PRESENTATION BOOKLET

MULTIMODALITY FORUM JUNGFERNHEIDE

Encouraging motorists to use green mobility

2022/2023

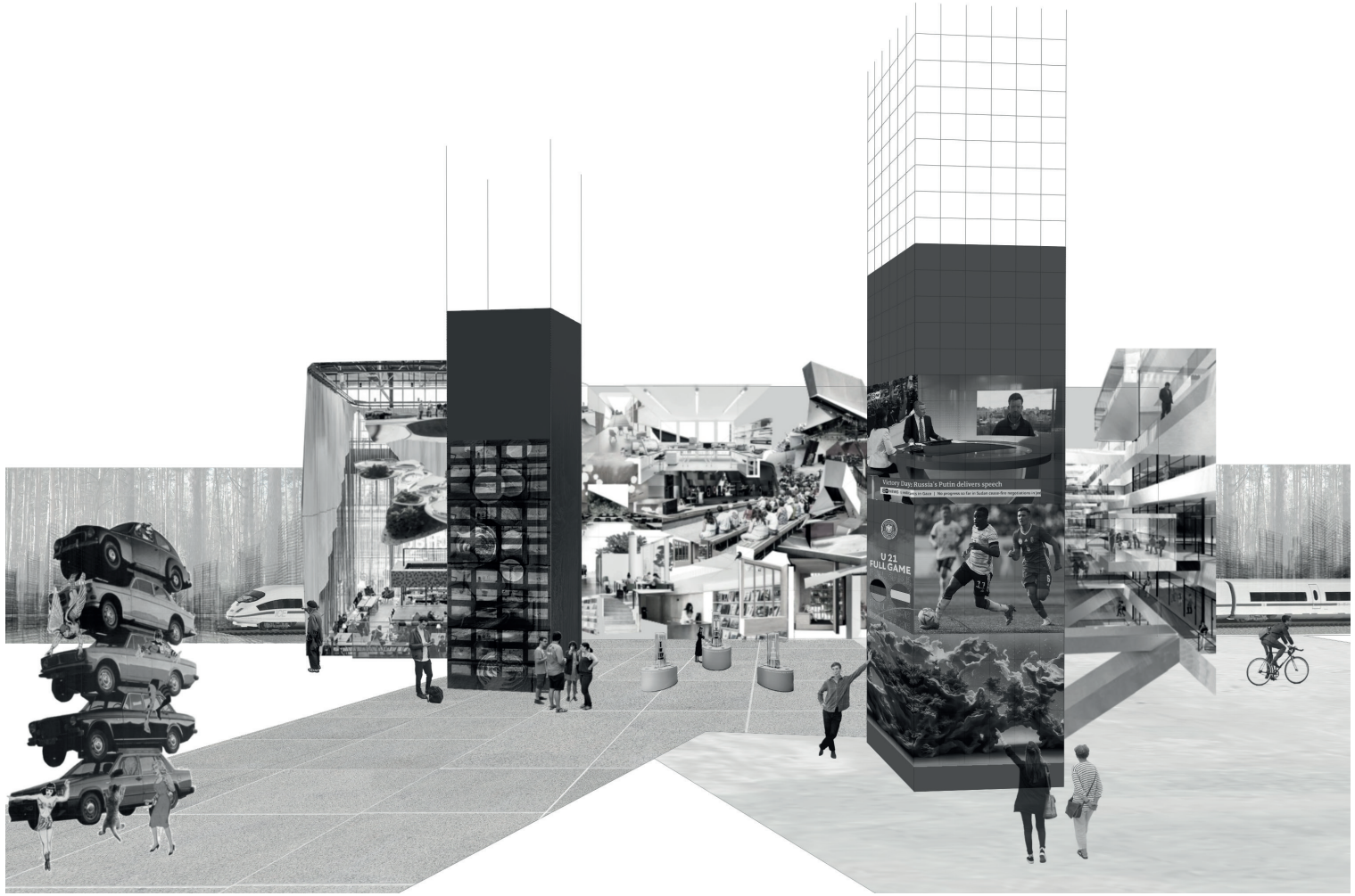
COMPLEX PROJECTS
Bodies & Building Berlin
AR3CP100

Steven ter Schure
5483794

complex projects

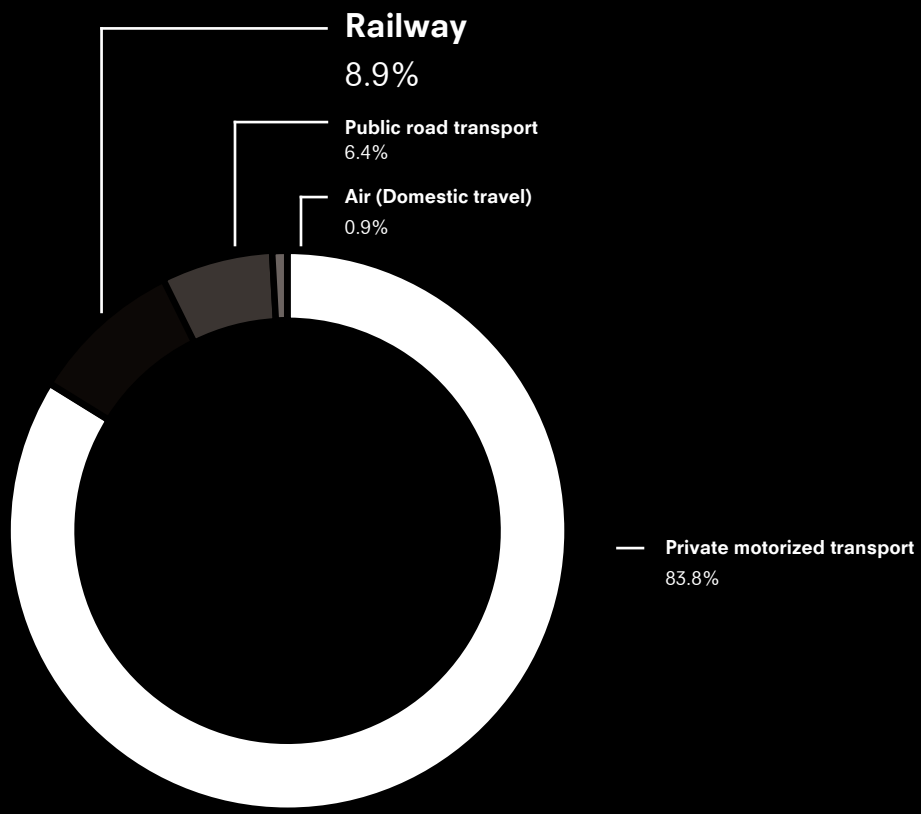
INTRODUCTION

A NEW PARK AND RIDE SYSTEM



A more service and experience related approach towards train stations.

COMMUTING DATA



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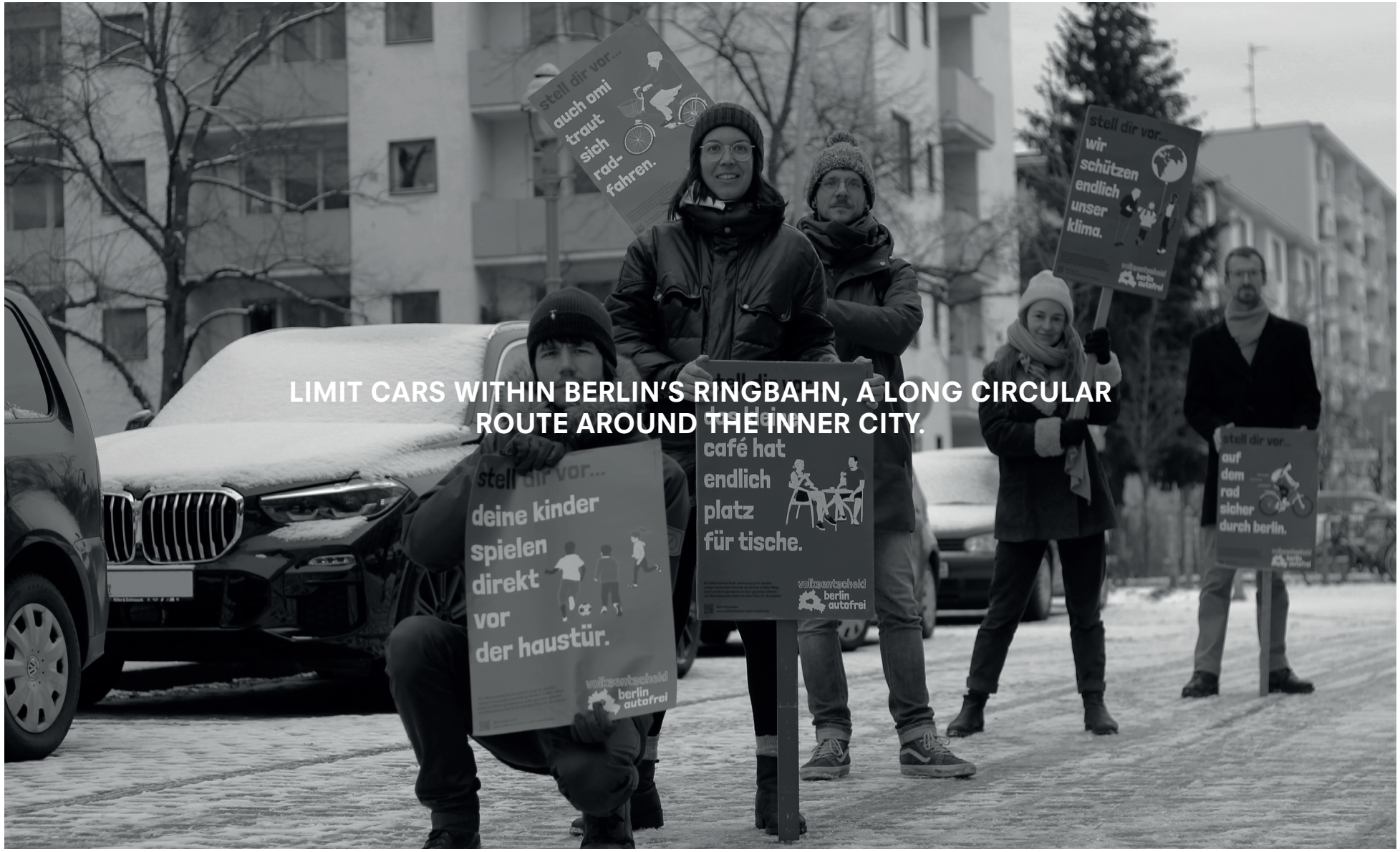
CONGESTION

CAUSING CONGESTION IN THE METROPOLITAN AREA.

CITIZENS' PROPOSAL



LIMIT CARS WITHIN BERLIN'S RINGBAHN, A LONG CIRCULAR ROUTE AROUND THE INNER CITY.

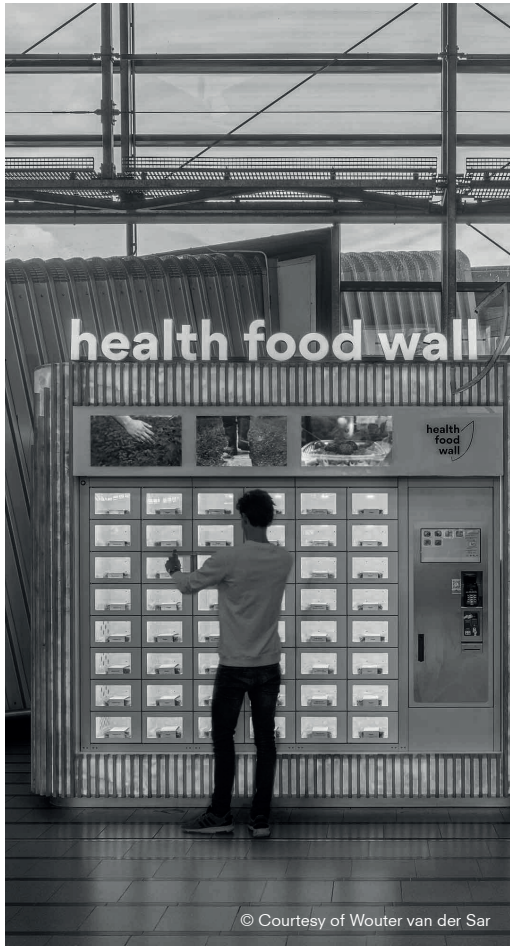
COMPACTING TRANSPORT

200 people in 177 cars

200 people in 3 buses

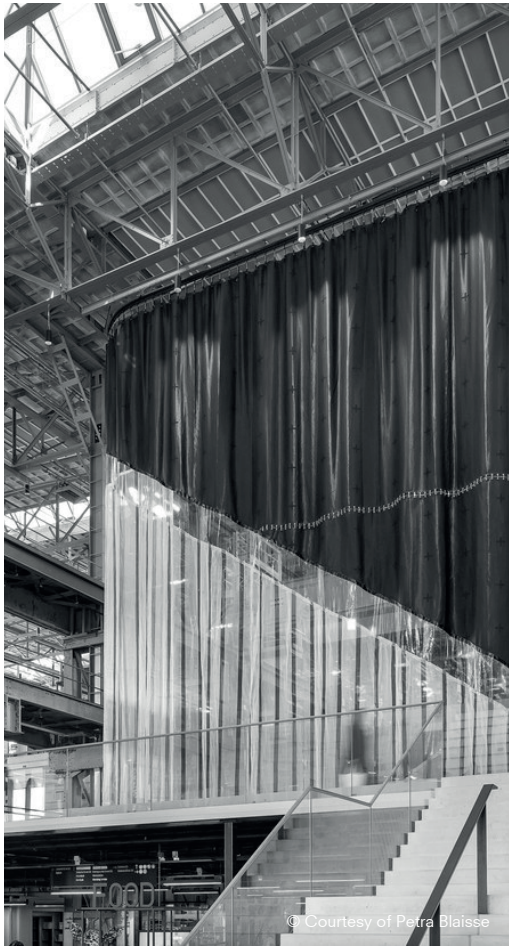
200 people in 1 light rail train

A NEW PARK-AND-RIDE SYSTEM



Serving

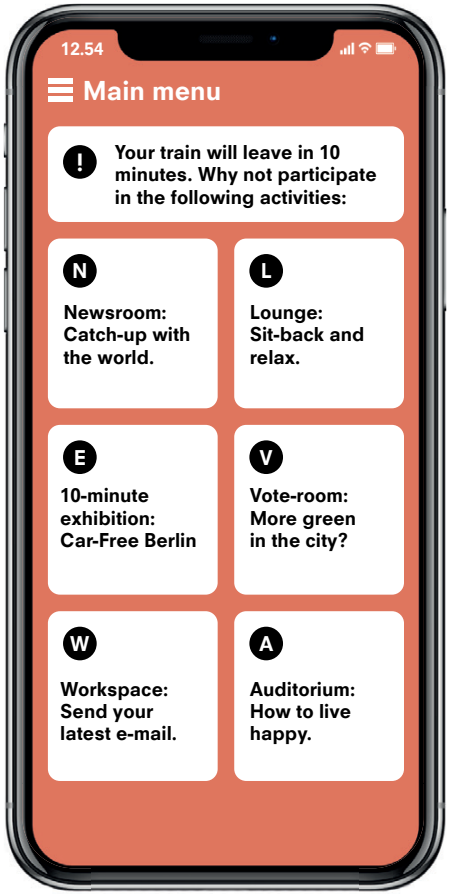
Experience



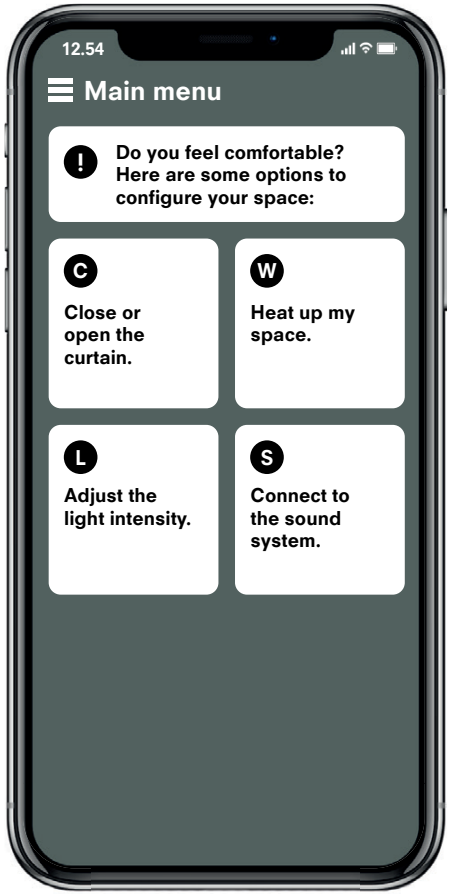
Adaptability

PHONE TO COMMUNICATE

Service related

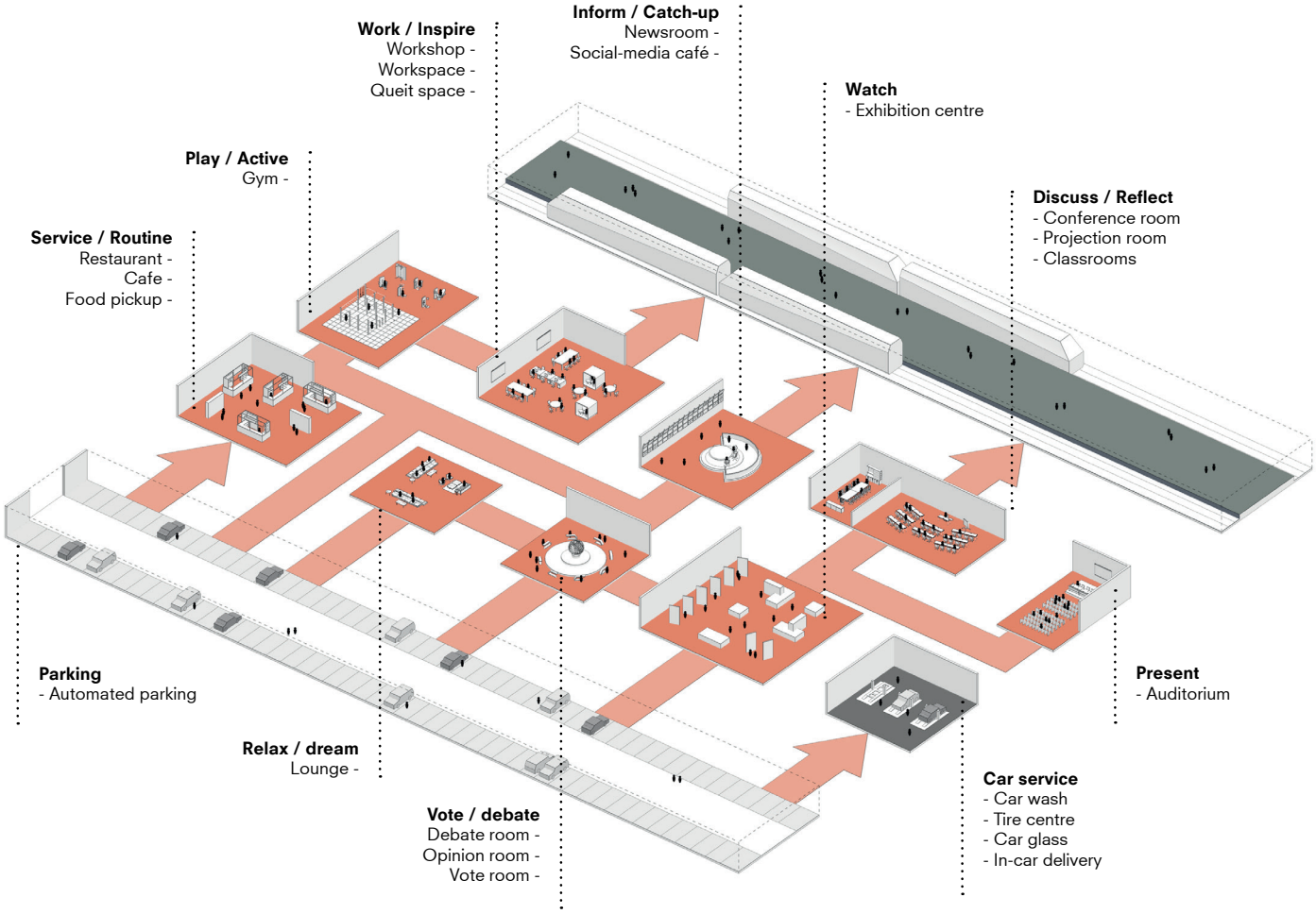


User experience



Building flexibility

PERSONALISED EXPERIENCE



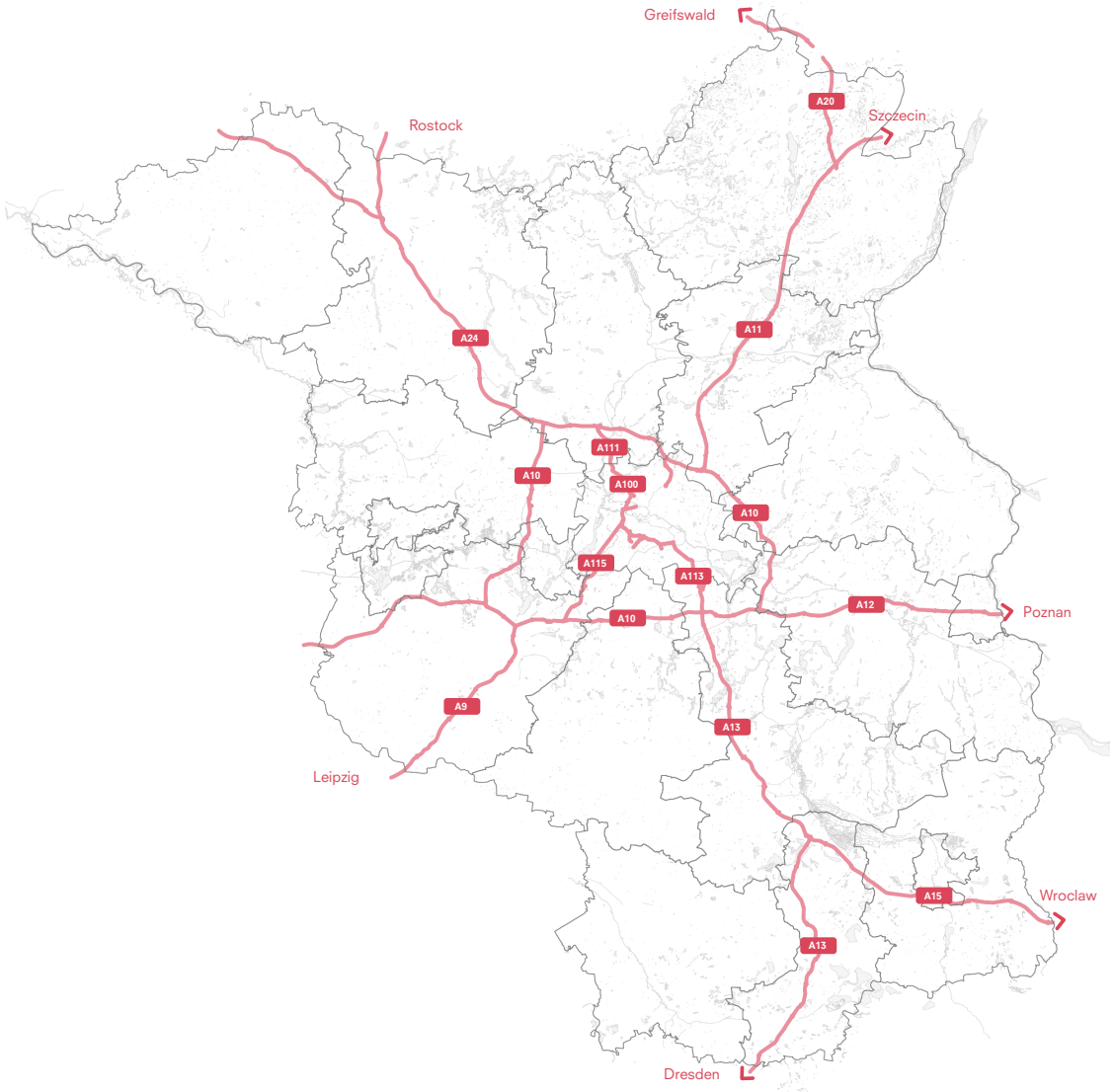
RESEARCH QUESTION

HOW CAN AUTOMATION TECHNOLOGIES BE INTEGRATED IN ARCHITECTURAL DESIGN TO POSITIVELY INFLUENCE USER EXPERIENCE AND OPTIMIZE THE USE OF SPACE?

© Courtesy of Nowhere

DESIGN BRIEF

CAR NETWORK



Bundesautobahn:

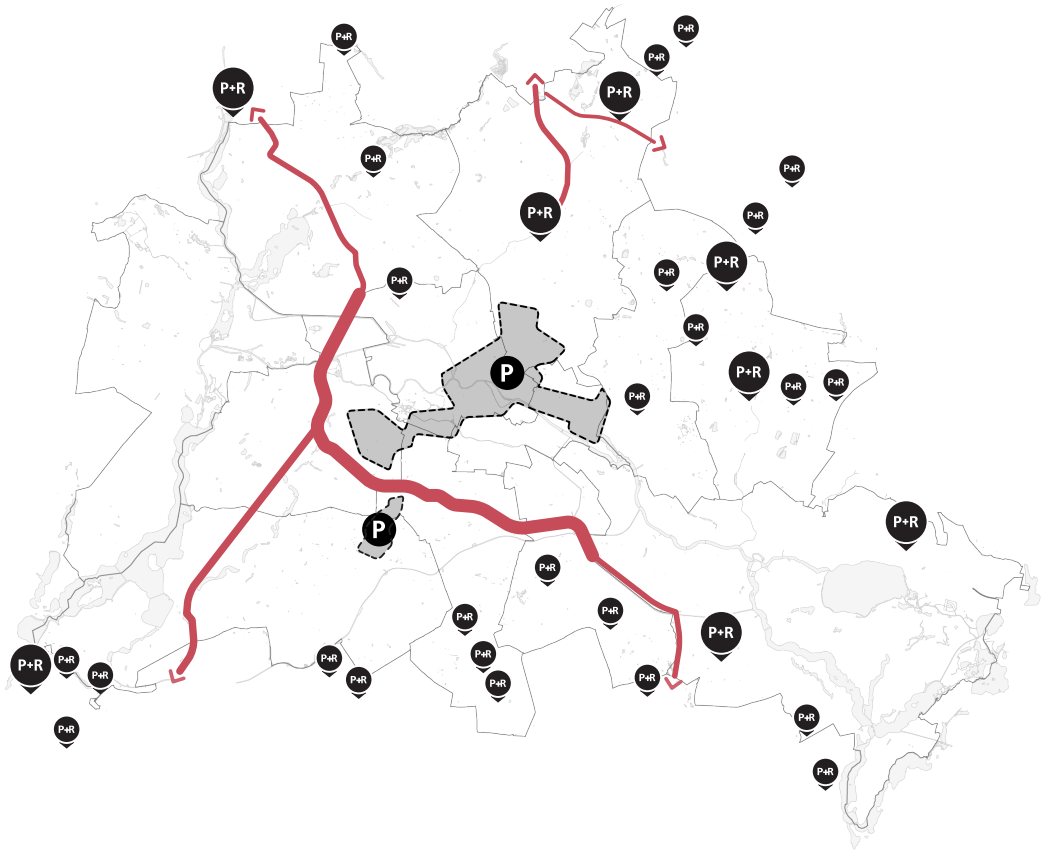
- A9 Bundesautobahn 9
  45.000 - 60.000
- A10 Bundesautobahn 10
  60.000 - 75.000
- A11 Bundesautobahn 11
  < 30.000
- A12 Bundesautobahn 12
  30.000 - 45.000
- A13 Bundesautobahn 13
  45.000 - 60.000
- A15 Bundesautobahn 15
  < 30.000
- A19 Bundesautobahn 19
  < 30.000
- A20 Bundesautobahn 20
  < 30.000
- A24 Bundesautobahn 24
  30.000 - 45.000

Legend:

- Motorway

Brandenburg road network
Scale 1 : 400.000

PARKING AVAILABILITY

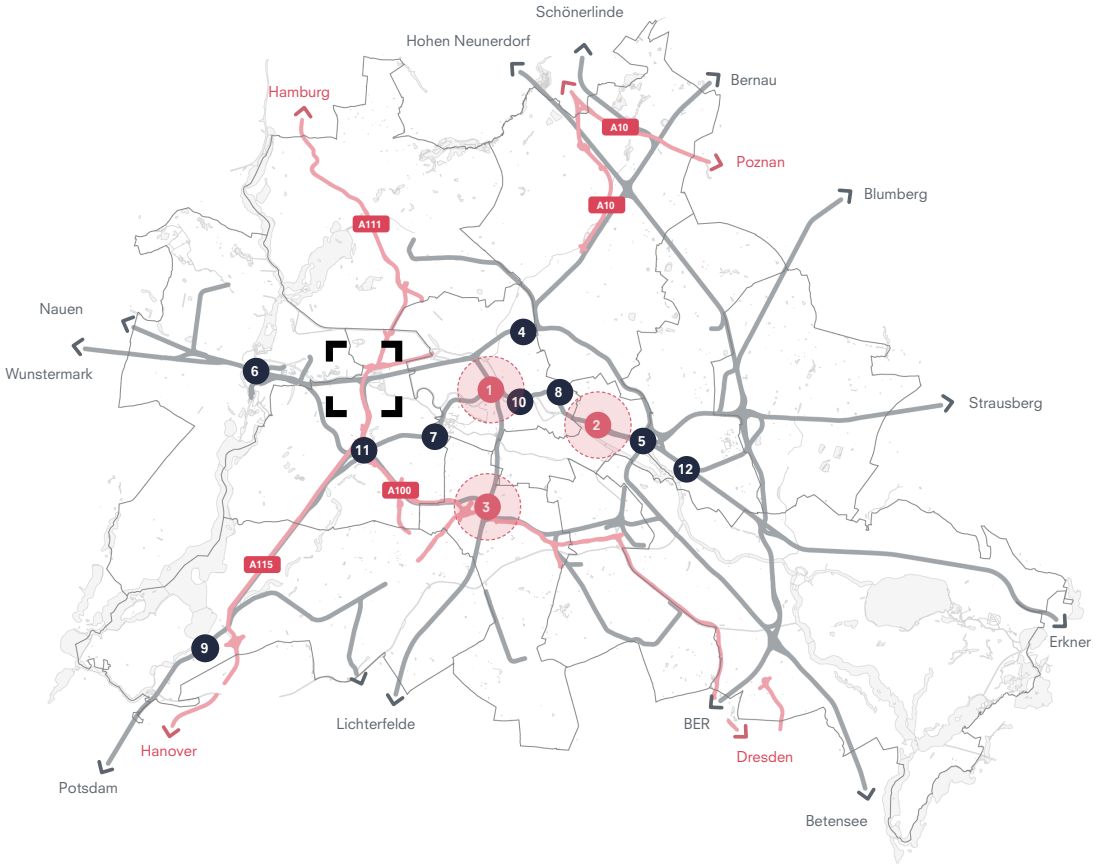


Legend:

- 70.000 cars a day
- 50.000 cars a day
- 30.000 cars a day
- < 100 parking spots
- < 100 parking spots
- Parking
- Parking zones

Parking and road network
Scale 1 : 400.000

TRAIN AND CAR NETWORK



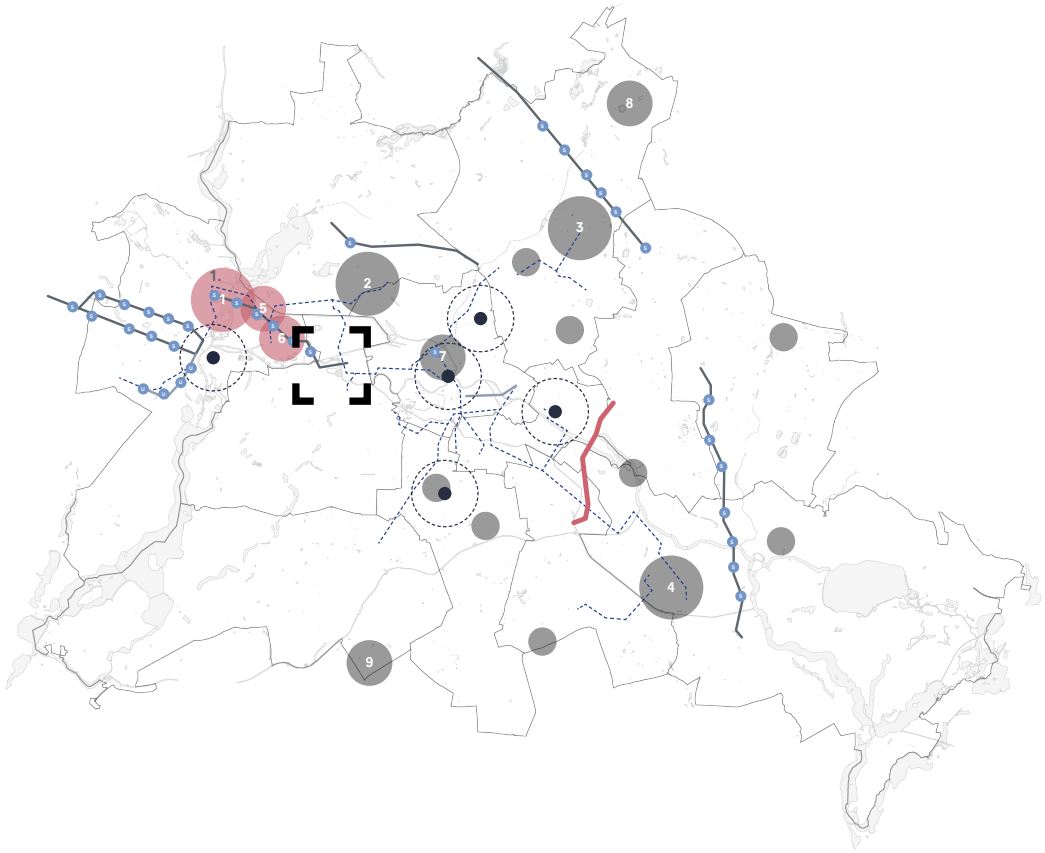
Legend:

- Park and ride stations
- Railway stations
- Road network
- Road network
- U-Bahn network

Inter modality locations

Scale 1 : 400.000

URBAN DEVELOPMENT

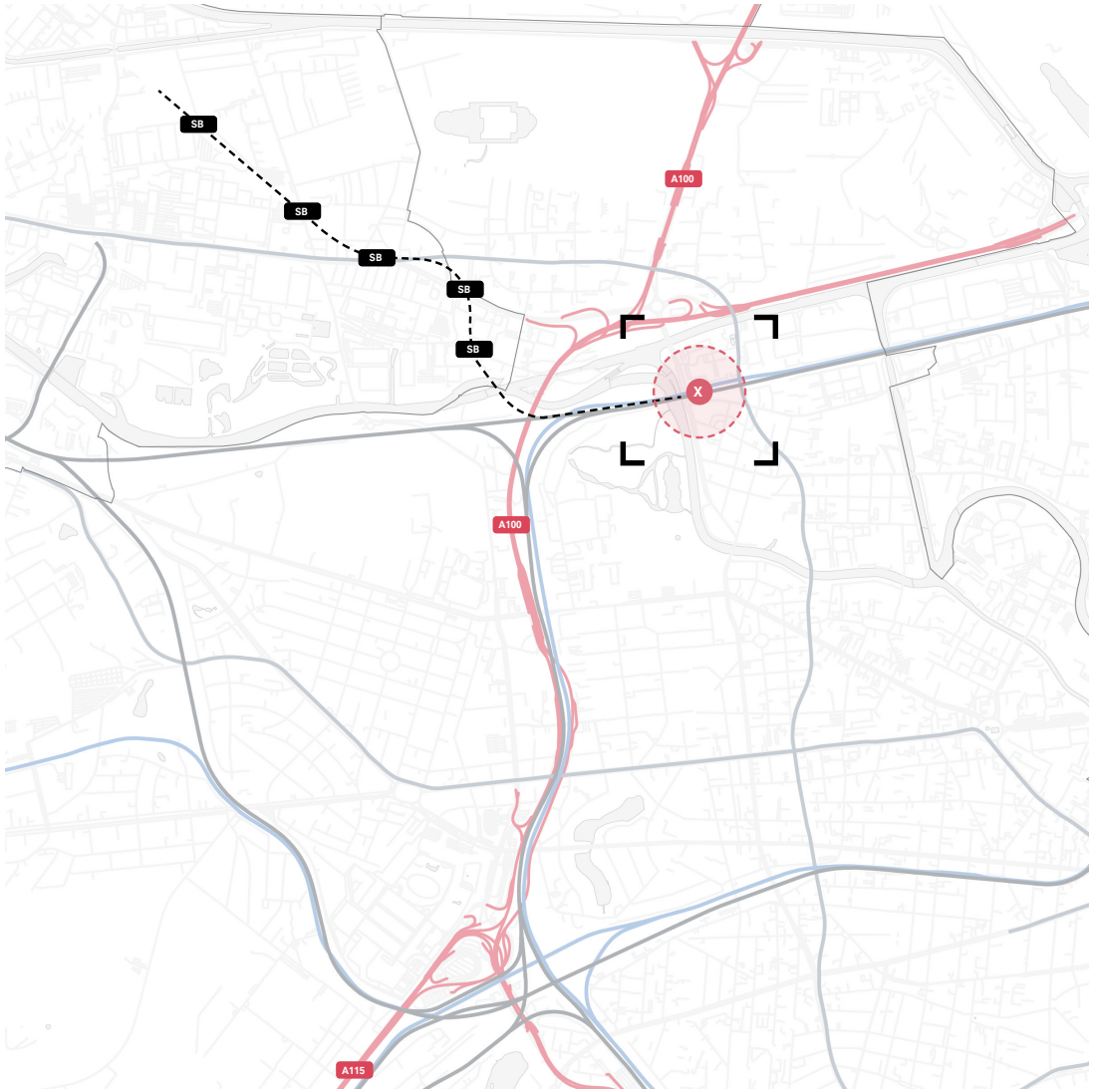


Legend:

- New U-bahn route
- New S-bahn route
- New motorway
- New tram routes
- Main train stations
- Possible new sub stations
- City development, 2000 dwellings
- Site location

Brandenburg rail network
Scale 1 : 400.000

INFRASTRUCTURE NETWORK

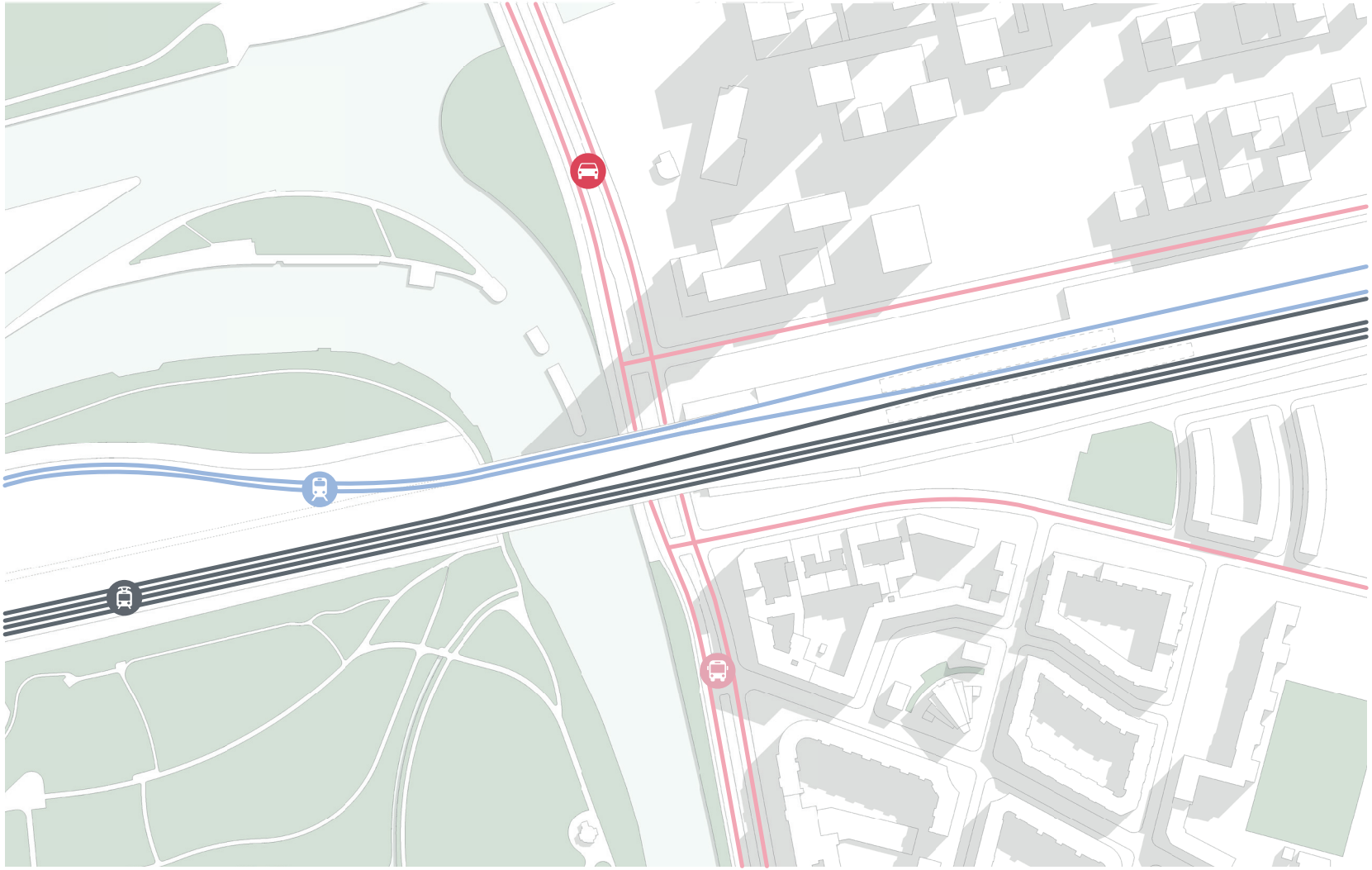


Legend:

- T — S-Bahn-, U-Bahn-, Train station
- X — Site location
- Motorway
- Primary- and secondary roads
- U-Bahn network
- S-Bahn network
- Railway

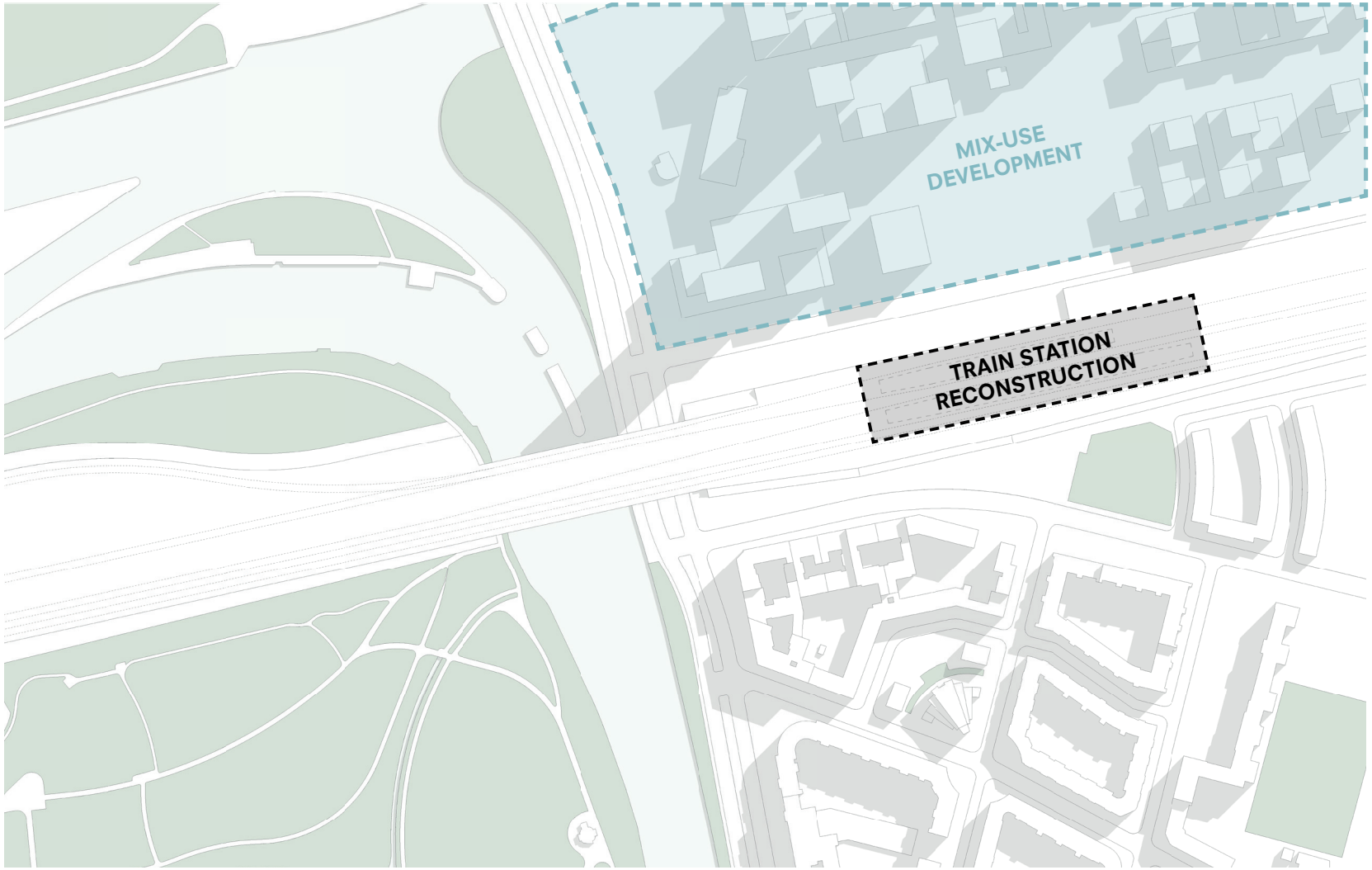
Public transportation network
Scale 1 : 50.000

EXISTING INFRASTRUCTURE



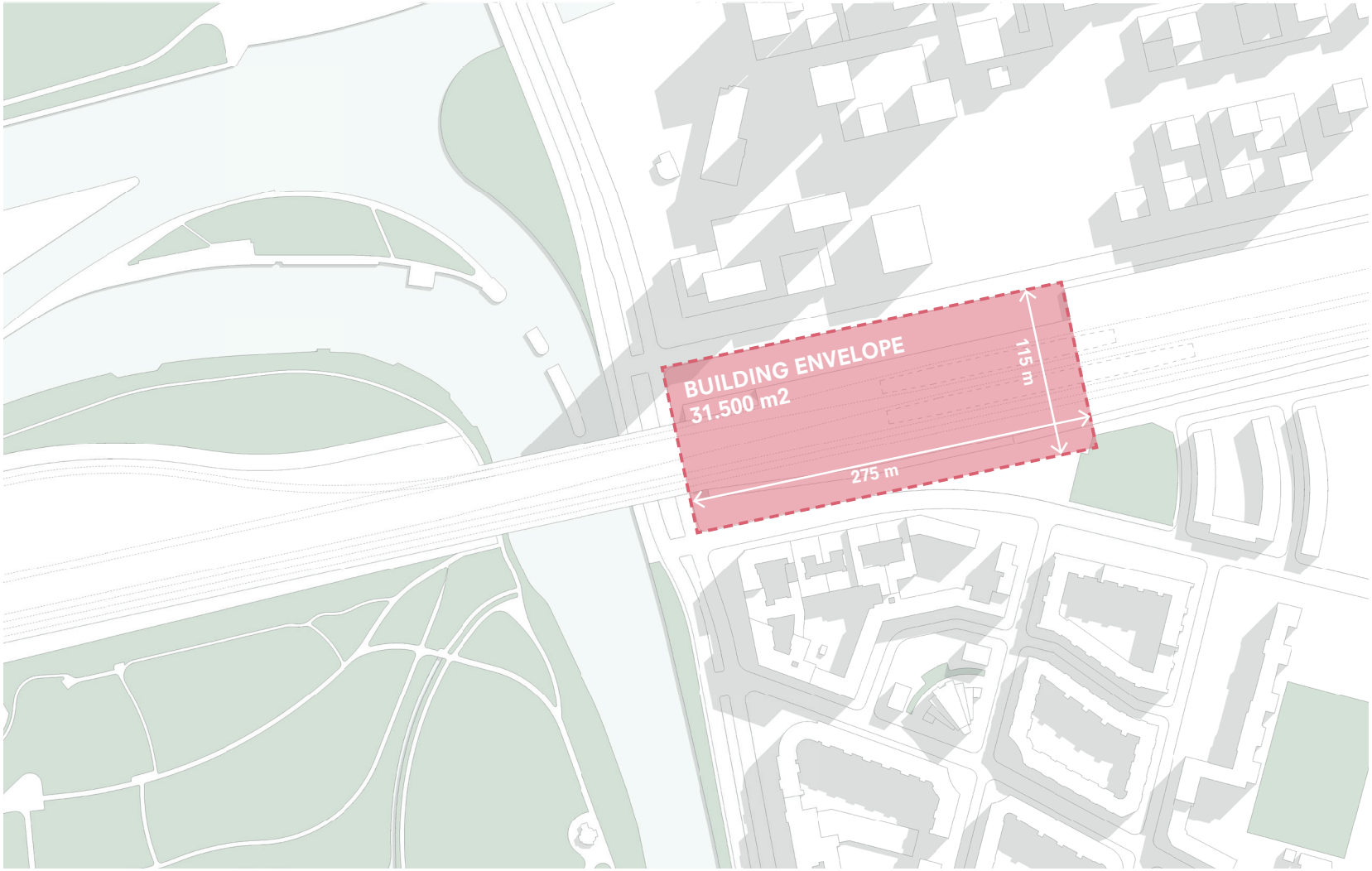
Existing infrastructure connections.

REDEVELOPMENT



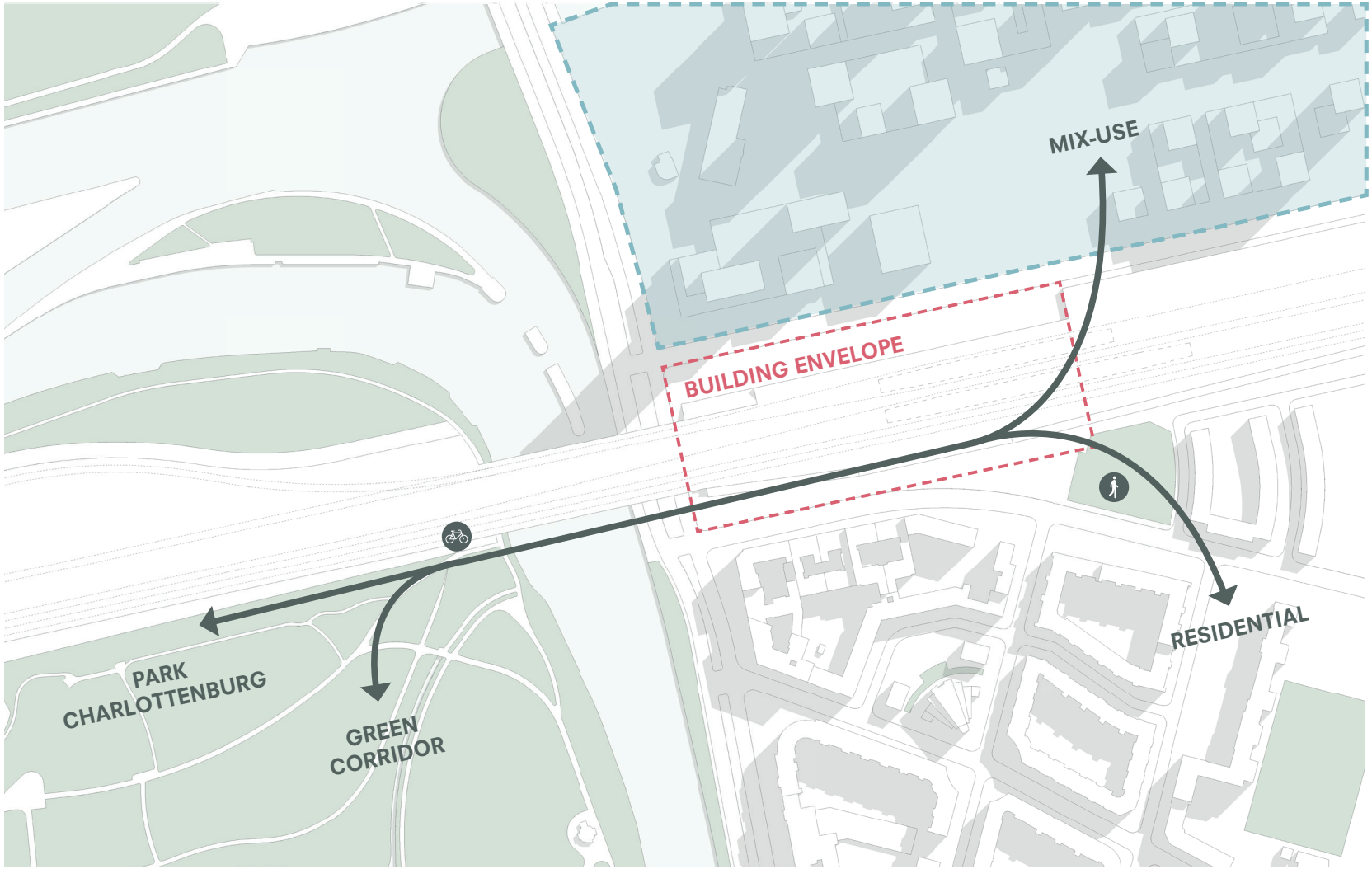
Reconstruction of the station area.

BUILDING ENVELOPE



A plot on the interconnection between urban, mobility and environment.

URBAN IMPLEMENTATION



Strengthening urban relationships.

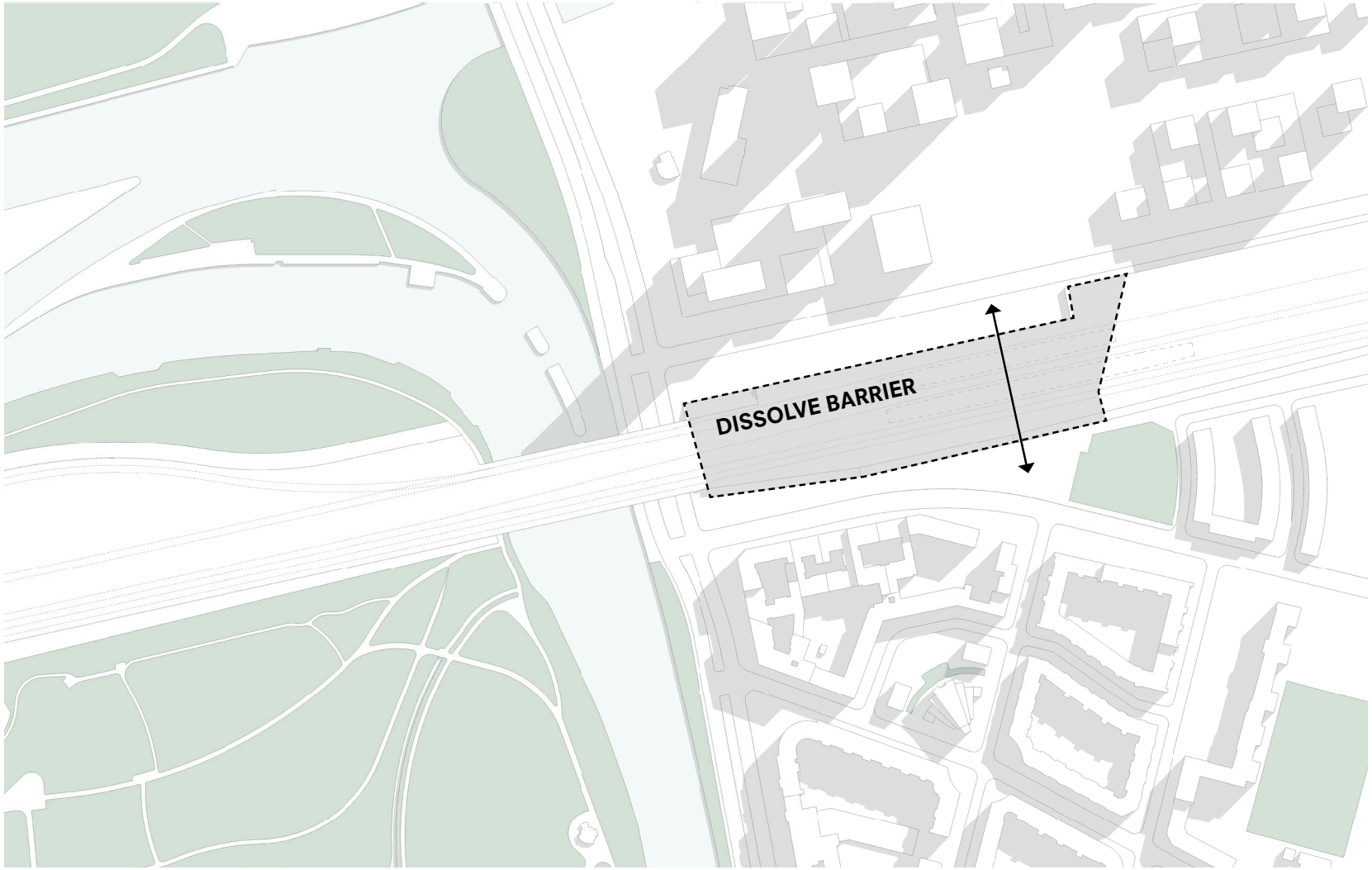
SITE CONDITIONS

Park Charlottenburg

Jungfernheide

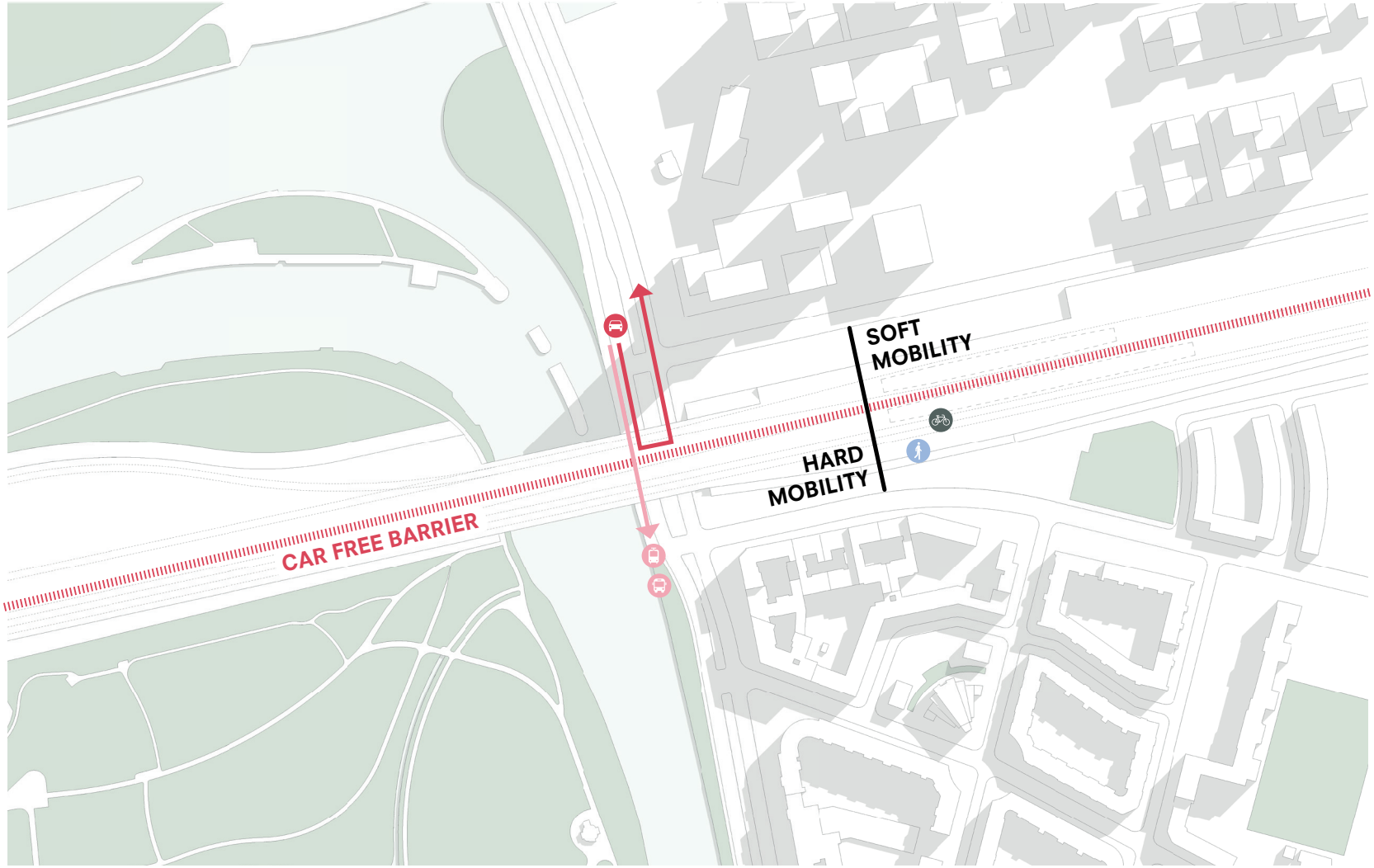
Redevelopment

SITE AMBITIONS



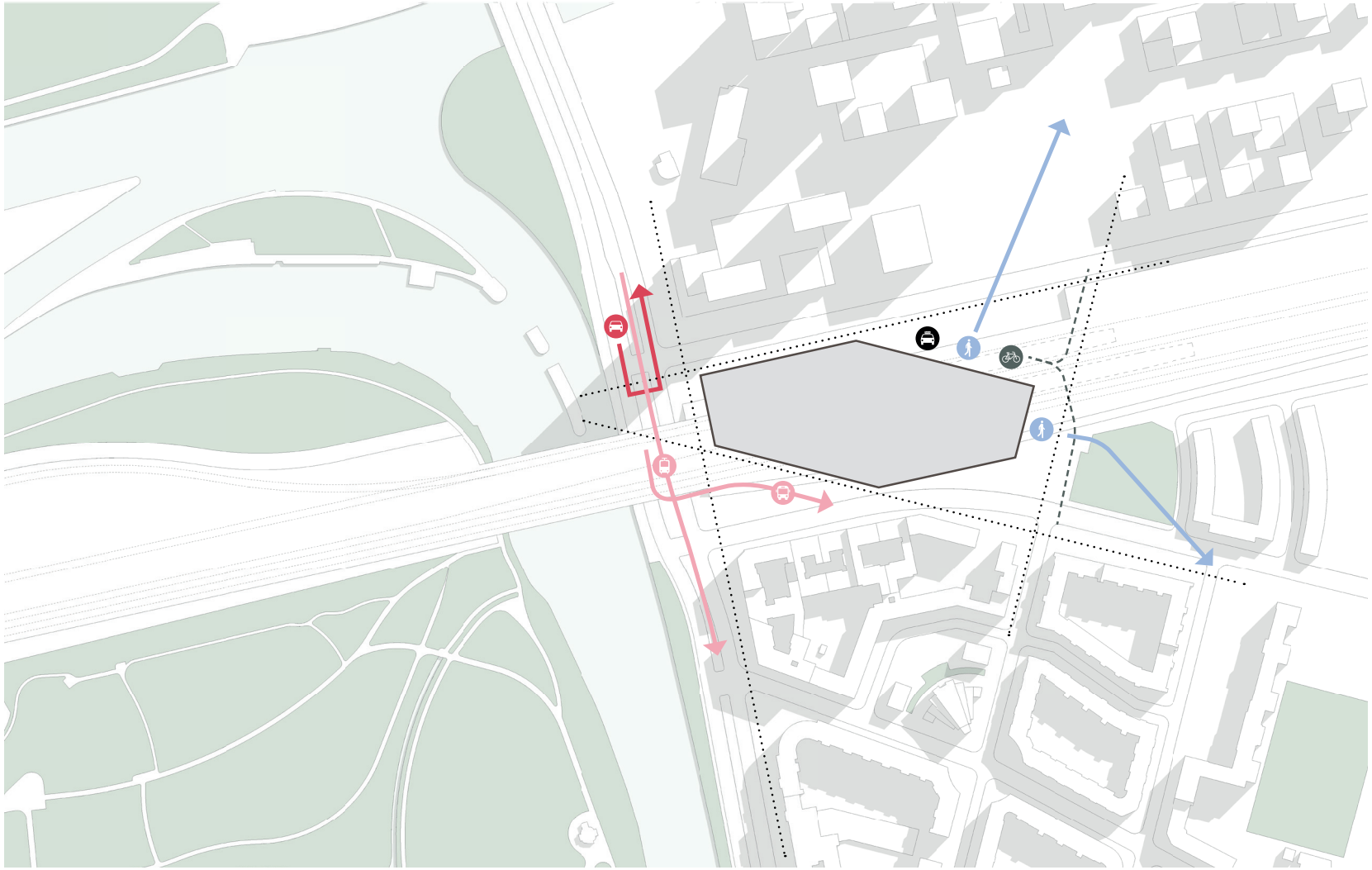
Dissolving the railway barrier.

SITE AMBITIONS



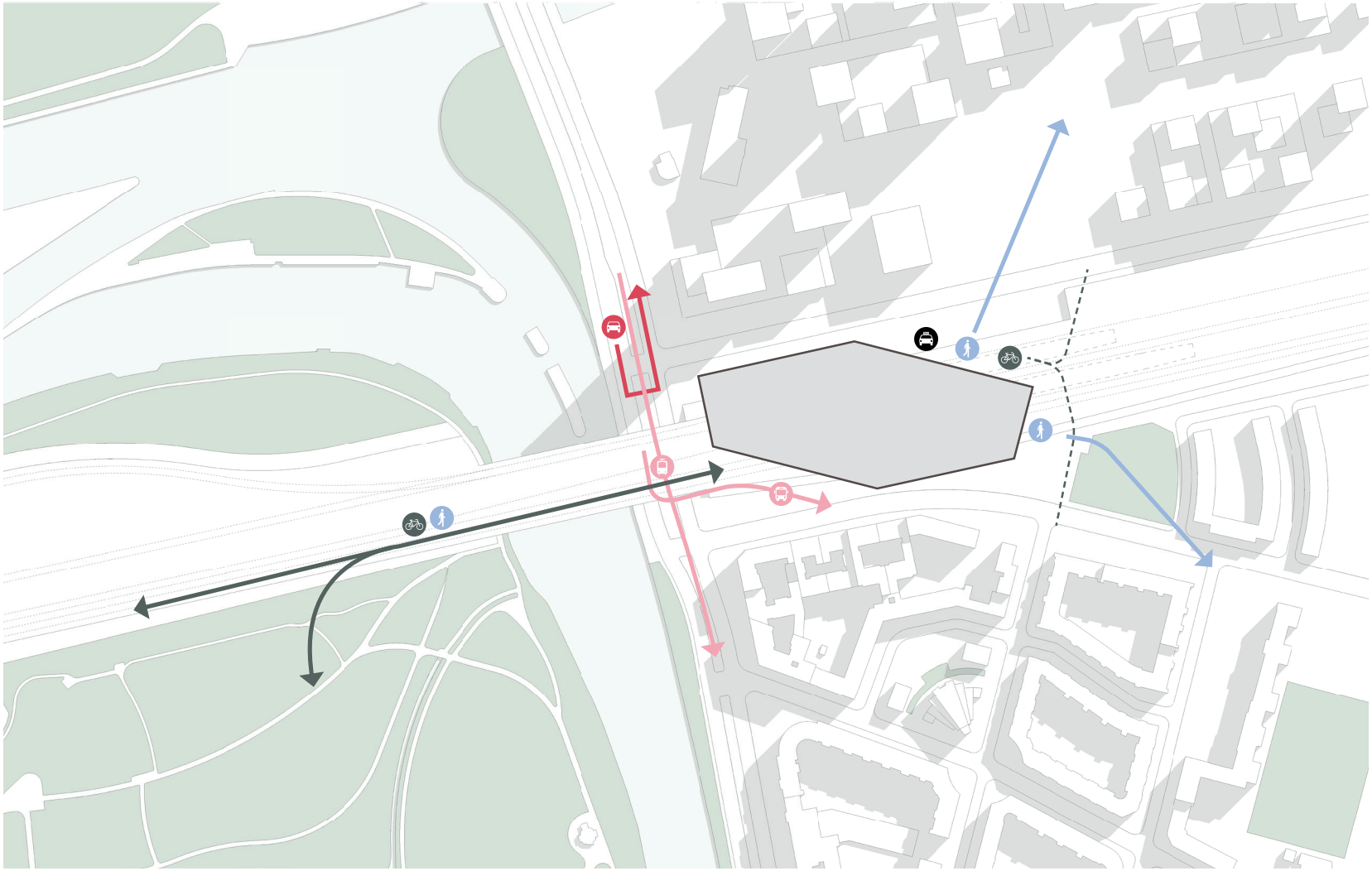
Using the station as a separator.

SITE AMBITIONS



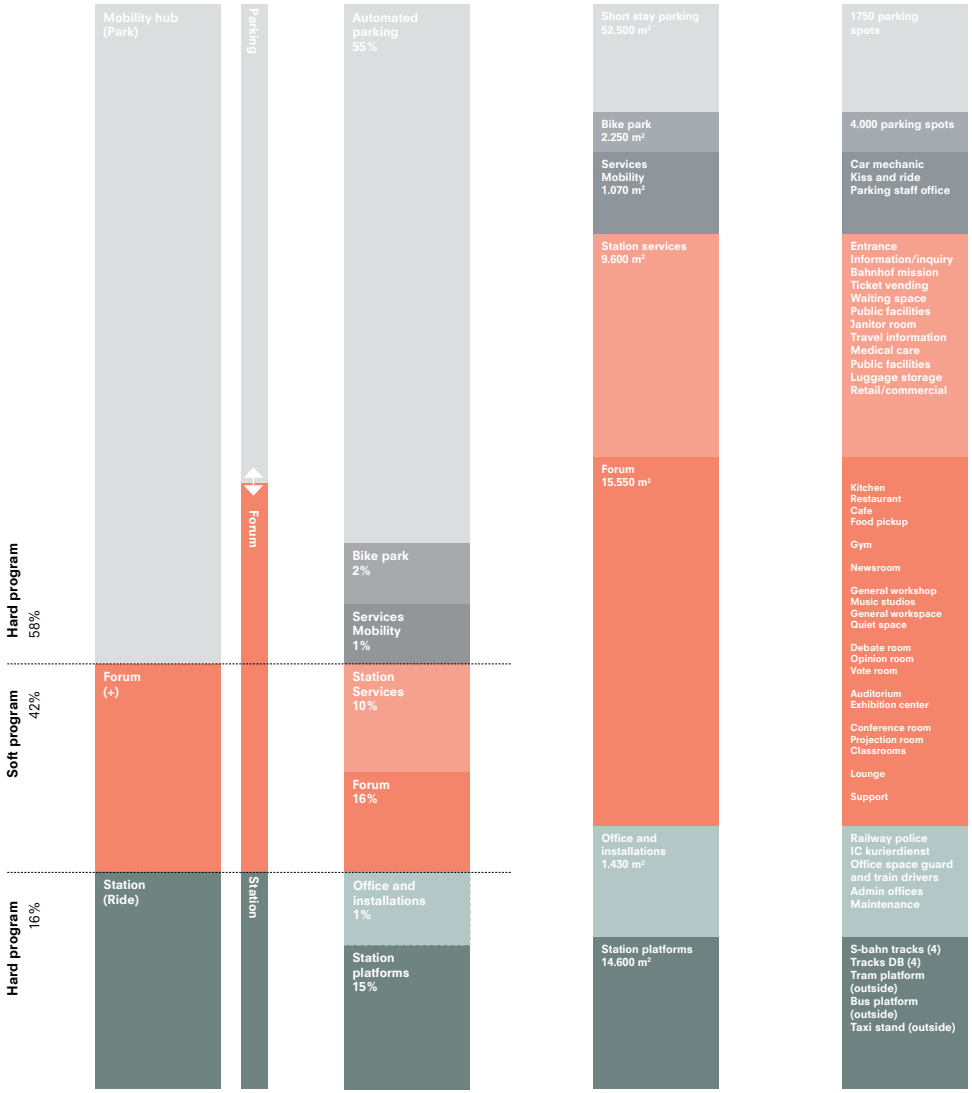
Organised and shaped by surroundings.

SITE AMBITIONS

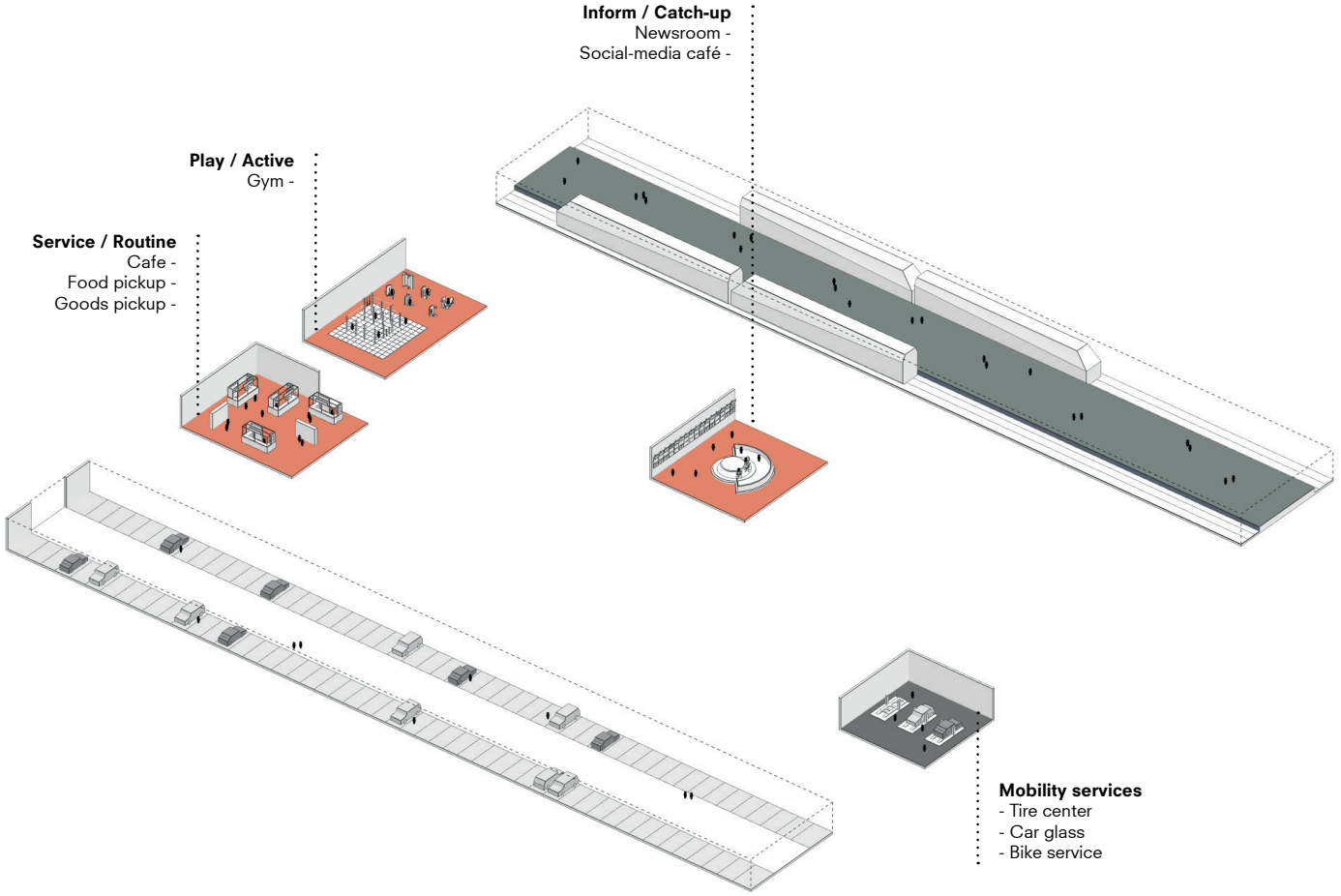


Underground rail and existing bridge as a green corridor.

PROGRAM BREAKDOWN

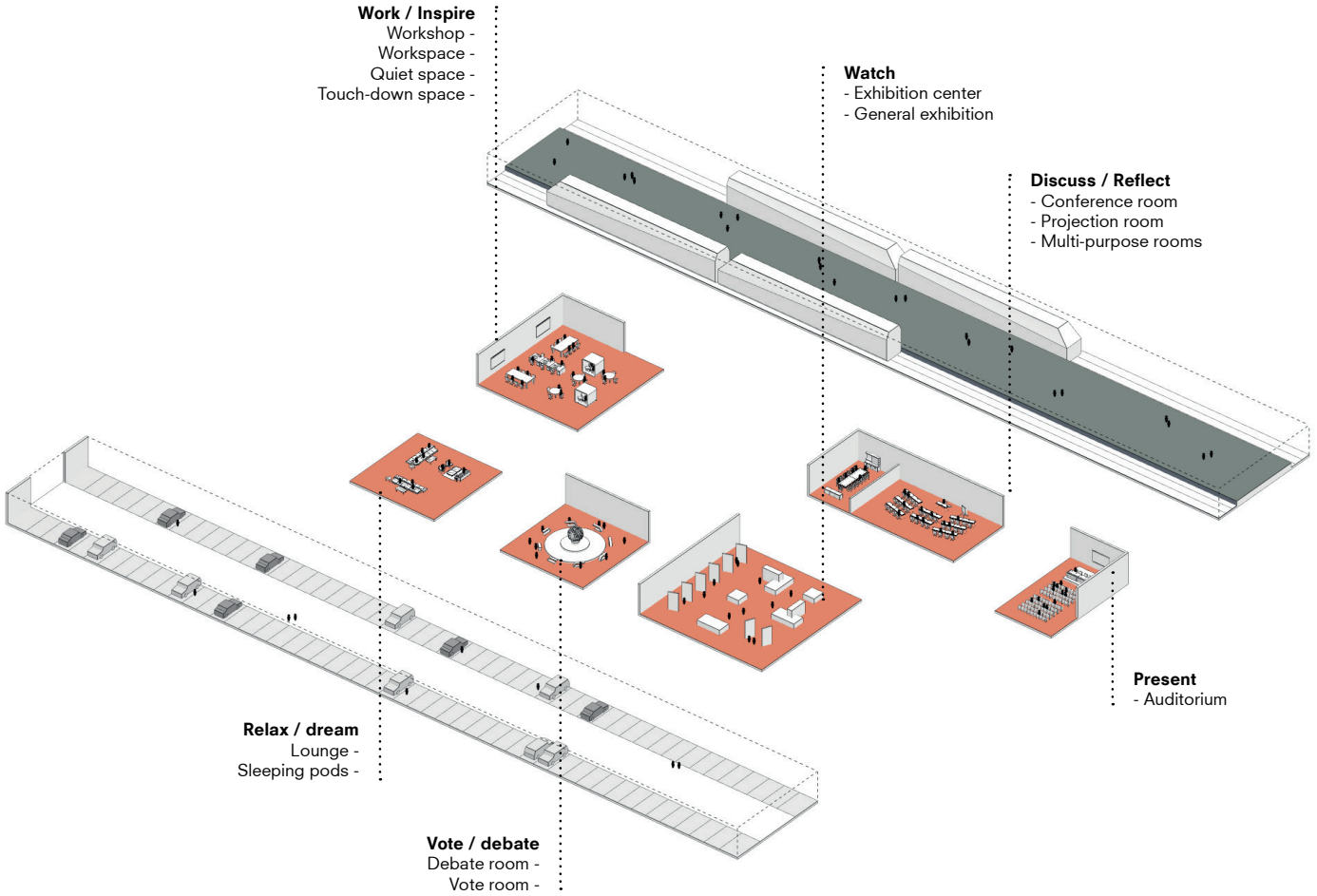


SERVICE RELATED



Shortening transition times

EXPERIENCE RELATED



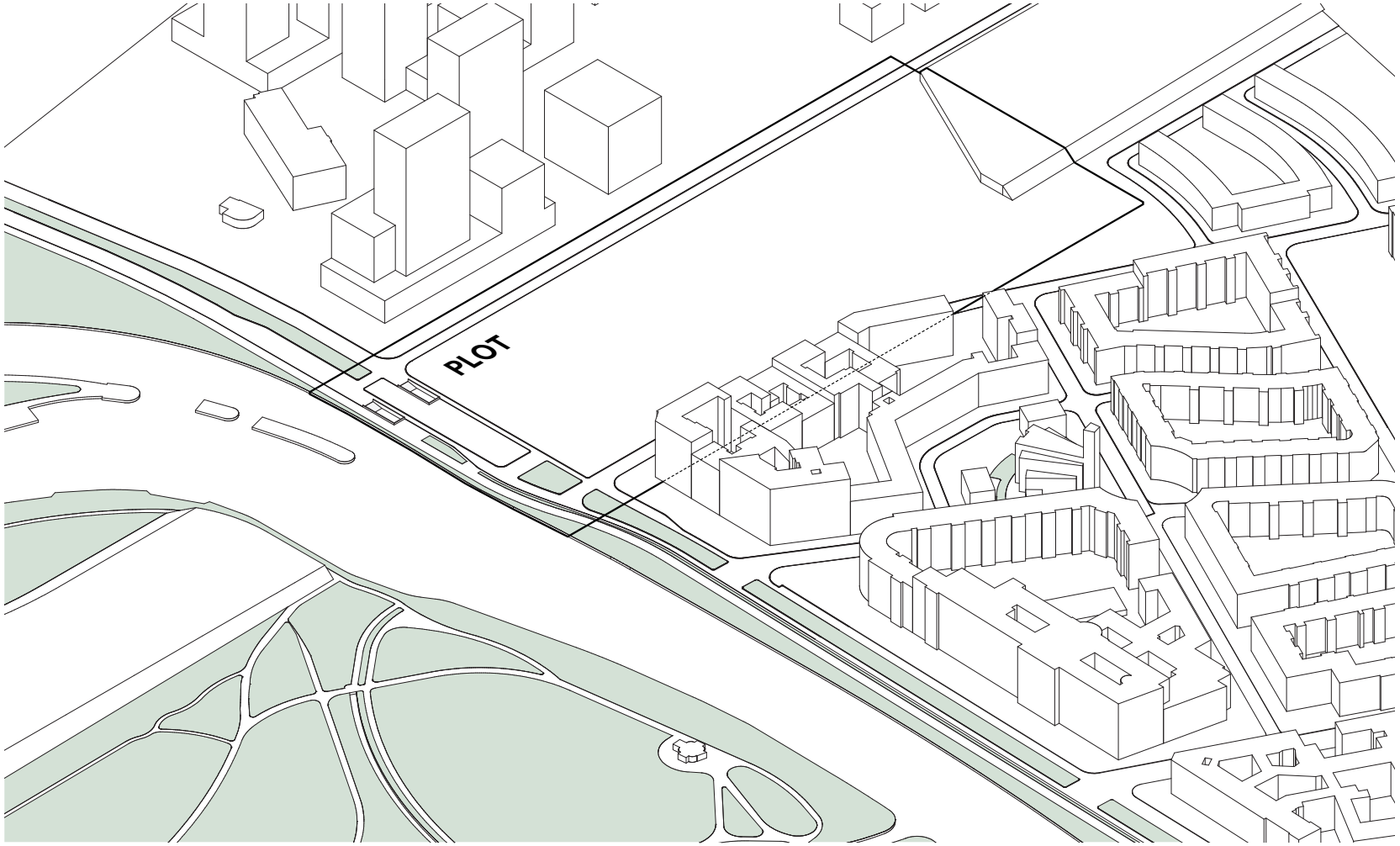
Adding functional commuter services

PROGRAM RELATIONS

The program is organised on time spent at the station.

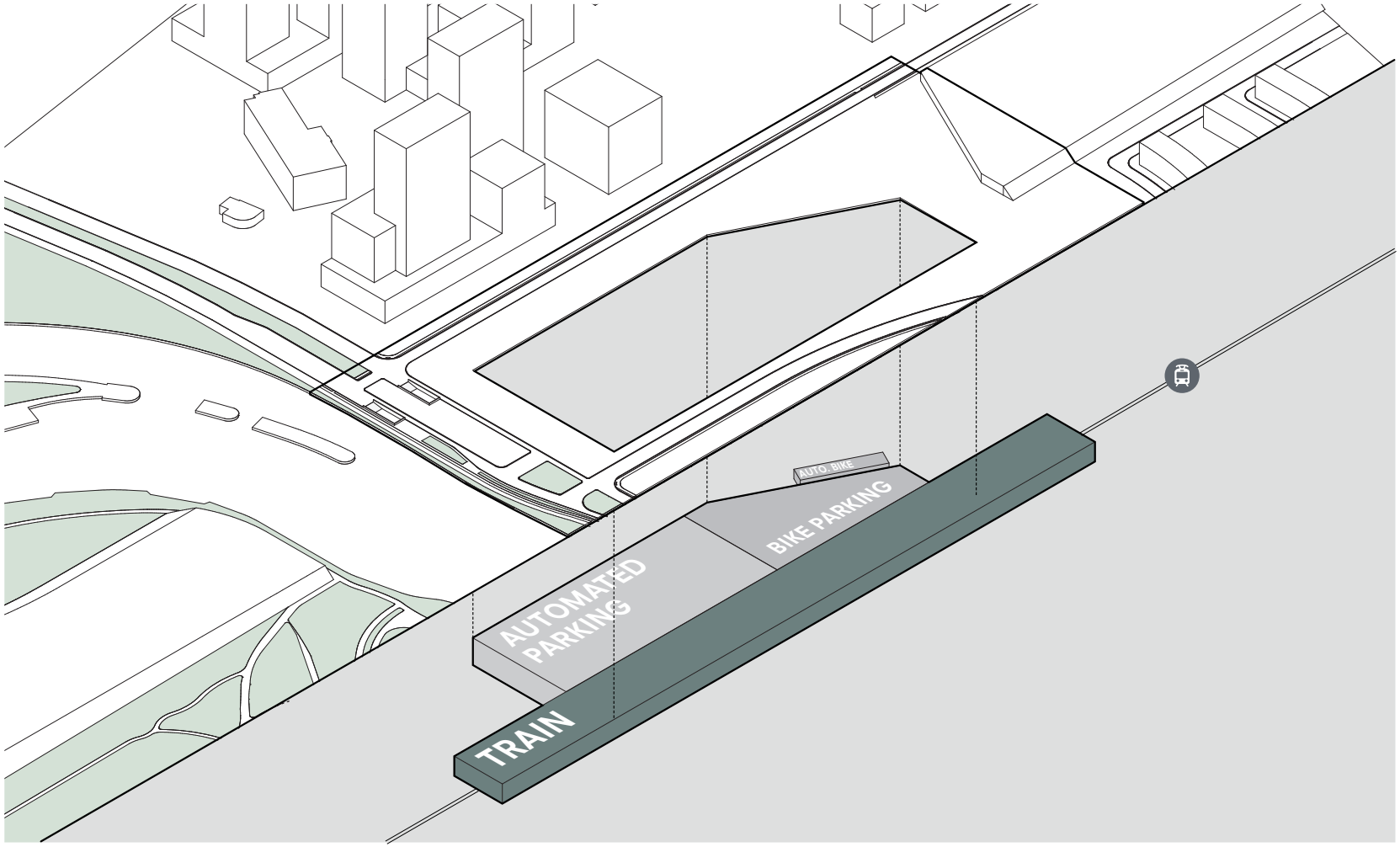
CONCEPT

BUILDING ORGANISATION



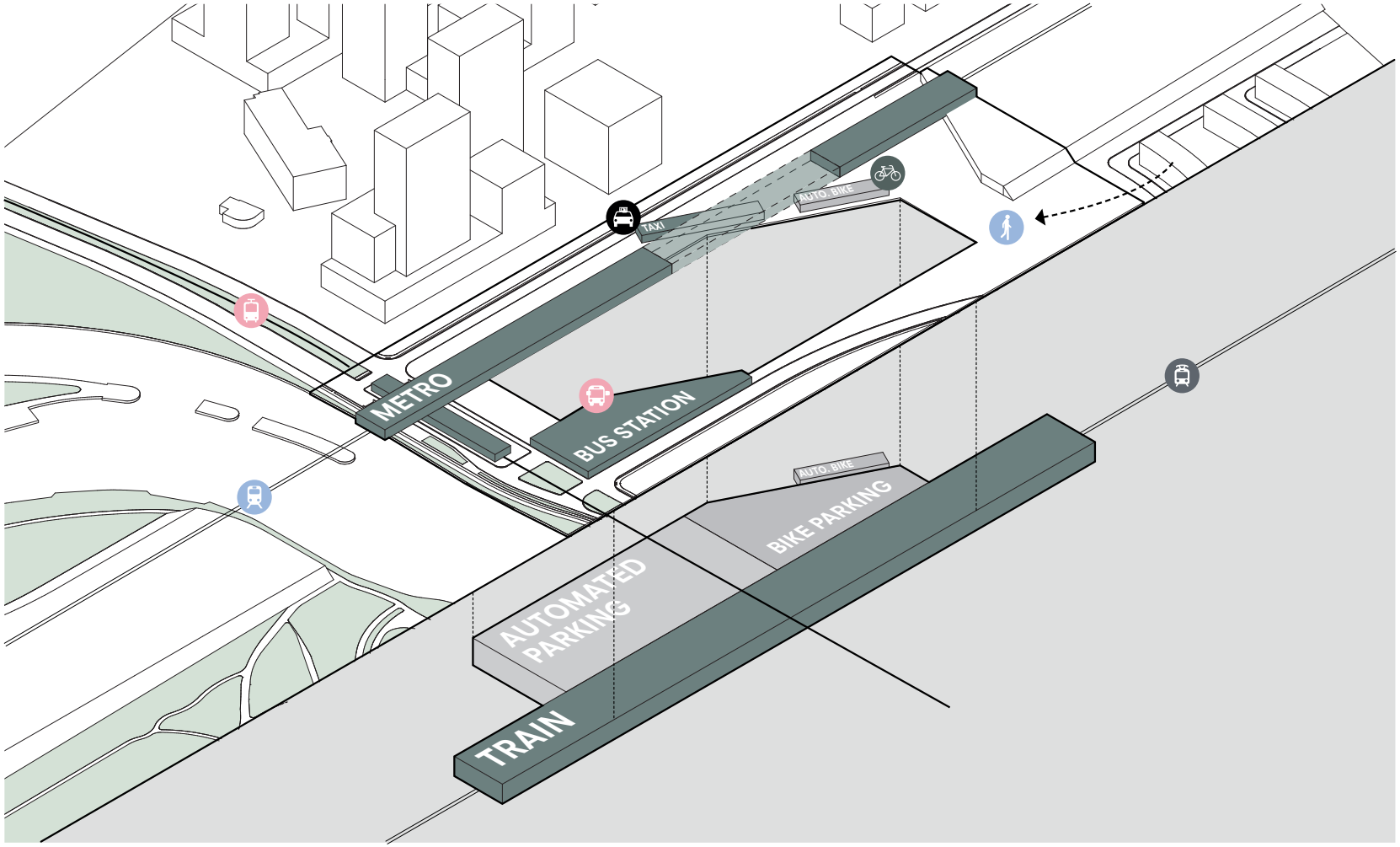
Building plot.

BUILDING CONCEPT



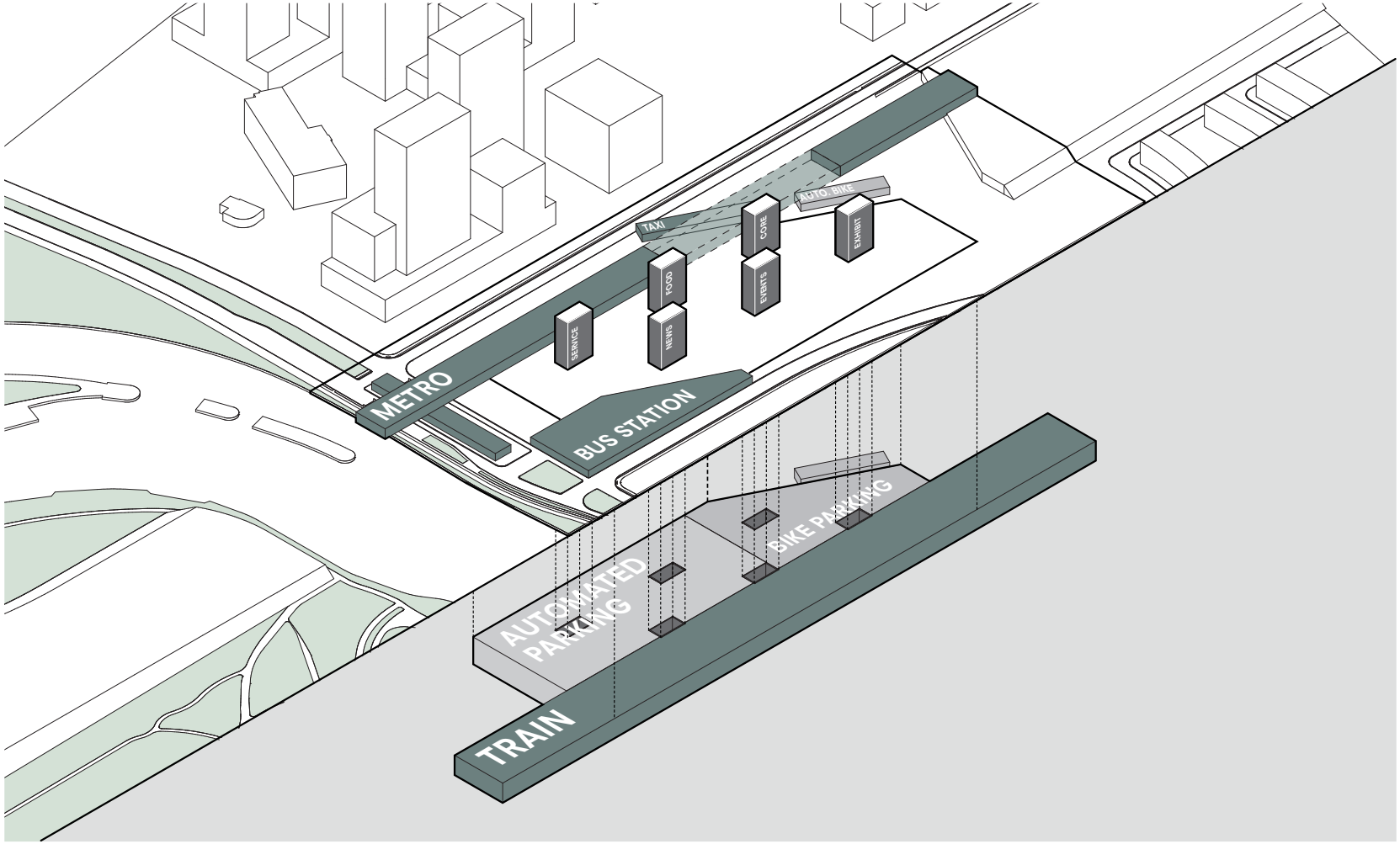
Hiding the hard infrastructure on site.

BUILDING CONCEPT



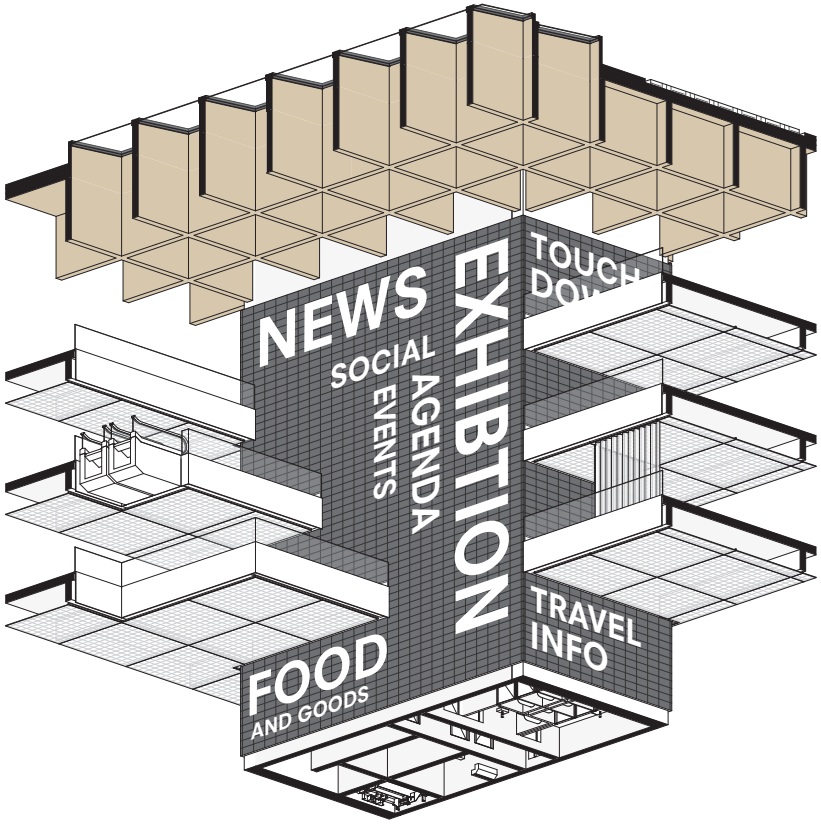
Other modes of transportation are placed around the central building zone.

BUILDING CONCEPT



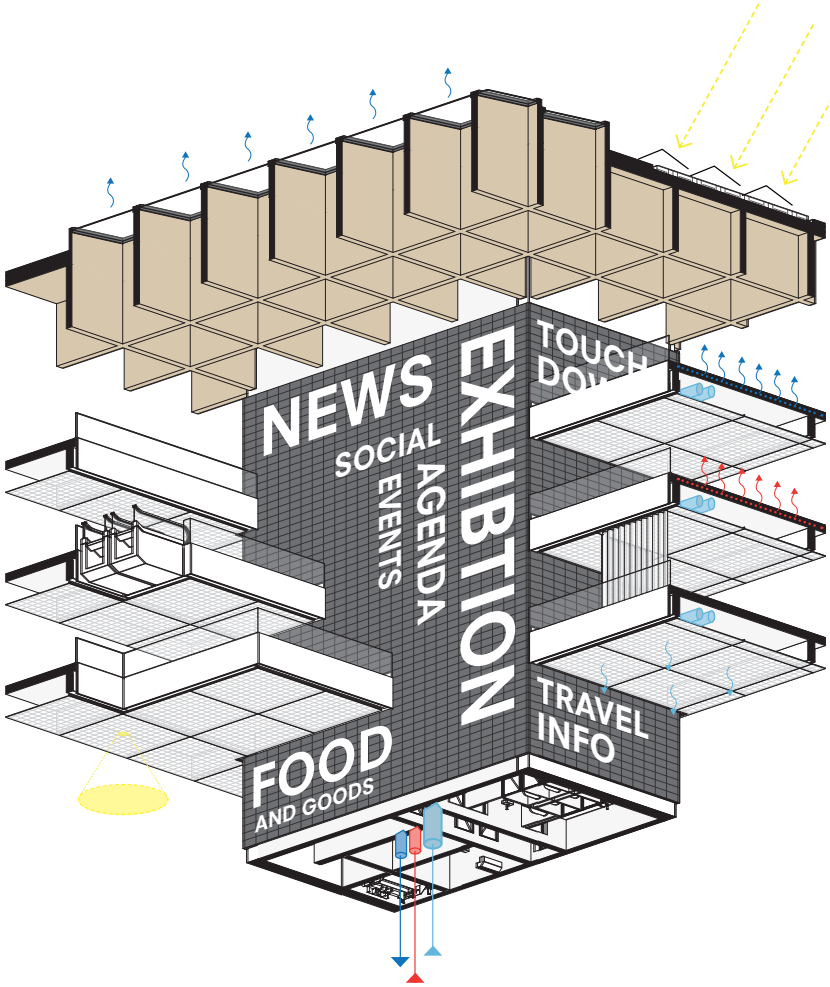
Building service cores are placed in the middle of the plot.

SERVICE CORE



Service core is a way of showing and serving the user throughout their journey...

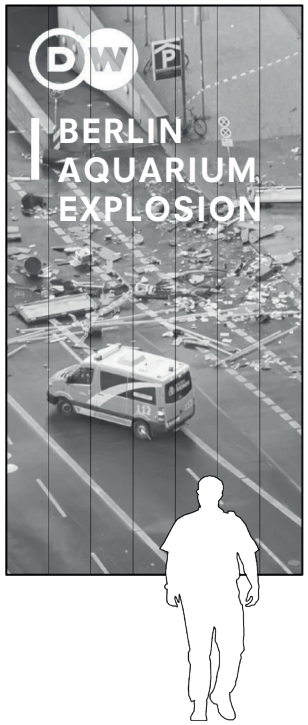
CLIMATE SYSTEM



But also integrates most climate and technical systems in one system.

LED SCREEN INTERACTION

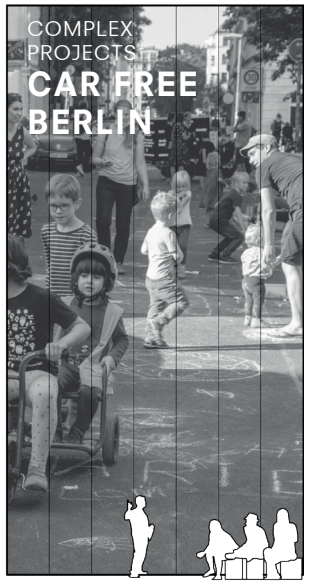
Catch-up
Catching-up with news



Service
Daily-routine

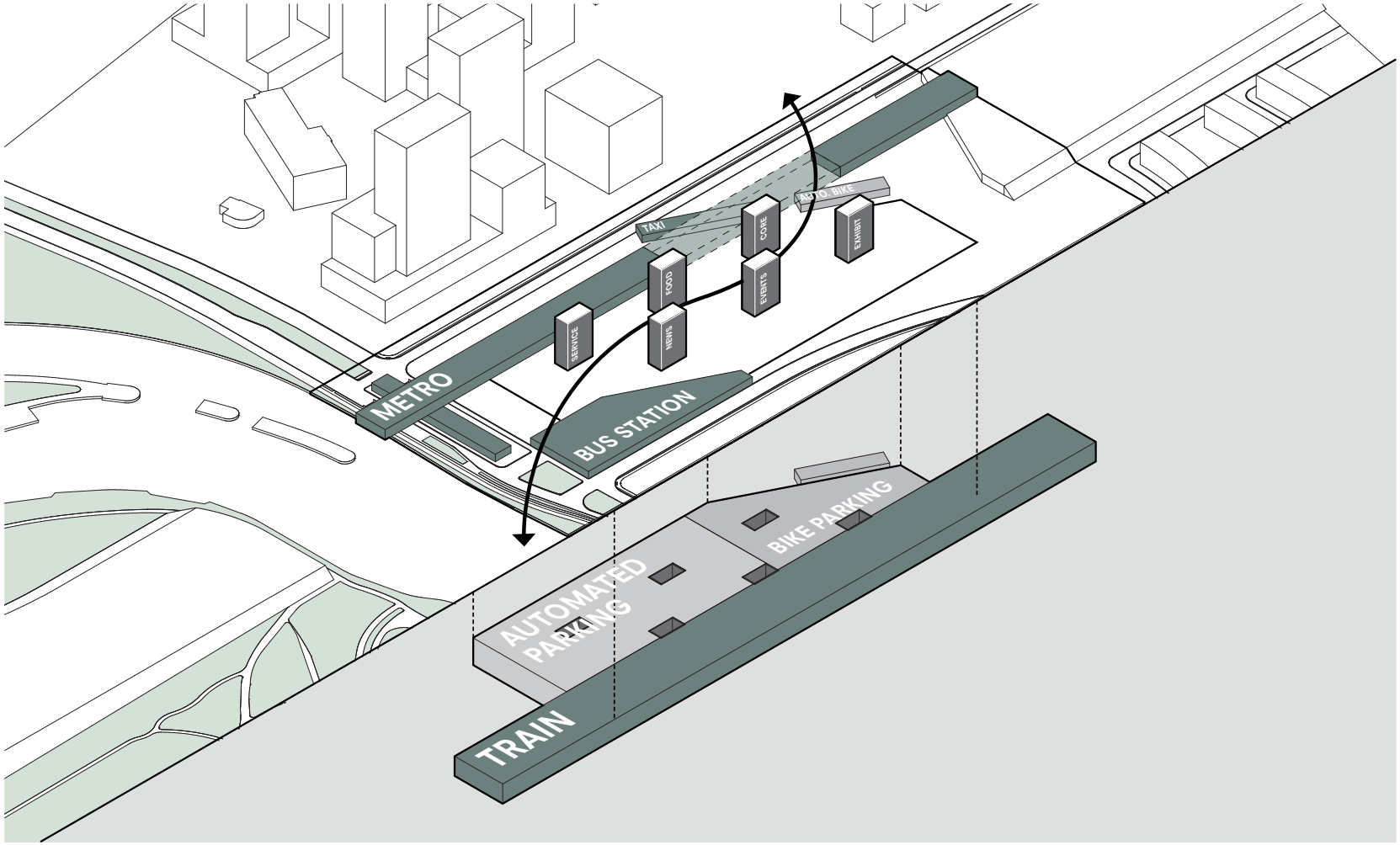
Event
Display events

Presentation
Personal use



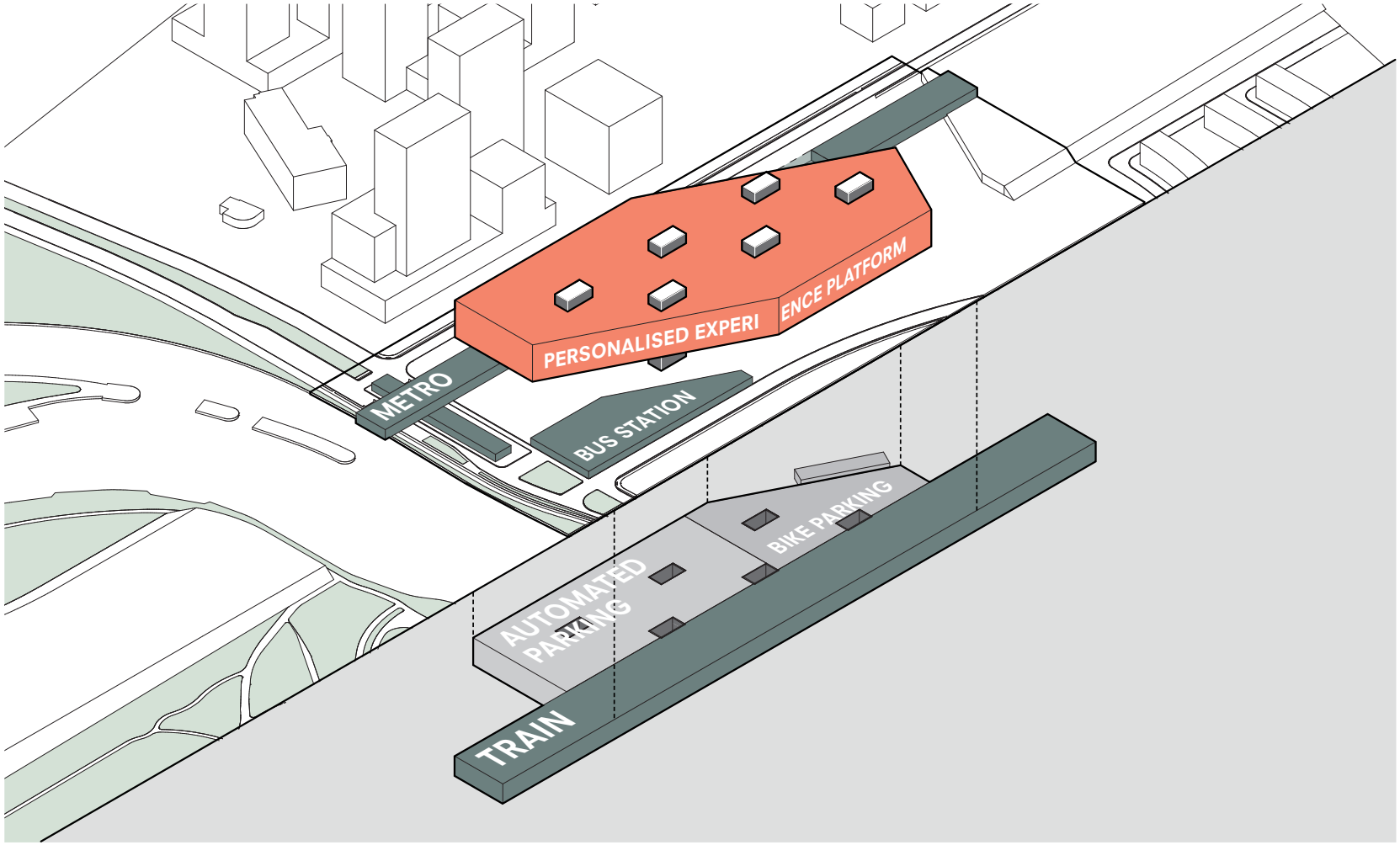
The core can serve the user by catching up, personal use, events and daily routine service.

BUILDING CONCEPT



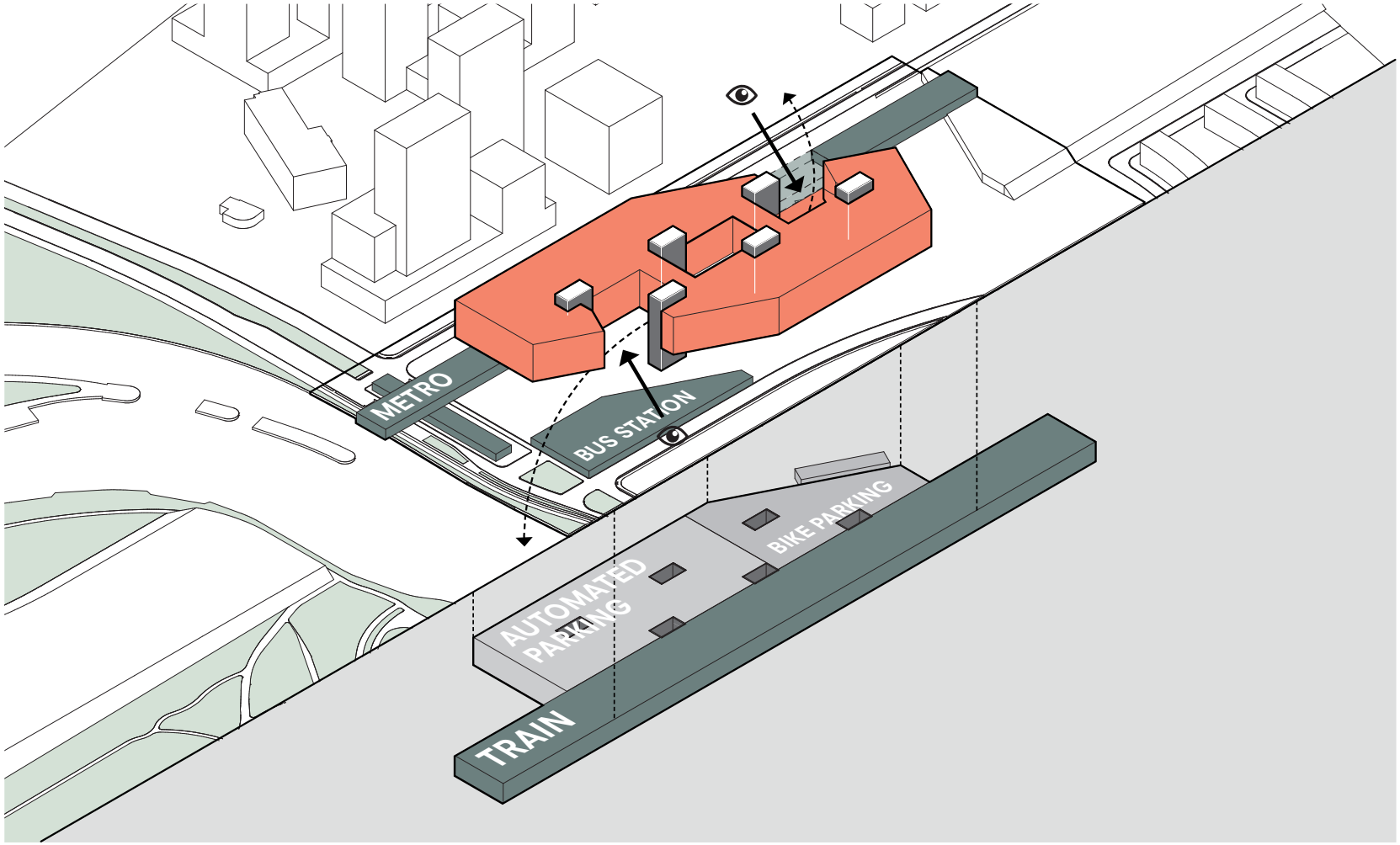
The main circulation flow in the building goes through the central zone between the service cores.

BUILDING CONCEPT



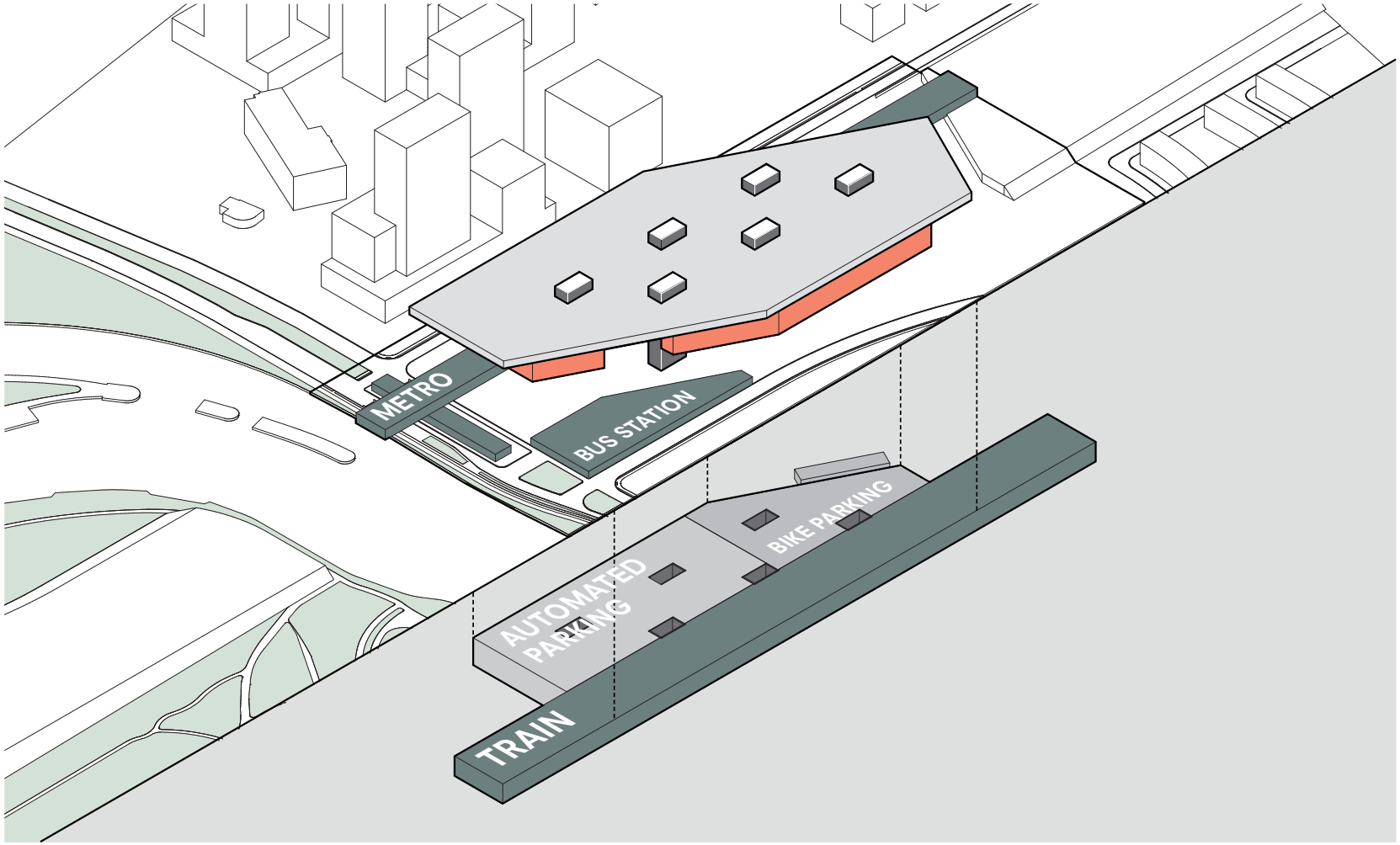
The personalised experience platform (forum) is attached to the service cores.

BUILDING CONCEPT



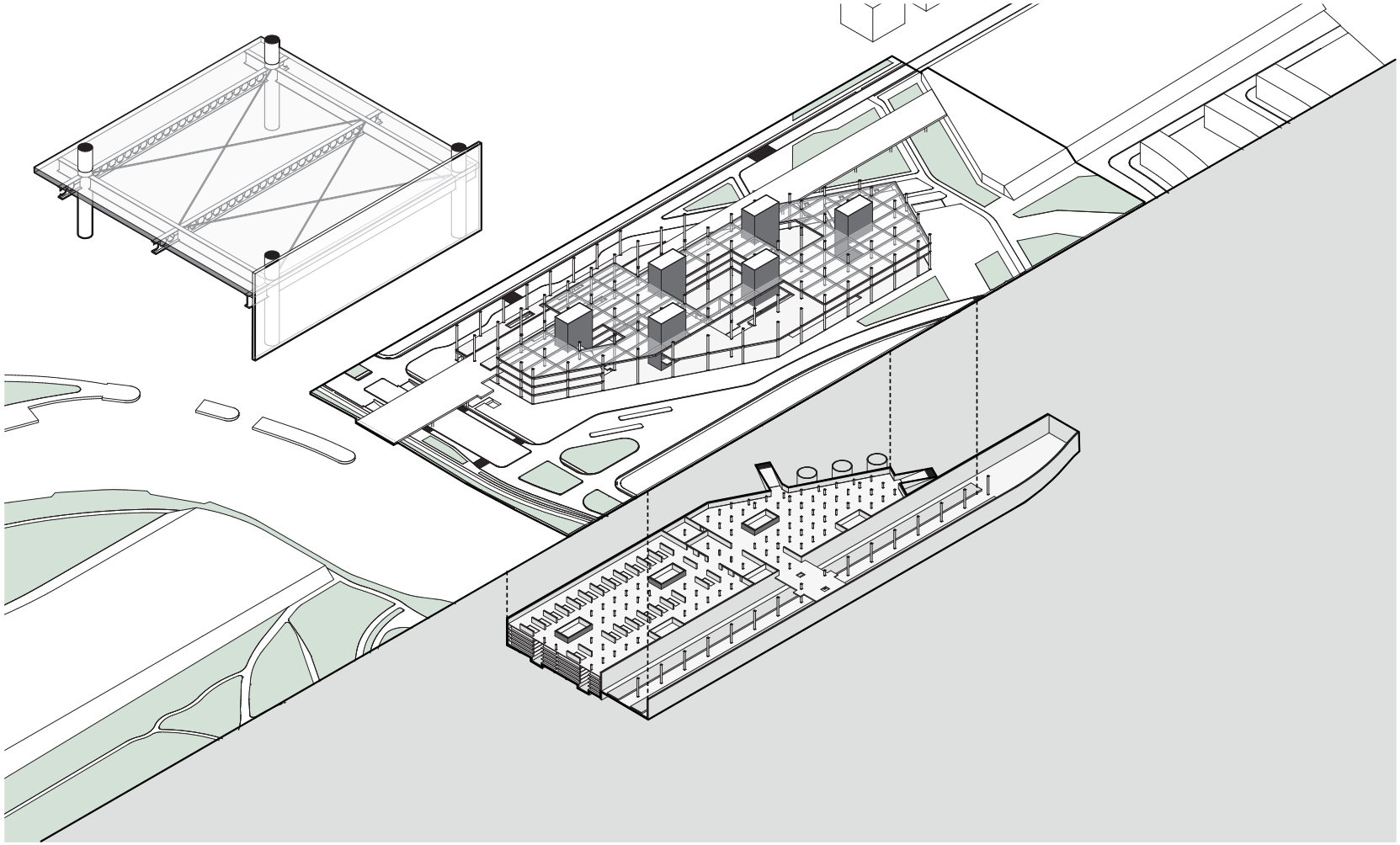
The forum is cut open to have a view of the service cores.

BUILDING CONCEPT



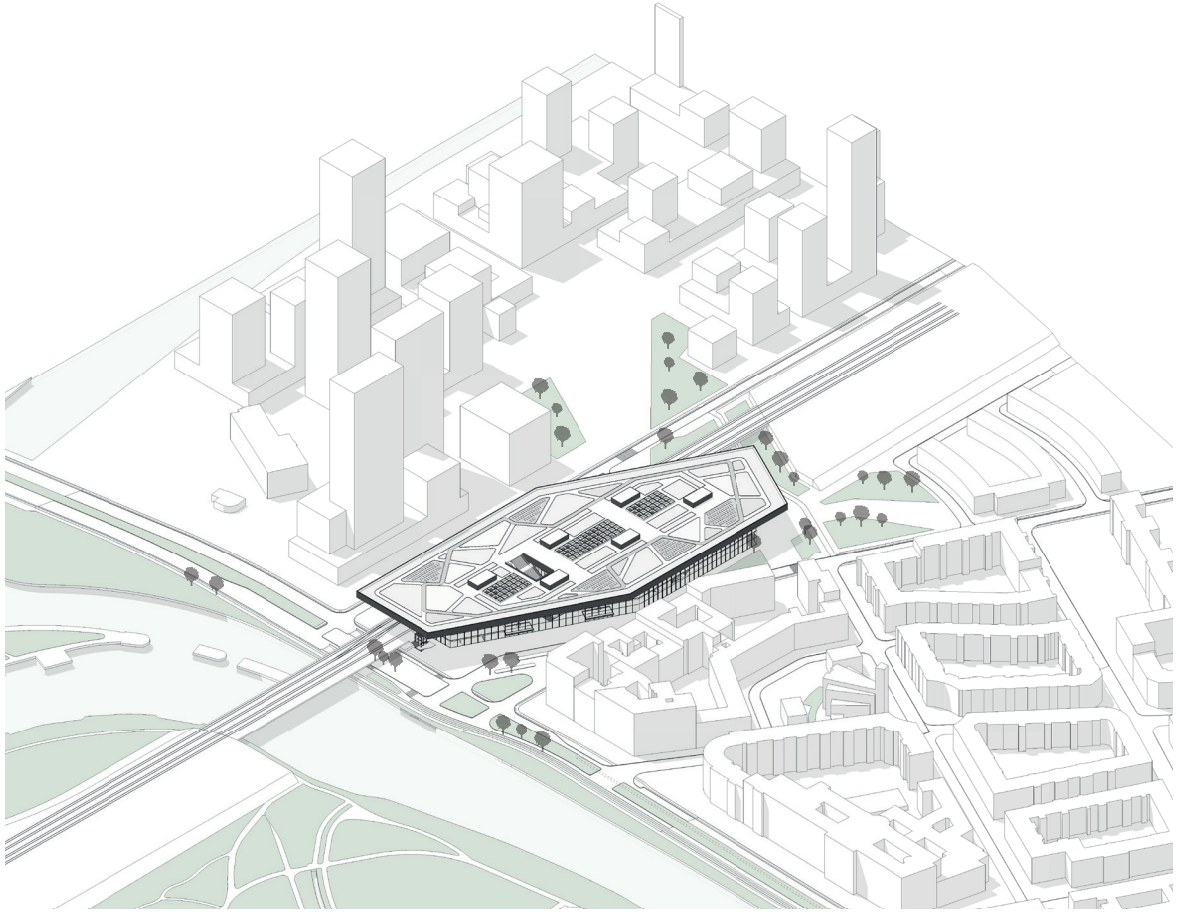
All is covered underneath one roof.

STRUCTURAL CONCEPT



The structural concept is based on a 14.4 by 14.4 grid. Allowing maximum flexibility and making the service cores standalone.

DESIGN OVERVIEW



Which resulted in this building.

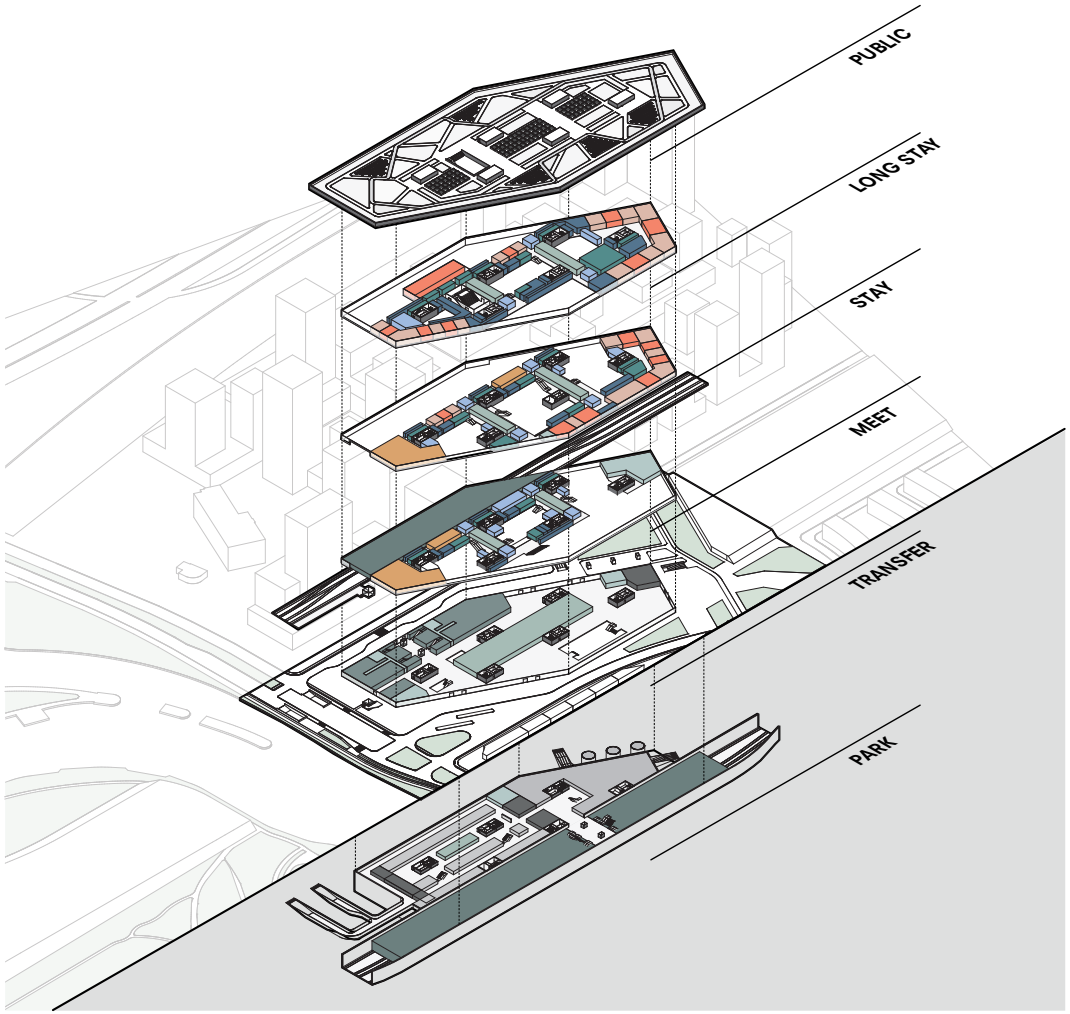
BUILDING ORGANISATION

Station

- Offices and services
- Parking
- Bike parking
- Service mobility
- Station elements
- Commercial

Forum:

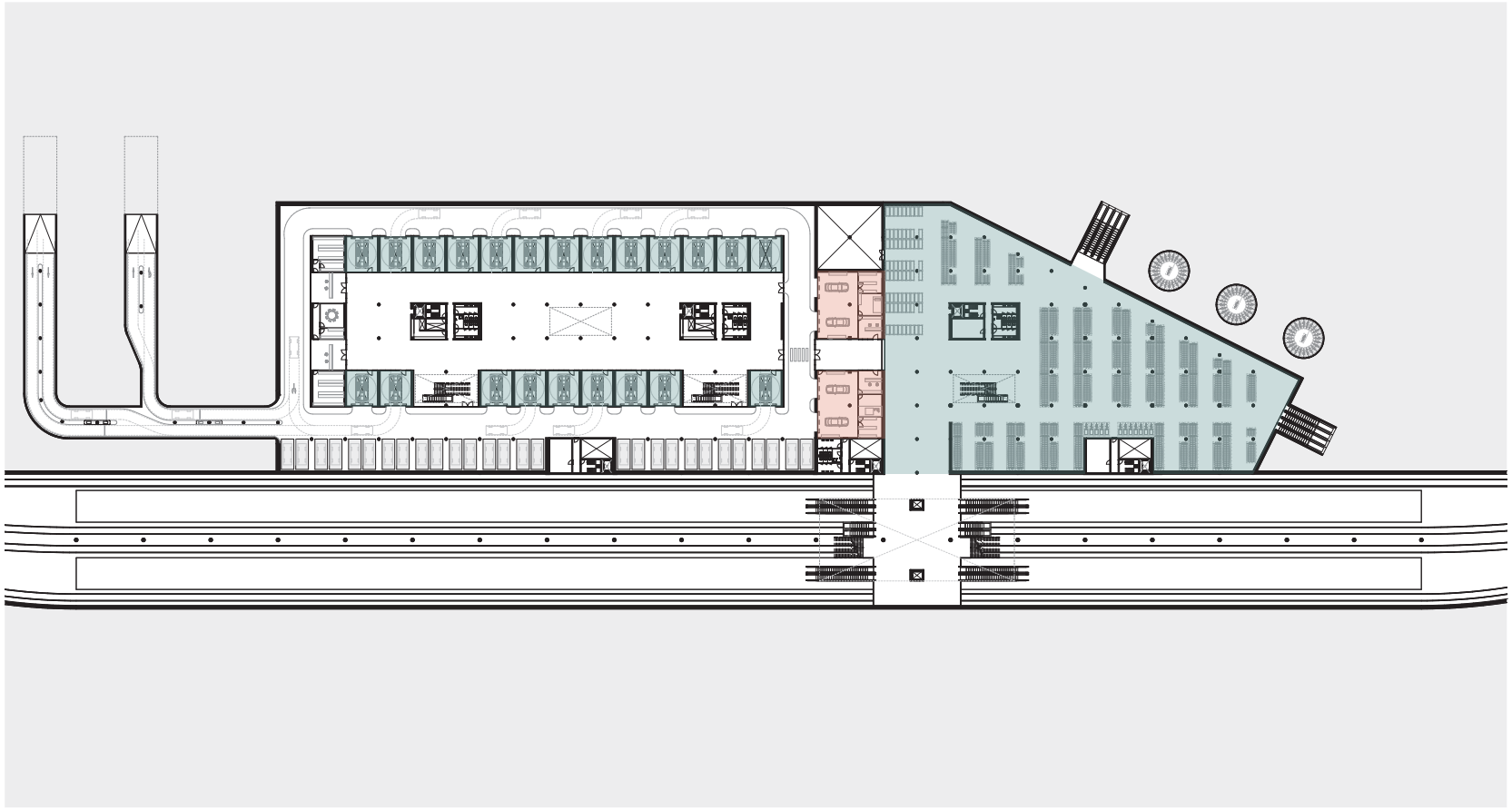
- Service fixed
- Workshops
- Multi-purpose rooms
- Touch down spaces
- Lounge
- Curtain zones
- Exhibition



Program placement based on time spent in the building.

DESIGN

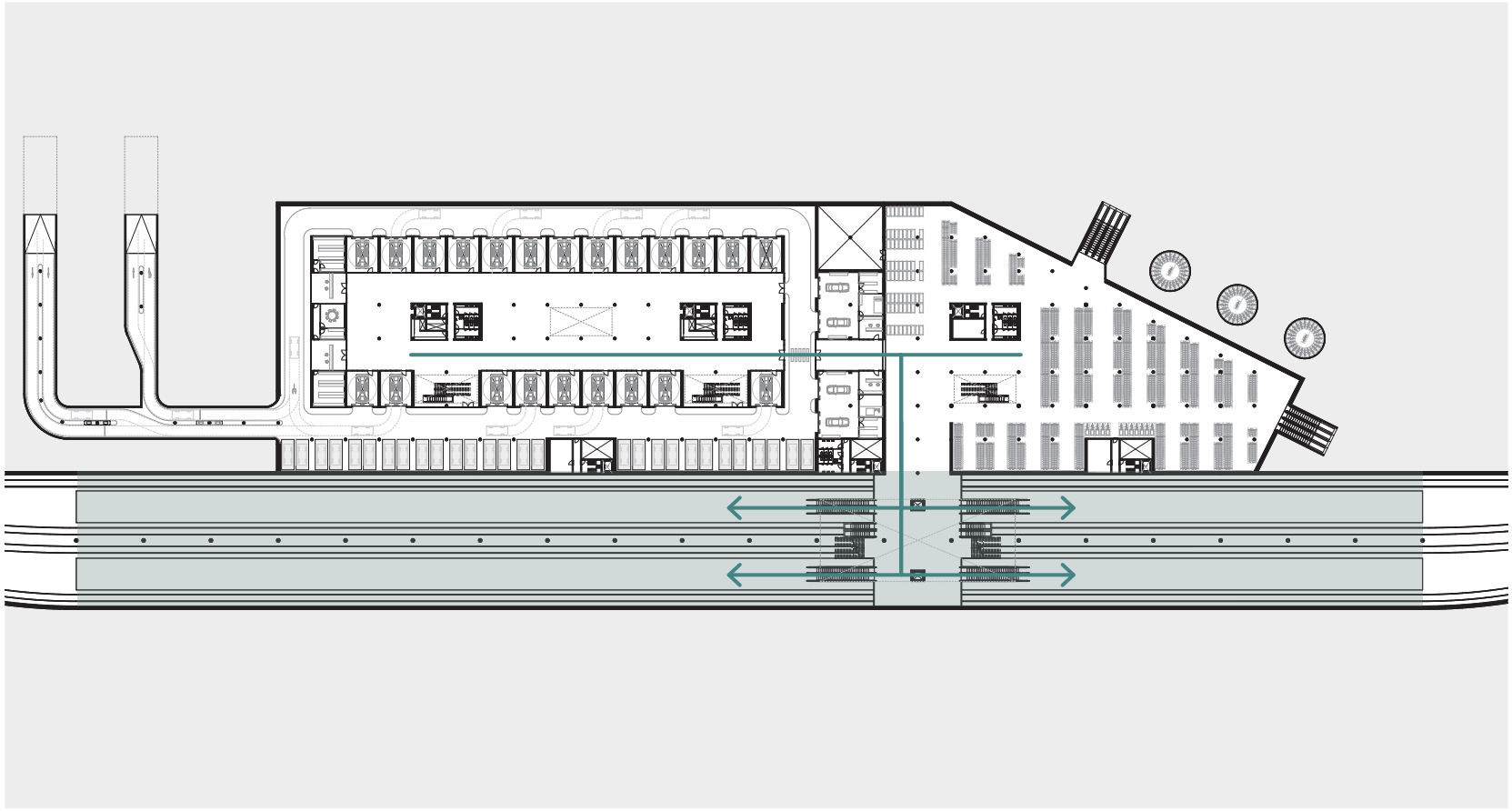
BASEMENT



Bike and car oriented services.

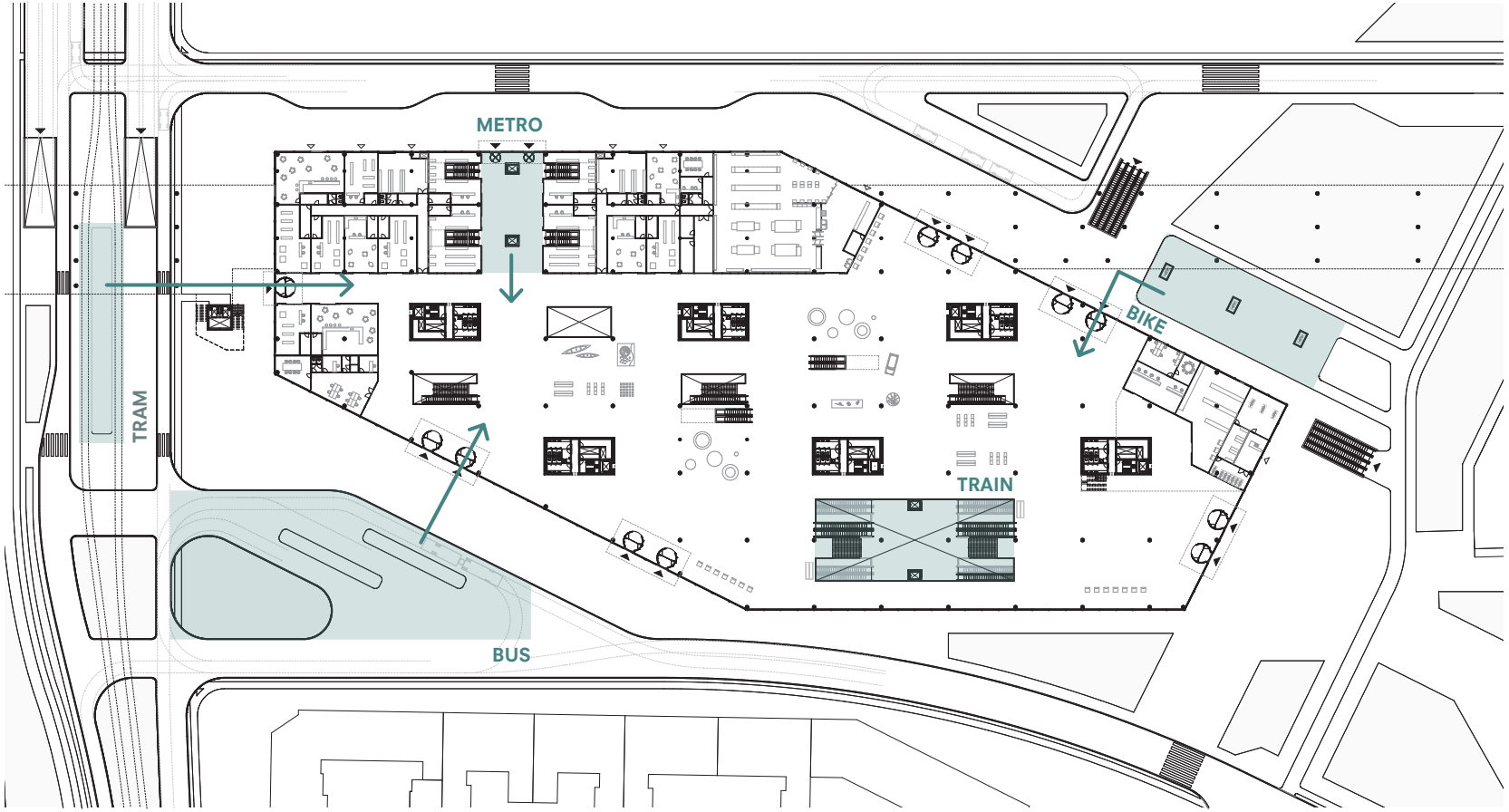
CAR DROP-OFF

BASEMENT



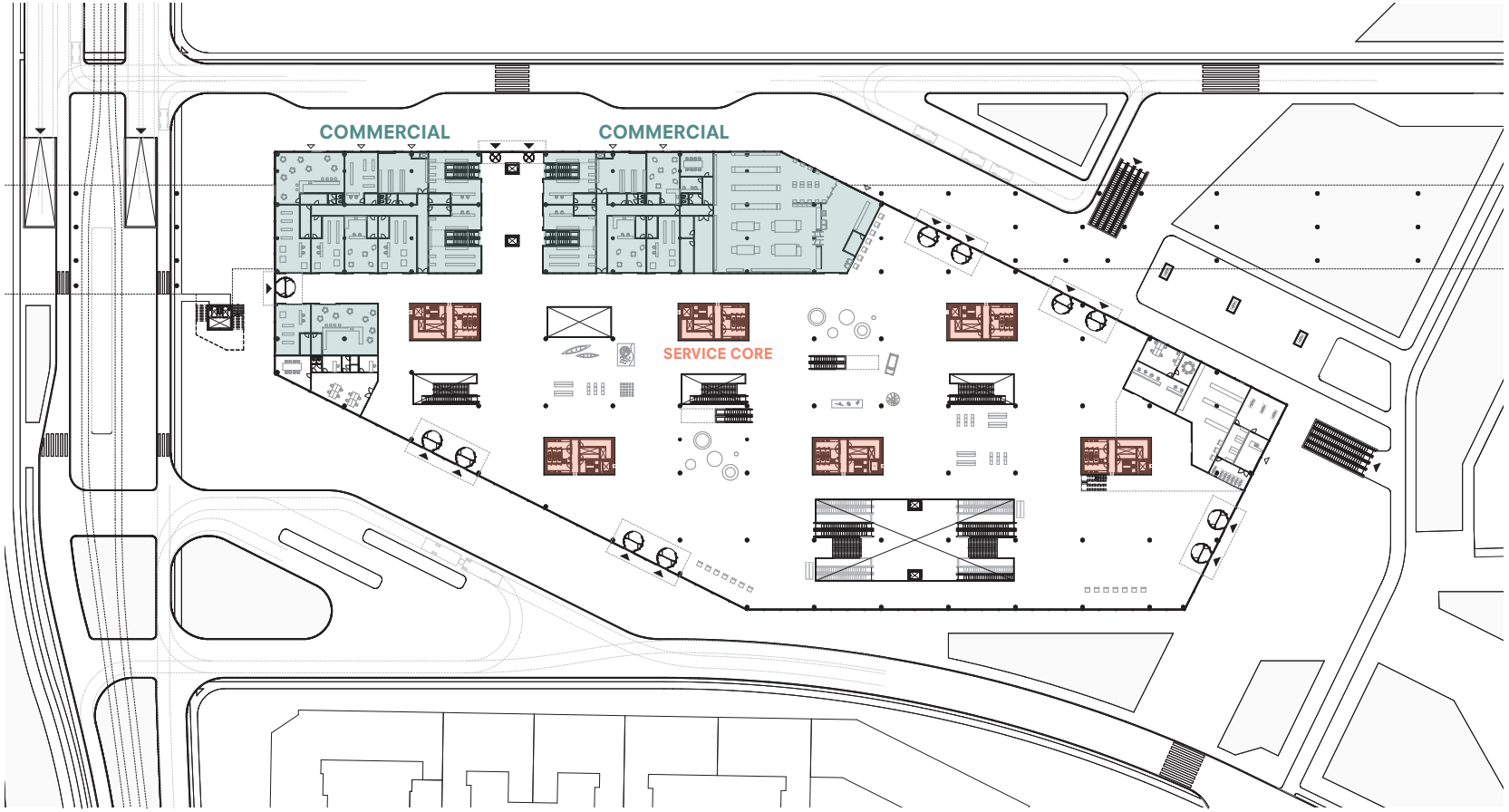
Directly connected to train station.

GROUND FLOOR



Oriented on switching modes of transportation.

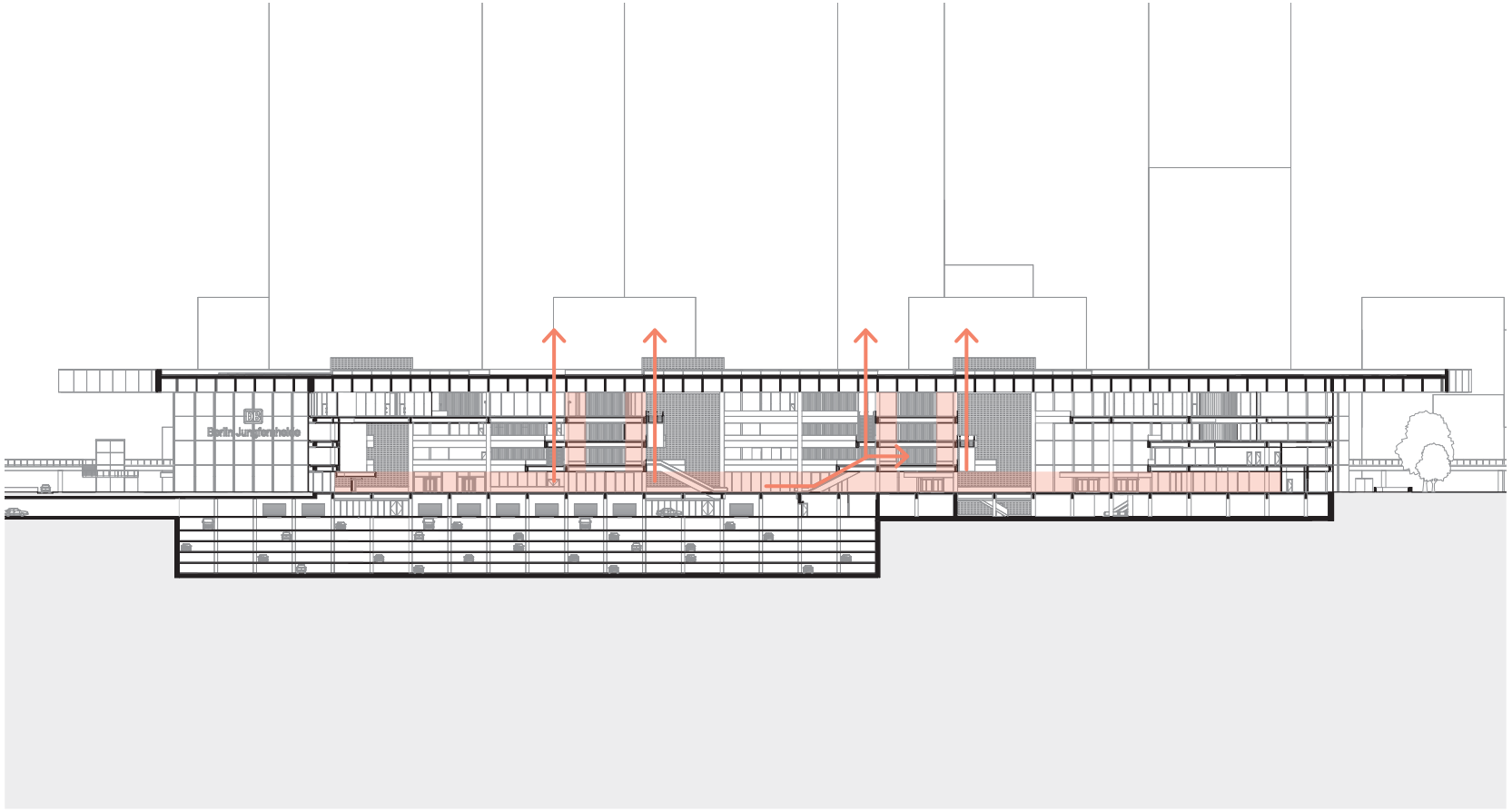
GROUND FLOOR



Big station hall with service related amenities.

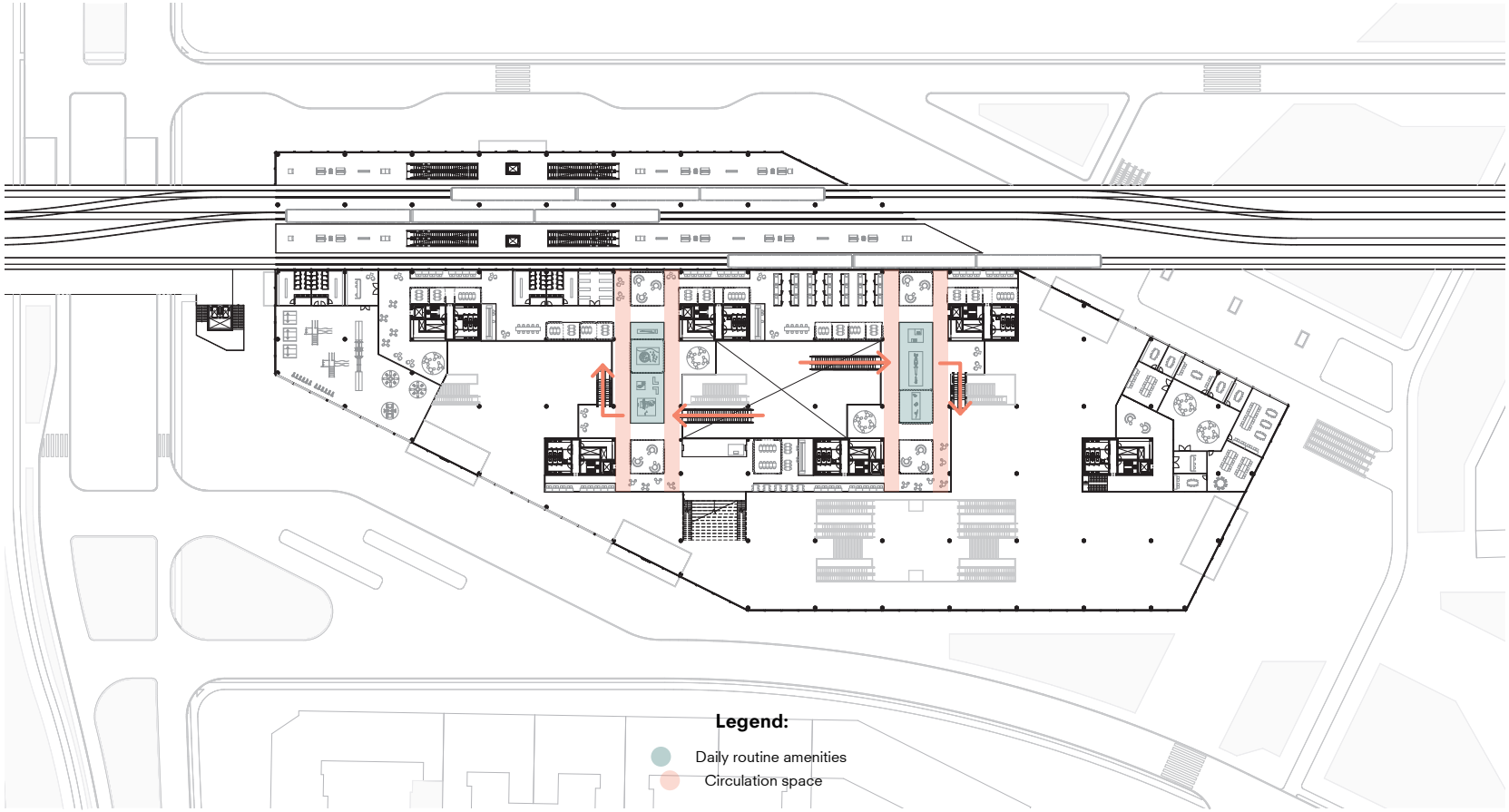
SERVICE CORE

LONGITUDINAL SECTION



Main circulation space

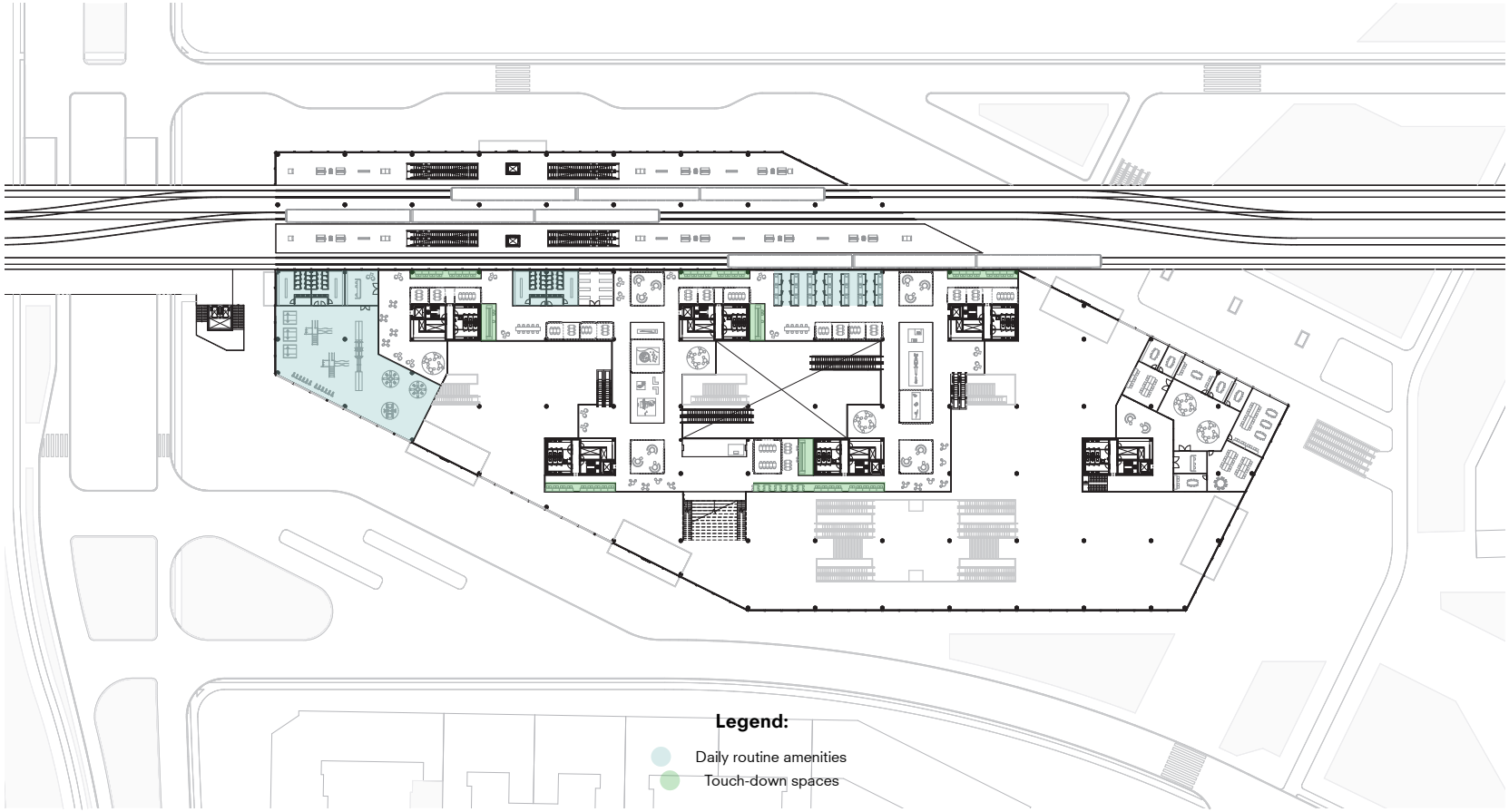
FIRST FLOOR



Exhibition zones adjacent to main circulation

EXHIBITION ZONE

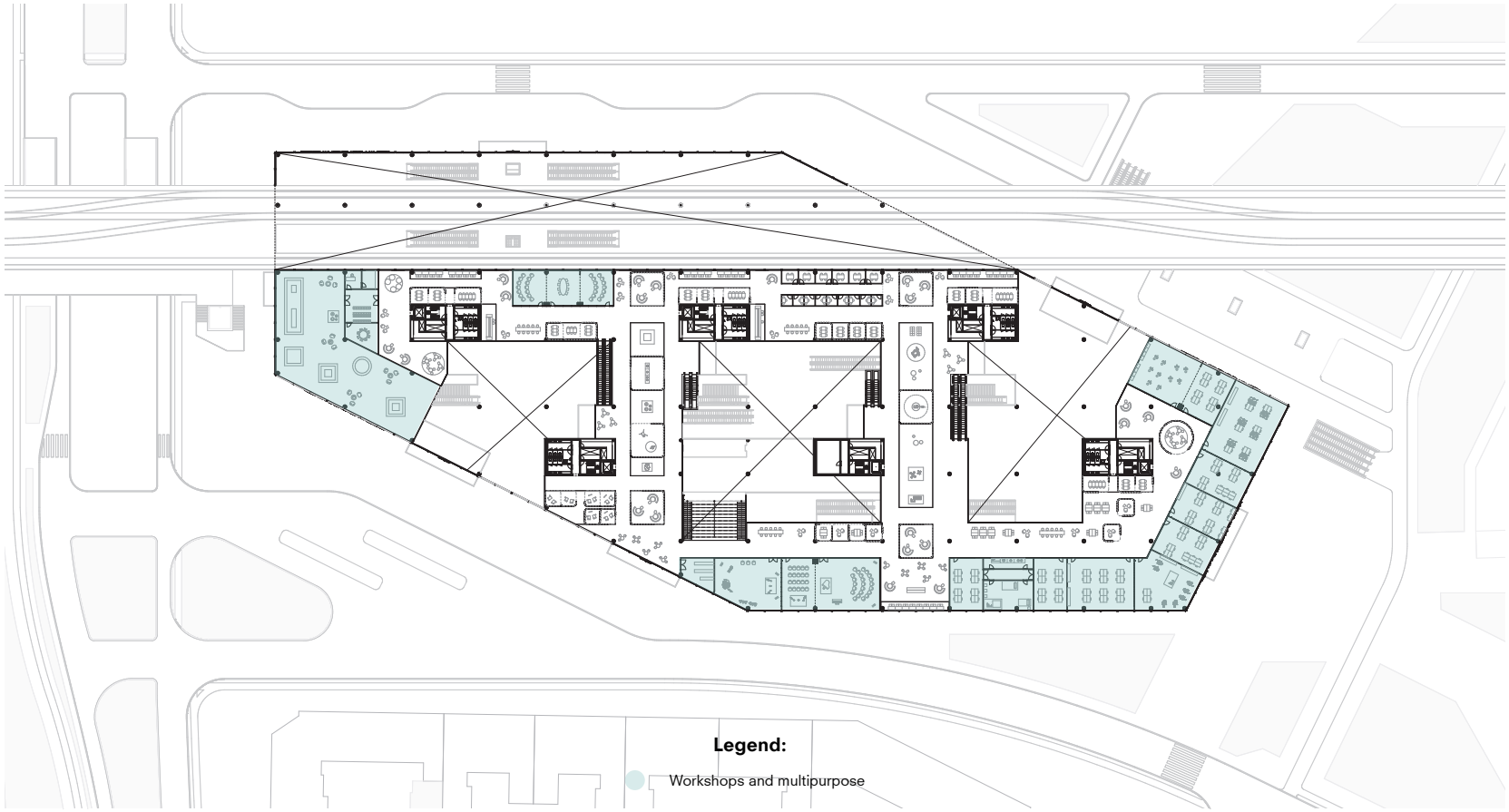
FIRST FLOOR



Short stay lounge and working spaces. Contains also daily routine amenities.

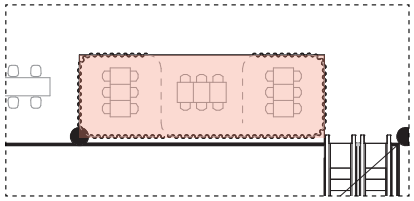
TOUCH DOWN SPACE

THIRD FLOOR

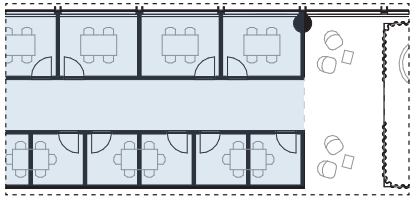


Fixed spaces placed adjacent to the buildings facade.

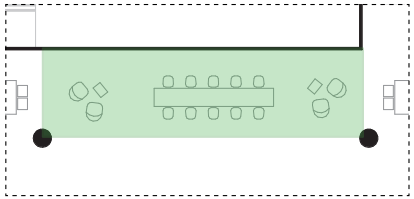
THIRD FLOOR



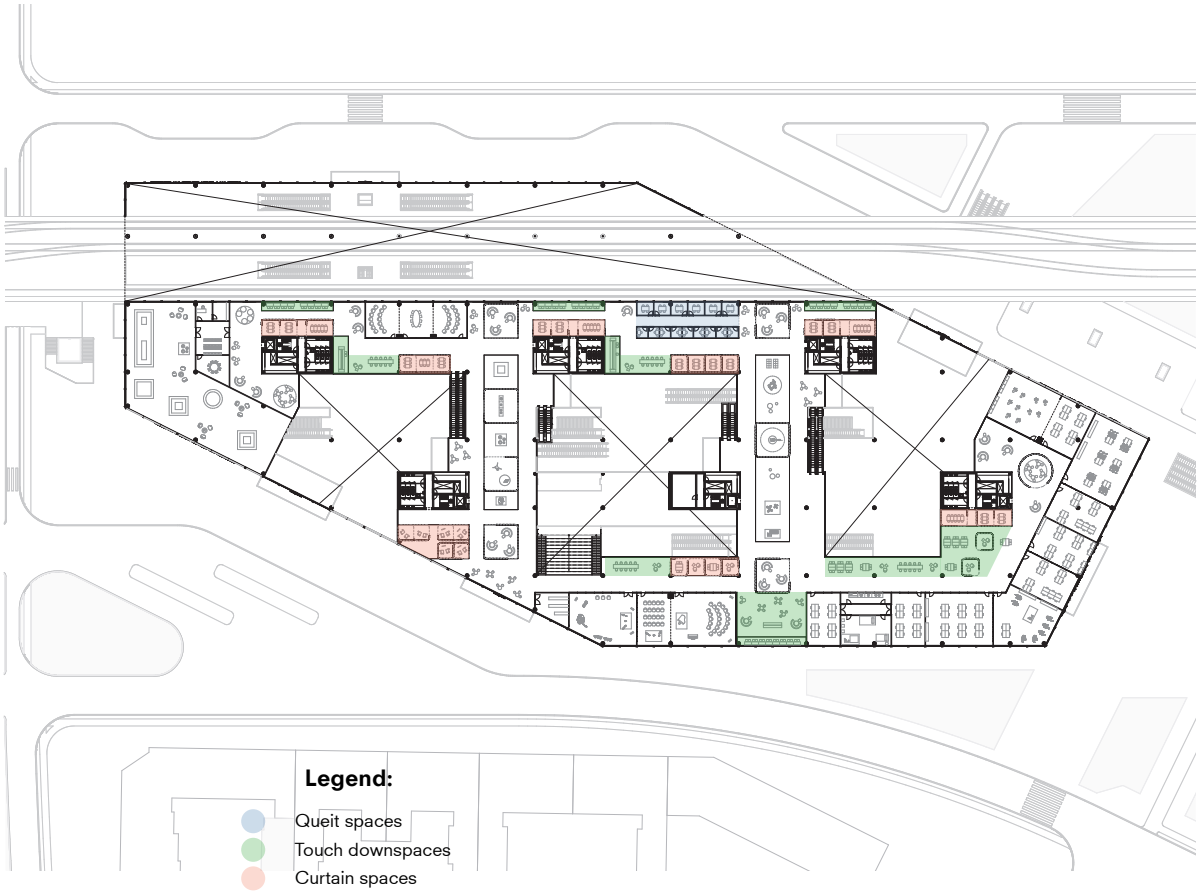
CURTAIN SPACE



QUIET SPACES



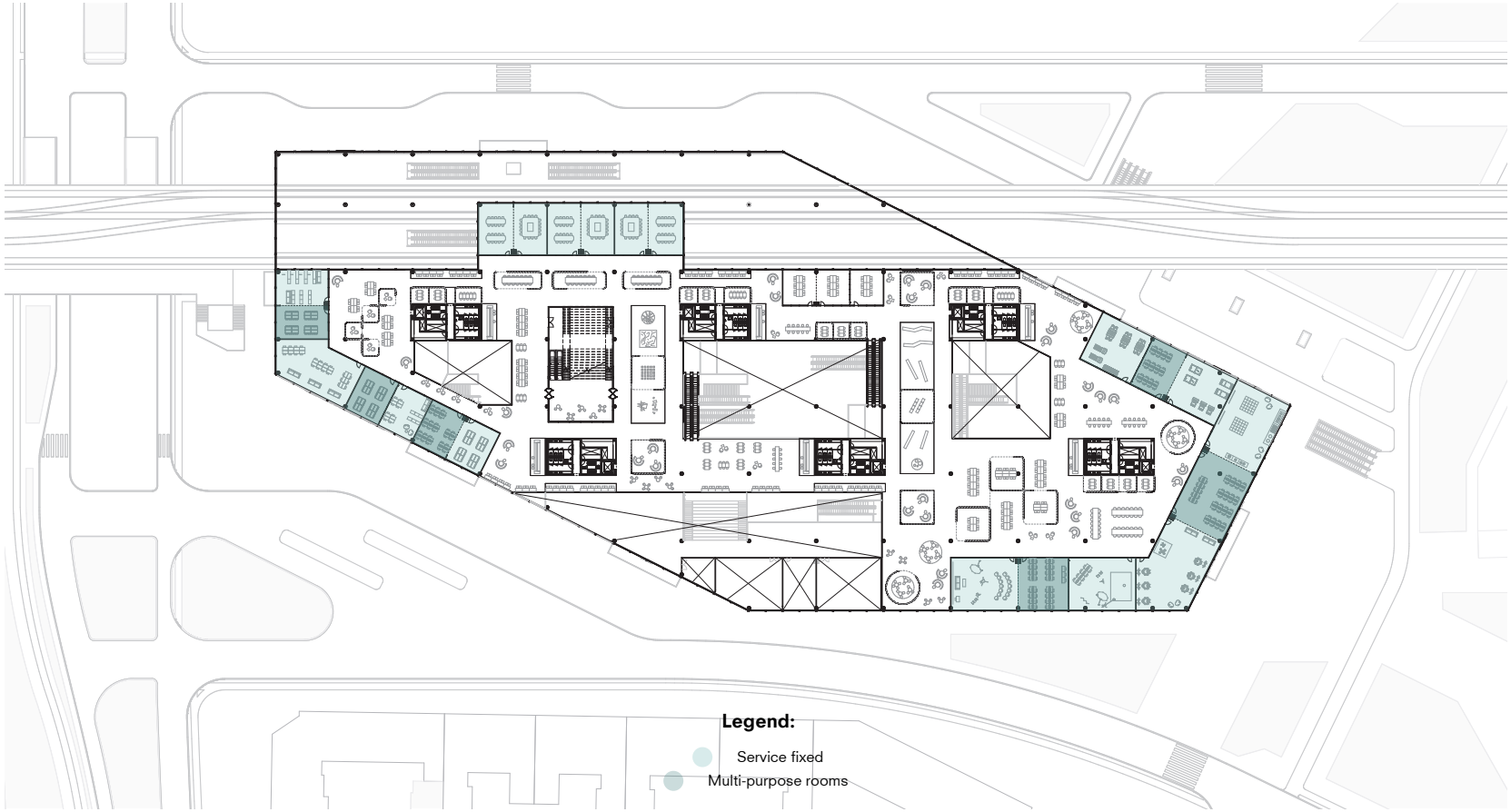
TOUCH DOWNSPACES



Workspaces fill-up the building.

CURTAIN ZONE

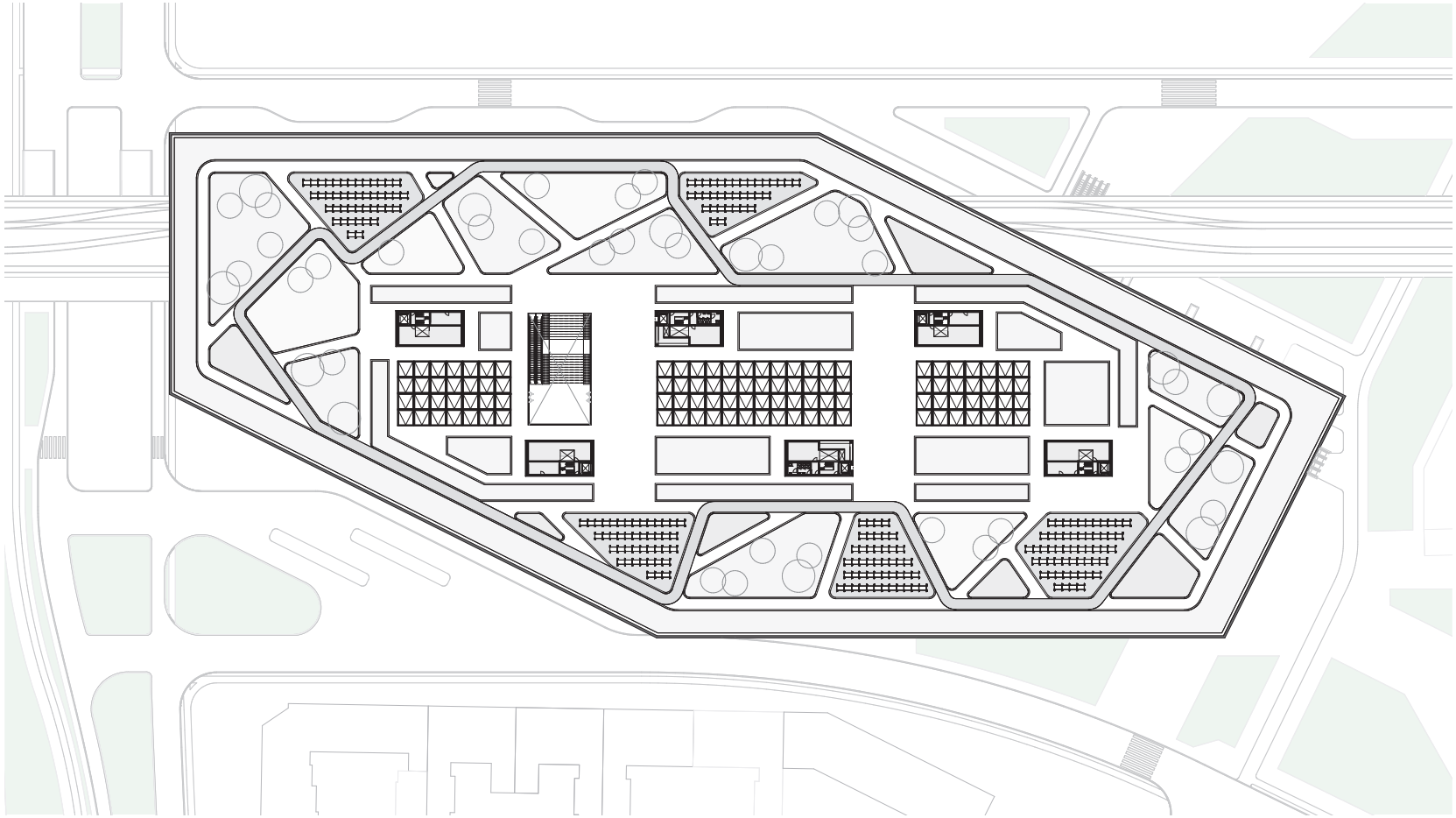
THIRD FLOOR



Workshop and long stay oriented formal character of actives.

WORKSHOP SPACE

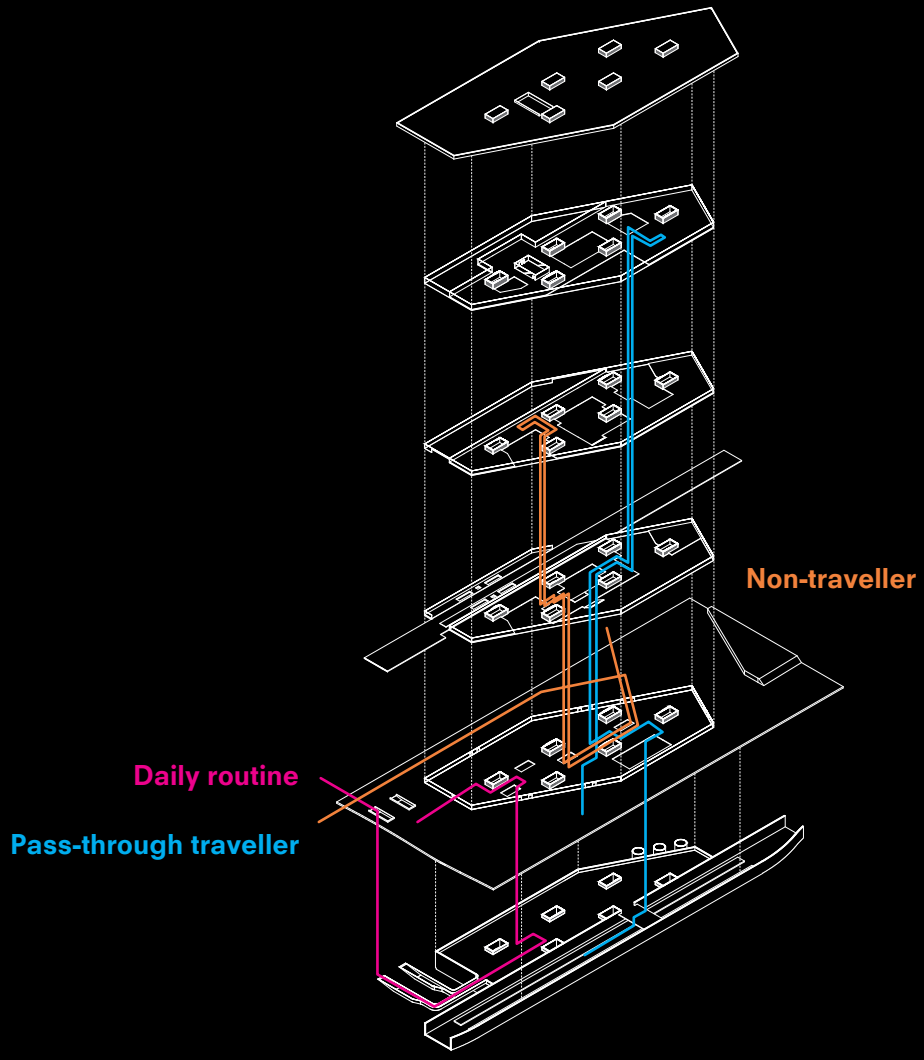
ROOF



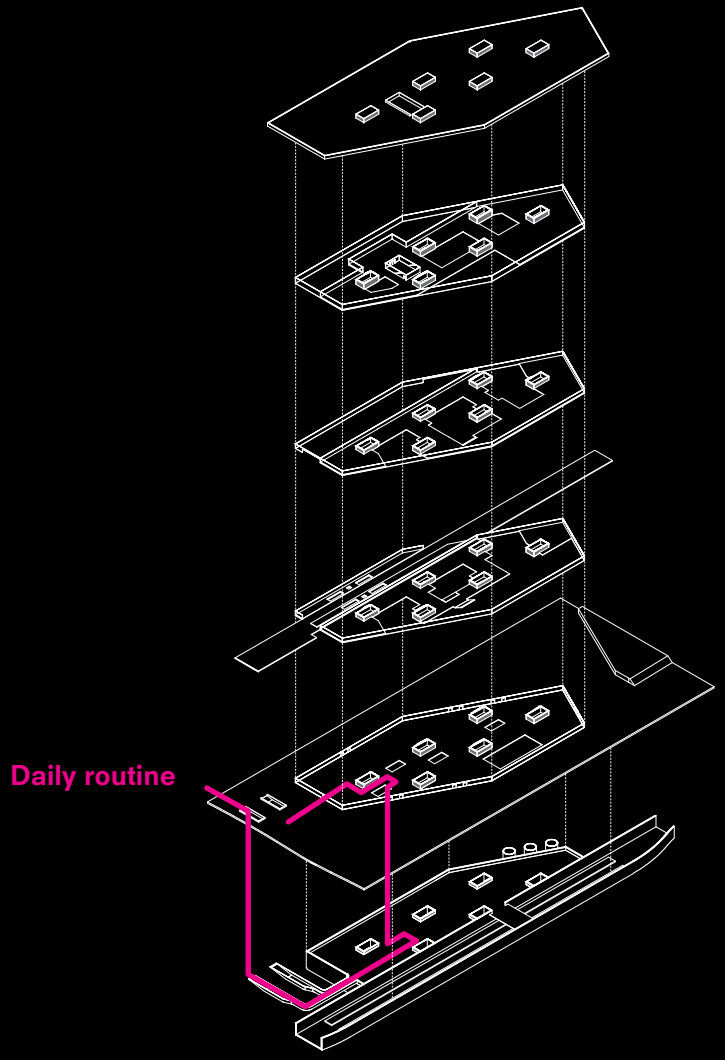
Public accessible roof for the neighbourhood or to relax during travel.

ROOF TERRACE

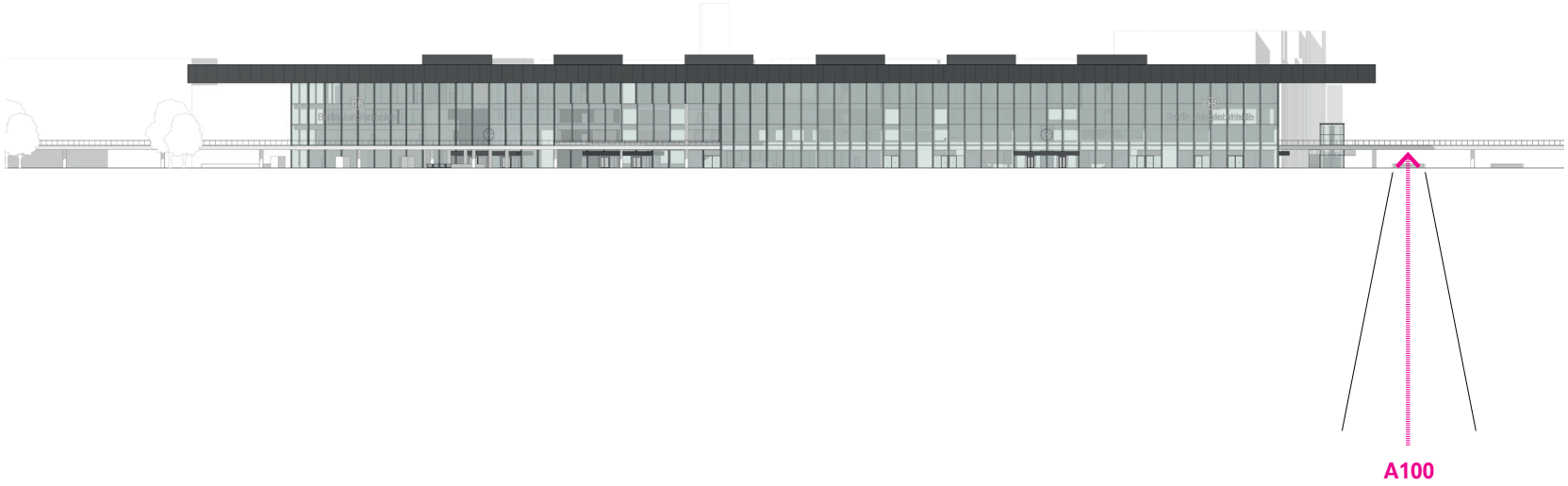
TRAVEL PERSPECTIVES



TRAVEL PERSPECTIVES

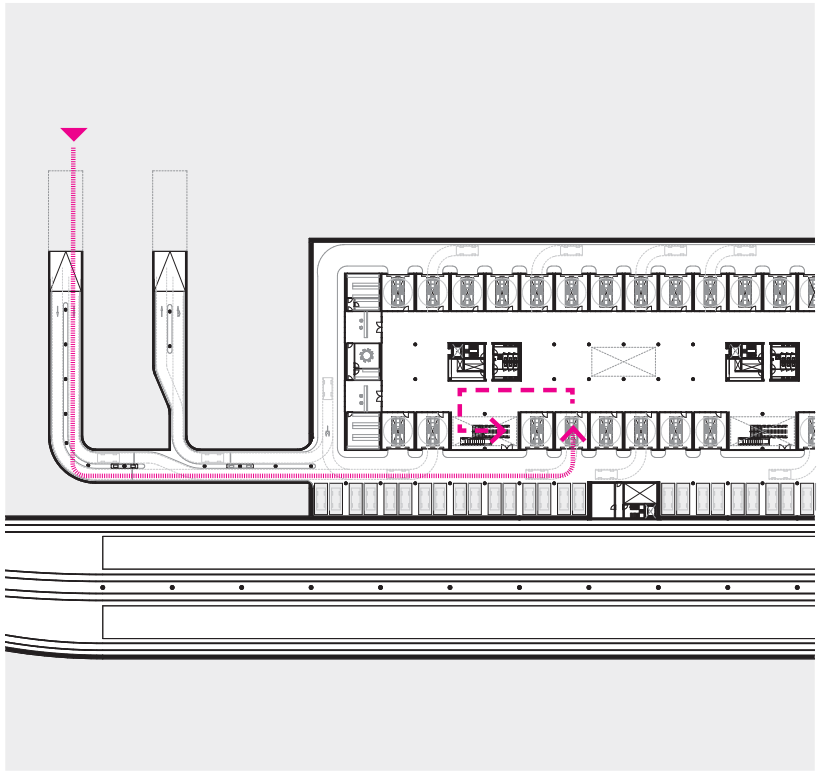


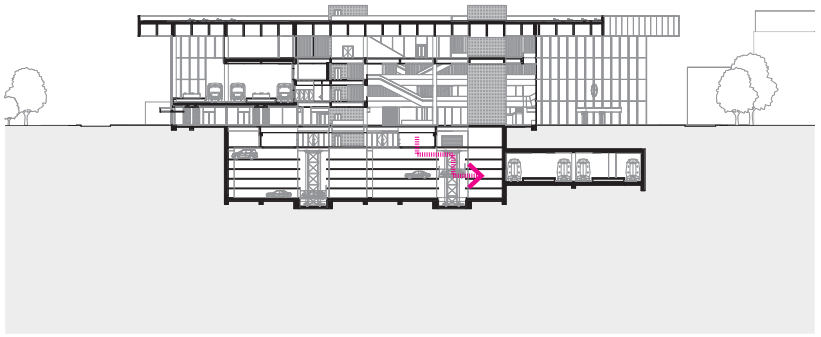
DAILY ROUTINE TRAVELLER



The car traveller arrives at the station after exiting the A100 highway...

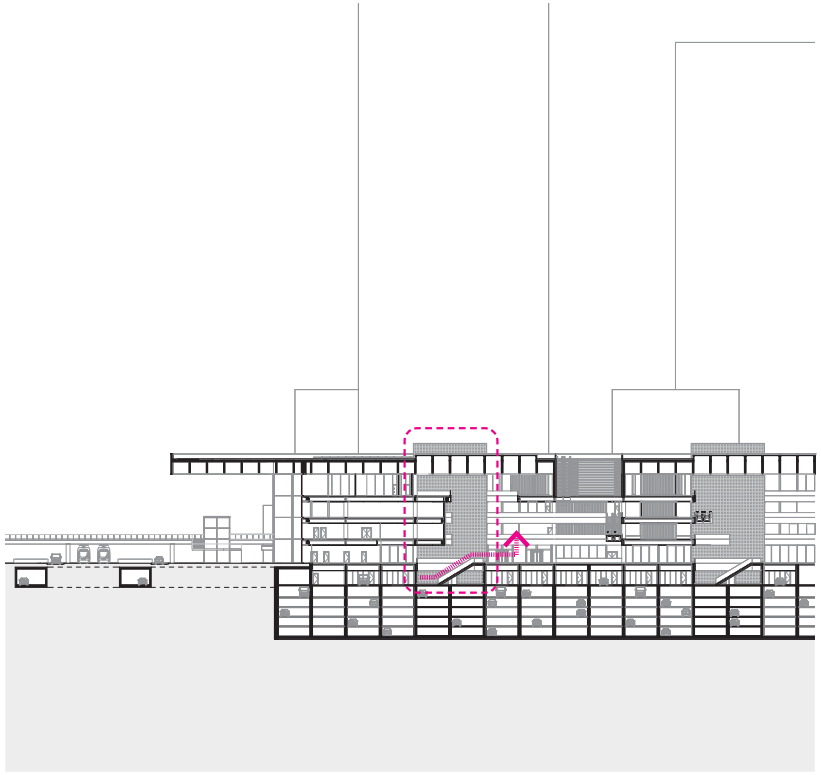
DAILY ROUTINE TRAVELLER

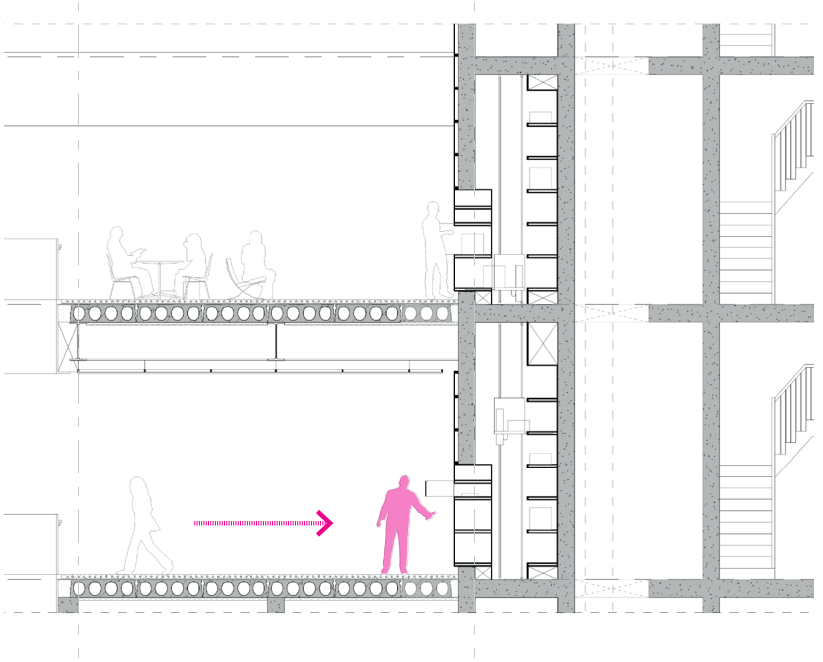




The automated parking facility takes over parking operations and allows cars to be used as a mode of transportation for other users...

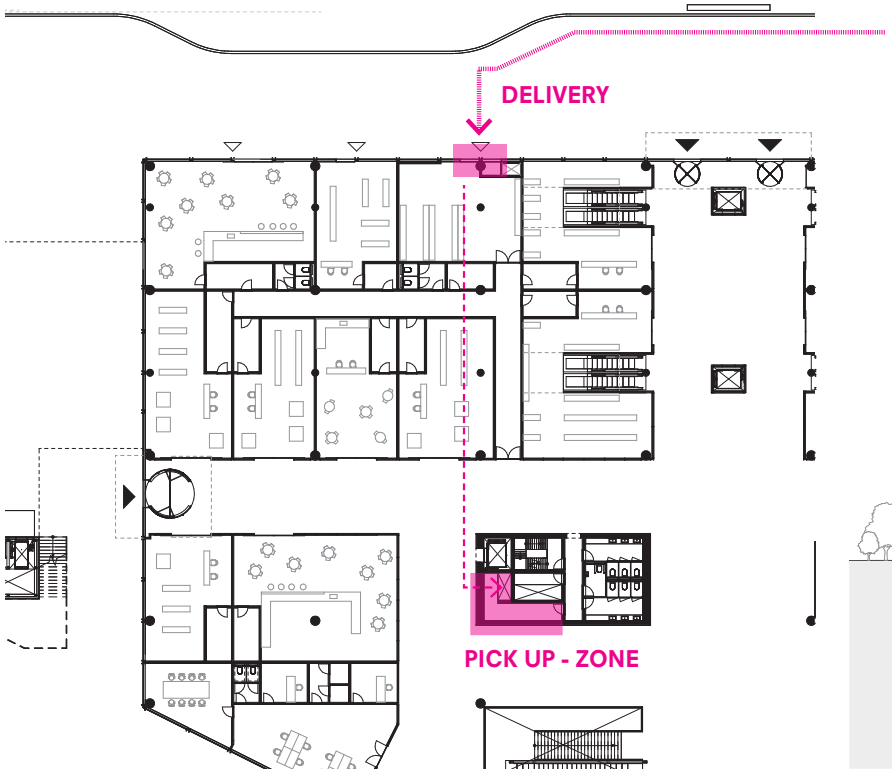
DAILY ROUTINE TRAVELLER

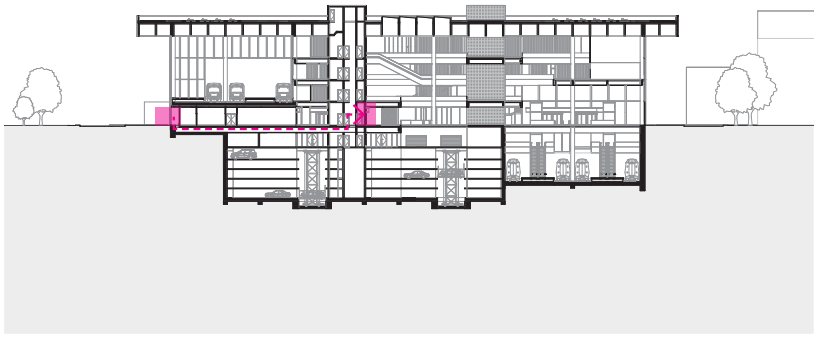




After leaving the parking level the traveller walks towards one of the building service cores. Here he picks up his breakfast which was delivered based on his time of arrival...

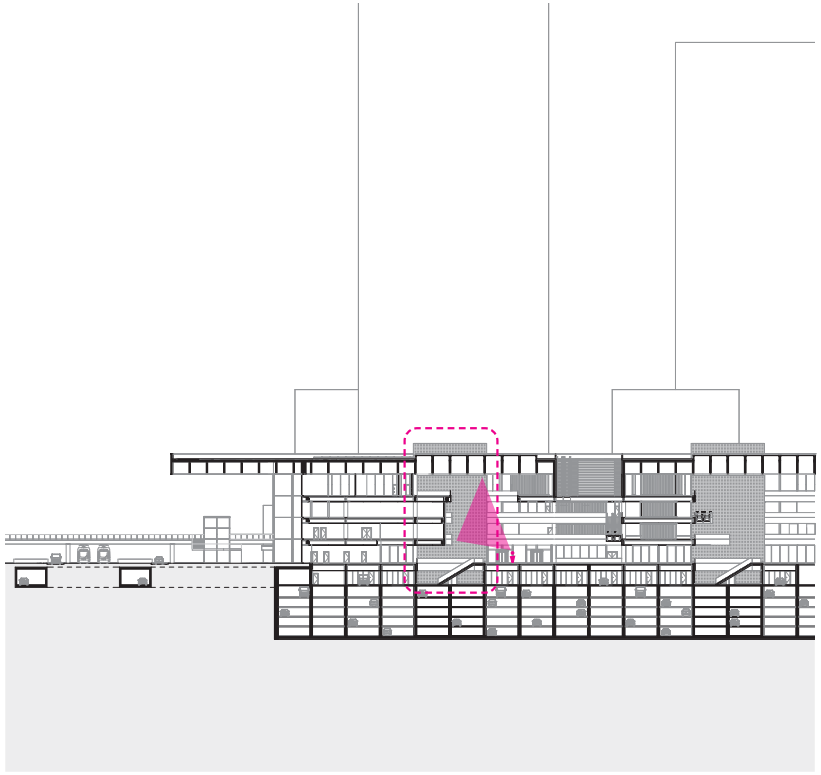
DAILY ROUTINE TRAVELLER

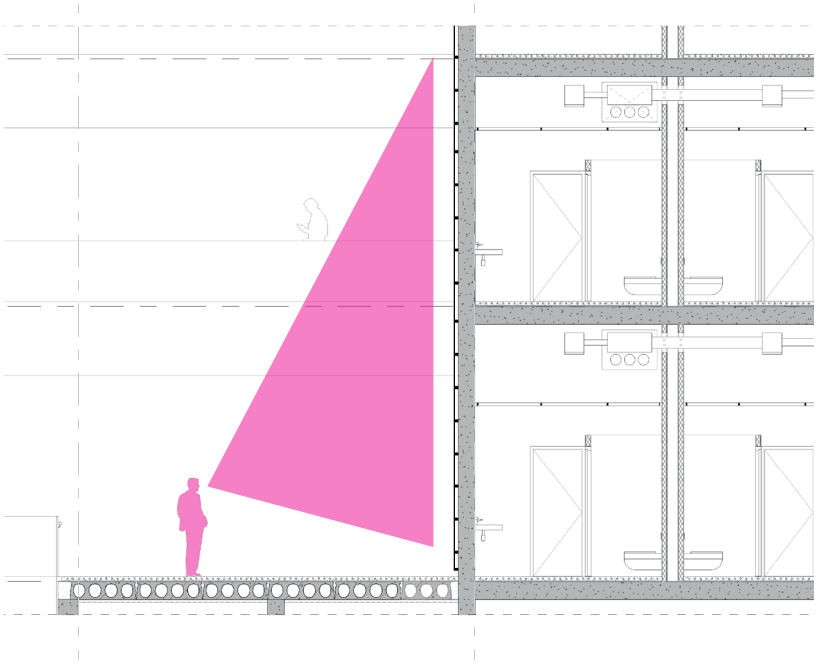




The breakfast was prepared in a café near the station, part of the building's automated delivery programme...

DAILY ROUTINE TRAVELLER

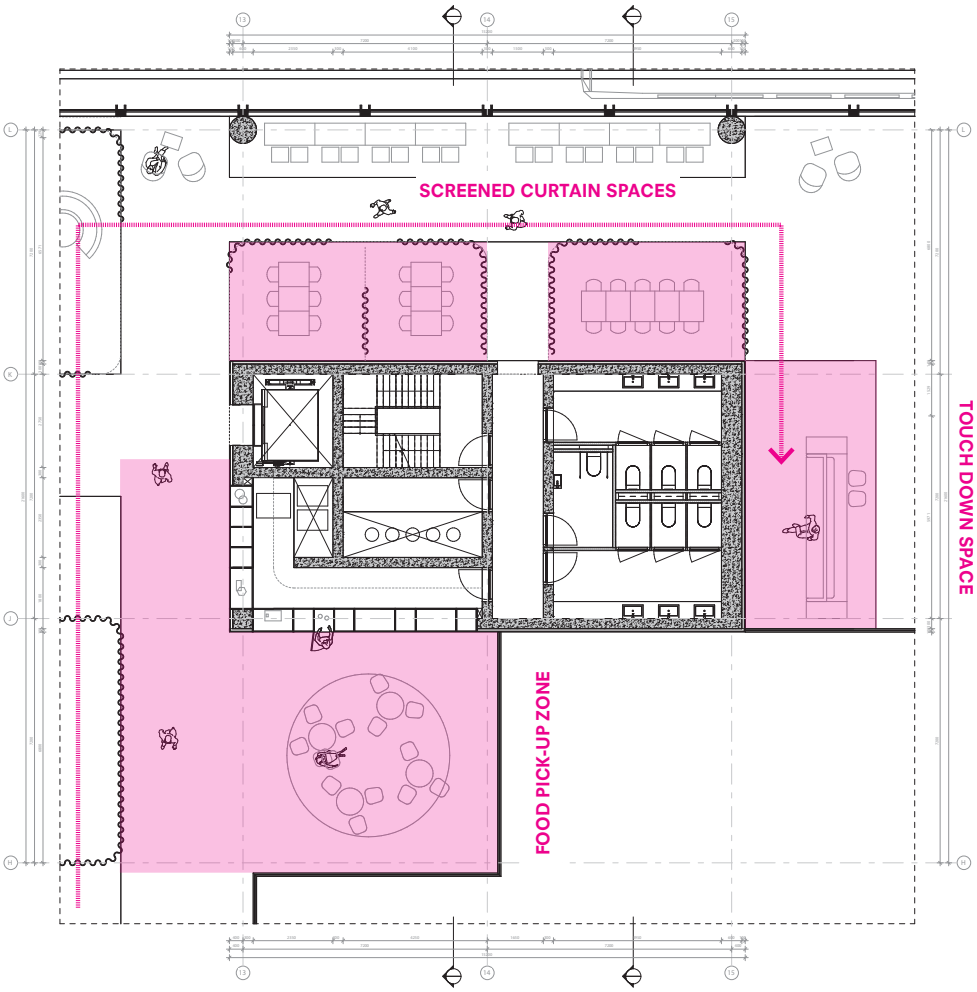




While at the core, the traveller uses the main screen to catch up with the daily news and weather report...

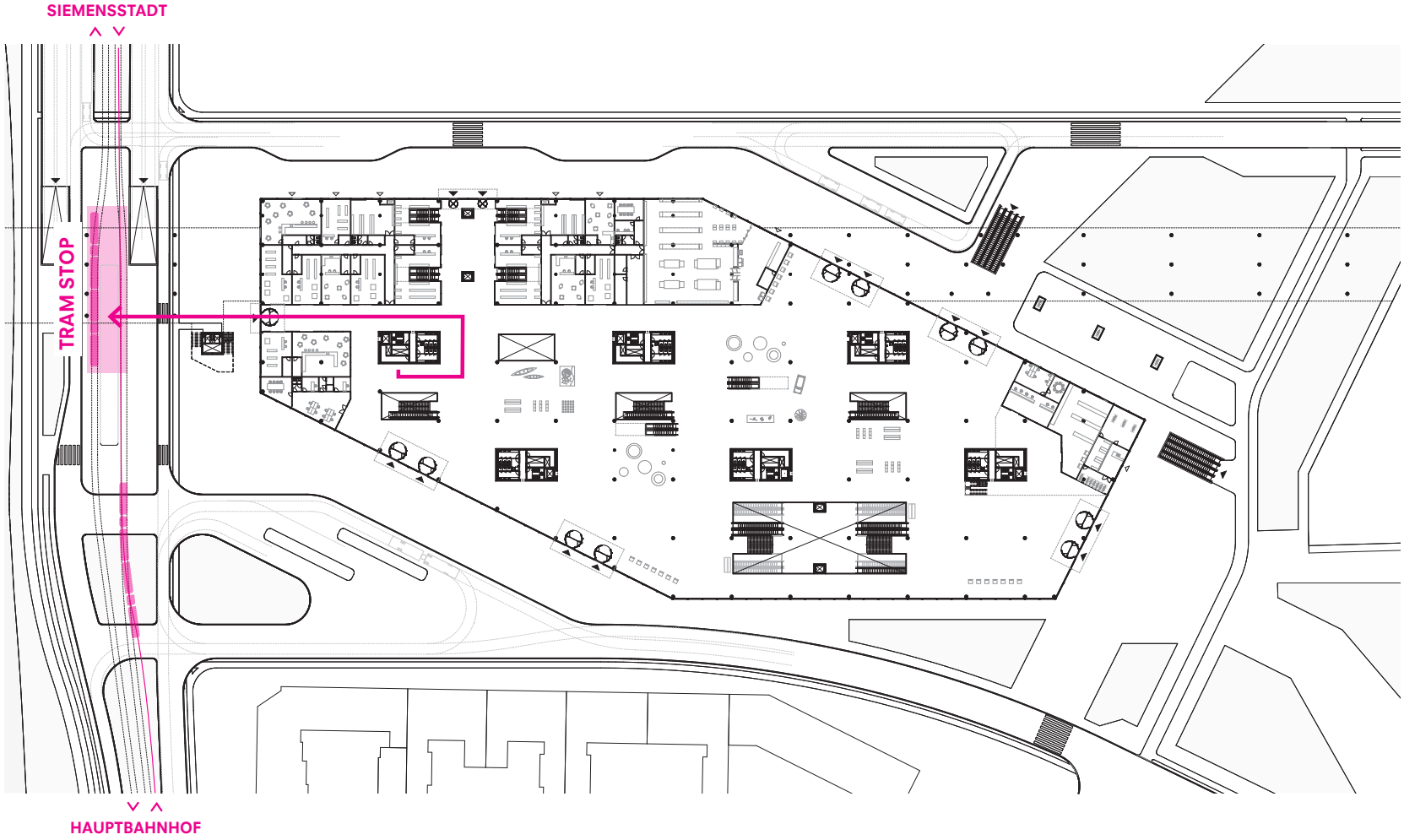
SERVICE CORE

DAILY ROUTINE TRAVELLER



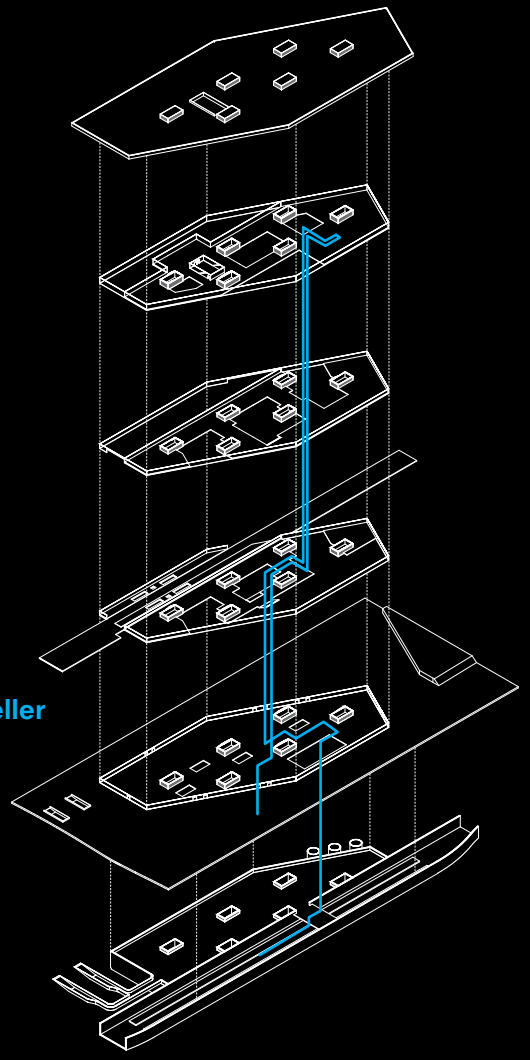
Apart from food services the service core also provides touch-down working space and screened curtain spaces...

DAILY ROUTINE TRAVELLER

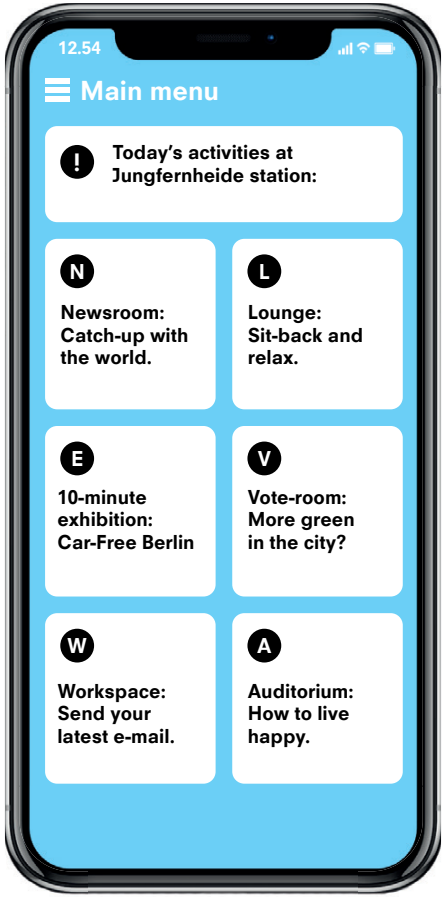


After breakfast, the traveller leaves the building to catch the tram, which rides precisely on time.

TRAVEL PERSPECTIVES

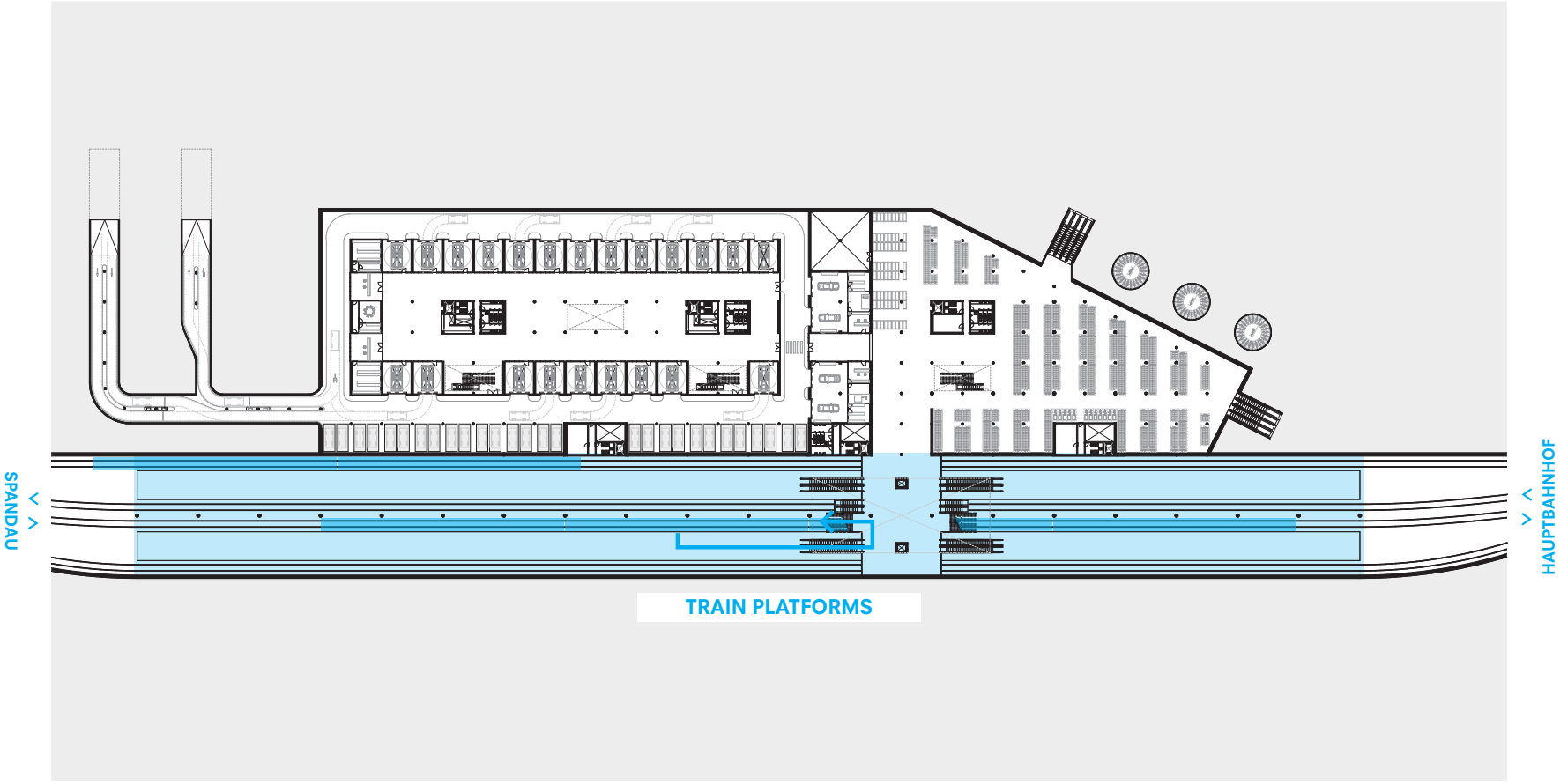


PASS-THROUGH TRAVELLER



During his journey, the traveller was notified about the station's activities today. The traveller registered for a workshop following his arrival time...

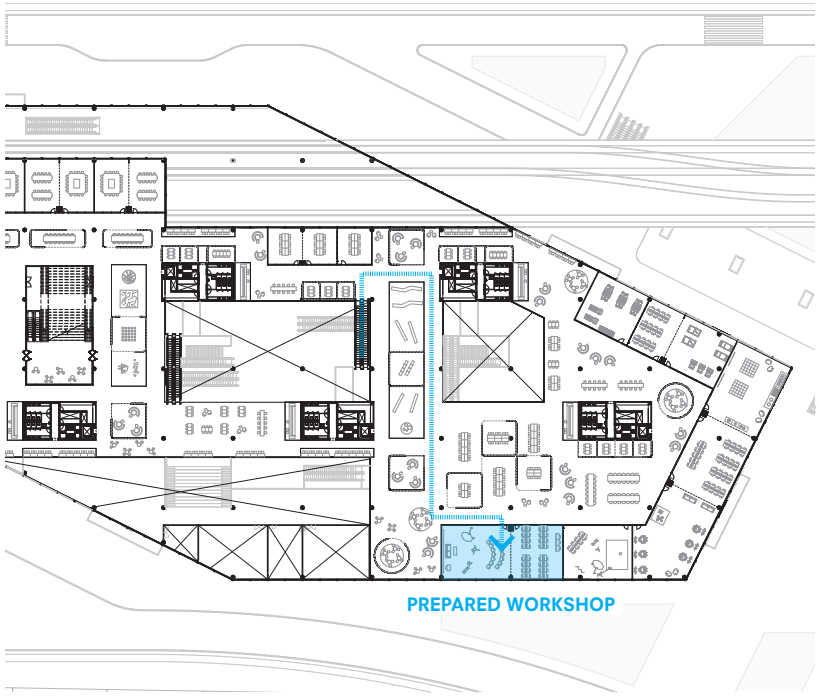
PASS-THROUGH TRAVELLER

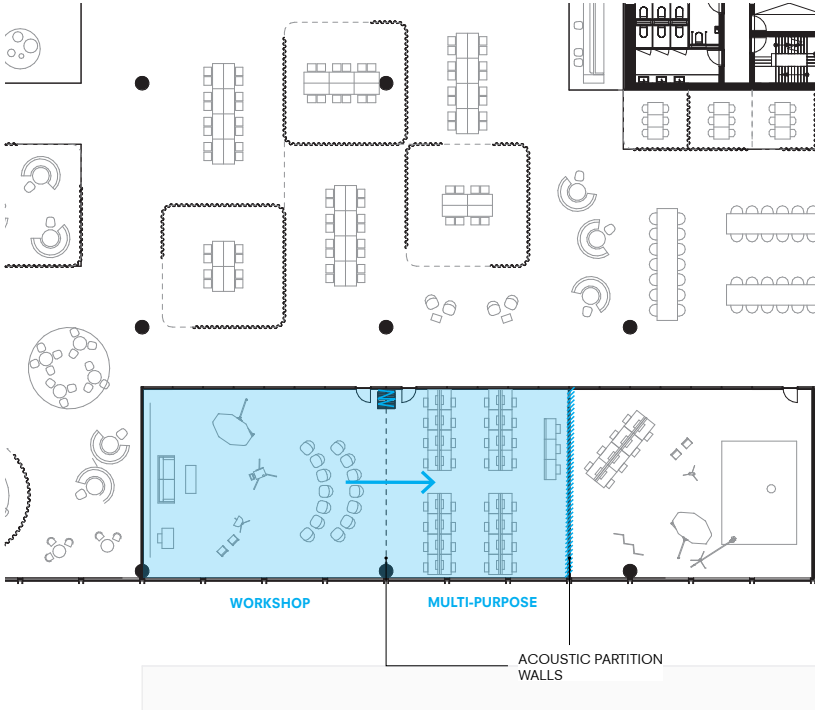


The pass-through traveller arrives by train from outside Berlin...

PASS-THROUGH TRAVELLER

PASS-THROUGH TRAVELLER



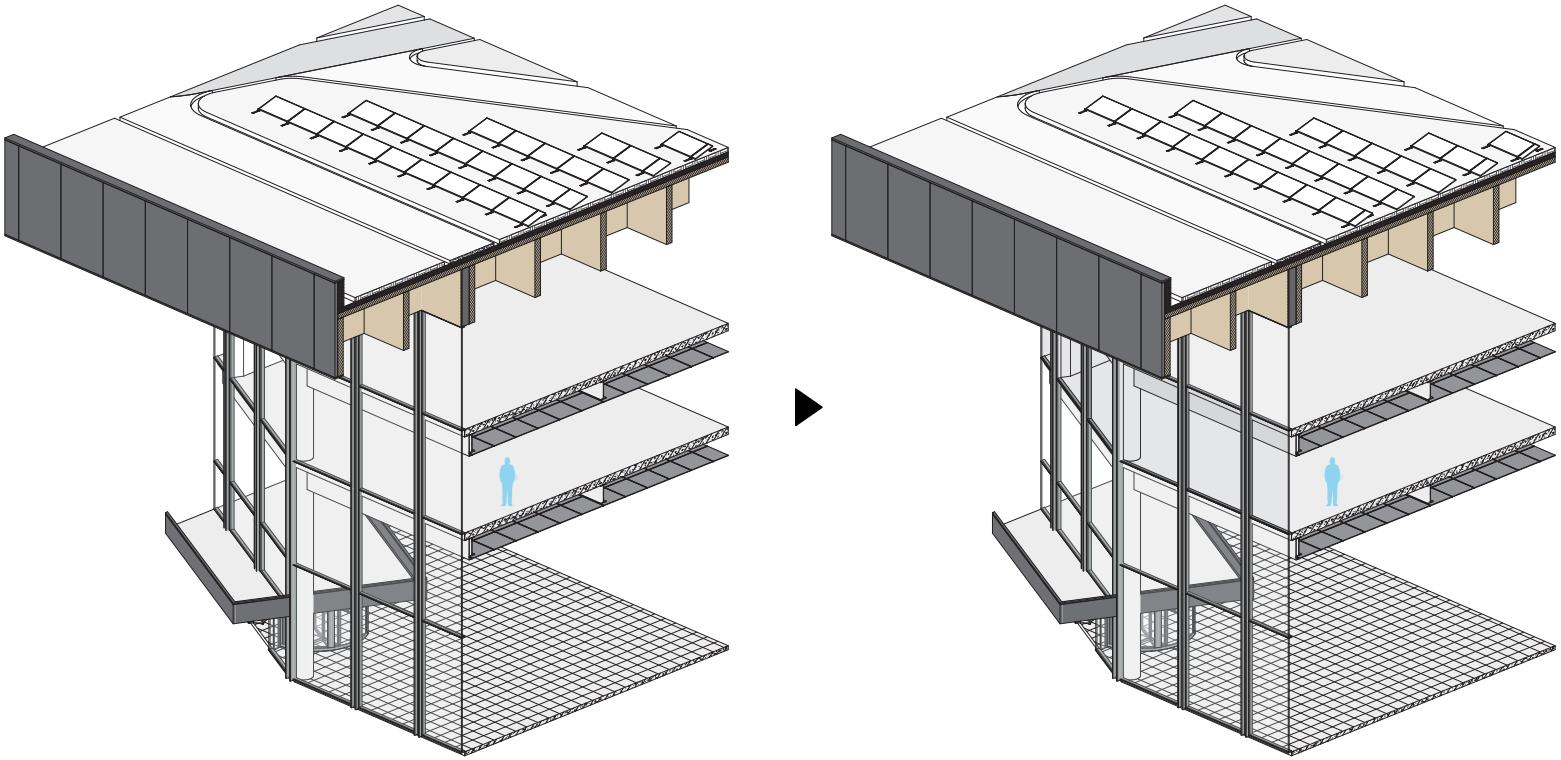


The building reconfigures its layout to provide enough space for the workshop by connecting the adjacent classroom by opening the partition wall...

ADAPTABILITY

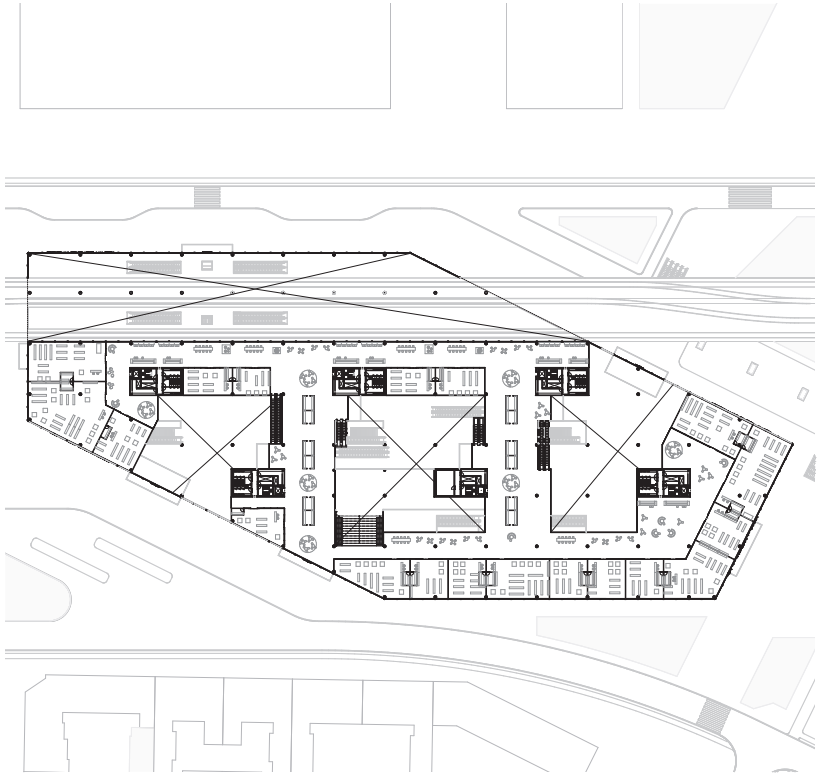
ADAPTABILITY

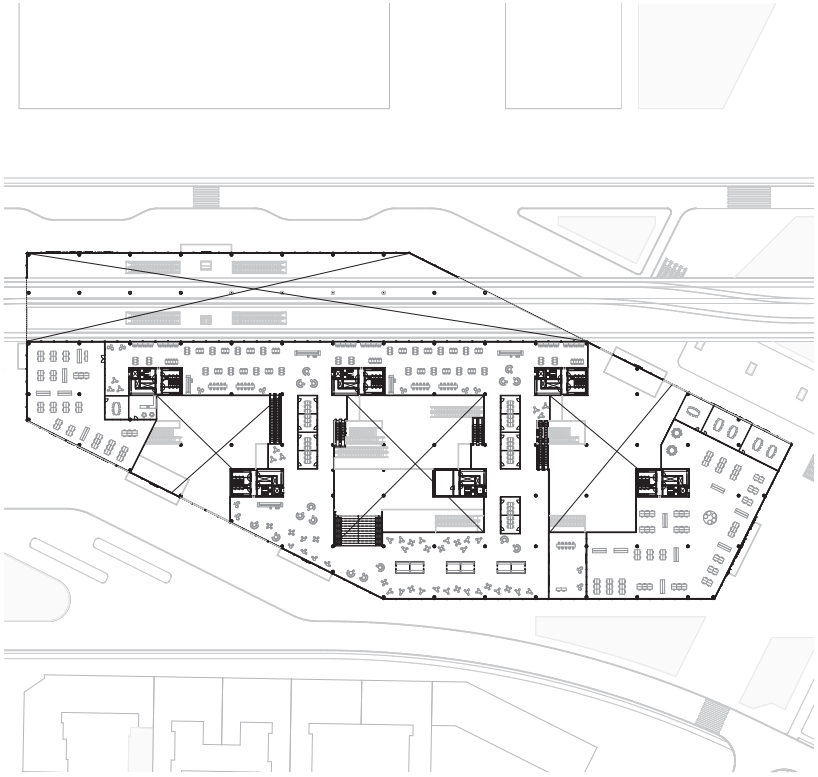
ADAPTABILITY



The facade can also be adapted to the use of the space behind it by adjusting the tint of the glass to the desired amount of daylight...

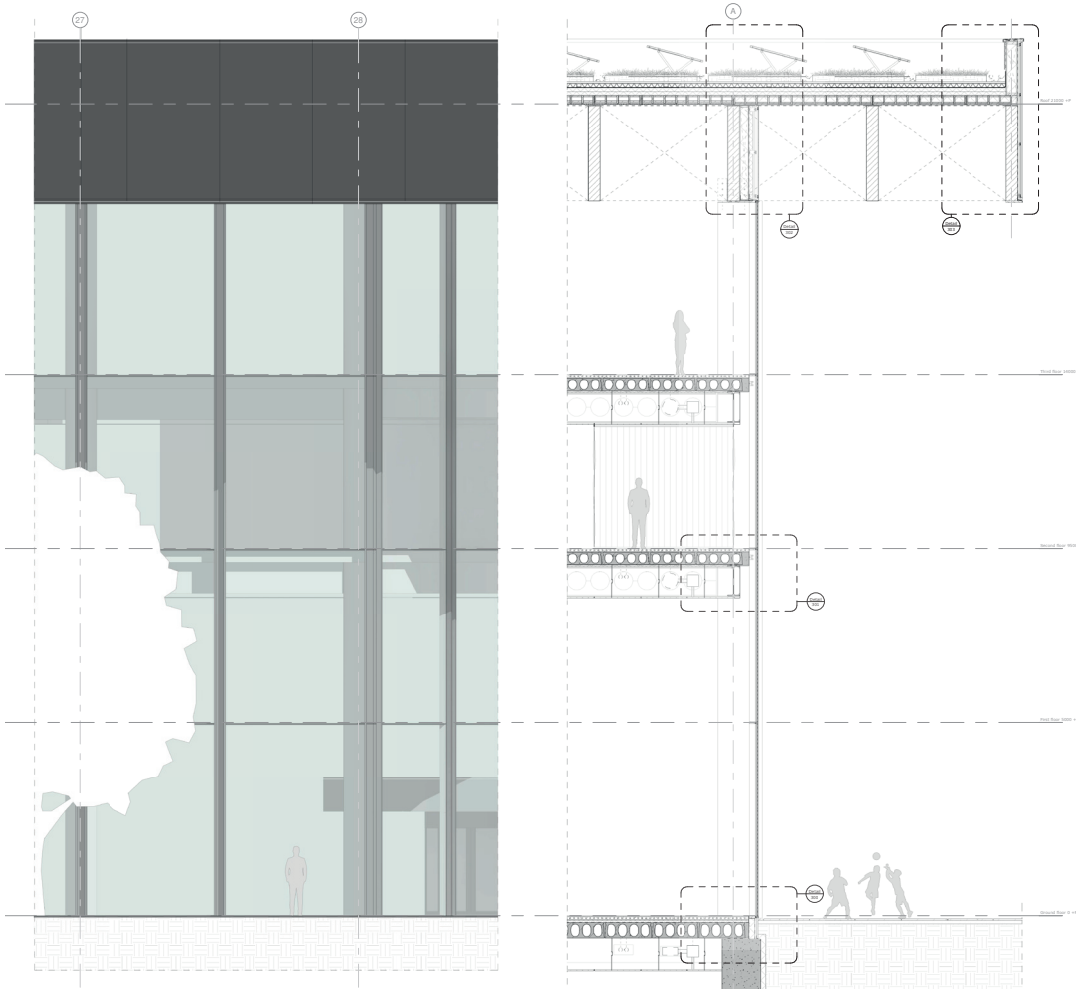
ADAPTABILITY

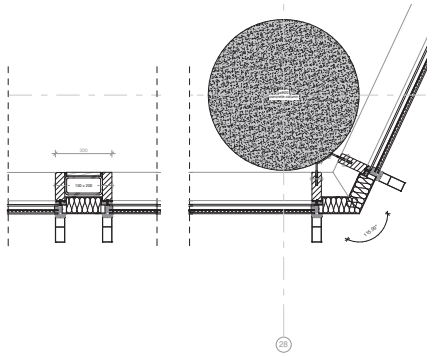


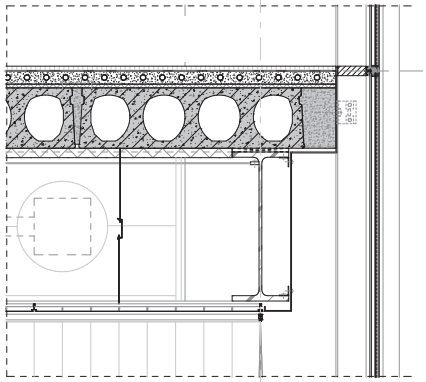


Through its flexible layout. The building can also facilitate other types of program...

FRAGMENT



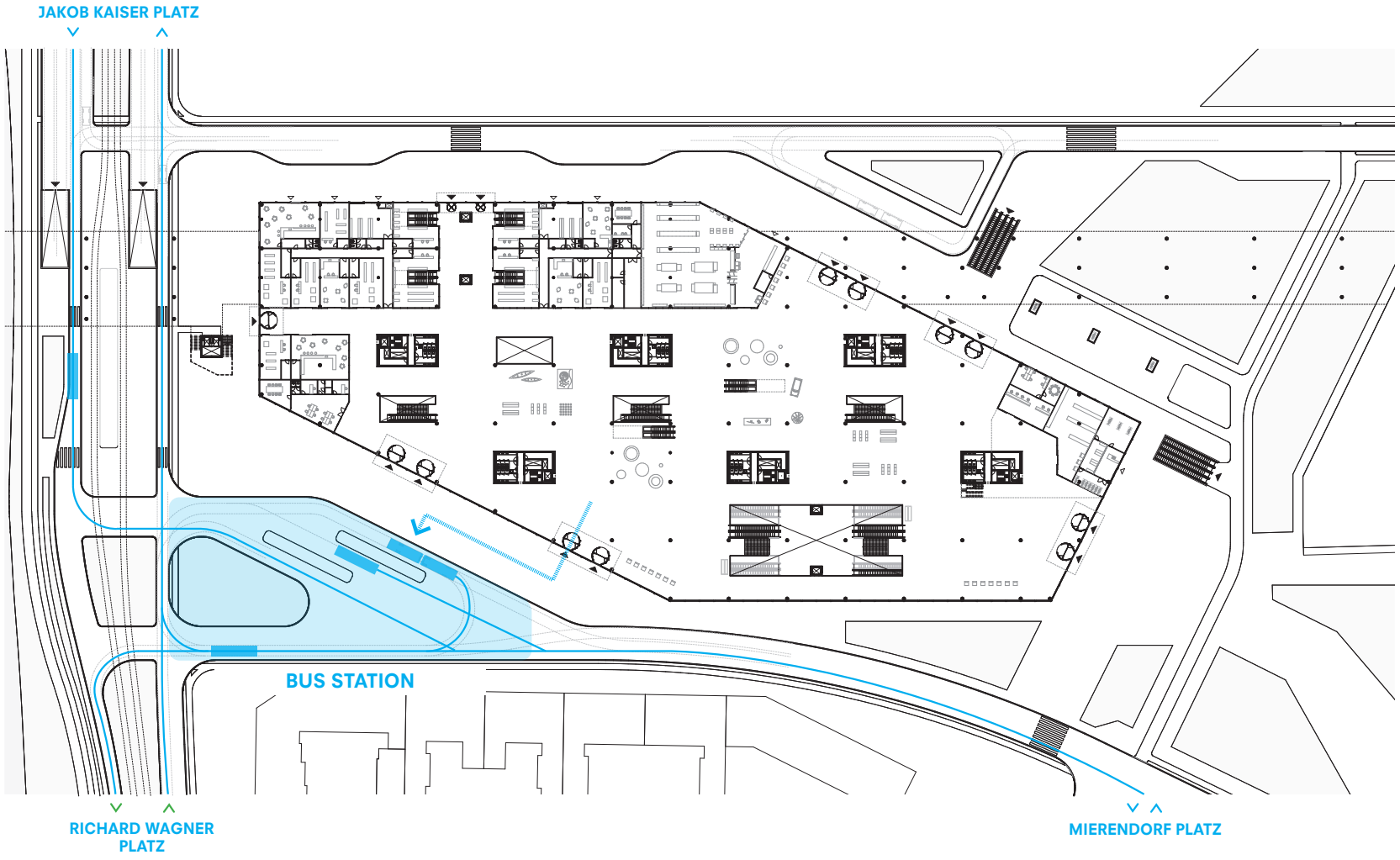




The curtain wall facade maximizes daylight in the building. Also provides configuration of the infill in the future...

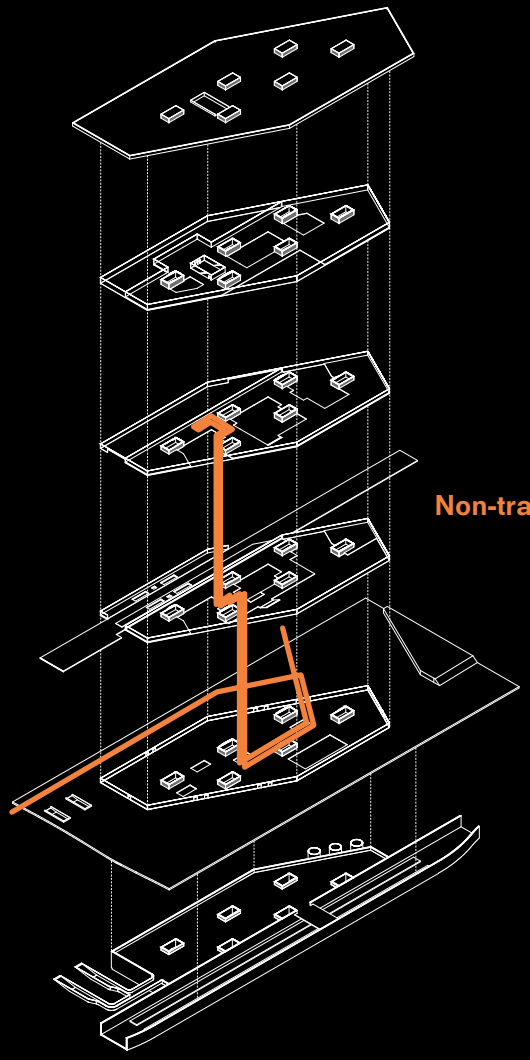
CURTAIN WALL FACADE

PASS-THROUGH TRAVELLER

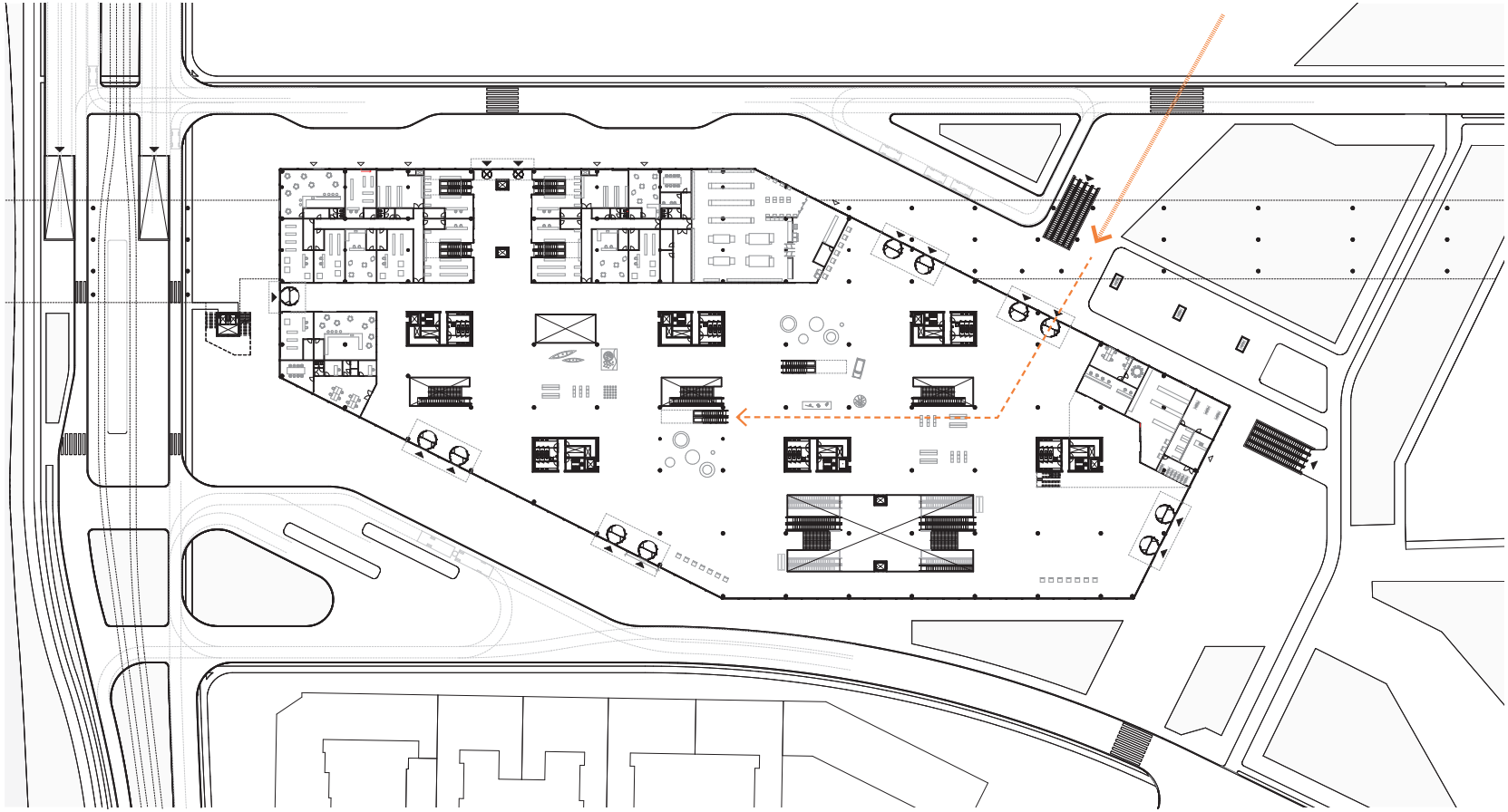


After the workshop the pass-trough traveller leaves the building by bus.

TRAVEL PERSPECTIVES

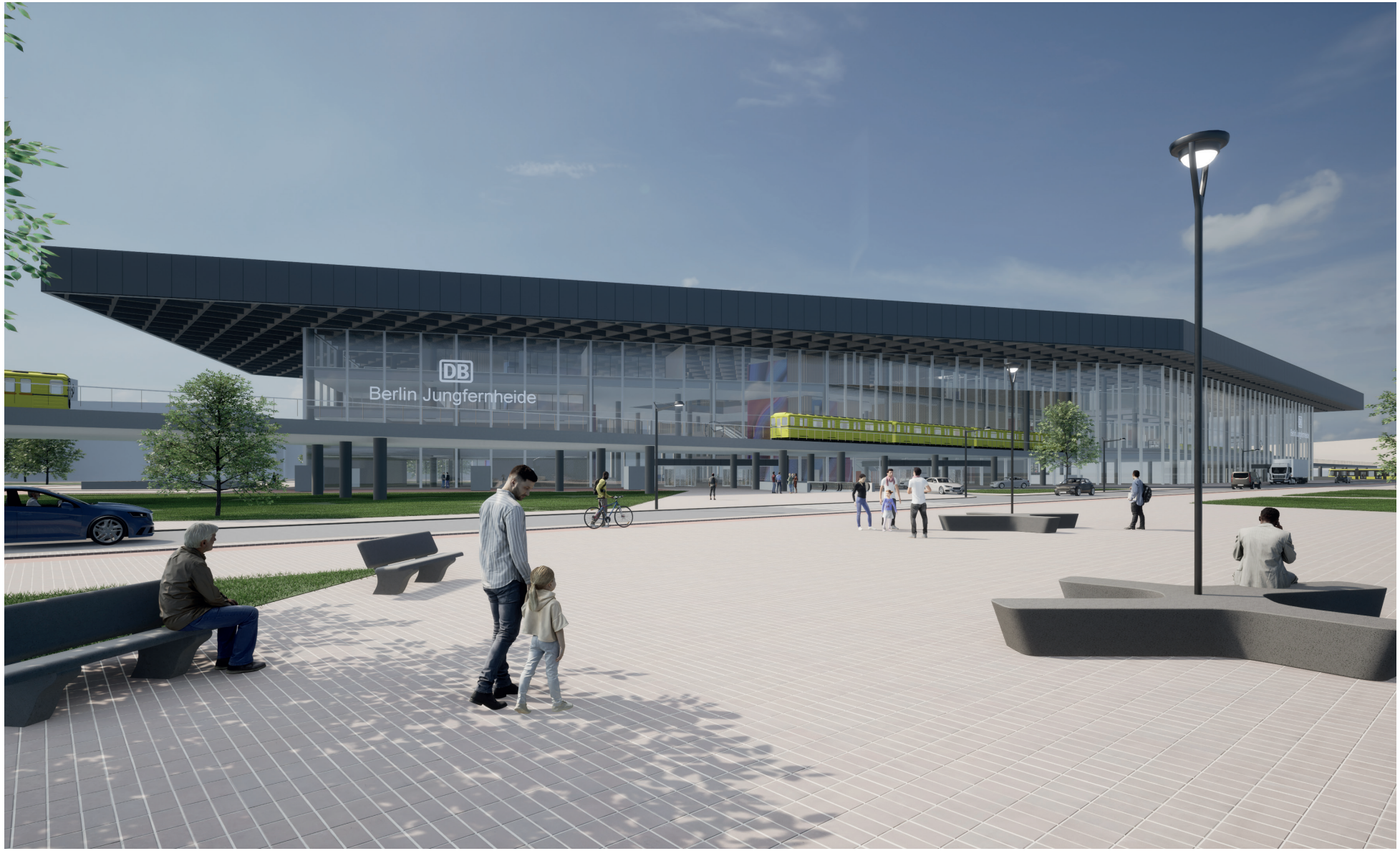


NON-TRAVELLER

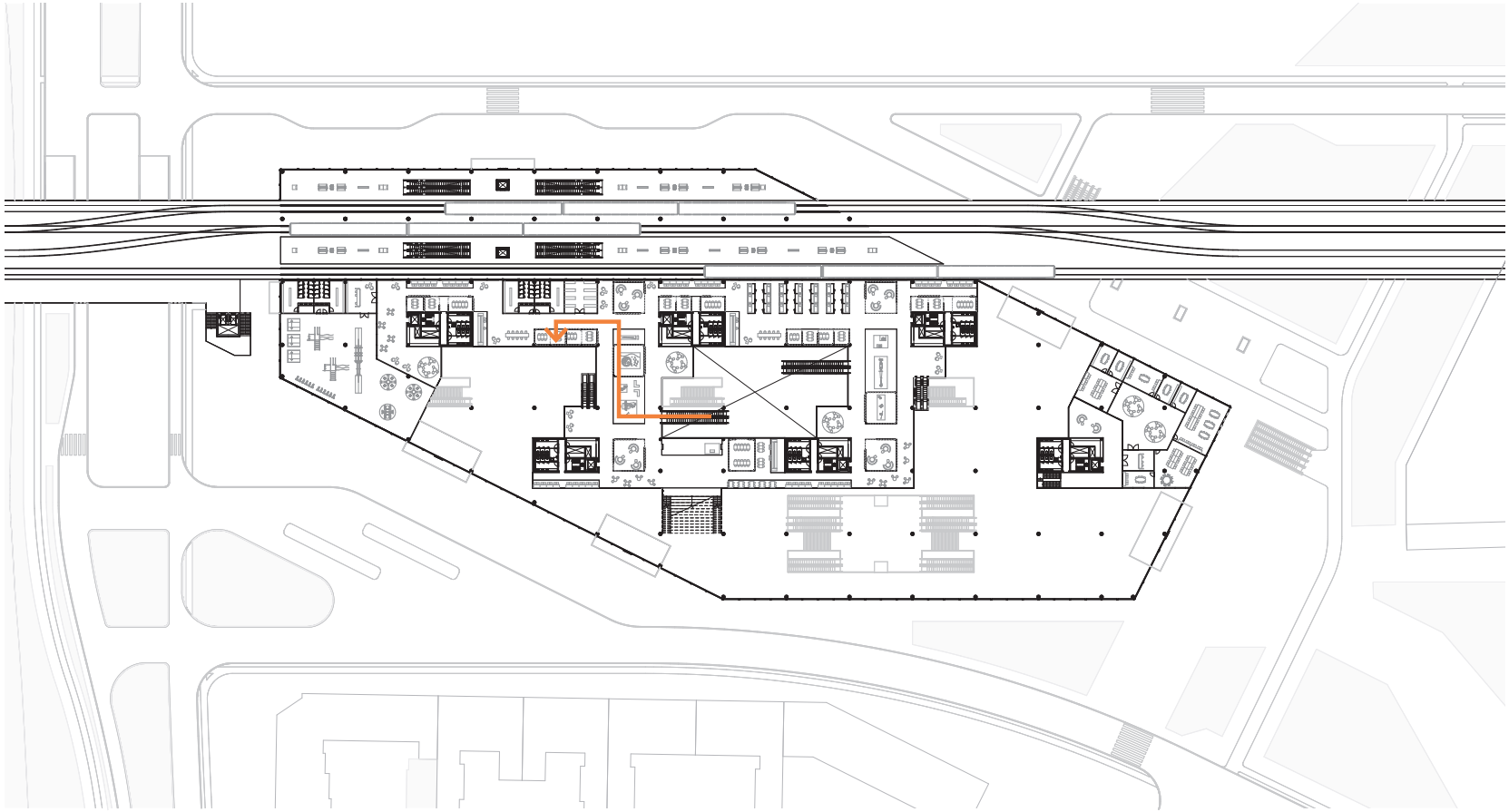


The non-traveller arrives on foot and uses the station during its off-peak hours. They arrive at the building's north entrance...

NON-TRAVELLER



NON-TRAVELLER

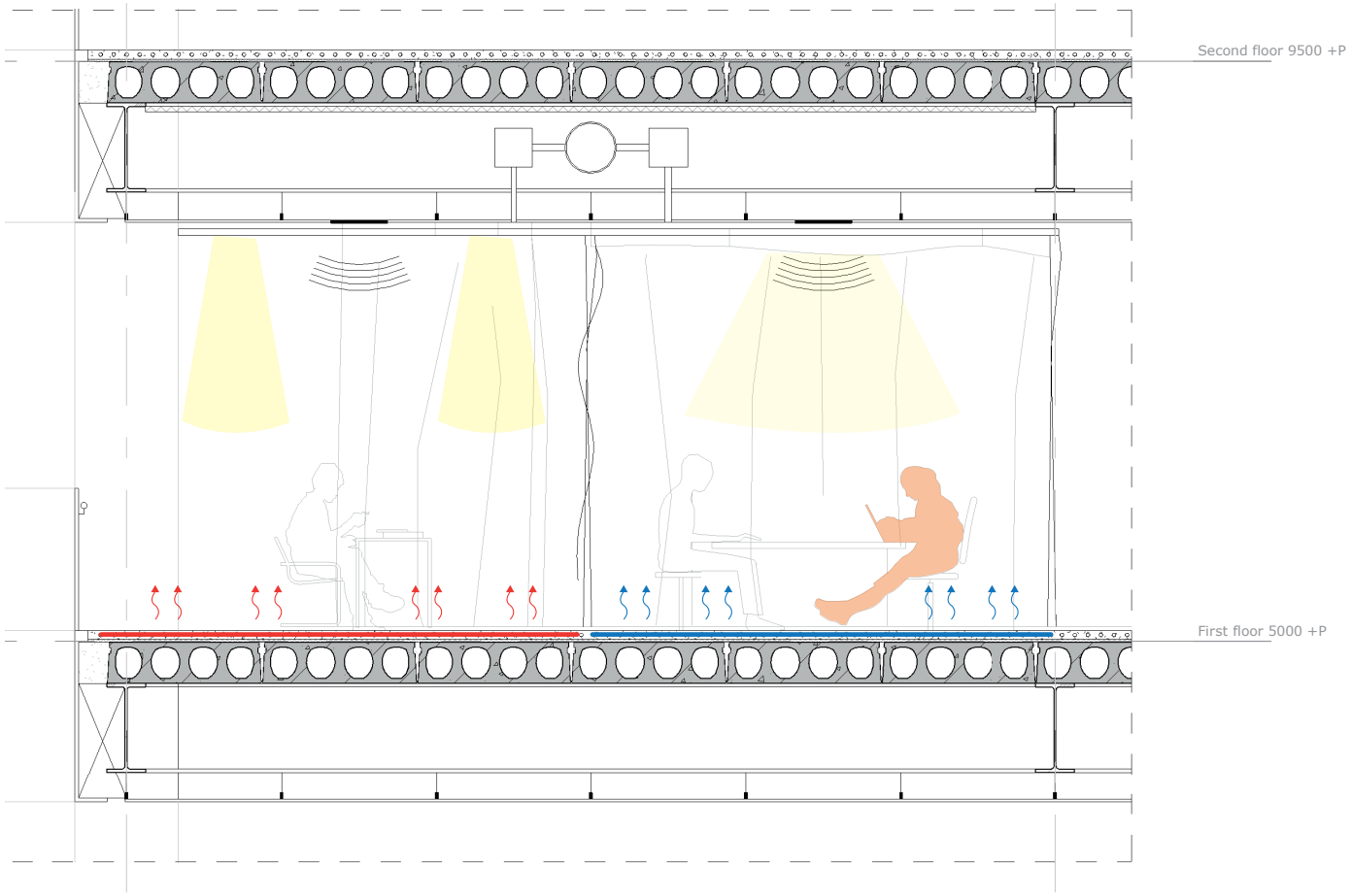


The traveller has an online meeting which he can hold in three different types of workspaces in the building...

CURTAIN ZONE

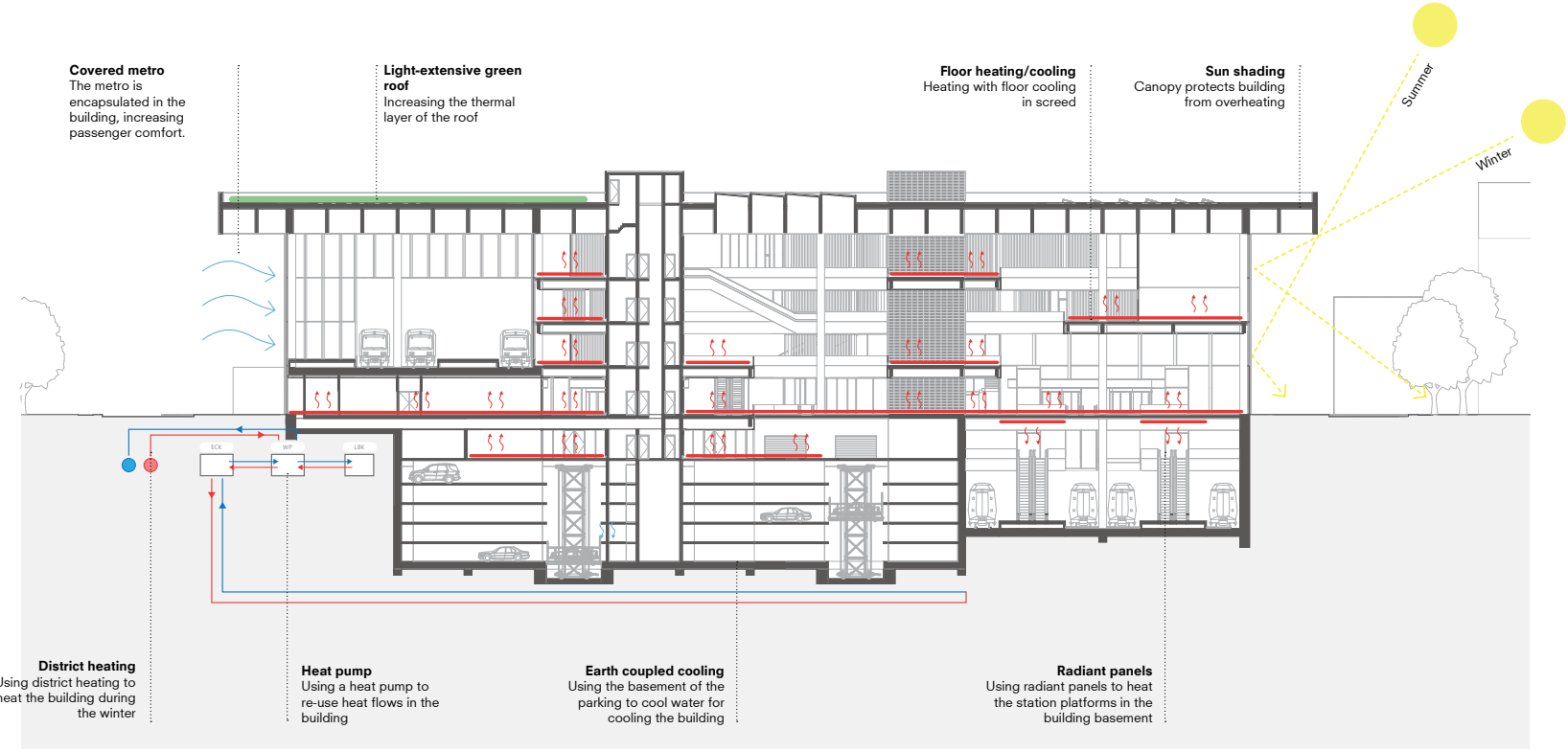
CURTAIN ZONE

NON-TRAVELLER



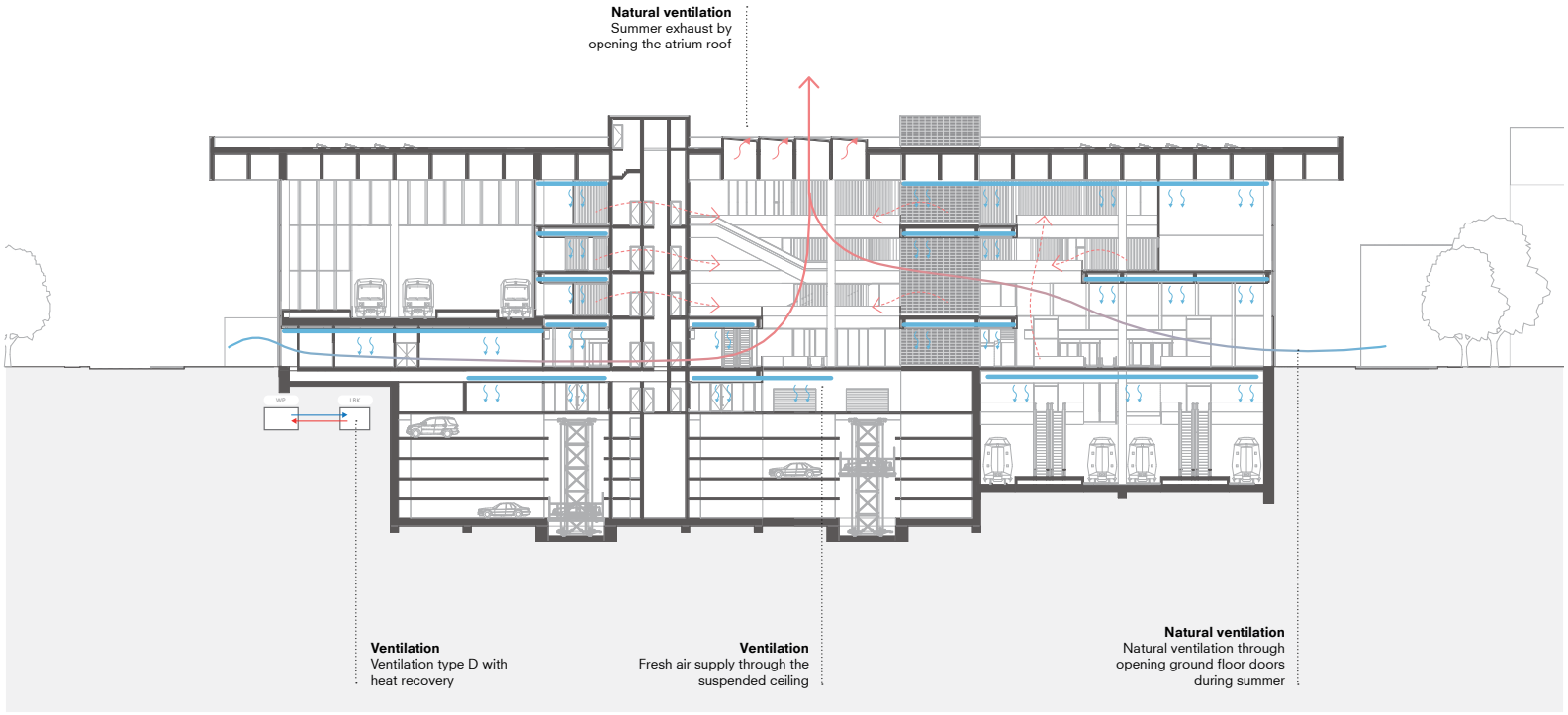
Spot heating and cooling of the space can be controlled, as light intensity, and he can use the sound system...

CLIMATE



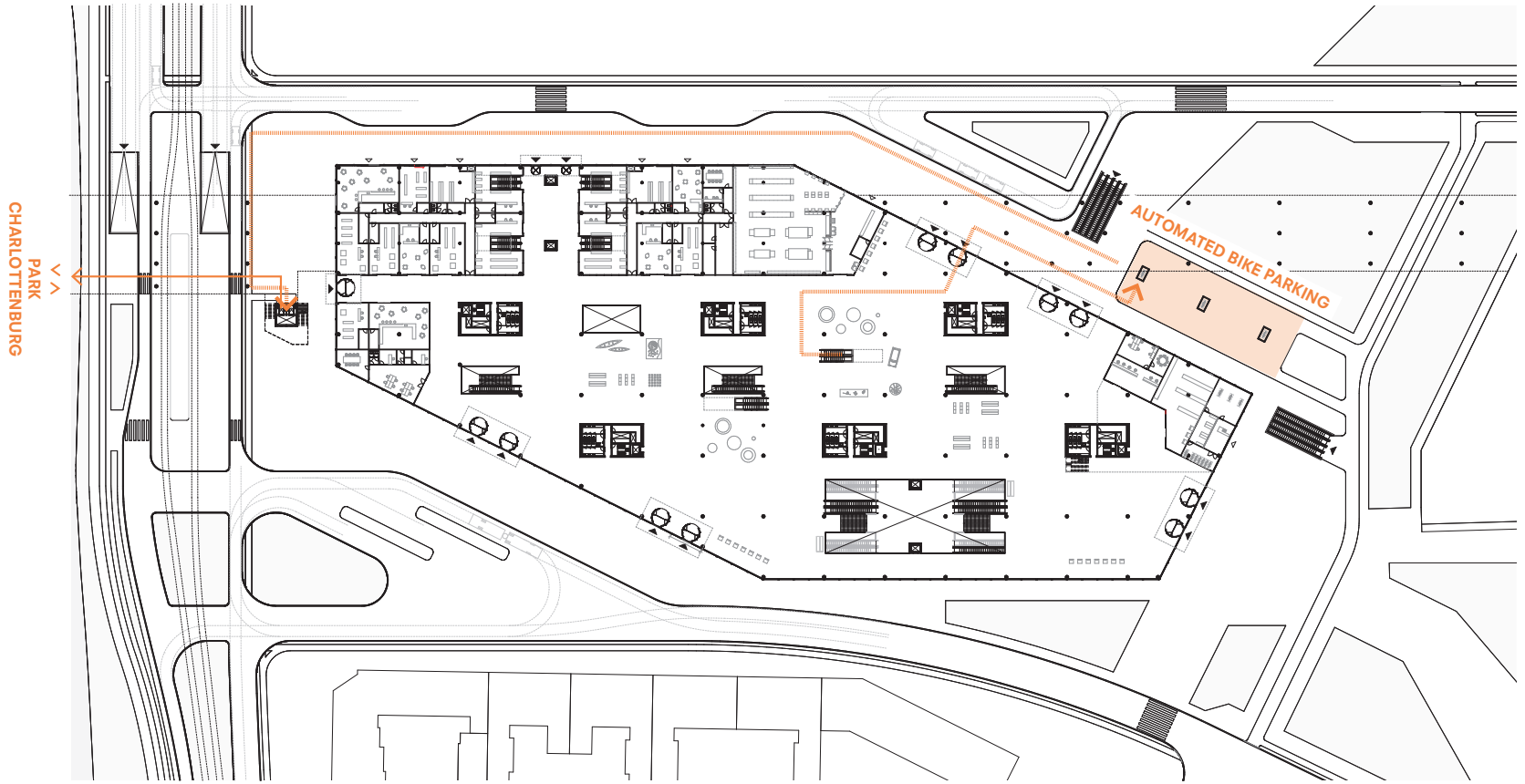
District heating and earth-coupled cooling. Sunshade protects the building from overheating...

VENTILATION



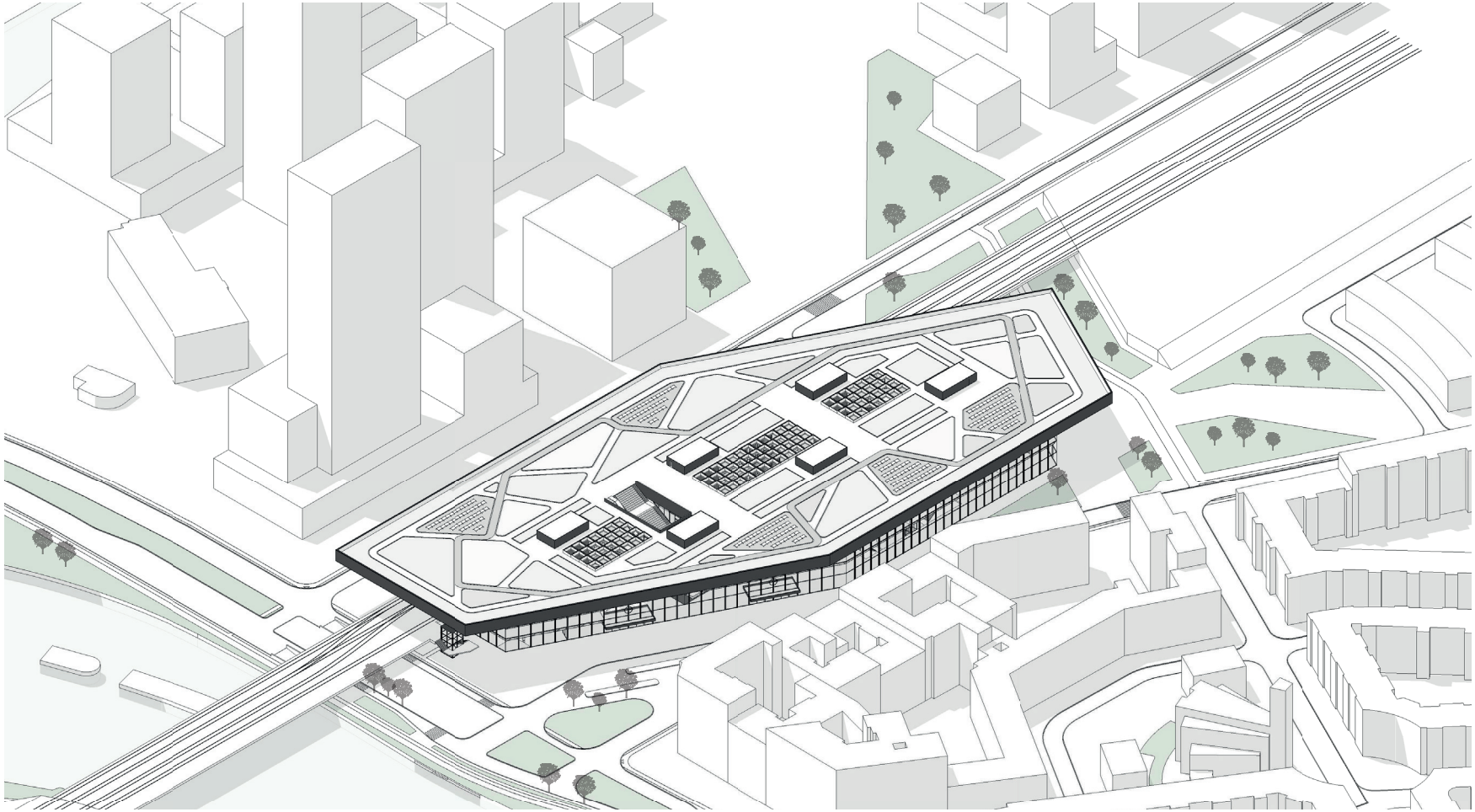
Ventilation from the ceiling of the building. In summer, natural ventilation through the atrium roof...

NON-TRAVELLER



The traveller leaves the station by picking up their bike at the bike rejection pods, cycles towards the bike bridge, and leaves the station area through the adjacent park...

DESIGN OVERVIEW



Multimodality Forum
A more service and experience-related approach towards train stations.

REFLECTION

REFLECTION

HOW CAN AUTOMATION TECHNOLOGIES BE INTEGRATED IN ARCHITECTURAL DESIGN TO POSITIVELY INFLUENCE USER EXPERIENCE AND OPTIMIZE THE USE OF SPACE?

REFLECTION

SHORTENING TRANSITION TIME

SERVICE CORES CENTRALISED IN THE DESIGN

USER BENEFICIAL SERVICES

CONFIGURABLE SPACE

A NEW TRAVELLERS EXPERIENCE

DB
Berlin Jungfernheide
complex CP projects