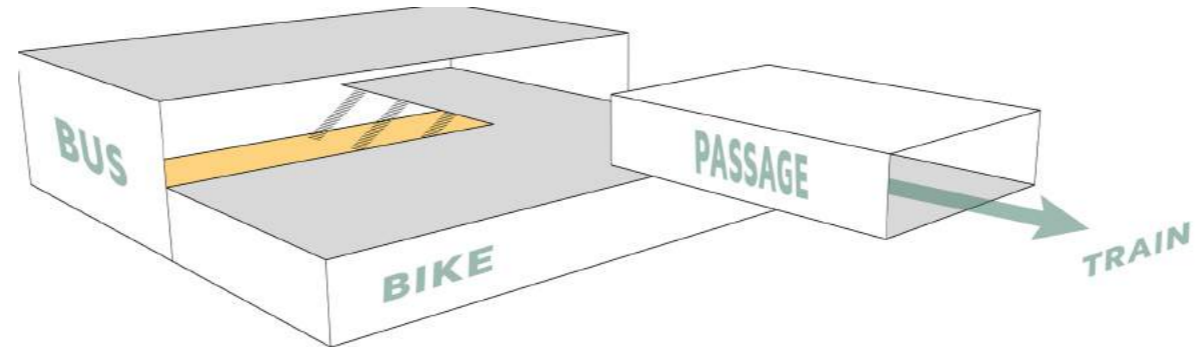




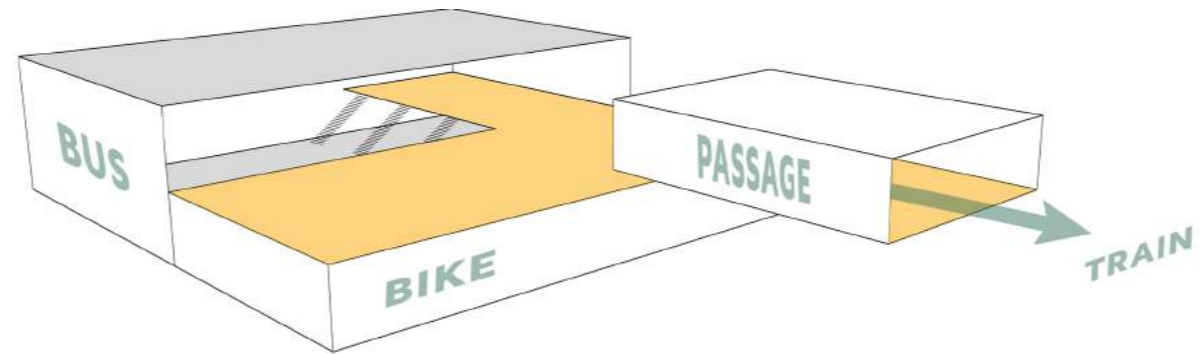
Public space Various types of public space on different levels

DESIGN

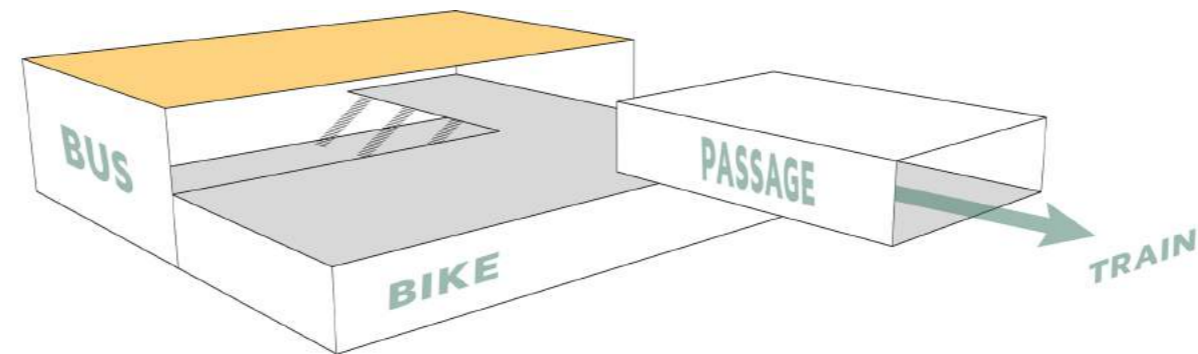
Spatial organization floorplan



Level: - 3.6 m



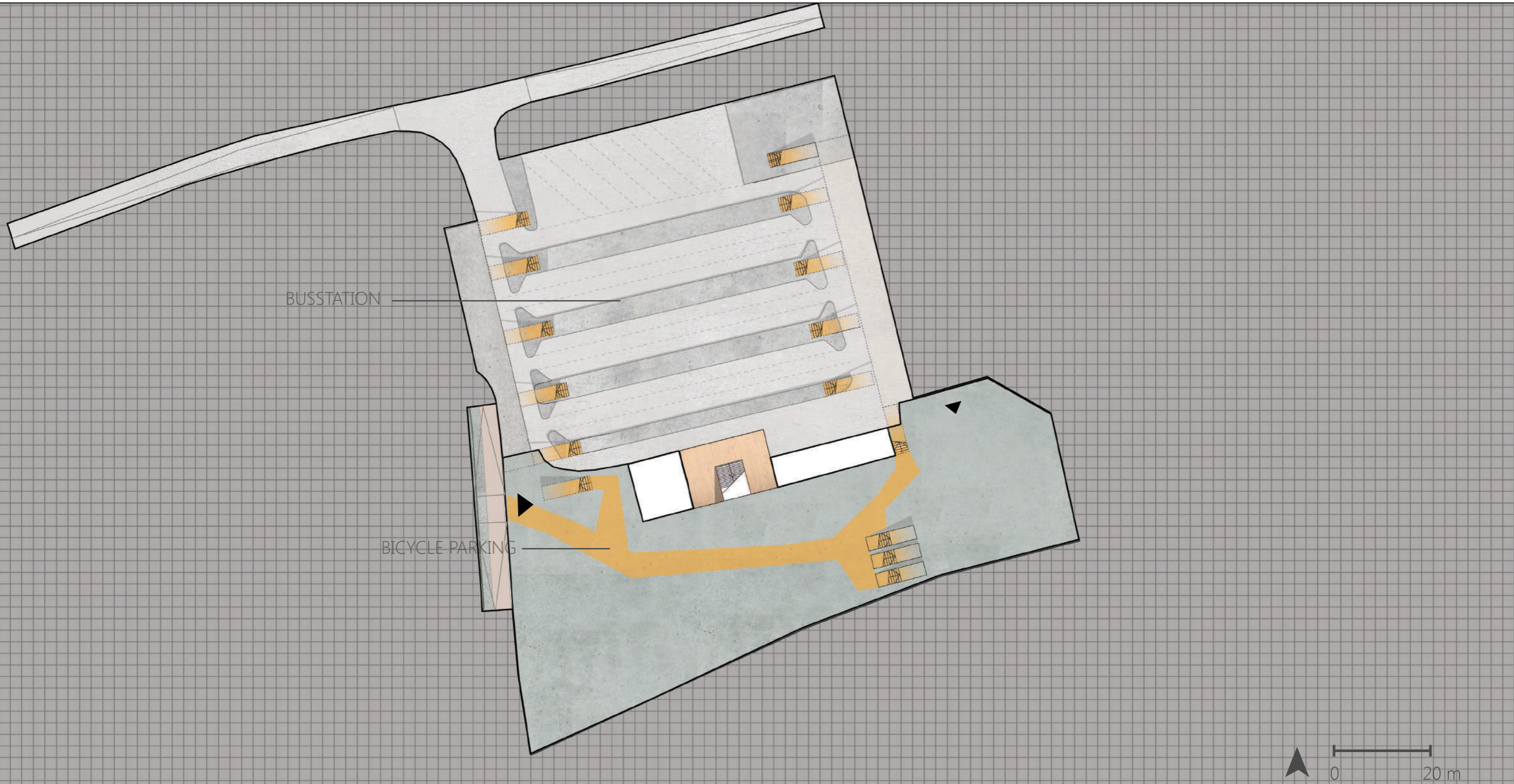
Level: 0 m



Level: + 3.6 m

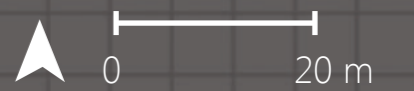
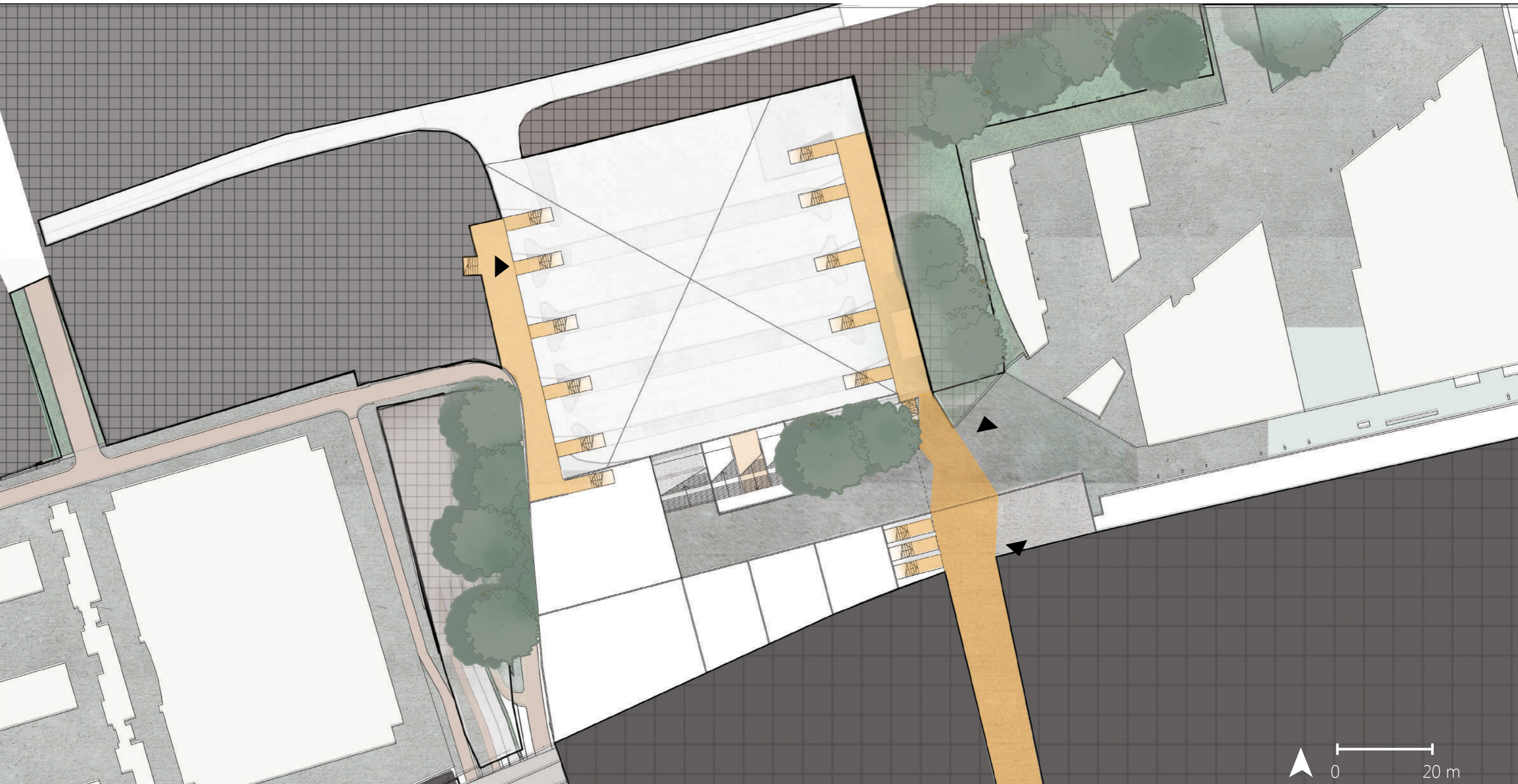
DESIGN

Floorplan: level - 3.6 m



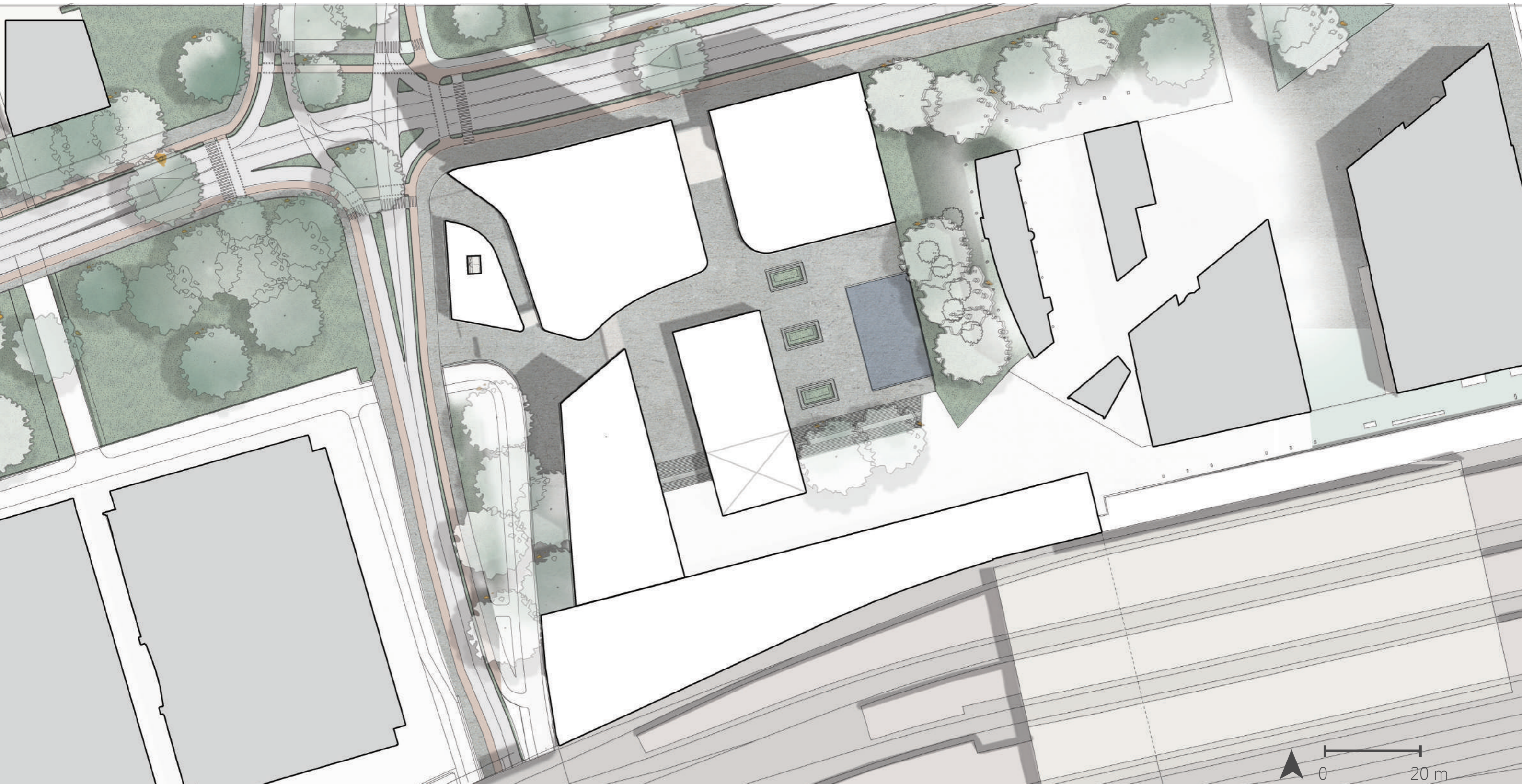
DESIGN

Floorplan: level 0 m



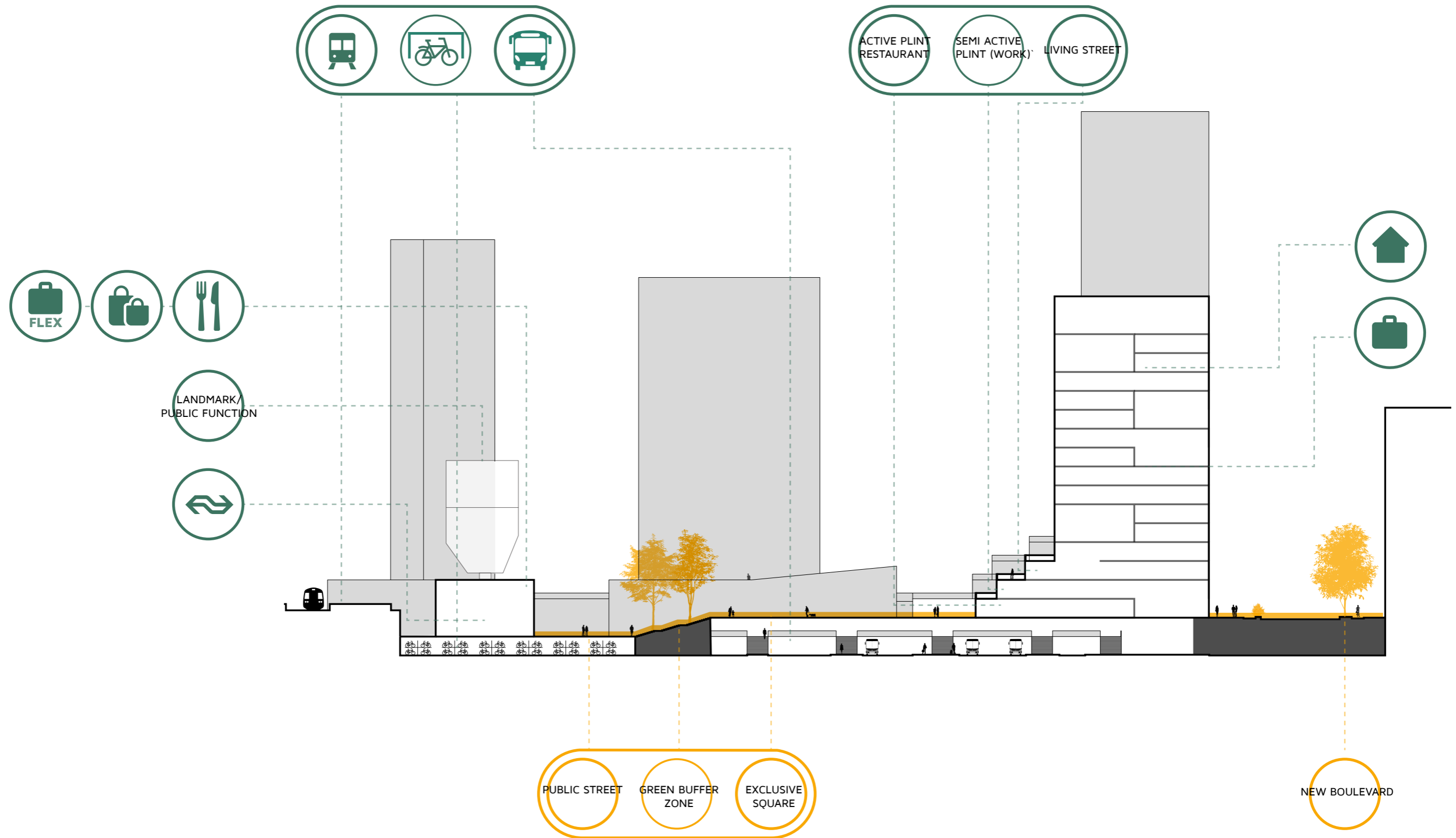
DESIGN

Floorplan: level + 3.6 m



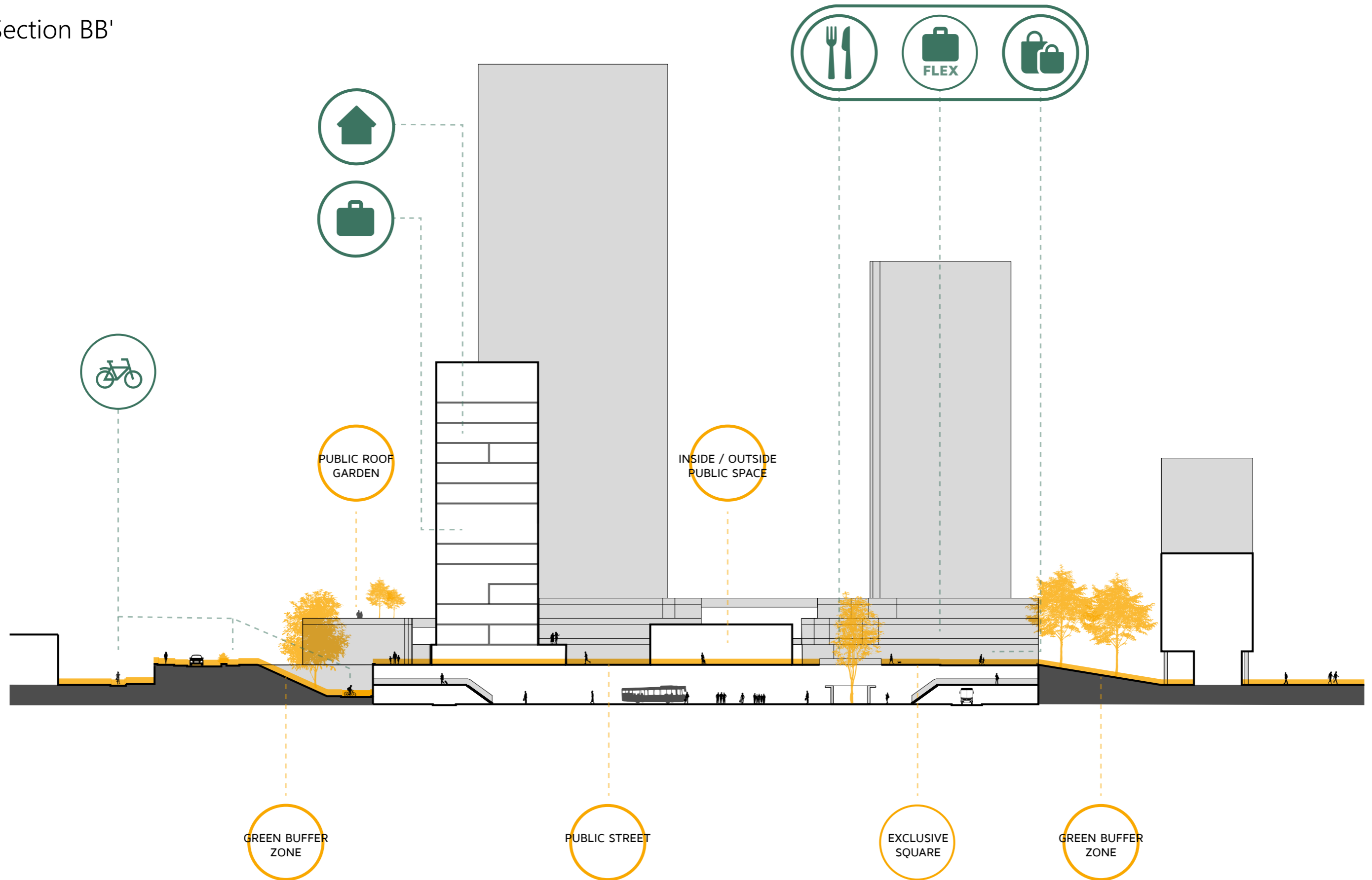
DESIGN

Section AA'



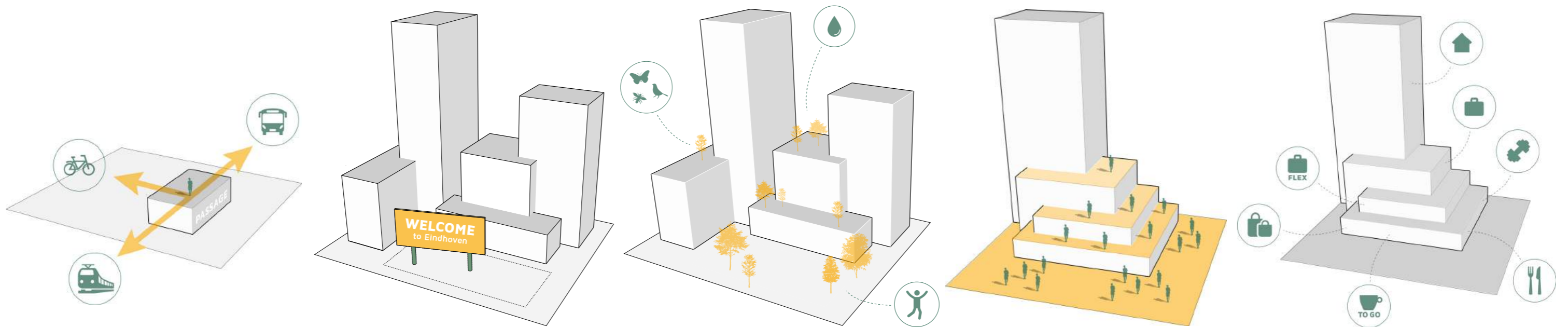
DESIGN

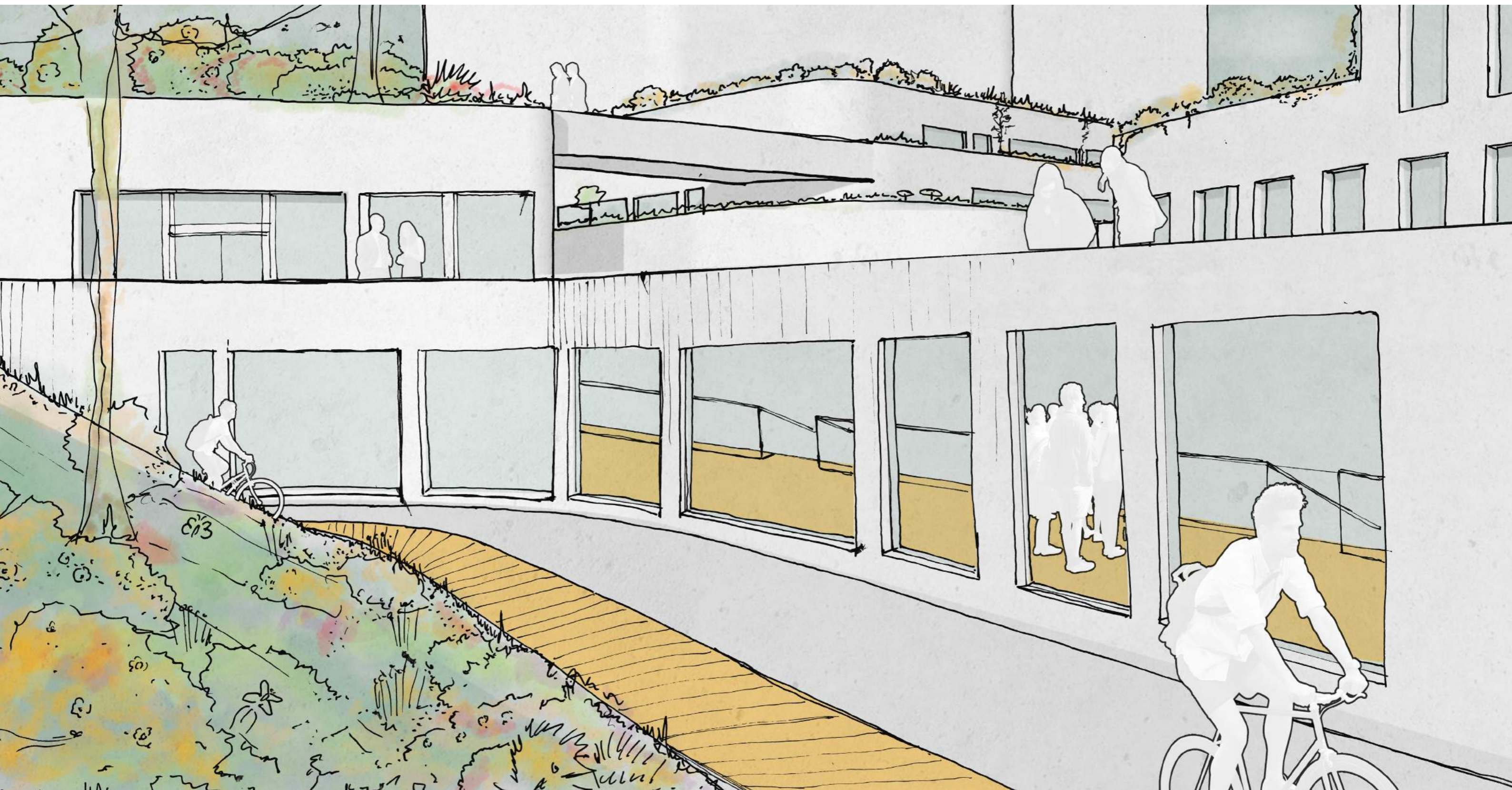
Section BB'



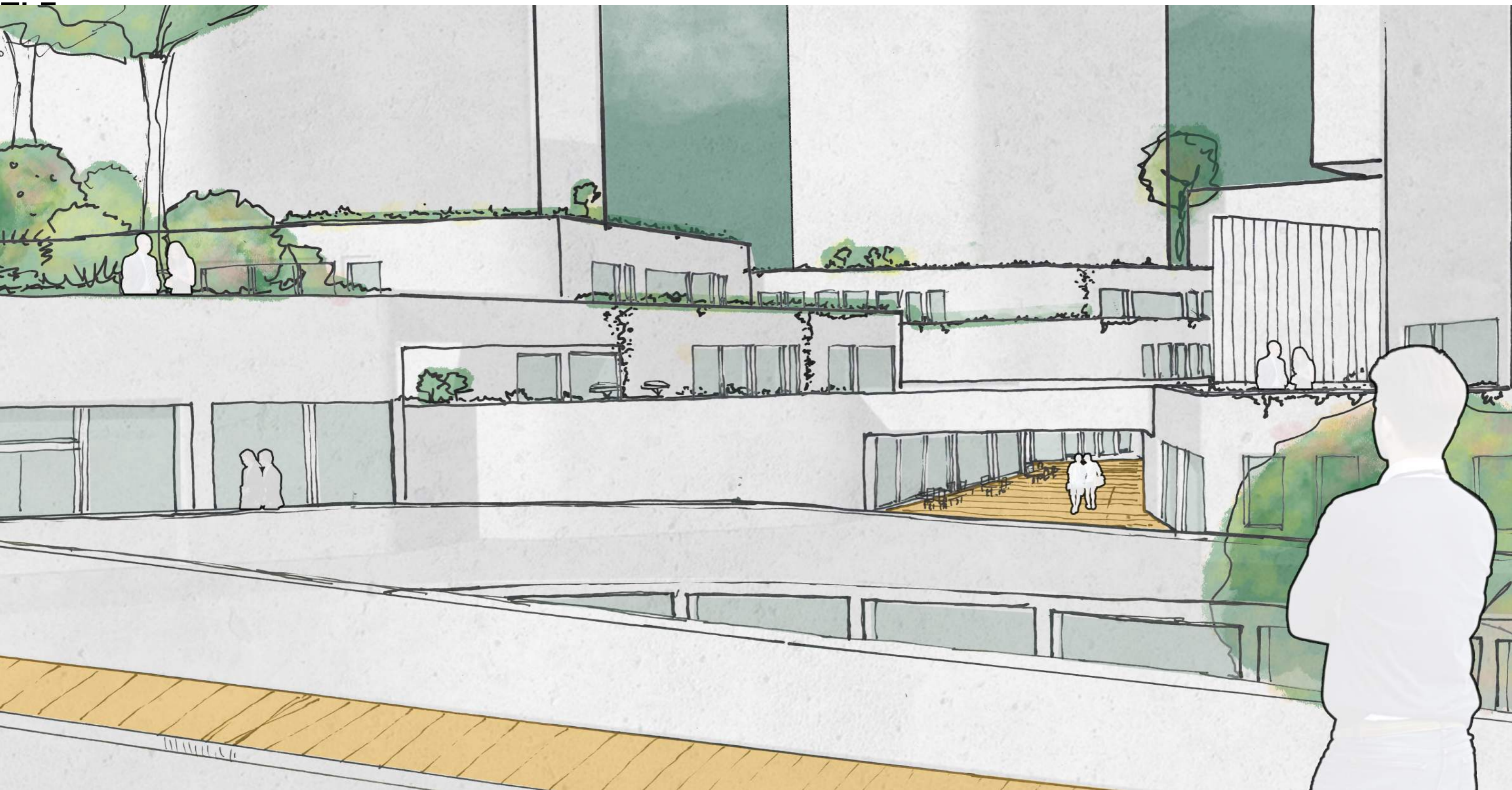
DESIGN

Result: by combining the goals the projects creates high quality public space while it improves the transport system.

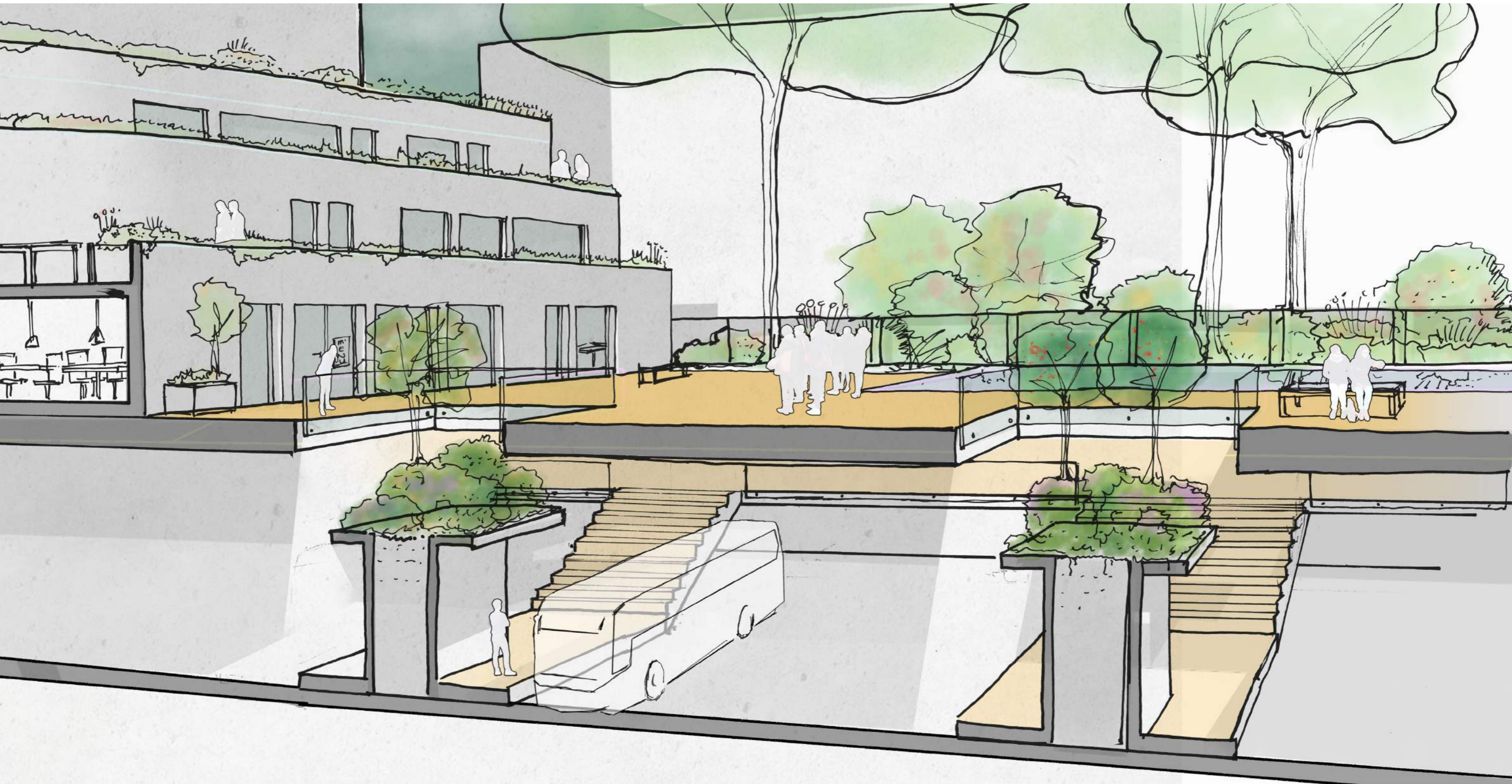




Bike canyon Efficient bicycle path and the busstation



View of the neighborhood West entrance

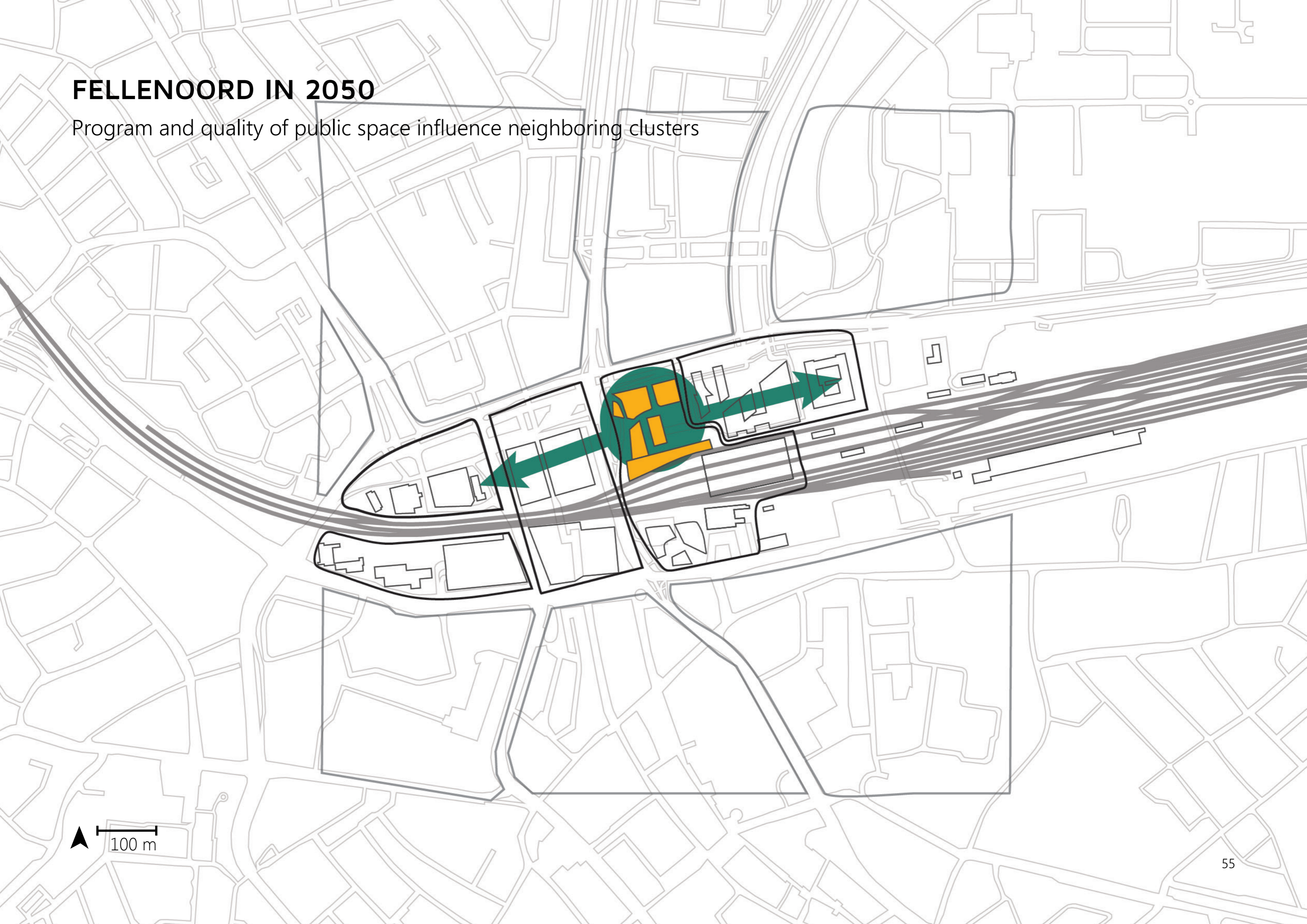


Busstation Connection with the square

FELLENKOORD IN 2050

FELLENOORD IN 2050

Program and quality of public space influence neighboring clusters

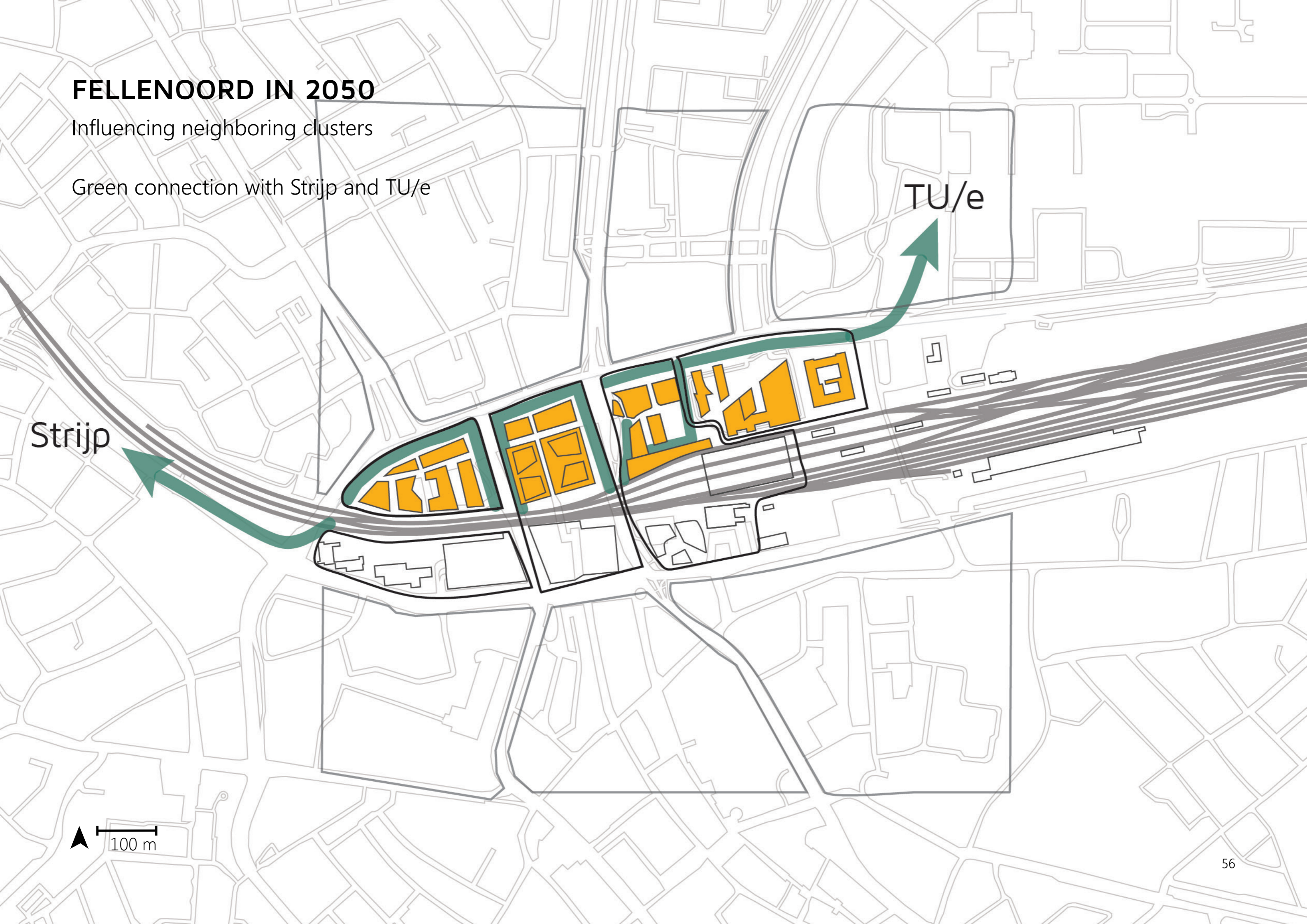


100 m

FELLENOORD IN 2050

Influencing neighboring clusters

Green connection with Strijp and TU/e



TU/e

Strijp

100 m

FELLENOORD IN 2050

Future development improves the urban fabric



APPENDIX

APPENDIX

Physical model

