



**DO NOT MIND THE GAP  
DO WANDER**

**COMPLEX PROJECTS**



**P5**

Milan Stazione Centrale

Camille Pollet

04/07/2025

**Intro**

**Research**

**Design Brief**

**Concept**

**Design**

**Conclusion**



A graphic consisting of two solid rectangles, one orange on the left and one blue on the right, separated by a vertical dashed white line. The text "WHO DESIGN A TRAIN STATION ?" is centered horizontally across the middle of these shapes.

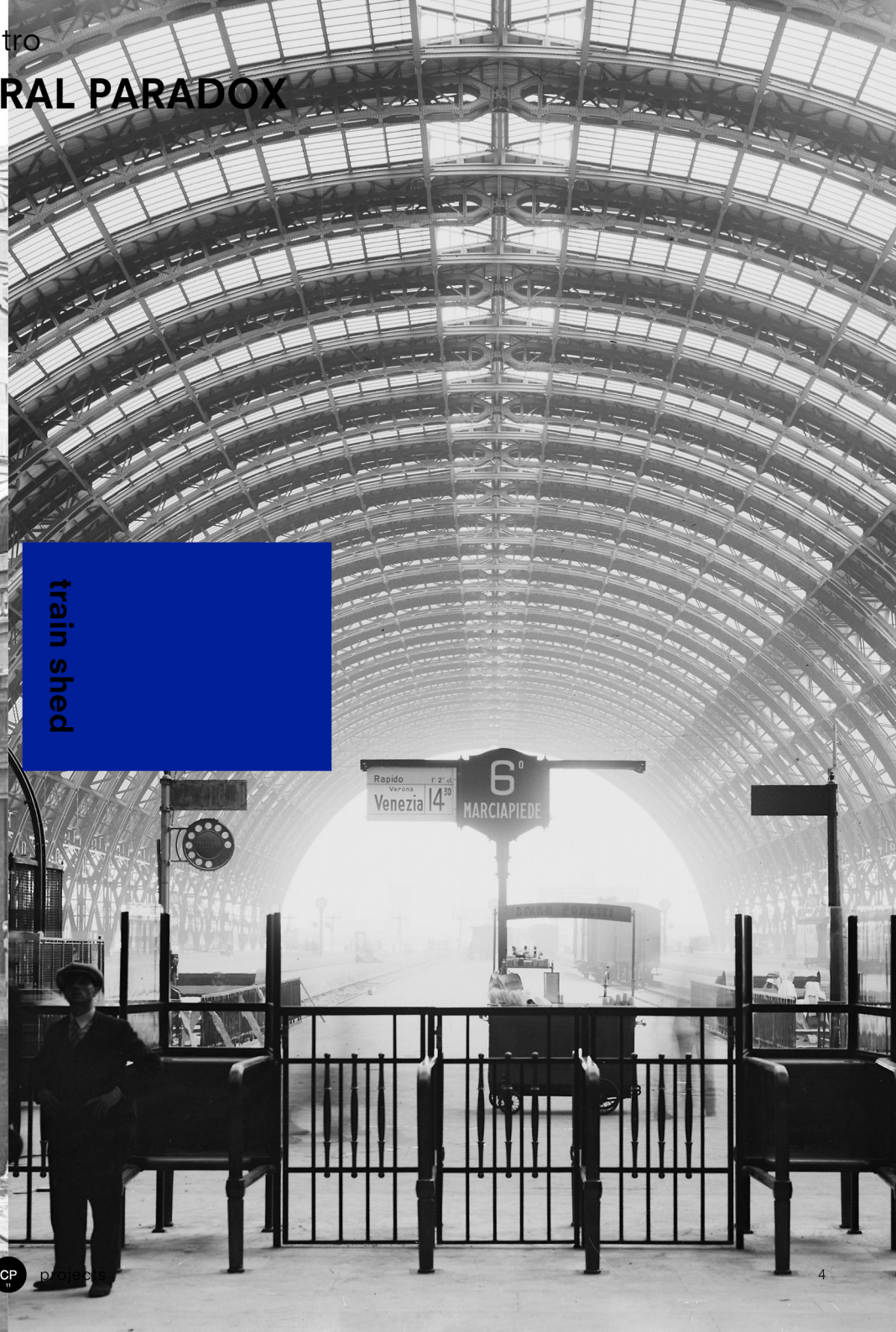
**WHO DESIGN A TRAIN STATION ?**

Intro

# ARCHITECTURAL PARADOX



building  
passenger

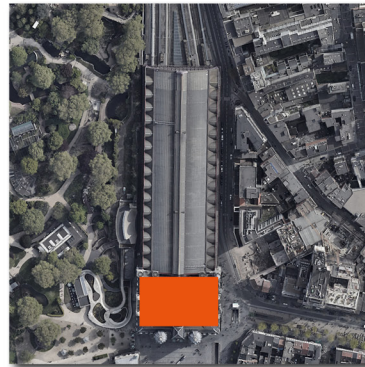
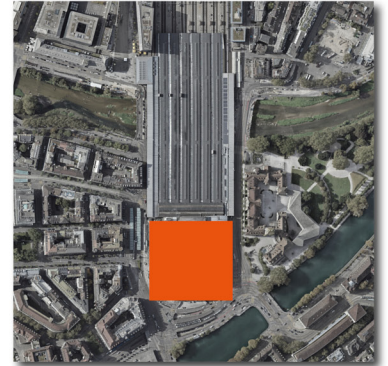
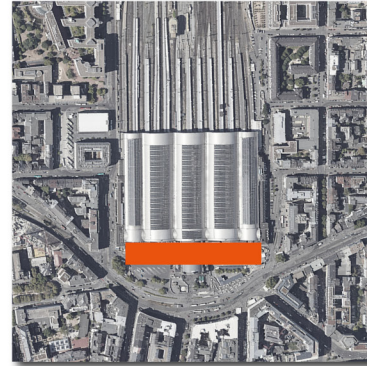
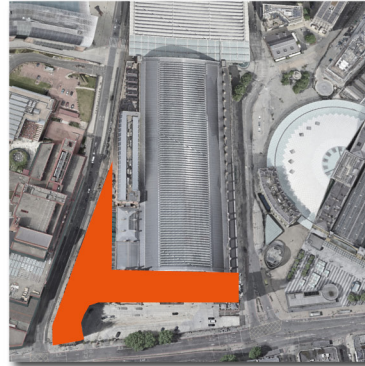


train  
shed



Intro

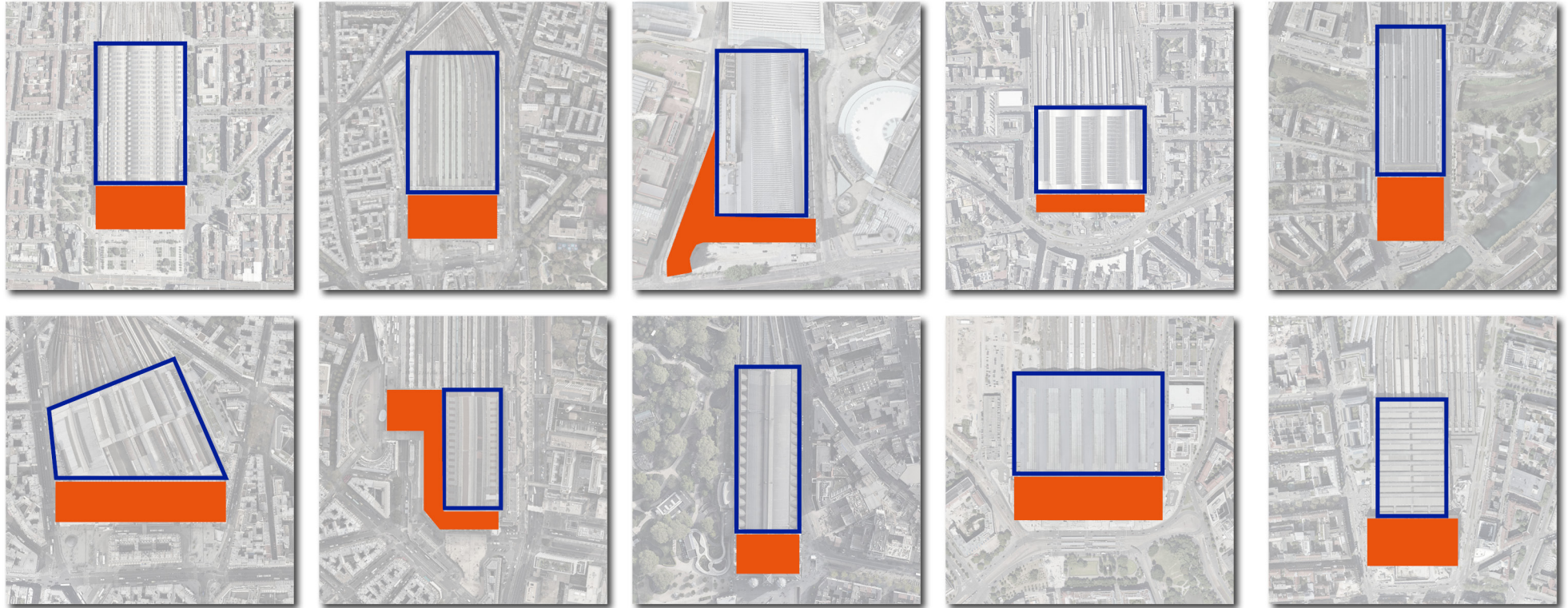
# ARCHITECTURAL PARADOX





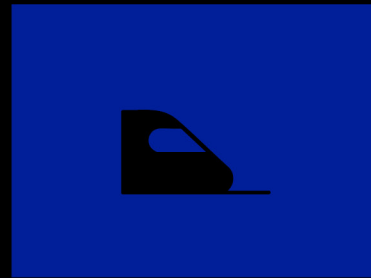
# Introduction

## ARCHITECTURAL PARADOX

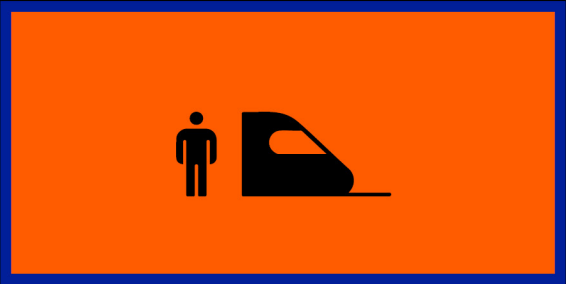


**Architect**

**Engineer**







**Intro**

**Research**

Design Brief

Concept

Design

Conclusion

Problem Statement

=

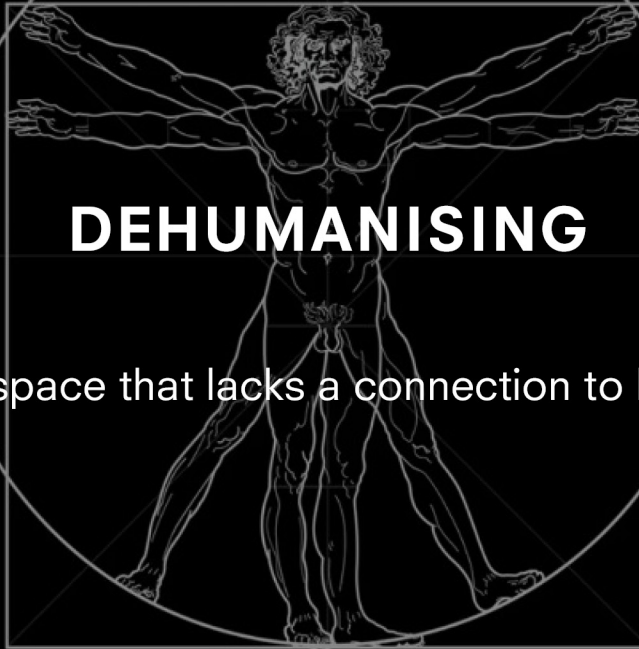
**TRAIN STATION'S DEHUMANISATION**

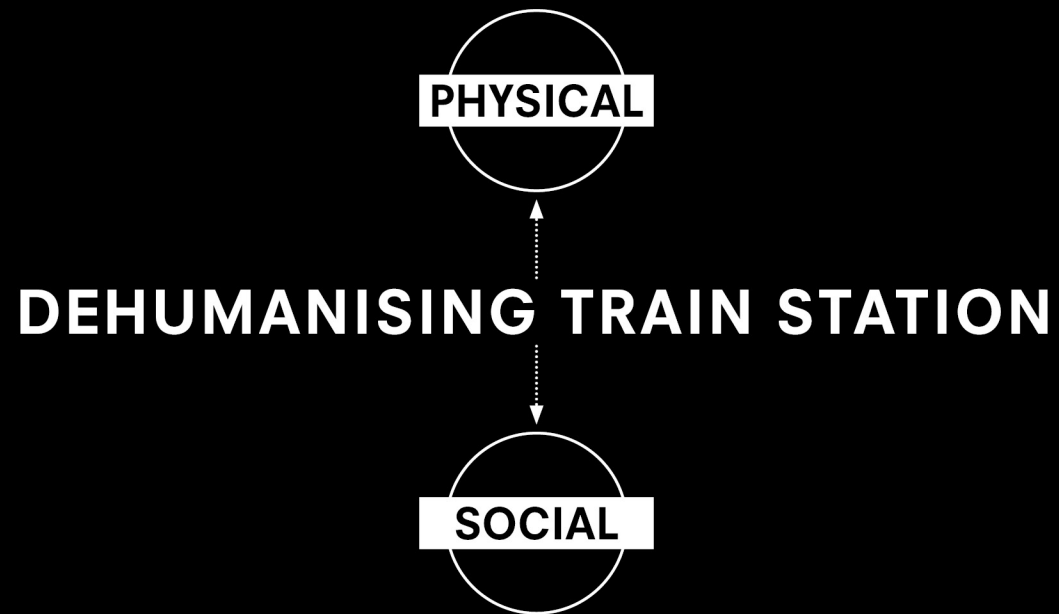


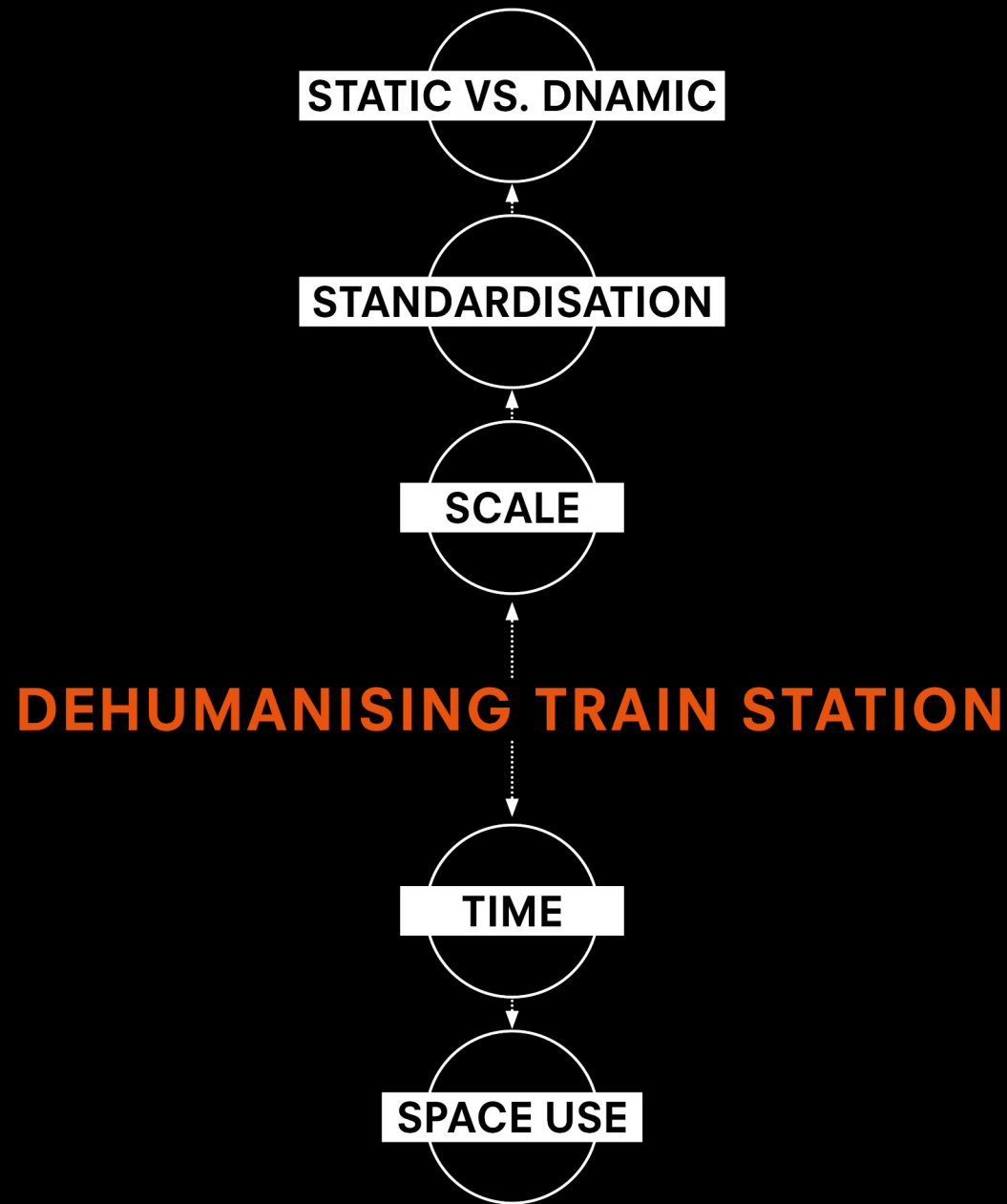
# BODIES & BUILDING

## DEHUMANISING

refers to a space that lacks a connection to human scale







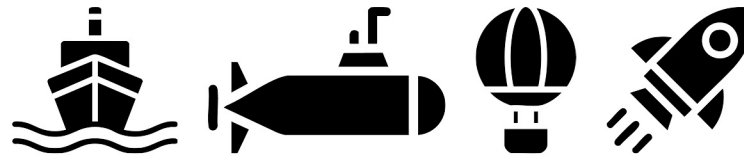


Research

# TRANSPORT VEHICLE



All transport 'machines' design, are guided by human scale



Research

# TRAIN EVOLUTION

## PHYSICAL SCALE



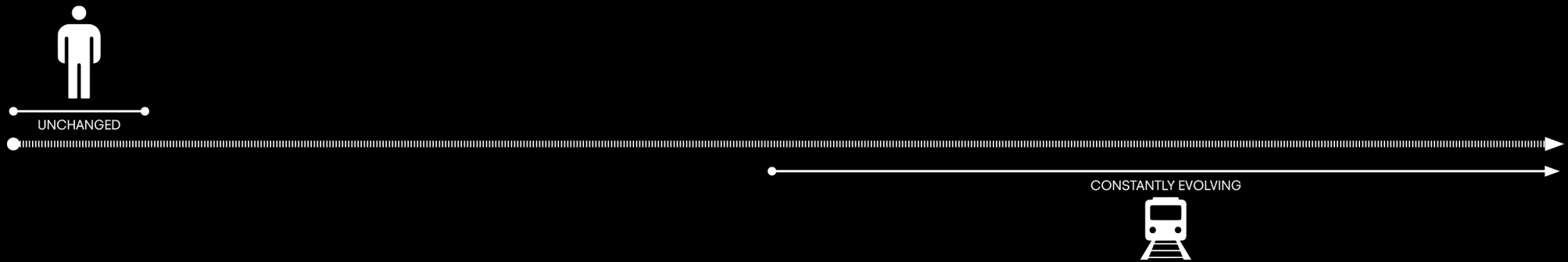
200 years ago



High-speed trains

Research

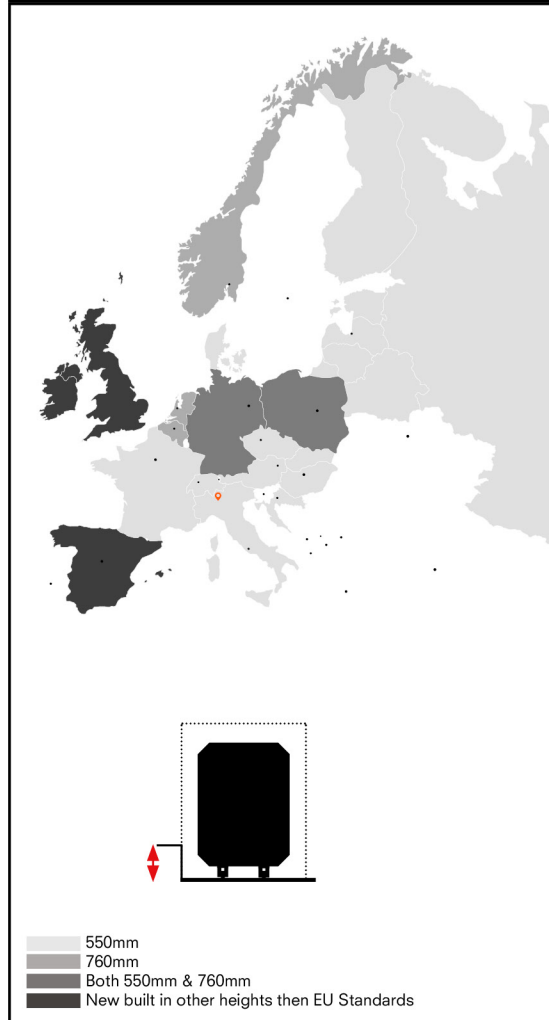
# HUMAN VS. TRAIN





# Research STANDARDISATION

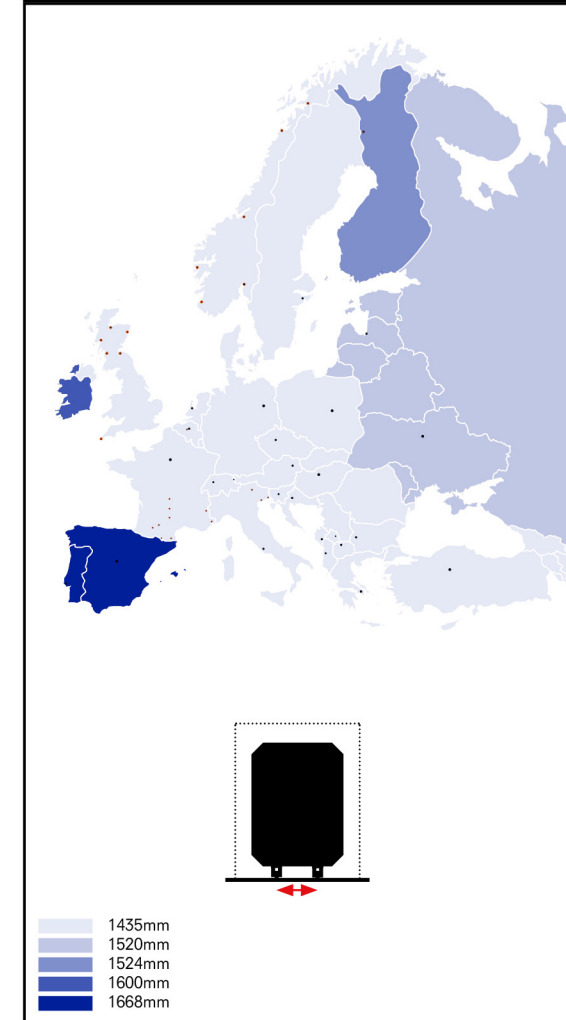
## Platform height



## Lauding Gauge



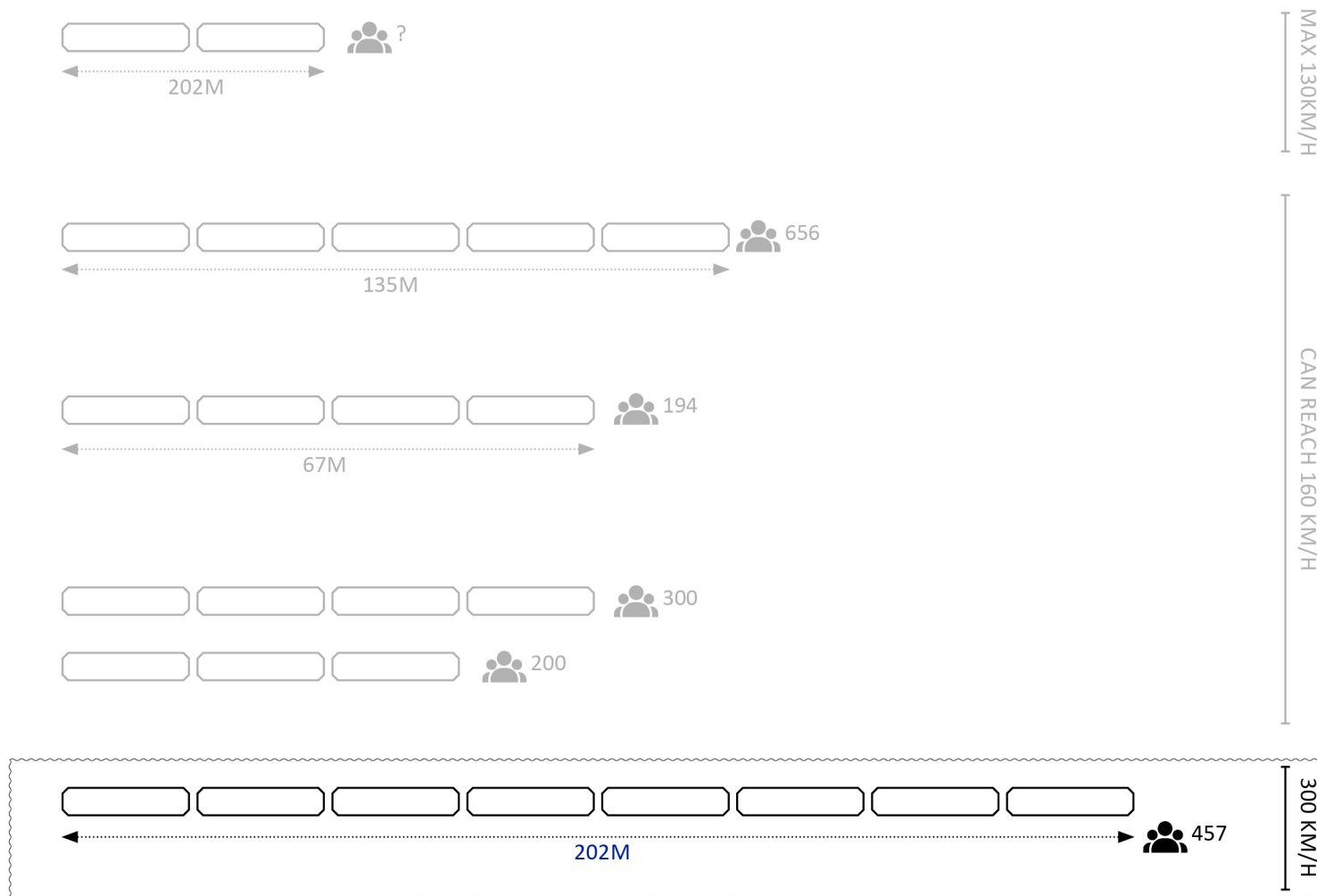
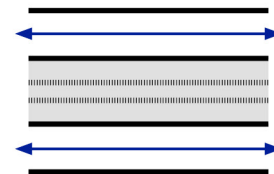
## Track Gauge



Research

# PLATFORM 'THE LENGHT'

## CASE OF MILAN CENTRALE



# Research **SPEED**

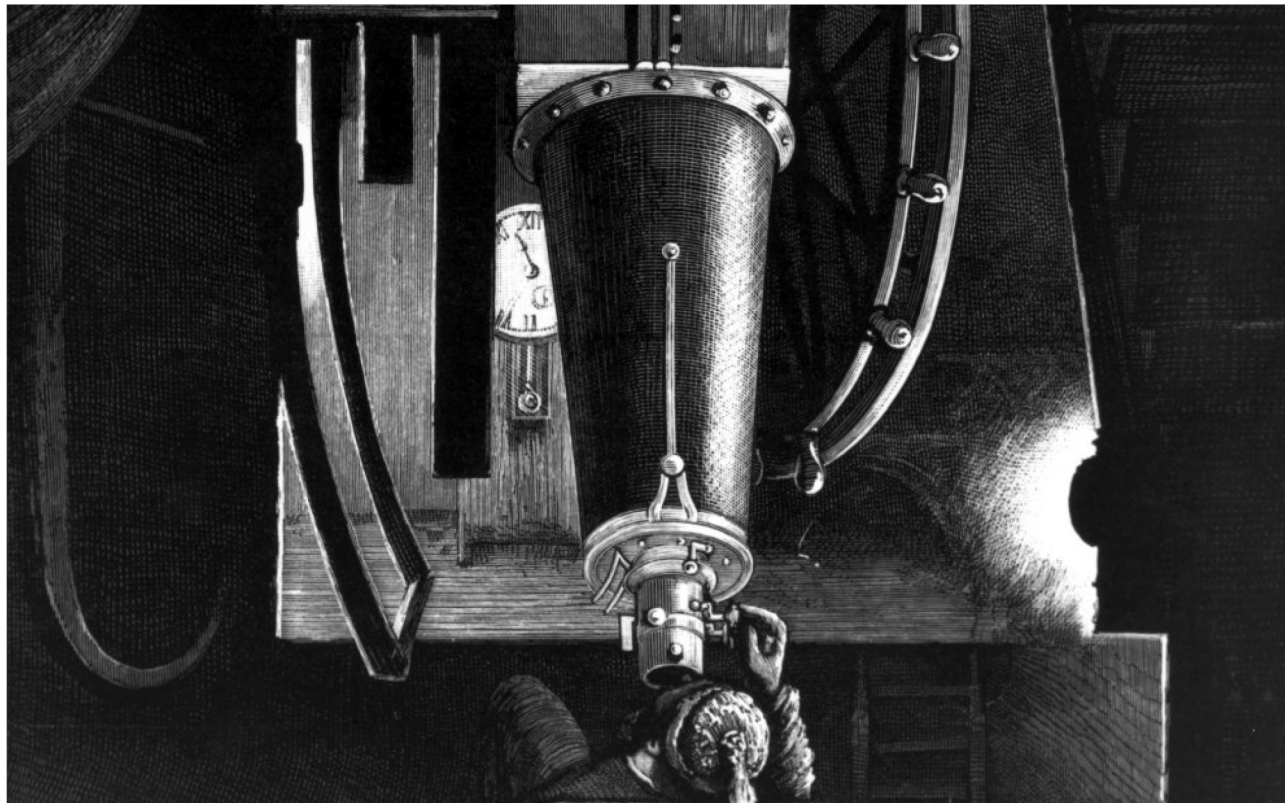




## TIME STANDARDISED



**By 1855 nearly all public authorities, such as churches and town halls, set their clocks to 'railway time' (Greenwich Mean Time)**



Research

# TEMPLE OF TIME



**Imposing & Authoritarian - train does not wait**



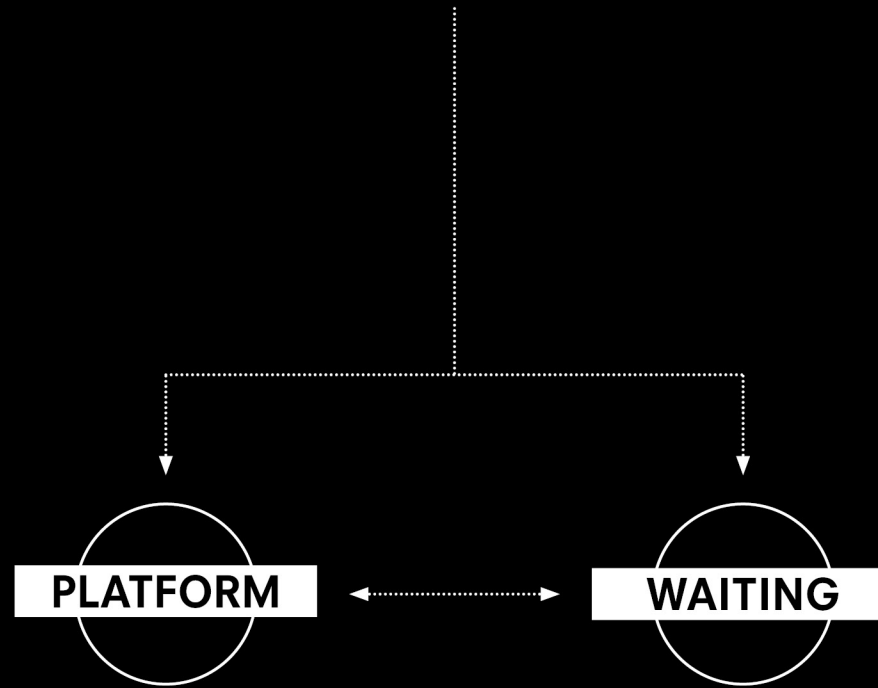
Research  
**THE 'USE'**

A place to meet & a place to depart/arrive  
stay ≈ transit



How can the design of train stations bridge the gap between  
**human scale** and **train-centered spaces**?

# Research INTERFACE



# Research FOR WHO ?



PUBLIC

PRIVATE

1960 - 1972

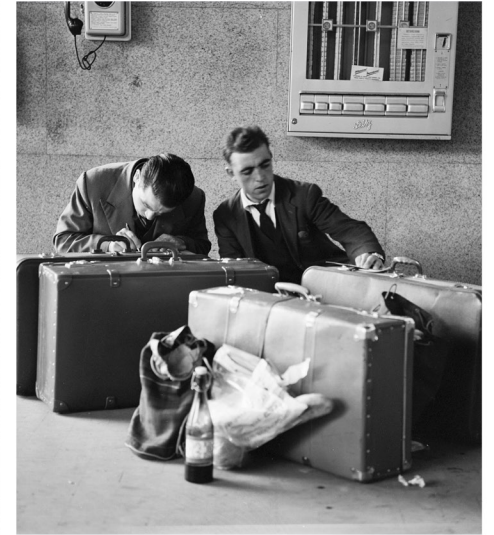


2020 - 2025





# Research 'THE USE'





Research  
**PLATFORM**

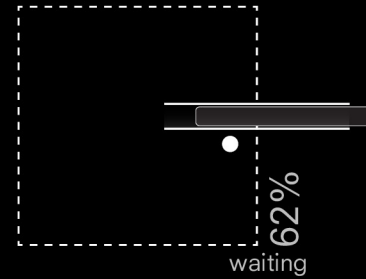
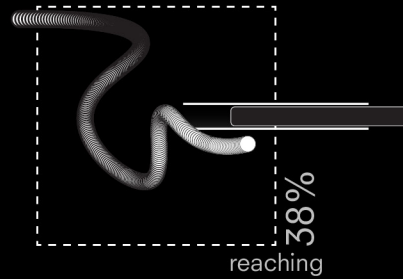
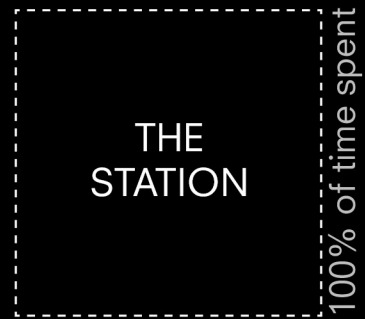


**THE EVOLVING USAGE OF TRAIN PLATFORMS REFLECTS THE BROADER SOCIETAL CHANGES OVER THE YEARS**

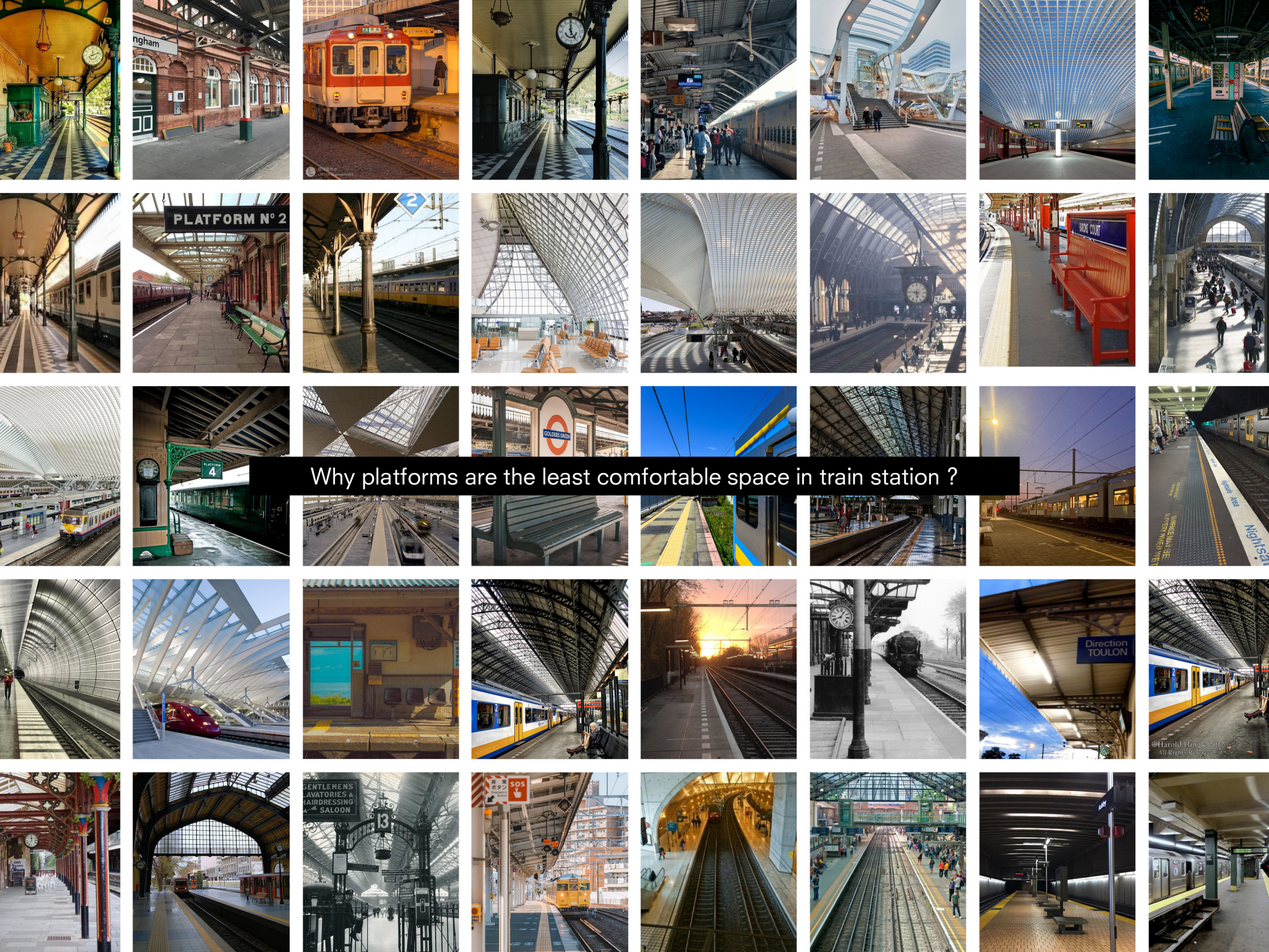


Research

# TIME ON PLATFORM





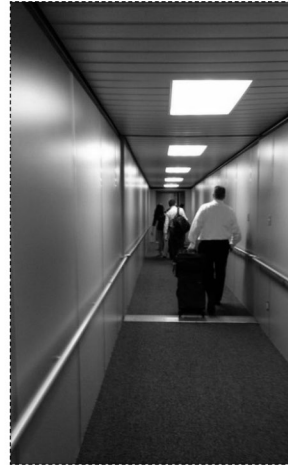


Why platforms are the least comfortable space in train station ?



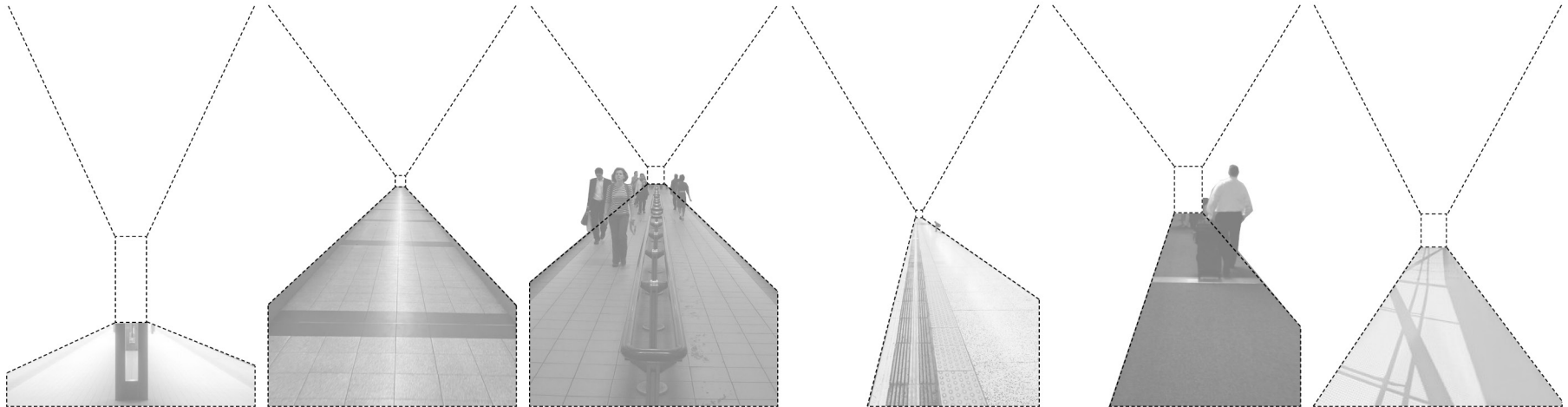
Research

# TRANSIT-SPACES



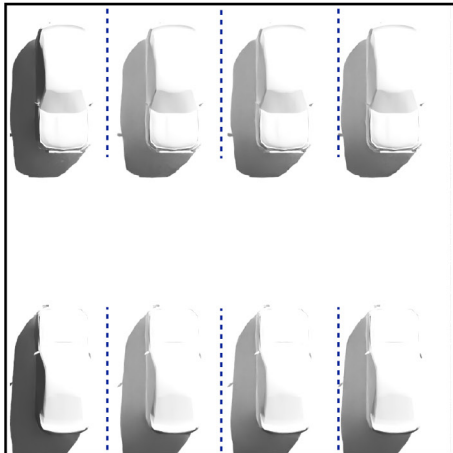
Research

# ARCHITECTURAL RELEVANCE



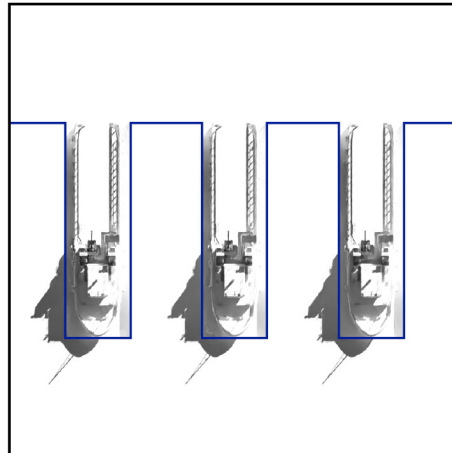


# ARCHITECTURAL RELEVANCE - 2D



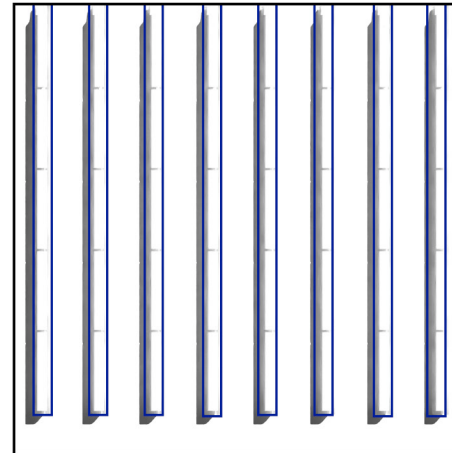
## 1 Car Garage

- 2D division usually not architectural
- Line on the floor



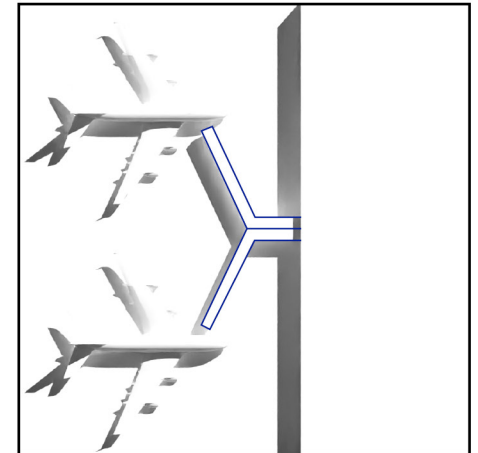
## 2 Port

- 2D division follows the shape of the boat
- Usually slightly large then the boat dimensions



## 3 Train Station

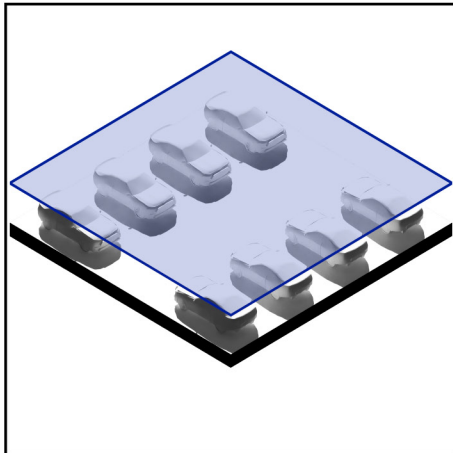
- 2D division follows the shape of the train
- Usually slightly large then the boat dimensions



## 4 Airport

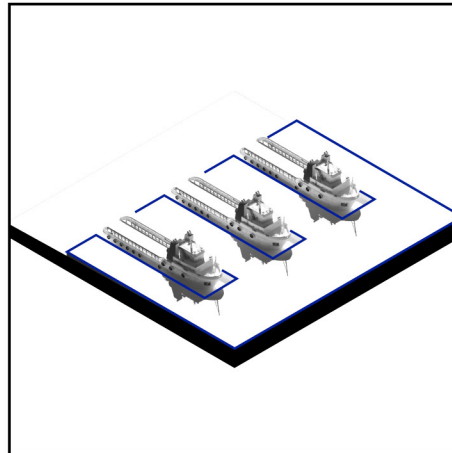
- 2D division does not follows the shape of the plane
- Plane is a complete stranger to the building

# ARCHITECTURAL RELEVANCE - 3D



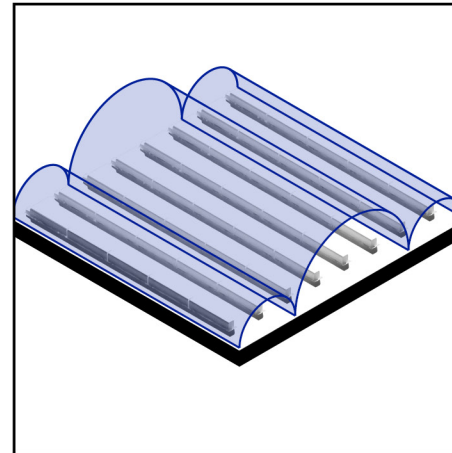
## 1 Car Garage

- Roof height is appropriate to car scale
- Usually as low as possible for efficiency



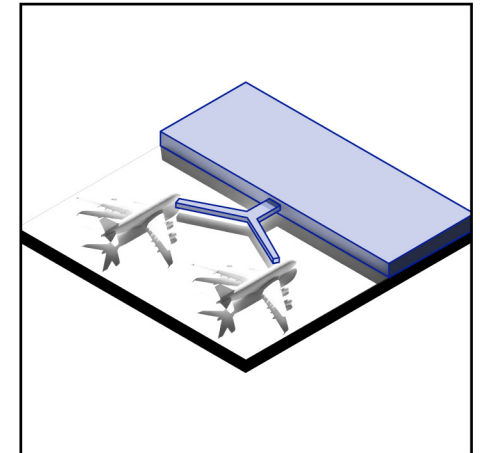
## 2 Port

- No architectural cover



## 3 Train Station

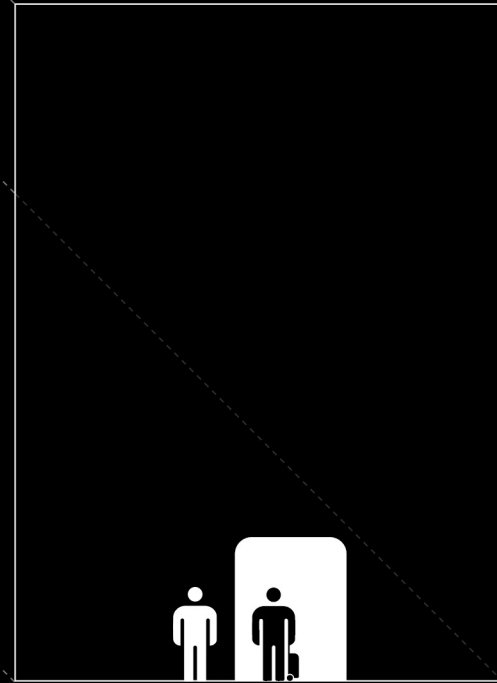
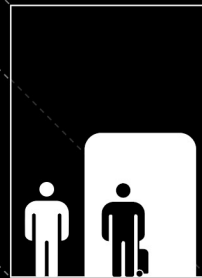
- Roof does not follow the shape of the train
- Train is disconnected from all architectural element



## 4 Airport

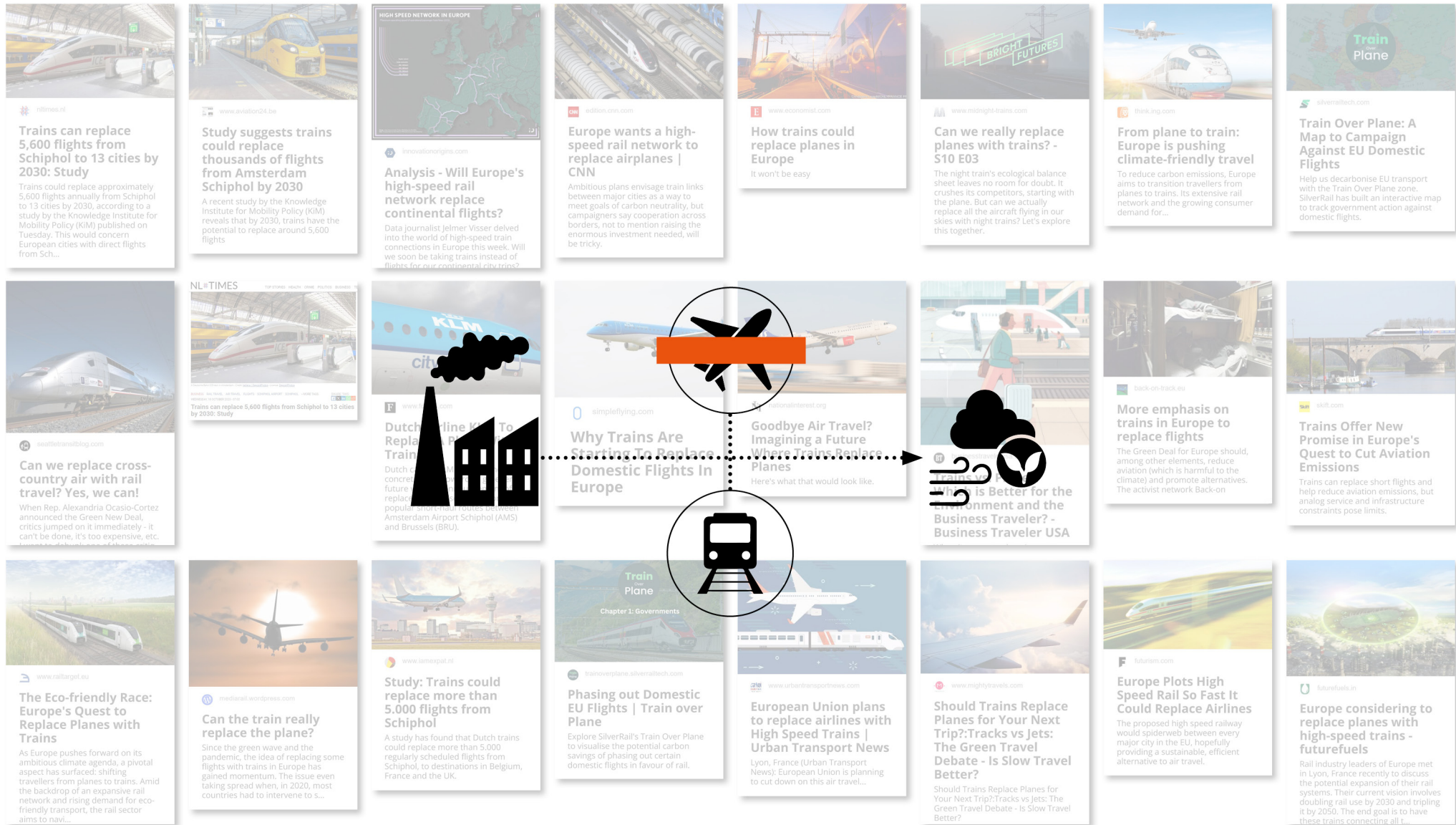
- No roof over the plane
- Telescopic arm comes on one side of the plane

# Research **STUDIO RELEVANCE**



# Research

## HEALTH + MILAN RELEVANCE



**Intro**

**Research**

**Design Brief**

Concept

Design

Conclusion

# Design Brief XXL - EUROPE



- Country capital
- Other train stations
- Direct train station from Milan central
- High speed train service (250km/h)



# Design Brief

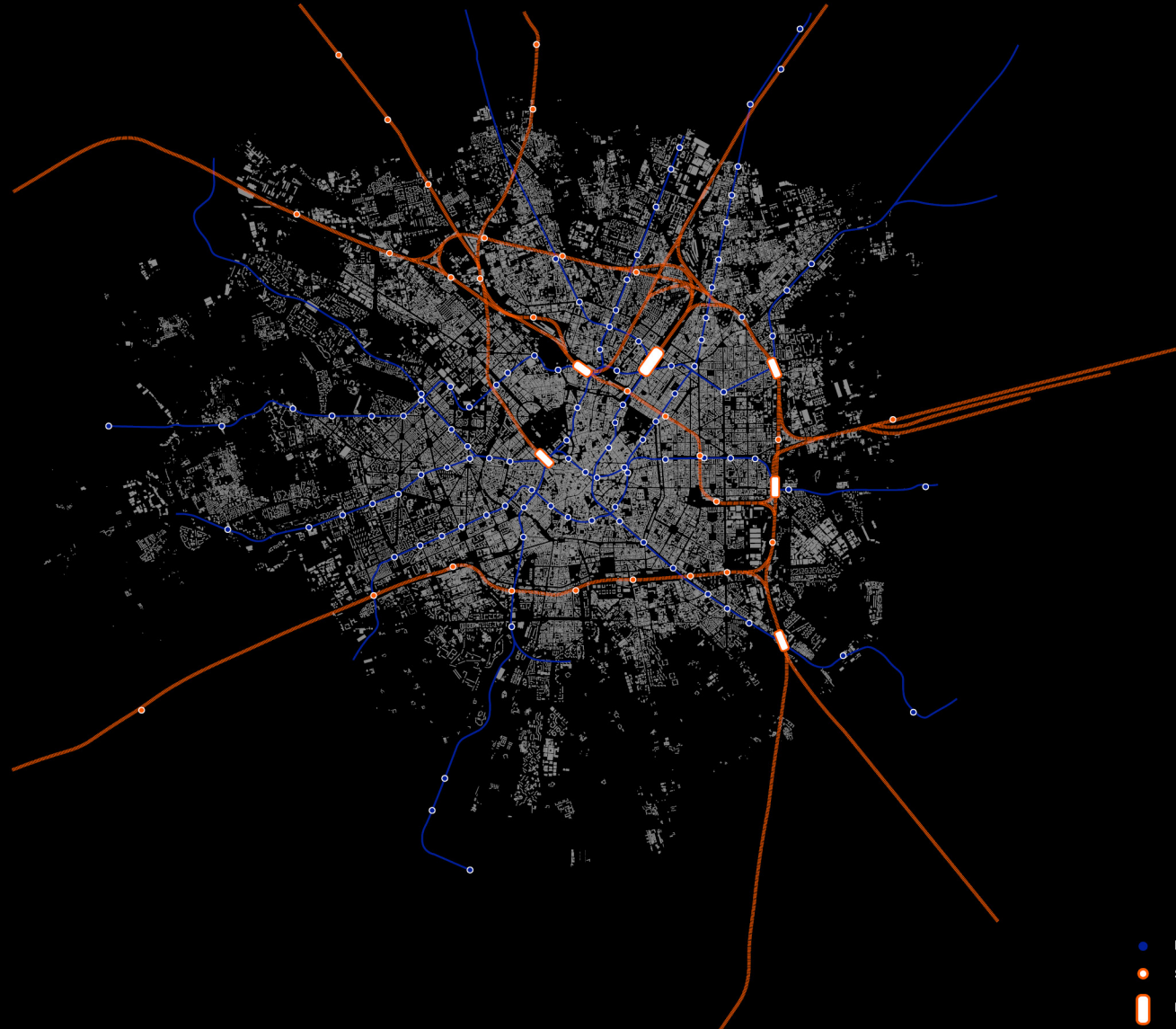
## XL - ITALY



- Under Construction
- Main high speed train stations
- ..
- Under Construction
- High speed train service (250km/h)
- High speed train service (250km/h)

# Design Brief

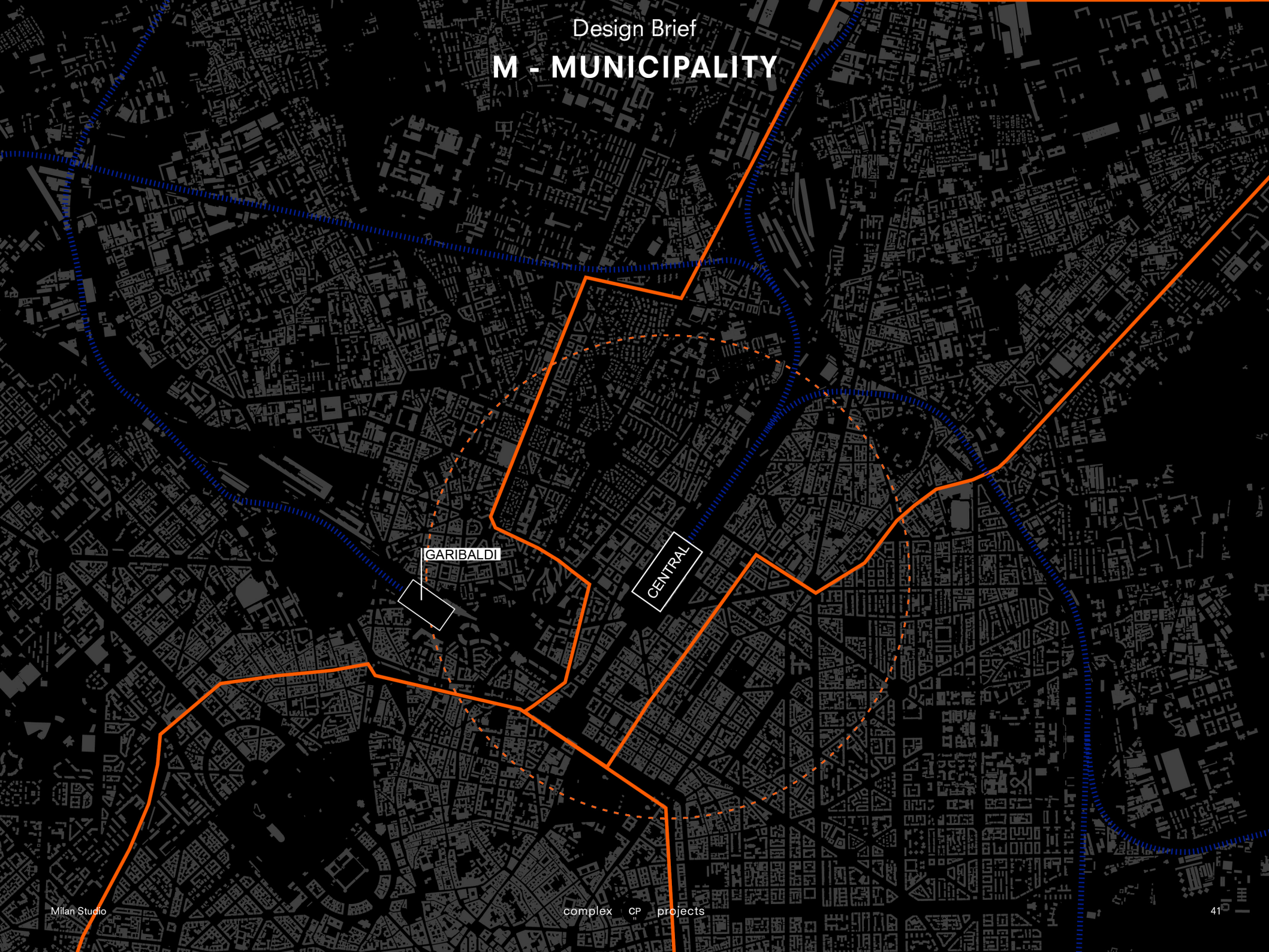
## L - MILAN



- Metro station
- Smaller train stations
- ▭ Main train stations
- Metro Line
- Train Line



# M - MUNICIPALITY





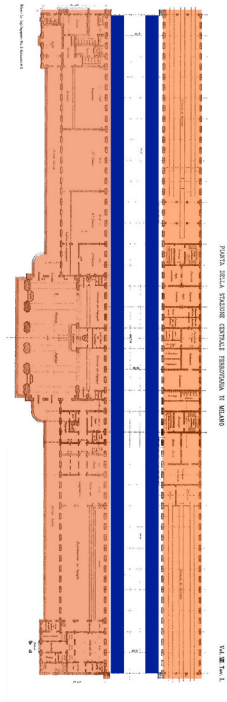
Design Brief

# STATION EVOLUTION



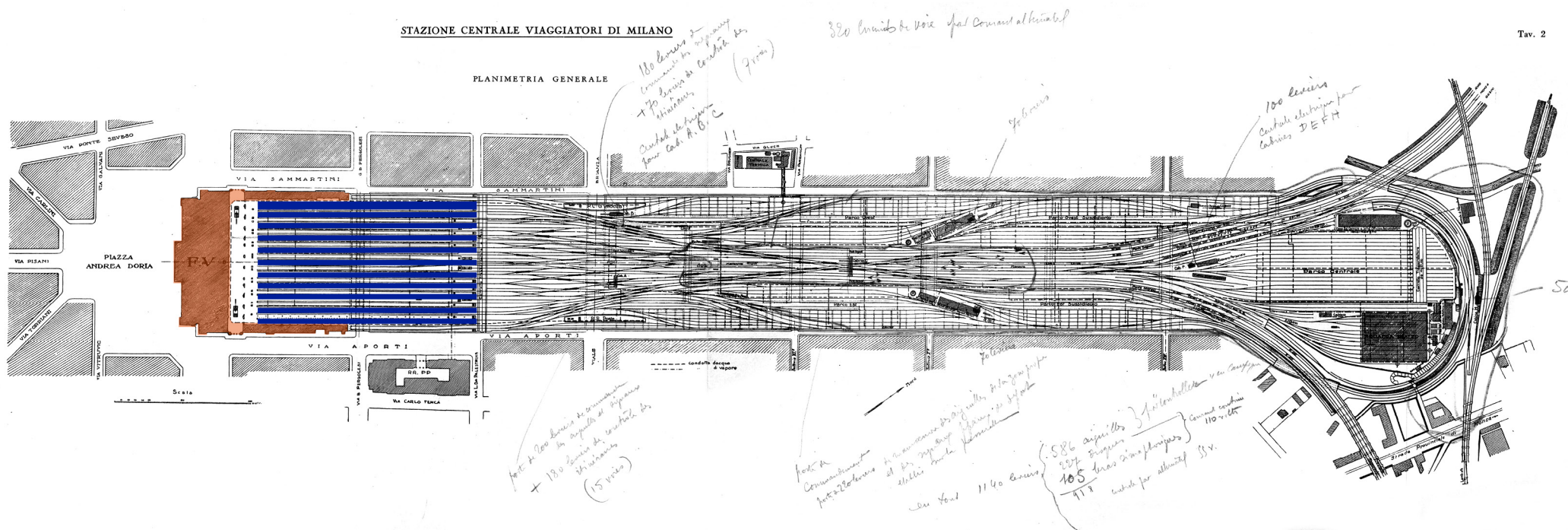
# Design Brief

## STATION EVOLUTION



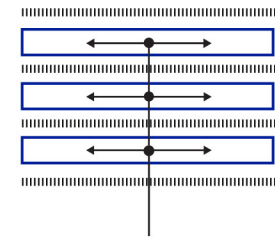
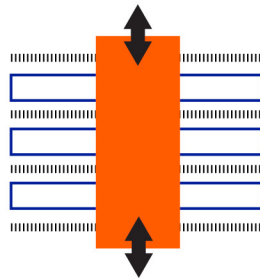
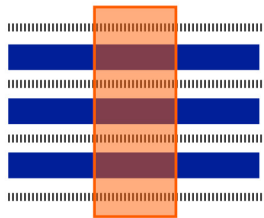
# Design Brief

## STATION EVOLUTION



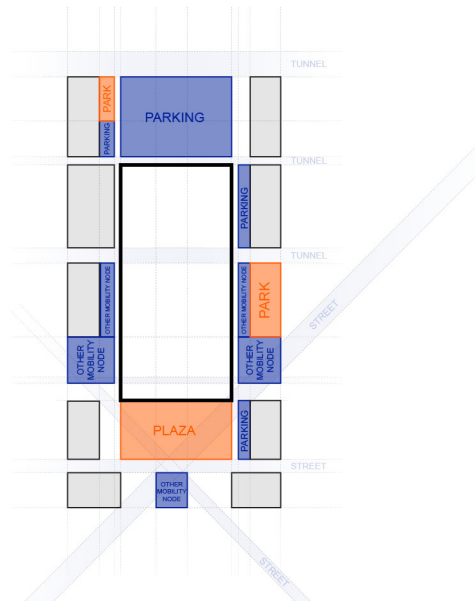
# Design Brief

## DESIGN FEATURES

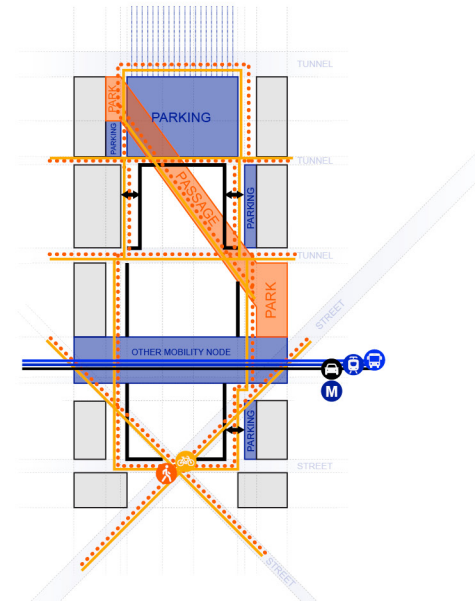


# Design Brief

## NOW & THEN

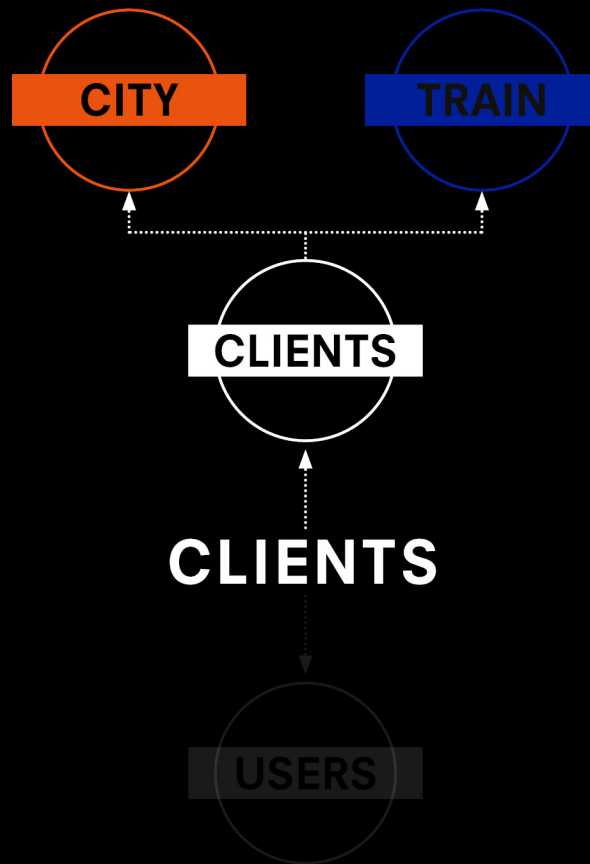


2025



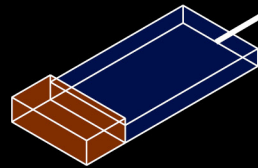
2050





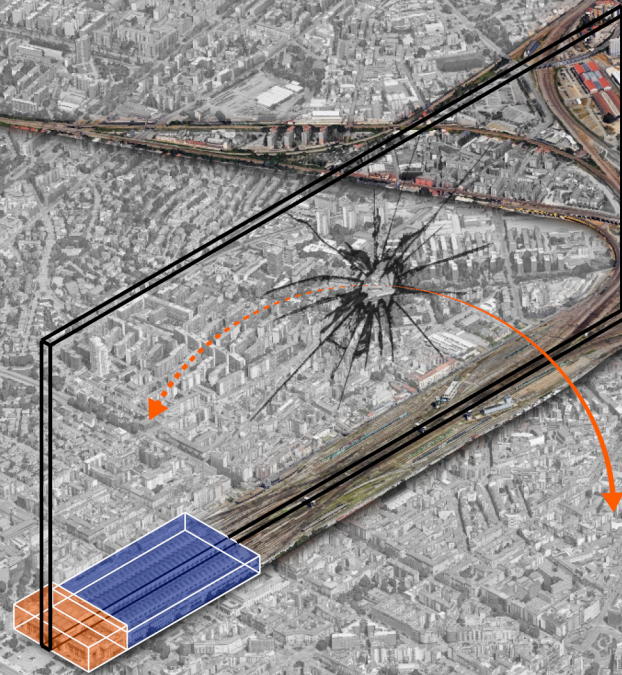
Design Brief

# EXISTING





Design Brief  
**AMBITIONS**

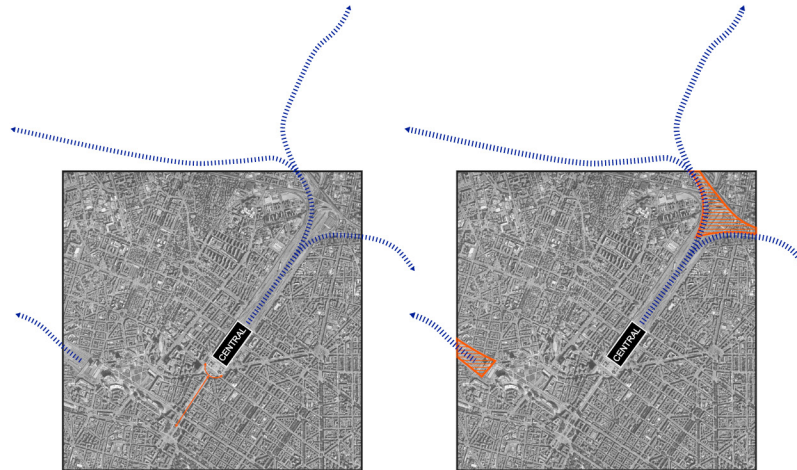


**'WALL WITHIN THE CITY':  
BREAK BARRIER BETWEEN  
DISTRICTS • CLOSELY LINK  
NEIGHBORHOODS**

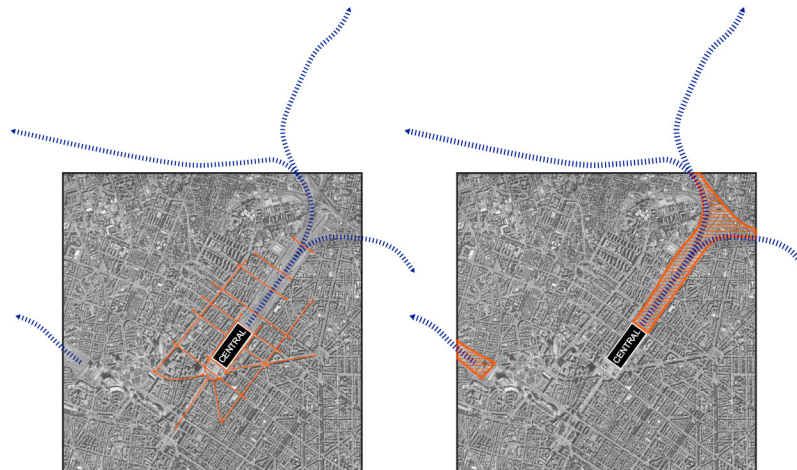


# Design Brief

## NOW & THEN



2025



2050



Design Brief

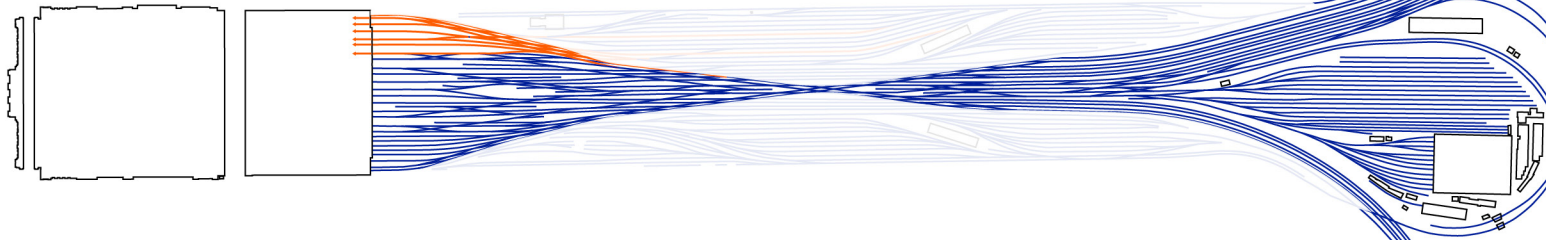
# RAILPORT

**Under 2 hours = the train has the market**  
**Between 2 and 6 hours, the market is split in between the 2**  
**Above 6 hours, the aeroplane supplants the train**

Today  
300km/h

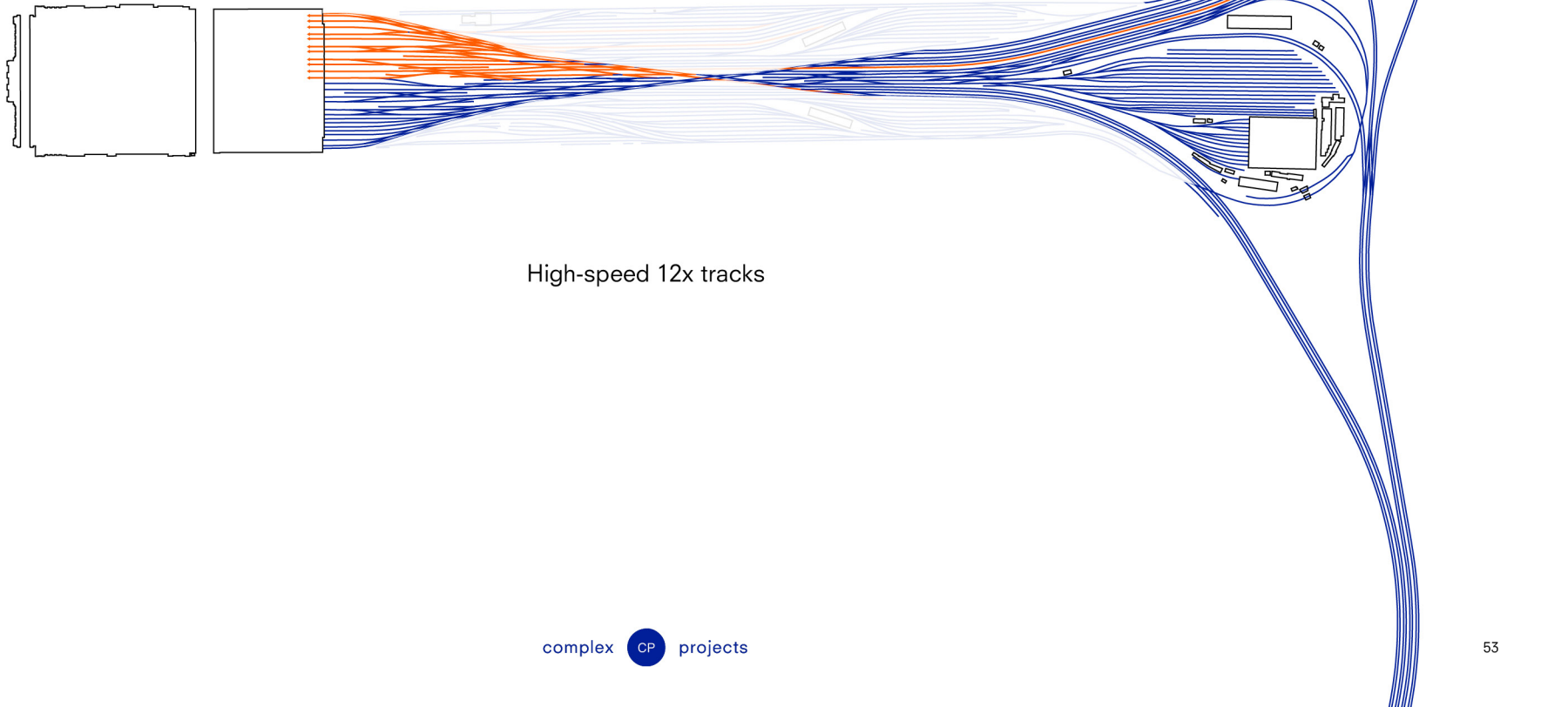
1000km/h

Design Brief  
**EXISTING**



High-speed 6x tracks

Design Brief  
**PROPOSAL**



High-speed 12x tracks

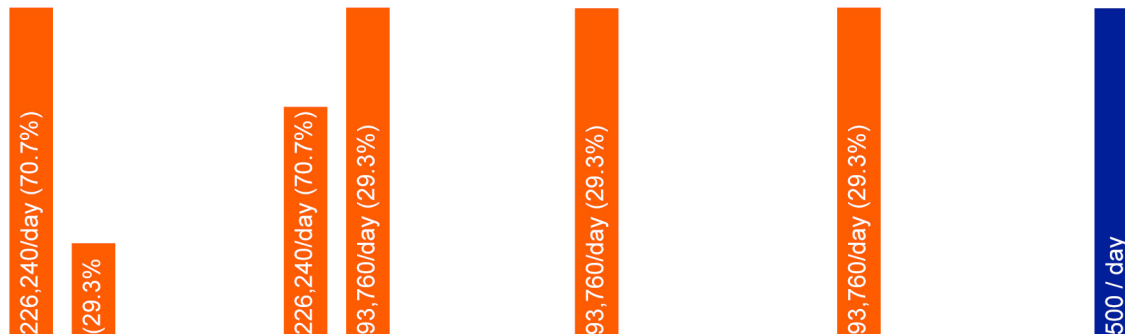
**6.9 MILLION** visitors

**71%** italians

**29%** foreigners

**21%** occasional

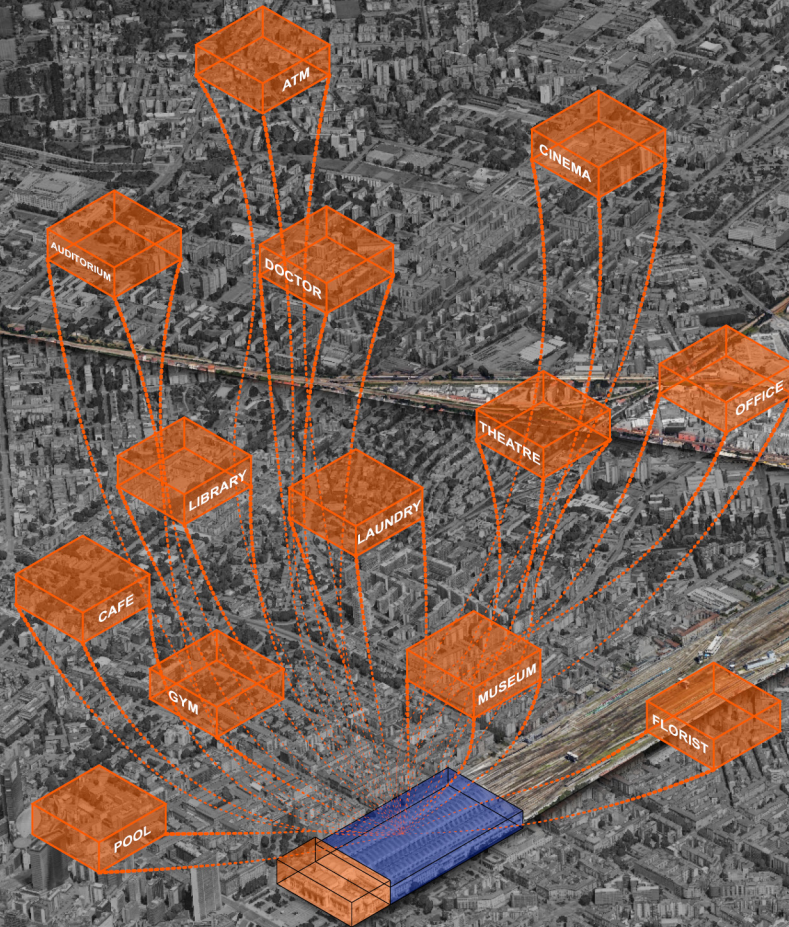
**79%** commuters





# Design Brief

## AMBITIONS

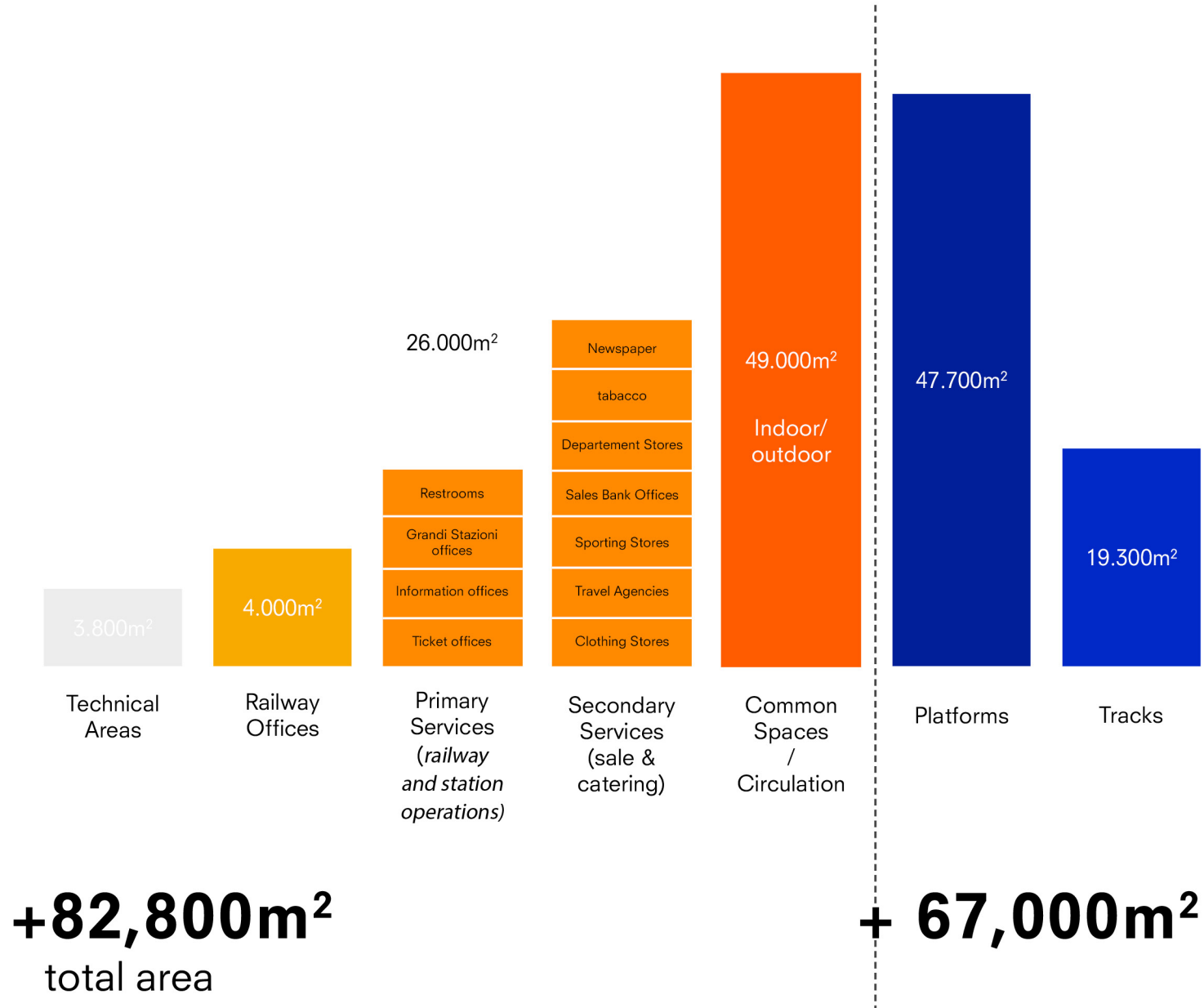


**'CITY WITHIN A CITY':  
CREATE AN ACTIVE SOCIAL  
SCENERY THAT REPRODUCES  
THE CITY SCALE IN A SINGLE  
BUILDING • MICROCOSM**

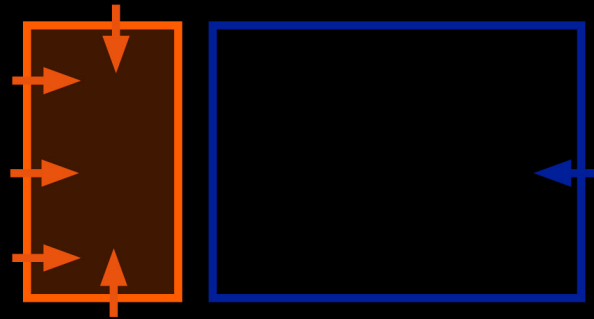


# Design Brief

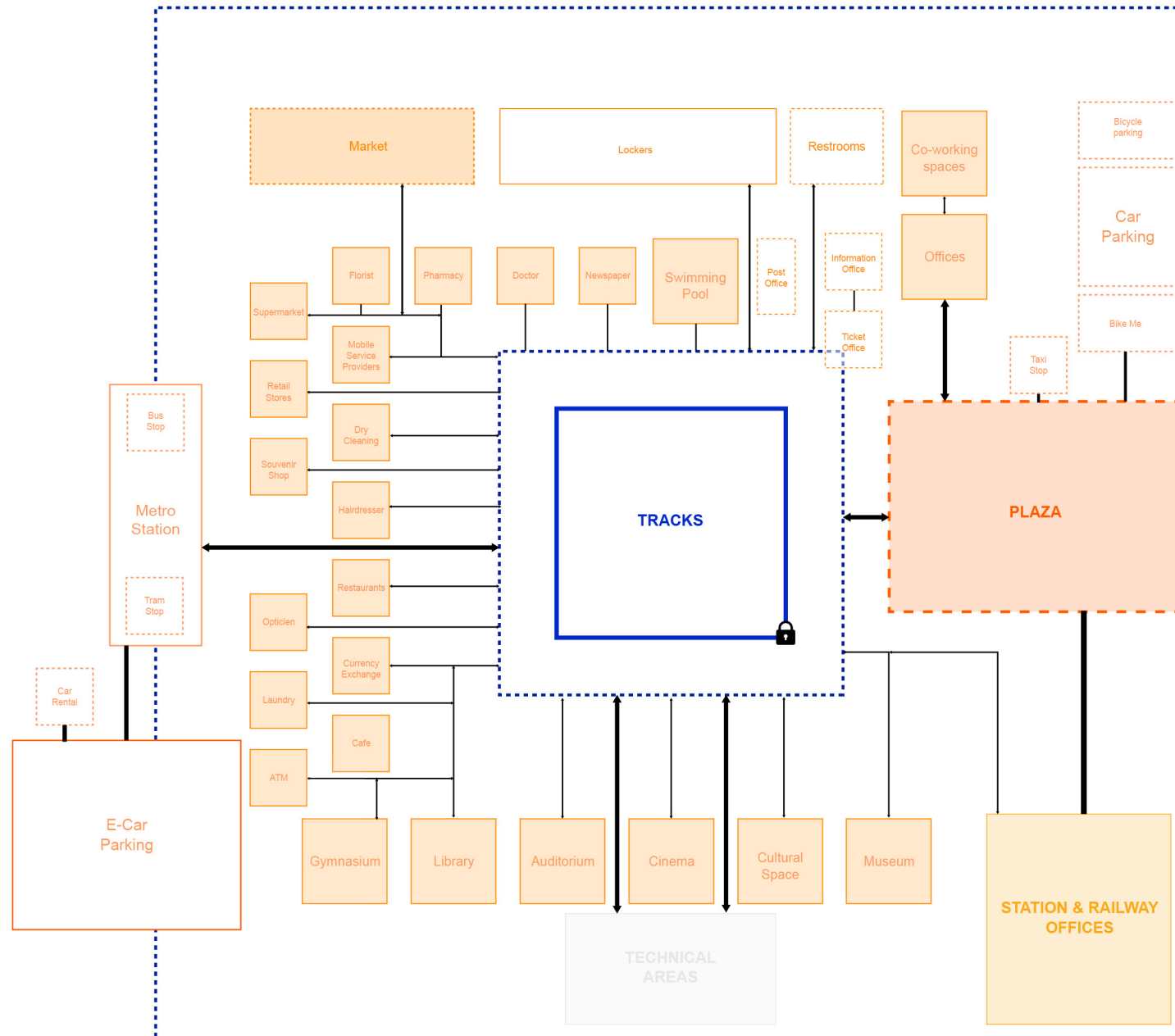
## EXISTING



# Program **ACCESS**



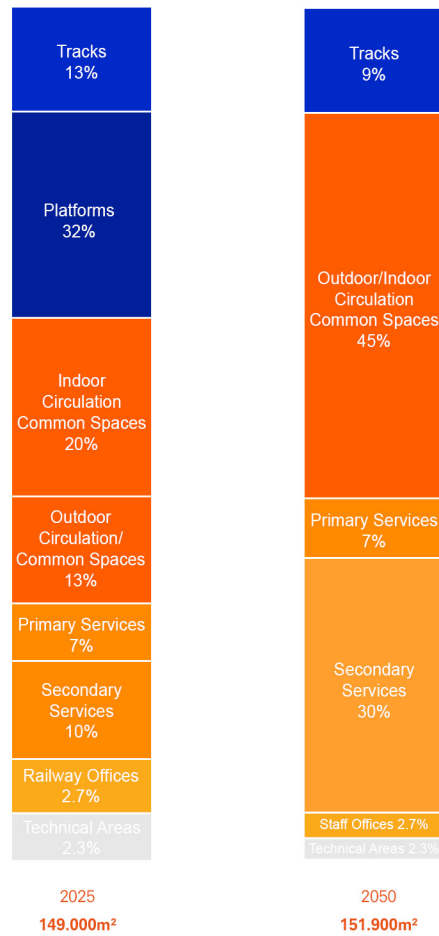
# Design Brief PROPOSAL





# Design Brief

## NOW & THEN



# PLOT



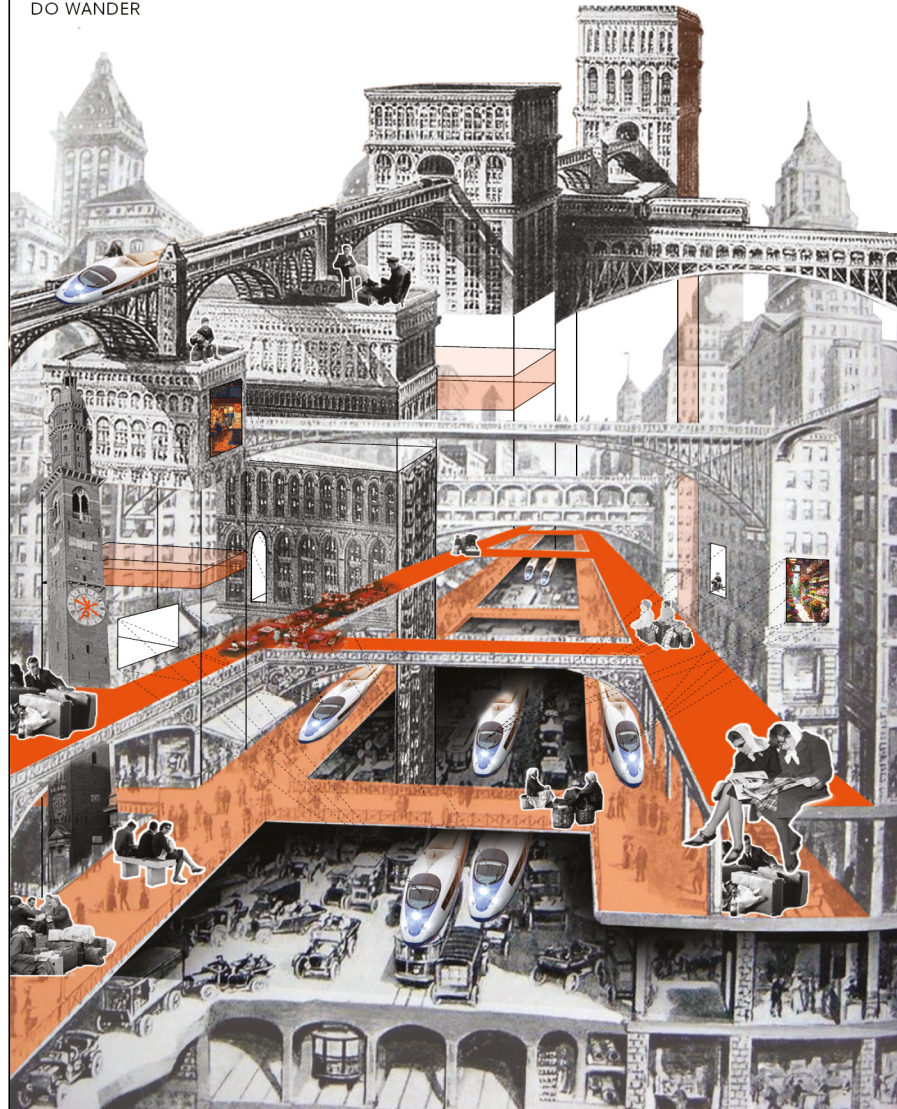
**118.700 m<sup>2</sup>**

# Design Brief

## VISION

HOW CAN THE DESIGN OF TRAIN STATIONS BRIDGE THE GAP BETWEEN HUMAN SCALE AND TRAIN-CENTERED SPACES?

STATION RULES  
DO NOT MIND THE GAP  
DO WANDER



**Intro**

**Research**

**Design Brief**

**Concept**

Design

Conclusion



FORM FOLLOW **USER** ?

Concept  
**VEHICLE VS. BODY**



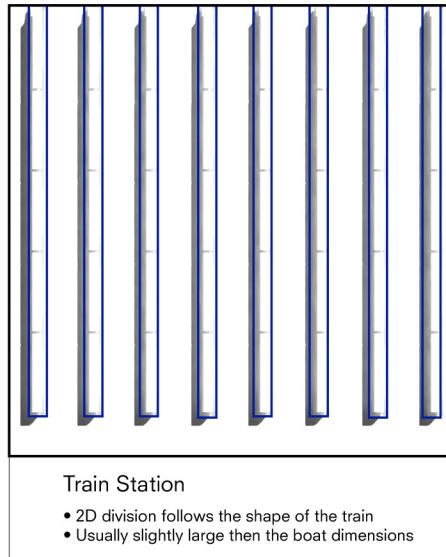
1931

2025



# Concept

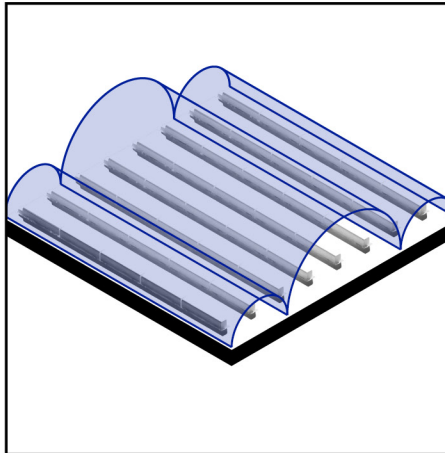
## 2D





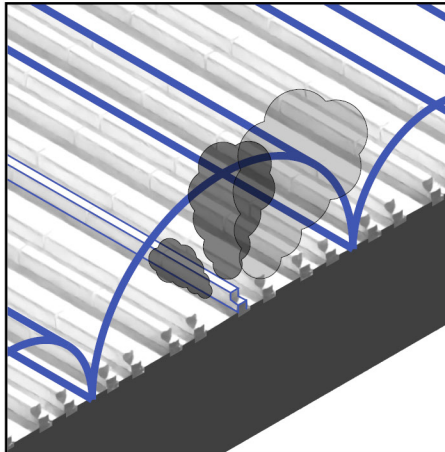
Concept

**3D**



Train Station

- Roof does not follow the shape of the train
- Train is disconnected form all architectural element

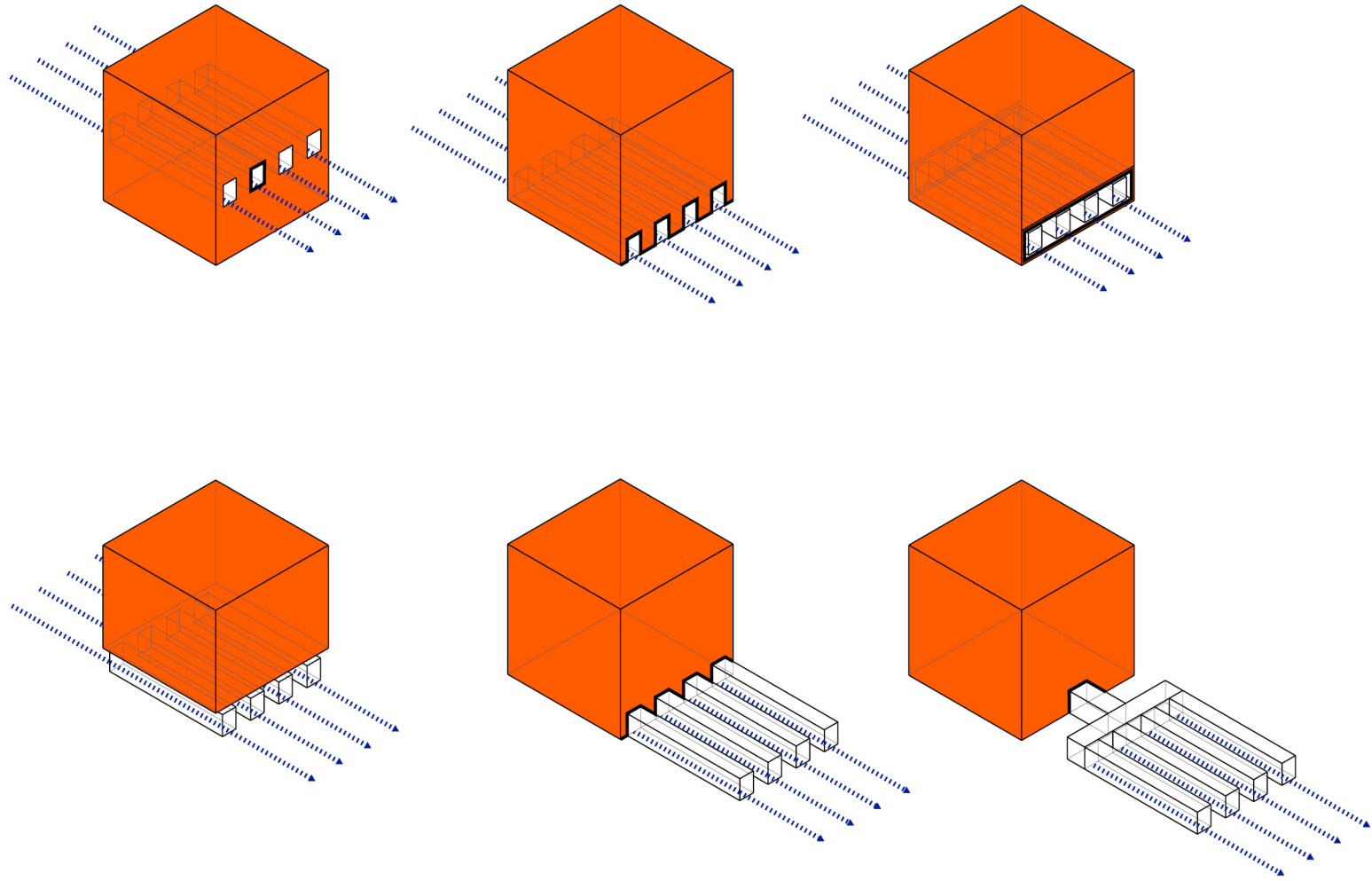


**3** Milan Central Station

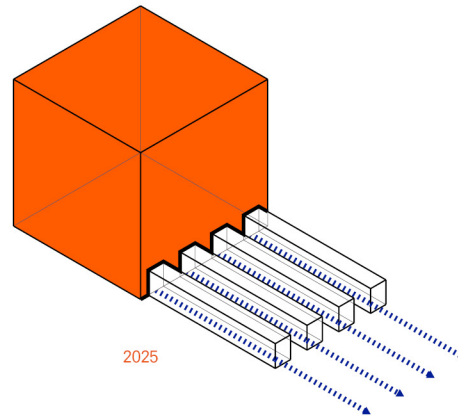
- Train shed does not follow train shape
- Train shed 10 meters high

# Concept

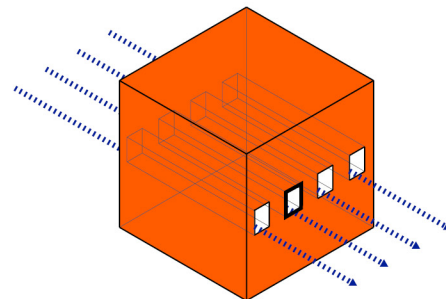
## BUILDING/TRAIN MEETING POINT



# Concept NOW & THEN



2025

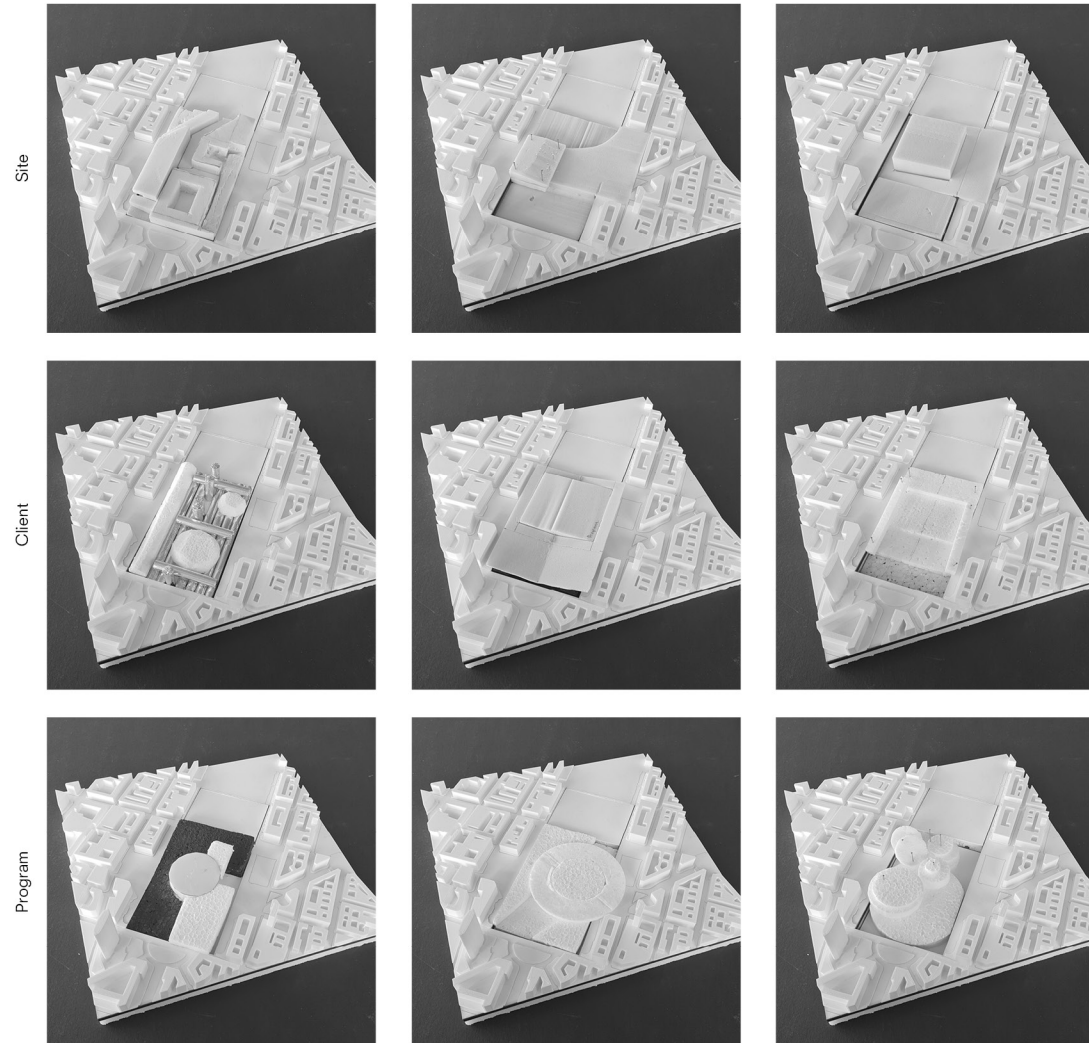


2050



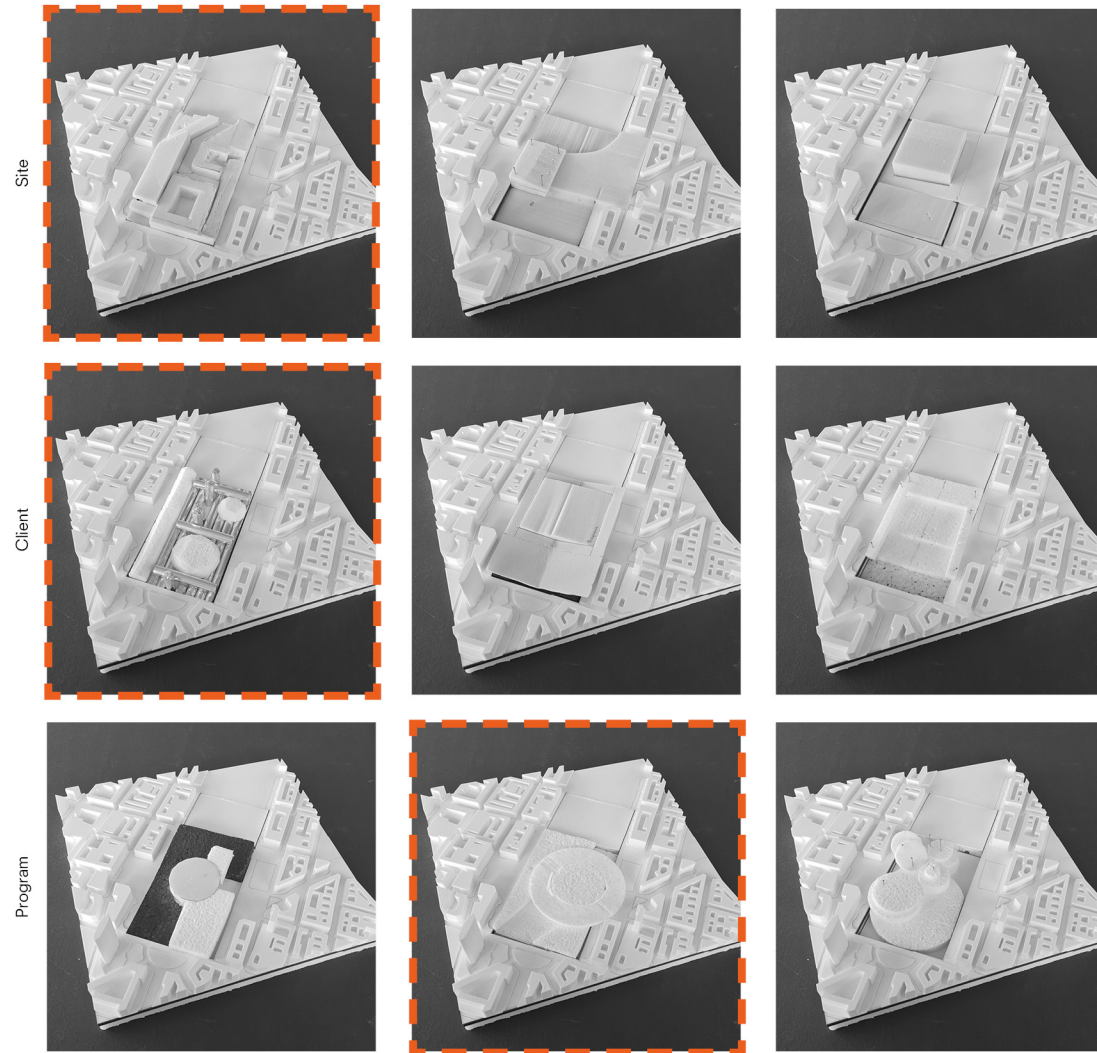
Concept

# MASSING MODEL ITERATION



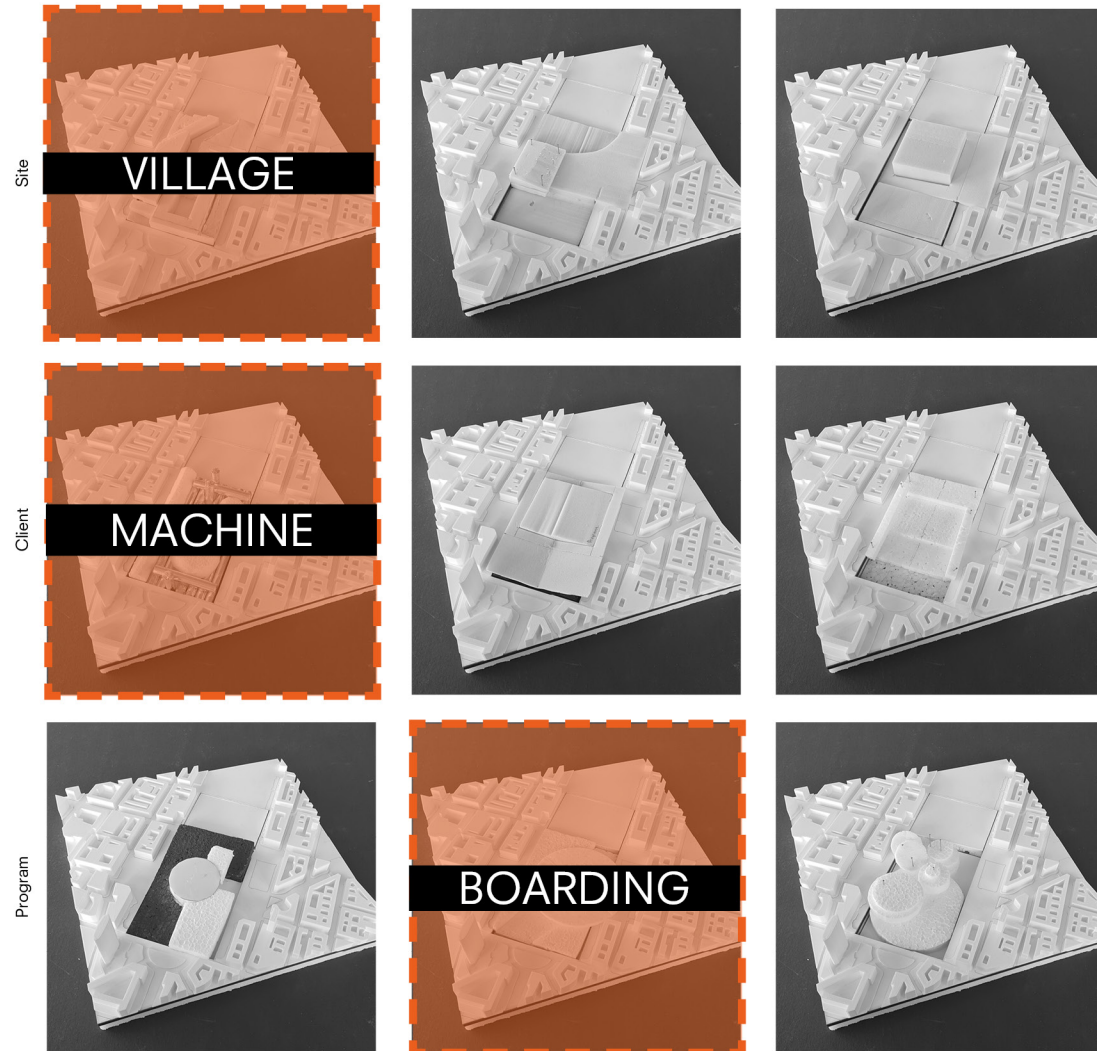
Concept

# MASSING MODEL ITERATION



Concept

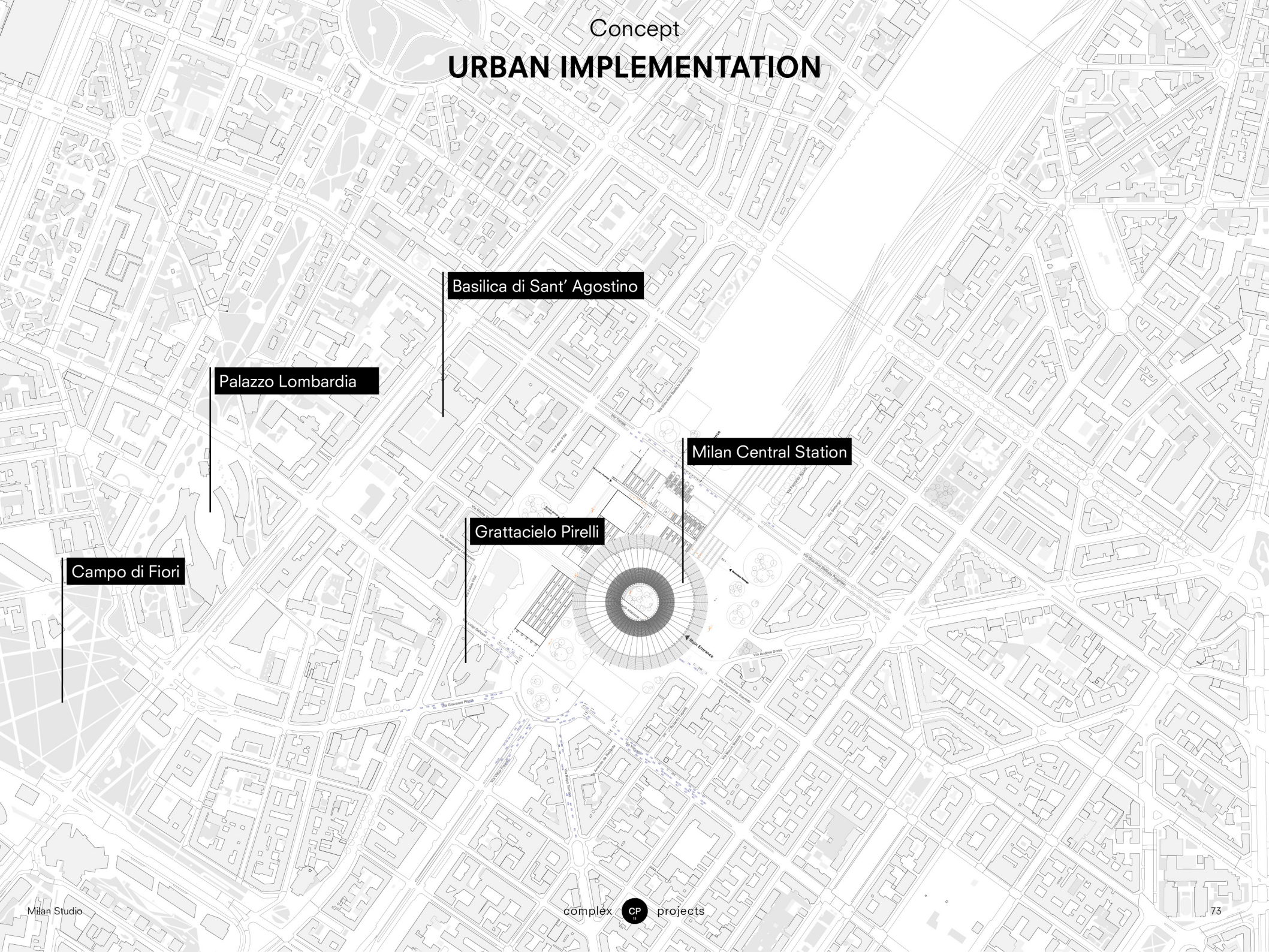
# MASSING MODEL ITERATION





Concept

# URBAN IMPLEMENTATION



Campo di Fiori

Palazzo Lombardia

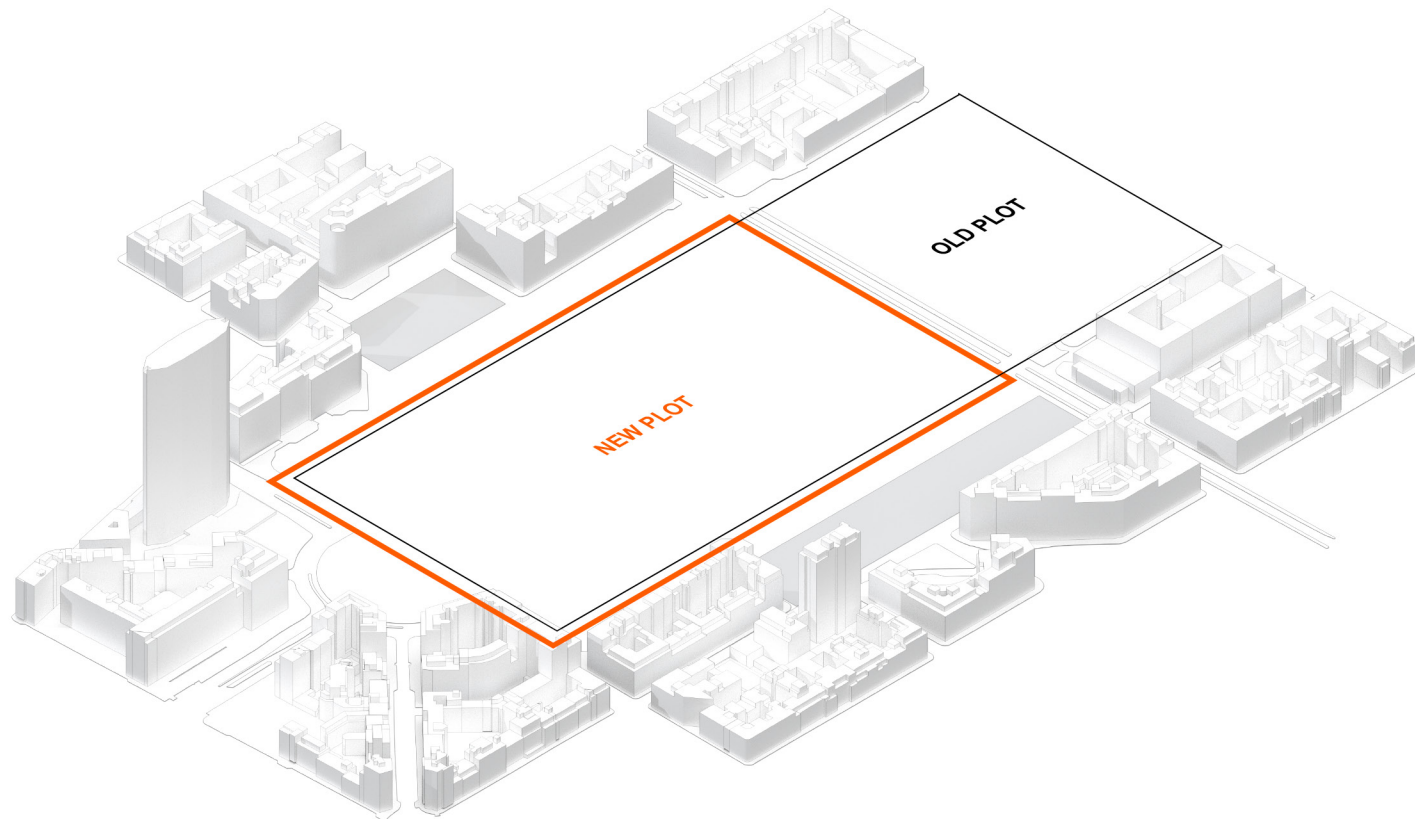
Basilica di Sant' Agostino

Grattacielo Pirelli

Milan Central Station

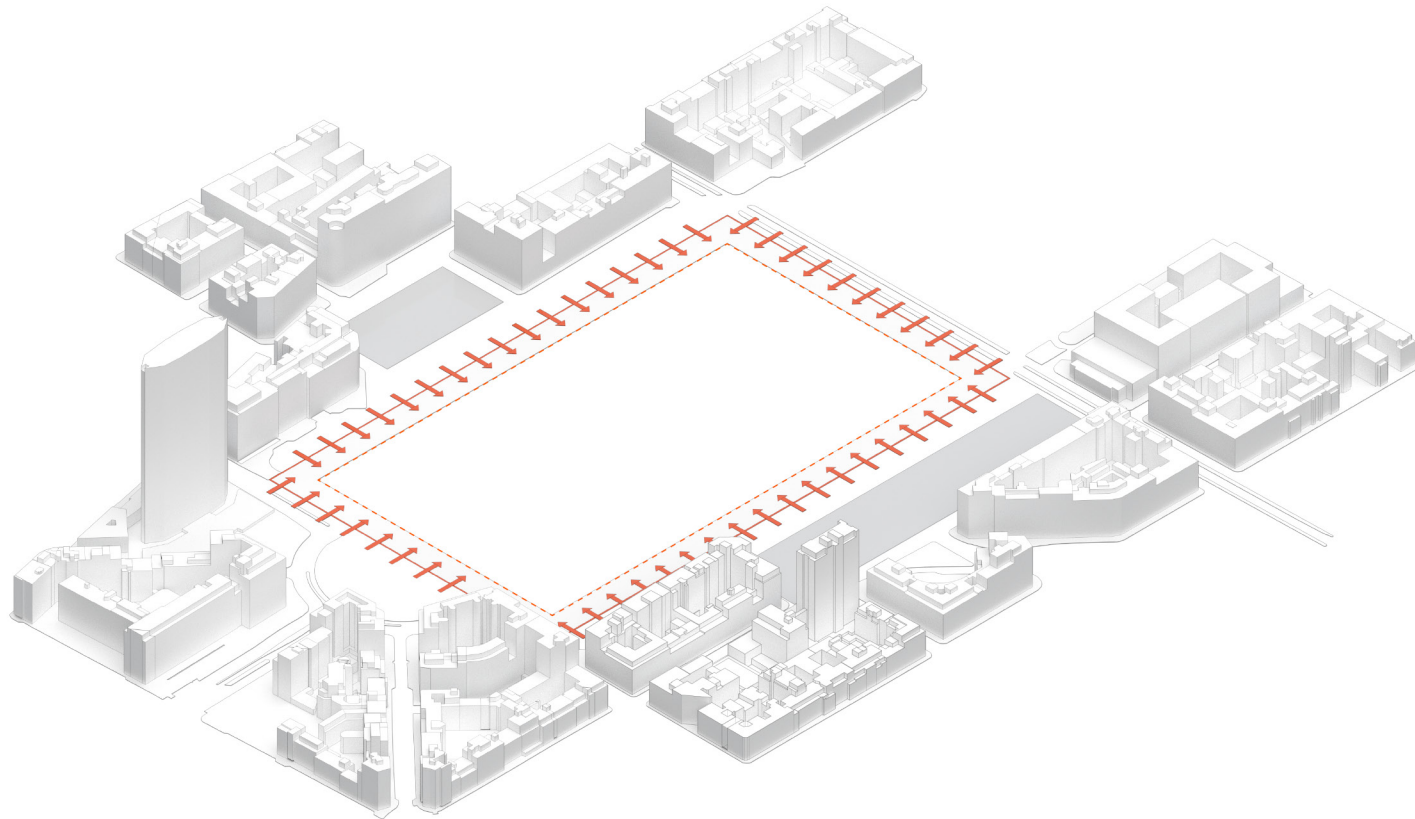


# Concept PLOT



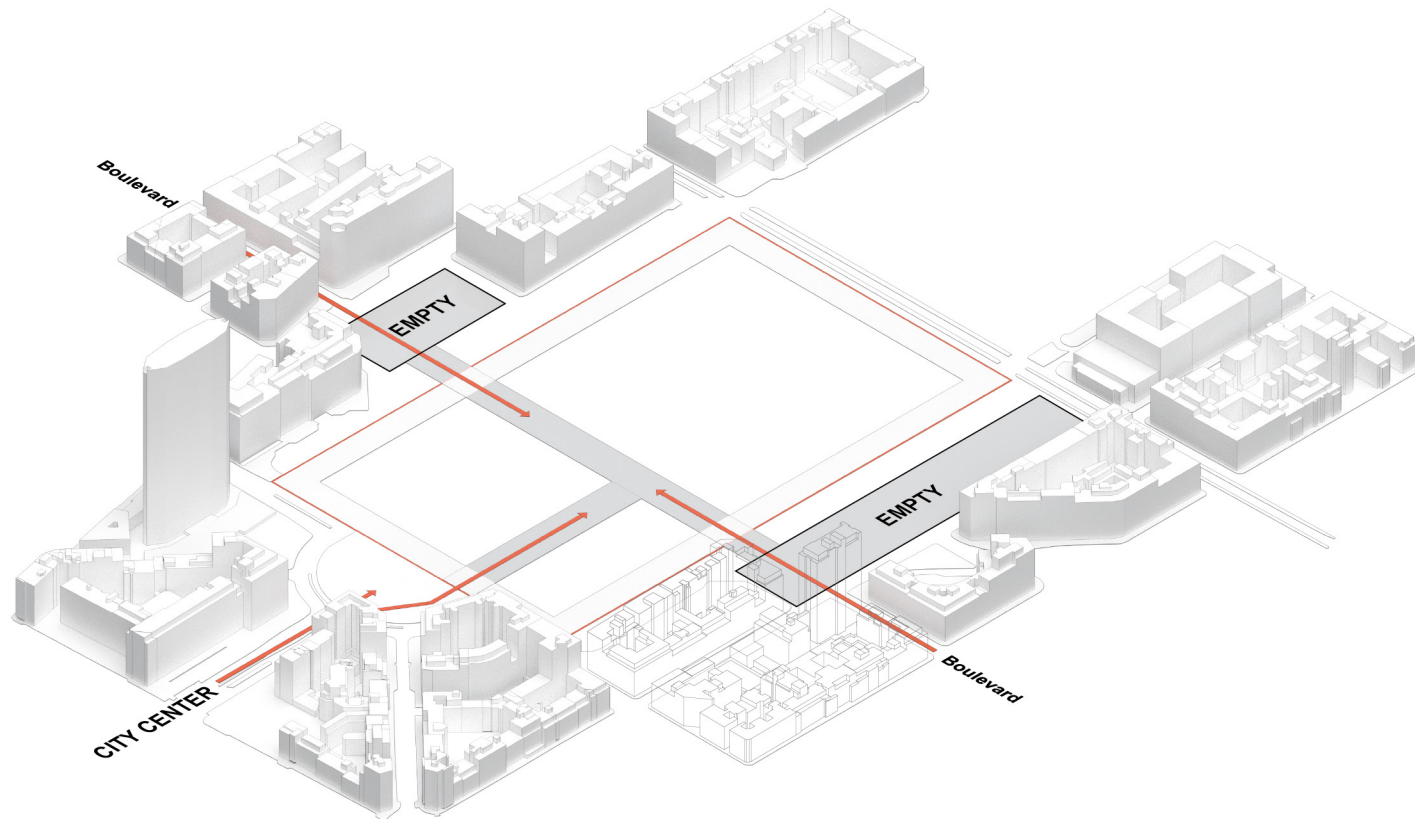
Concept

# PEDESTRIAN EXTENSION



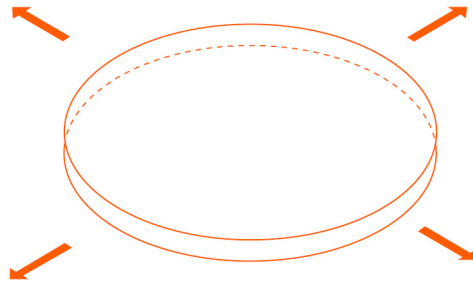
# Concept

## URBAN PASSAGE



# Concept

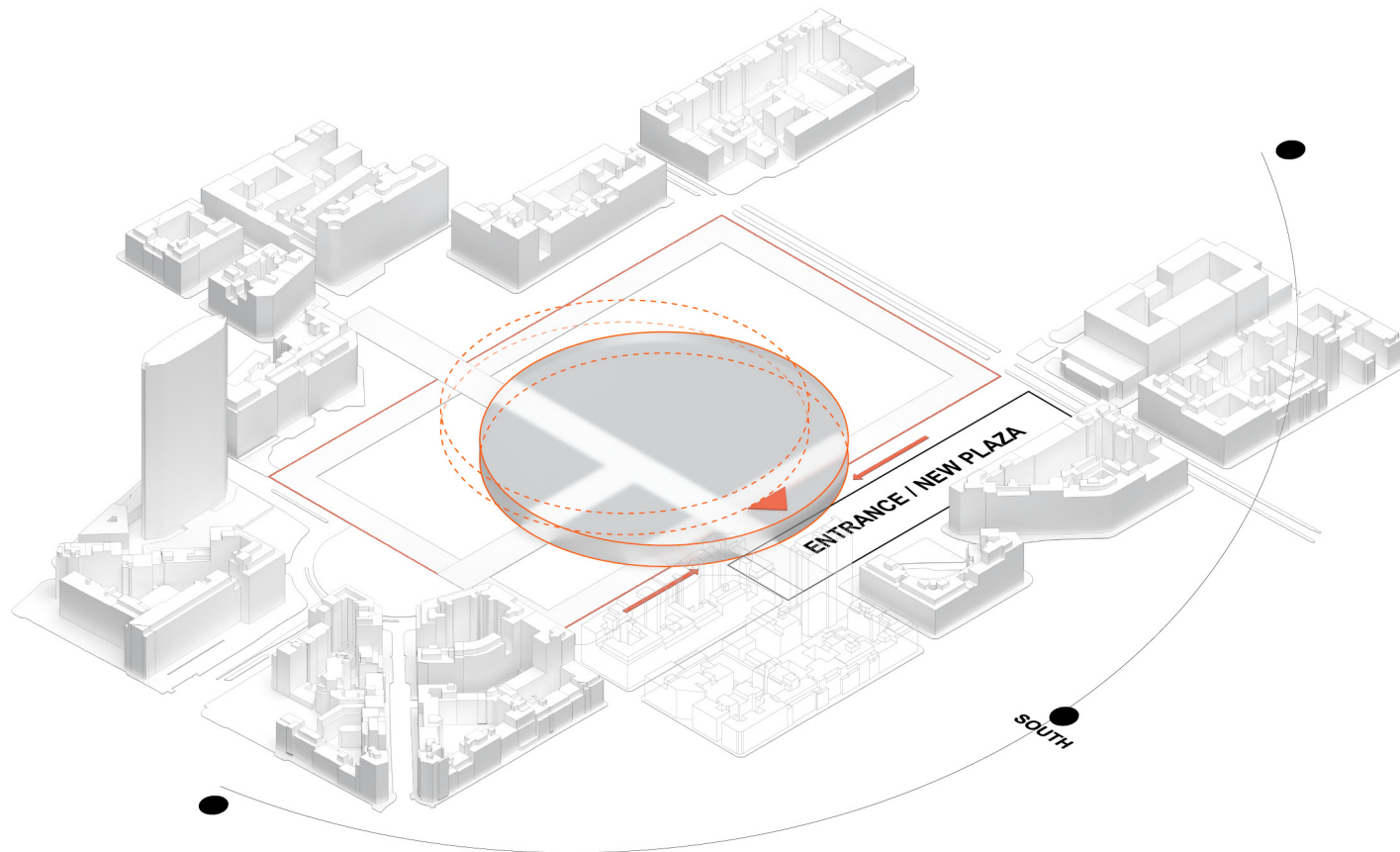
## STATION HUB



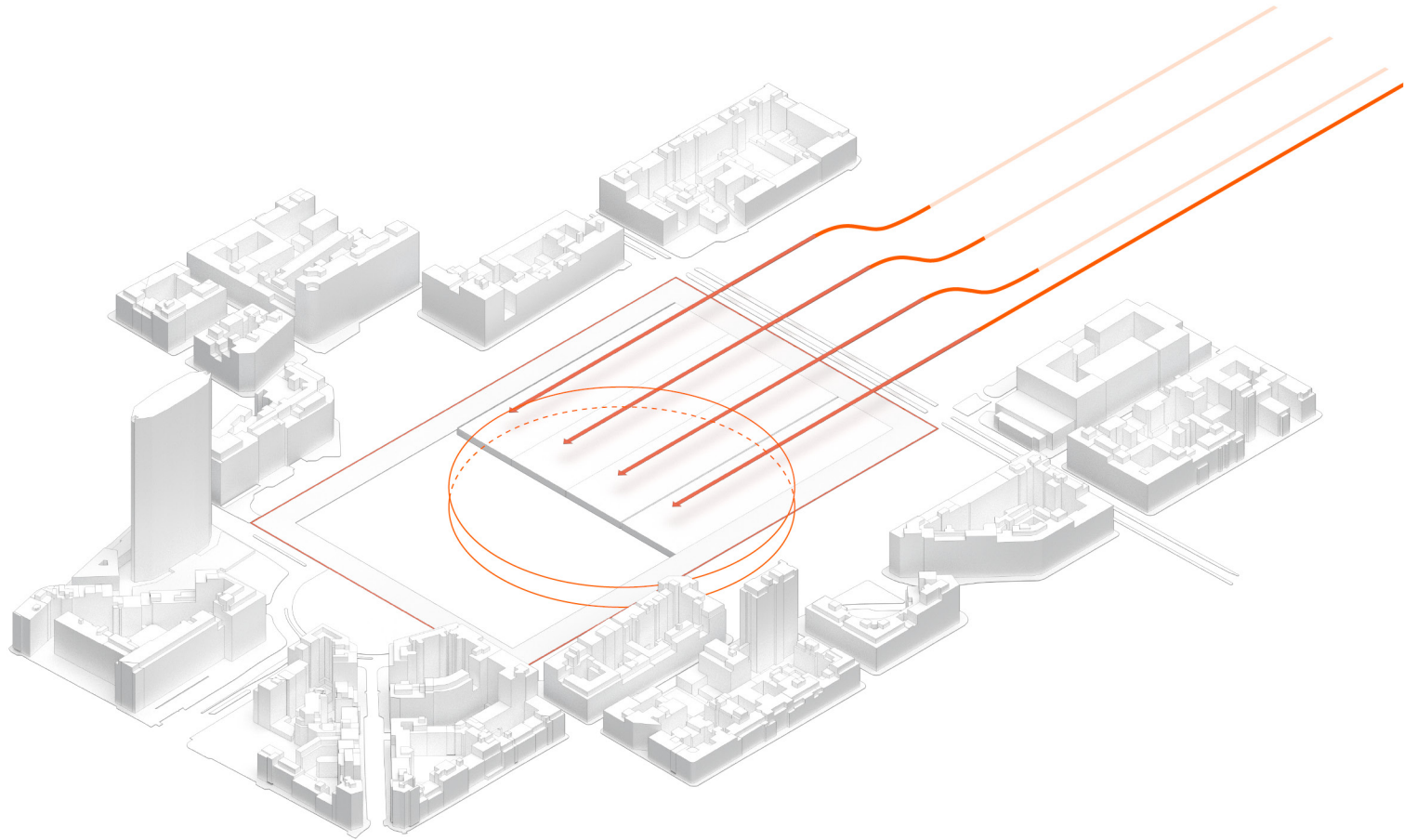


# Concept

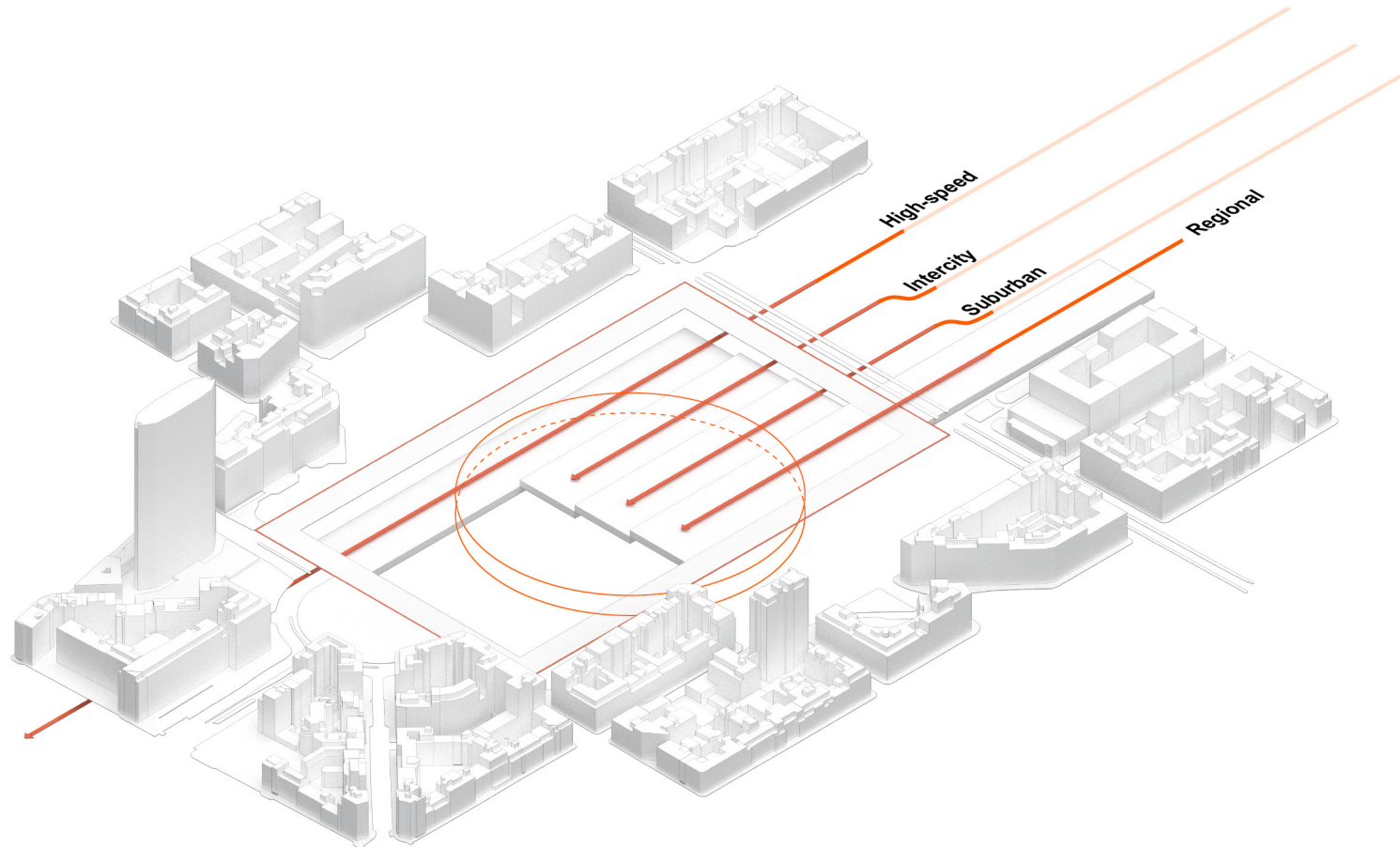
## STATION HUB



# Concept **TRACKS**

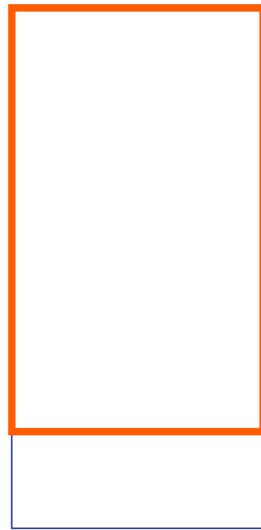


Concept  
**24 x TRACKS**

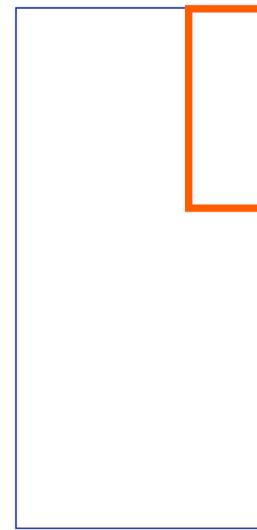


Concept

# SPLIT STATION



**BEFORE**  
63.700 m<sup>2</sup>

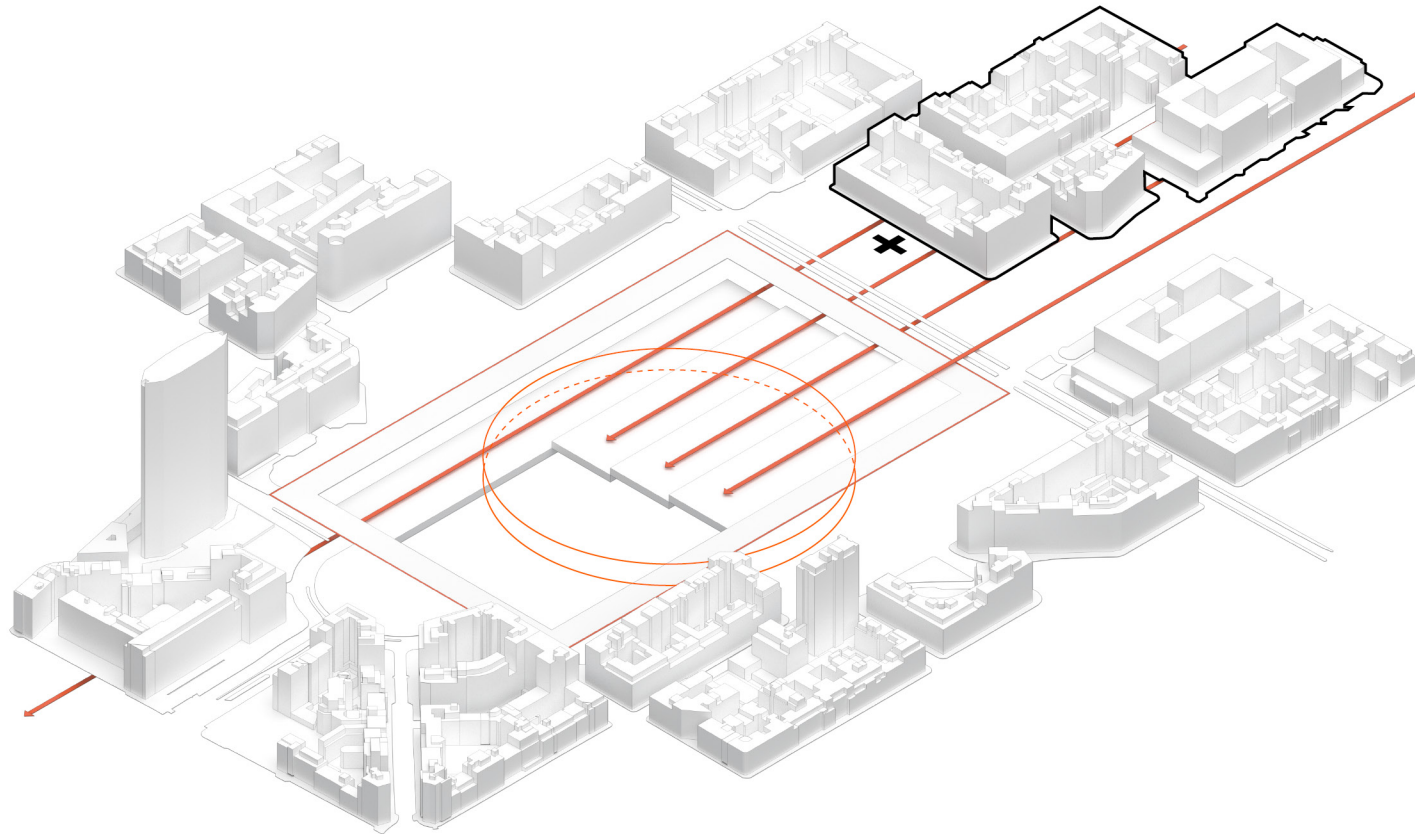


**AFTER**  
5.800 m<sup>2</sup>

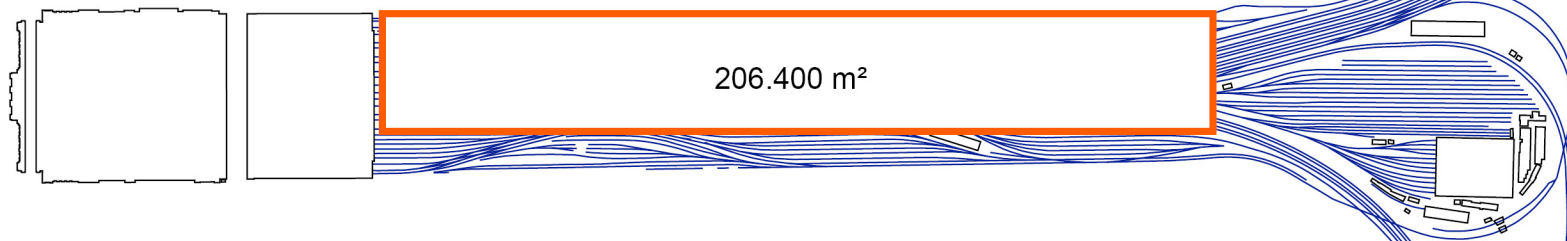


Concept

# **m<sup>2</sup> BACK TO THE CITY**

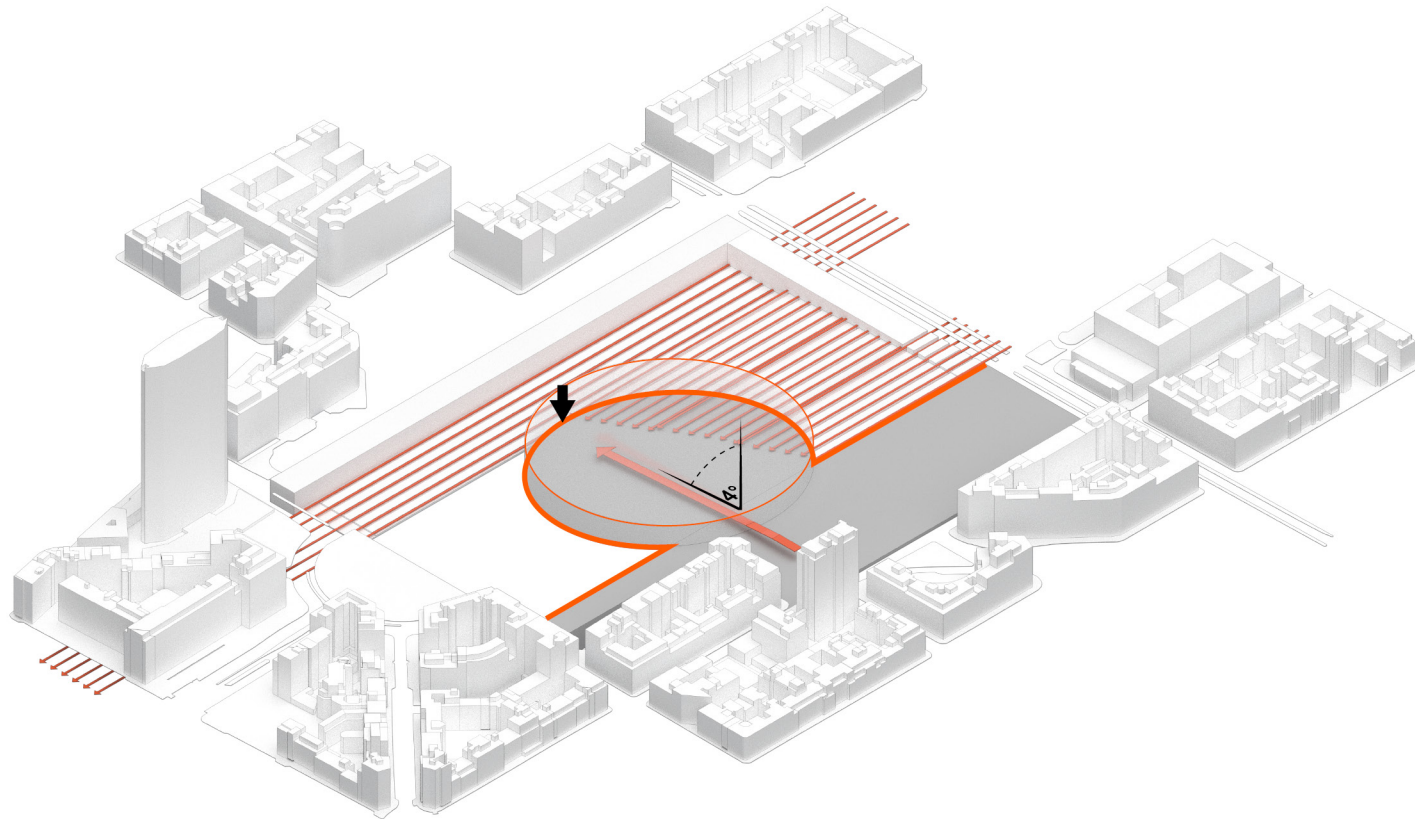


Concept  
**m<sup>2</sup> BACK TO THE CITY**



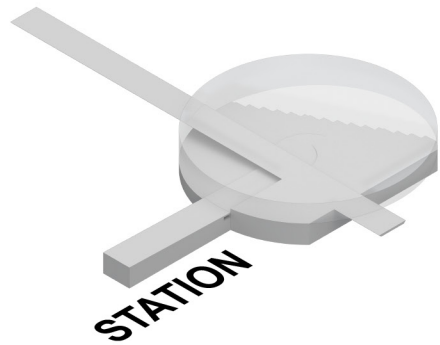
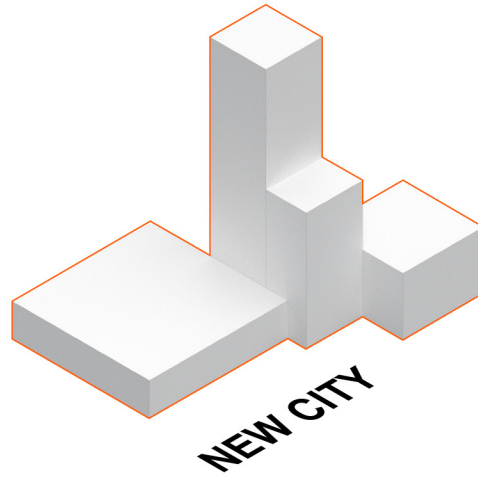
Concept

# STATION HUB + TRACKS

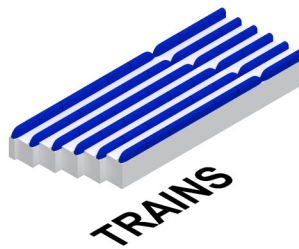


Concept

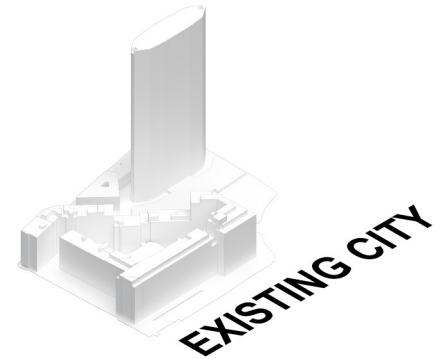
# 'CITY WITHIN A CITY'



+



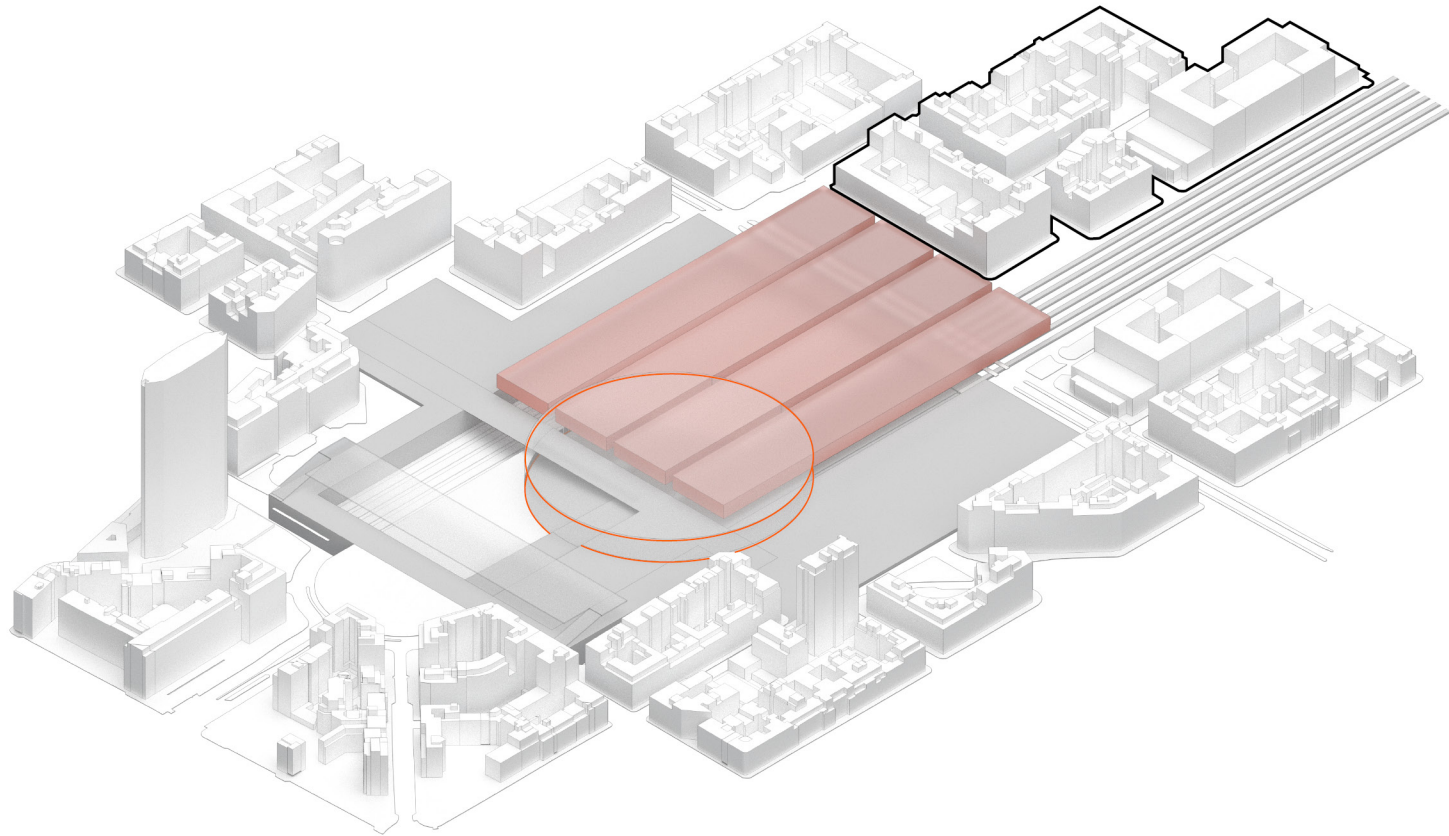
+





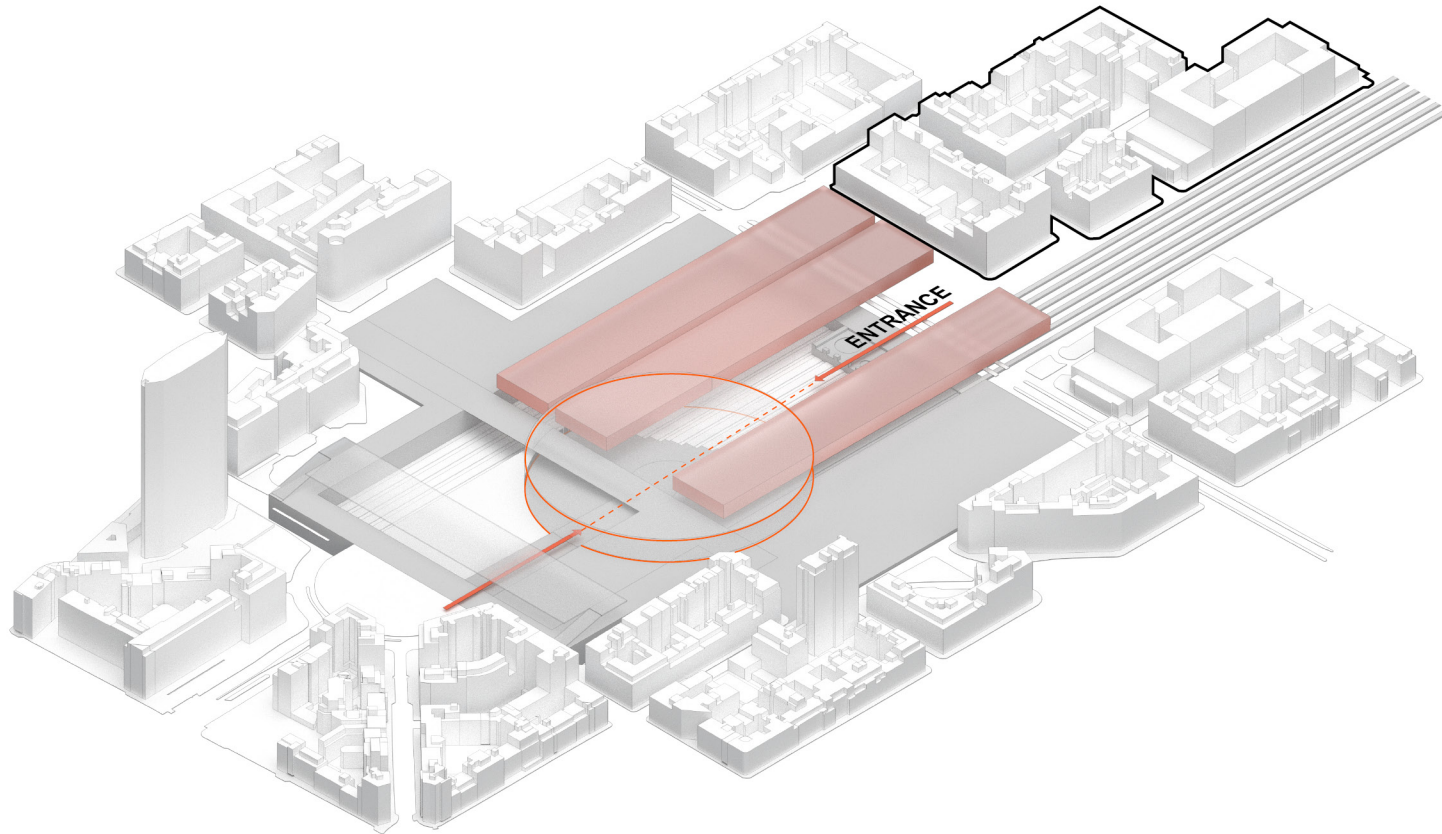
Concept

# 'CITY WITHIN A CITY'



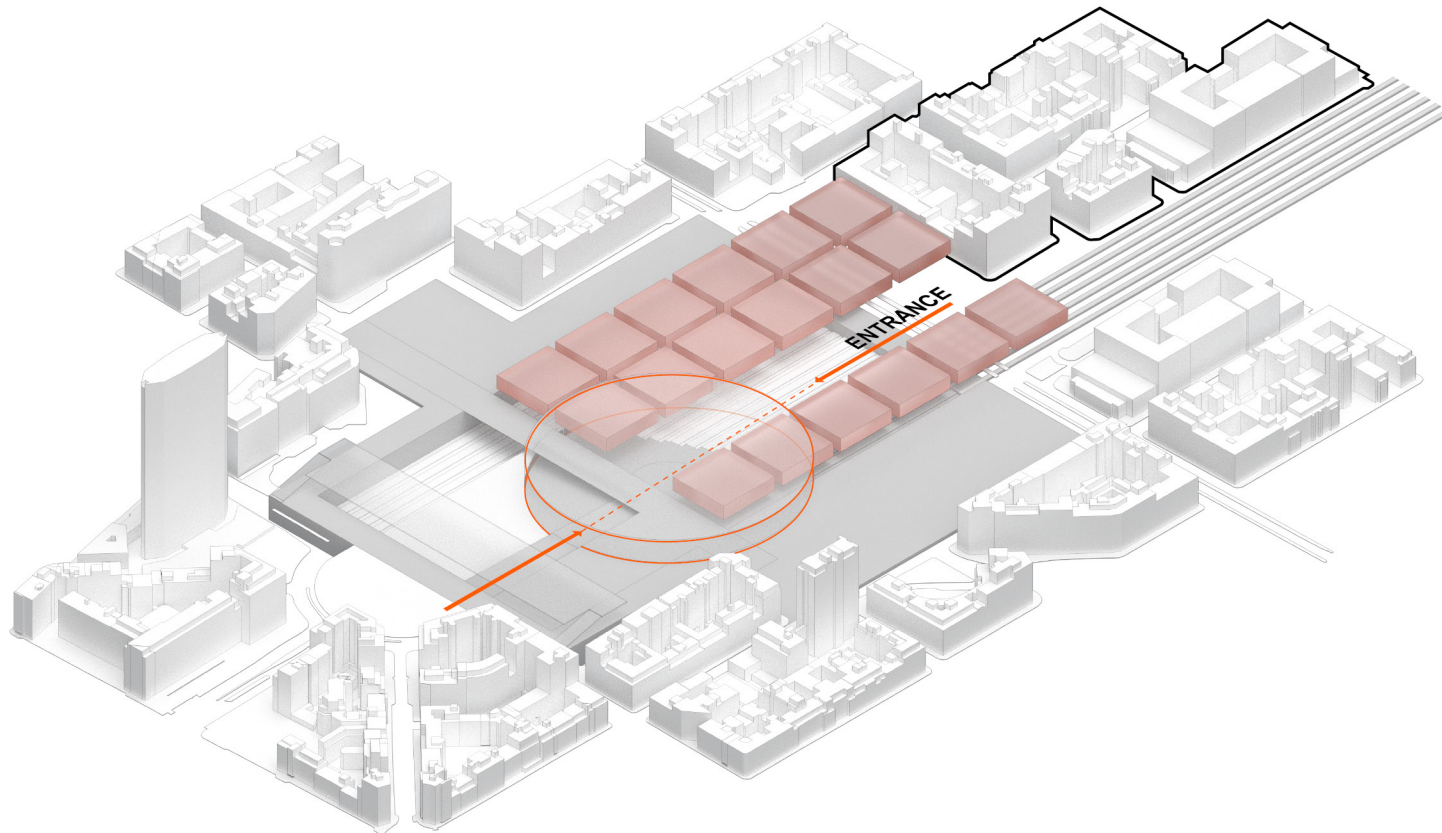
Concept

# 'CITY WITHIN A CITY'



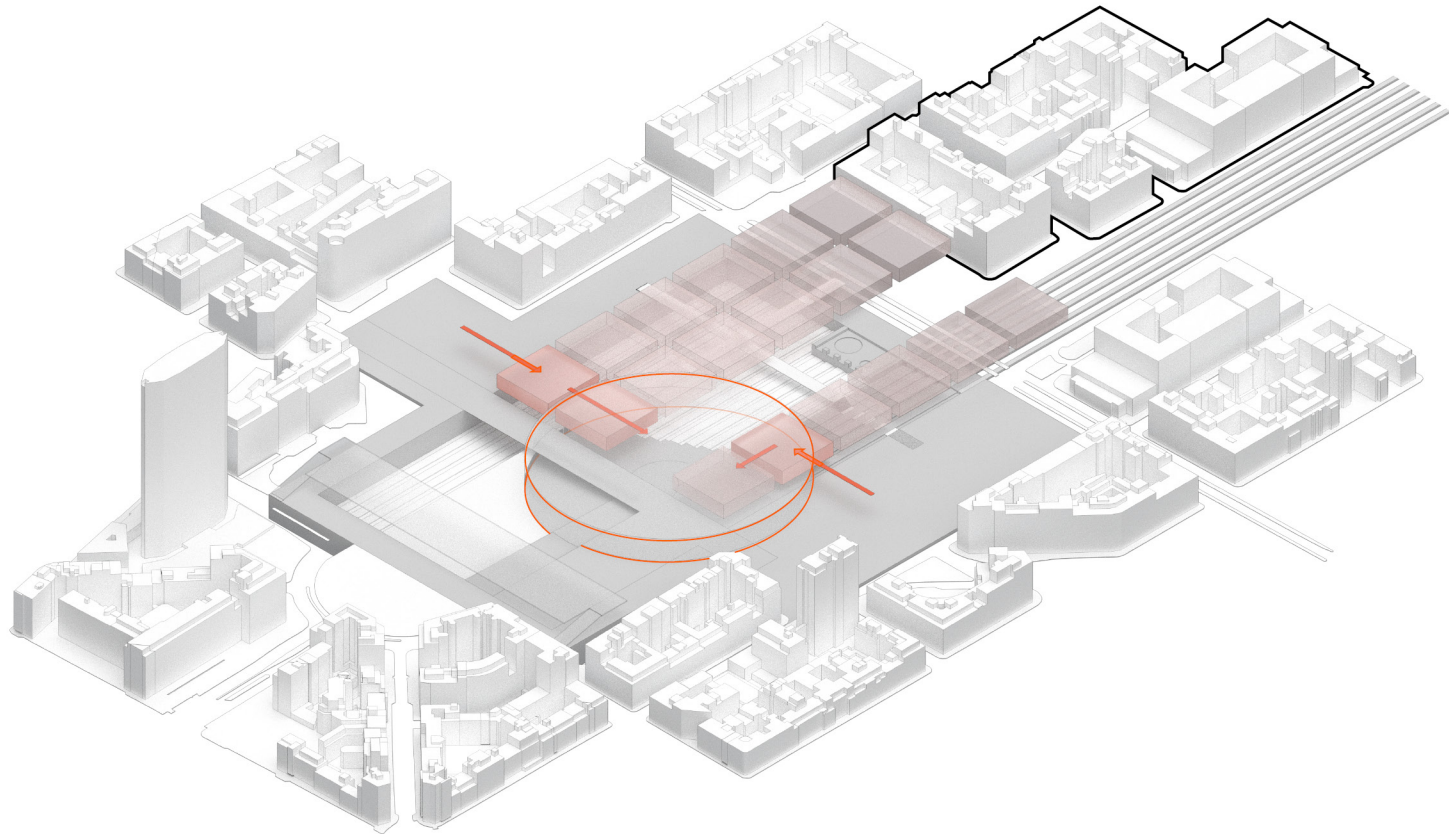
Concept

# 'CITY WITHIN A CITY'



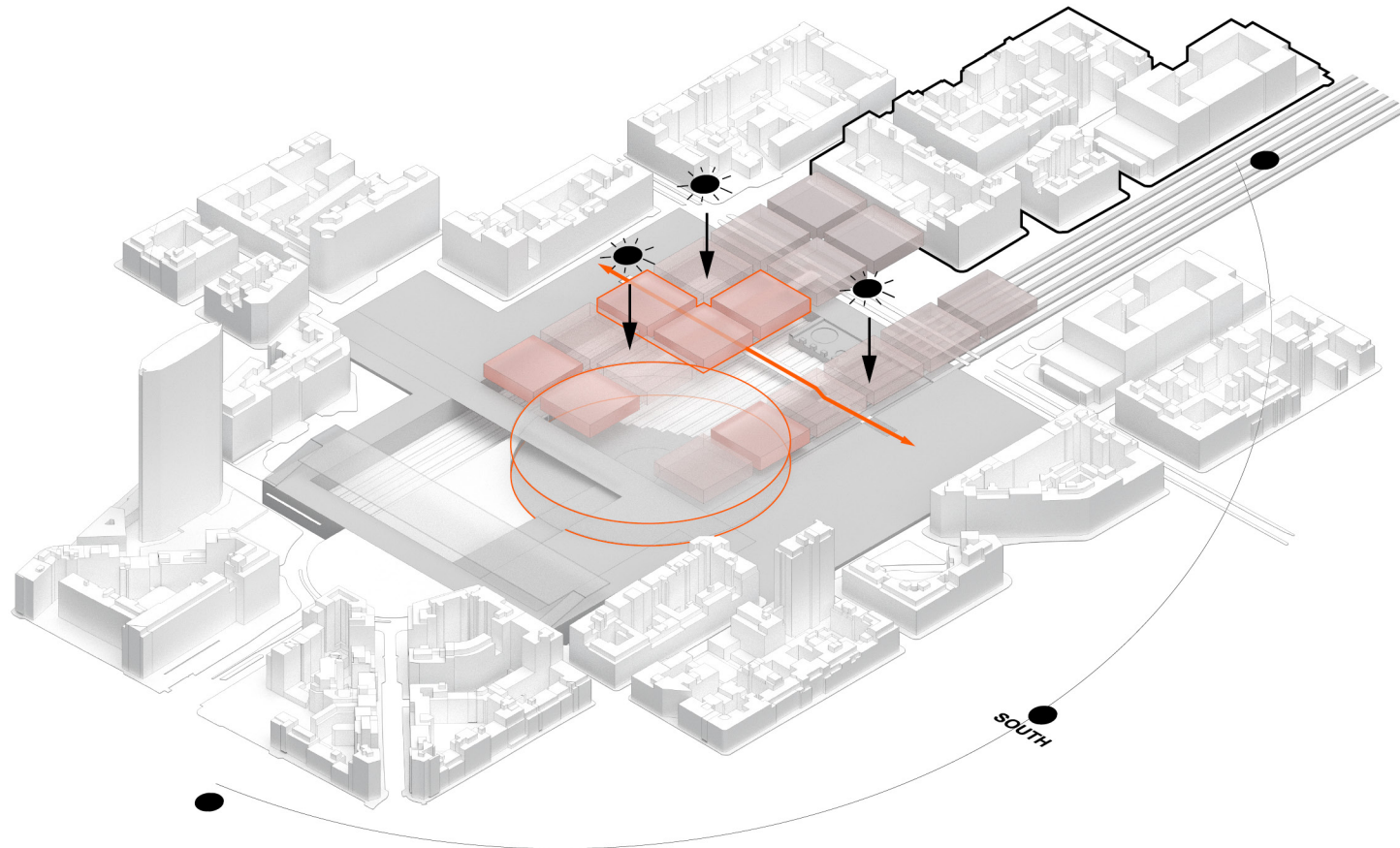
Concept

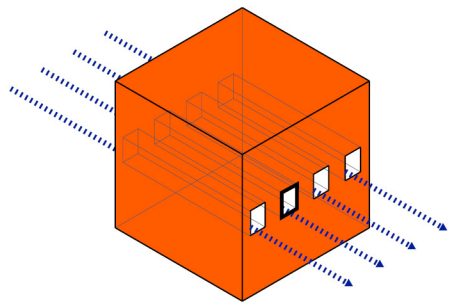
# 'CITY WITHIN A CITY'





Concept  
**'CITY WITHIN A CITY'**





**Intro**

**Research**

**Design Brief**

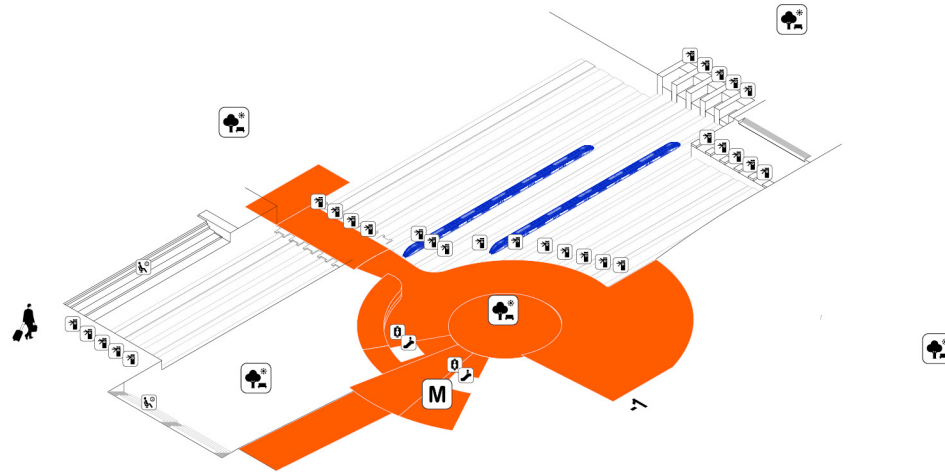
**Concept**

**Design**

**Conclusion**

Design

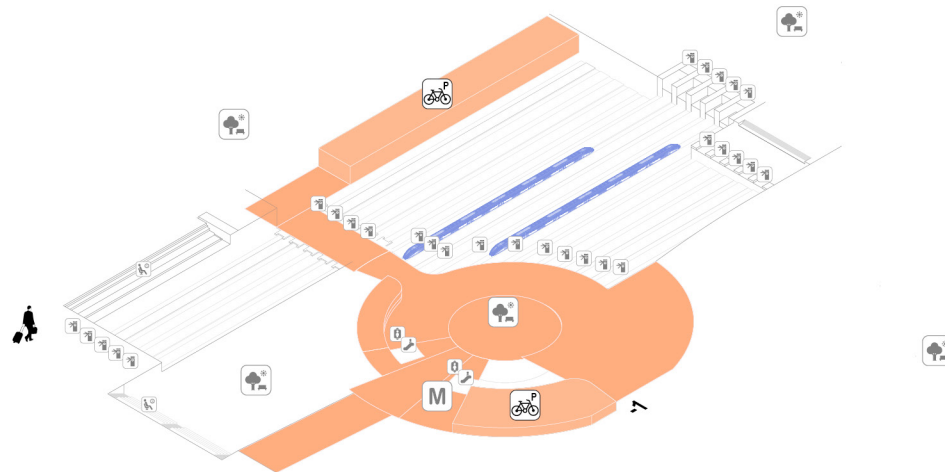
# CONCOURSE HALL -1





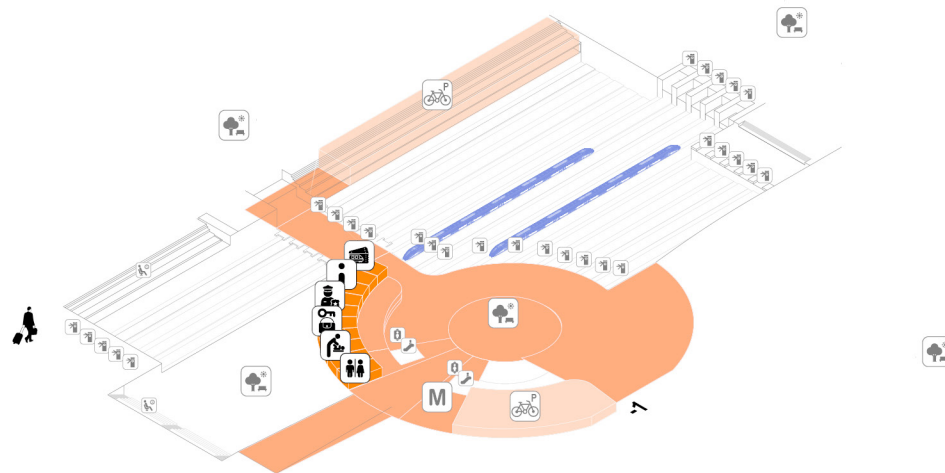
Design

# BICYCLE PARKING -1



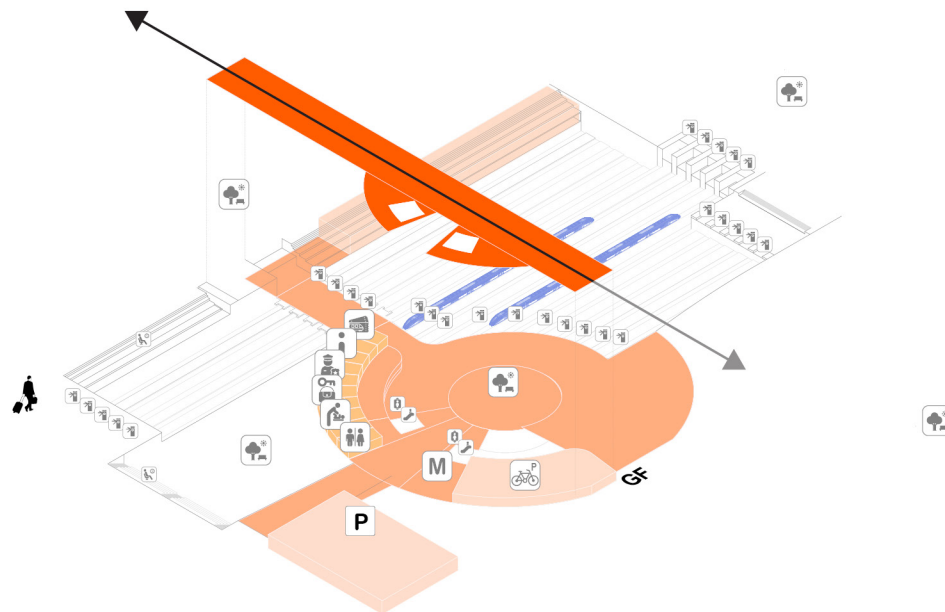
Design

# PRIMARY SERVICES -1



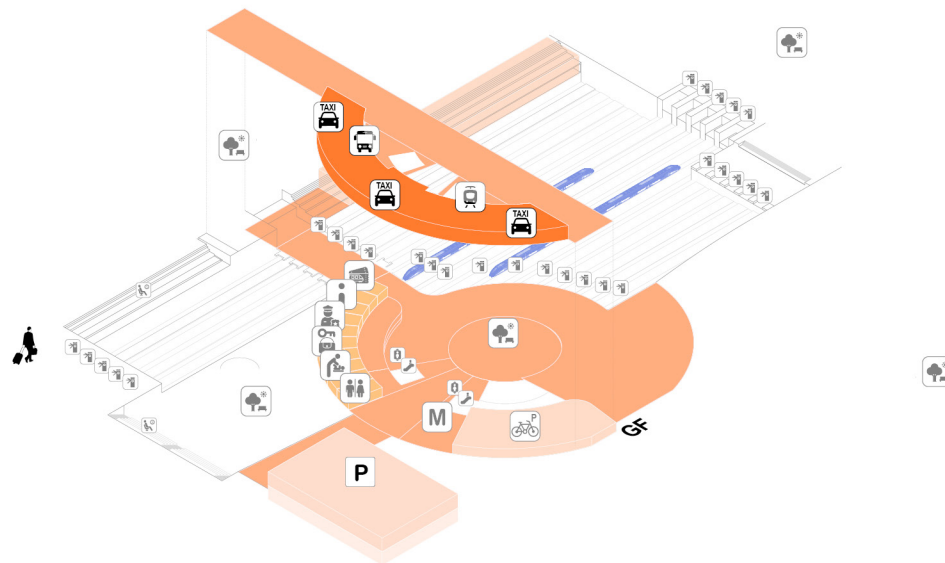
Design

# GROUND FLOOR PASSAGE



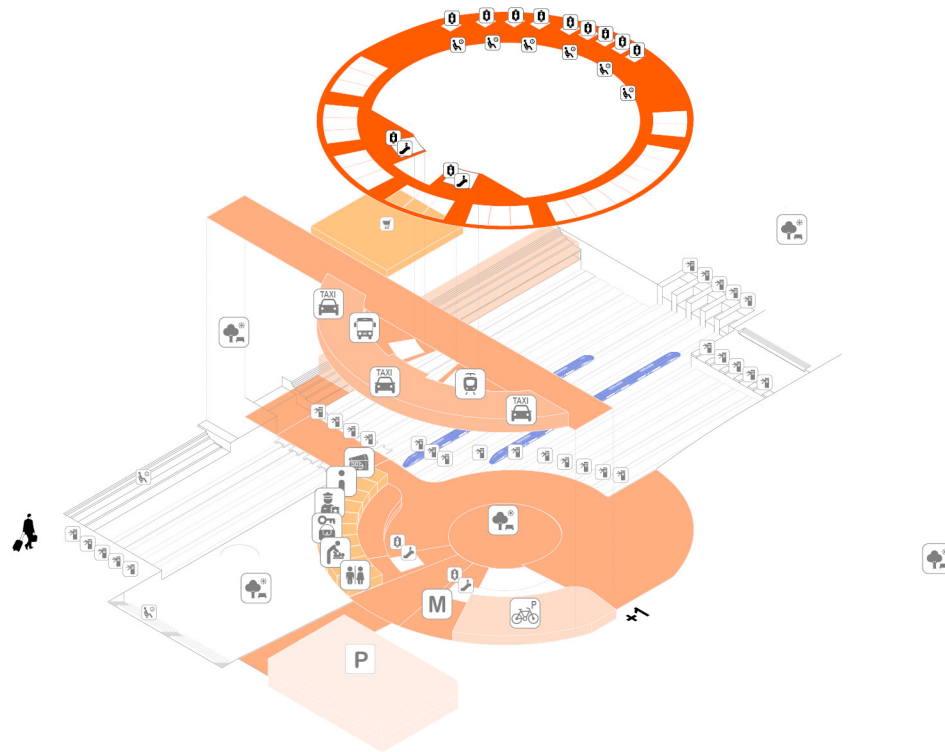
# Design

## GROUND FLOOR



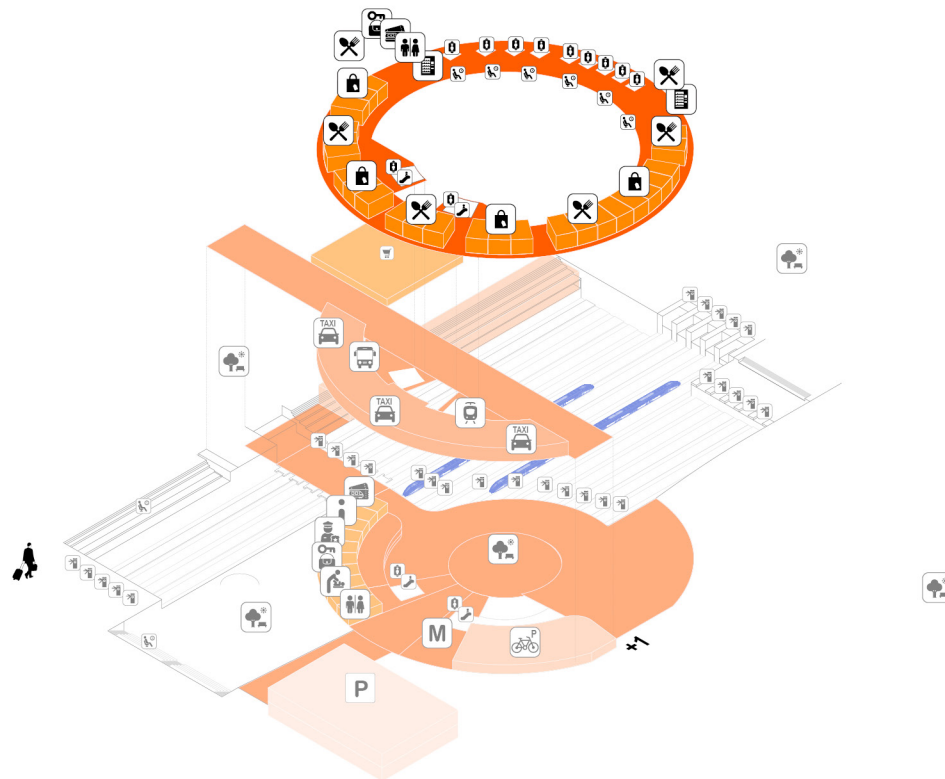


# Design +1



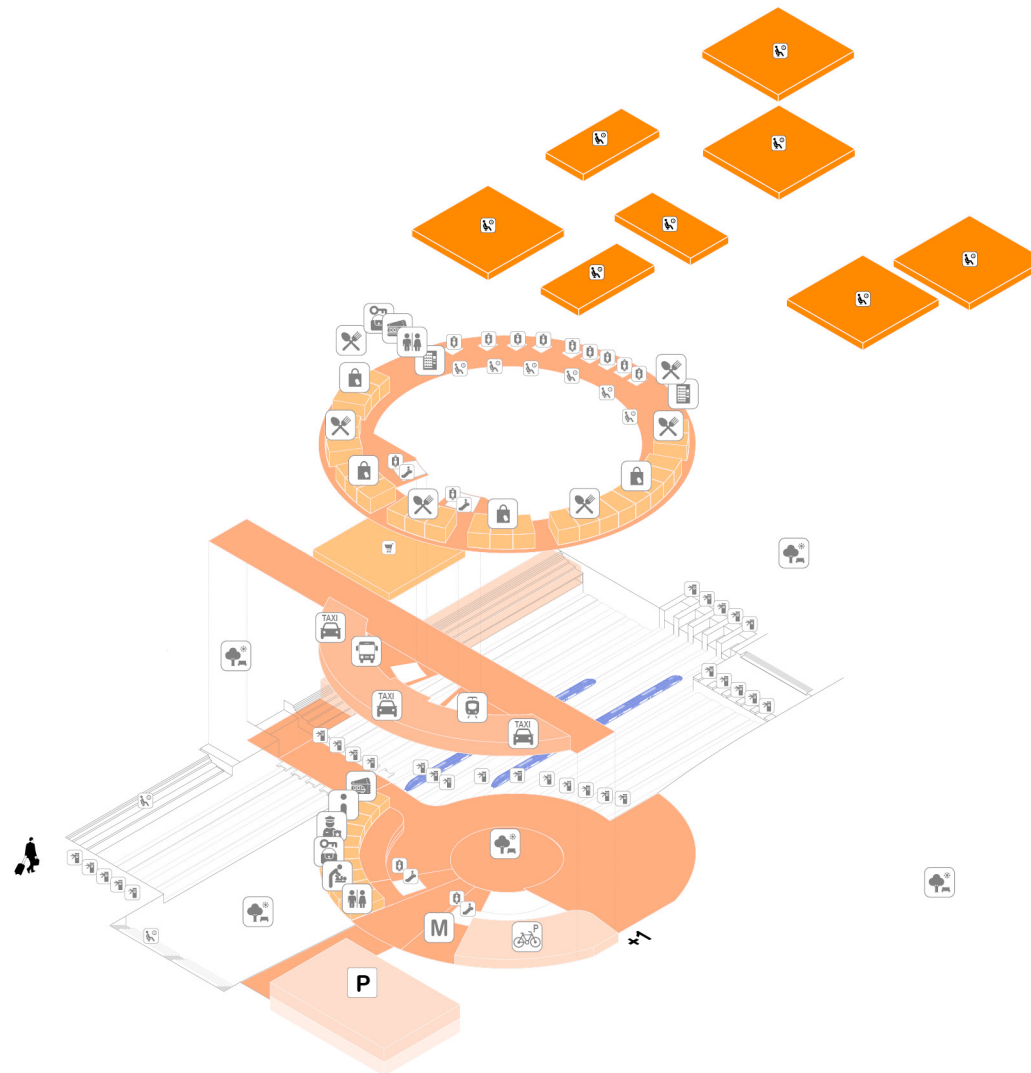
Design

# COMMERCIAL SPACE +1



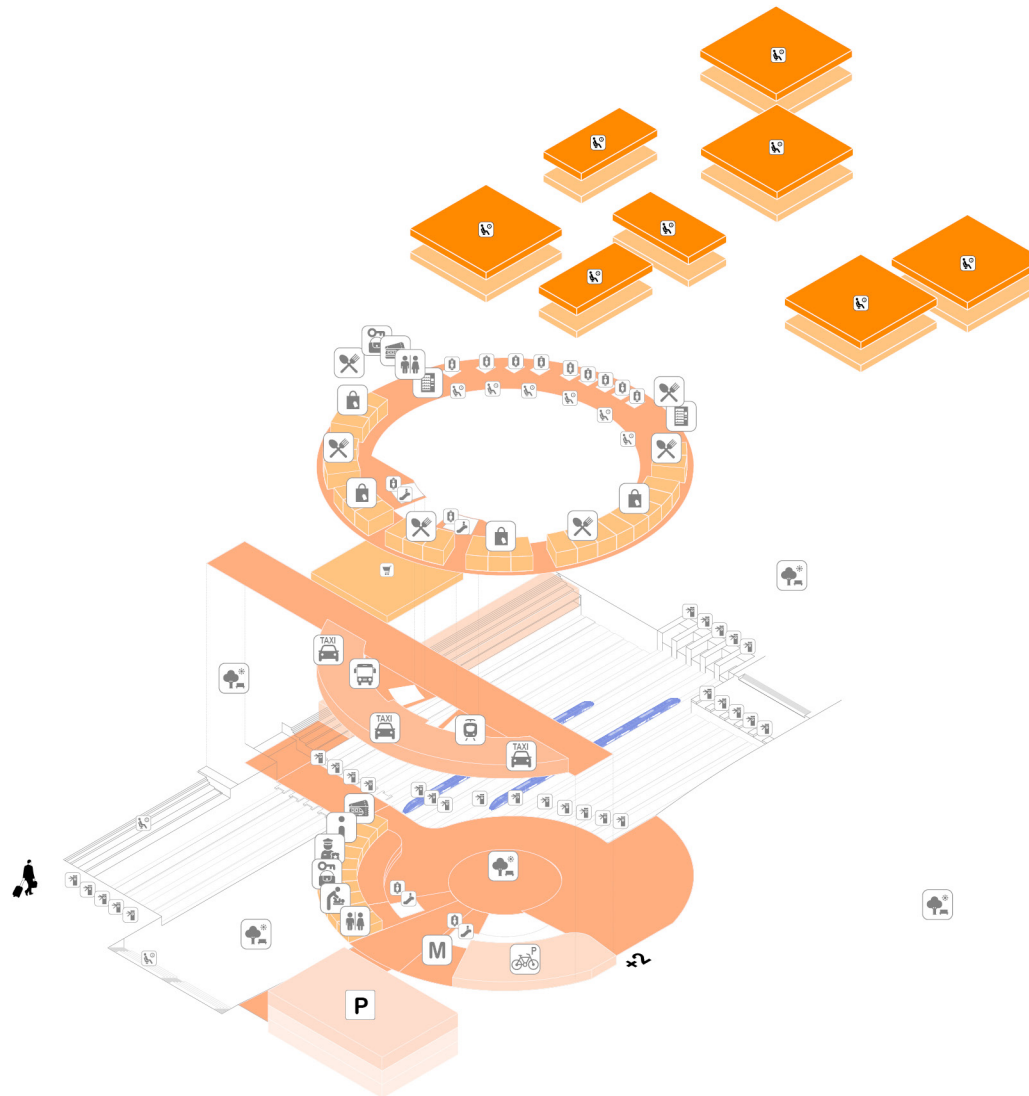
Design

# COMMERCIAL/WAITING +1



# Design

## COMMERCIAL/WAITING +2

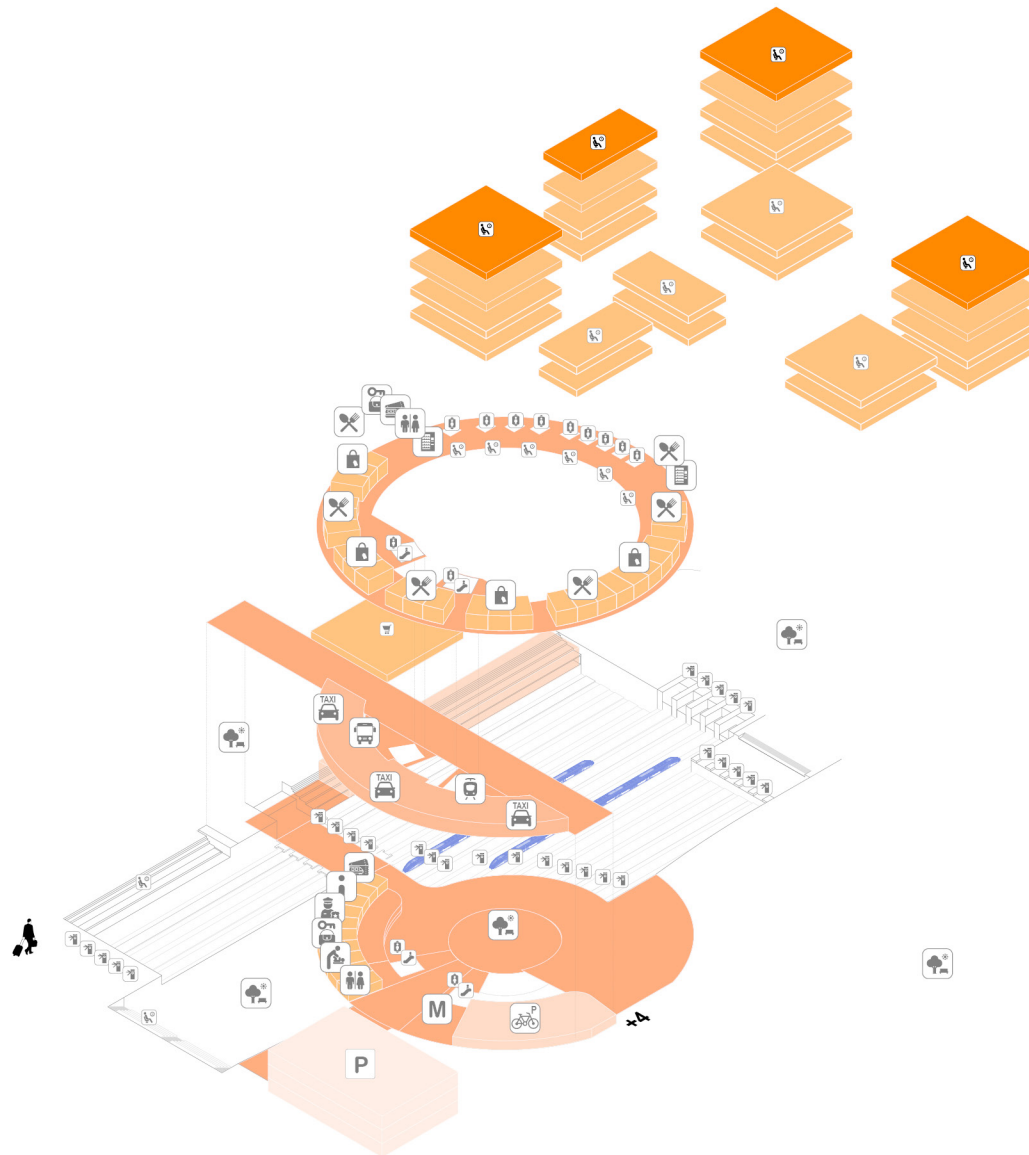




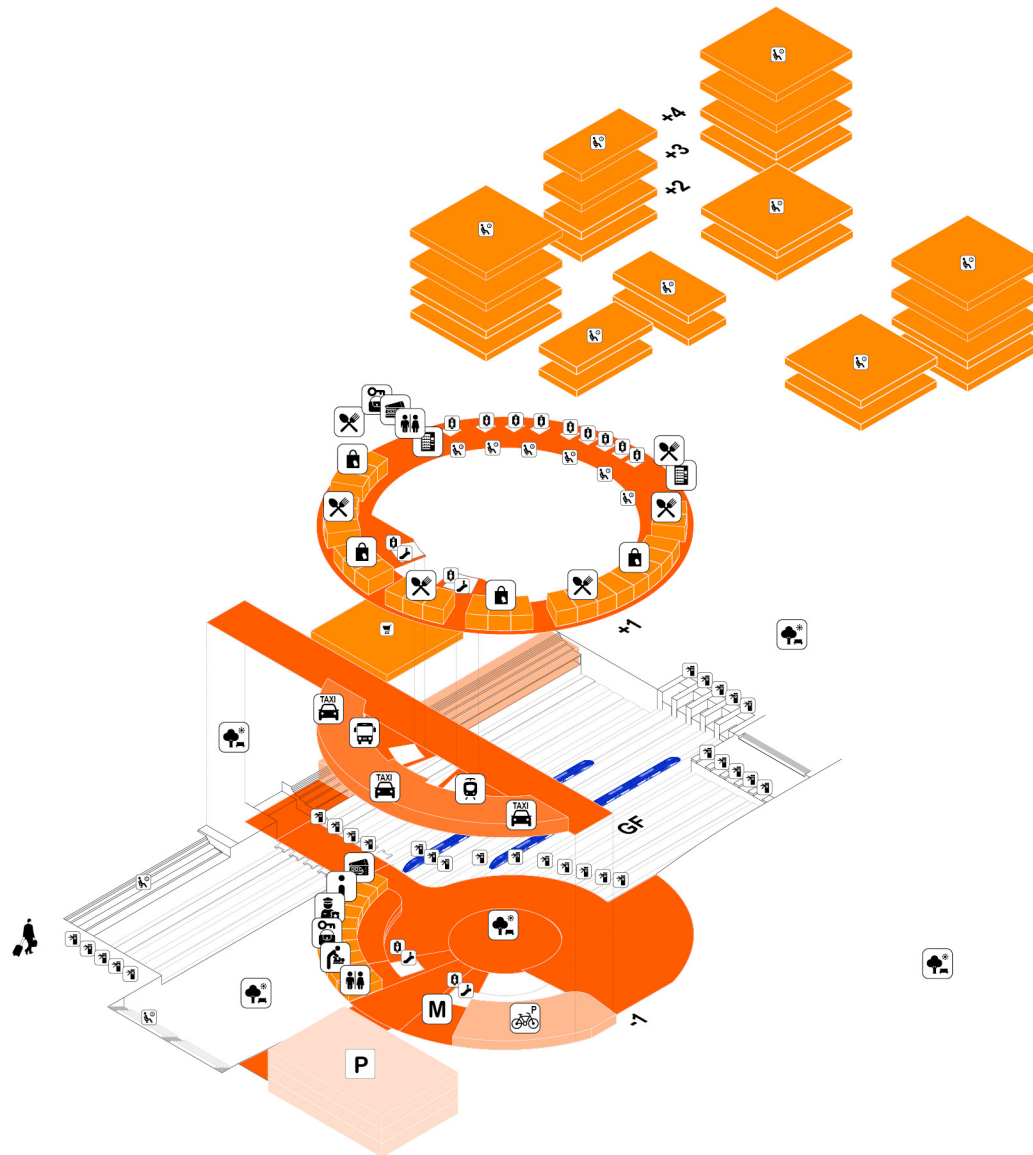


# Design

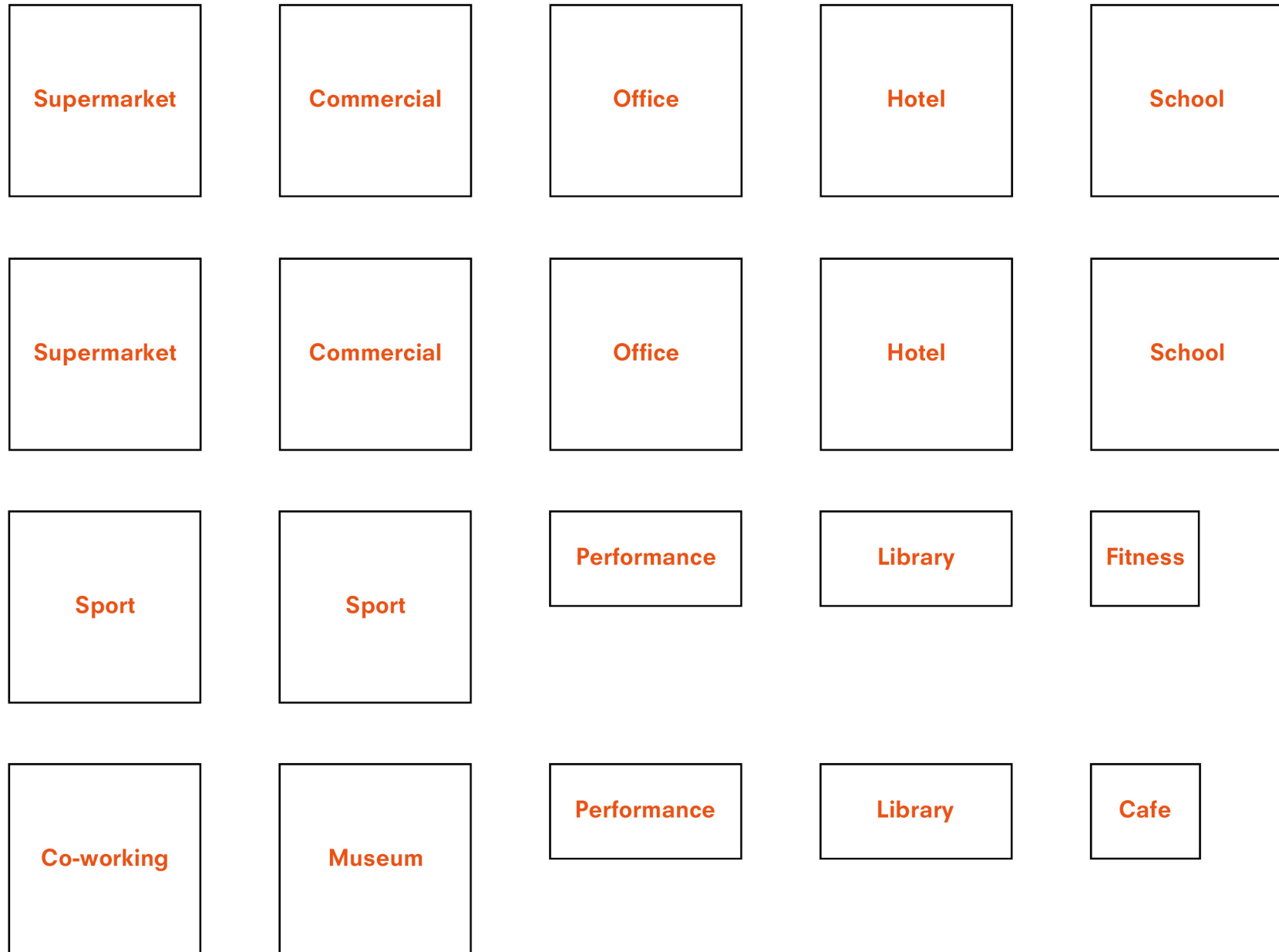
## COMMERCIAL/WAITING +4



# Design PROGRAM



## 'NEW CITY' TYPICAL LAYOUT





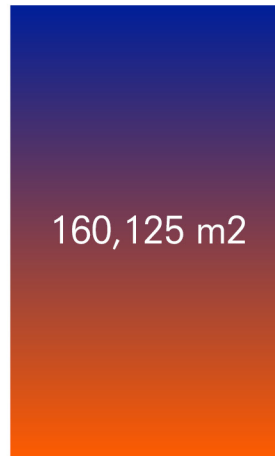
# Design

## 'NEW CITY' TYPICAL LAYOUT



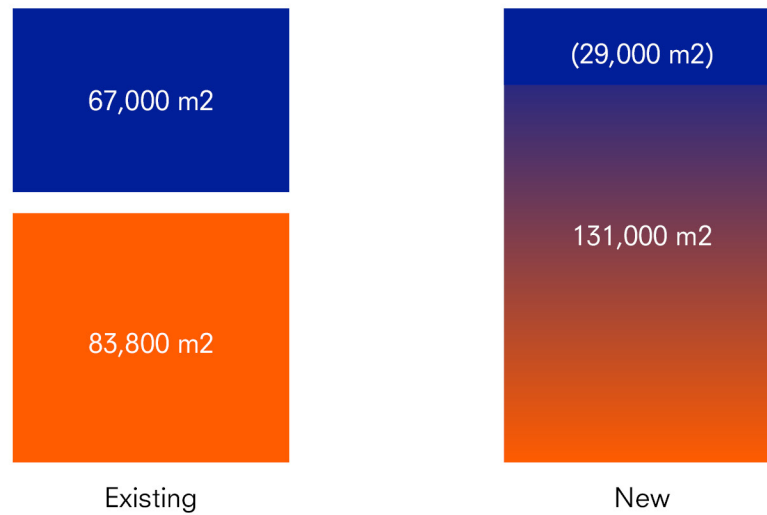
Design

# TOTAL AREA

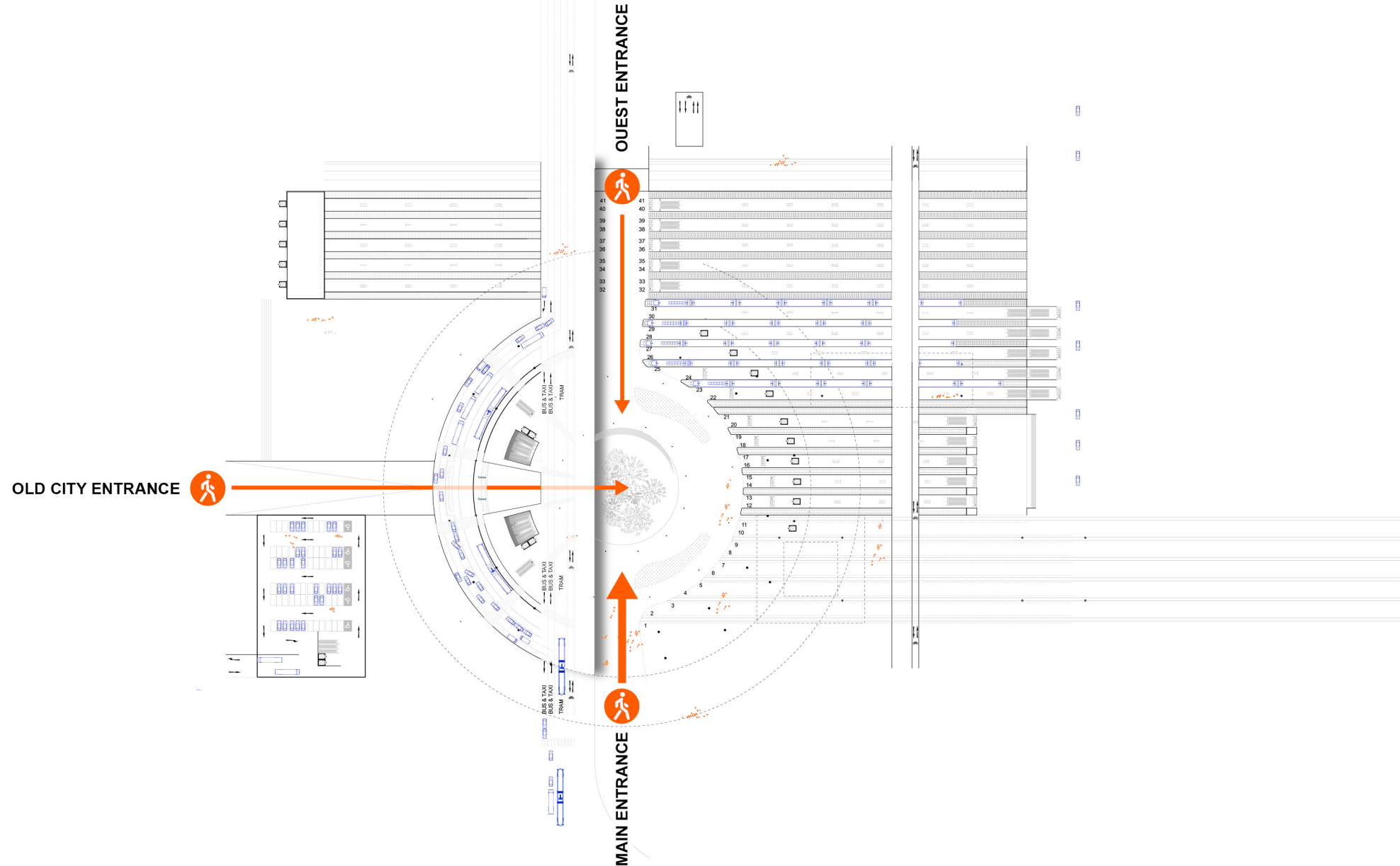


Design

# GOAL ACHIEVED



# MAIN PEDESTRIAN ACCESS







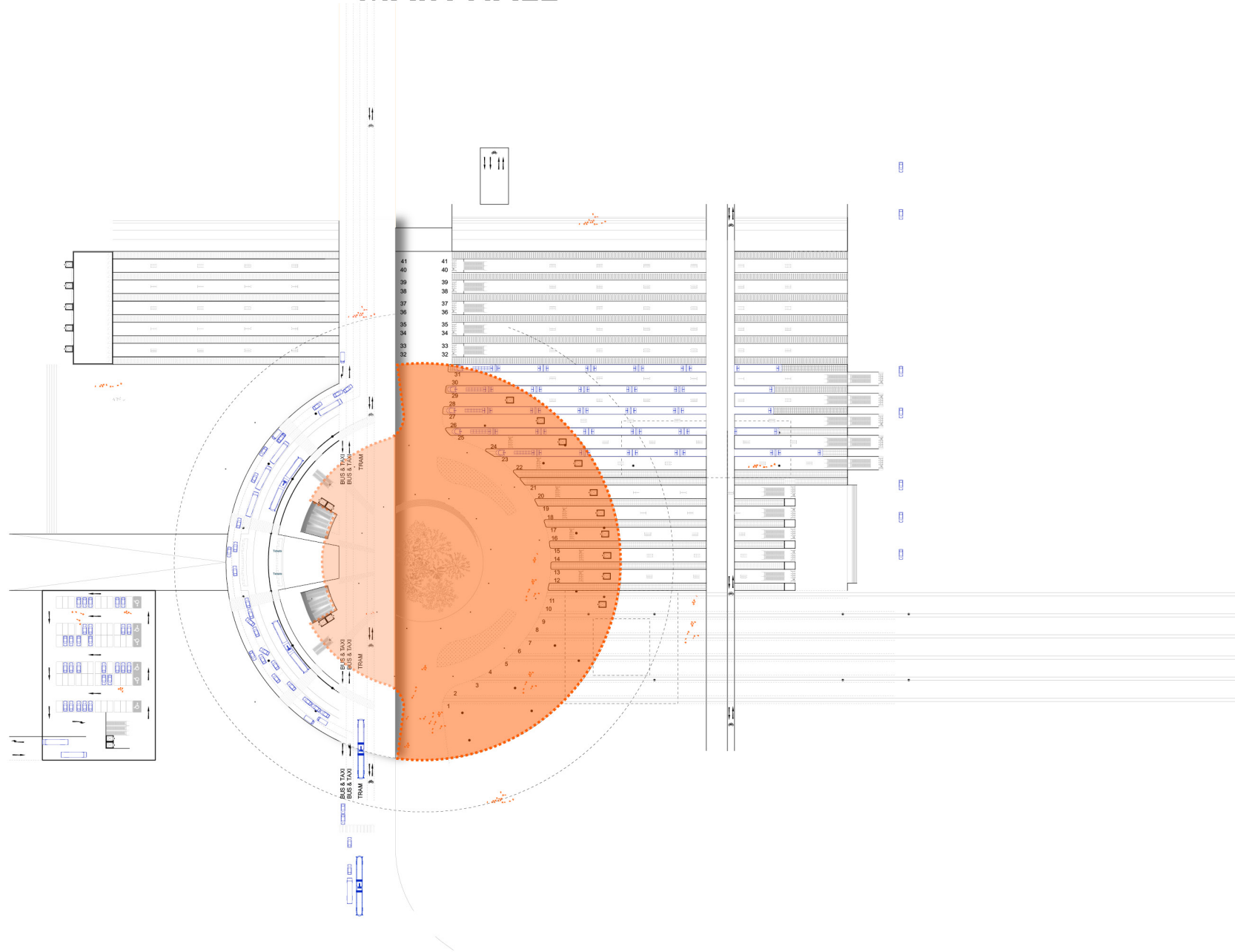






# Design

## MAIN HALL





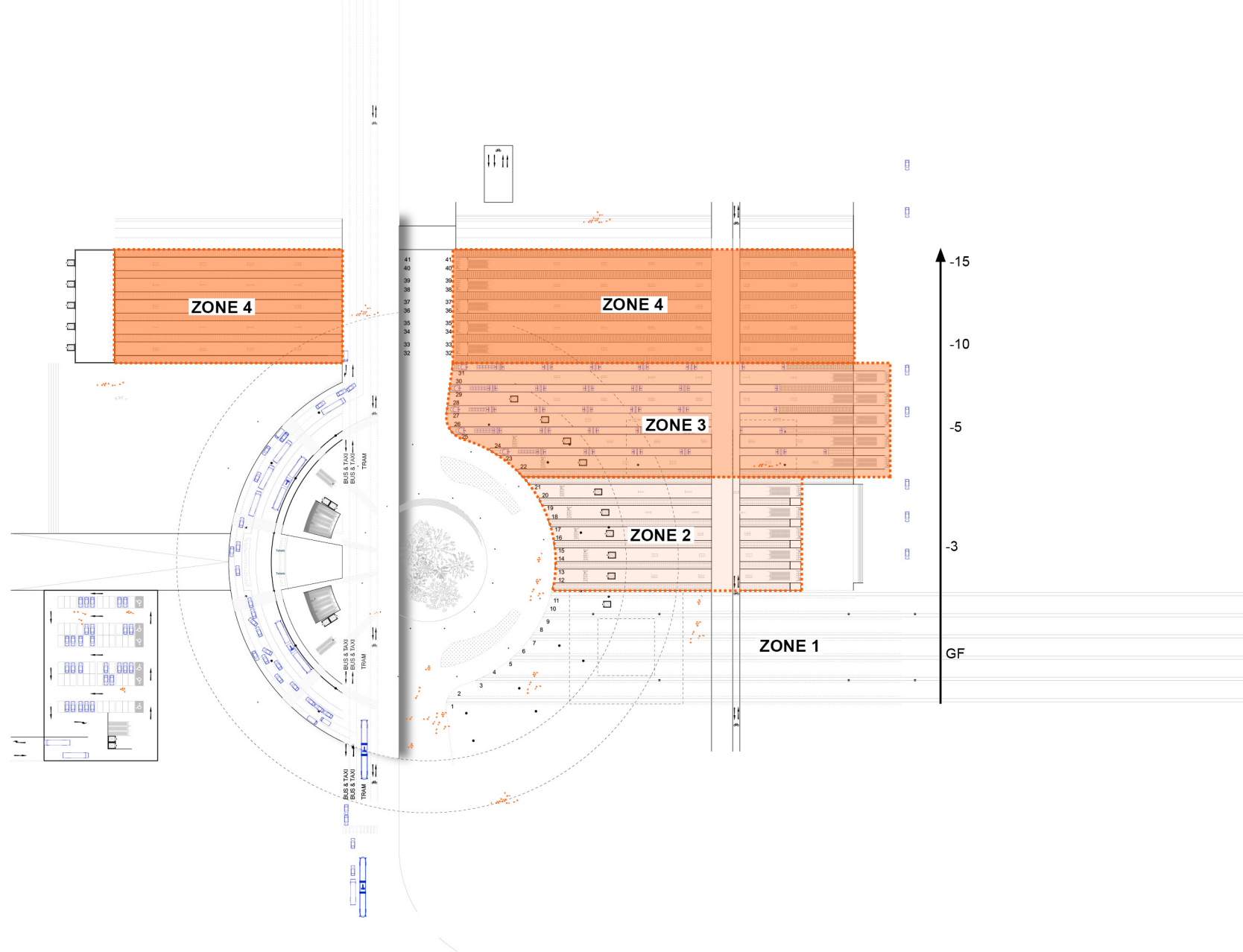
Design  
**THE PLAZA**





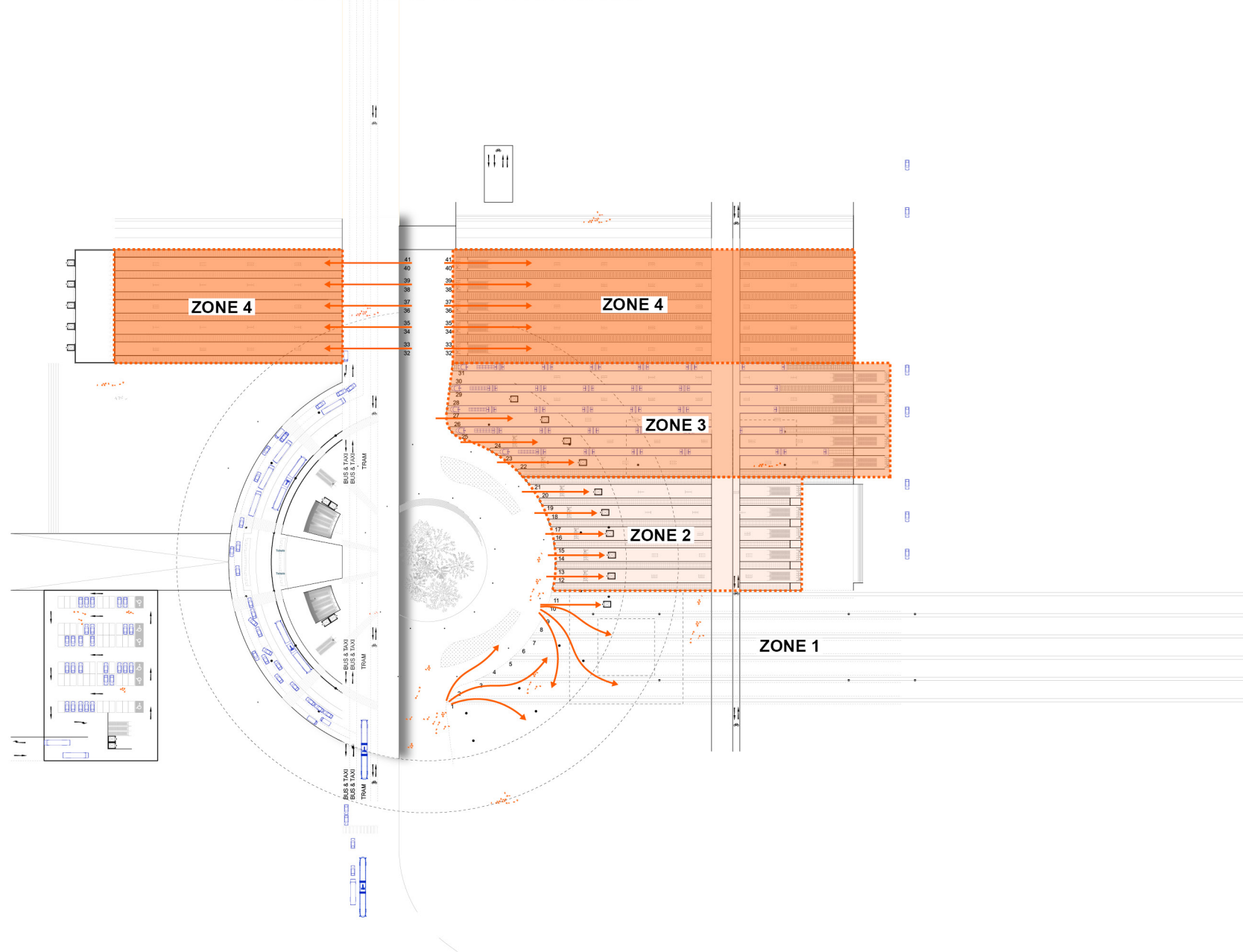
# Design

## TRACKS ZONES



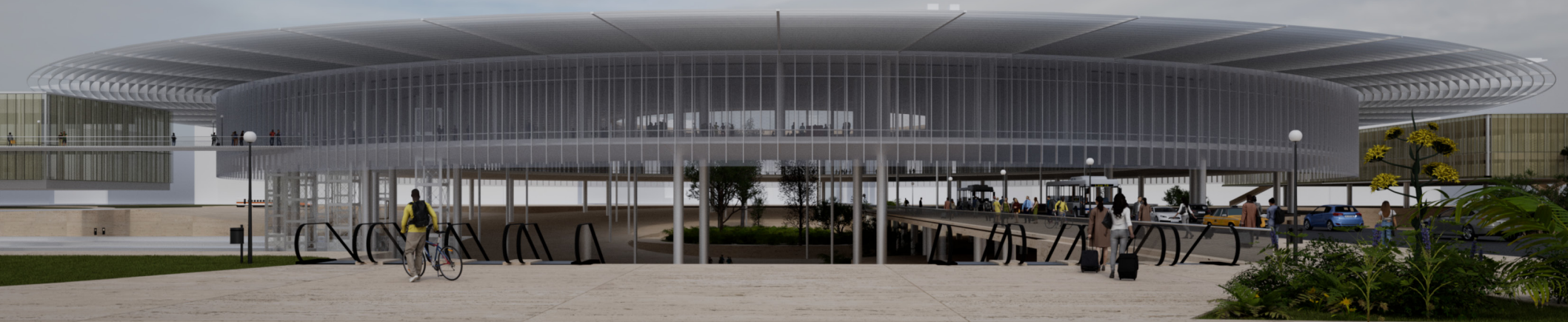
# Design

## ACCESS TO TRACKS

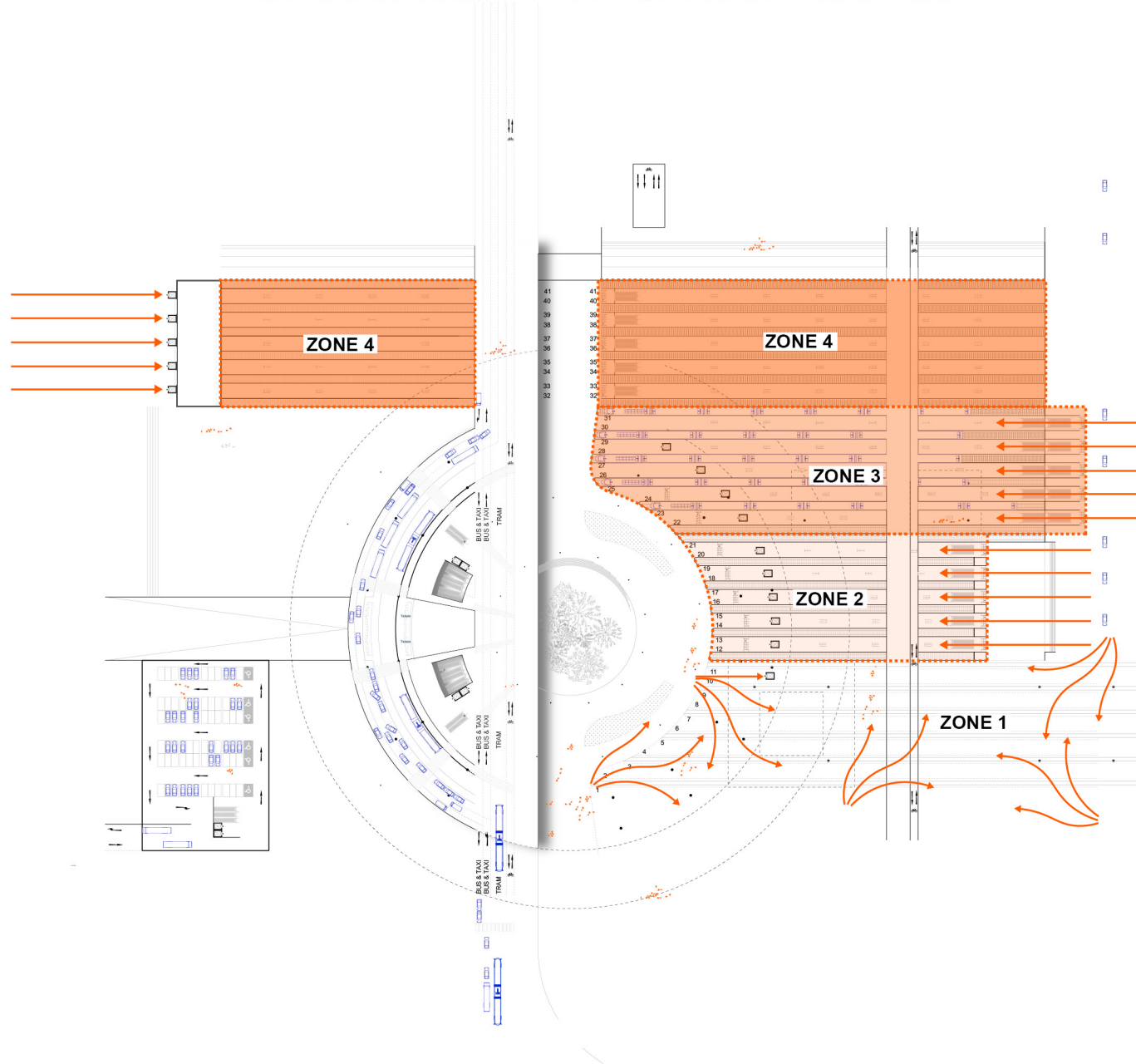


Design

# OUEST ENTRANCE (HIGH-SPEED TRAINS)

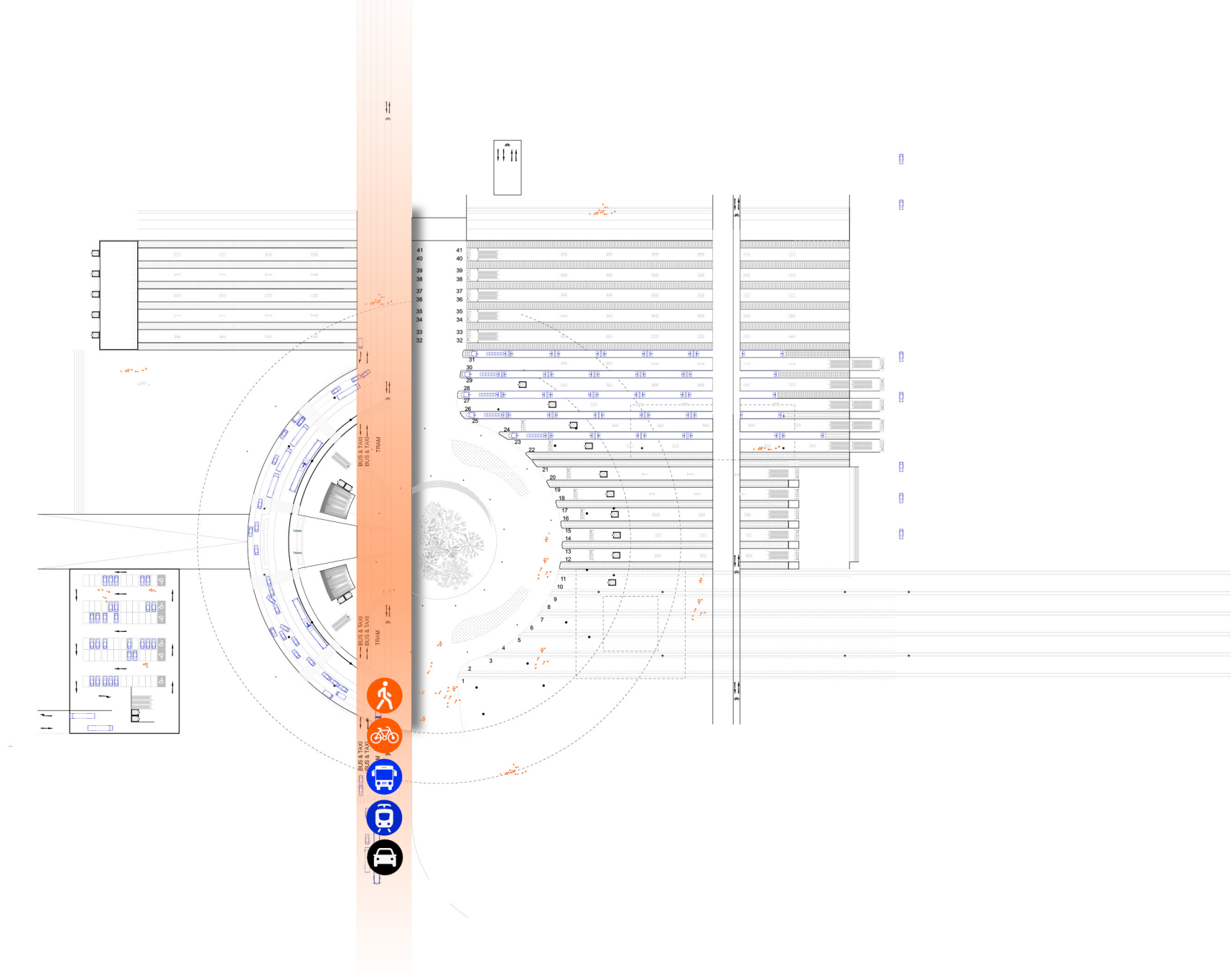


# SECONDARY PEDESTRIAN ACCESS





# Design THE PASSAGE



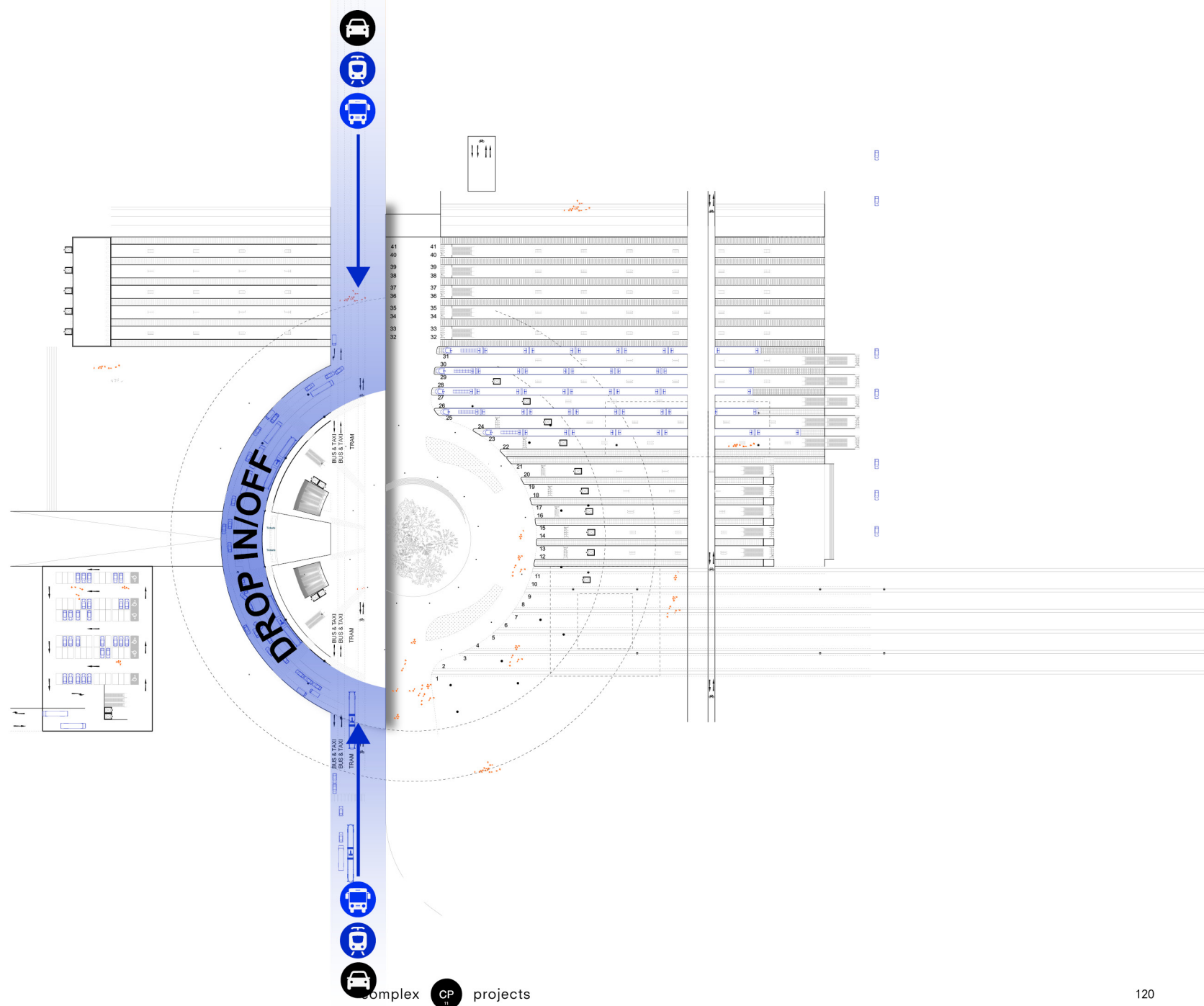


Design  
**PASSAGE**



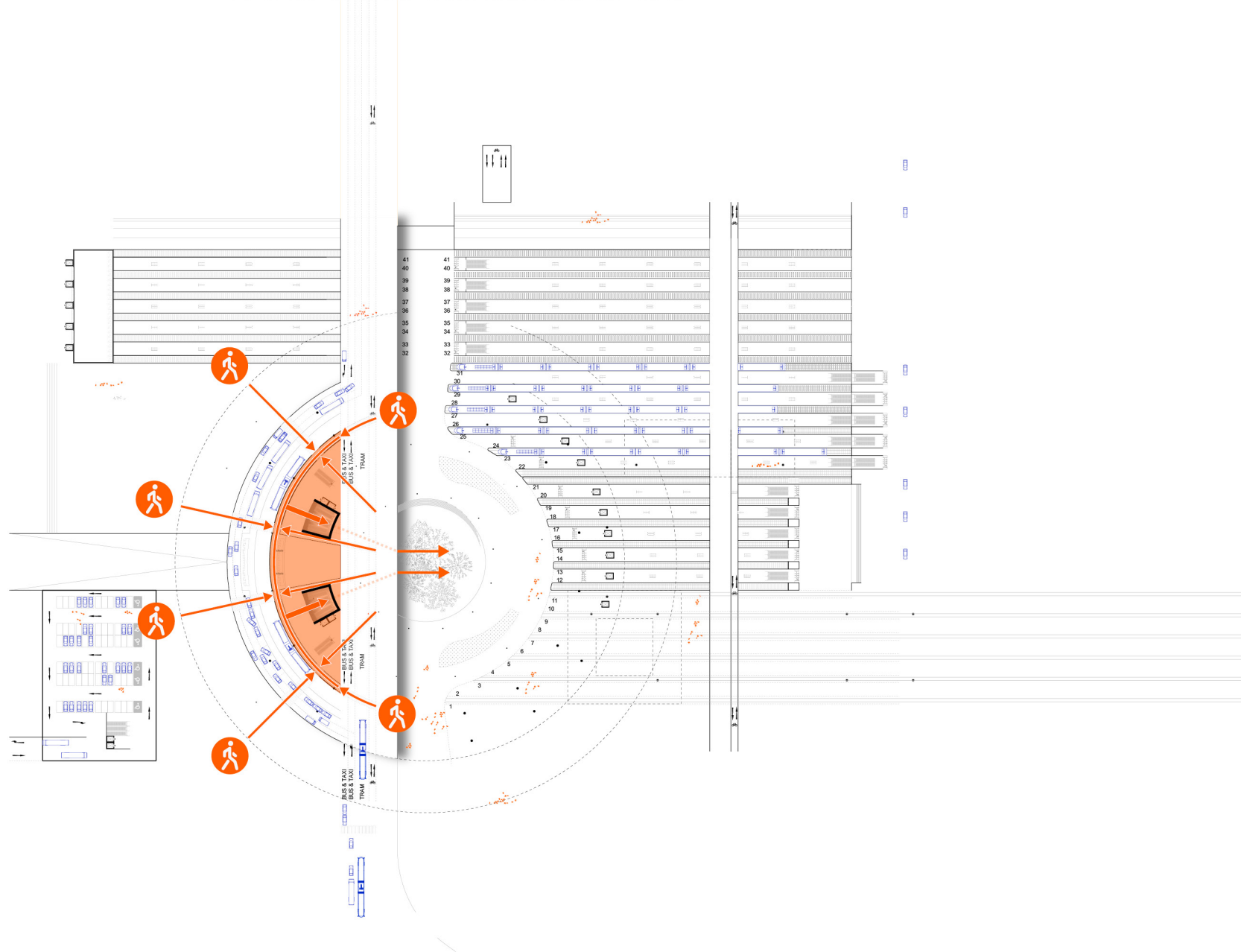


# BUS/TAXI/TRAM ACCESS



# Design

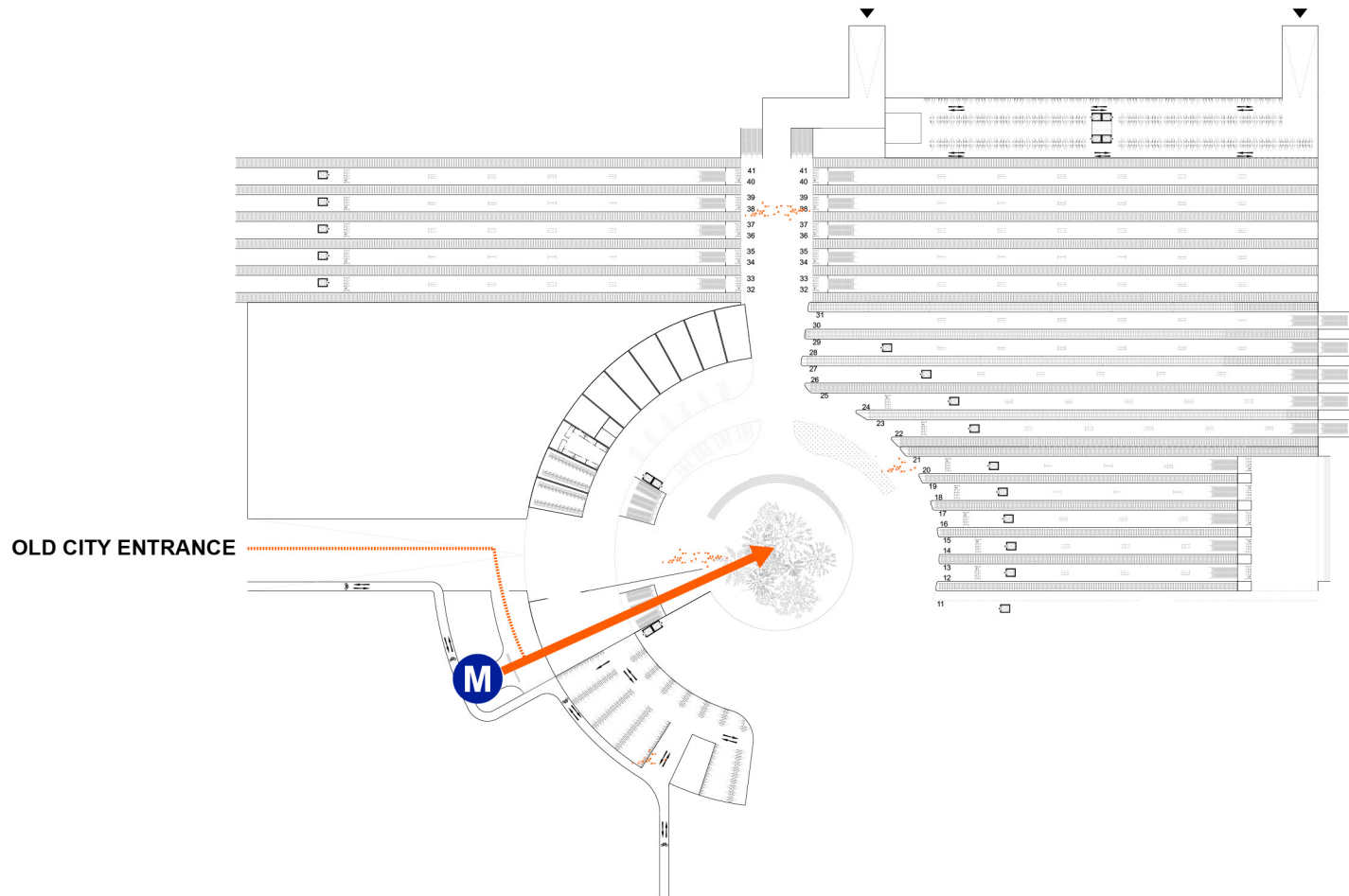
## BUS/TAXI/TRAM ACCESS





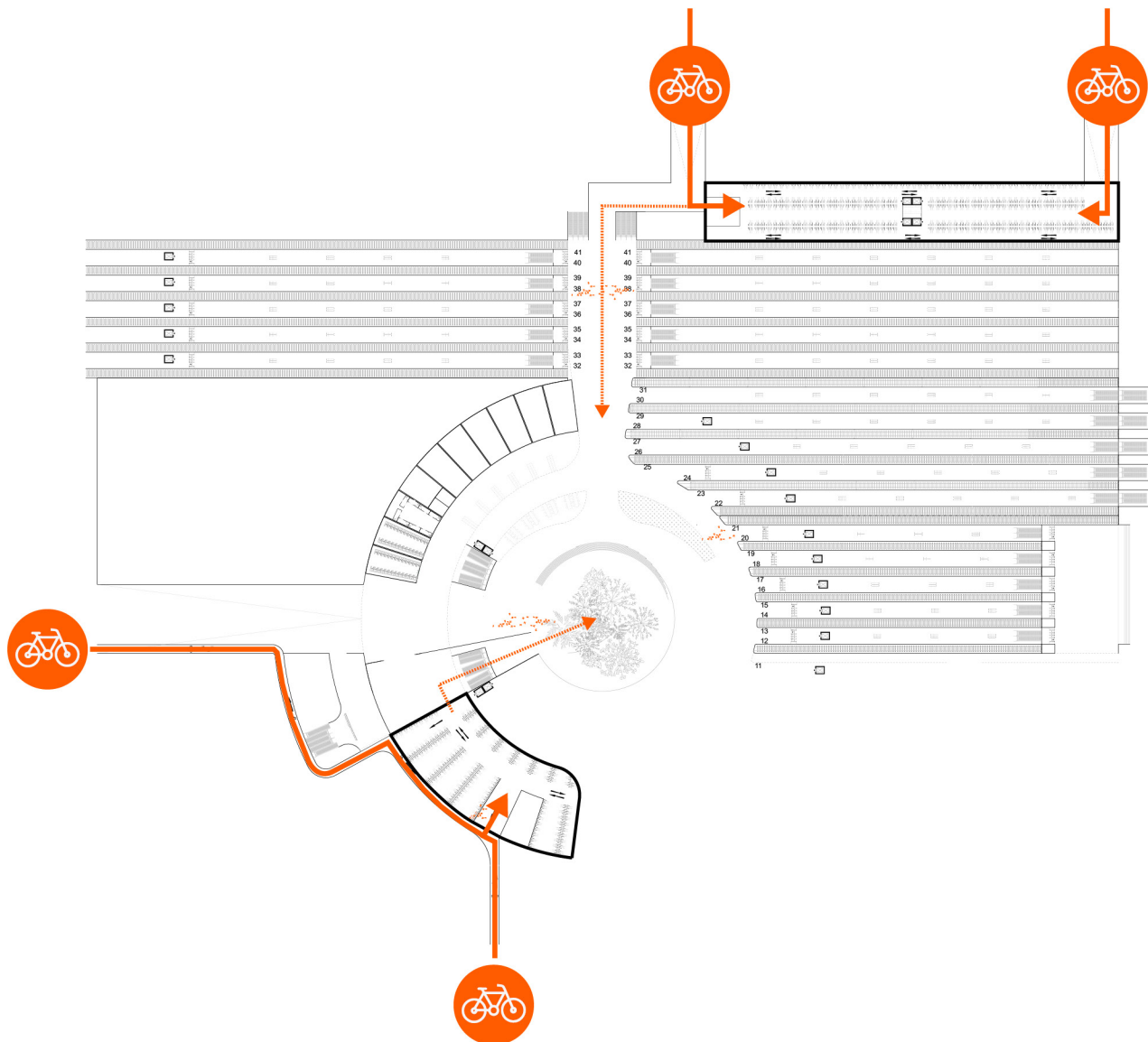
# Design

## METRO ACCESS



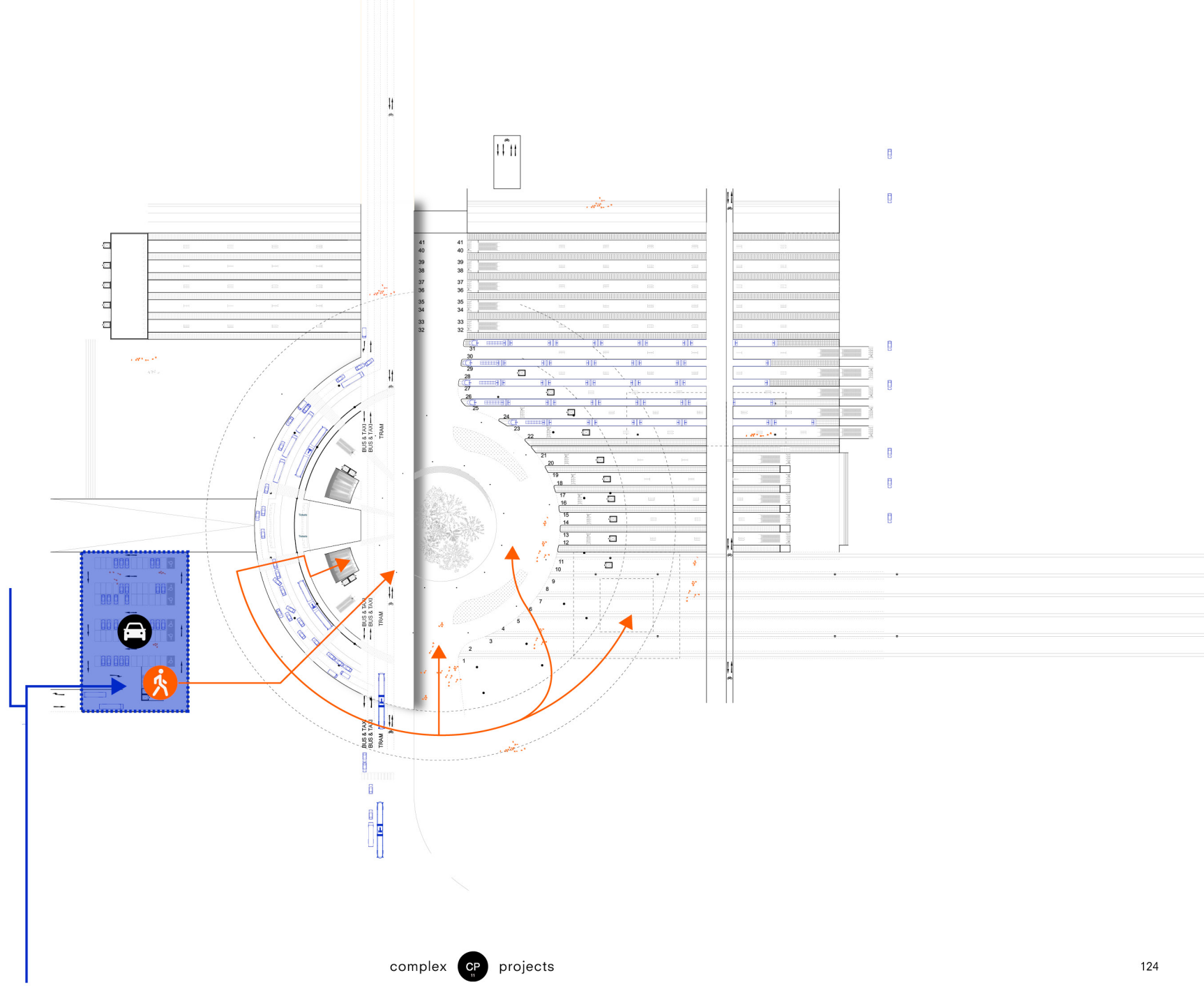
# Design

## BIKE ACCESS

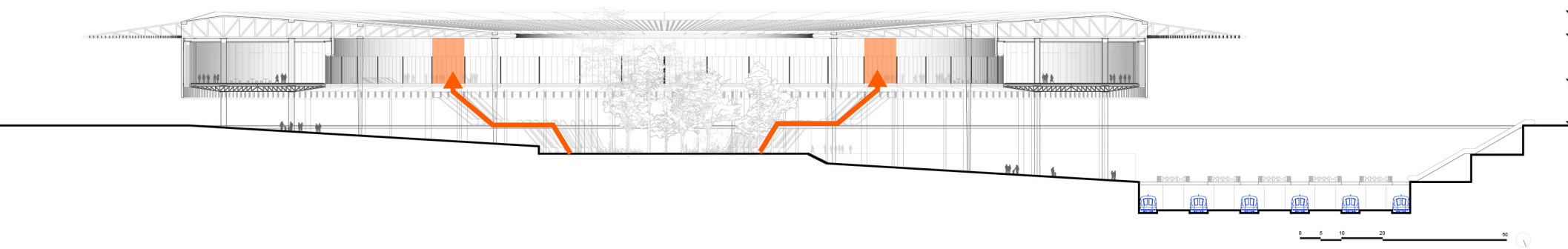


Design

# PRIVATE CAR ACCESS



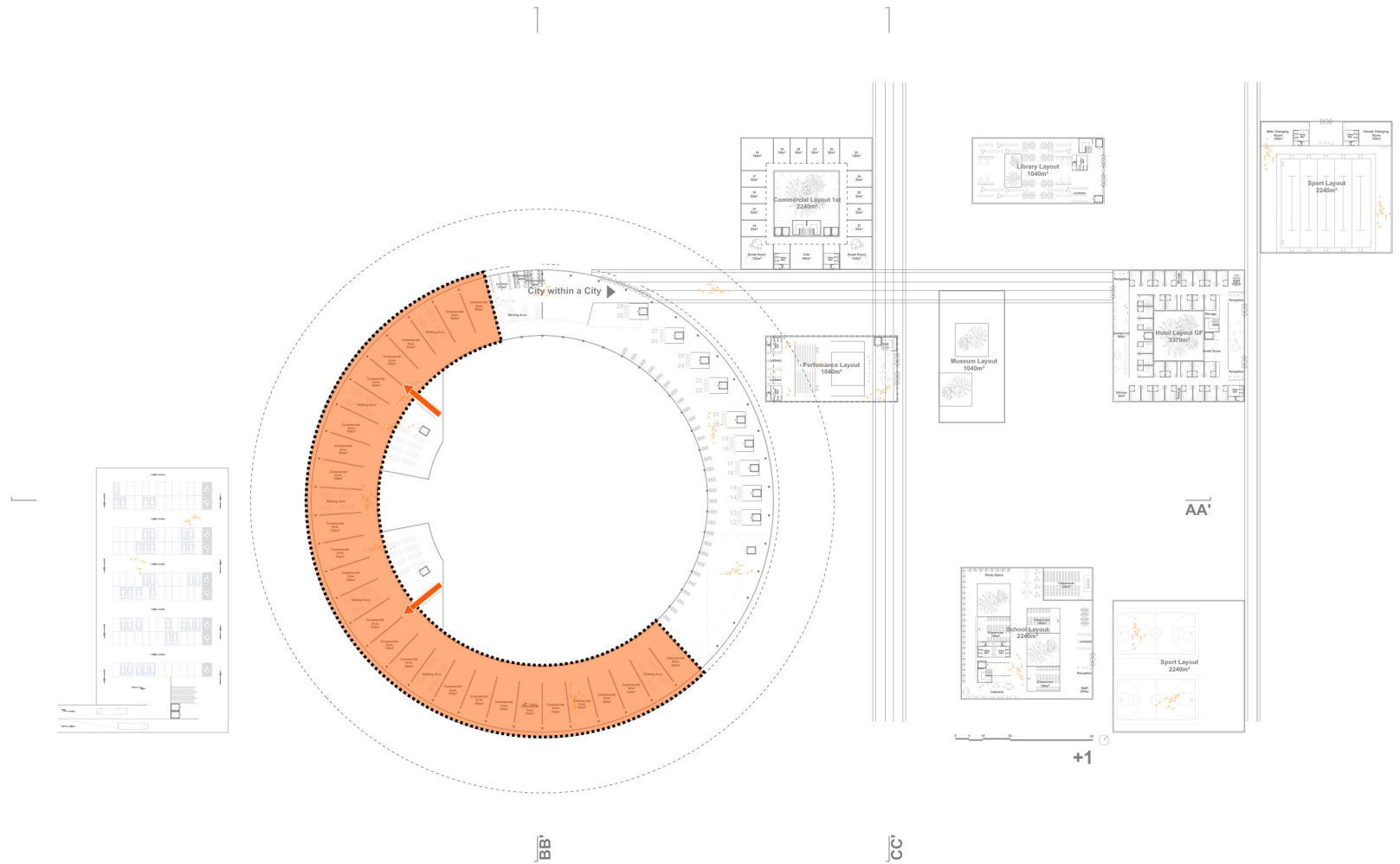
Design  
**1ST FLOOR**



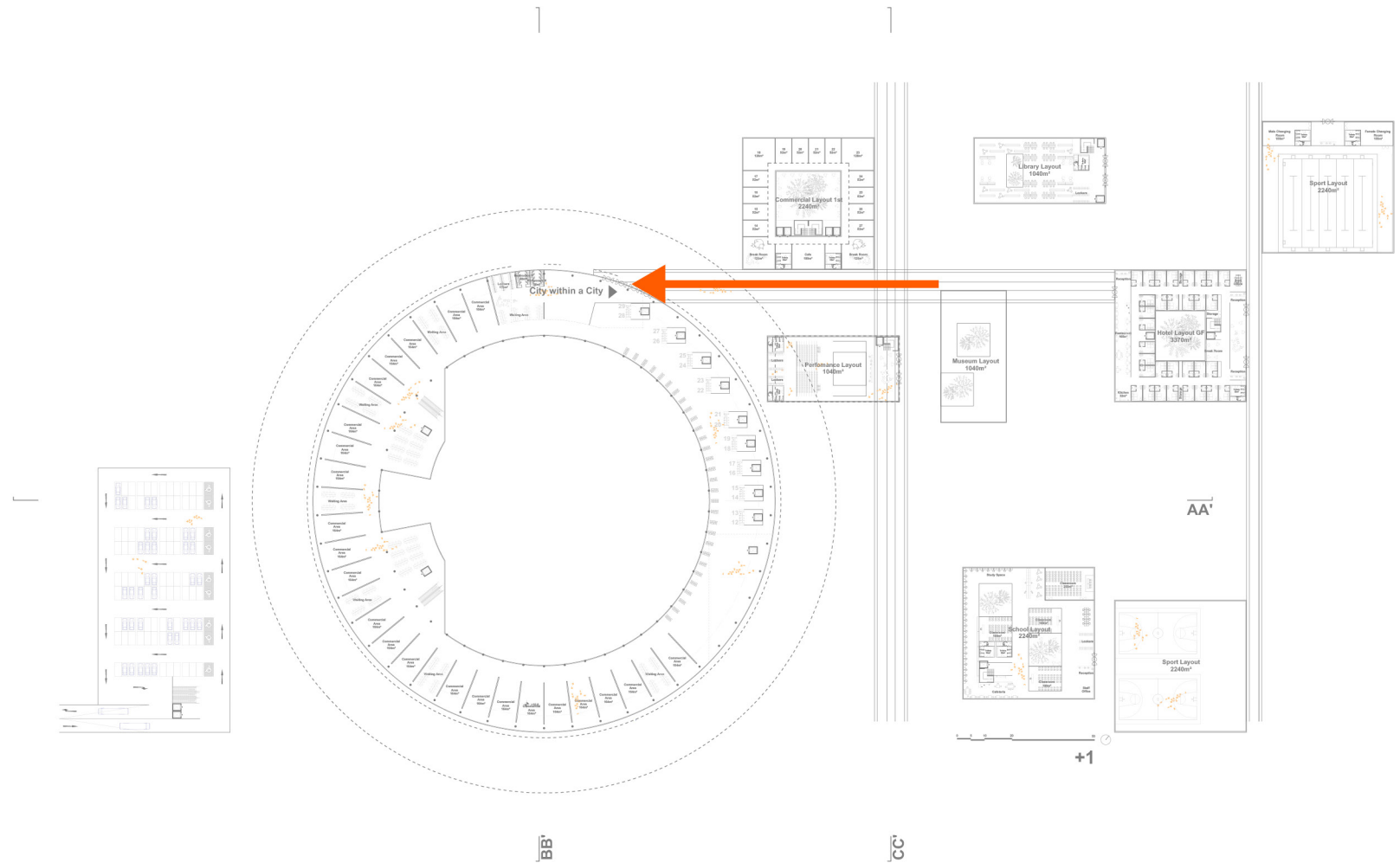


# Design

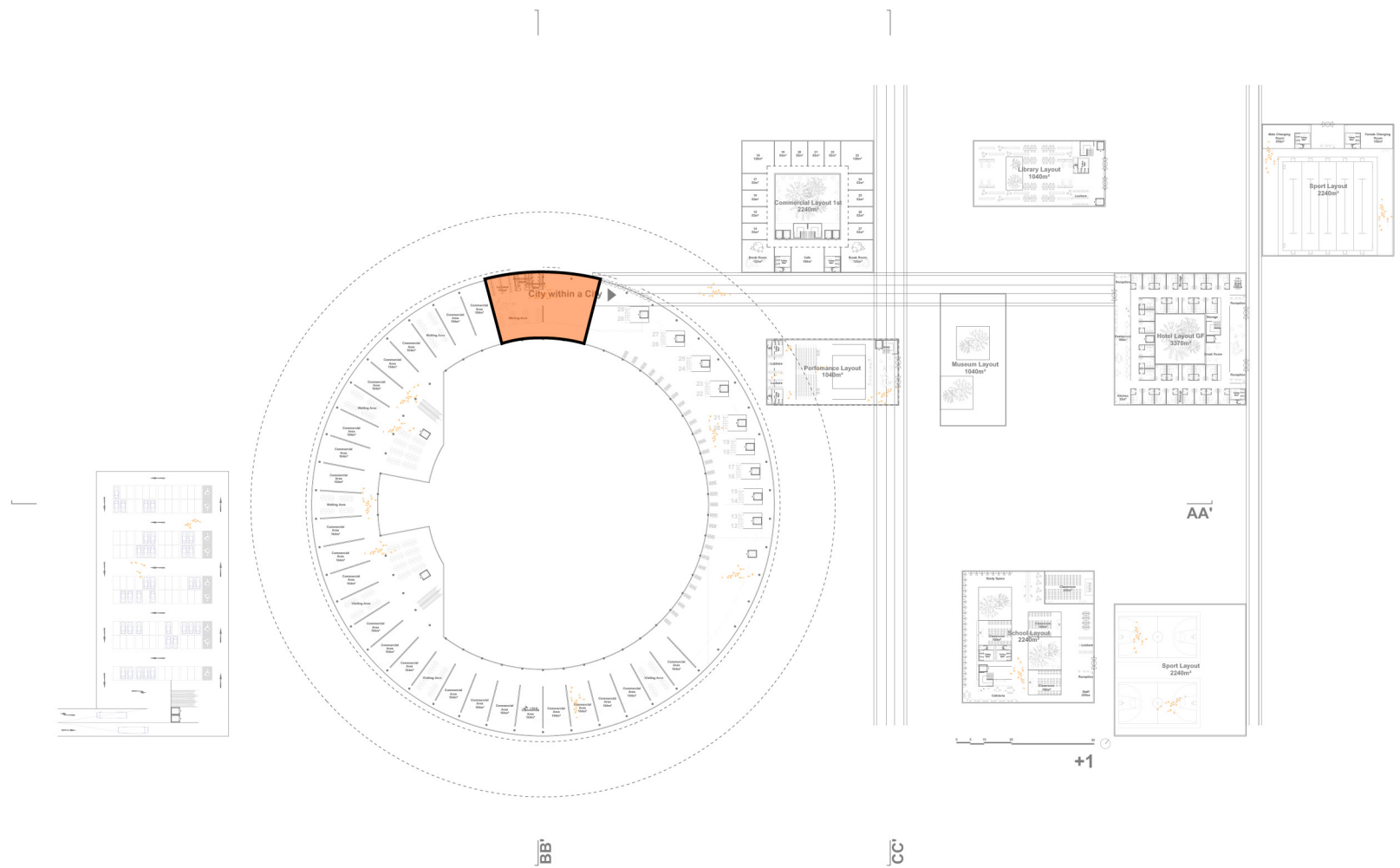
## 1ST FLOOR



# ACCESS FROM 'CITY WITHIN A CITY'

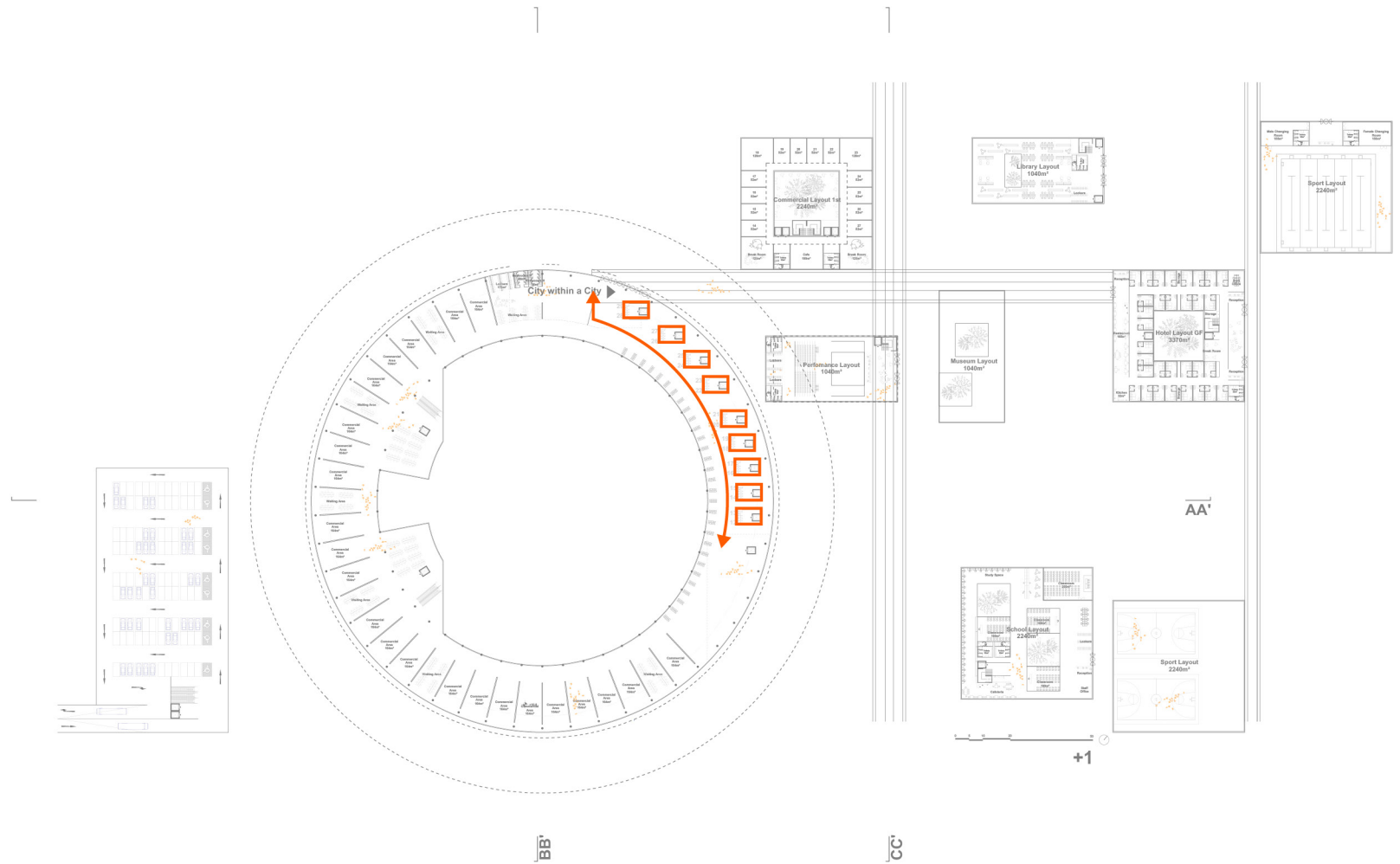


# Design 'CITY WITHIN A CITY'



# Design

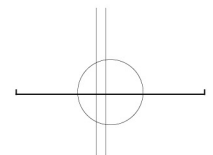
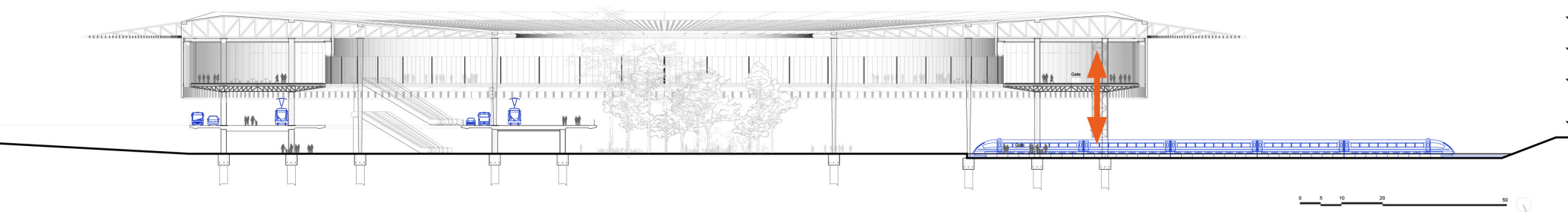
## ACCESS TO TRACKS



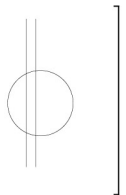
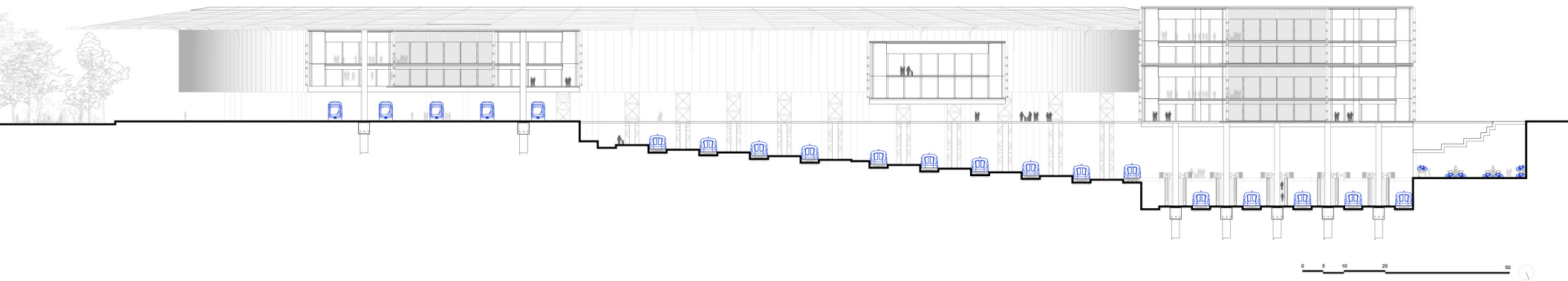


Design

# ACCESS TO TRACKS

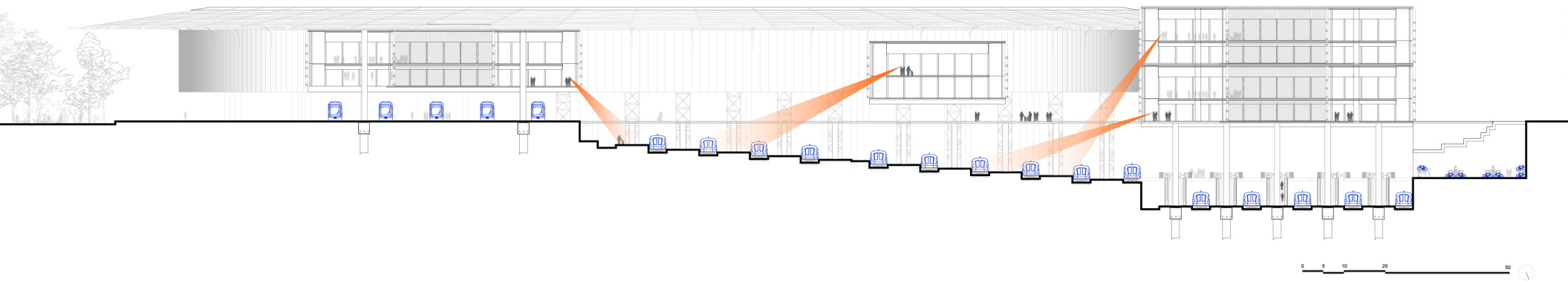


Design  
**'CITY WITHIN A CITY'**



Design

# 'CITY WITHIN A CITY'





Design  
'CITY WITHIN A CITY'





Design  
**'CITY WITHIN A CITY'**





Design  
'CITY WITHIN A CITY'



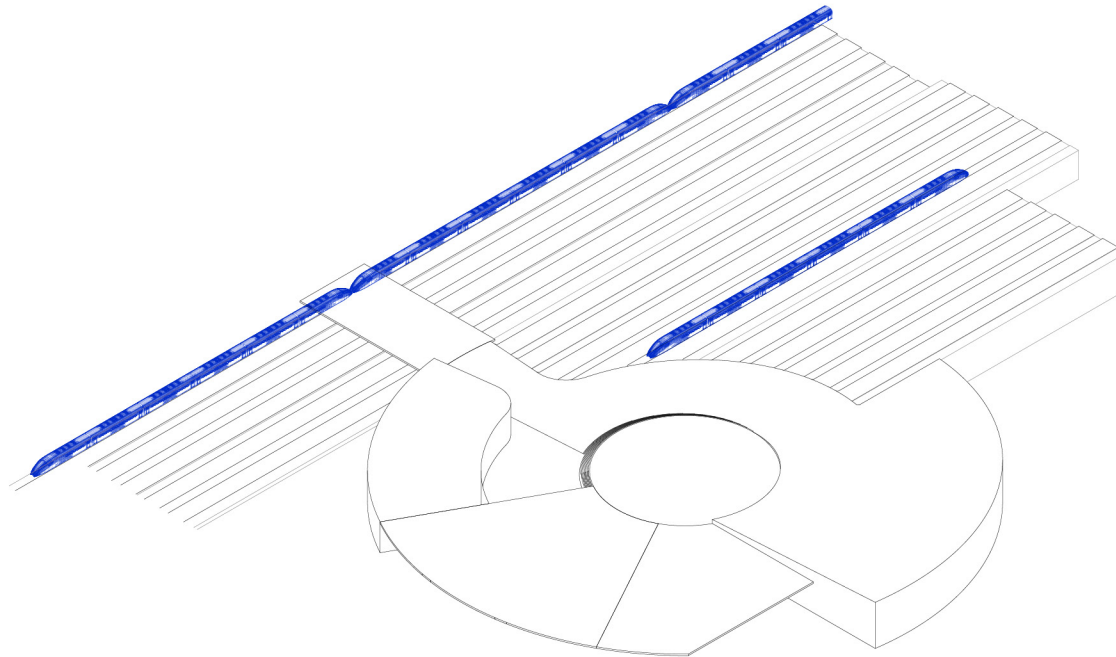
Design

# STRUCTURE



Design

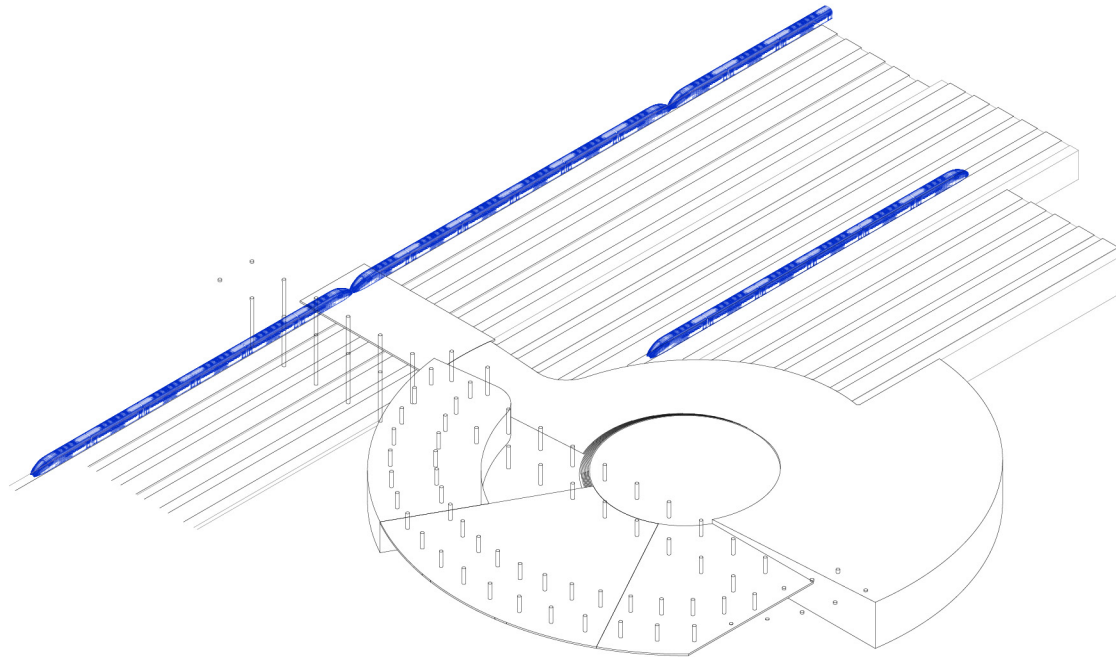
# FOUNDATION CORE





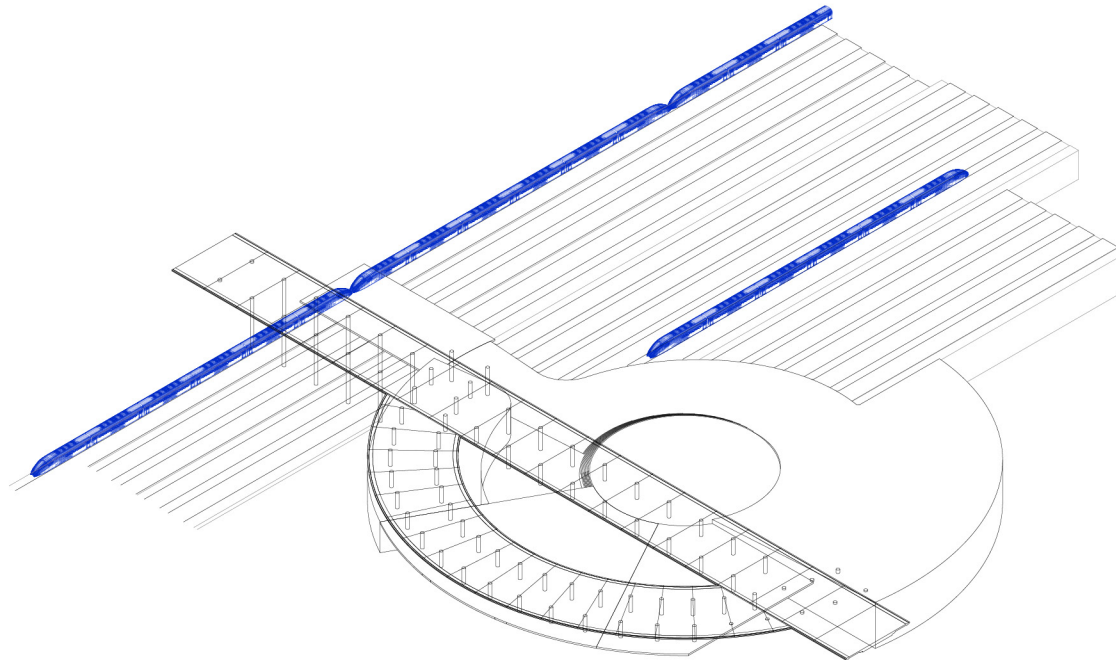
Design

# CONCRETE COLUMNS



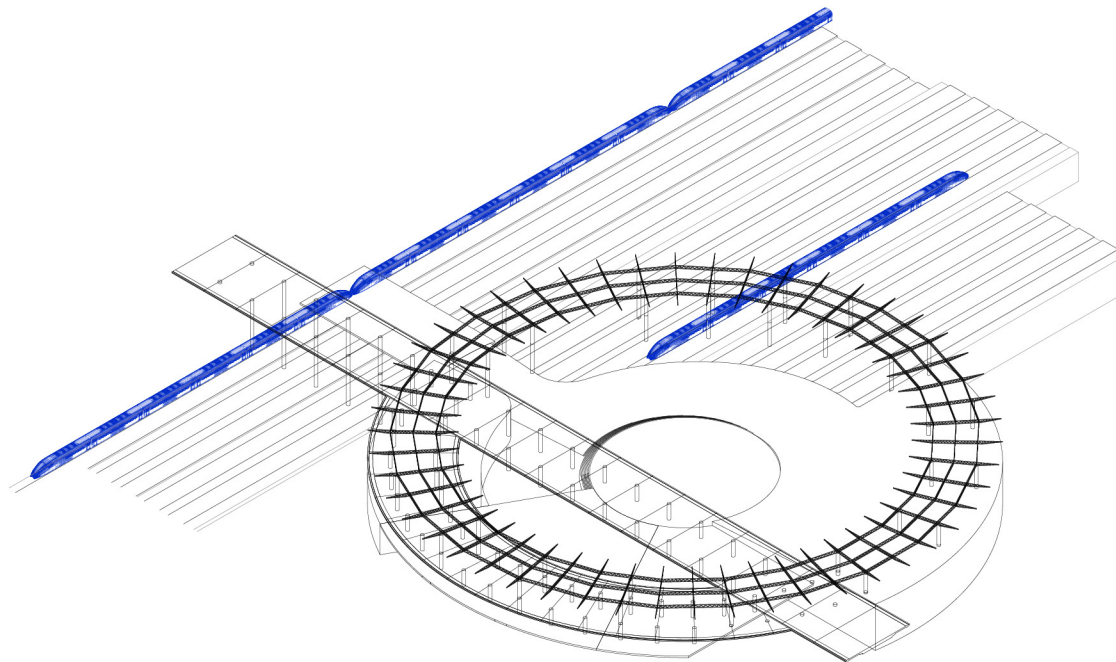
Design

# CONCRETE PANEL



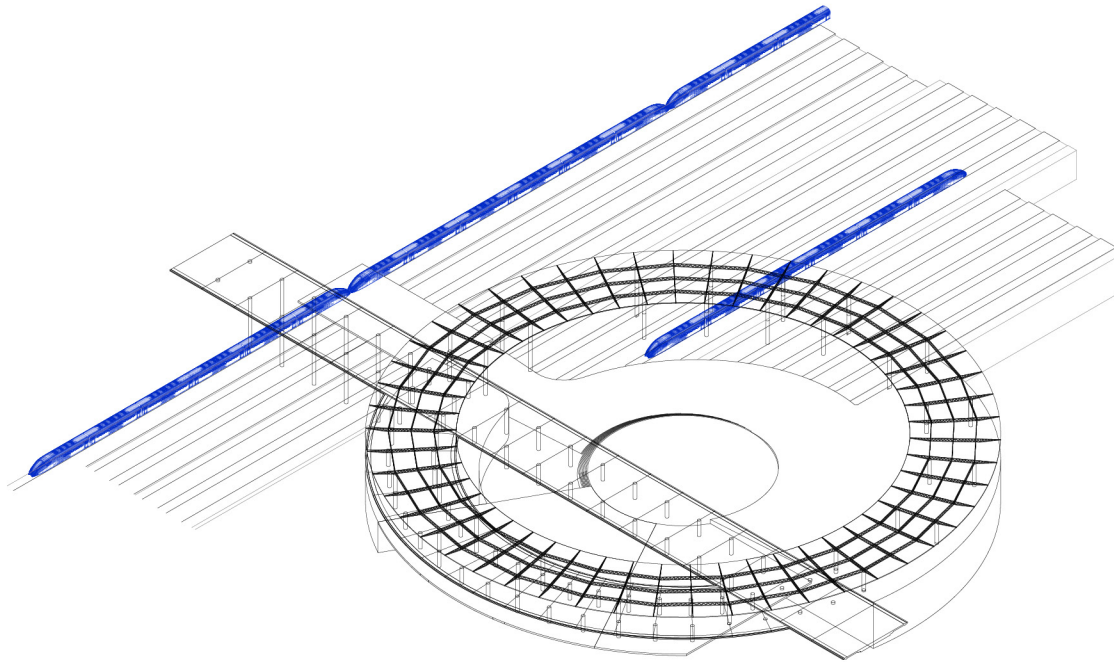
Design

# STEEL COLUMN/TRUSS



Design

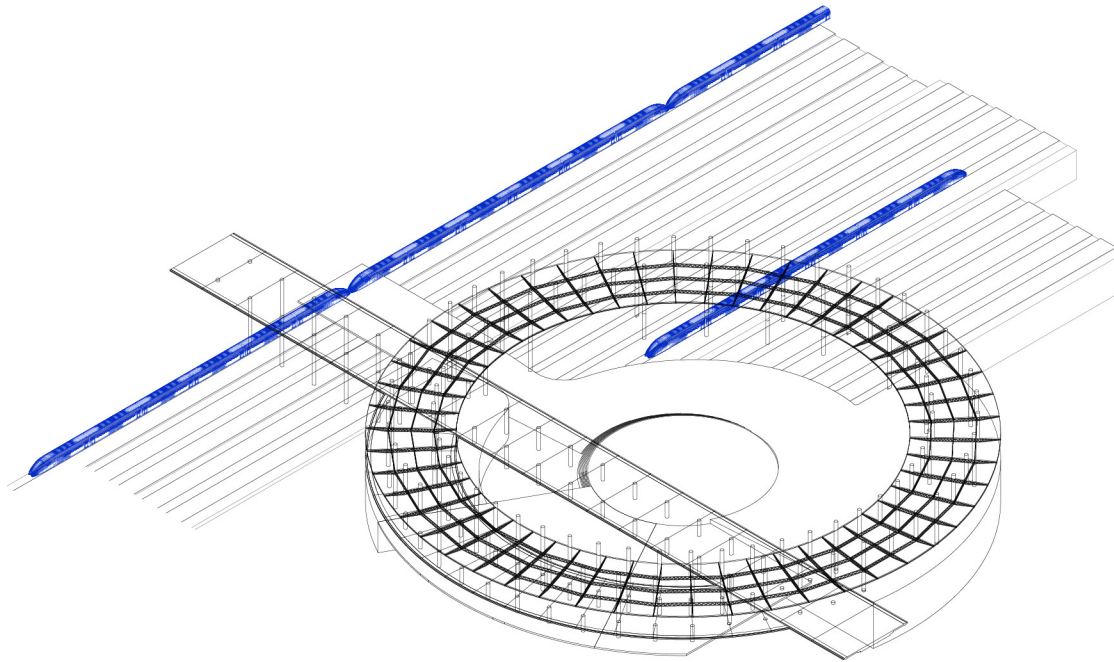
# CONCRETE SLAB



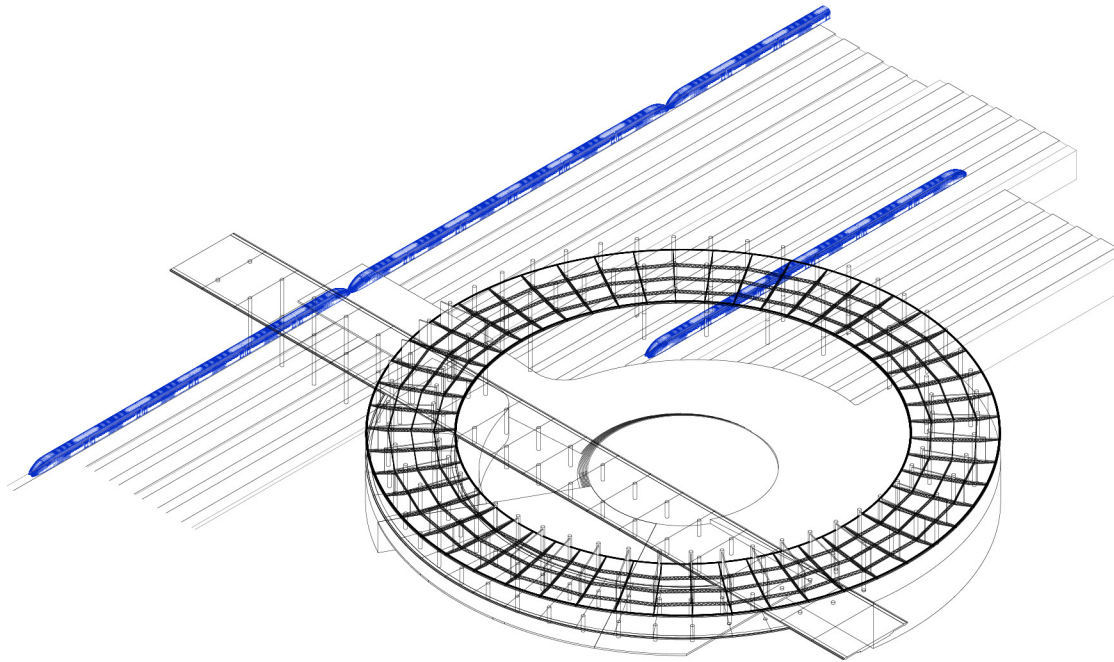


Design

# STEEL COLUMN

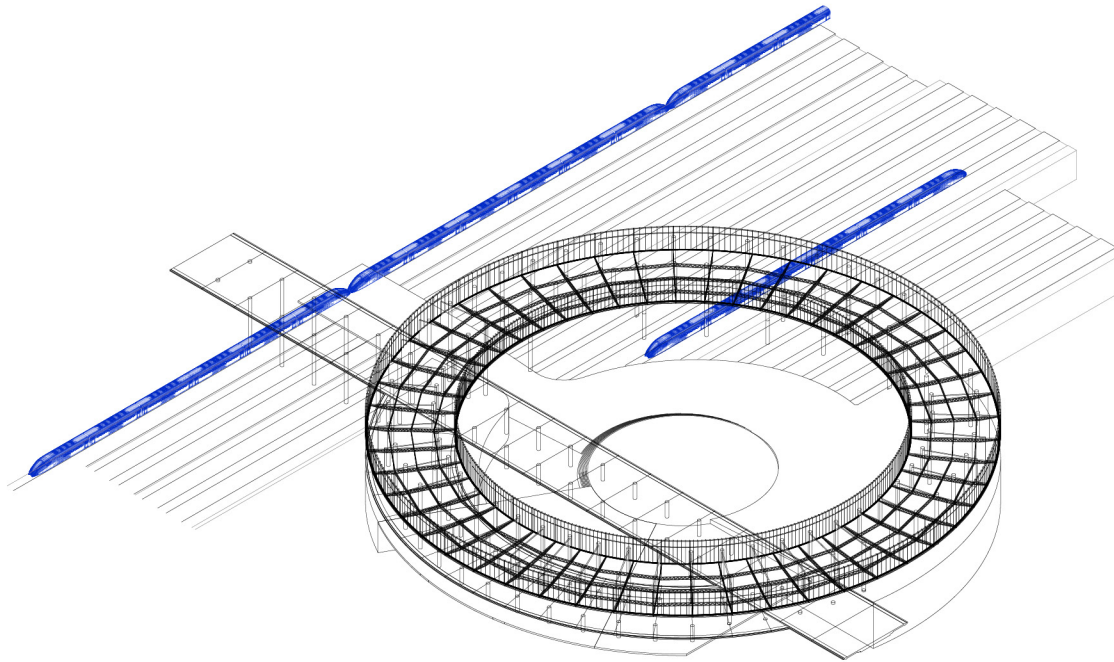


Design  
**FLOORING**



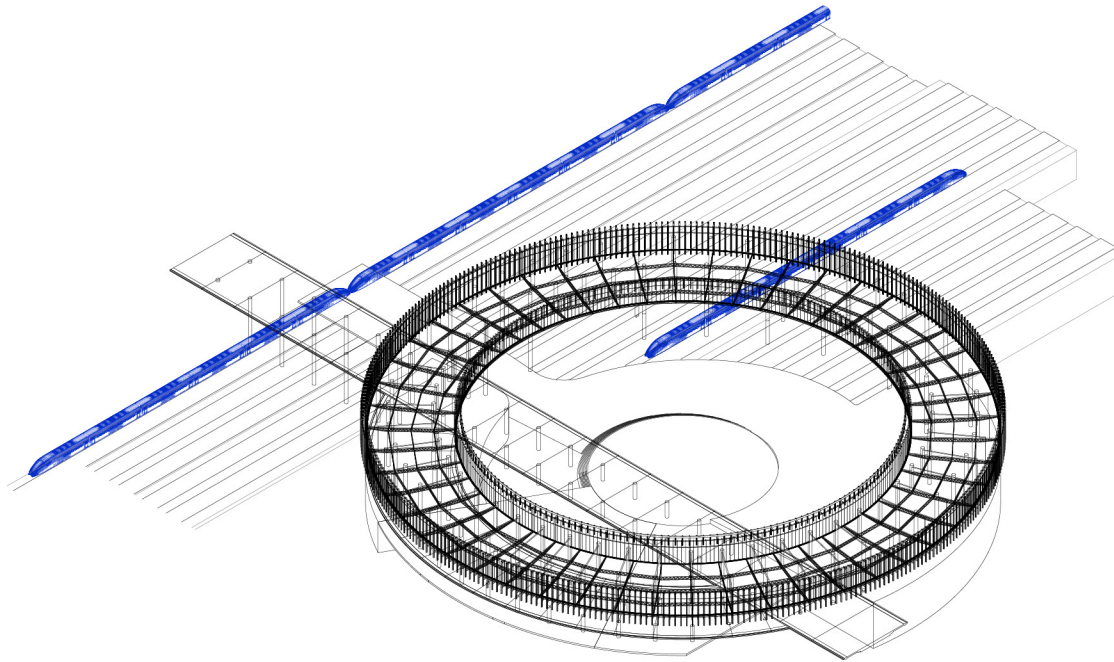
Design

# MULIONS & WINDOWS



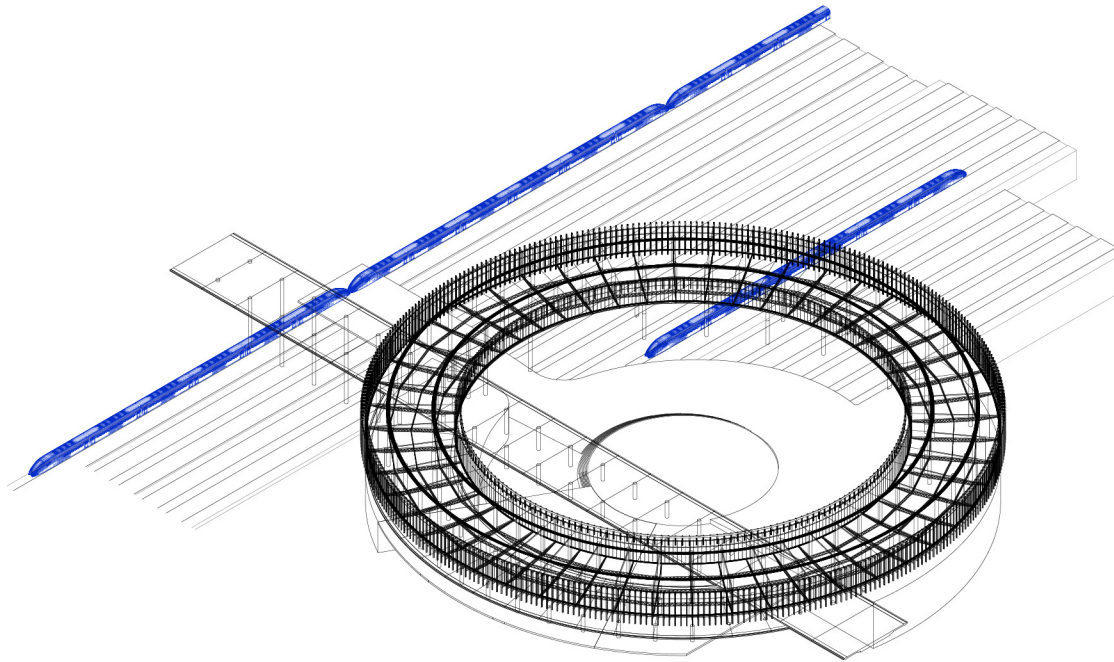
Design

# MESH FACADE



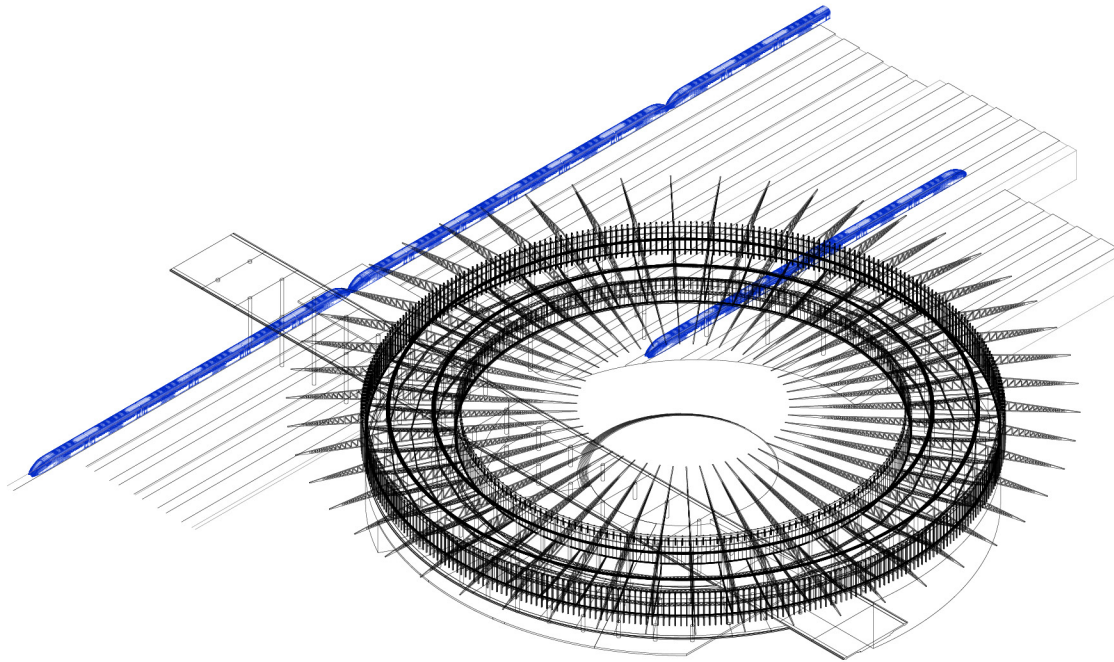


Design  
**CEILING**



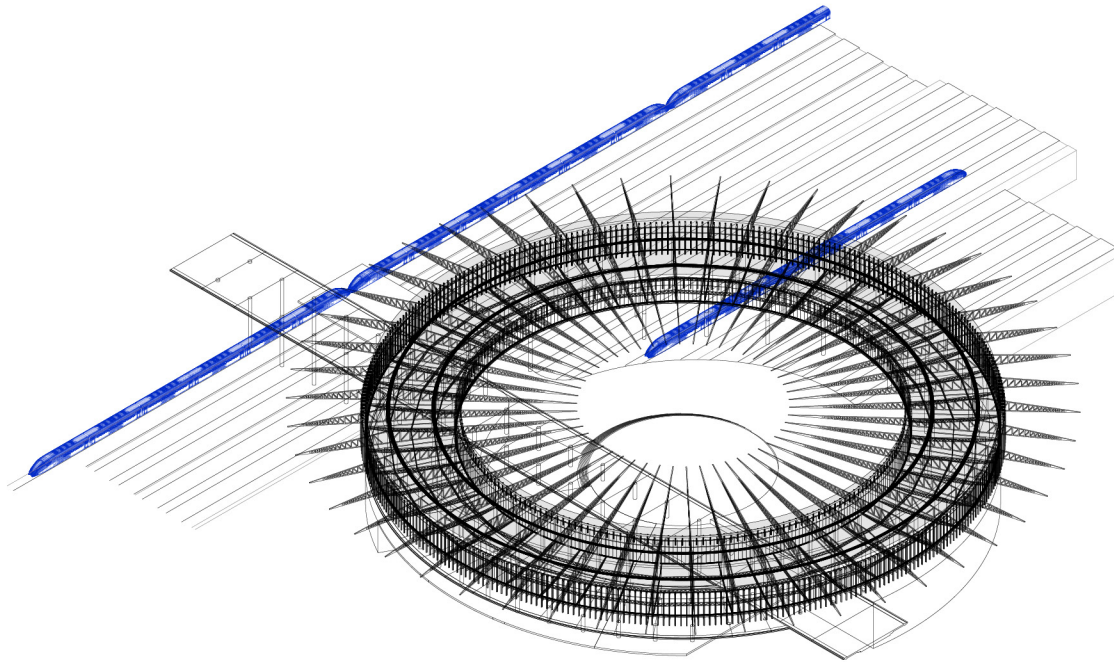
Design

# ROOF TRUSS



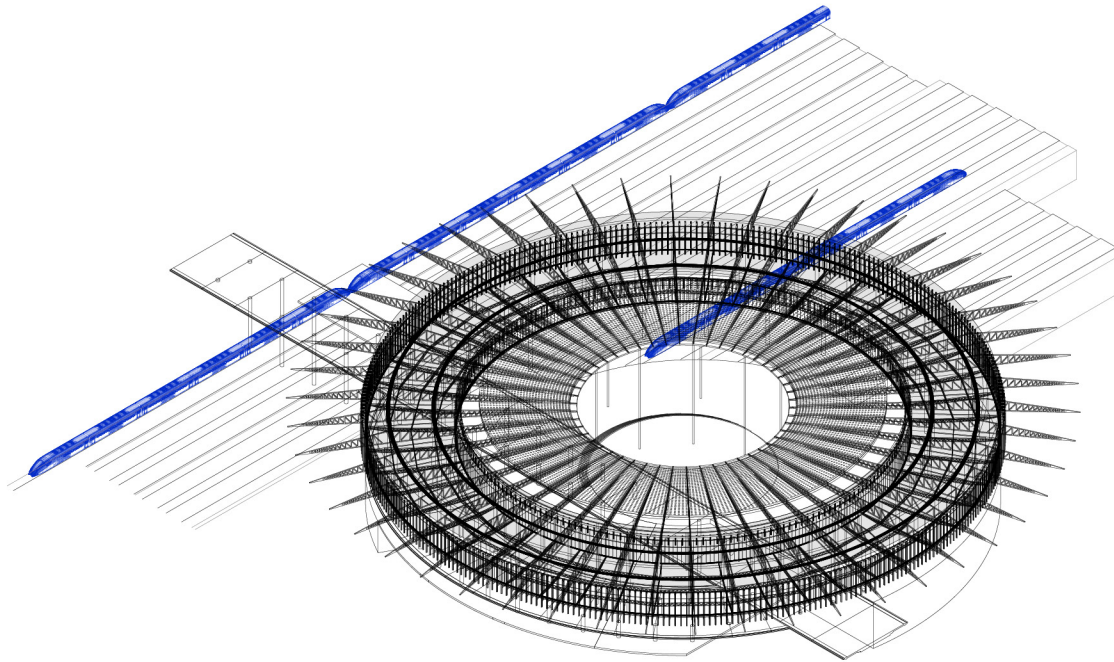
Design

# SEALED ROOF



Design

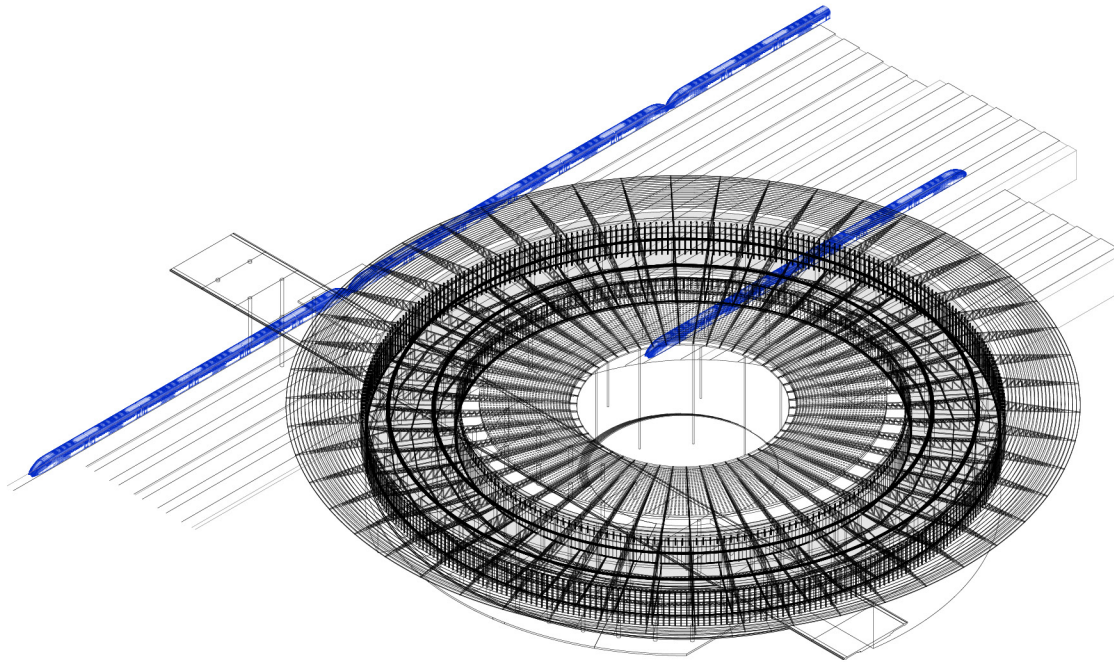
# INNER PERFORATED ROOF



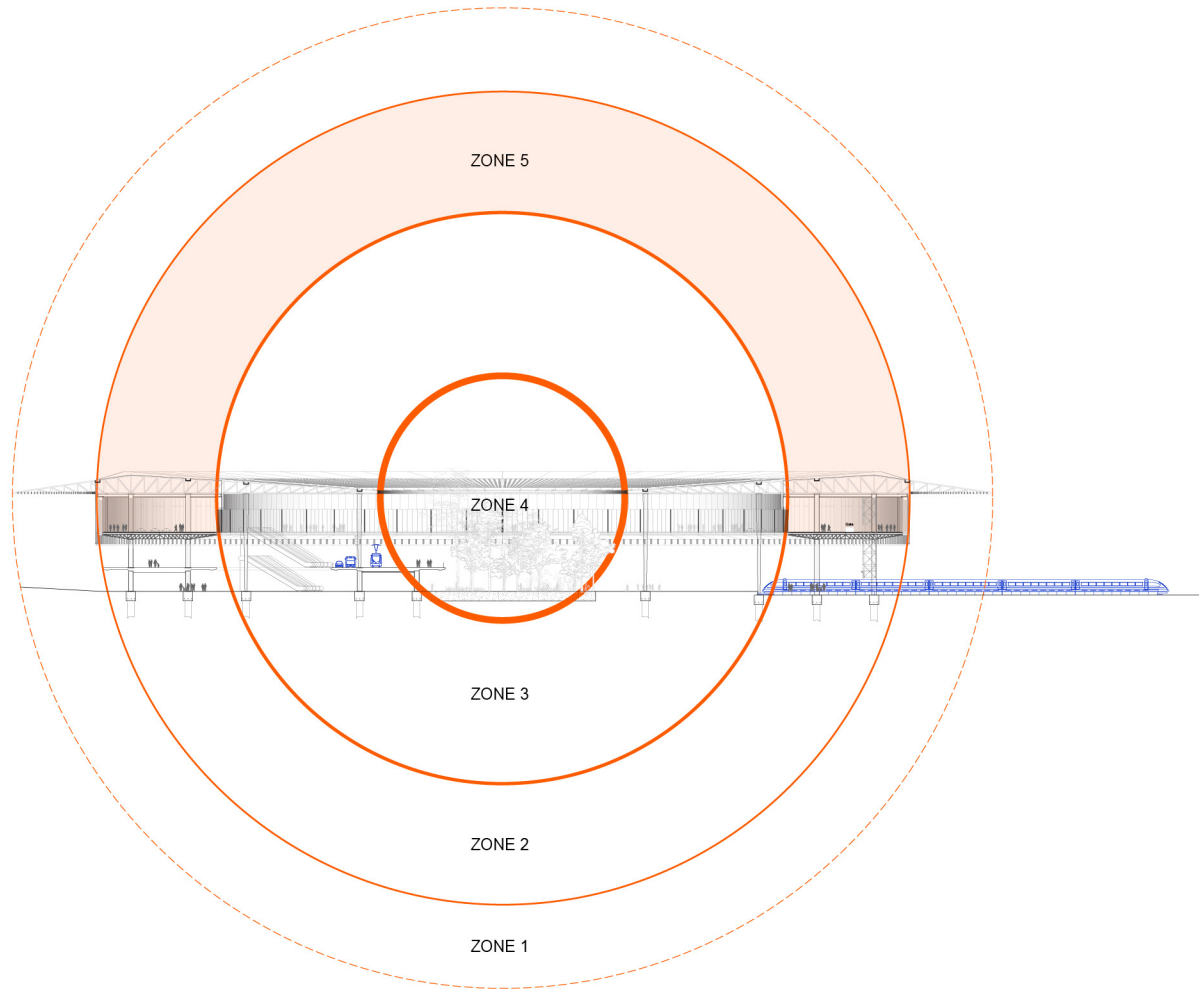


Design

# ROOF LOUVERS

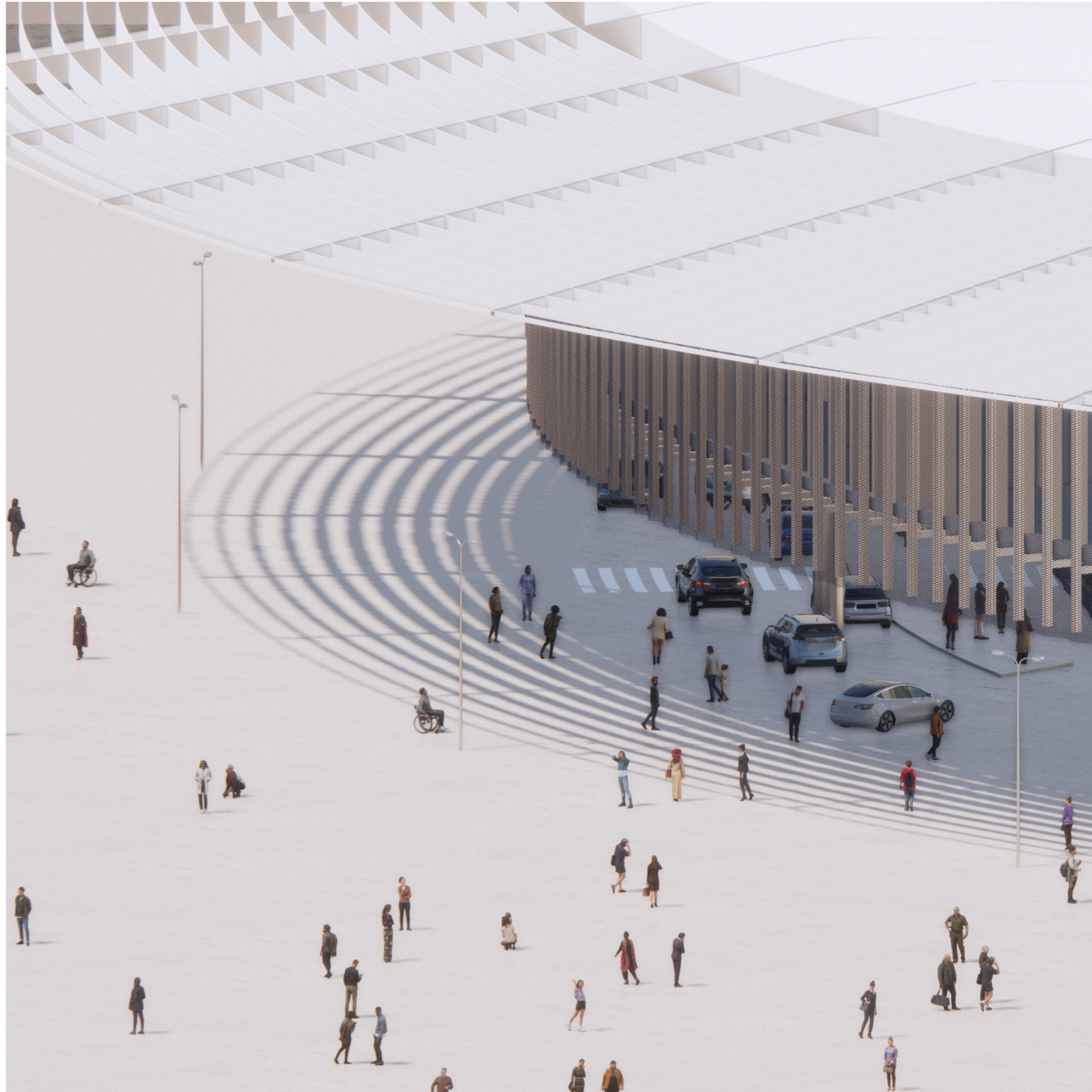


# CLIMATE/ATMOSPHERE & FACADE ZONES



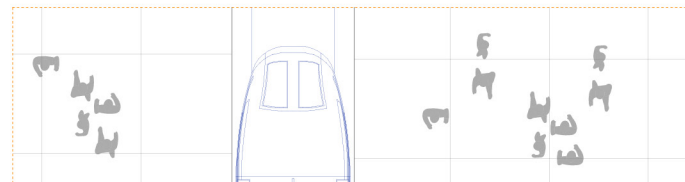
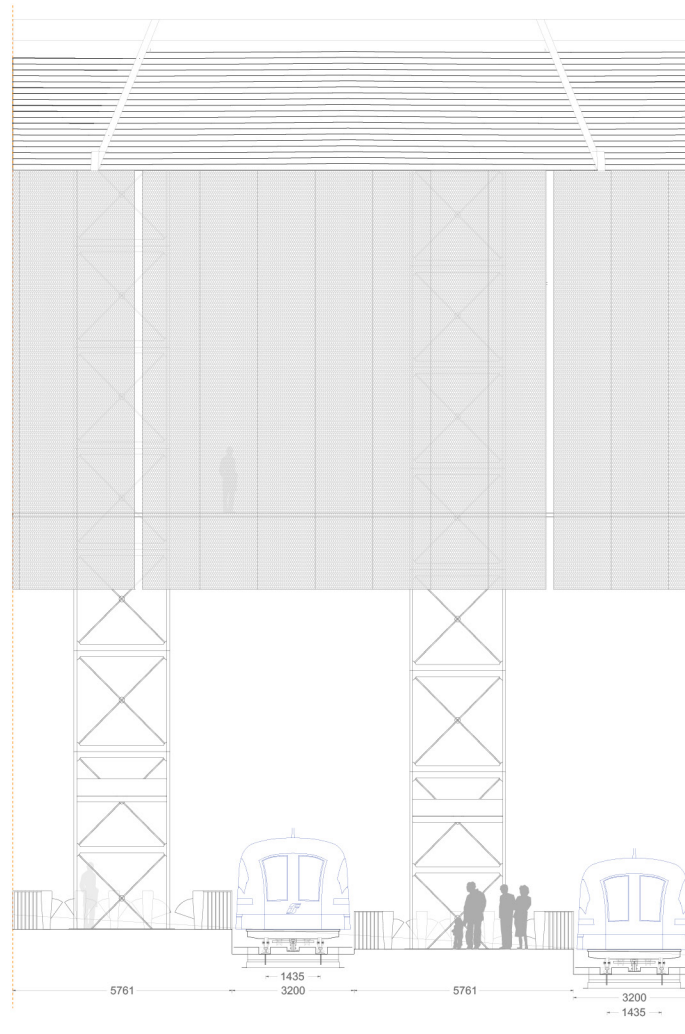
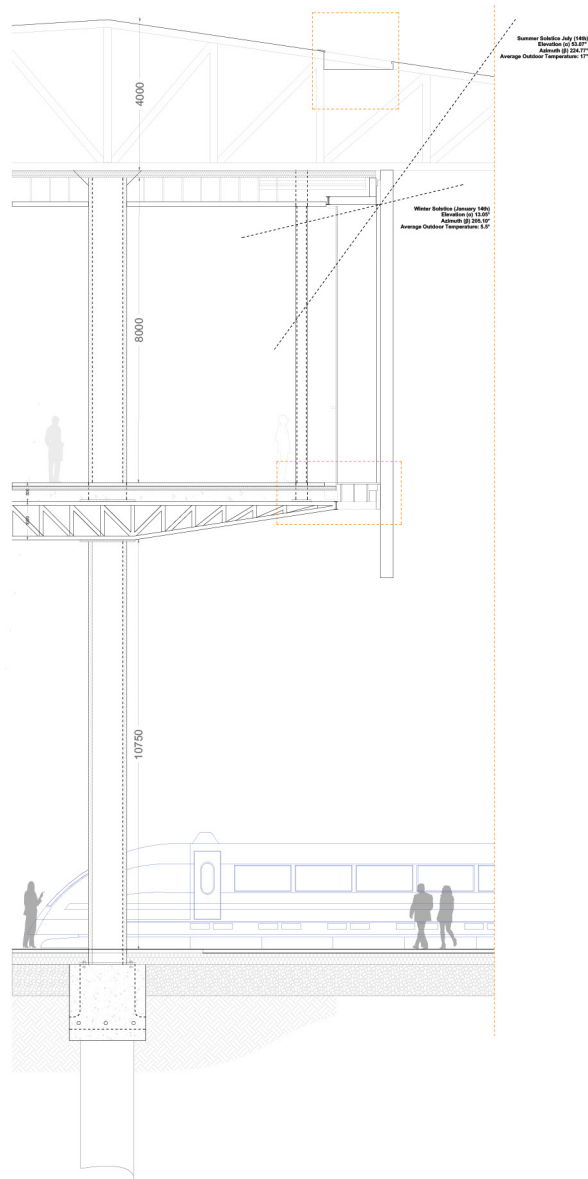
Design

## ZONE 1: TRANSITION



# Design

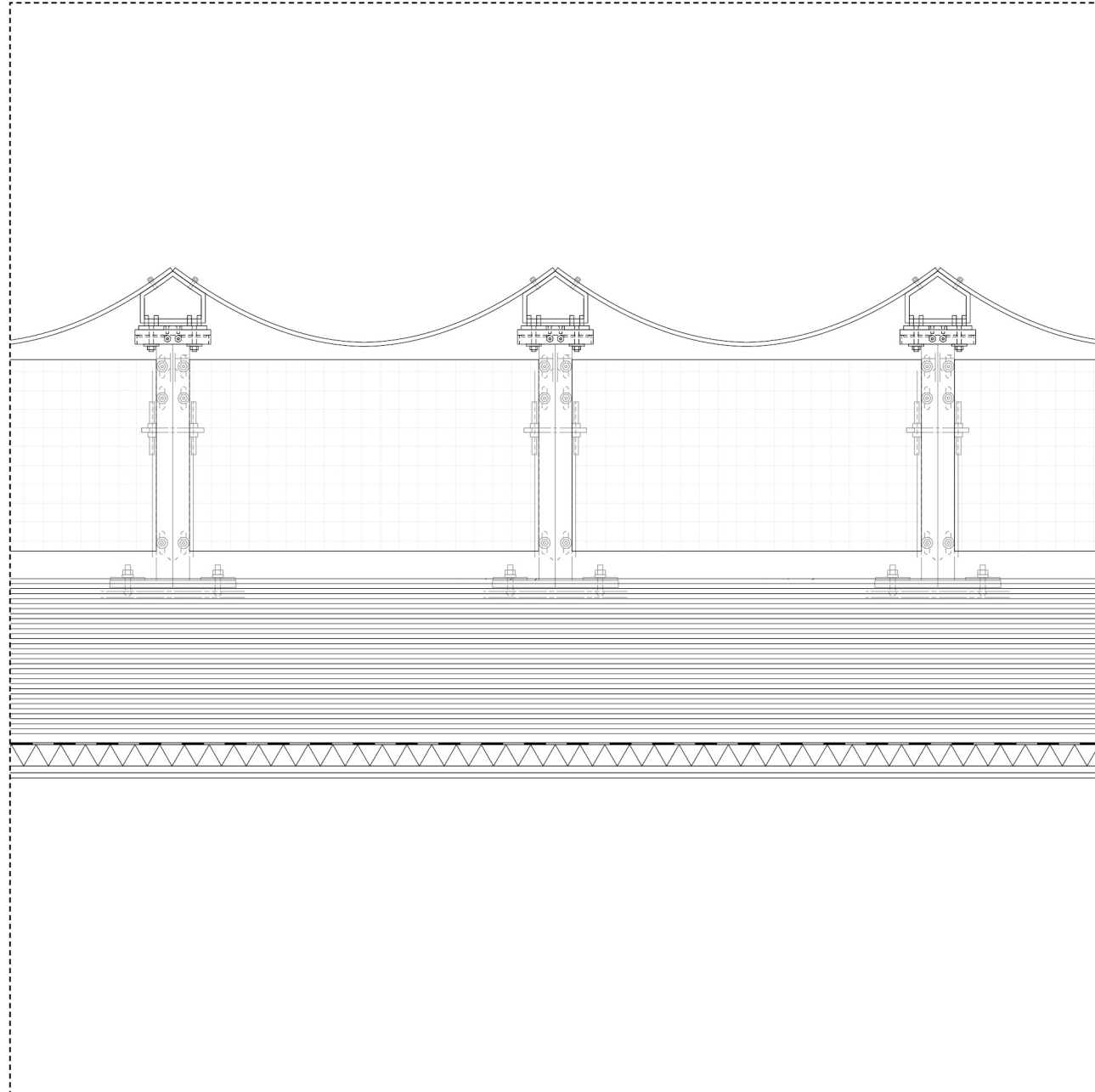
## FACADE FRAGMENT





Design

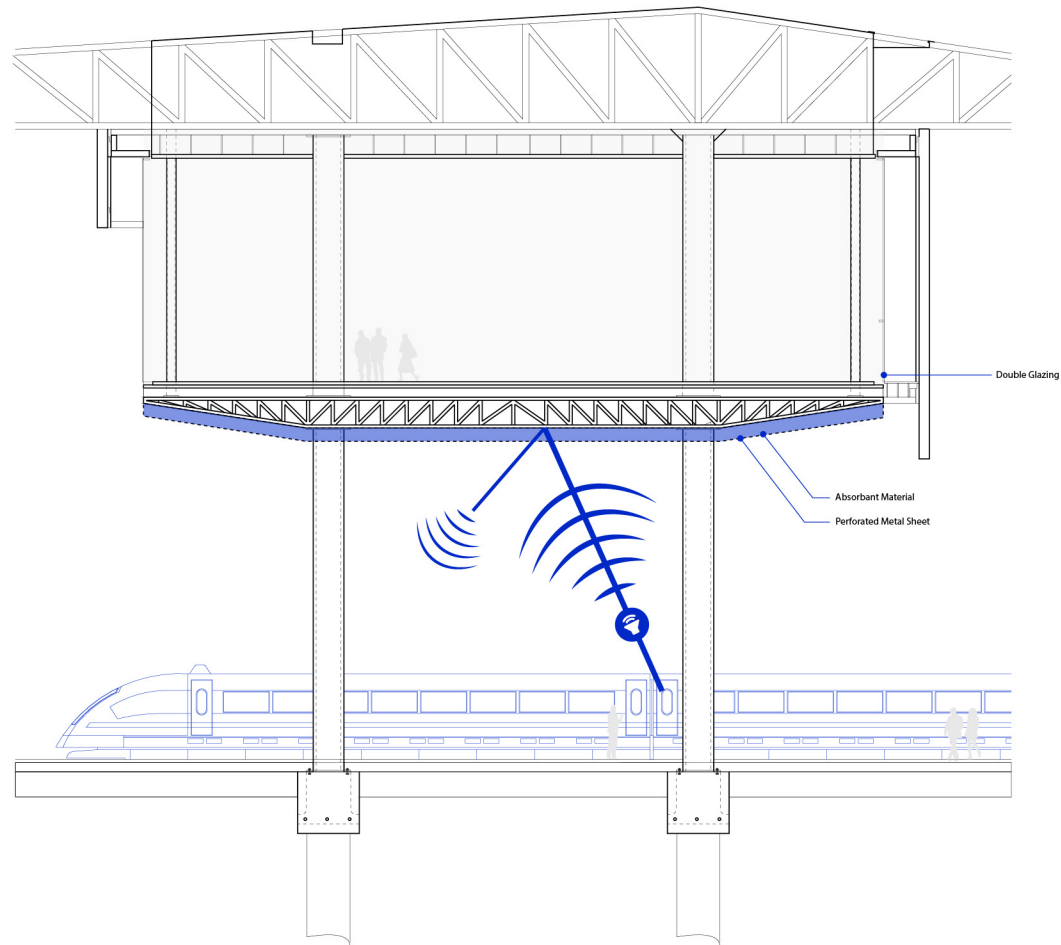
# FACADE DETAIL



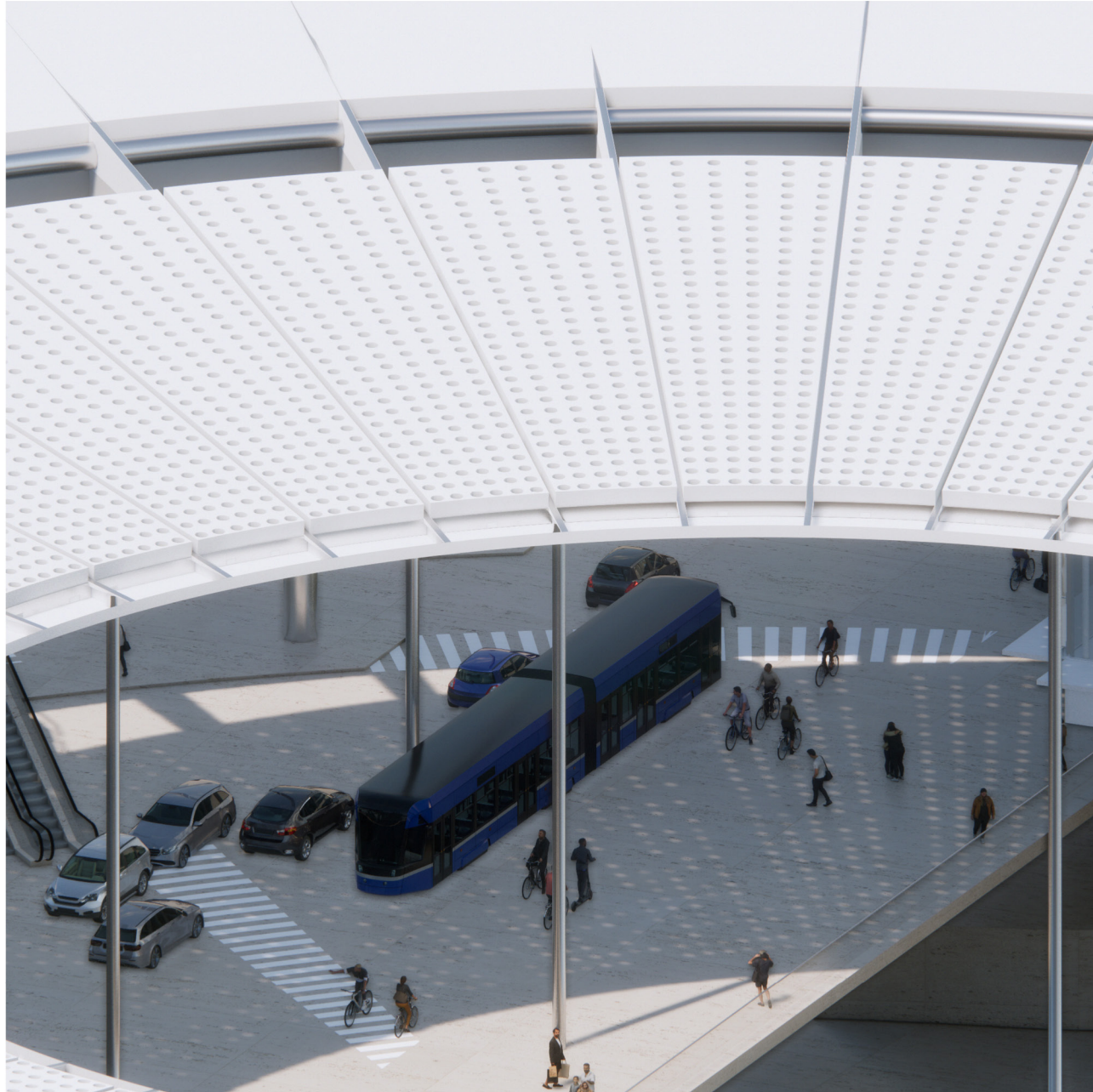


Design

## ZONE 2: COVERED



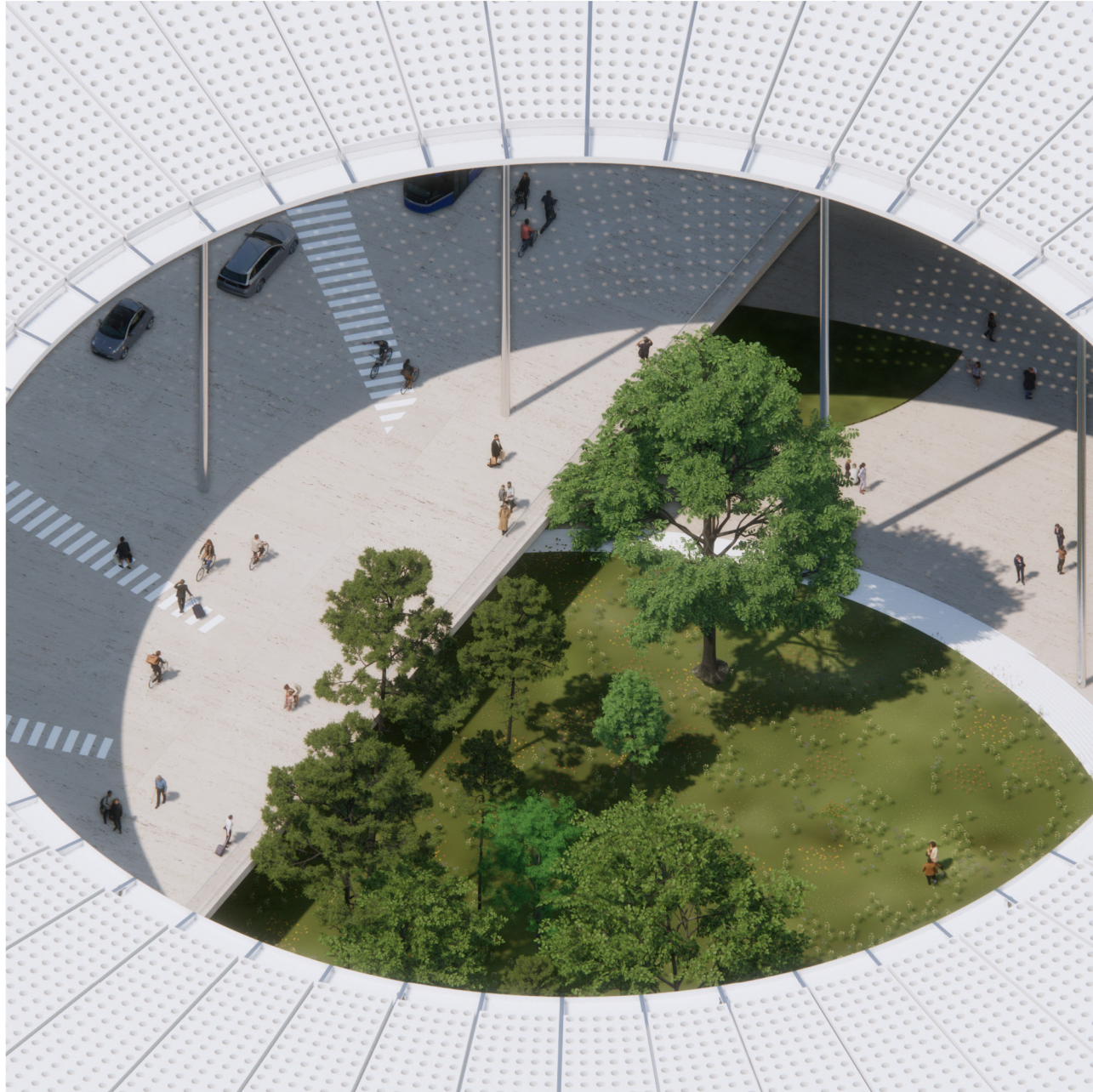
## ZONE 3: SEMI-EXPOSED





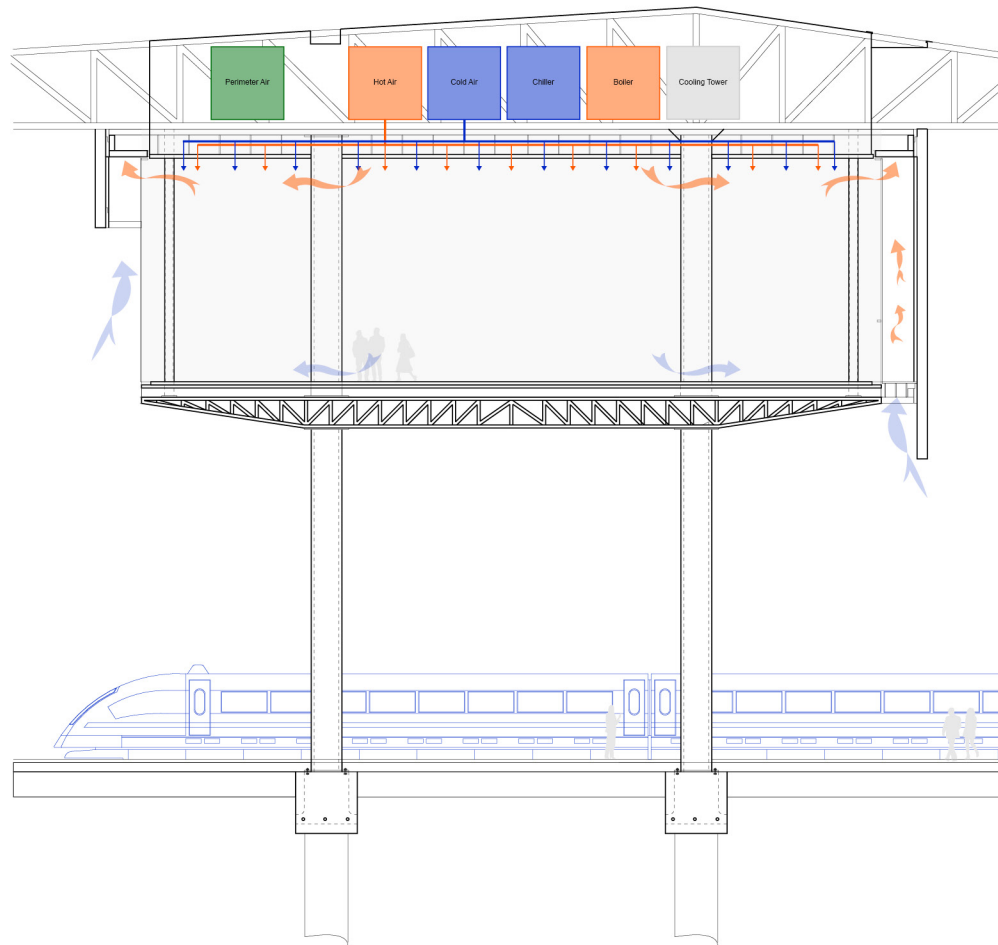
Design

## ZONE 4: EXPOSED



## Design

# Design HVAC SYSTEM





Design

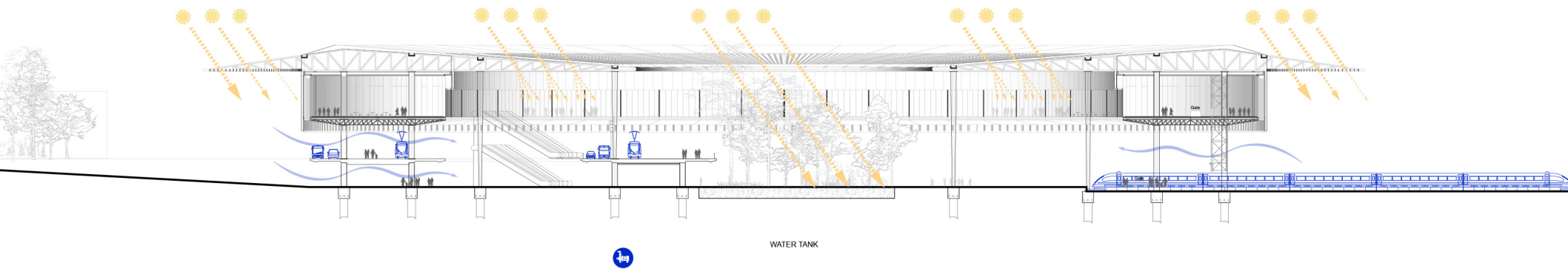
# 1ST FLOOR INTERIOR





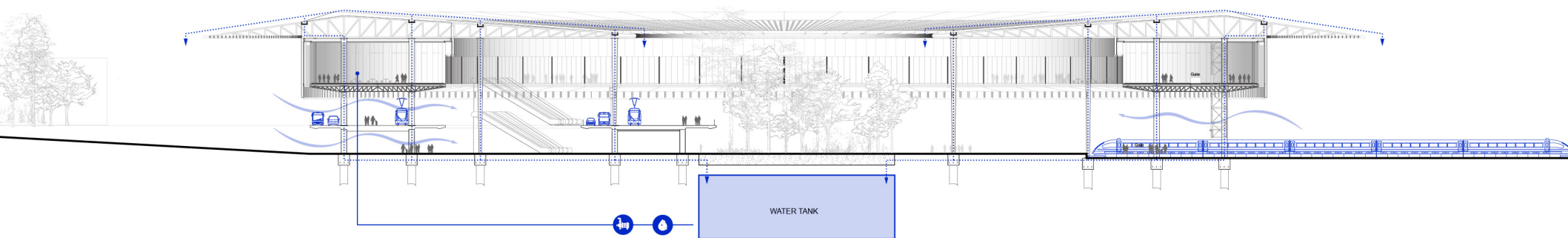
Design

# NATURAL SUNLIGHT & VENTILATION



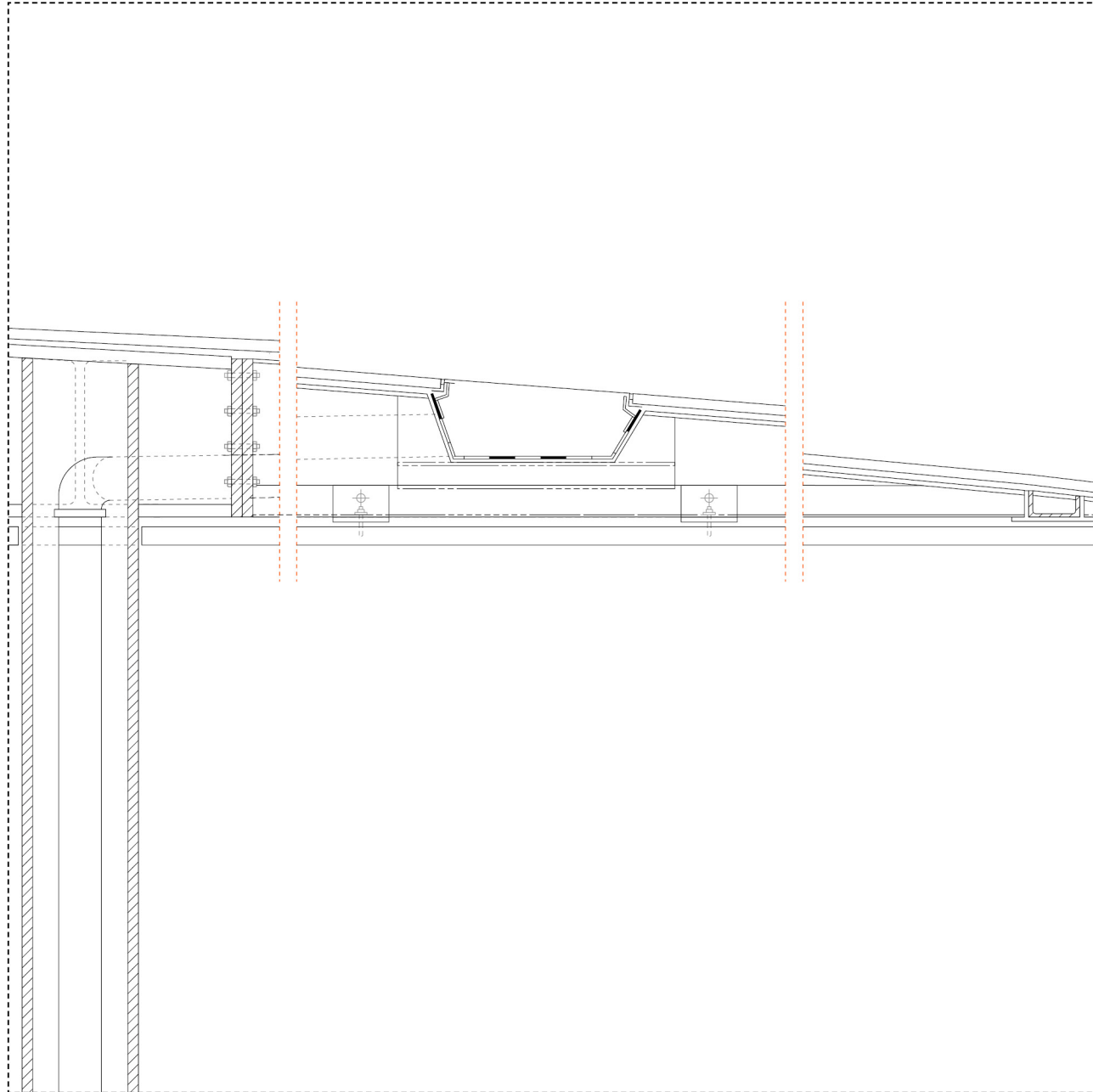
# Design

## WATER COLLECTION



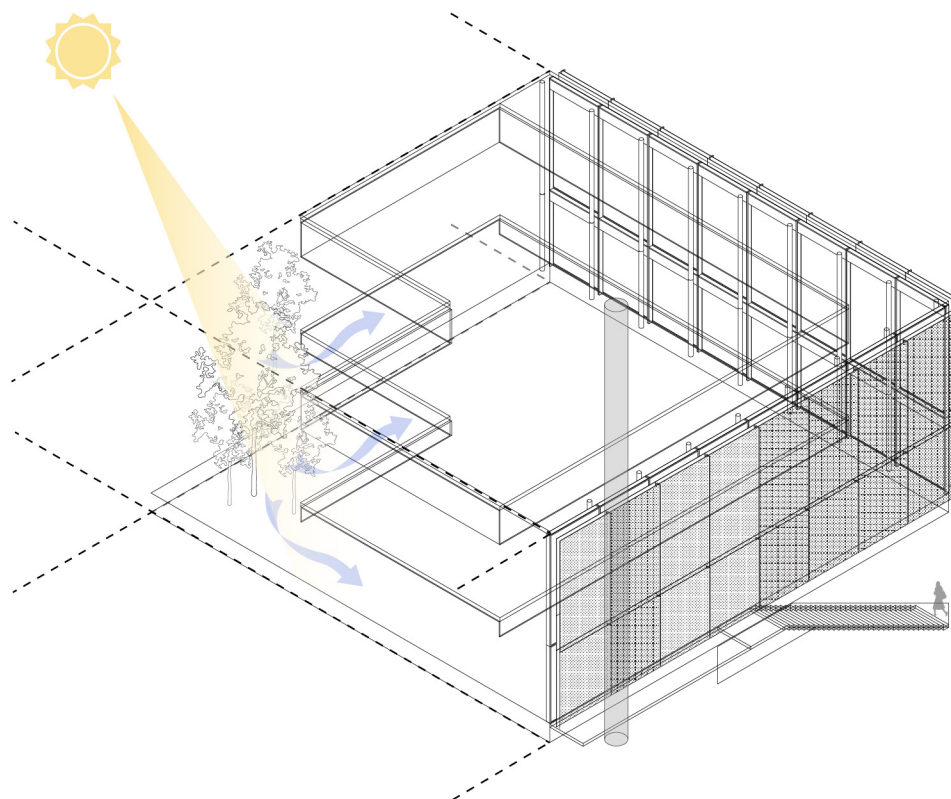
Design

# GUTTER DETAIL



Design

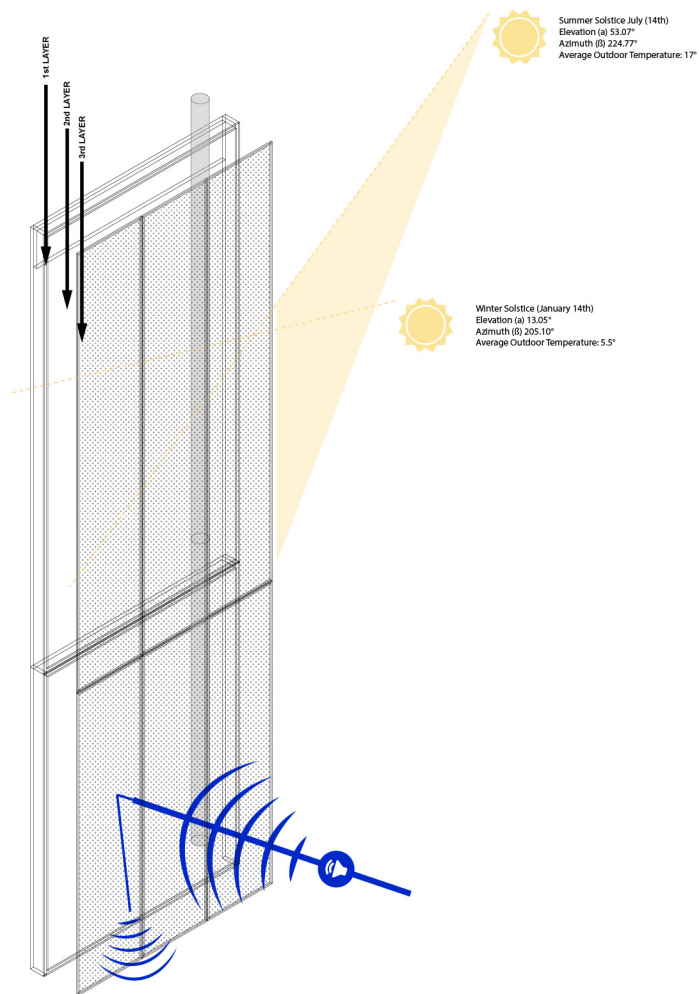
# 'NEW CITY' CLIMATE





# Design

## 'NEW CITY' CLIMATE



# LANDSCAPE STRATEGY - FAST



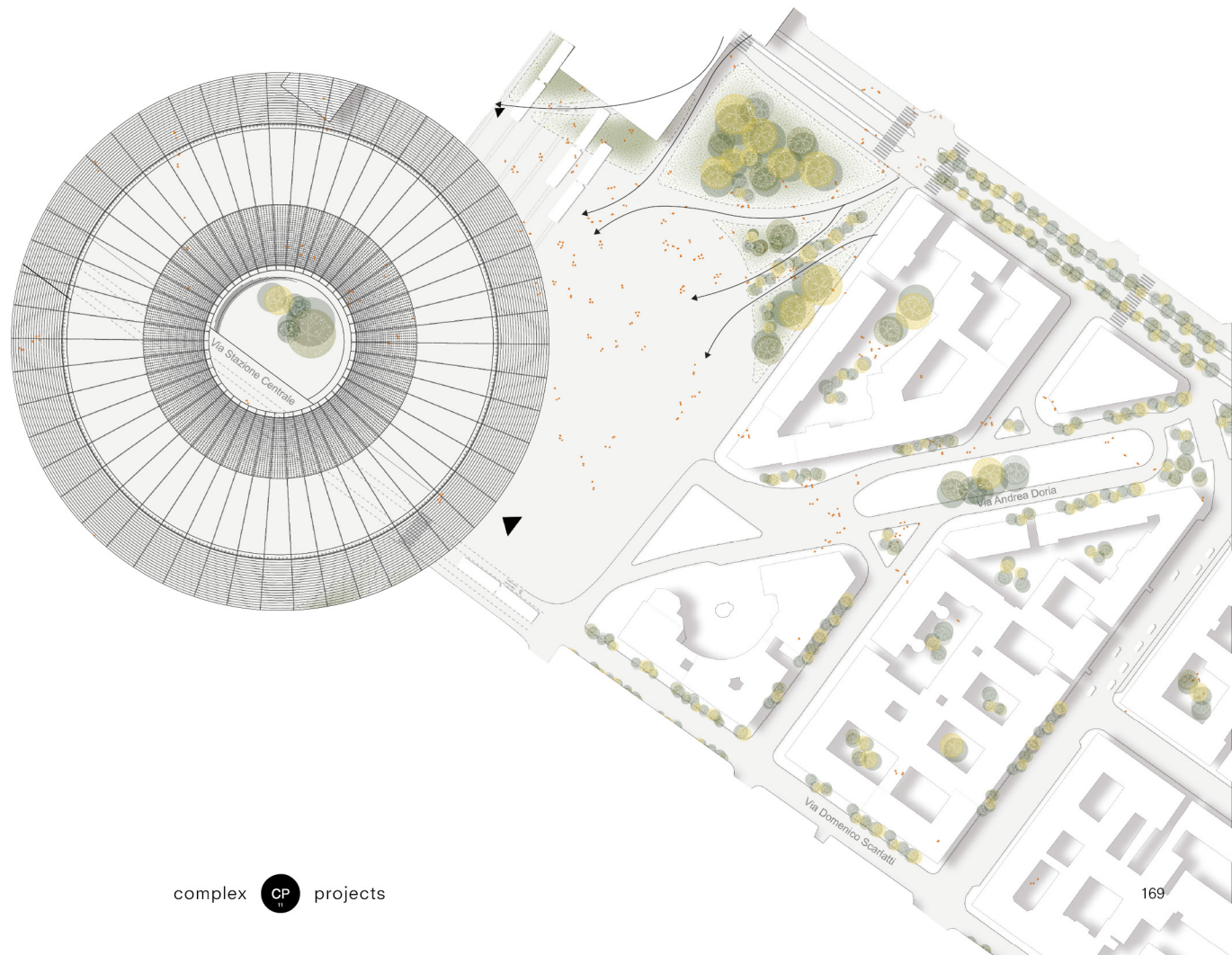


# LANDSCAPE STRATEGY - SLOW



Design

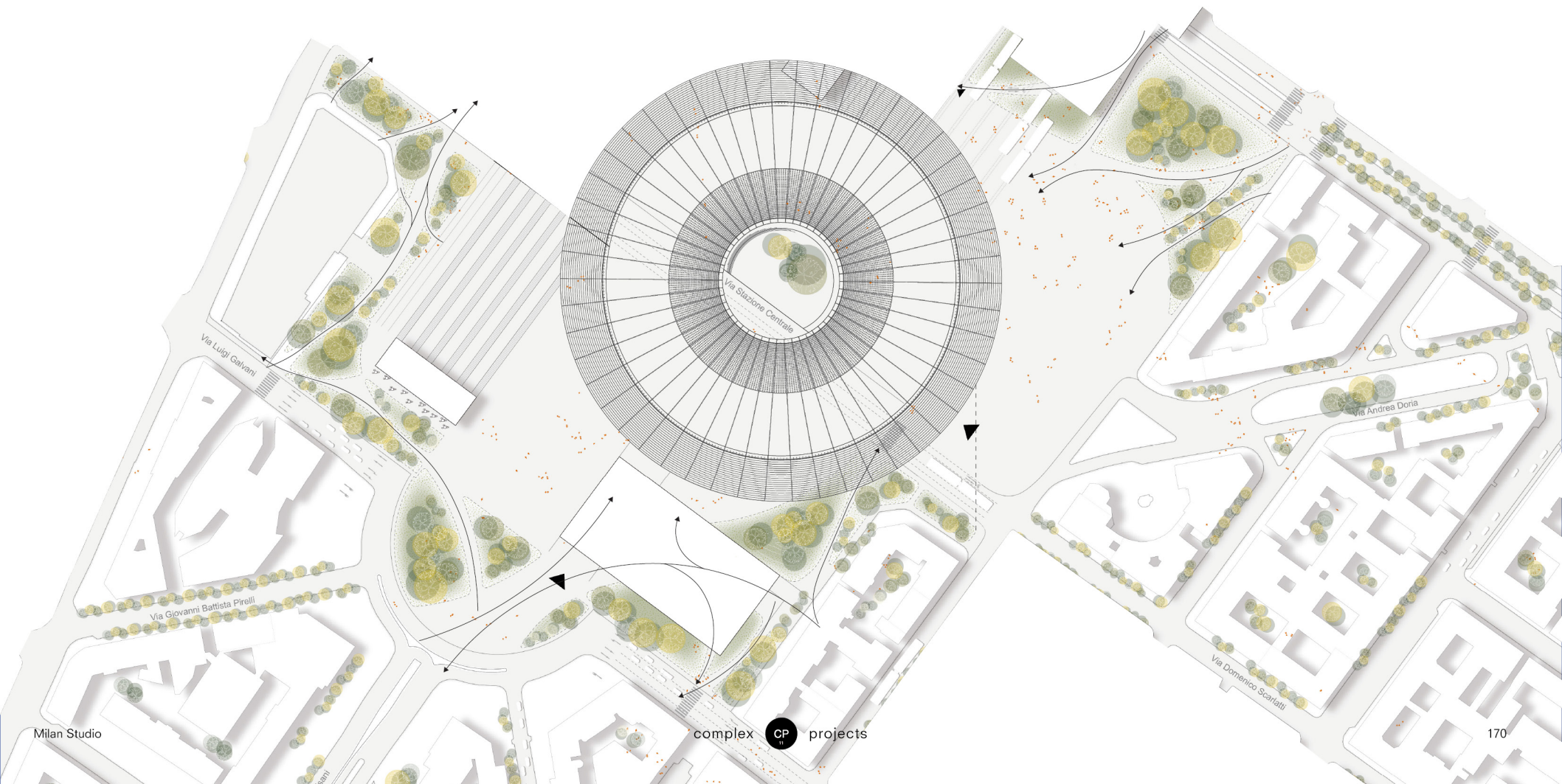
# MAIN ENTRANCE





Design

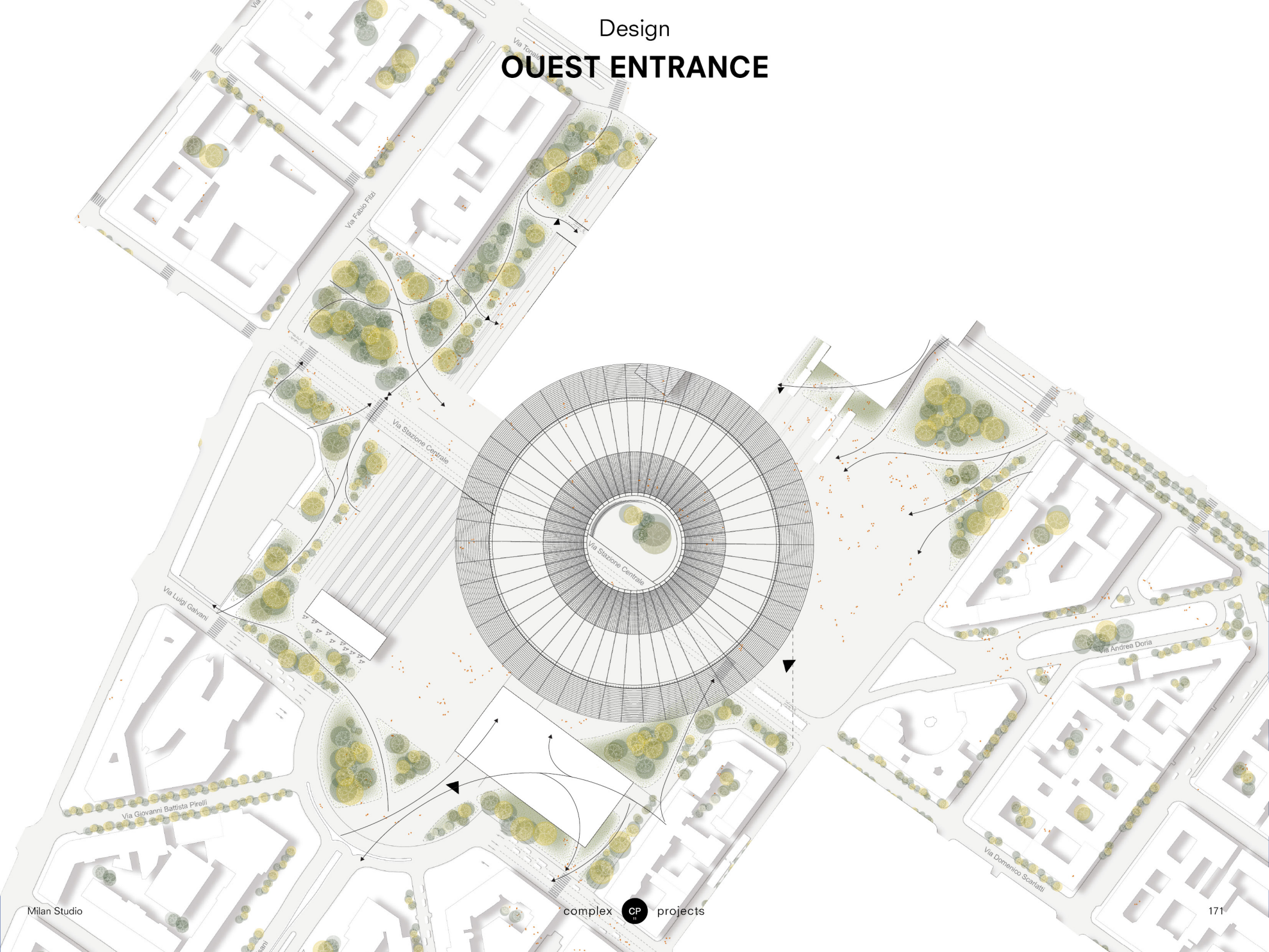
# OLD CITY ENTRANCE





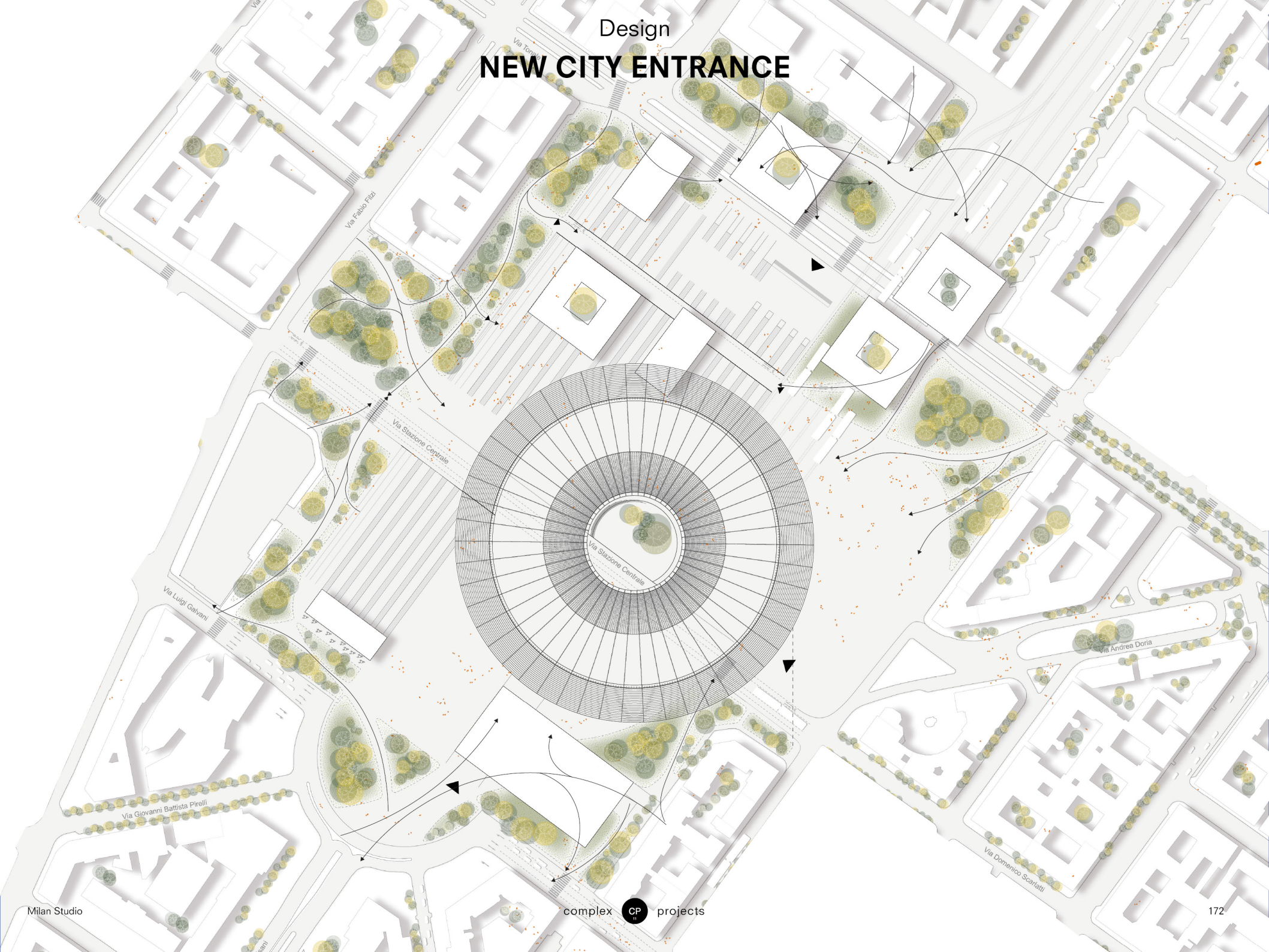
Design

# QUEST ENTRANCE



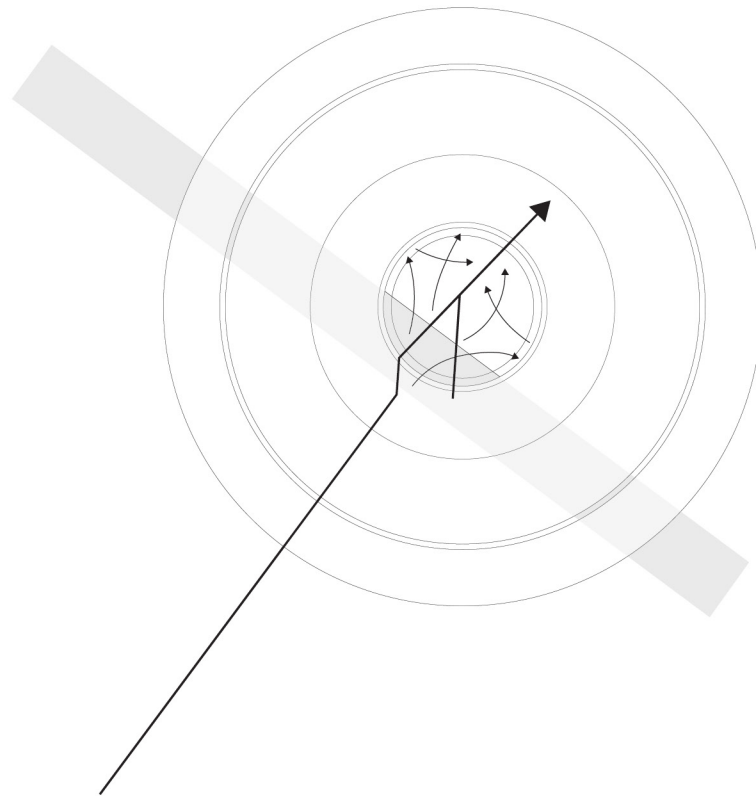


Design  
**NEW CITY ENTRANCE**



Design

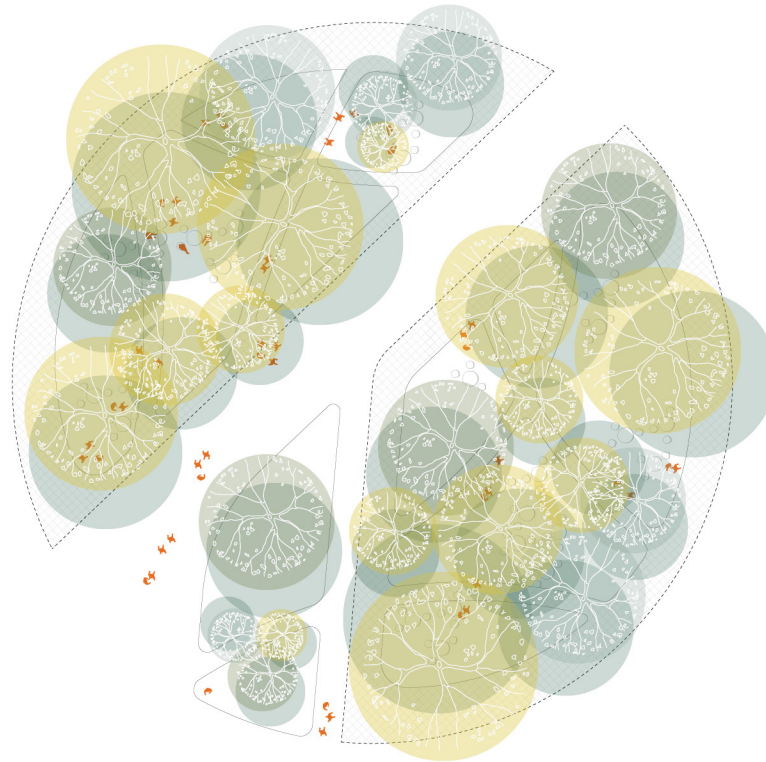
# STATION COURTYARD





Design

# STATION COURTYARD



**Intro**

**Research**

**Design Brief**

**Concept**

**Design**

**Conclusion**



# STATION AS CITY STREET





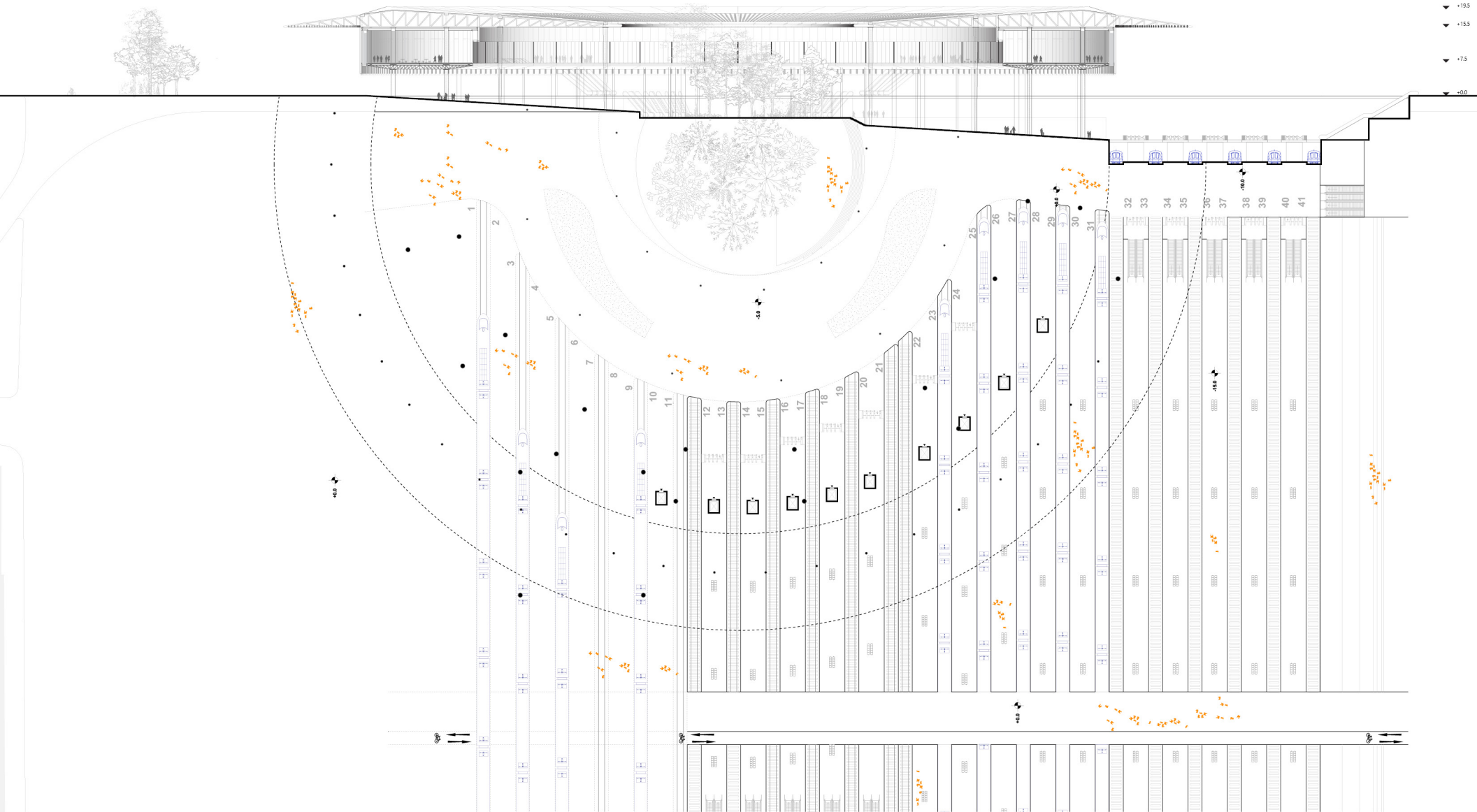
# TRAINS AS STATION'S PASSENGER





# WAITING NOWHERE & EVERYWHERE





▼ +19.5  
▼ +15.5  
▼ -7.5

▼ -0.0





**FIN.**