COMPLEX PROJECTS

ON TRACK

BODIES & BUILDING BERLIN

Yasmine Ouibrahim

07/05/2024

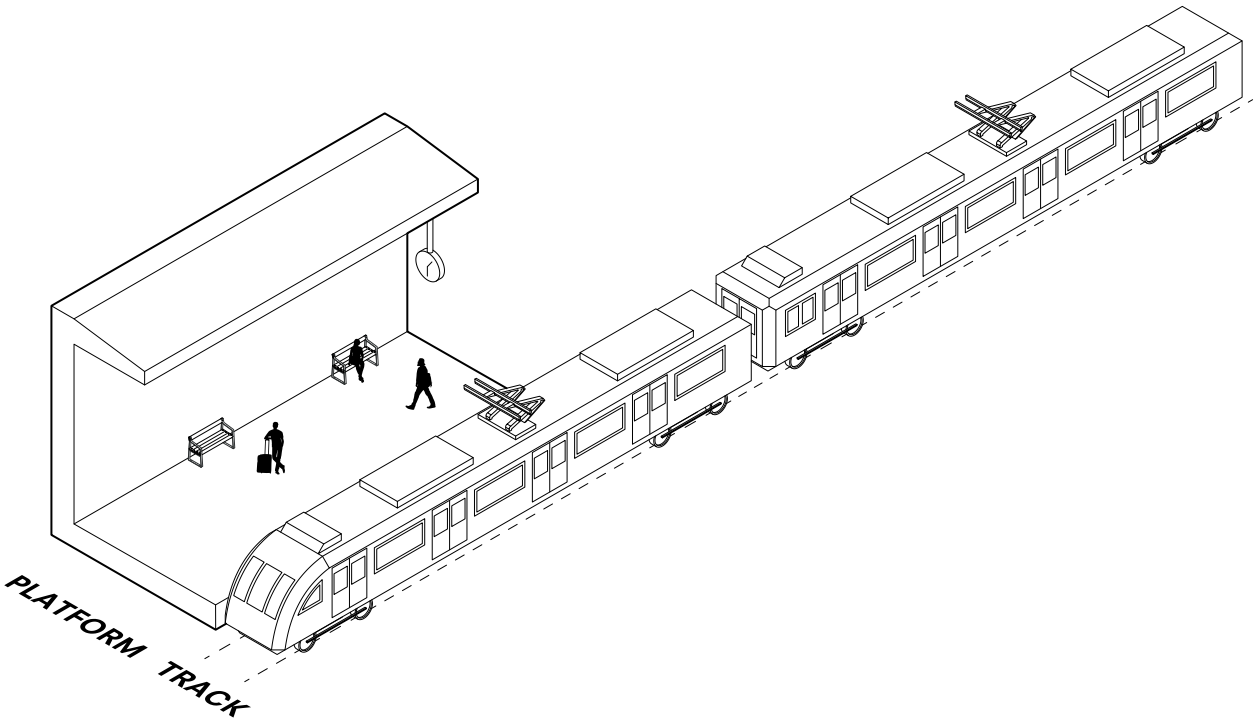
Rotterdam Centraal

20%

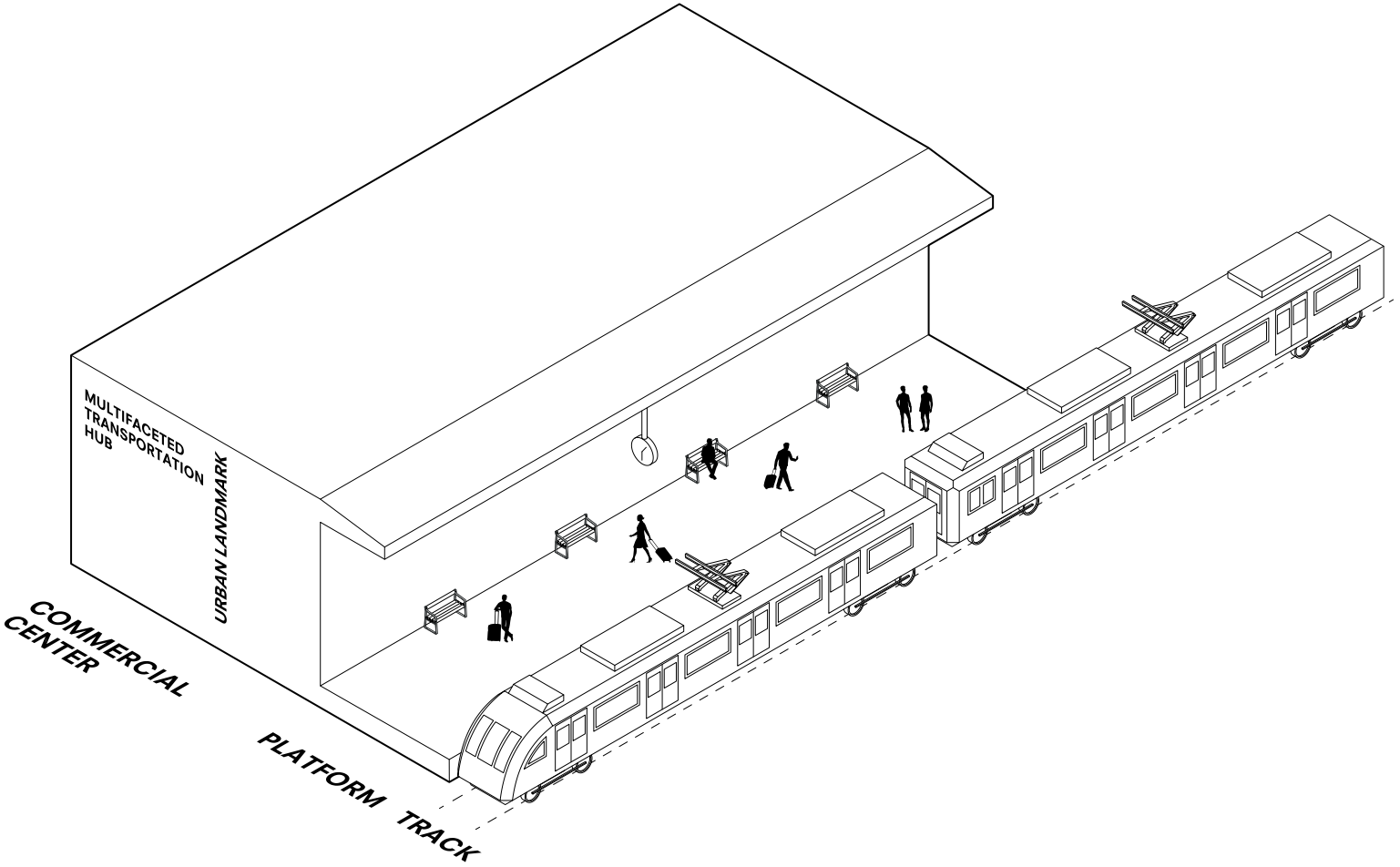
DIVERGENT

REST YOUR FEET WHILE WAITING

TRAIN STATION



TRAIN STATION



TRAIN STATION

Steam power introduced

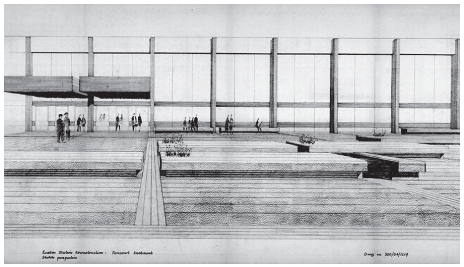
1804

The first railway passenger service begins in Swansea, Wales.

1807

1837

London's Euston station becomes the first station to provide its passengers with a **waiting room**



Orient Express:
Icon of luxury travel

1883

1885

Electrification of Railways

1889

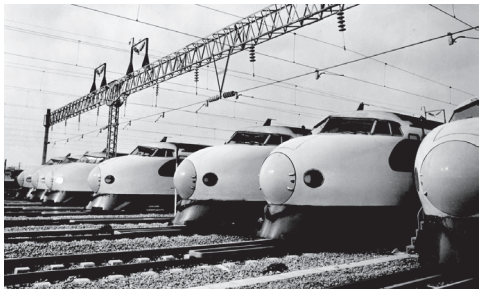
Washington Union Station in the United States opens, showcasing architectural grandeur

1898

The Gare d'Orsay in Paris, known for its Beaux-Arts architecture, opens

Shinkansen
(Bullet Train)

1964



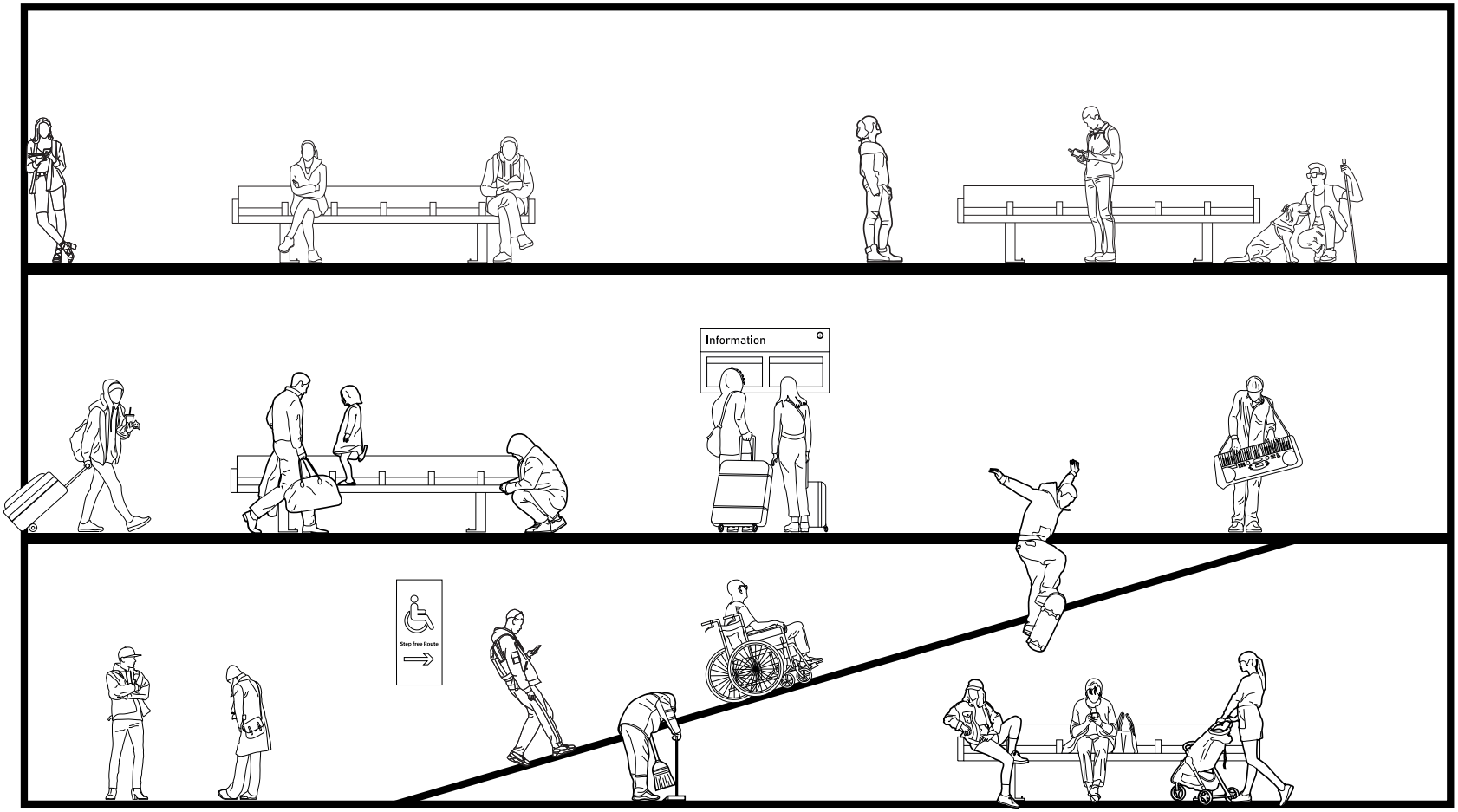
Berlin Hauptbahnhof,
Europe's largest train station,
begins construction

1994

2006

Berlin Hauptbahnhof opens, showcasing contemporary architecture and design

USER



TICKET SALE IN NETHERLANDS

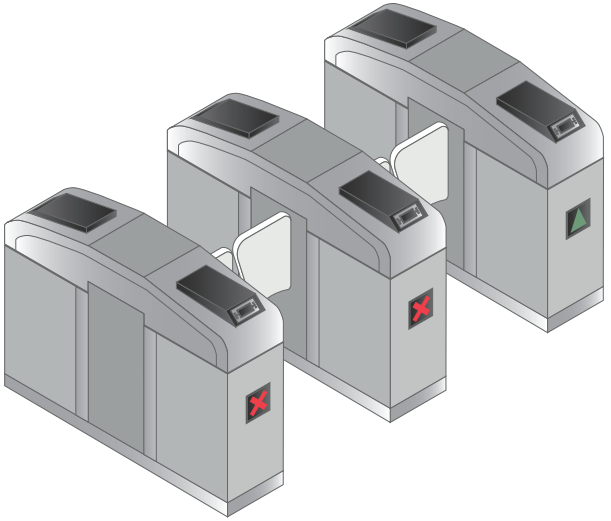
PASSENGERS AND COMMUTERS

PASSENGERS AND COMMUTERS

1. Buy a ticket

In the app

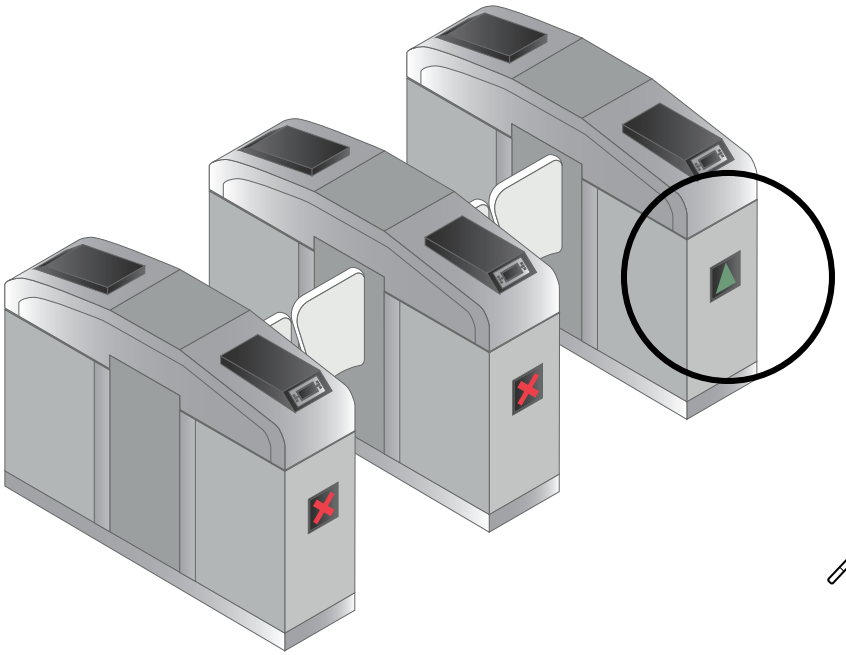
At a ticket machine (Yellow, near the exits)

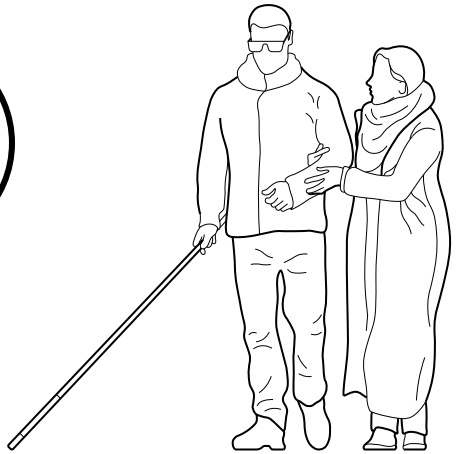


1 or 2. Validate your ticket, debit card or chipcard at check-in gate

3. Use public transportation

TICKET SALE IN NETHERLANDS





TICKET SALE IN BERLIN

PASSENGER & COMMUTERS

1. Buy a ticket

- In the app
- At a ticket machine (Yellow or red ticket machine on the platforms, near the exits)
- At S-bahn and BVG service points

2. Validate your ticket

- Digital tickets are valid 1 minute after you buy them
- Stamp the ticket in yellow or red metal box on train platforms

3. Use public transportation

RESEARCH

How to design a **prototype station** for the S-Bahn ring in Berlin combining **all flows** with **local identities**?

RESEARCH

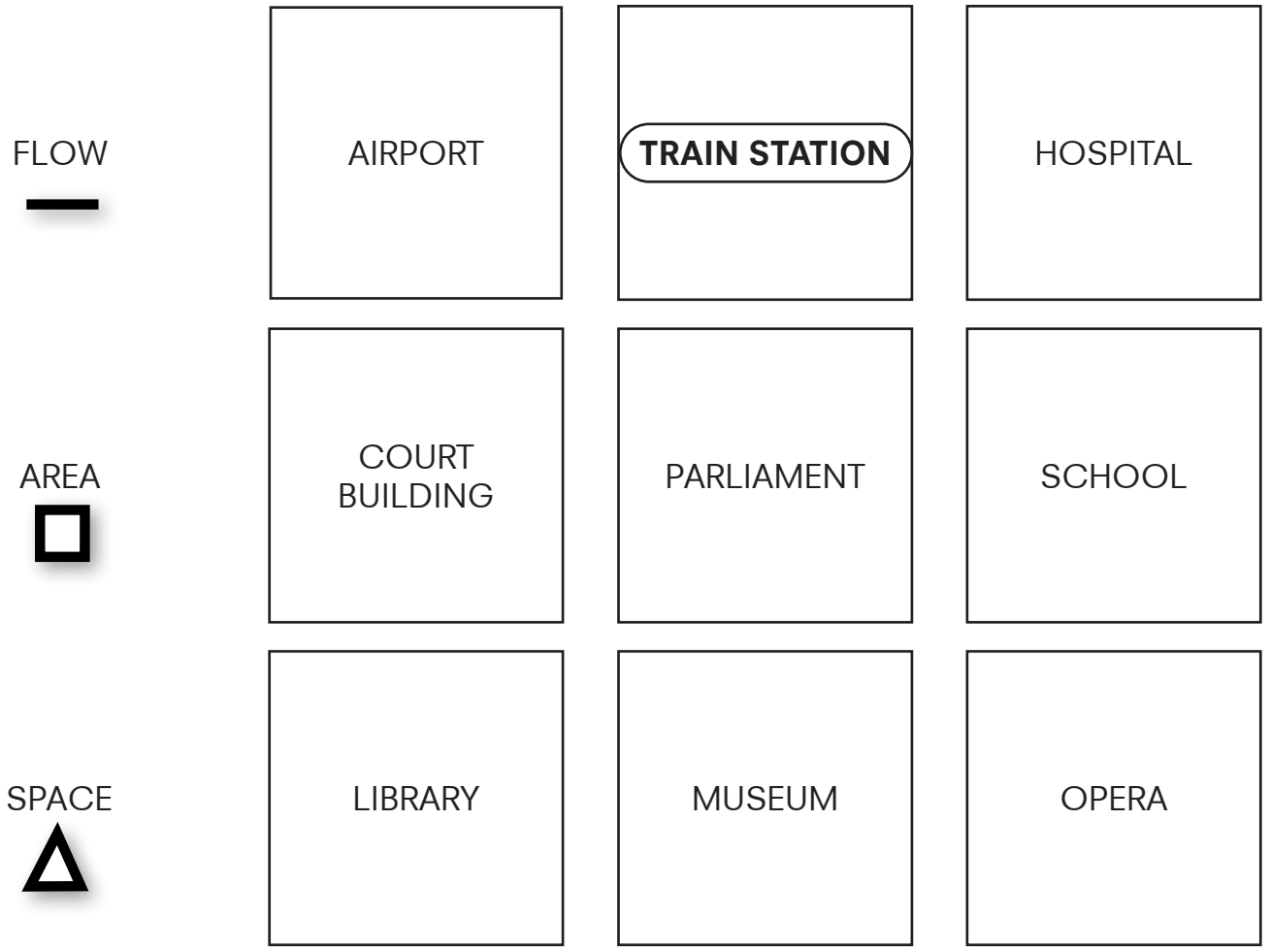
01 I What program could be added to the small stations along the S-Bahn ring? What is the missing link?

02 I What contrasting different user group flows with their own requirements (passengers/commuters/locals) could be identified and taken into account?

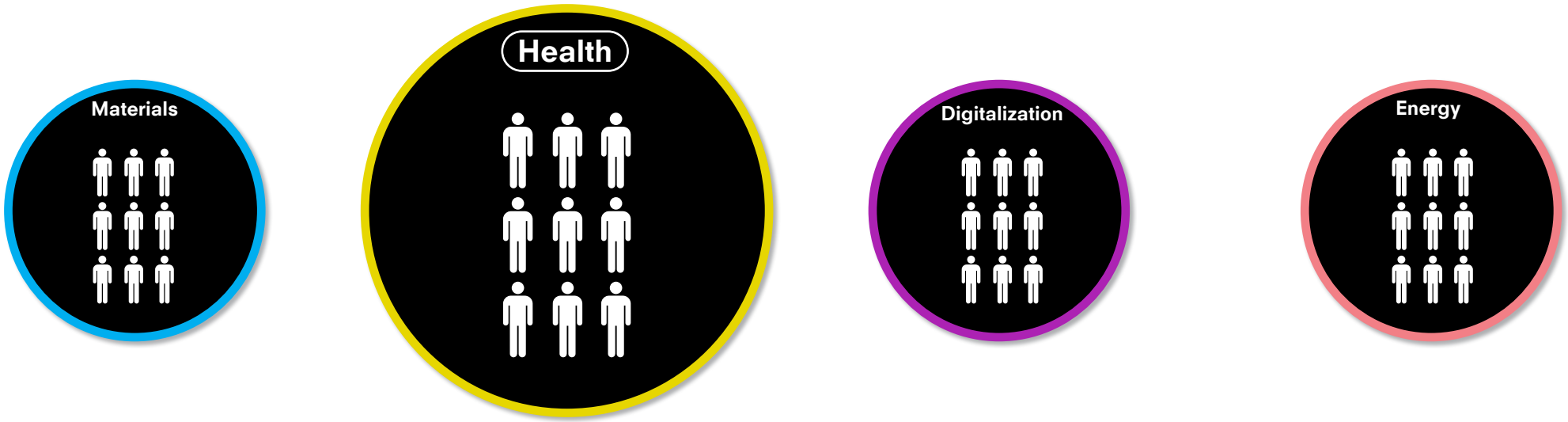
03 I How can a train station meet the diverse needs of the Berlin community, its commuters, and passengers and remain clean, safe and comfortable?

04 I How could local identity and community be represented through design?

COMPLEX PROJECTS STUDIO



COMPLEX PROJECTS STUDIO

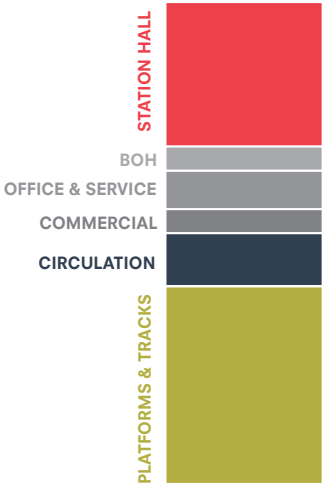


COMPLEX PROJECTS STUDIO

DESIGN BRIEF

PROTOTYPE STATION

Client



Program

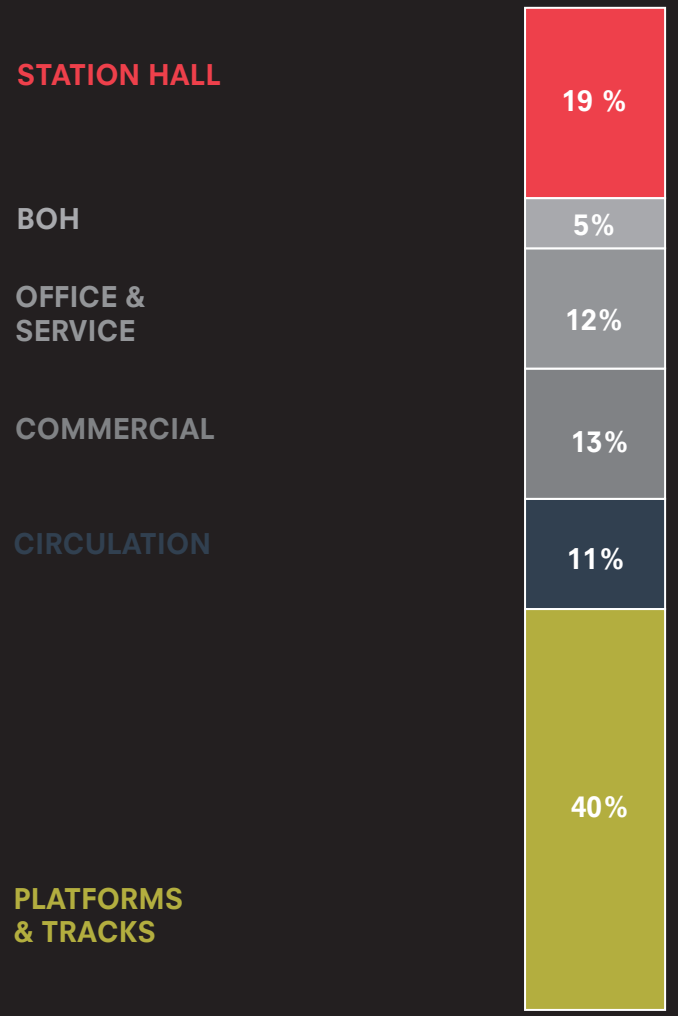
Site

OWNERSHIP

DEUTSCHE BAHN
STATE OWNED RAILWAY OPERATOR

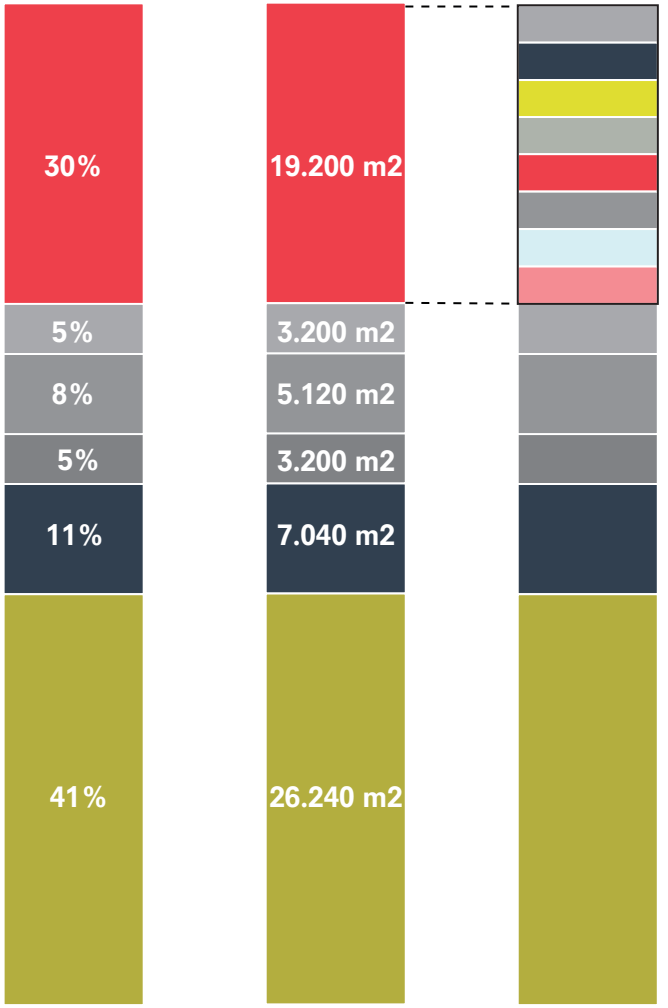
USERS

What is the ‘smoothest’ program for the Deutsche Bahn?



Hostile architecture

What is the most needed program for Berlin’s diverse community?



Versitale architecture

FRANKFURTER ALLEE

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

IMPLEMENTATION

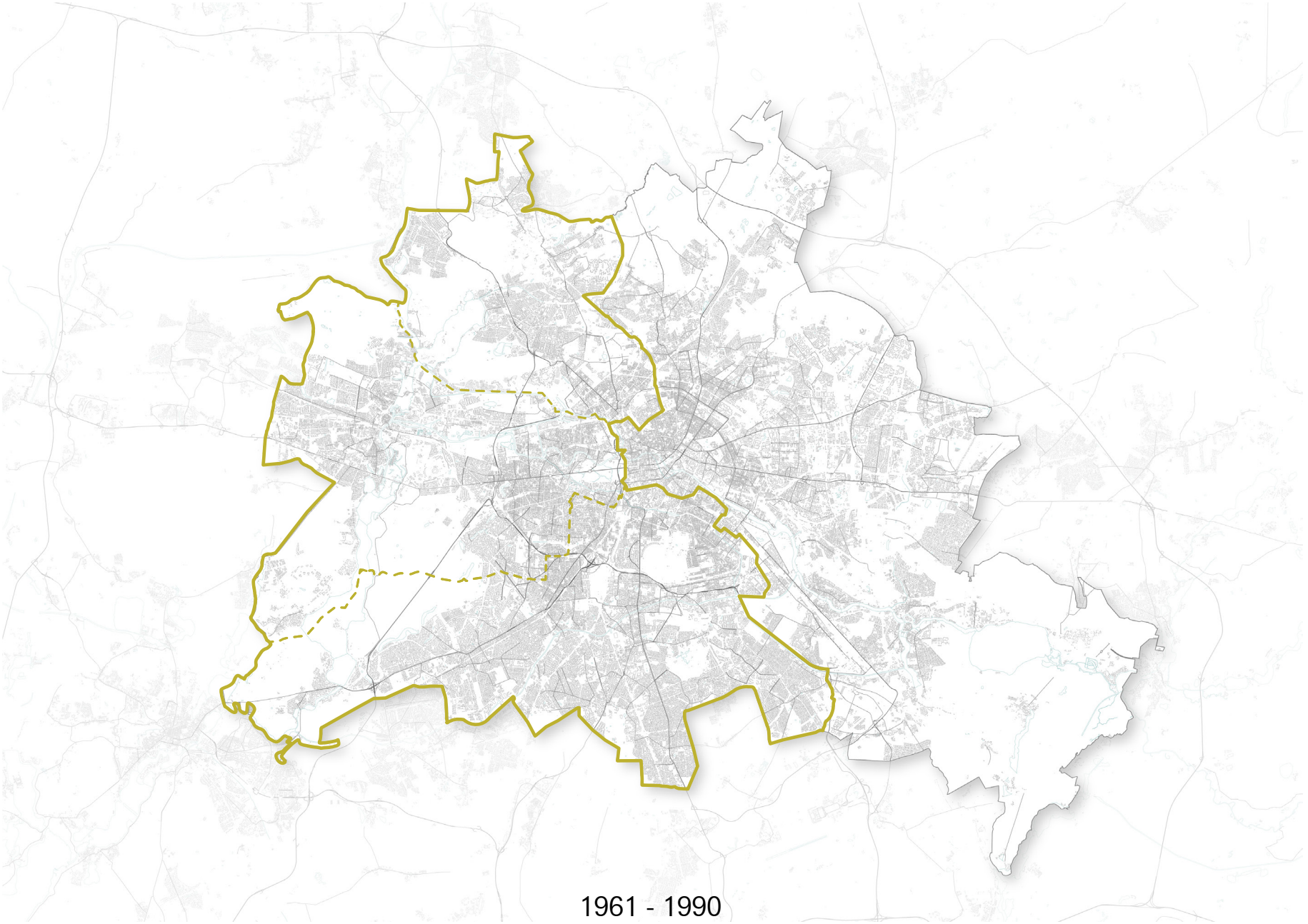
DEVELOPMENT

CONCLUSION

CITY OF ANARCHY

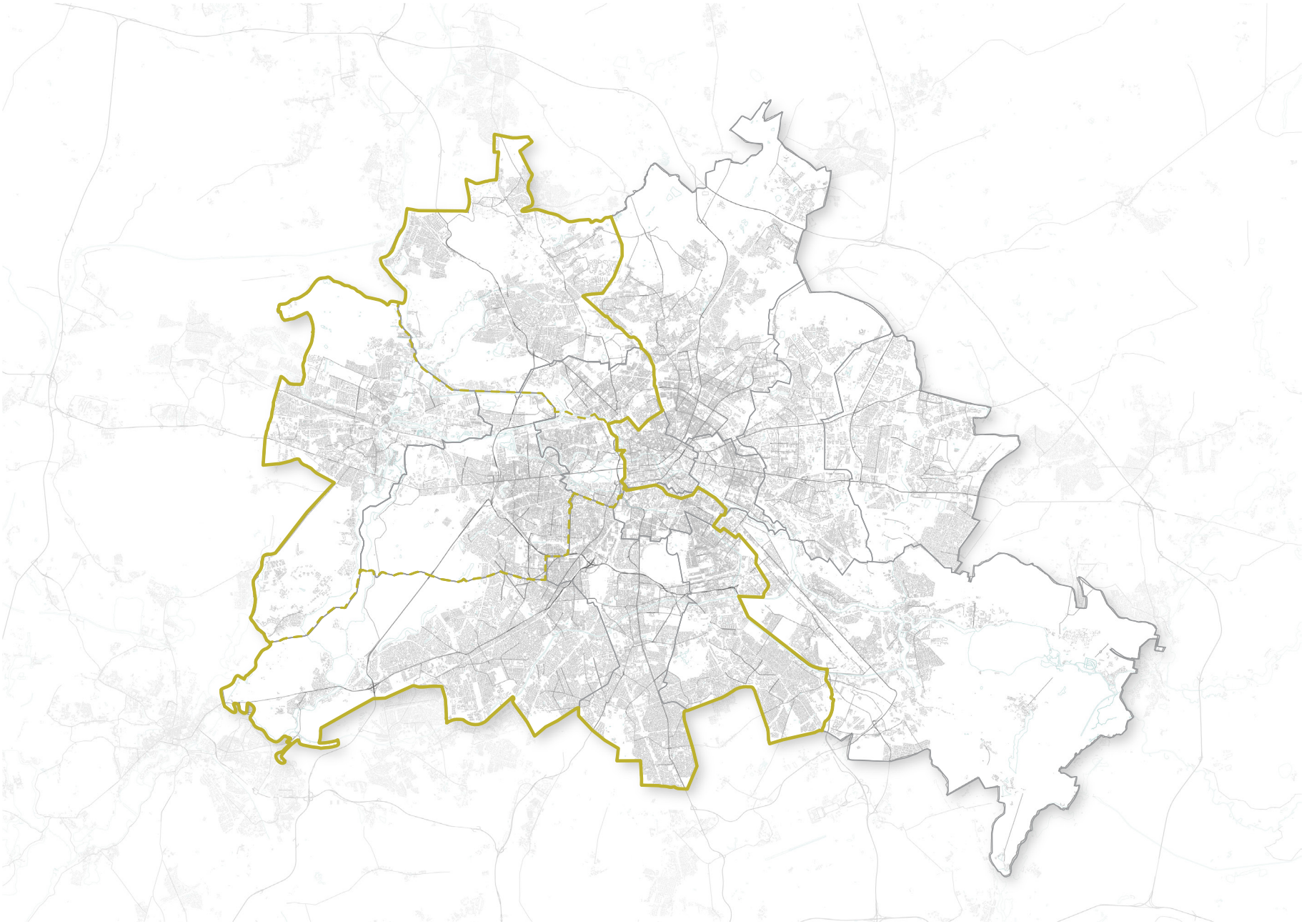
Research

THE WALL DIVIDED THE CITY



1961 - 1990

POLICENTRIC CITY STRUCTURE



Research

DISTRICTS

POLICENTRIC CITY STRUCTURE

DISTRICTS - IDENTITY

Mitte
- **Central**
- Historical
- Cultural
- Tourism
- Diverse

Friedrichshain - Kreuzberg
- Hipster
- Nightlife
- **Alternative & counterculture**
- Graffiti
- East Side Gallery

Charlottenburg - Wilmersdorf
- **Elegant**
- Shopping
- Cultural
- Historic
- Greenery

Neukolln
- Multicultural
- Artistic
- **Gentrification**
- Lively
- Young Professionals

Pankow
- Residential
- Green
- Family-Friendly
- Cultural
- Historical

Lichtenberg
- Transformation
- Residential
- Transportation
- Cultural Diversity
- **Stasi Legacy**

Tempelhof - Schoneberg
- Historical
- **Political Hub**
- **Diverse**
- Parks and Recreation
- LGBTQ+ Community

Treptow - Kopenick
- Riverside (River Spree and the Dahme River)
- Nature
- Historic Villages
- Waterfront dining
- Recreation and Leisure

Steglitz - Zeglendorf
- Residential
- Greenery
- Cultural Attractions
- **Education Hub**
- Lake and Rivers

Marzahn - Hellersdorf
- Residential District
- Urban Planning
- Green spaces
- **Multicultural Community**
- Public Transportation

Reinickendorf
- Suburban
- Transportation hub
- Lake Tegel
- Historical Architecture
- Green spaces

Spandau
- Historical
- Spandau Citadel
- Riverfront (River Havel)
- Industrial Heritage
- Cultural Events

Konstanzer Strasse
3

FEHRBELLINER PLATZ
6

Fehrbelliner
Platz
6

DEUTSCHE OPER

MEHRINGDAMM
2

BREITENBACHPLATZ

Jungfernheide

TIERPARK

BAYERISCHER PLATZ

Charlottenburg - Wilmersdorf

- **Elegant**
- Shopping
- Cultural
- Historic
- Greenery

Friedrichshain - Kreuzberg

- Hipster
- Nightlife
- **Alternative & counterculture**
- Graffiti
- East Side Gallery

Steglitz - Zeglendorf

- Residential
- Greenery
- Cultural Attractions
- **Education Hub**
- Lake and Rivers

Spandau

- Historical
- Spandau Citadel
- Riverfront (River Havel)
- Industrial Heritage
- Cultural Events

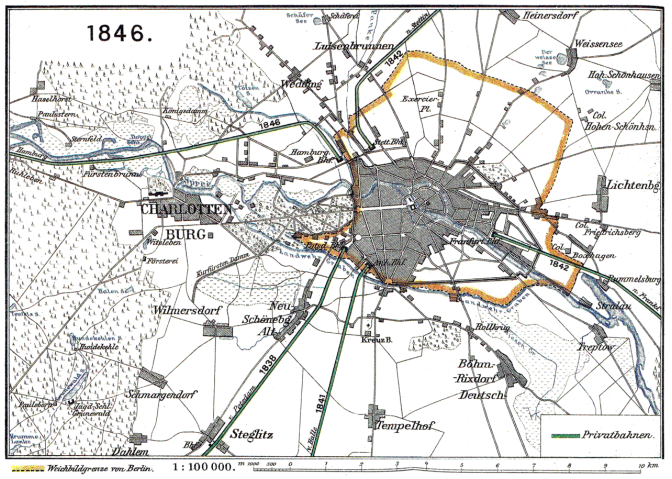
Lichtenberg

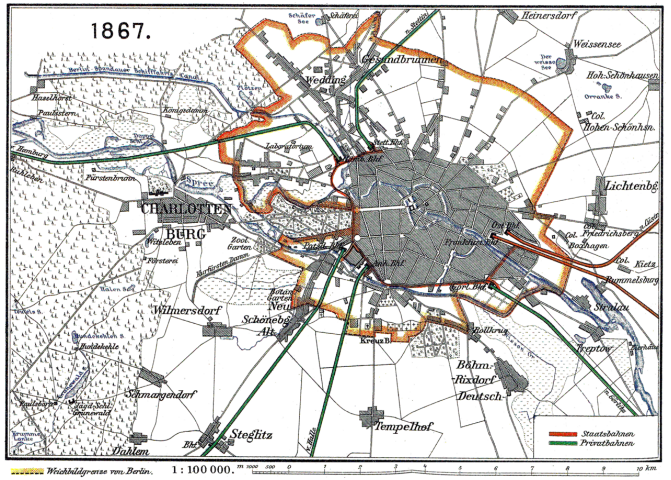
- Transformation
- Residential
- Transportation
- Cultural Diversity
- **Stasi Legacy**

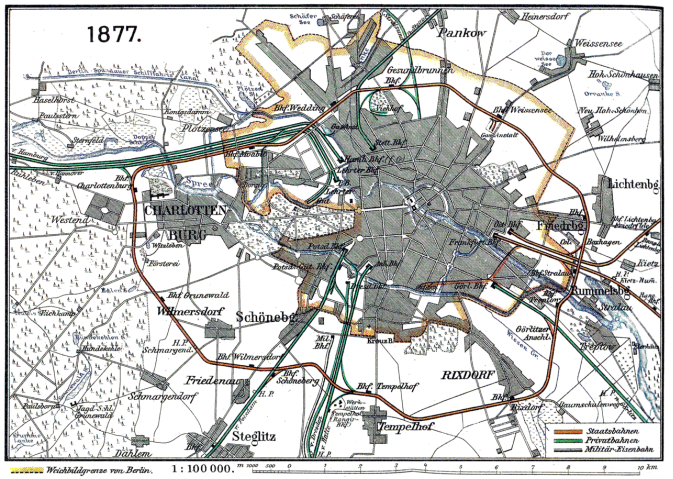
Tempelhof - Schoneberg

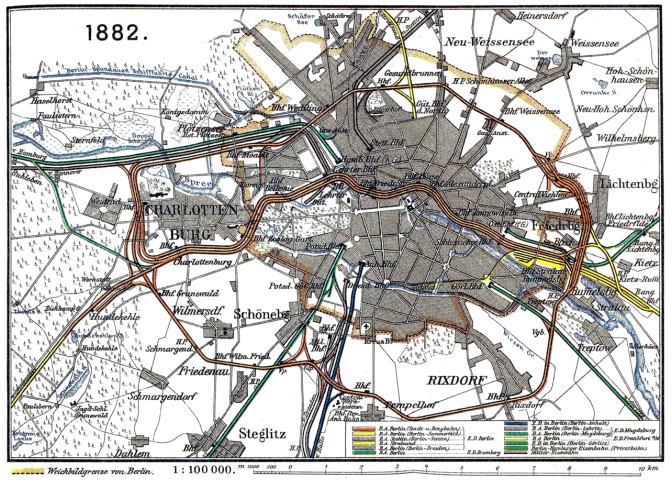
- Historical
- **Political Hub**
- **Diverse**
- Parks and Recreation
- LGBTQ+ Community

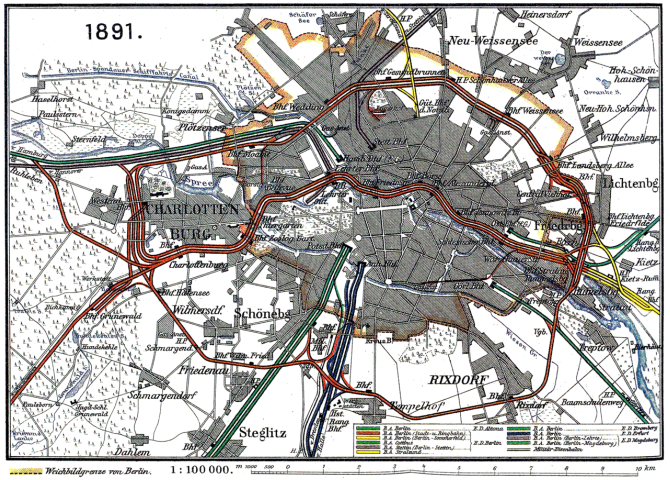
BERLIN RAILWAYS DEVELOPMENT

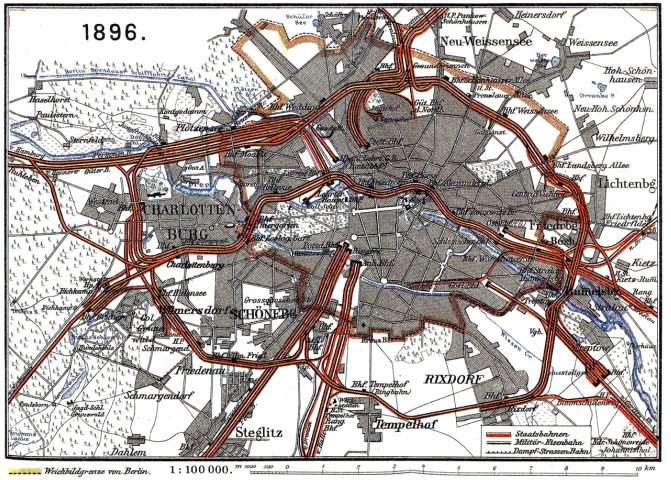






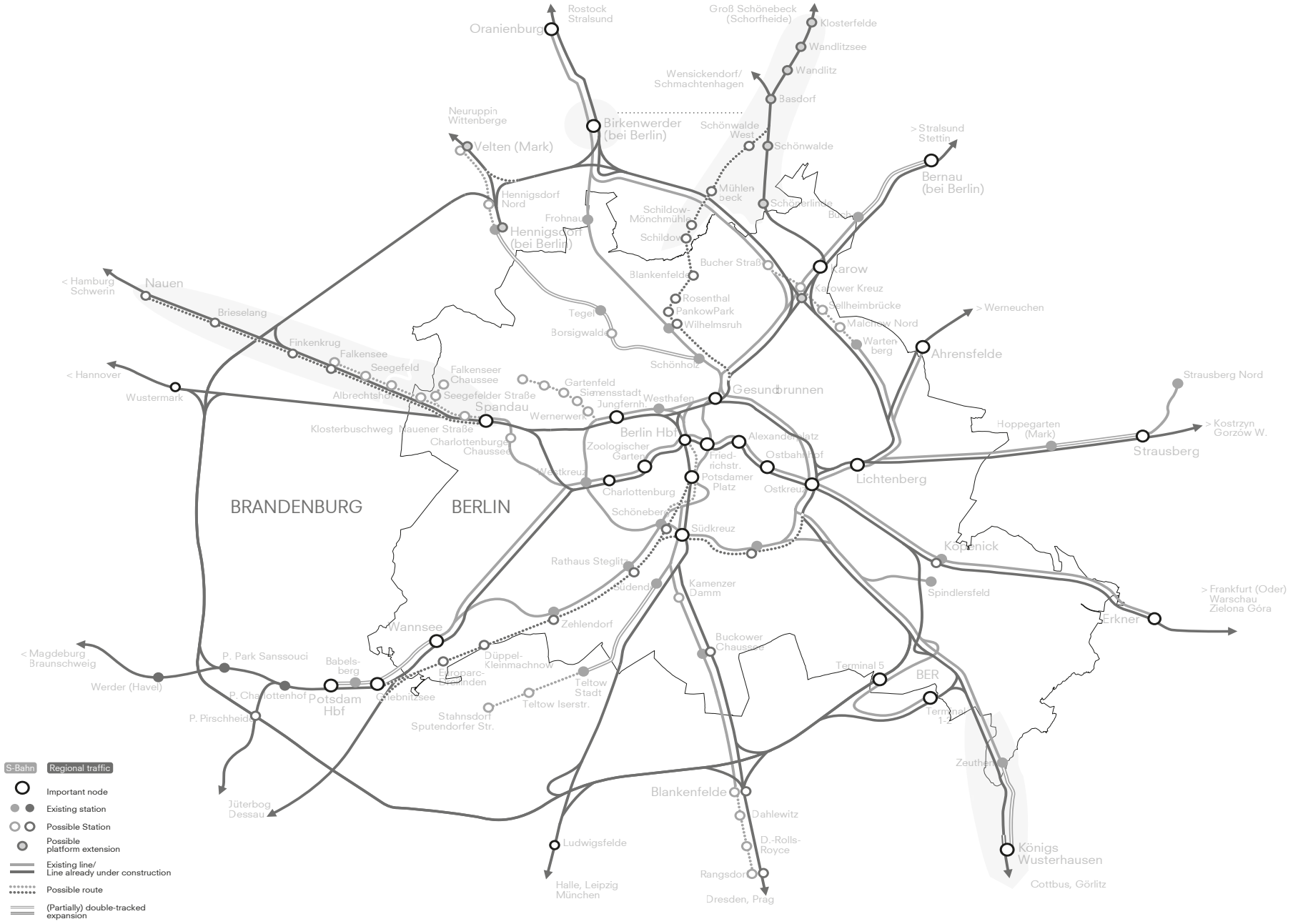






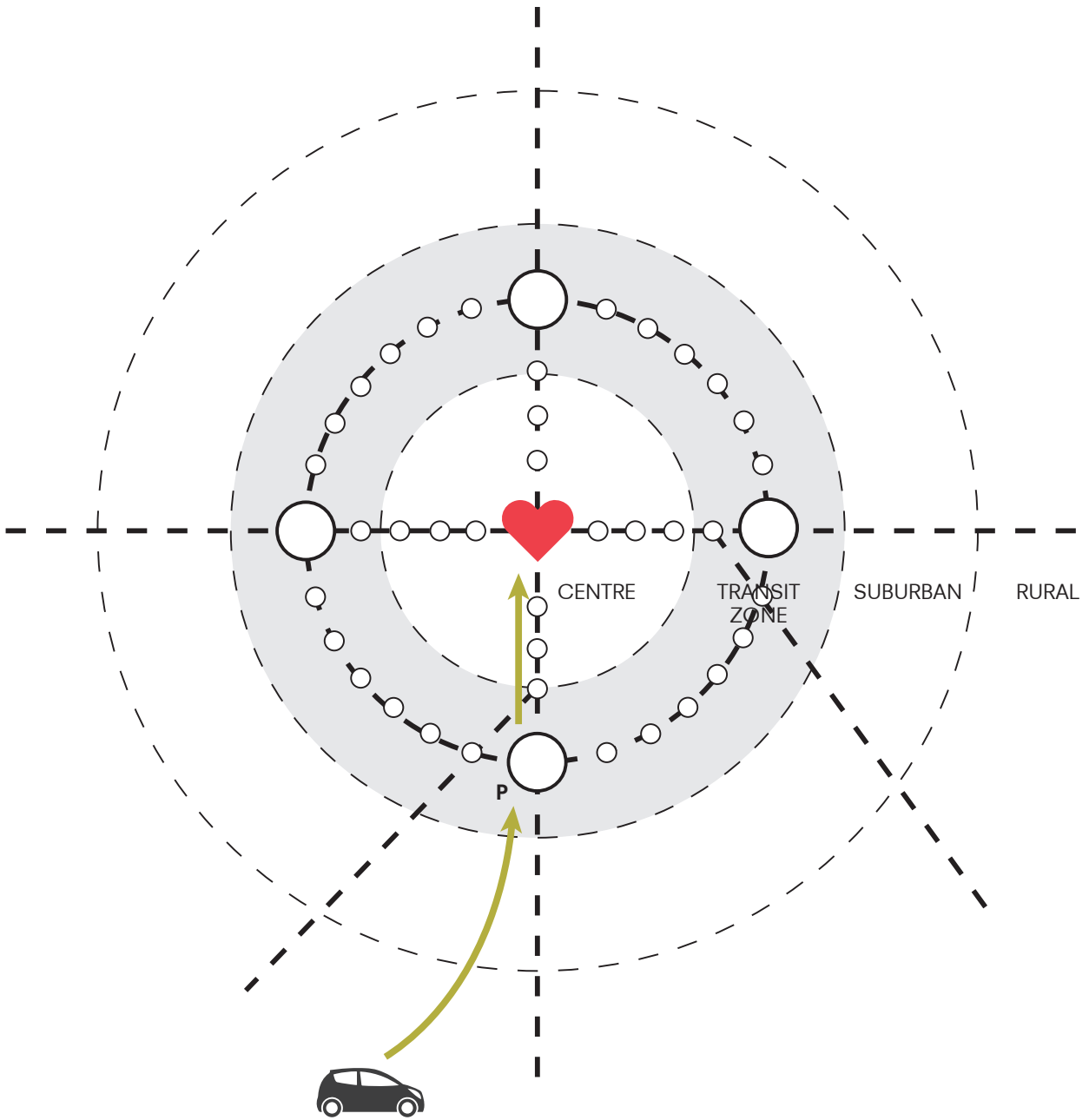
The ring was build with the idea of expansion.

I2030 RING

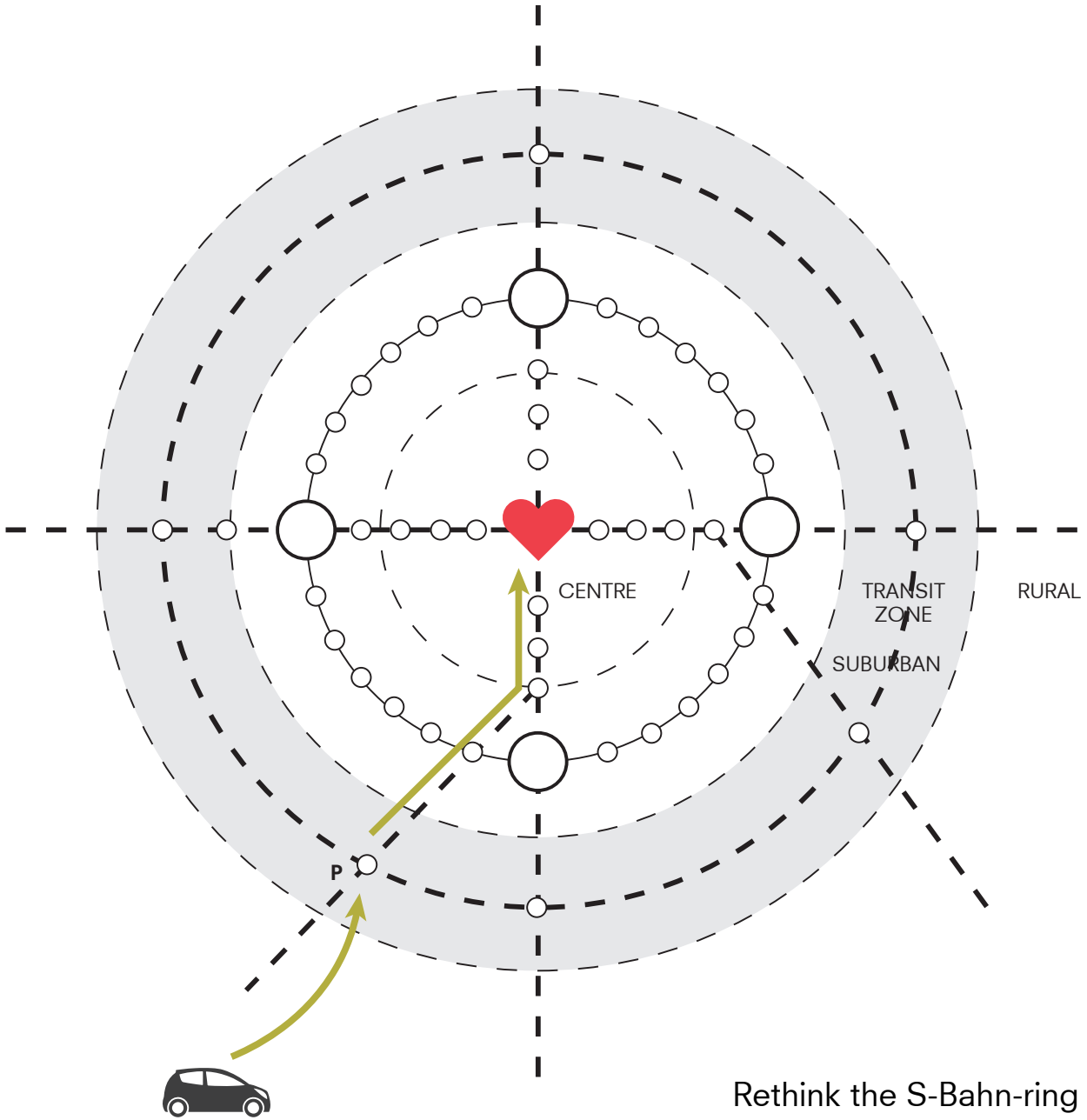

Rostock
Stralsund
Oranienburg
Groß Schönebeck
(Schorfheide)
Klosterfelde
Wandlitzsee
Wandlitz
Wensickendorf/
Schmachtenhagen
Basdorf
Neuruppin
Wittenberge
Birkenwerder
(bei Berlin)
Schönwalde
West
Schönwalde
> Stralsund
Stettin
Velten (Mark)
Bernau
(bei Berlin)
Hennigsdorf
Nord
Mühlenbeck
Schwanebeck
Schildow-
Mönchmühle
Frohnau
Hennigsdorf
(bei Berlin)
Schildow
Bucher Straße
Blankenfelde
Karow
< Hamburg
Schwerin
Nauen
Rosenthal
Pankow
Park
Wilhelmsruh
Tegel
Hellersdorf
Kreuz
Hellheimbrücke
> Werneuchen
Brieselang
Borsigwalde
Malchow Nord
Finkenkrug
Falkensee
Seegefeld
Schönholz
Wartenberg
Ahrensfelde
Falkenseer
Chaussee
< Hannover
Wustermark
Gartenfeld
Siemensstadt
Westhafen
Gesundbrunnen
Strausberg Nord
Albrechtshof
Seegefelder Straße
Spandau
Jungfernh.
Wernerwerk
Hoppegarten
(Mark)
> Kostrzyn
Gorzów W.
Klosterbuschweg
Mauener Straße
Berlin Hbf
Alexanderplatz
Strausberg
Charlottenburger
Chaussee
Zoologischer
Garten
Fried-
richstr.
Ostbahnhof
Westkreuz
Potsdamer
Platz
Lichtenberg
Ostkreuz
Charlottenburg
BRANDENBURG
BERLIN
Schöneberg
Südkreuz
Köpenick
Rathaus Steglitz
Südende
Kamenzer
Damm
Spindlersfeld
> Frankfurt (Oder)
Warschau
Zielona Góra
Erkner
Wannsee
Zehlendorf
Buckower
Chaussee
< Magdeburg
Braunschweig
P. Park Sanssouci
Babels-
berg
Düppel-
Kleinmachnow
Terminal 5
BER
Werder (Havel)
P. Charlottenhof
Potsdam
Hbf
Griebnitzsee
Teltow
Stadt
Teltow Iserstr.
Terminal
1-2
P. Pirschheide
Stahnsdorf
Sputendorfer Str.
Zeuthen
Blankenfelde
Jüterbog
Dessau
Dahlewitz
Ludwigsfelde
D.-Rolls-
Royce
Königs
Wusterhausen
Rangsdorf
Halle, Leipzig
München
Dresden, Prag
Cottbus, Görlitz
S-Bahn
Regional traffic
Important node
Existing station
Possible Station
Possible
platform extension
Existing line/
Line already under construction
Possible route
(Partially) double-tracked
expansion

BERLIN AUTOFREI

S-BAHN-RING AS TRANSIT ZONE



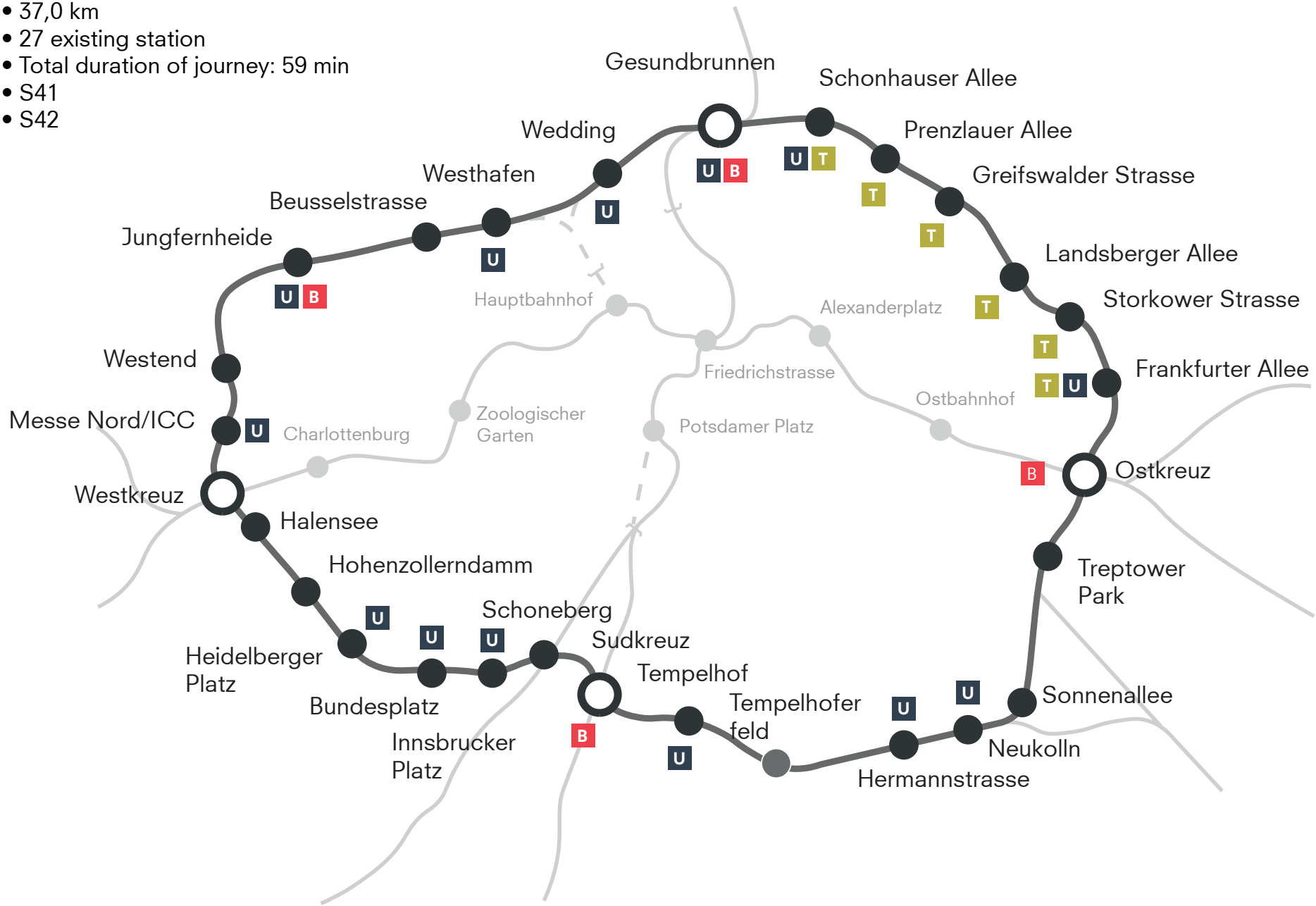
I2030 EXPANSION AS TRANSIT ZONE



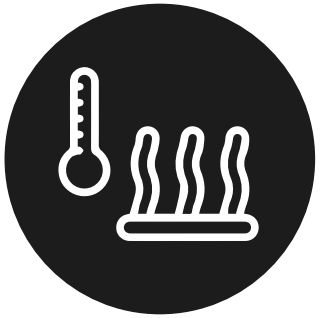
Rethink the S-Bahn-ring

S-BAHN-RING

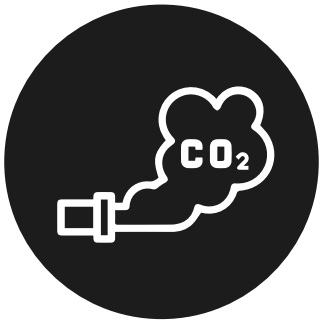
- 37,0 km
- 27 existing station
- Total duration of journey: 59 min
- S41
- S42



REQUIREMENTS



Locate the building close to a highly thermal polluted area. Within 100 m from the highest thermal polluted area.

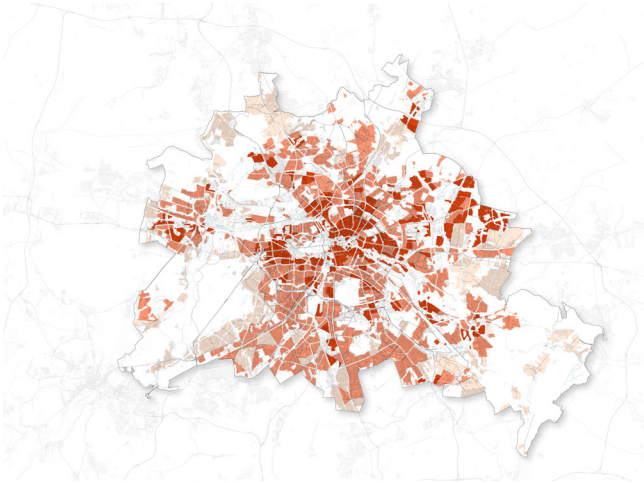


Locate the building close to a highly air polluted area. Within 100 m from the highest air polluted area.

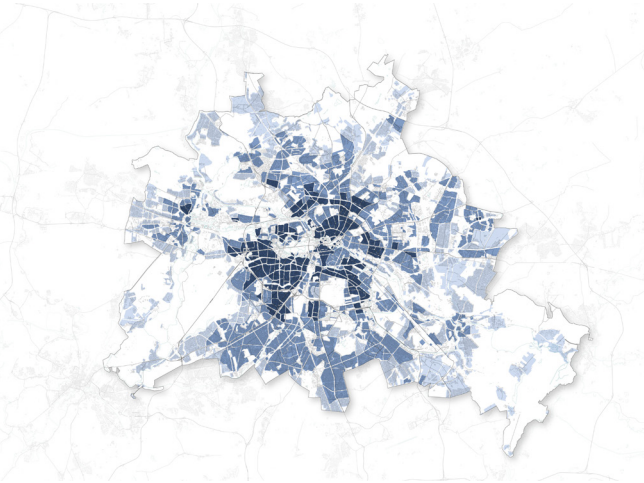
Locate the building close to a highly traffic-related noise polluted area. Within 100 m from the highest traffic-related noise polluted area.

Research

PHYSICAL POLLUTIONS



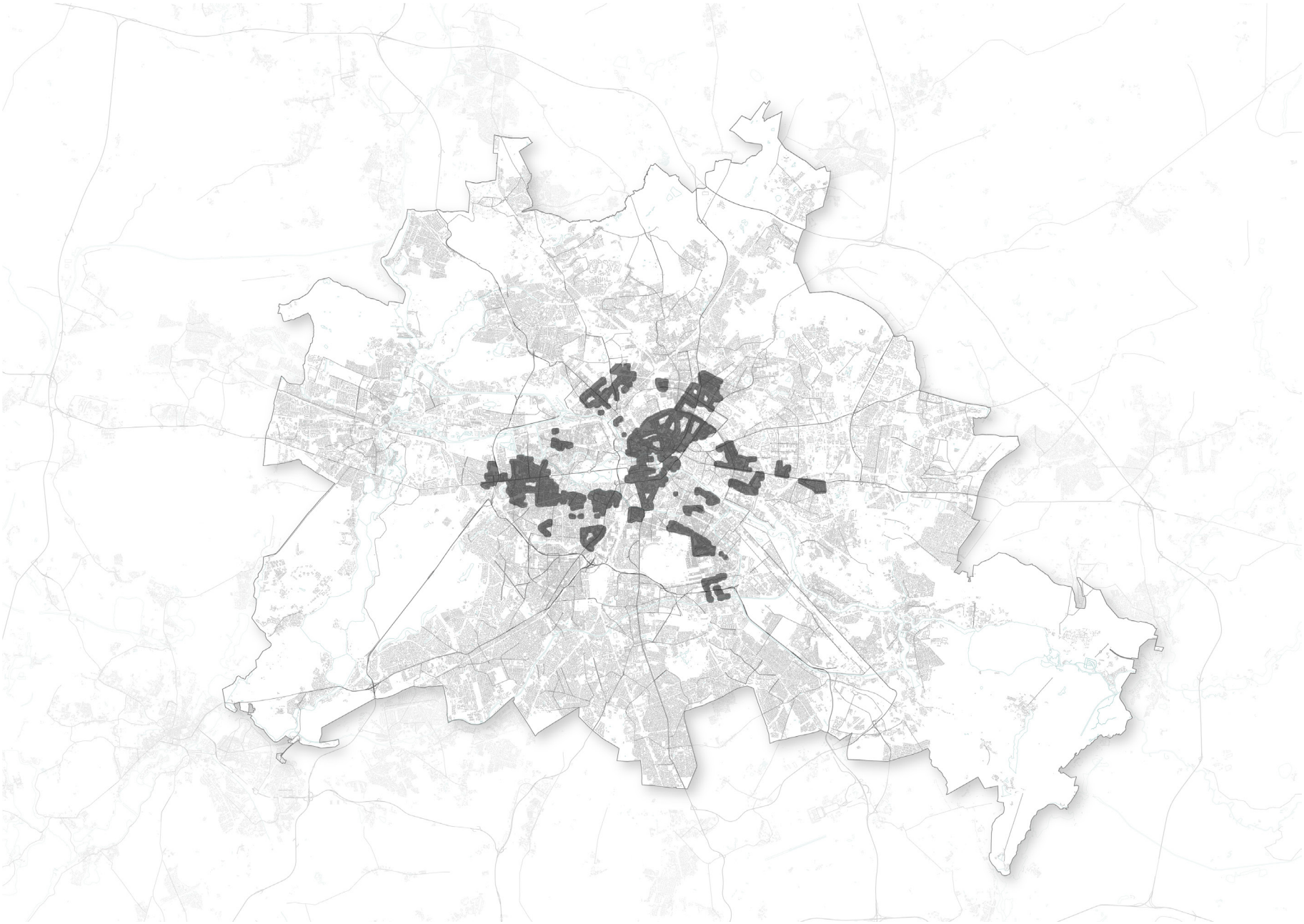
Thermal burden



Air pollution

Noise pollution

HIGHLY POLLUTED AREAS

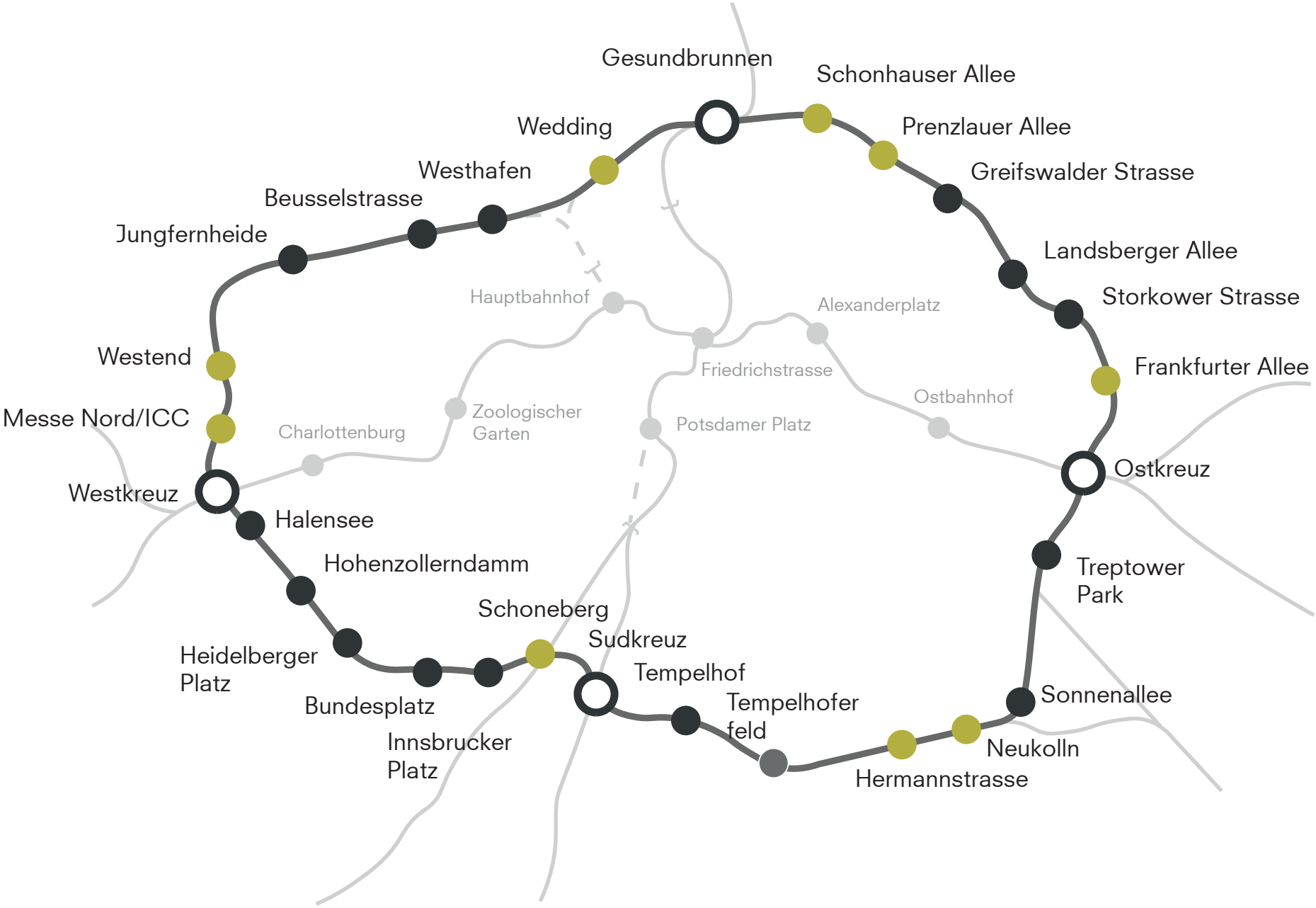


HIGHLY POLLUTED AREA

HIGHLY POLLUTED AREA

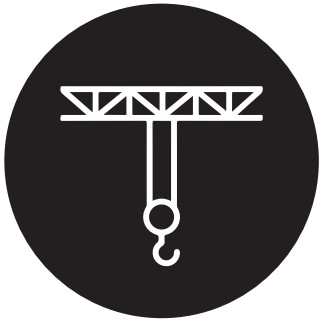
Research

S-BAHN-RING

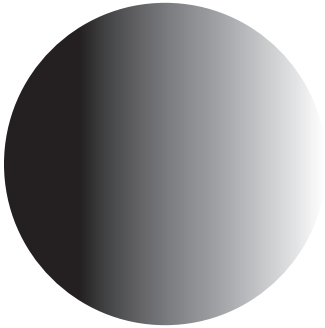


REQUIREMENTS

Locate the building along the existing S-Bahn-ring.



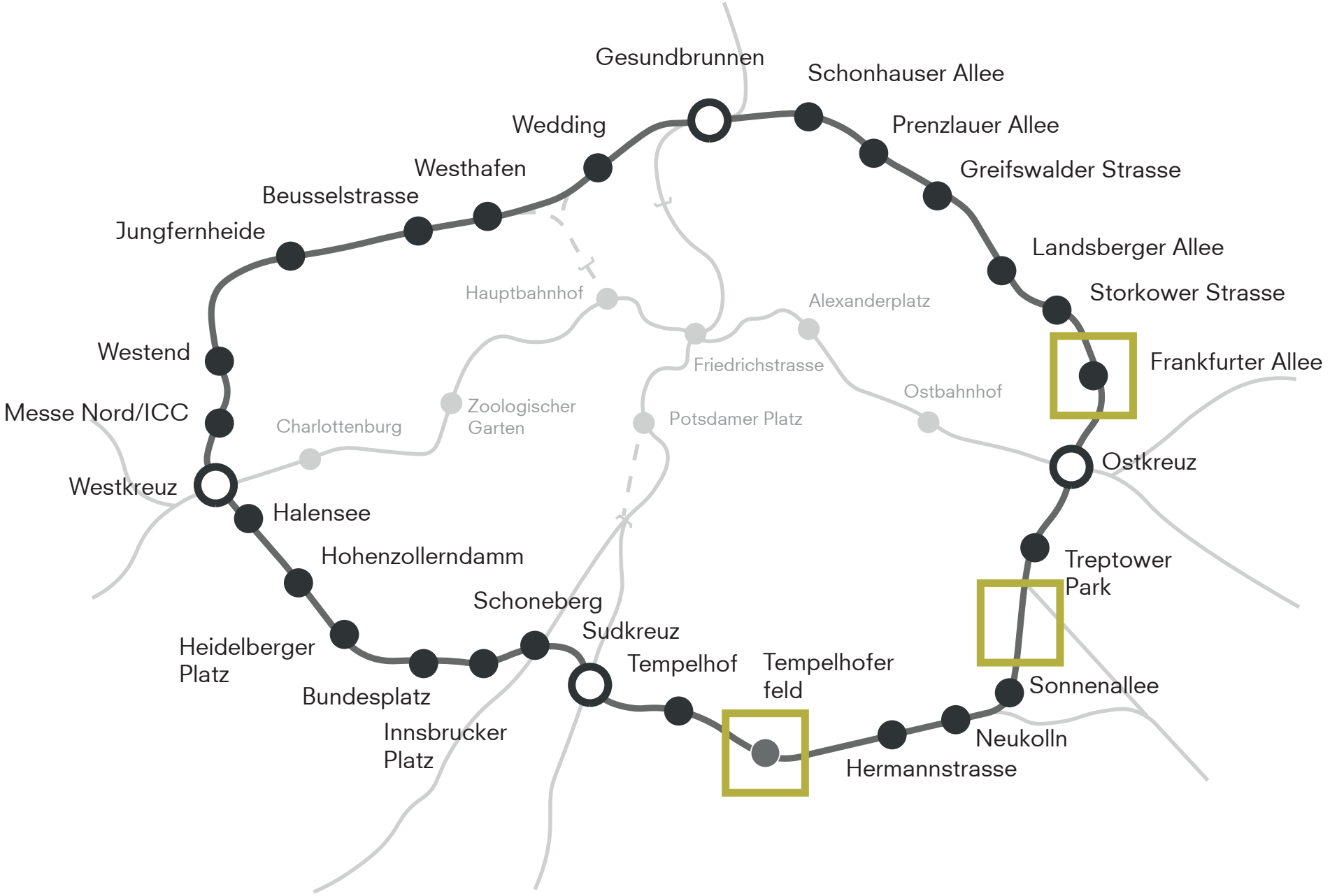
Available buildable area equal to at least one-third of the total amount of m^2 encompassed by the building.



Locate the building on the border of 2 neighbourhoods.

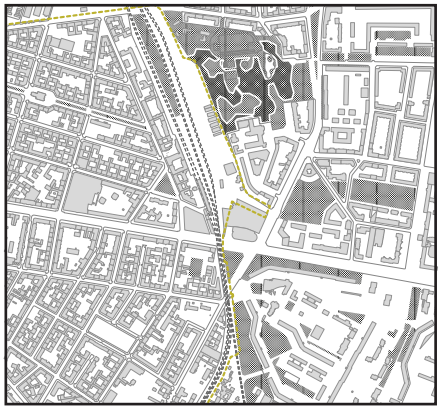
Research

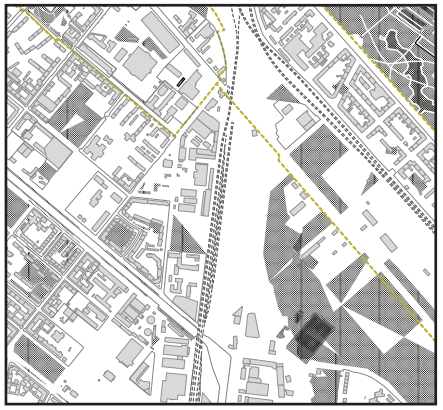
POTENTIAL LOCATIONS

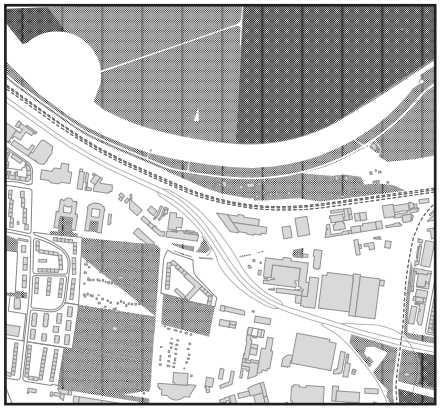


COMPARISON

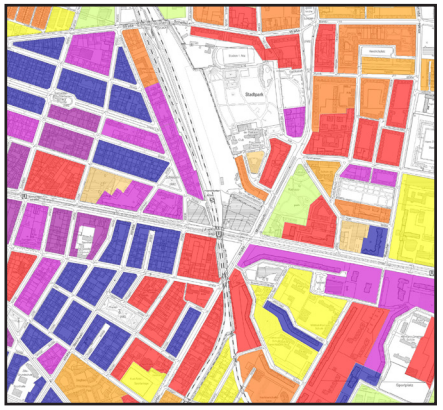
DISTRICTS

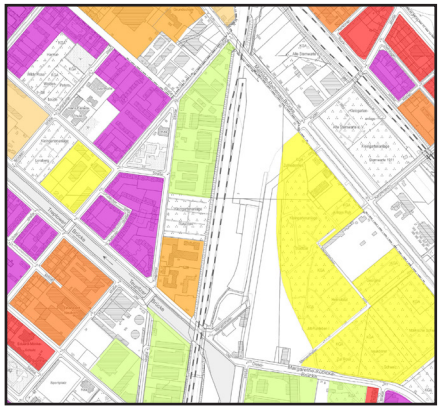


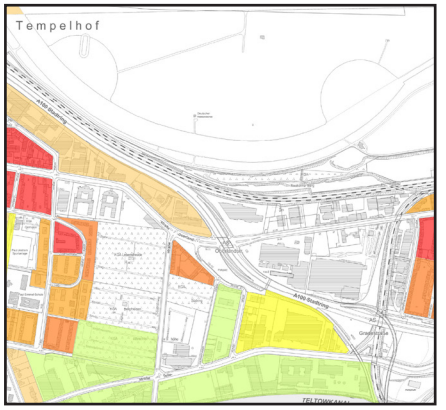




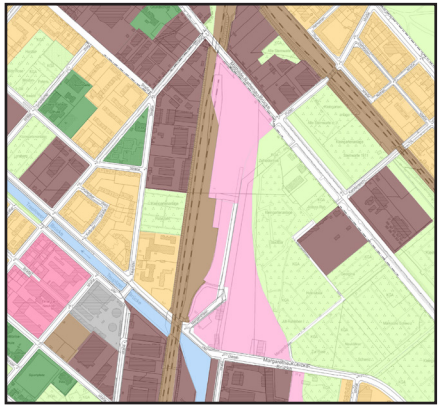
POPULATION DENSITY

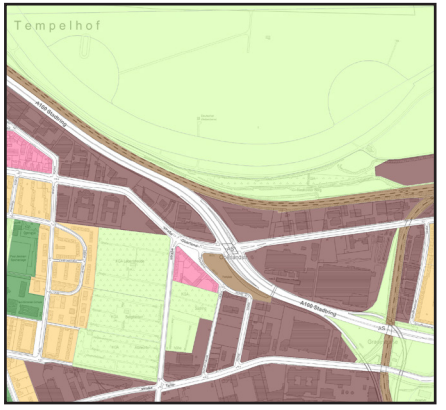






FUNCTIONS





FRANKFURTER ALLEE **MERGENTHALENRING** **TEMPELHOFER FELD**

K. Schönhornstraße
Florastraße

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

IMPLEMENTATION

DEVELOPMENT

CONCLUSION

Site

FRANKFURTER ALLEE

Site

FRANKFURTER ALLEE

- Transfer station
- Built between 1968-1970

FRANKFURTER ALLEE

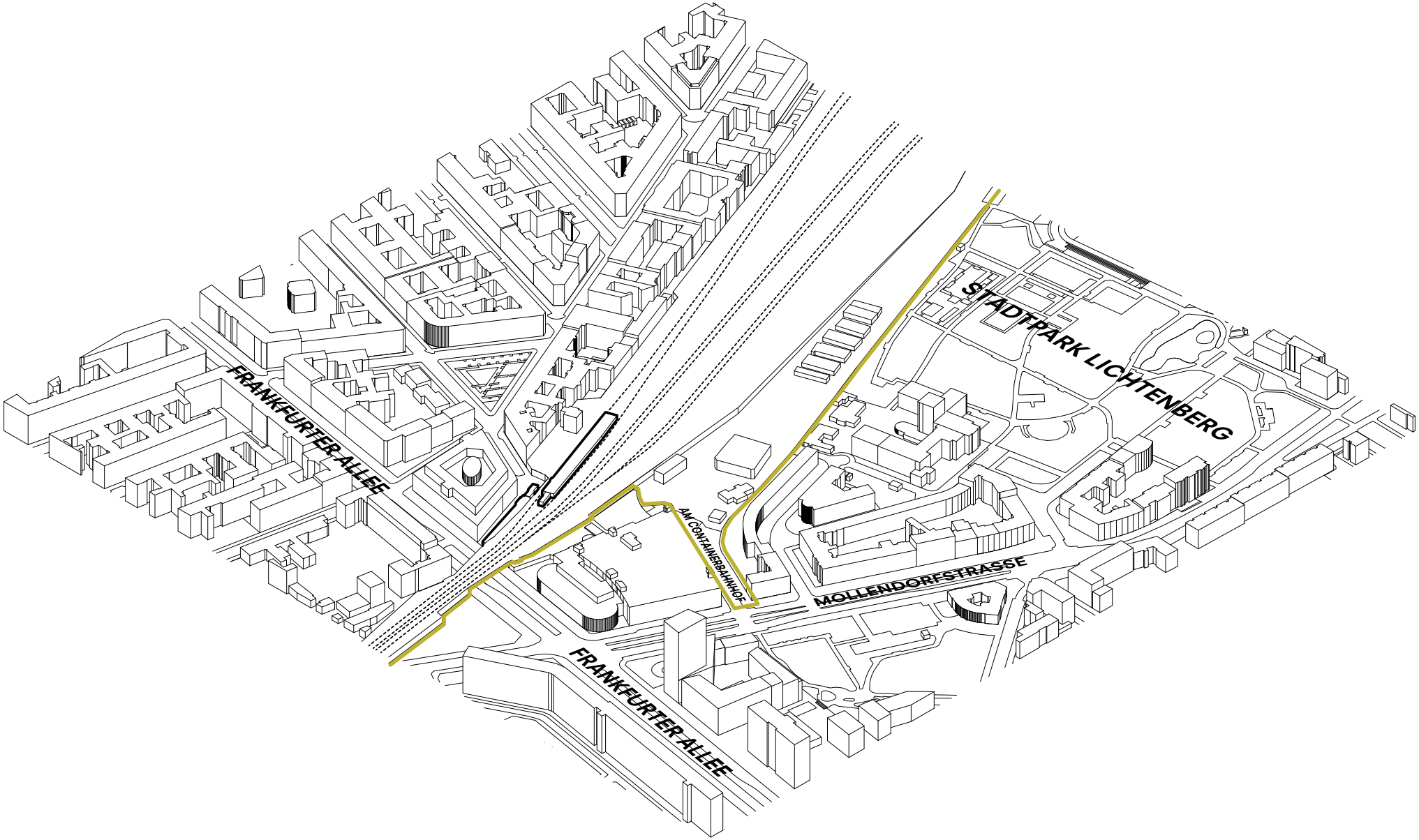
HISTORY - “AM CONTAINERBAHNHOF”

Bundesarchiv, Bild 183-R1019-0006
Foto: Sturm, Horst | 19. Oktober 1976

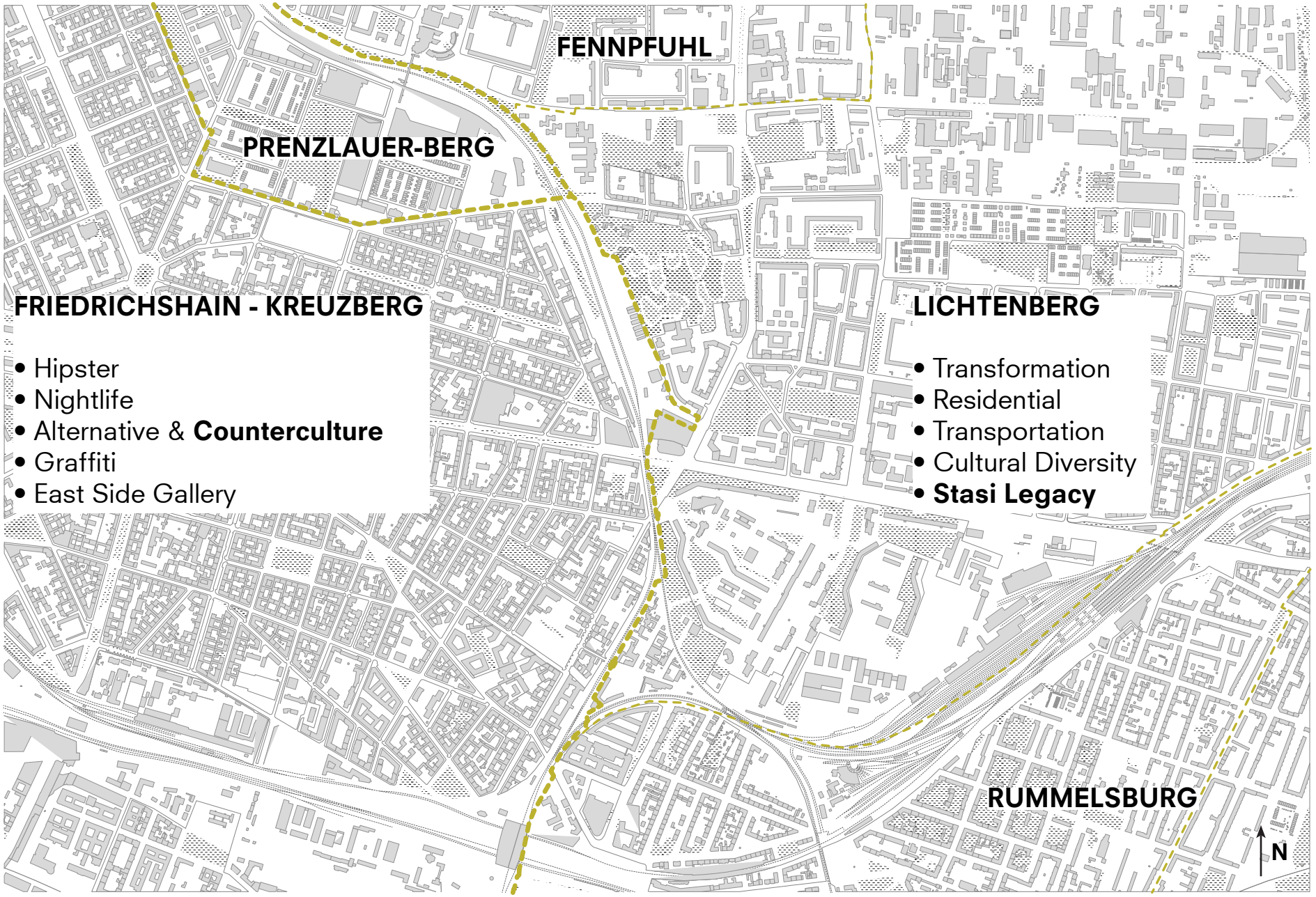
In 1968, the first load of containers was shipped to Rostock.

Site

FRANKFURTER ALLEE



NEIGHBOURHOOD IDENTITY

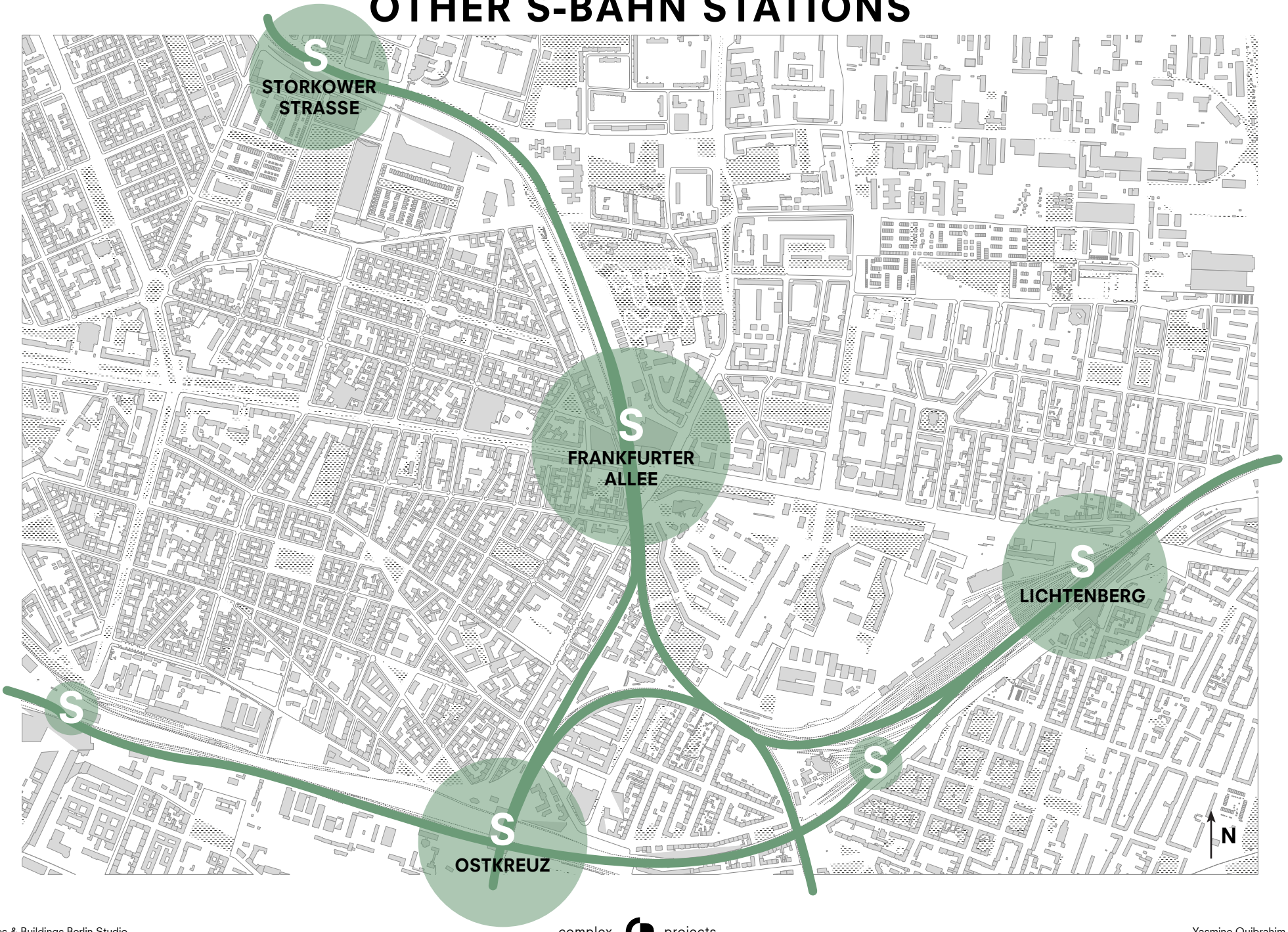


NEIGHBOURHOOD IDENTITY

Friedrichshain - Counterculture

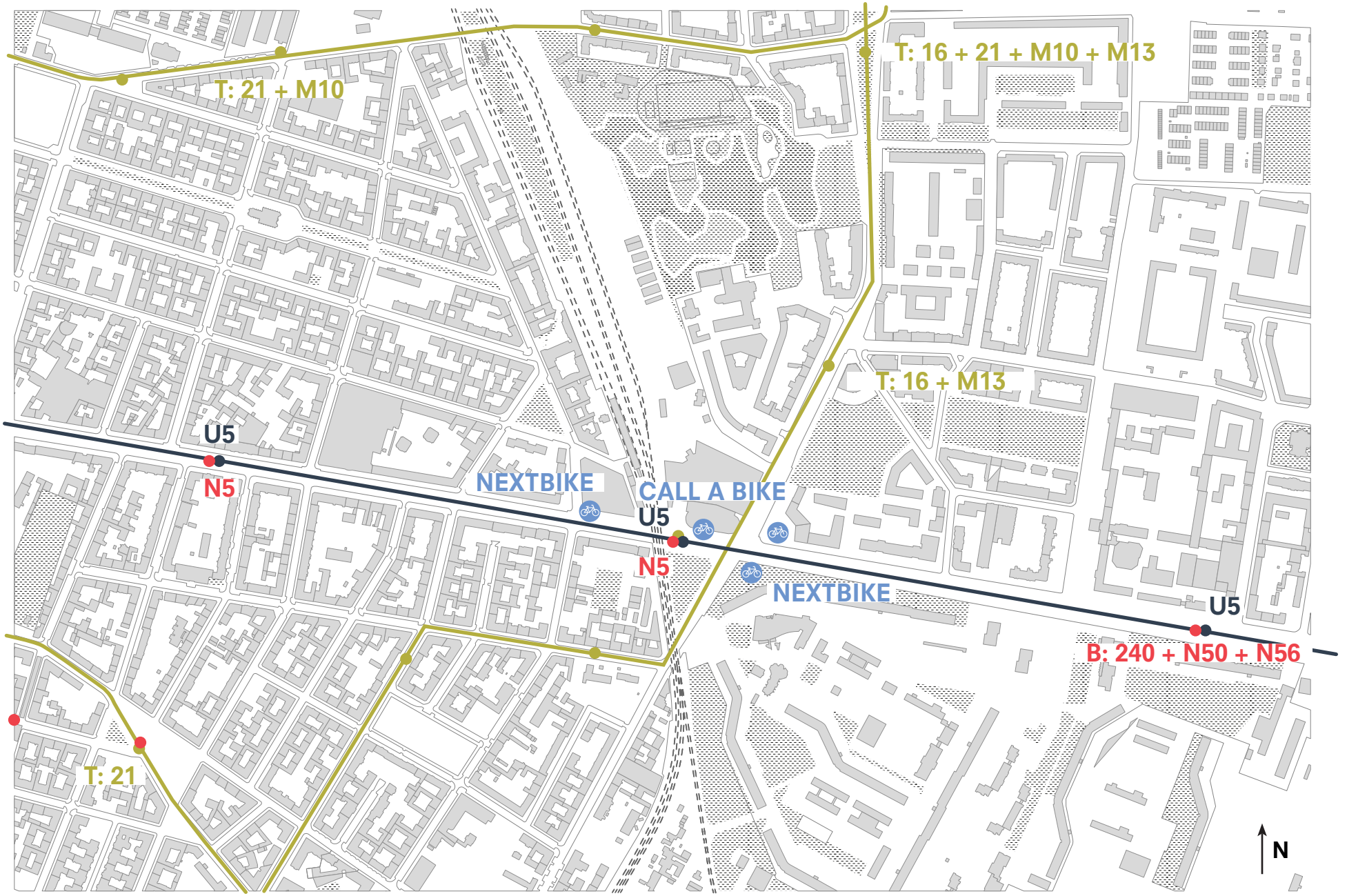
Lichtenberg - Stasi Legacy

OTHER S-BAHN STATIONS



Site

OTHER TRANSPORTATION



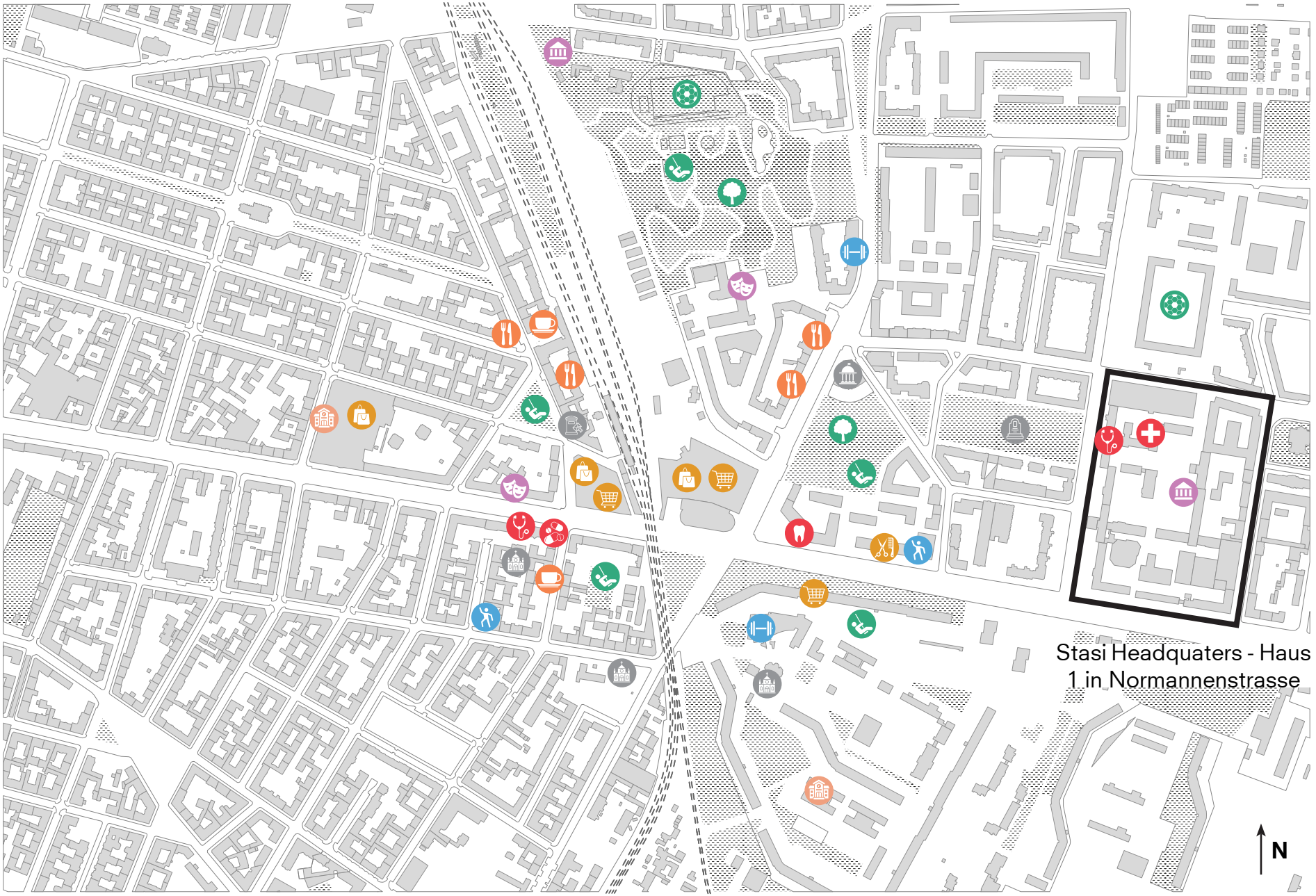
Site

U5

LINIE U5
ERÖFFNET 1930-1989
ALS LINIE E
LANGFRISTIG GEPLANTE LINIENVER-
LÄNGERUNG IN DREI ETAPPEN BIS
TURMSTRASSE, JUNGFERNHEIDE,
FLUGHAFEN TEGEL
Flughafen Tegel
Heckerdamm
Jungfernheide
Wiebestraße
Beusselstraße
Turmstraße
Fritz-Schloß-Park
Hauptbahnhof
Bundestag
Brandenburger Tor
Unter den Linden
Museumsinsel
Rotes Rathaus
Alexanderplatz
Schillingstraße
Strausberger Platz
Weberwiese
Frankfurter Tor
Samariterstraße
Frankfurter Allee
Magdalenenstraße
Lichtenberg
Friedrichsfelde
Tierpark
Biesdorf-Süd
Elsterwerdaer Platz
Wuhletal
Kaulsdorf Nord
Kienberg (Gärten der Welt)
Cottbusser Platz
Hellersdorf
Louis-Lewin-Straße
Hönow
"200 KM-PLANUNG" VON 1977
NACH OBERSCHÖNEWEIDE
Karlshorst

Site

FUNCTIONS

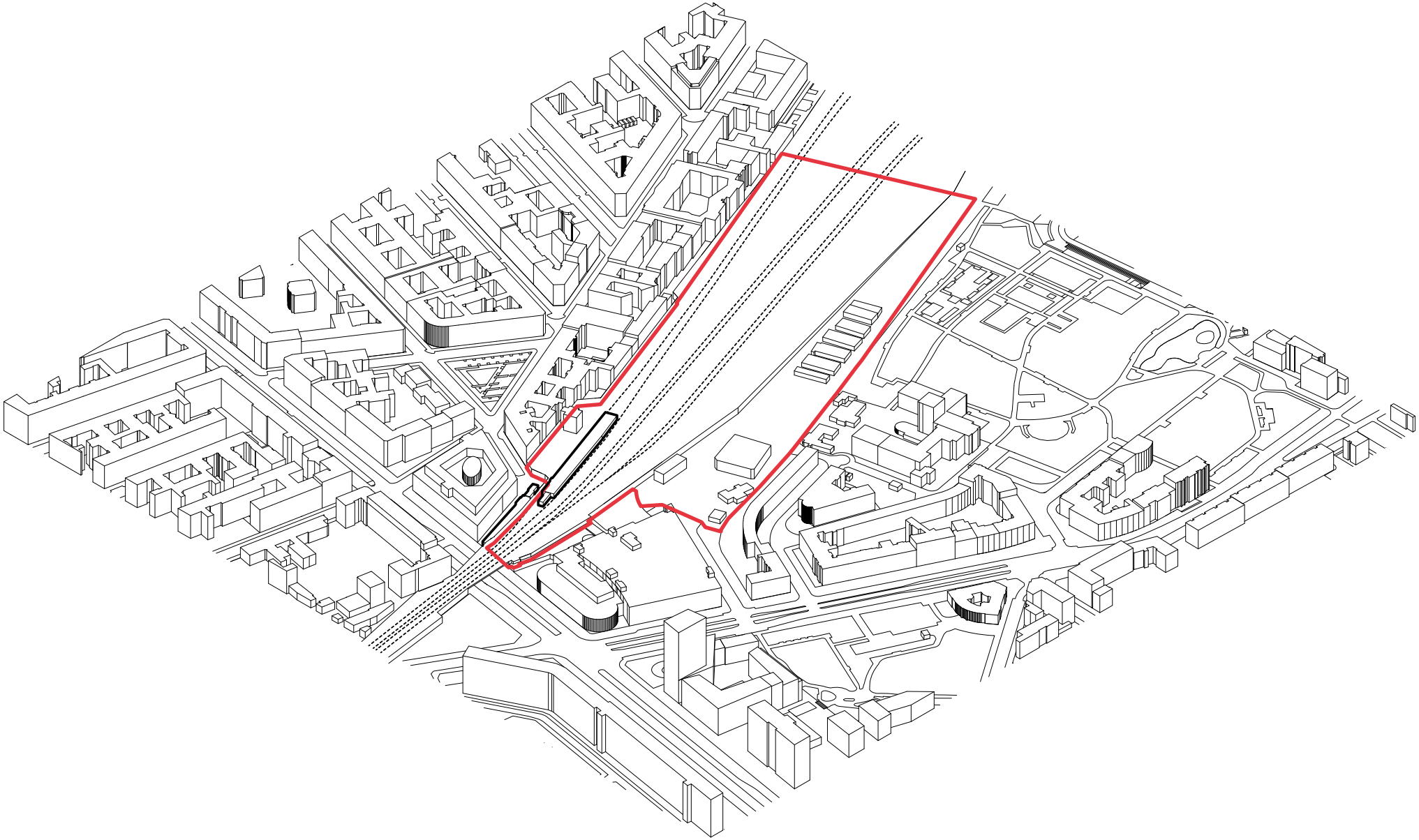


Site

FUNCTIONS

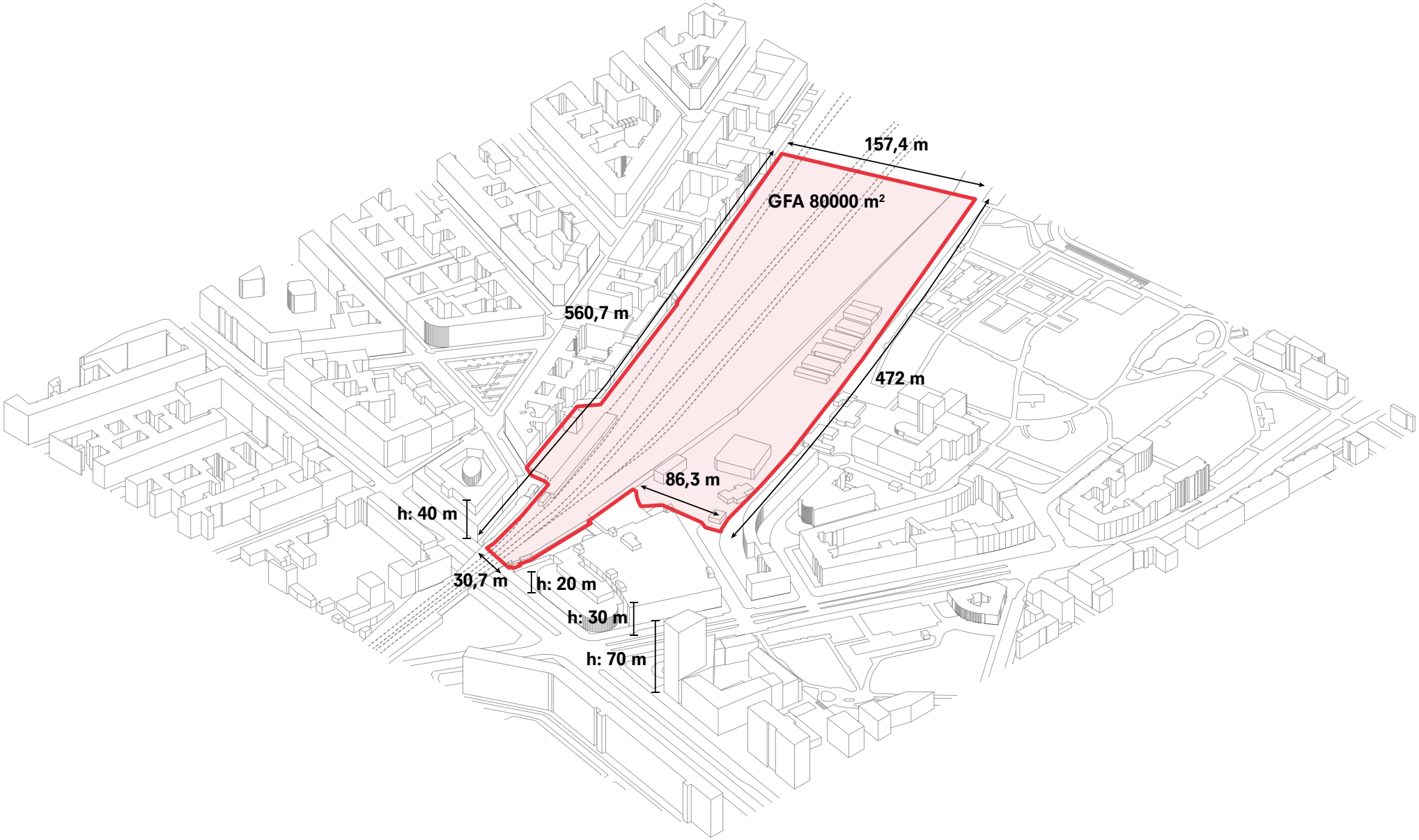
1
S41 Ring
Berlin Frankfurter Allee
U
BUS
Tram
A B

SITE RESTRICTIONS



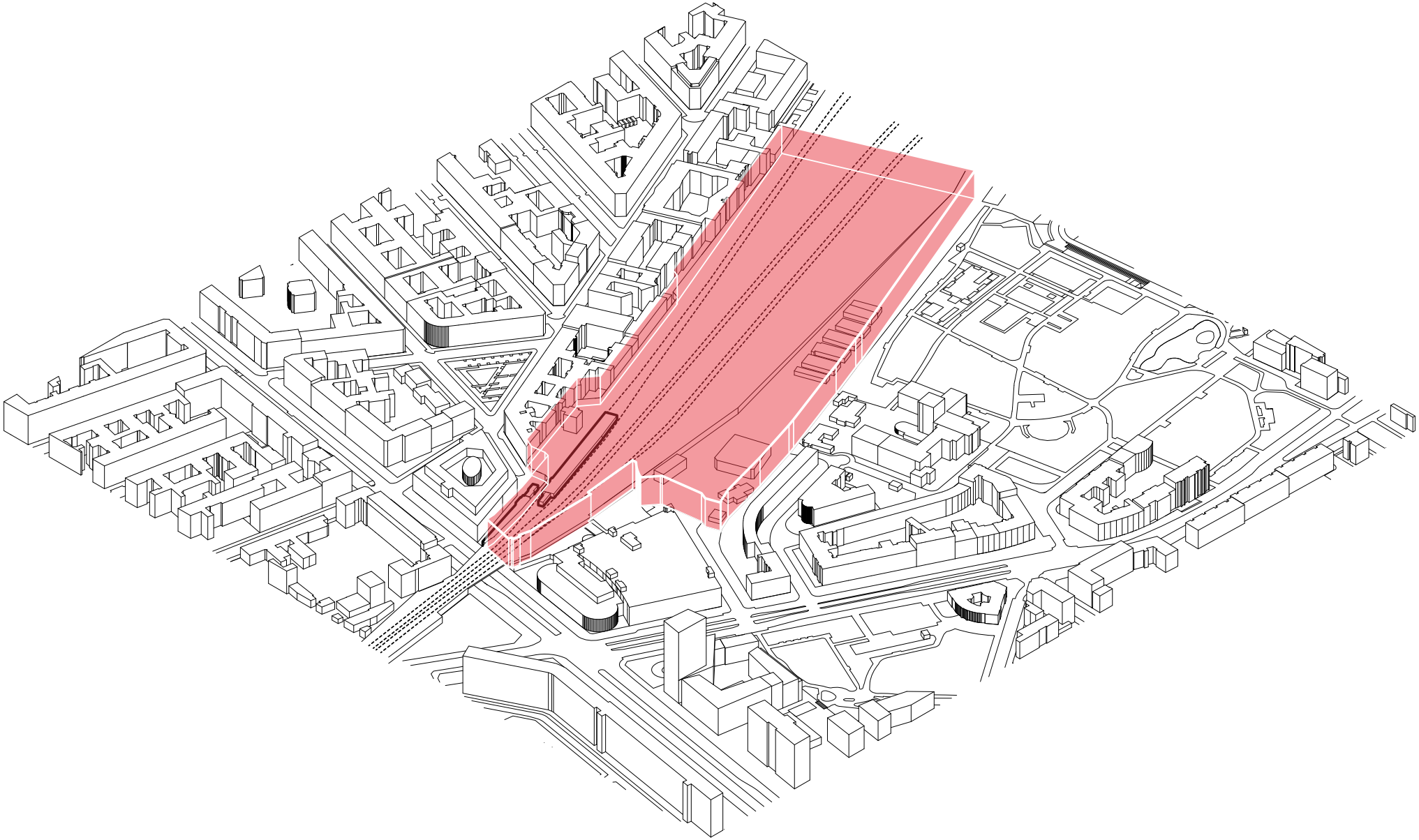
Site

DIMENSIONS



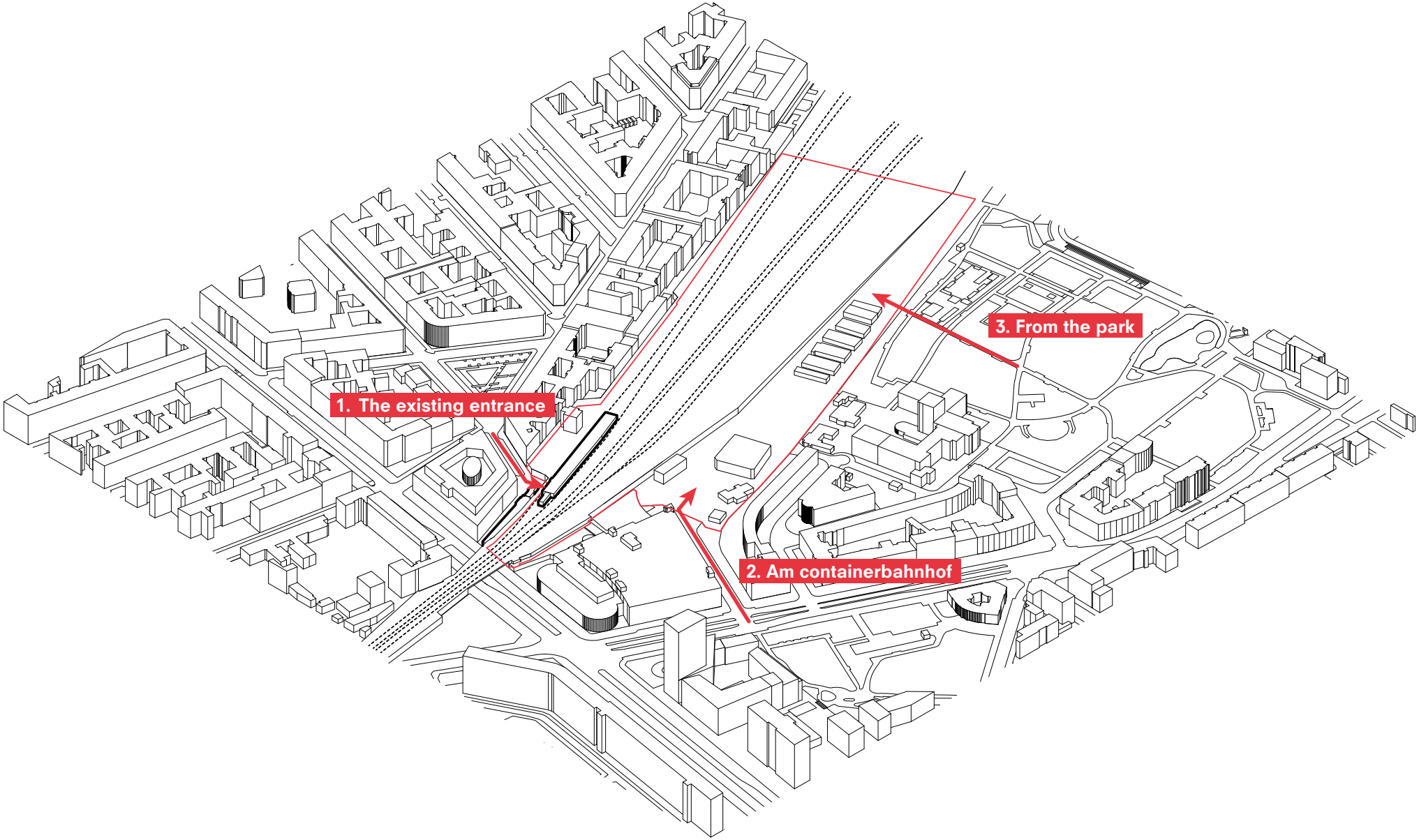
Site

SITE ENVELOPE

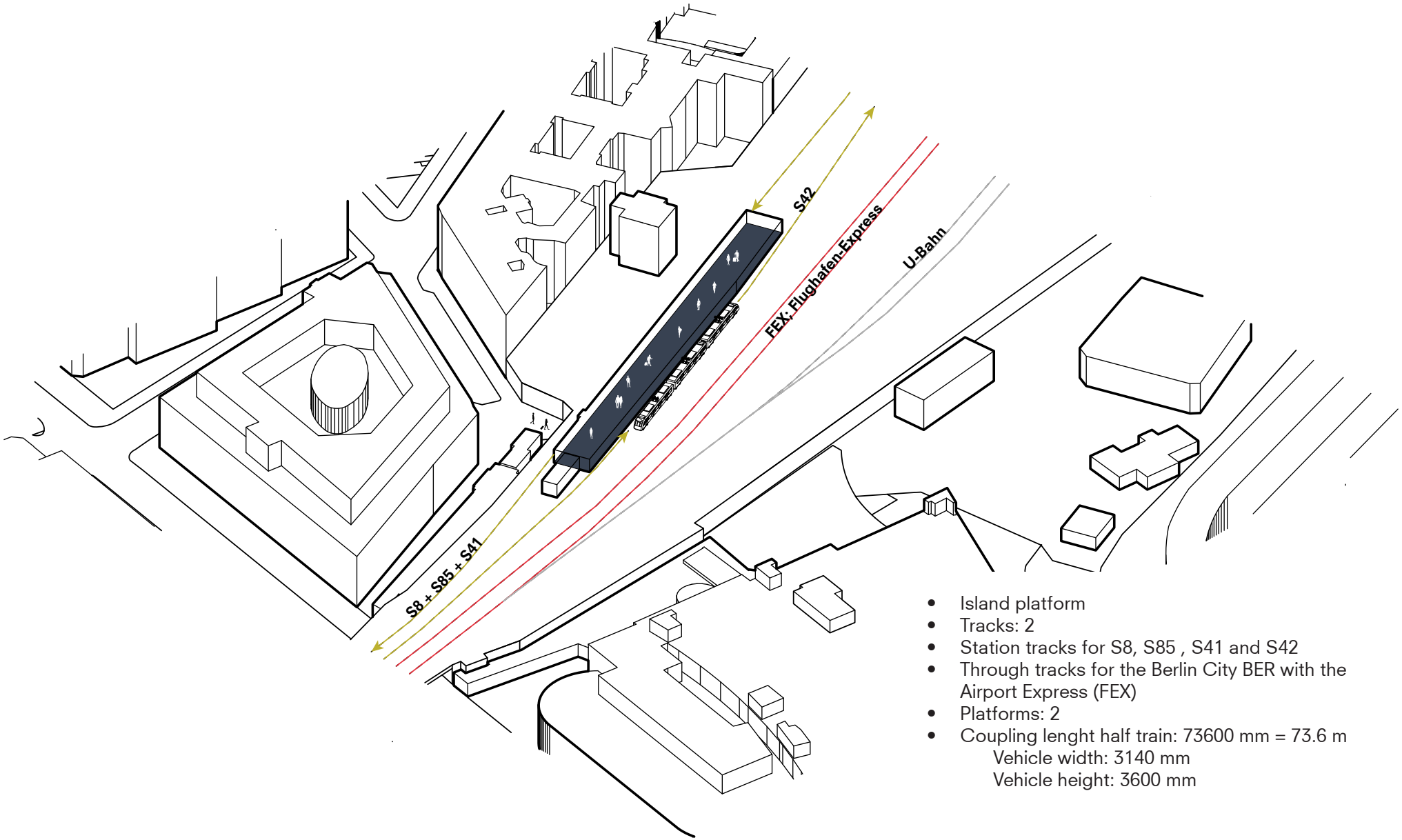


Site

ENTRANCES TO CONSIDER



CURRENT SITUATION S-BAHN STATION



- Island platform
- Tracks: 2
- Station tracks for S8, S85 , S41 and S42
- Through tracks for the Berlin City BER with the Airport Express (FEX)
- Platforms: 2
- Coupling lenght half train: 73600 mm = 73.6 m
  Vehicle width: 3140 mm
  Vehicle height: 3600 mm

complex projects

RESEARCH QUESTIONS

01 I What program could be added to the small stations along the S-Bahn ring? What is the missing link?

02 I What contrasting different user group flows with their own requirements (passengers/commuters/locals) could be identified and taken into account?

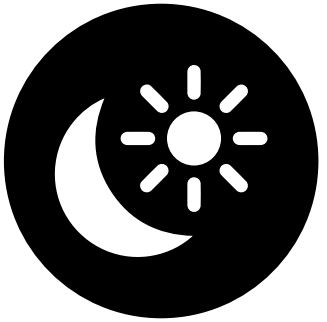
03 I How can a train station meet the diverse needs of the Berlin community, its commuters, and passengers and remain clean, safe and comfortable?

04 I How could local identity and community be represented through design?

PROGRAM AMBITION

Accessible

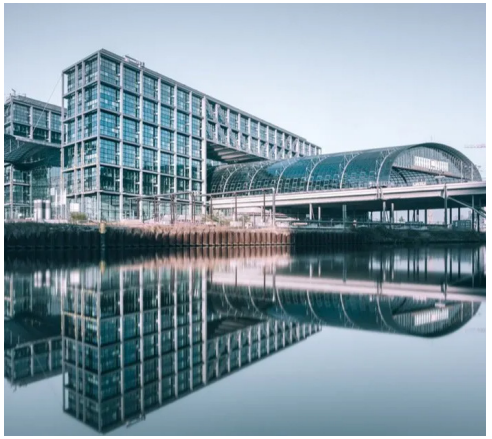
Inclusive



Day-/night

CASE STUDIES

ROTTERDAM CENTRAL STATION



BERLIN HAUPTBAHNHOF

ZURICH HAUPTBAHNHOF

ANTWERP CENTRAL STATION

ATOCHA STATION MADRID

ORIENTKAJ COPENHAGEN

COBURG AUSTRALIA

CASE STUDIES

- Daily passengers 170.000
- GFA 54.000 m2
- Platforms: 7
- Tracks: 17

Rotterdam, NL

ROTTERDAM CENTRAL STATION

- Daily passengers: 300.000
- GFA 175.000 m2
- Platforms: 6
- Tracks: 12

Berlin, DE

BERLIN HAUPTBAHNHOF

- Daily passengers: 417.000
- GFA 95.000 m2
- Platforms: 13
- Tracks: 26

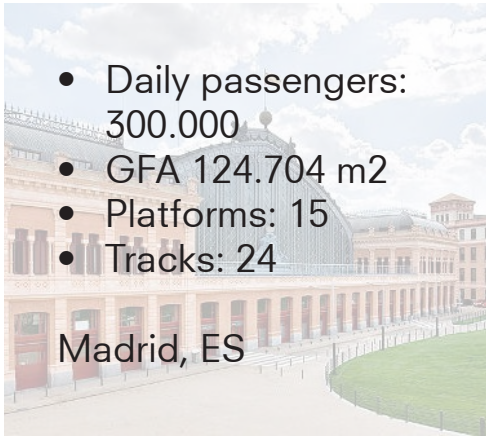
Zurich, CH

ZURICH HAUPTBAHNHOF

- Daily passengers: 100.000
- GFA 70.000 m2
- Platforms: 10
- Tracks: 14

Antwerp, BE

ANTWERP CENTRAL STATION



- Daily passengers: 300.000
- GFA 124.704 m2
- Platforms: 15
- Tracks: 24

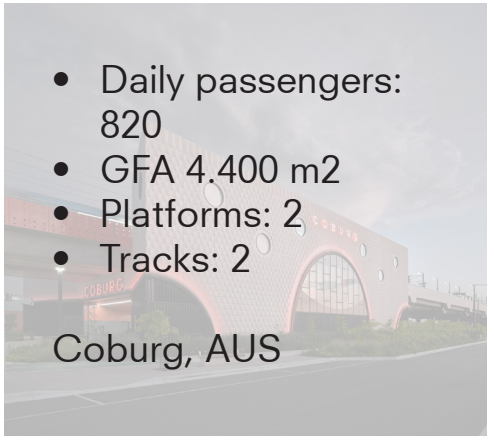
Madrid, ES

ATOCHA STATION MADRID

- Daily passengers: 9.000 by 2025
- GFA 1.145 m2
- Platforms: 2
- Tracks: 2

Copenhagen, DK

ORIENTKAJ COPENHAGEN



- Daily passengers: 820
- GFA 4.400 m2
- Platforms: 2
- Tracks: 2

Coburg, AUS

COBURG AUSTRALIA

CASE STUDIES

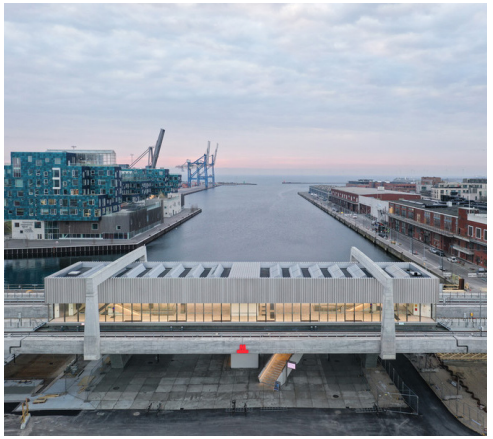
ROTTERDAM CENTRAL STATION

BERLIN HAUPTBAHNHOF

ZURICH HAUPTBAHNHOF

ANTWERP CENTRAL STATION

ATOCHA STATION MADRID



ORIENTKAJ COPENHAGEN

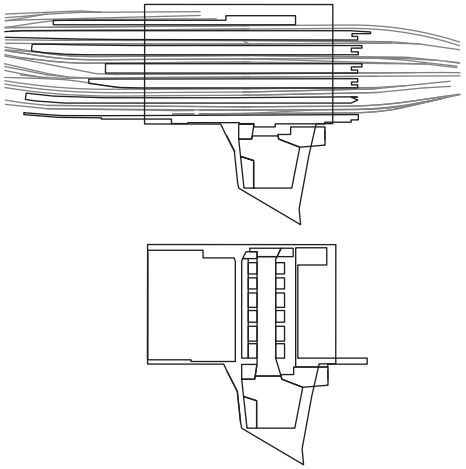
COBURG AUSTRALIA

Program

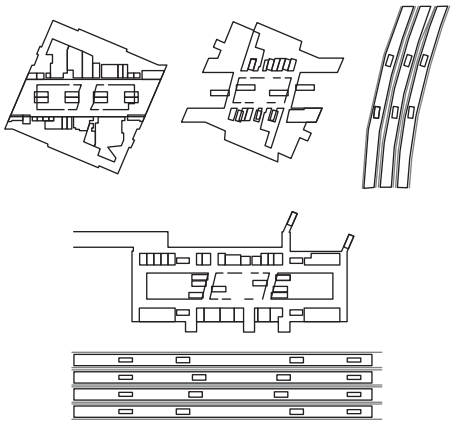
COMMERCIAL

Program

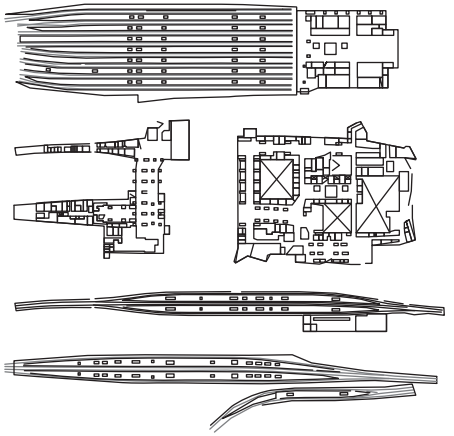
CASE STUDIES



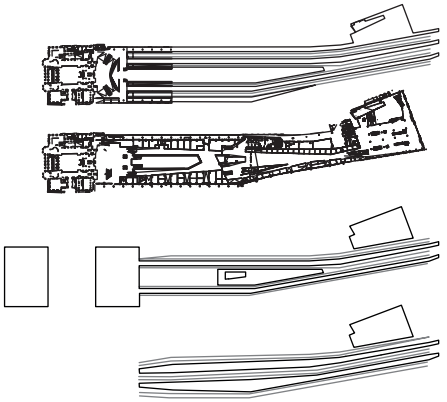
ROTTERDAM CENTRAL STATION



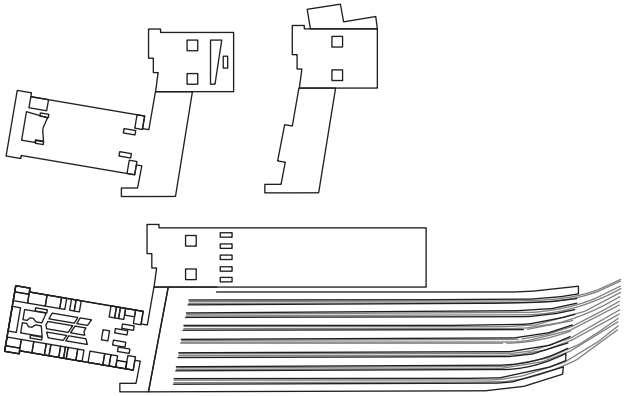
BERLIN HAUPTBAHNHOF



ZURICH HAUPTBAHNHOF

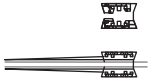


ANTWERP CENTRAL STATION



ATOCHA STATION MADRID

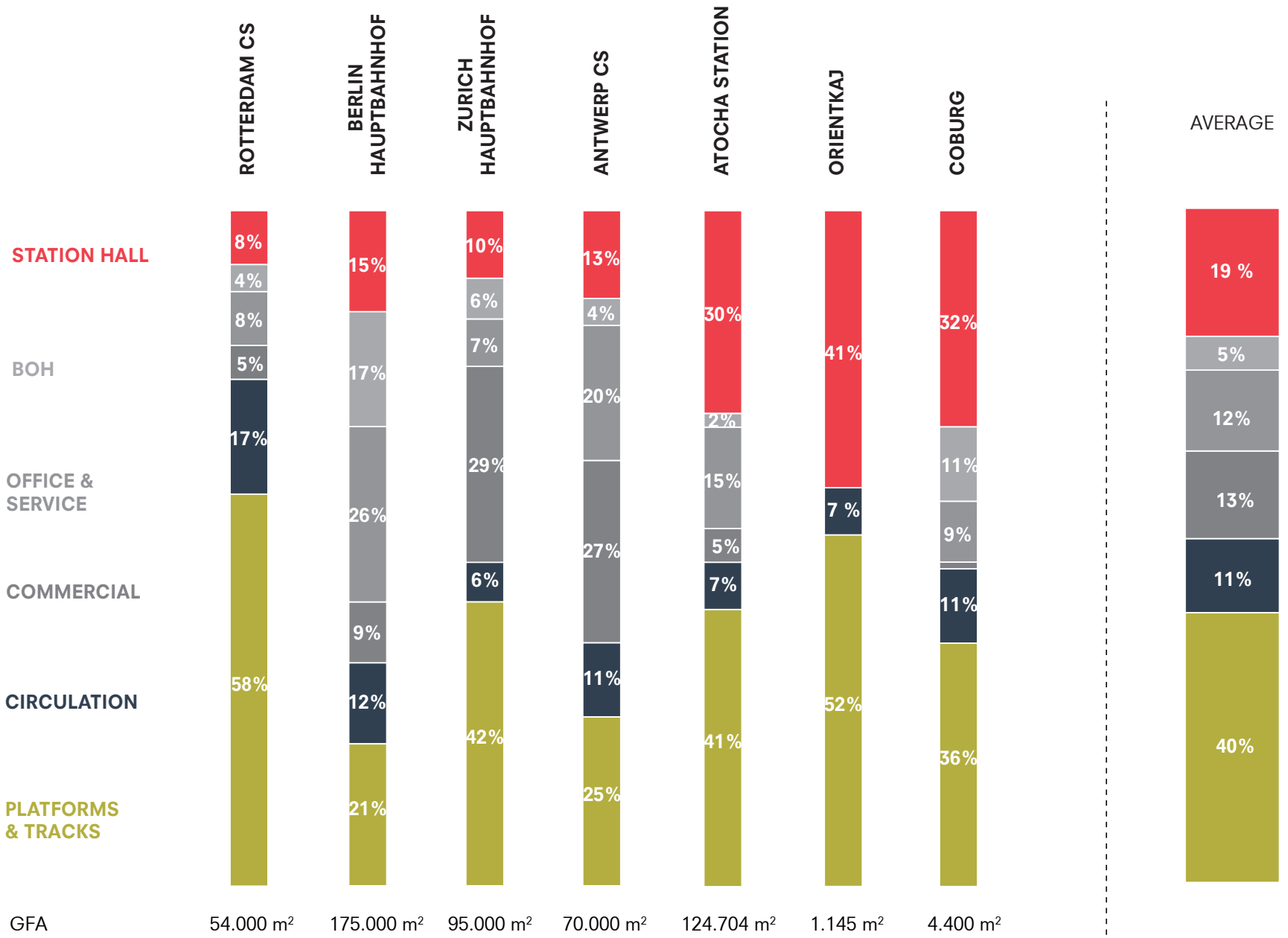
ORIENTKAJ COPENHAGEN



COBURG AUSTRALIA

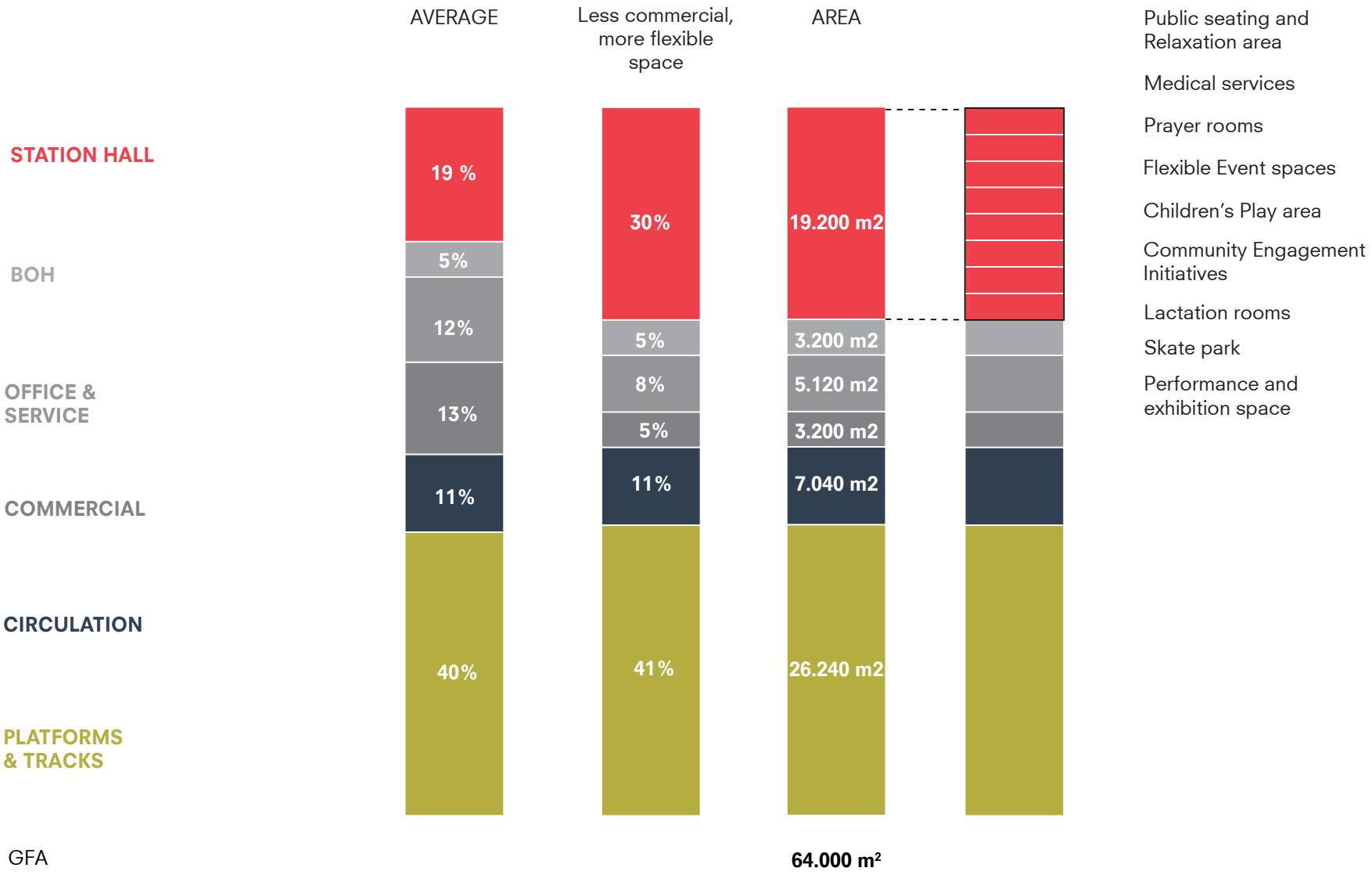
Program

BREAKDOWN



Program

BREAKDOWN



Public seating and Relaxation area

Medical services

Prayer rooms

Flexible Event spaces

Children's Play area

Community Engagement Initiatives

Lactation rooms

Skate park

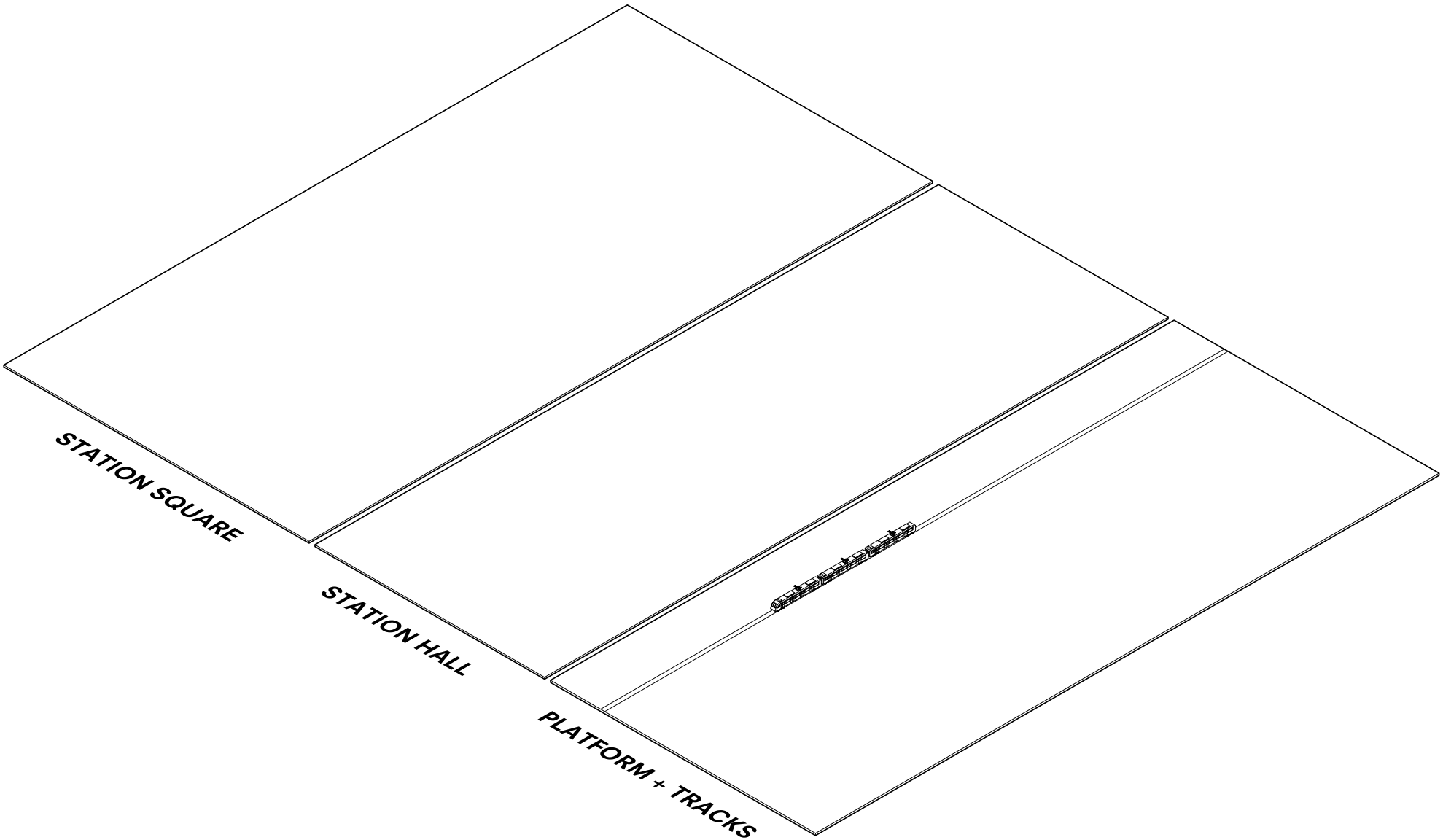
Performance and exhibition space

Program

SPECIFIC PVE

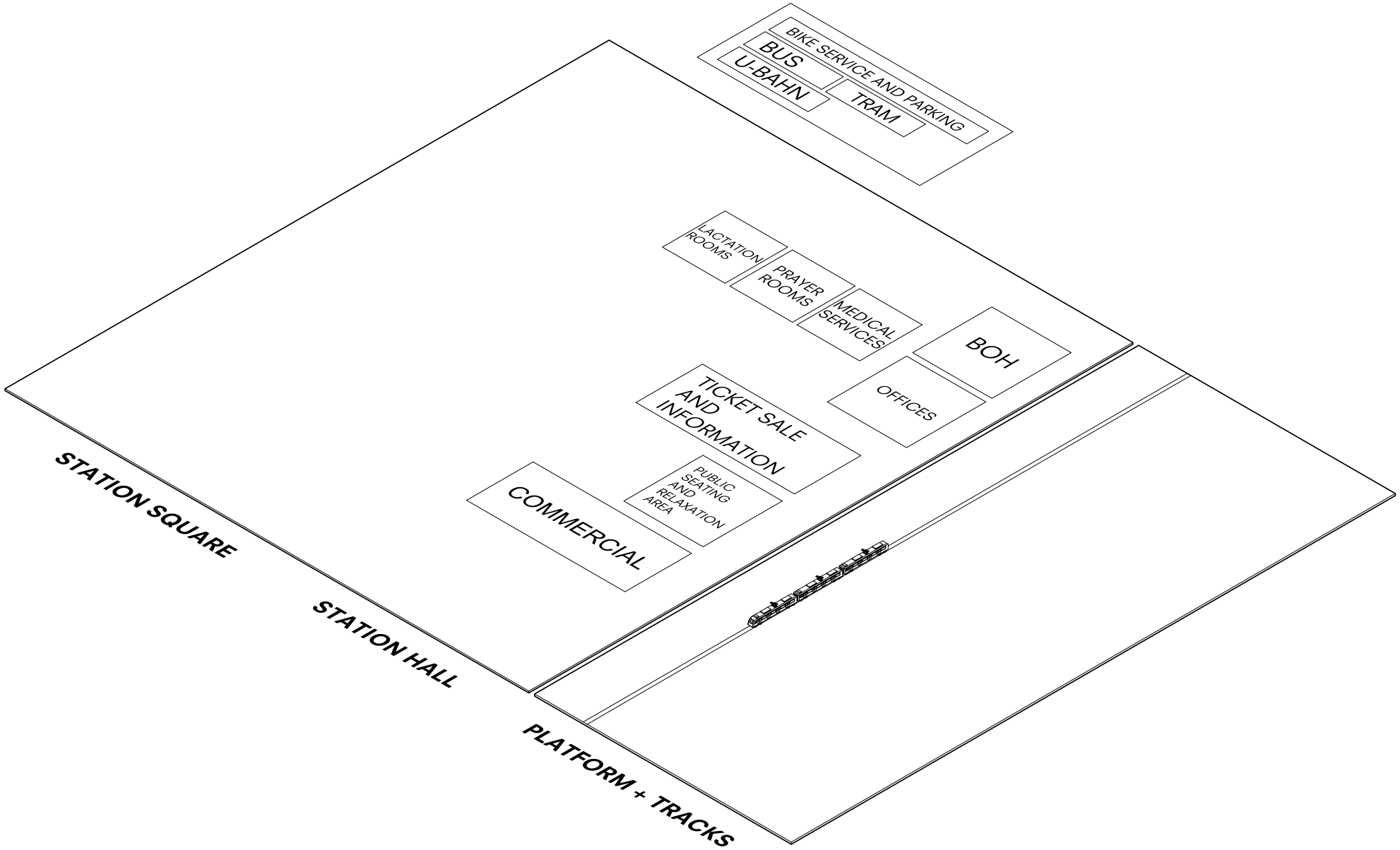
Program

KEY SPACES



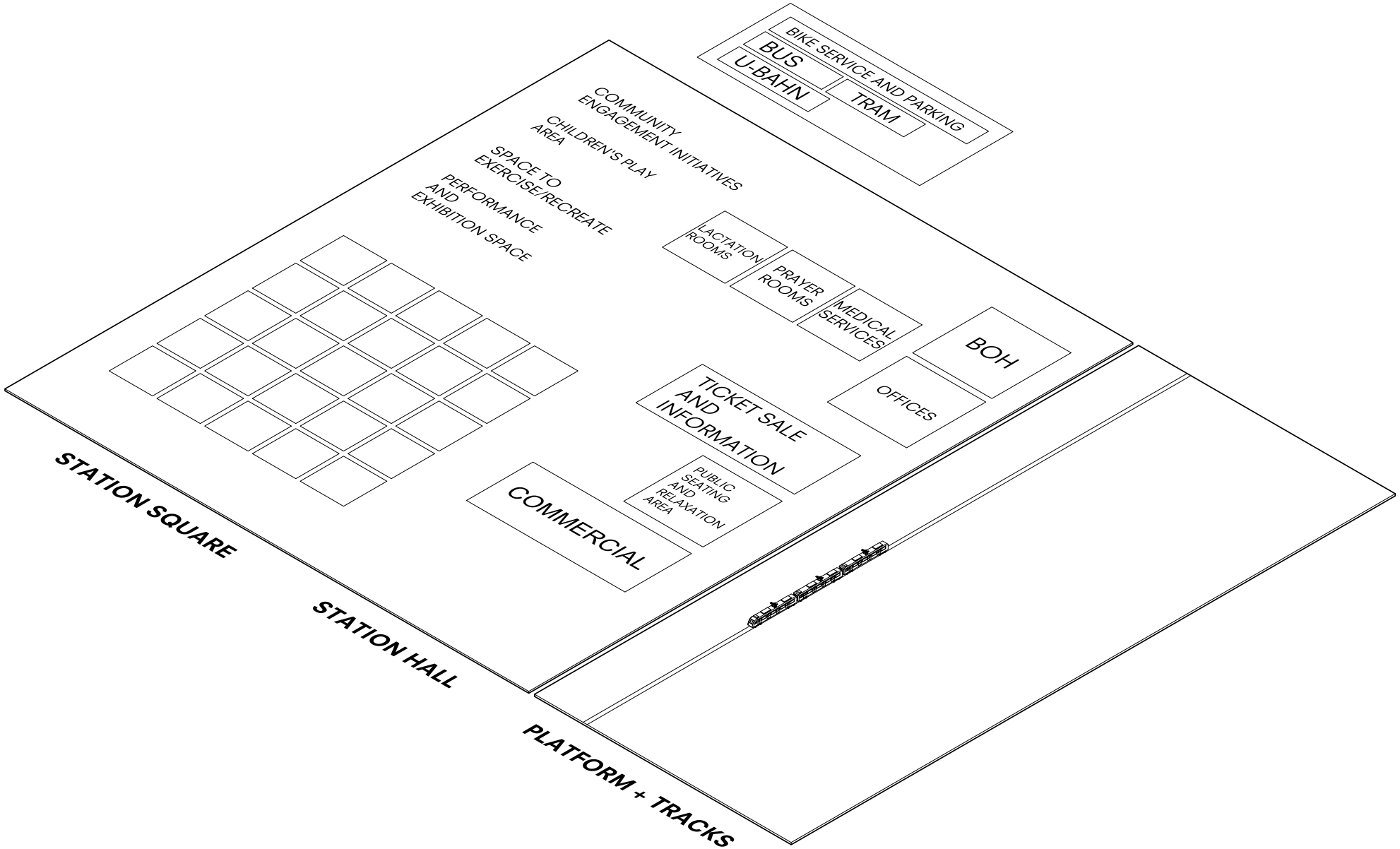
Program

RELATIONSHIP SCHEME



Program

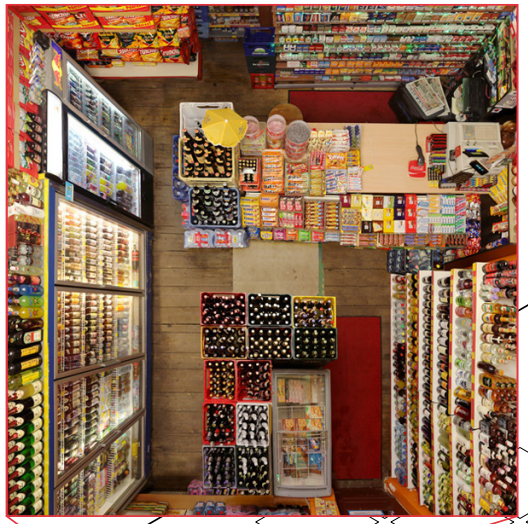
RELATIONSHIP SCHEME

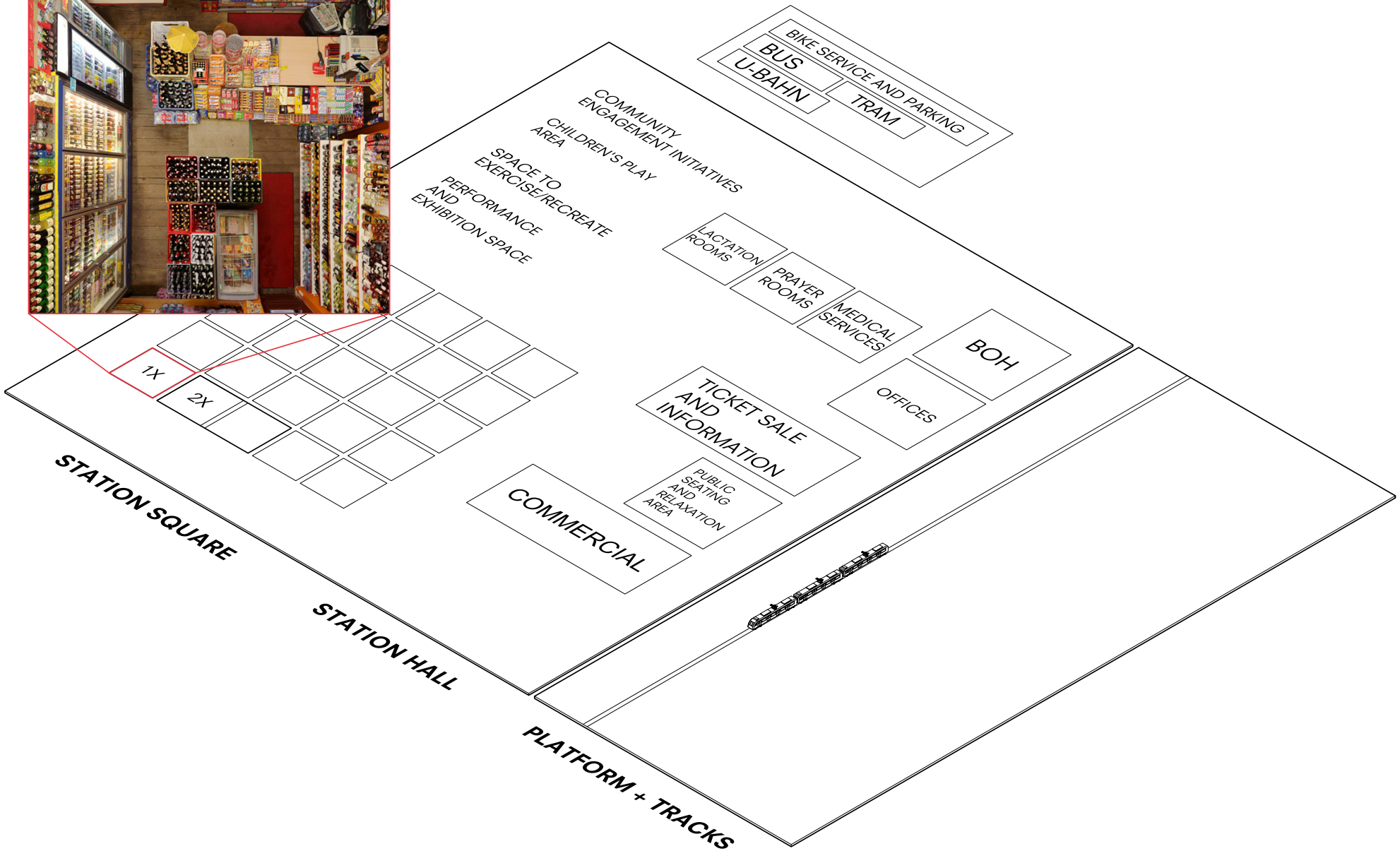


MATCH IT
LIKE
EAMES

Program

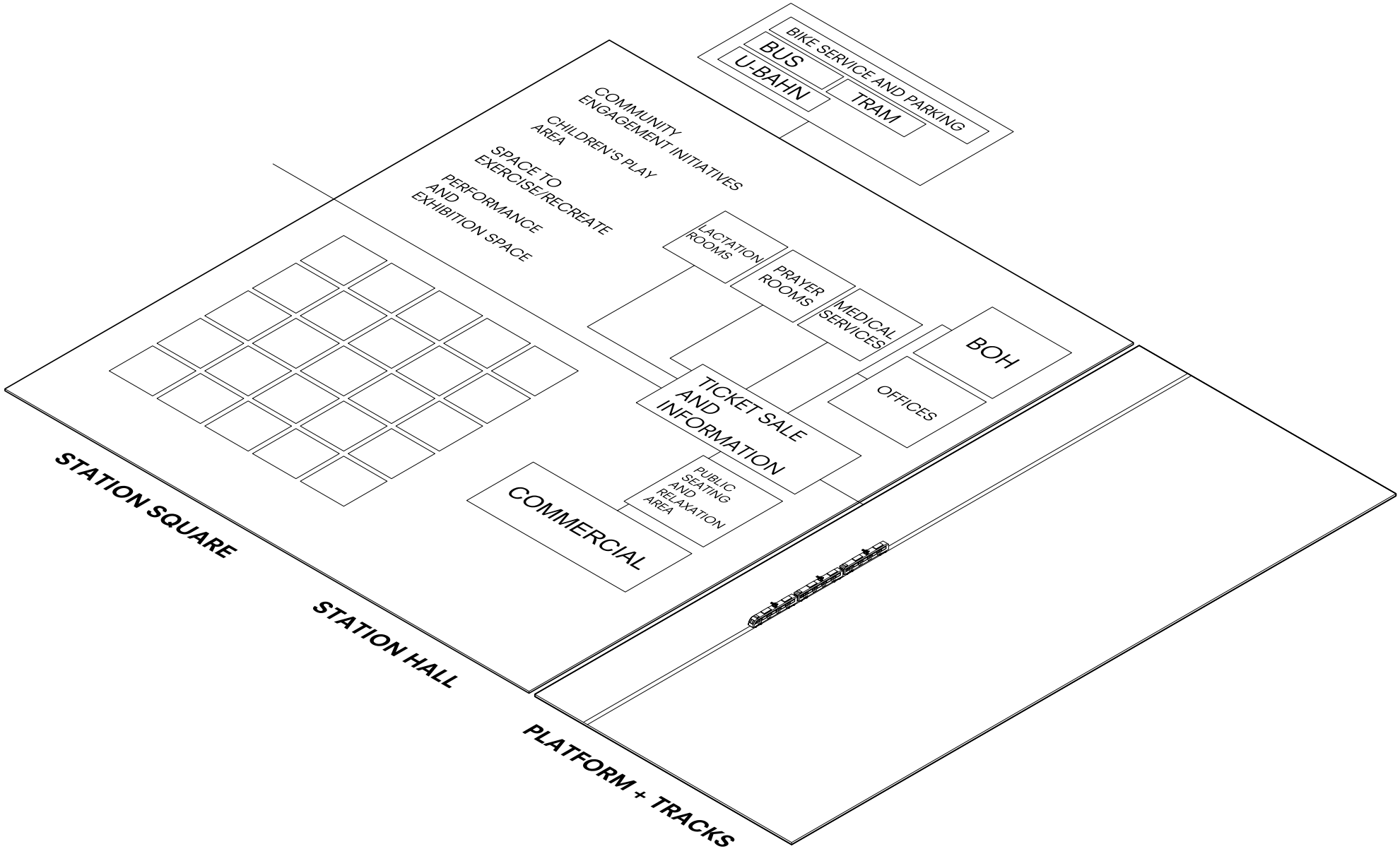
PLOT TO RENT





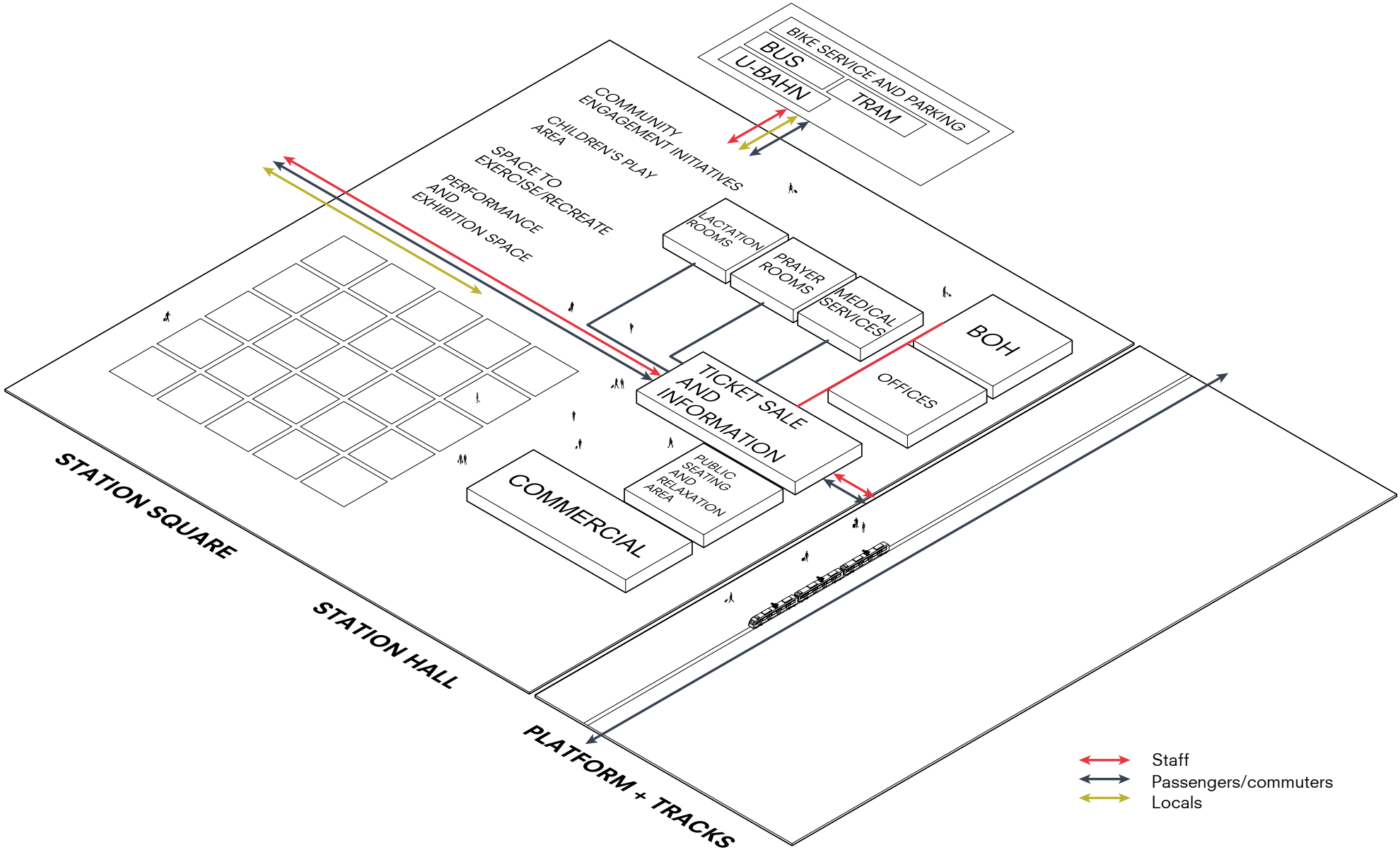
Program

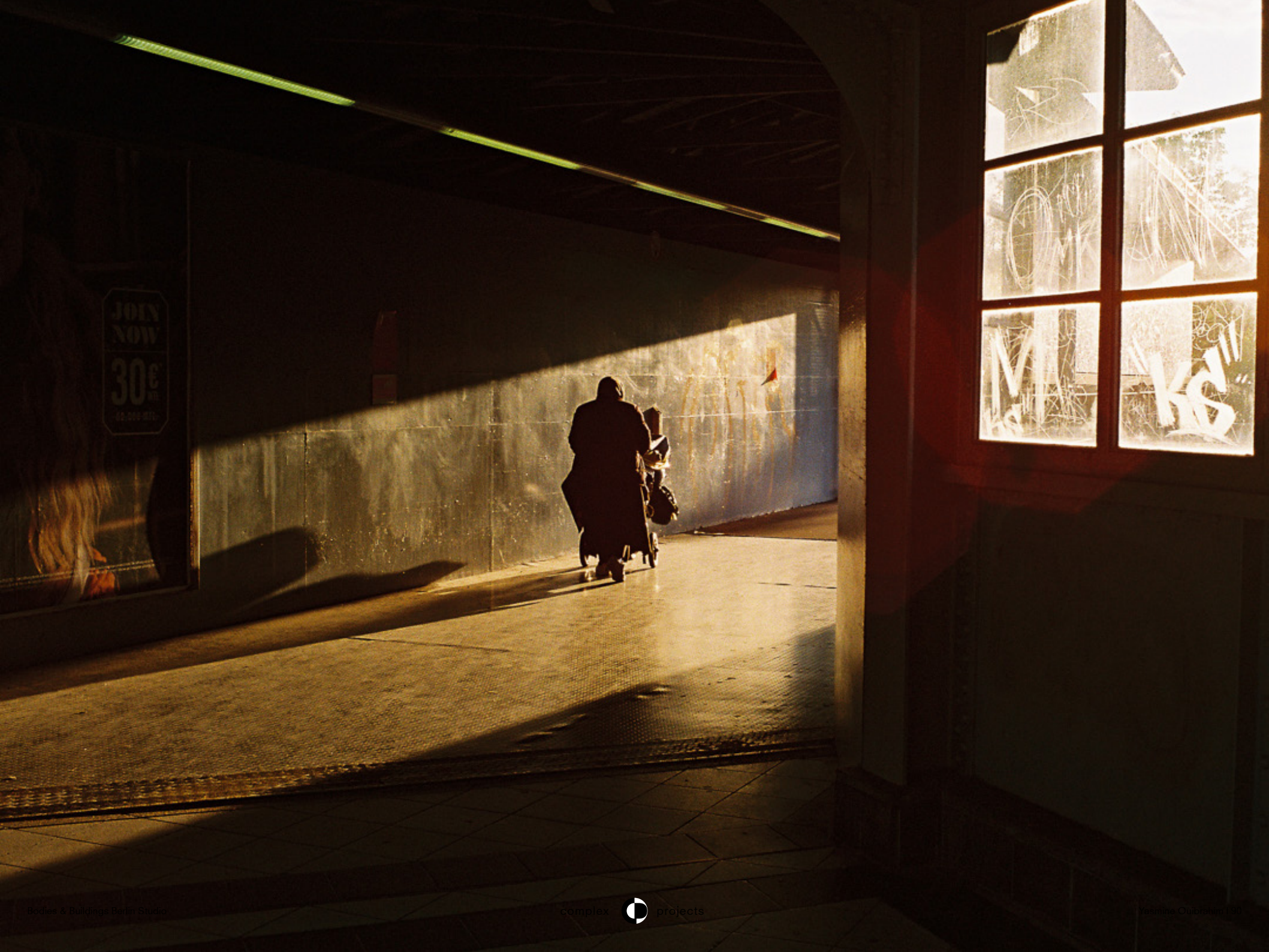
RELATIONSHIP SCHEME



Program

DIFFERENT FLOWS




JOIN
NOW
30€

RESEARCH QUESTIONS

01 I What program could be added to the small stations along the S-Bahn ring? What is the missing link?

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04 I How could local identity and community be represented through design?

Client

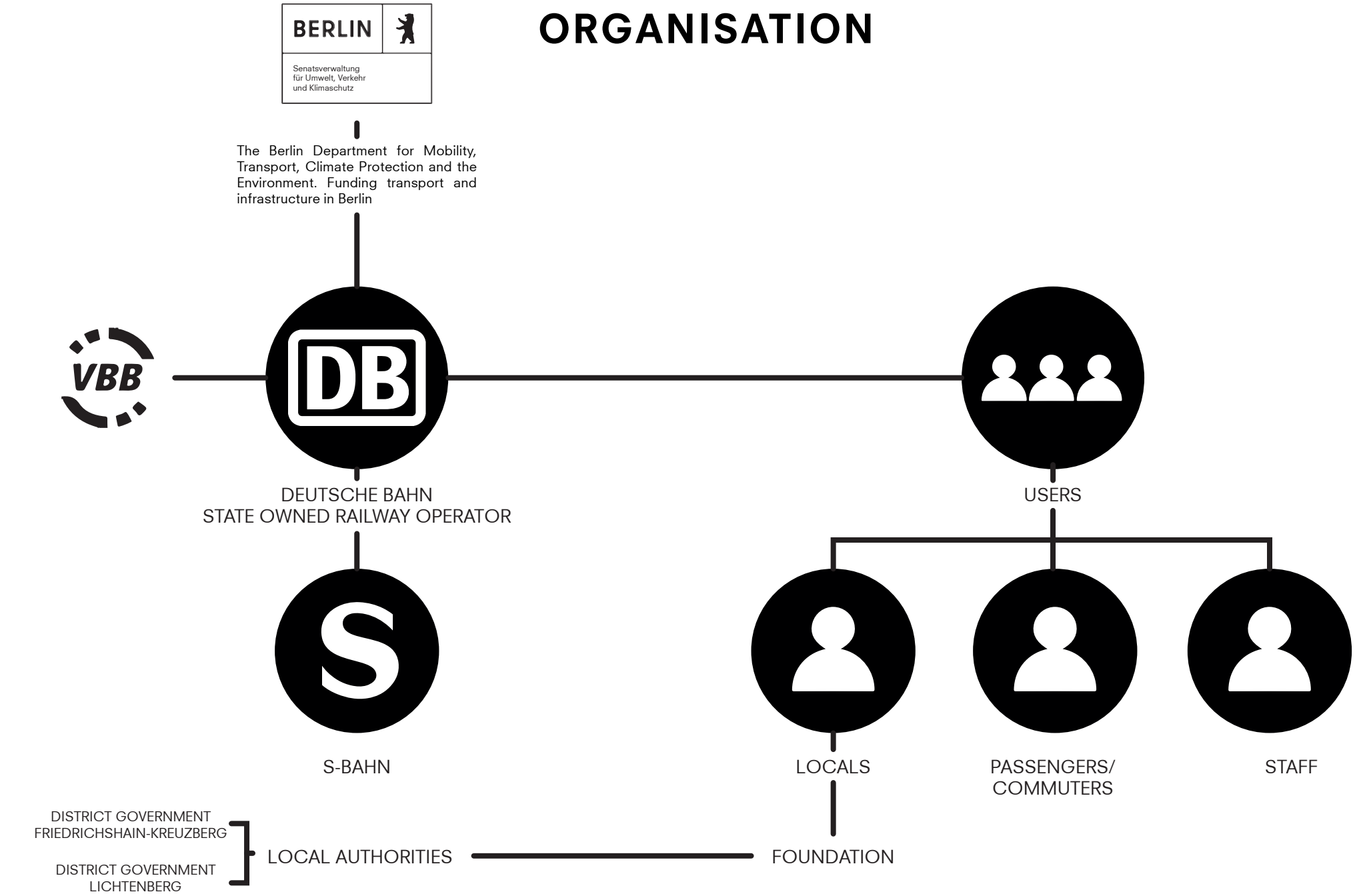
OWNERSHIP

DEUTSCHE BAHN
STATE OWNED RAILWAY OPERATOR

USERS

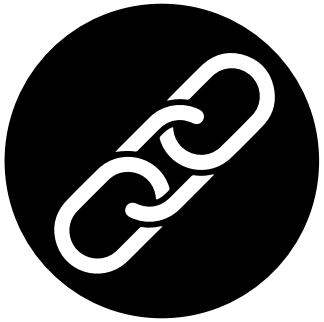
Client

ORGANISATION



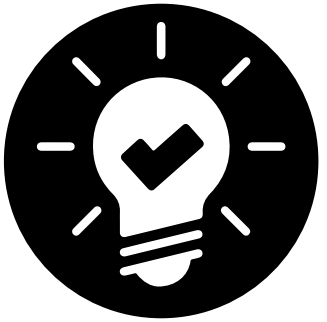
Client

REQUIRMENTS TO RENT



No chains

Local businesses

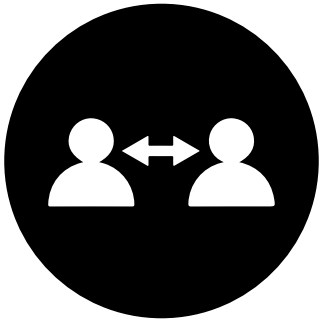


Diverse and creative

Client

(STAKEHOLDER) AMBITIONS

Break the barrier



Increasing social safety

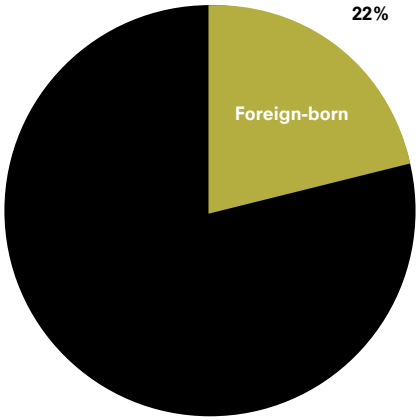
Create cohesion

Client

DEMOGRAPHICS BERLIN

Ethnic groups in Berlin

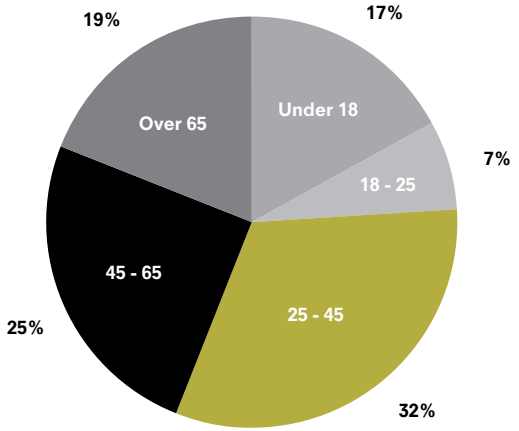
The proportion of foreign-born population in the total population is 22%



most of them coming from Turkey, Ukraine and Poland

Age structure of Berlin's population 2022

Berlin is growing old

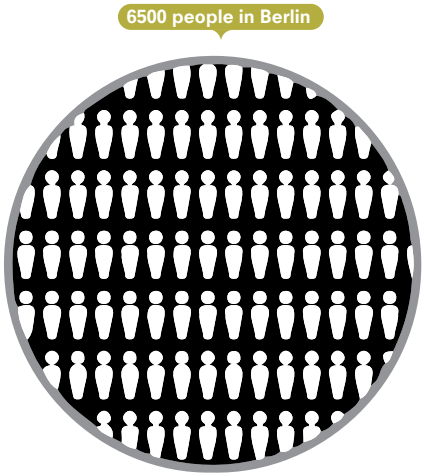


Age structure of Berlin's population by % of the total population (approx. 3.75 million)

- 70% of blindness in Germany are due to diseases of old age
- One-third of 65 + would require treatment due to hearing loss

Homeless

Germany has the highest number of homeless people in Europe; 650.000 people per night



‘SPECIAL’ NEEDS OF USERS

1. Limitation in movement
2. Mentally challenged people
3. Elderly
4. Hearing impairment
5. Limitation in sight
6. People unable to read small letters and/or recognice people from a distance

Client

PERSONAS

Anna - Local

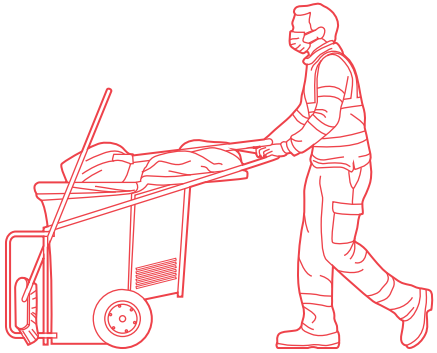
Old lady, retired, lonely, mobility issues, seeks connection

Sofia - Local

Bikes to school near the station, skates but feels unsafe in the station area

Lea and Felix - Passengers

Use the S-Bahn to get to work everyday



Jakob - Staff

Concierge at Frankfurter Allee for 20 years

Moritz - Local

Homeless who hangs around Frankfurter Allee

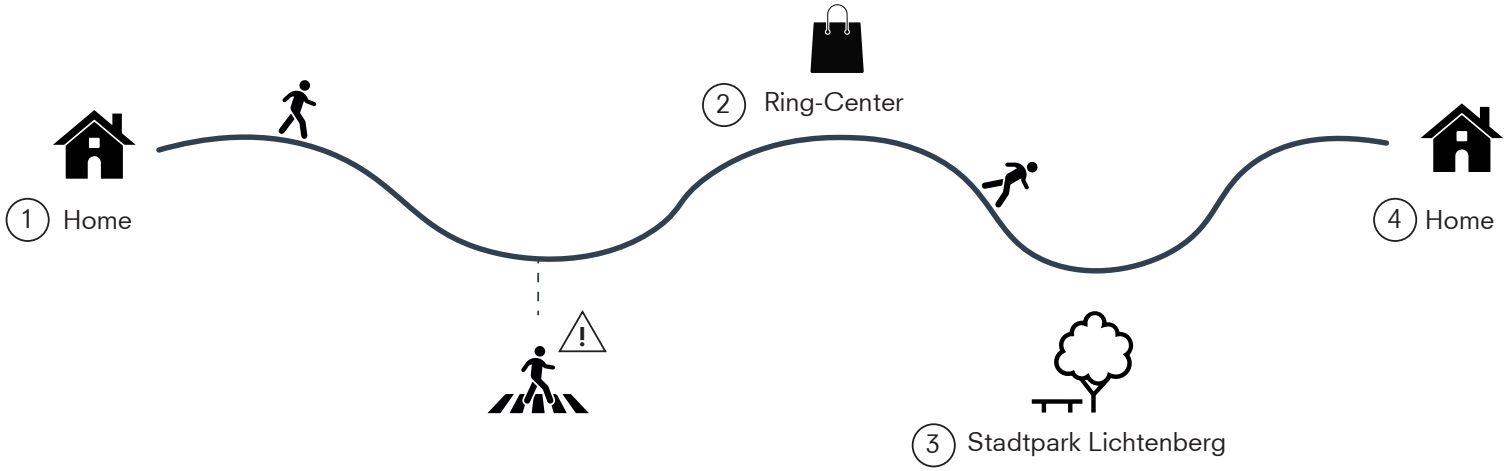
Jonas - Passenger

Visually impaired face stress, unreadable signs, illogical maps

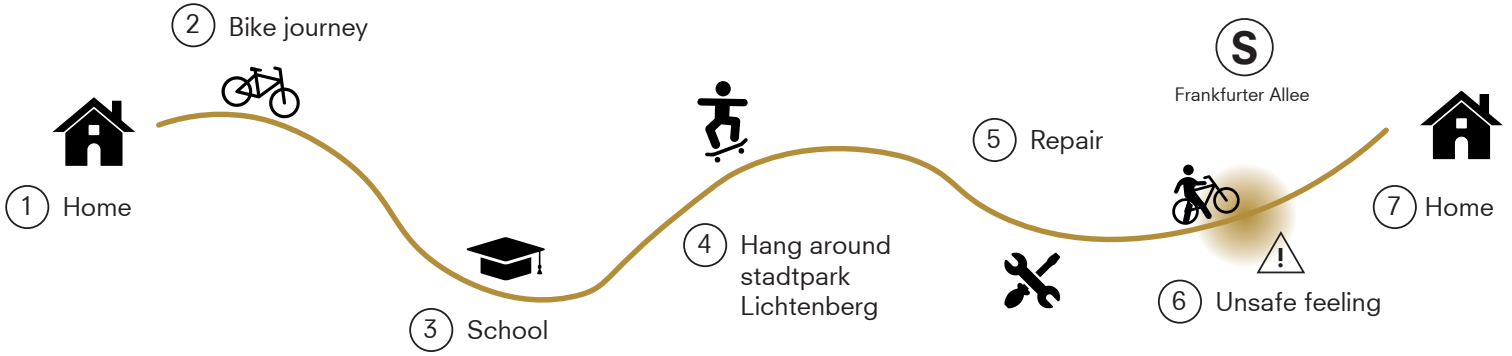
Client

PERSONAS JOURNEYS

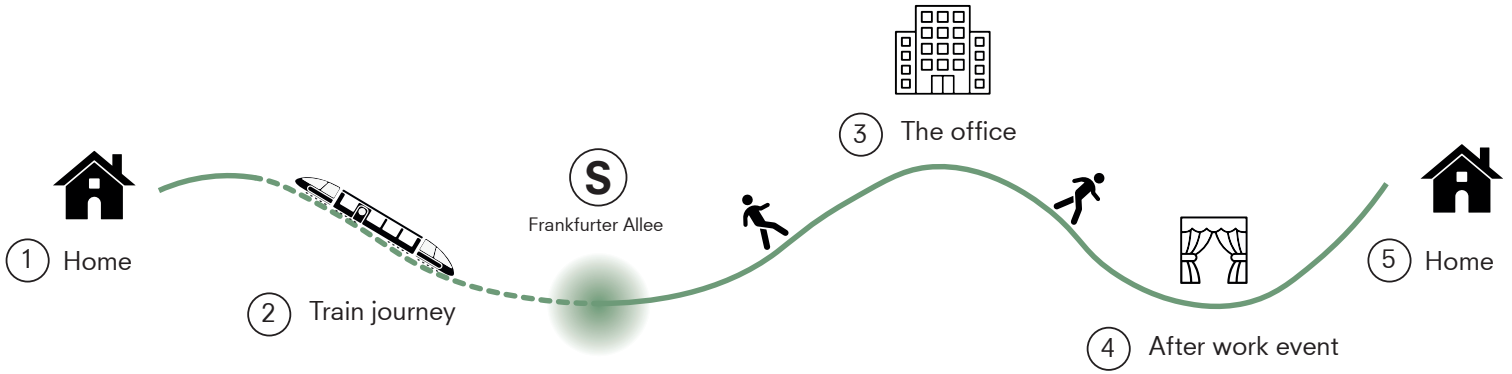
Anna



Sofia



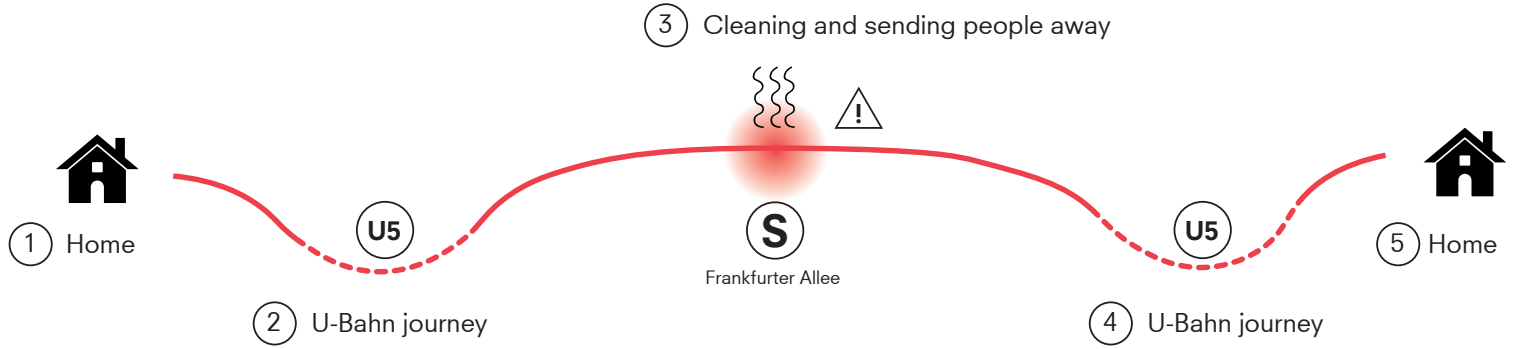
Lea and Felix



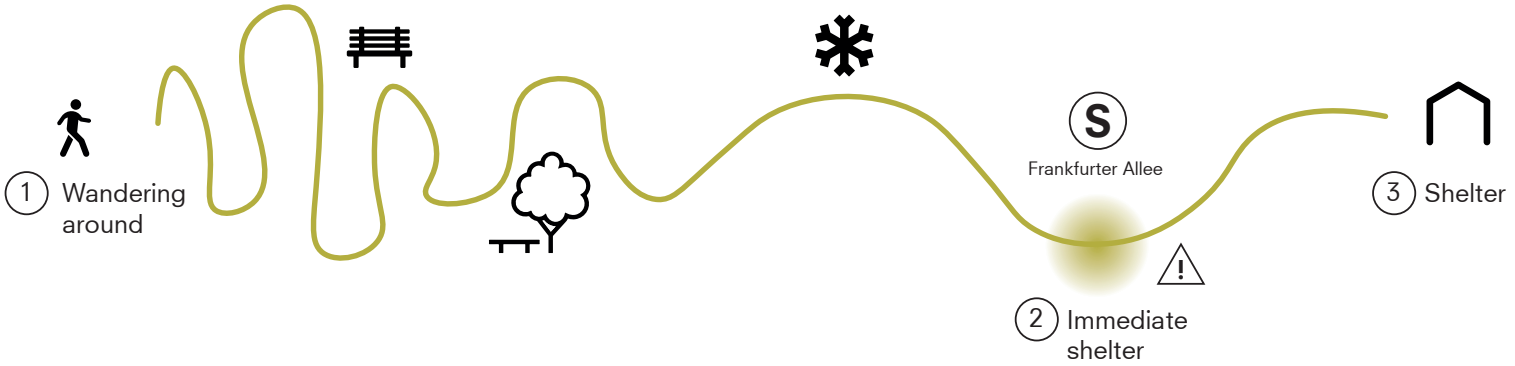
Client

PERSONAS JOURNEYS

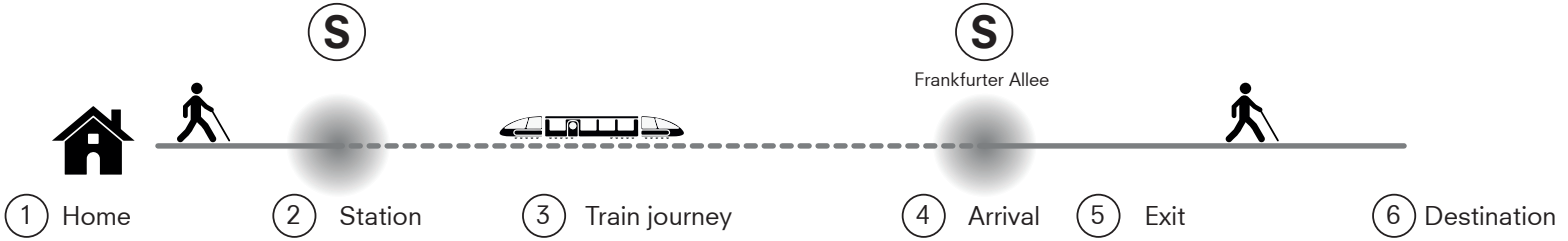
Jakob



Moritz

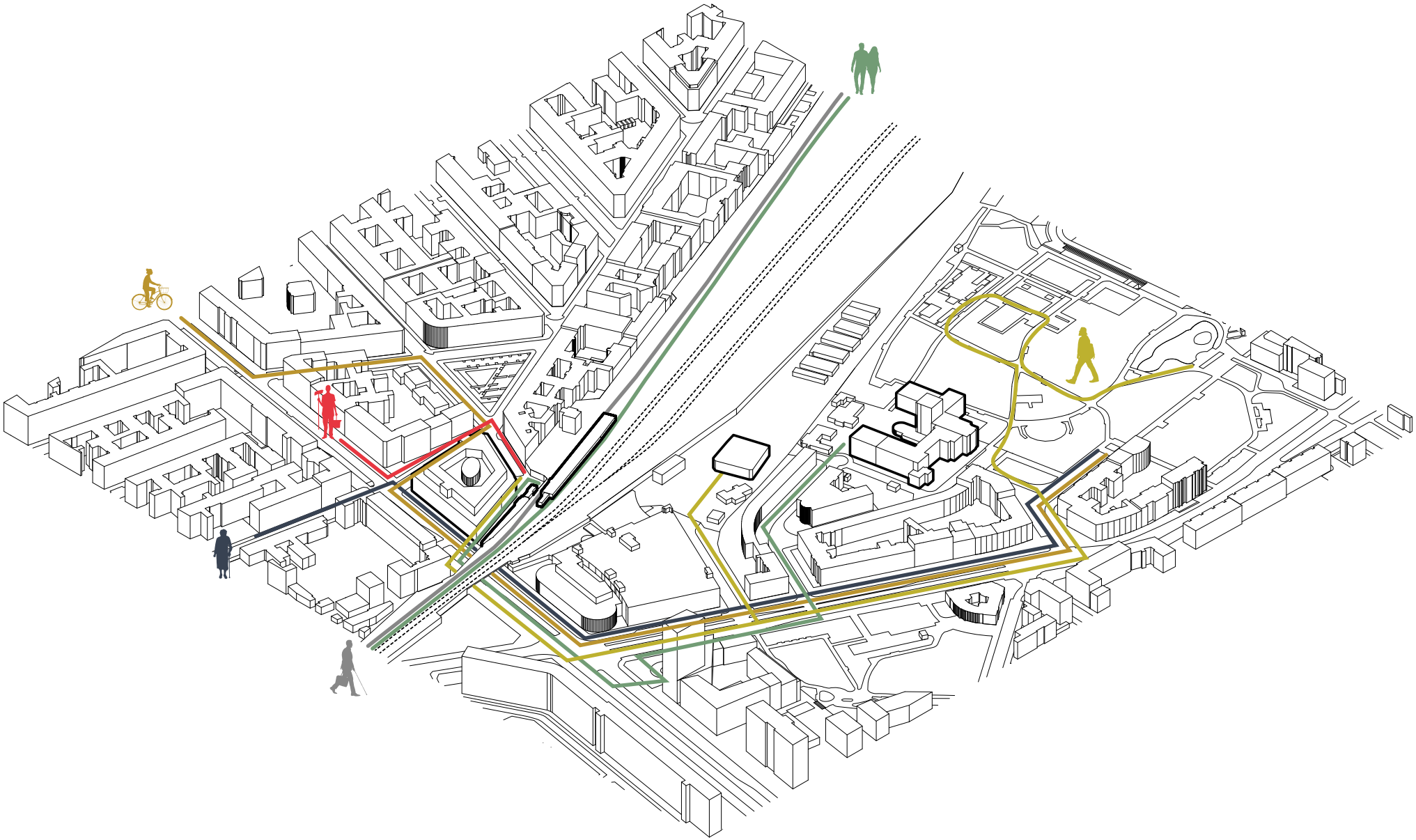


Jonas



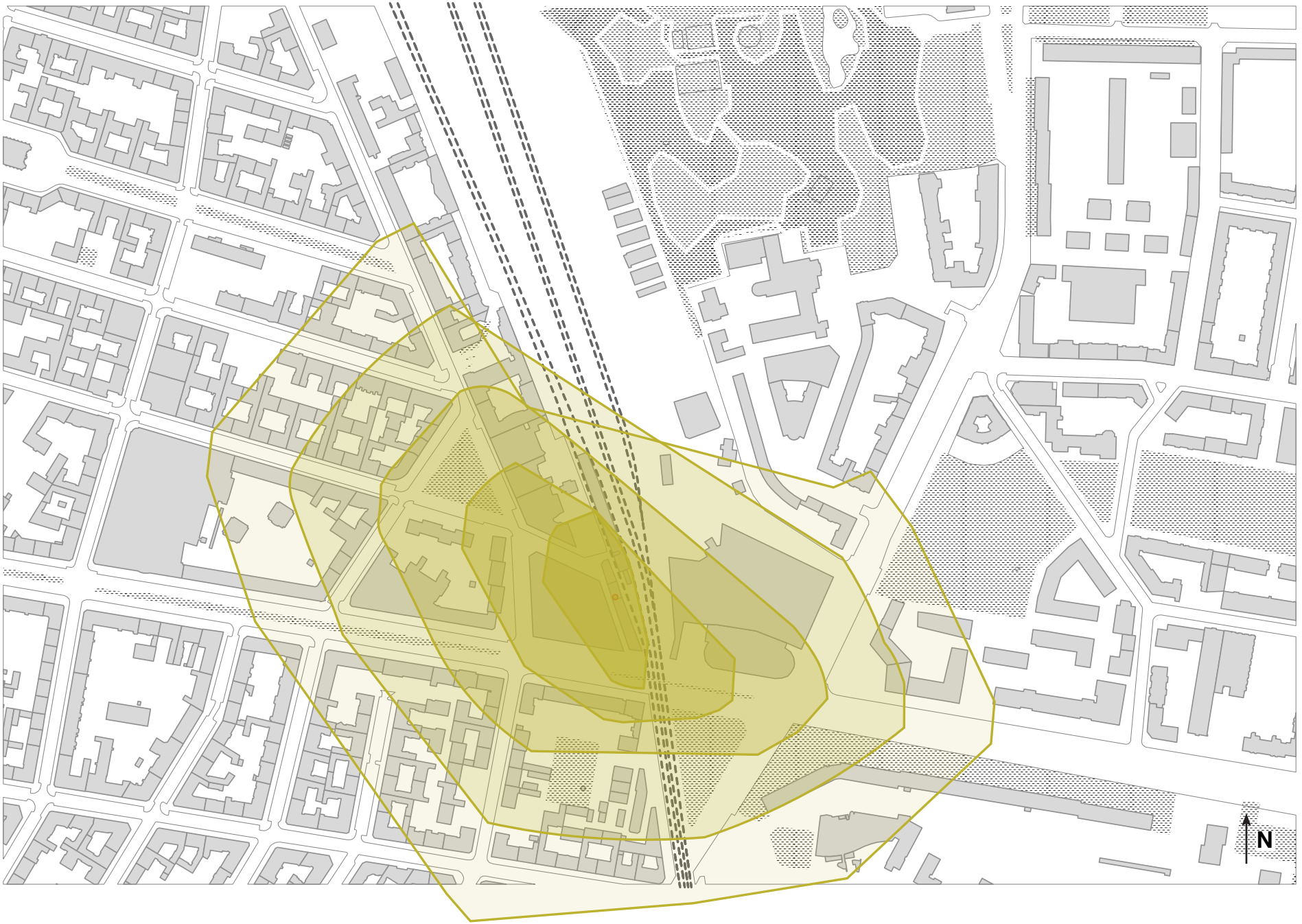
Client

CURRENT SITUATION FRANKFURTER ALLEE



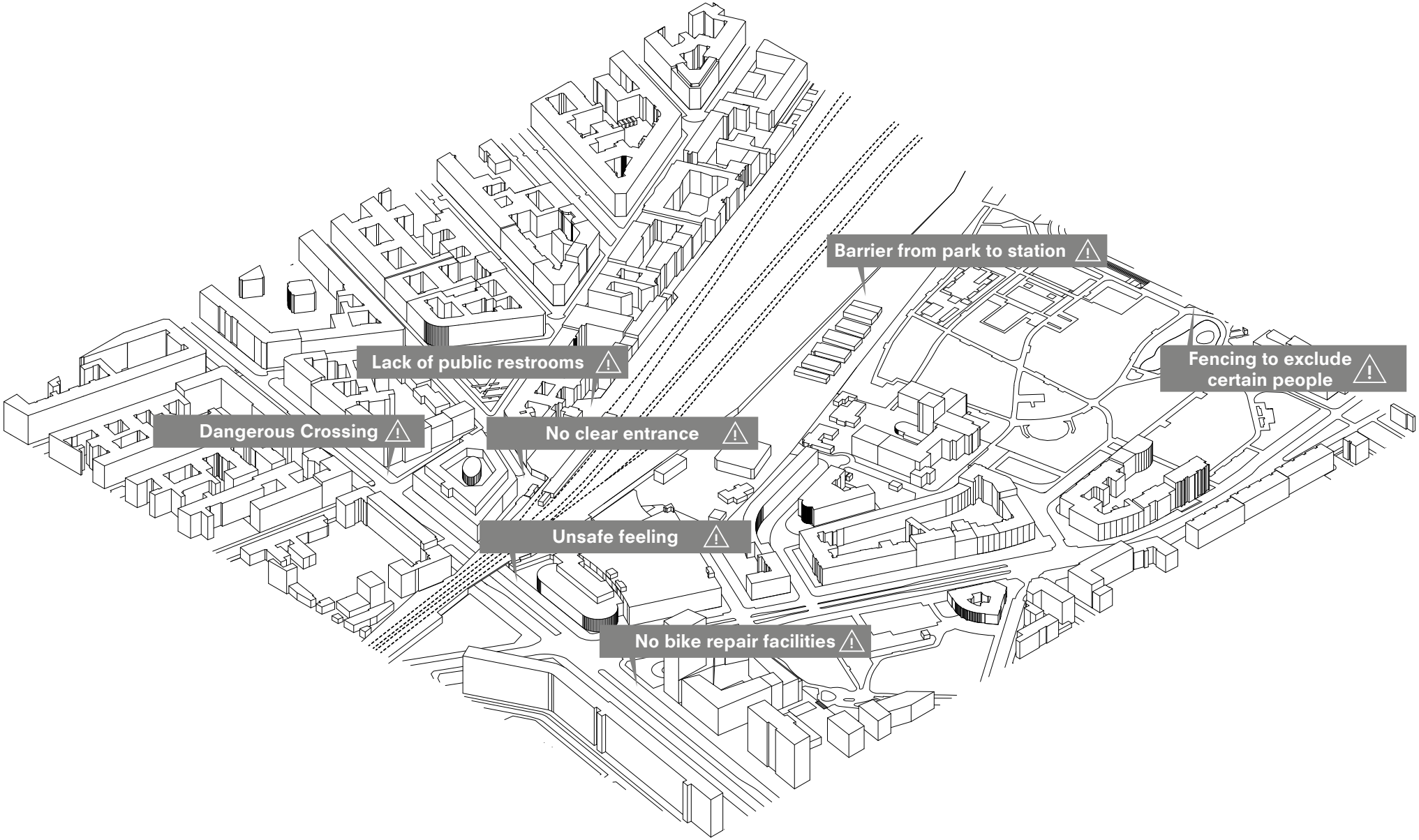
Client

5 MIN WALK



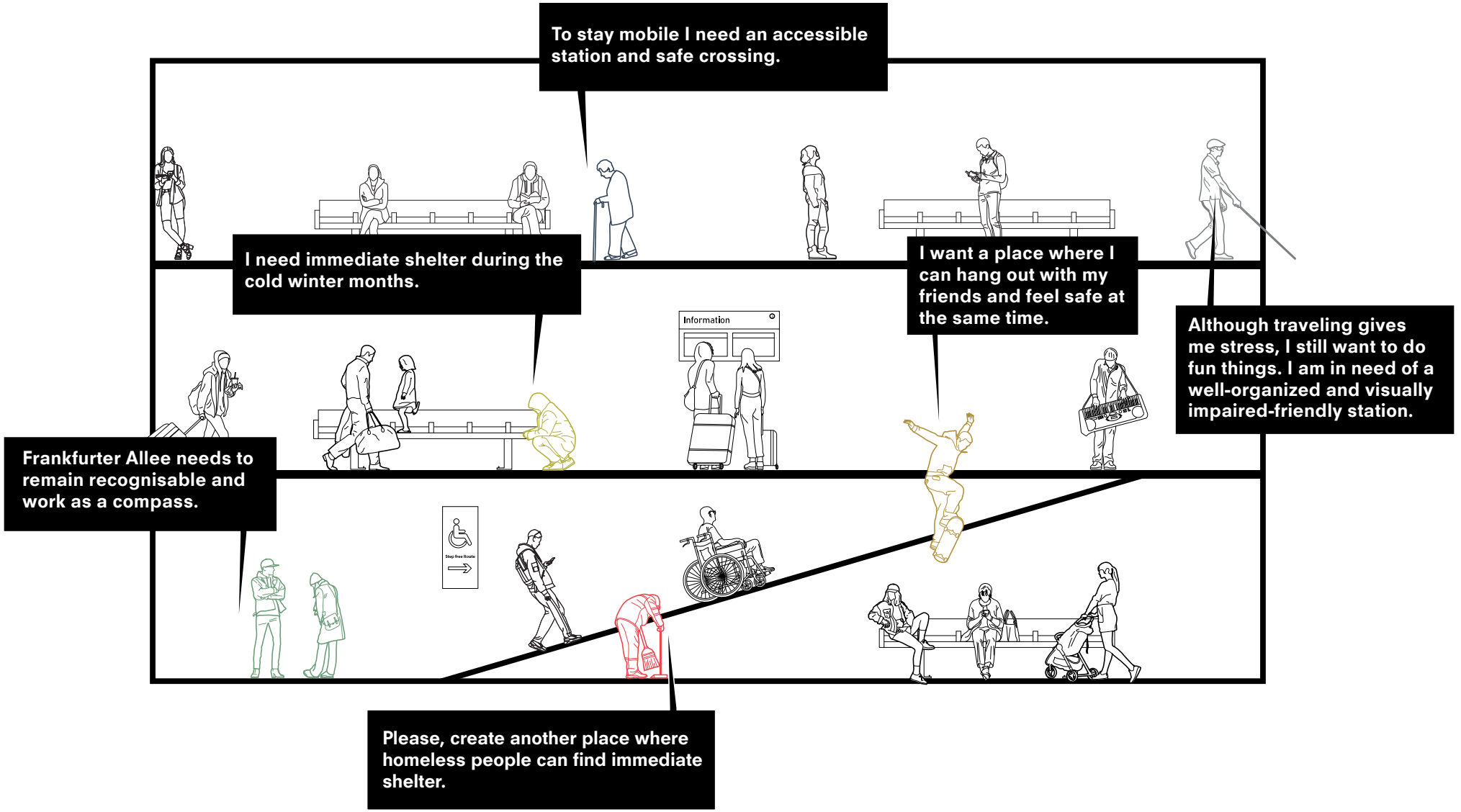
Client

CURRENT SITUATION FRANKFURTER ALLEE



Client

ALL USER DEMANDS



RESEARCH QUESTIONS

01 I What program could be added to the small stations along the S-Bahn ring? What is the missing link?

02 I What contrasting different user group flows with their own requirements (passengers/commuters/locals) could be identified and taken into account?

03 I How can a train station meet the diverse needs of the Berlin community, its commuters, and passengers and remain clean, safe and comfortable?

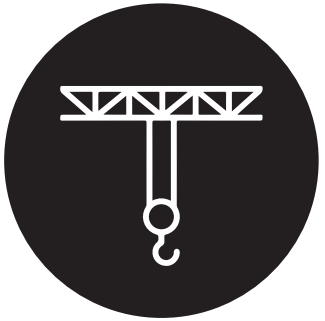
04 I How could local identity and community be represented through design?

Design Brief

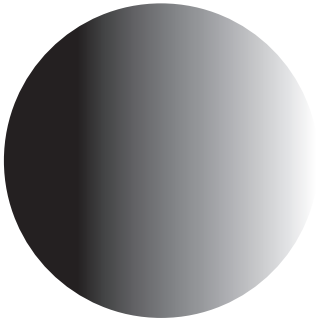
AMBITION

SITE

S-Bahn ring



Buildable area

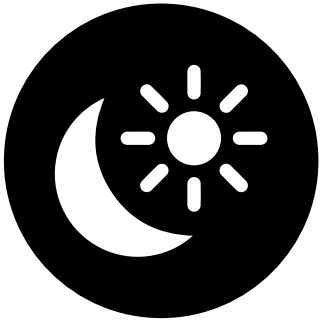


District border

PROGRAM

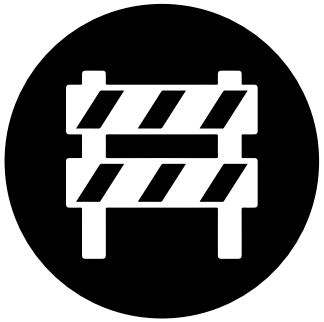
Accessible

Inclusive

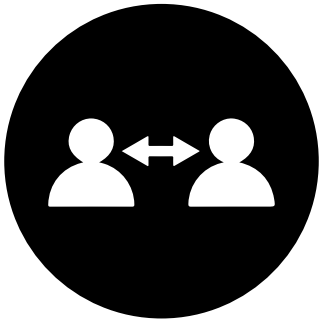


Day-/night

CLIENT



Break the barrier



Increasing social safety

Create cohesion

RESEARCH QUESTIONS

01 I What program could be added to the small stations along the S-Bahn ring? What is the missing link?

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INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

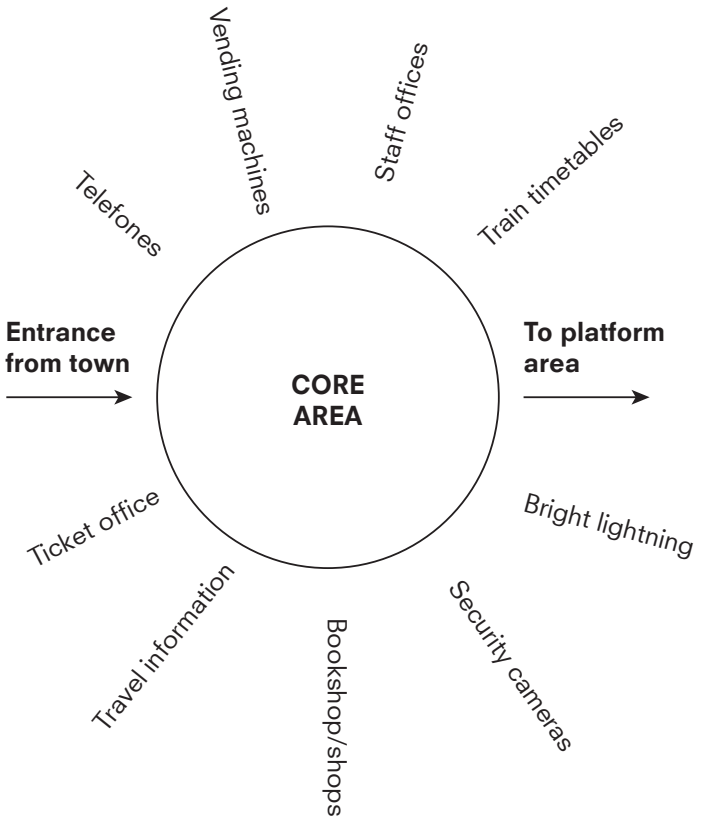
IMPLEMENTATION

DEVELOPMENT

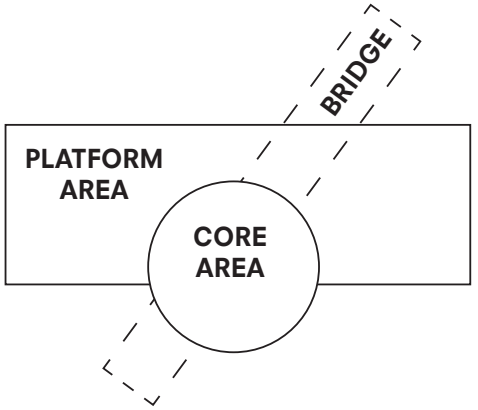
CONCLUSION

Concept

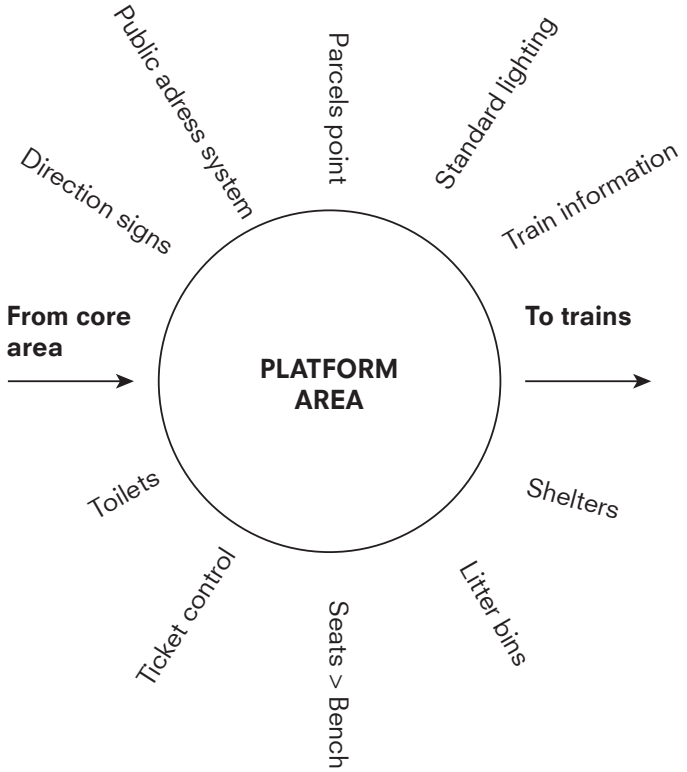
RELATIONS



Typical facilties within core area



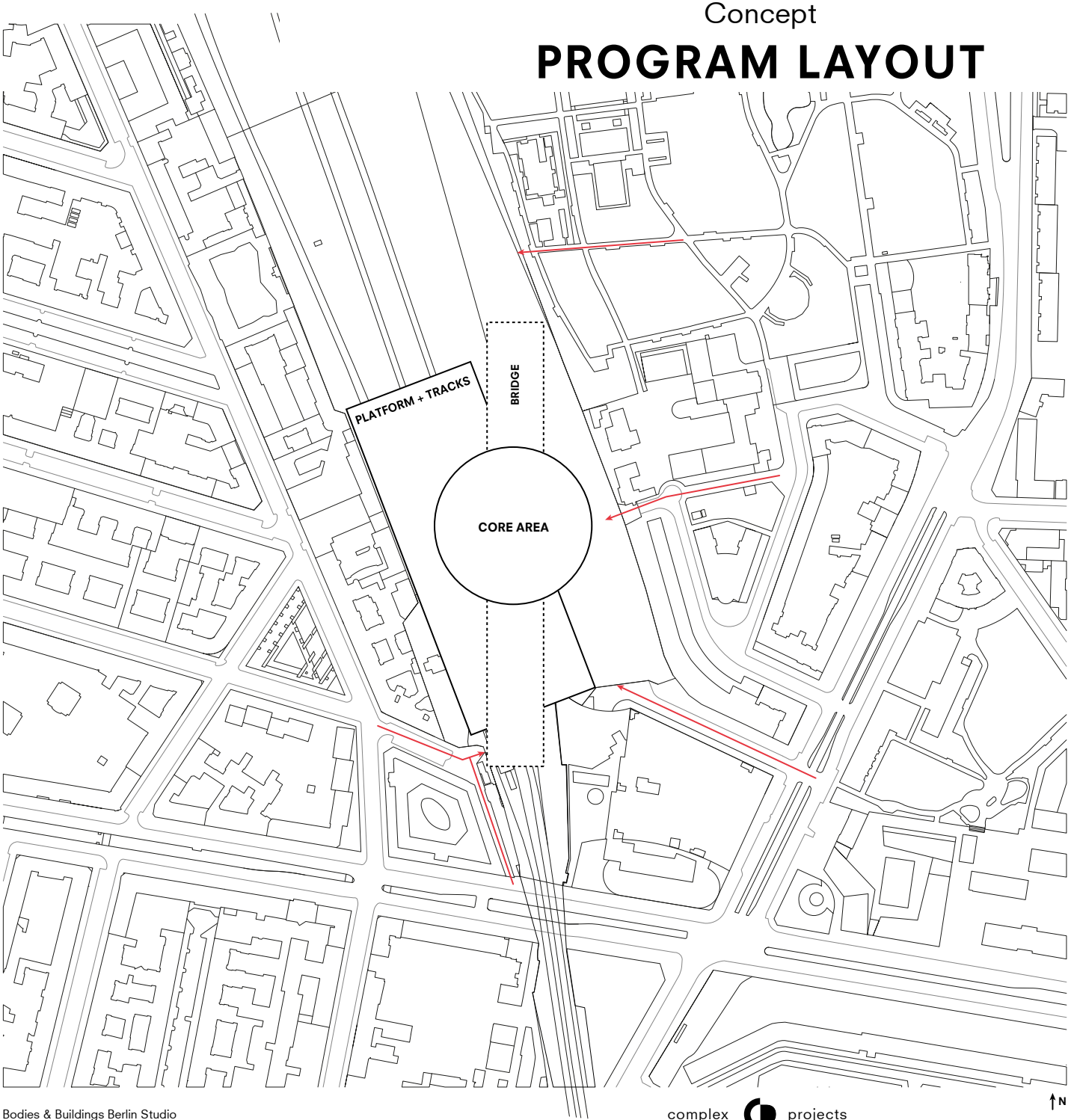
Diagrammatic layout of station showing the three main zones



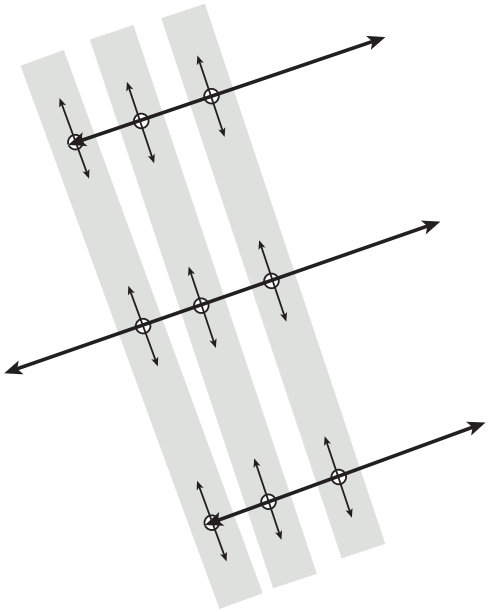
Typical facilities within platform area

Concept

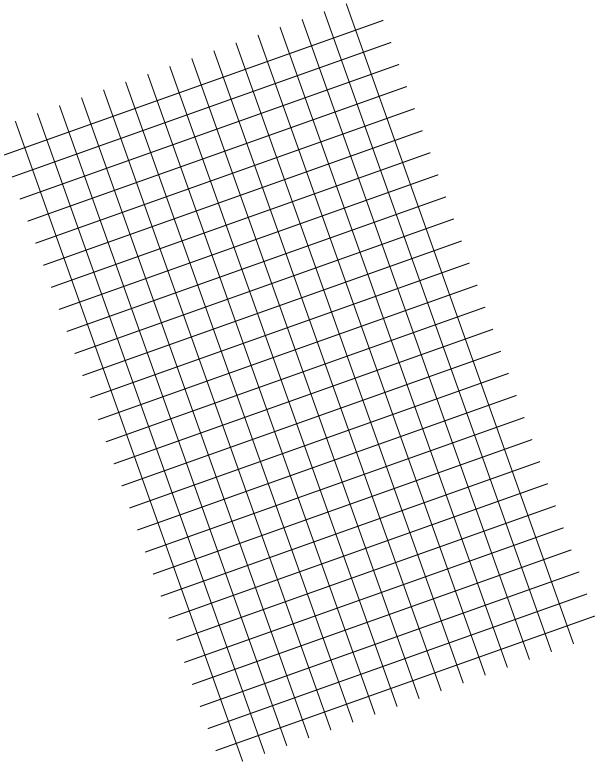
PROGRAM LAYOUT



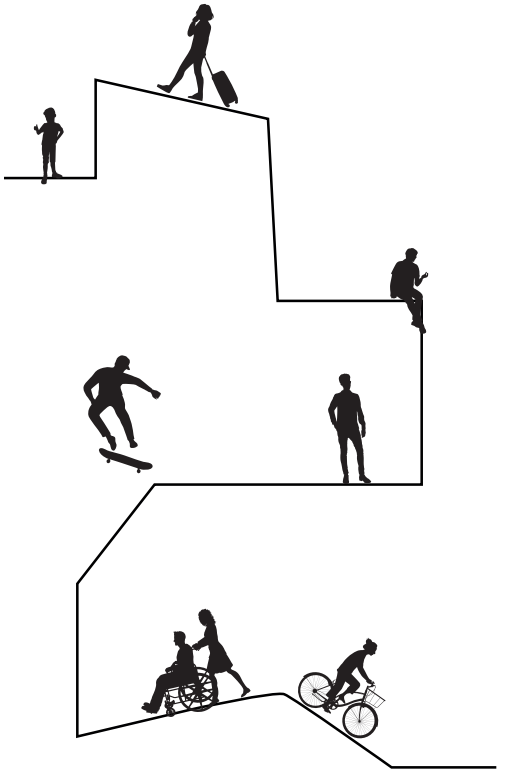
CONCEPT



Multiple bridges



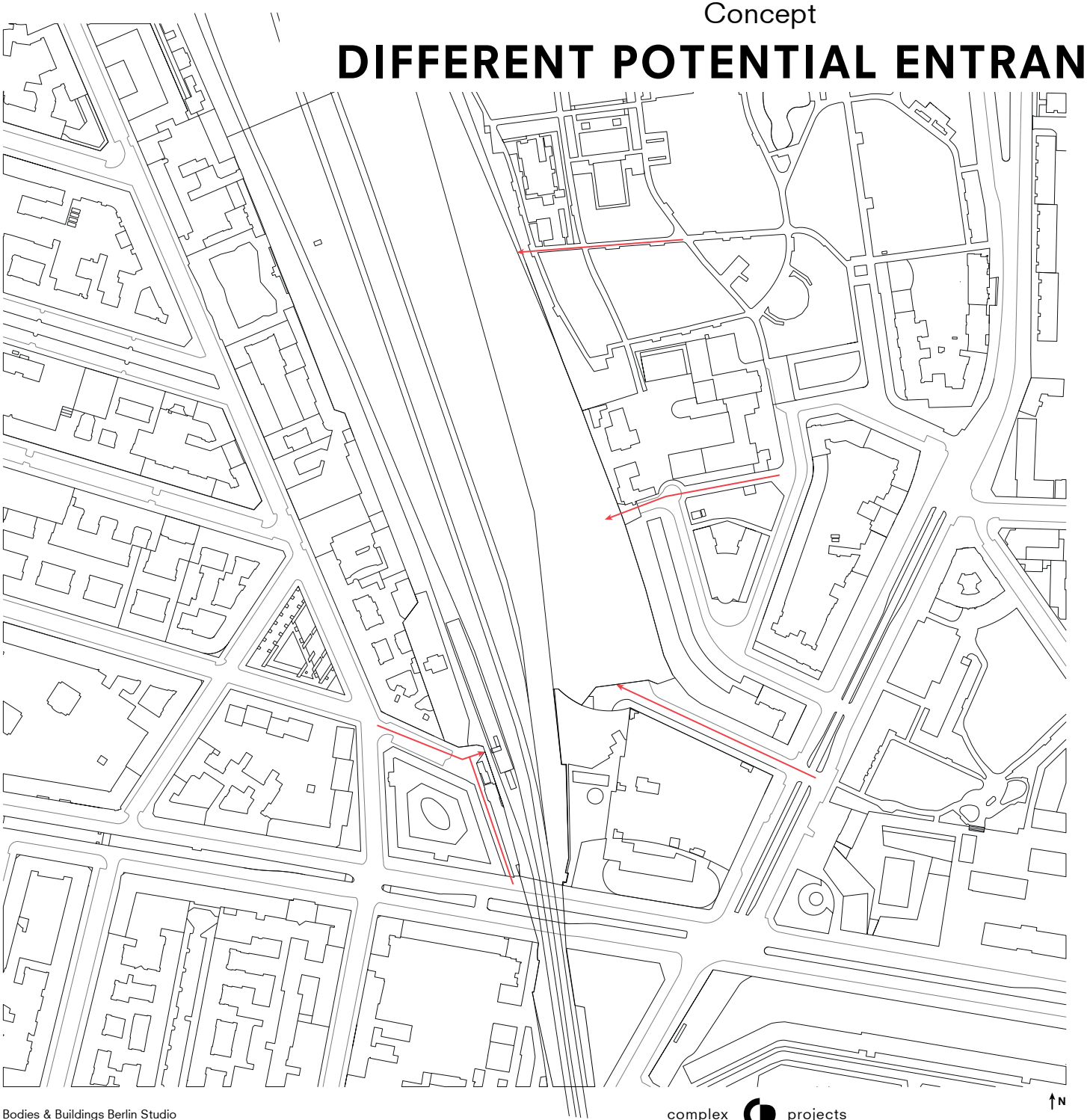
Small scale system



Surface that
afforde usage

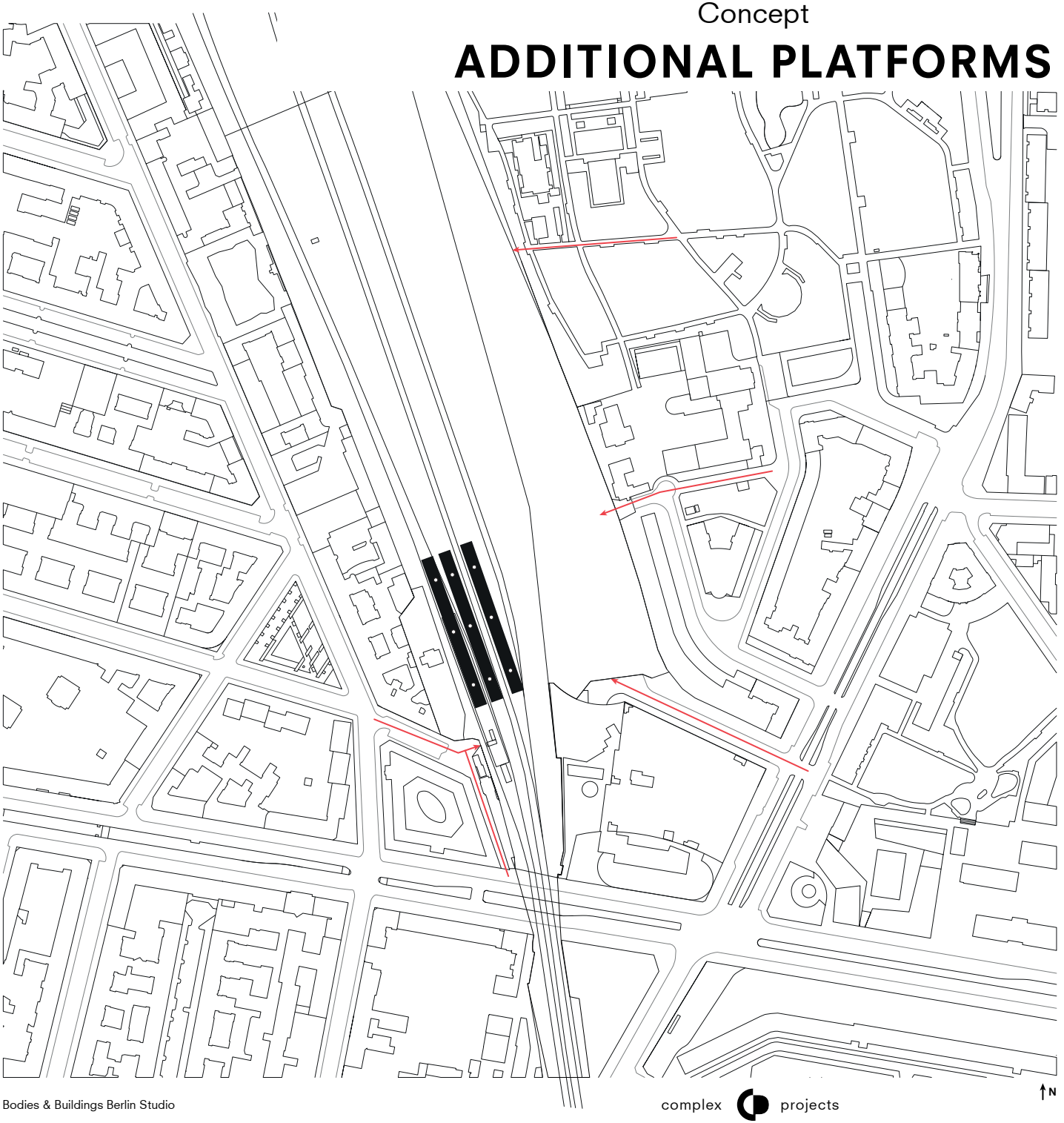
Concept

DIFFERENT POTENTIAL ENTRANCES



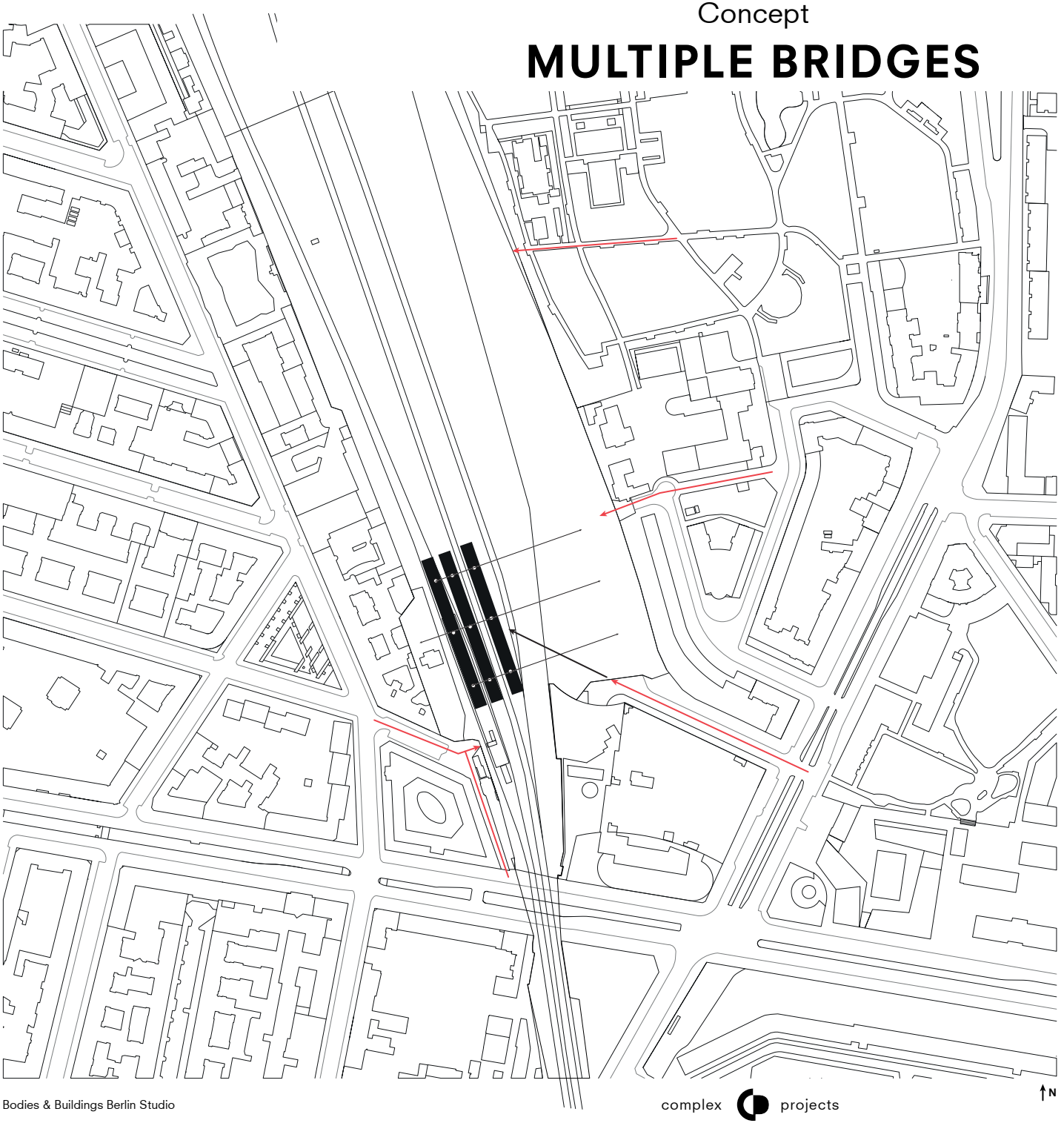
Concept

ADDITIONAL PLATFORMS



Concept

MULTIPLE BRIDGES



Concept

SMALL SCALE SYSTEM

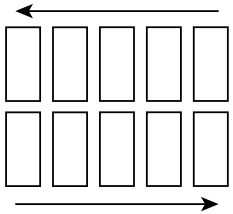
Bundesarchiv, Bild 183-R1019-0006
Foto: Sturm, Horst | 19. Oktober 1976

‘Am containerbahnhof’

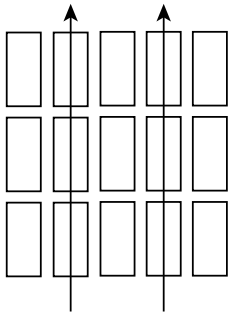
Concept

AM CONTAINERBAHNHOF

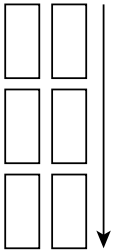
DIFFERENT LAYOUT CONTAINERS



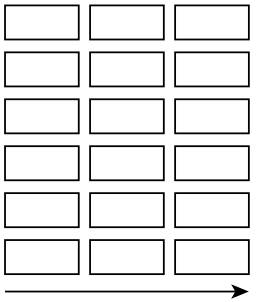
Parallel parking



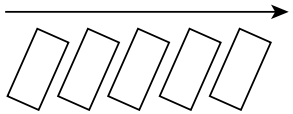
Straddle Carriers



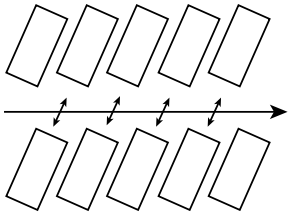
Reach Stacker

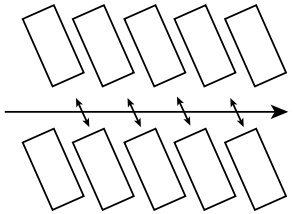


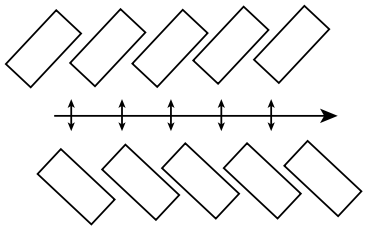
For empty containers

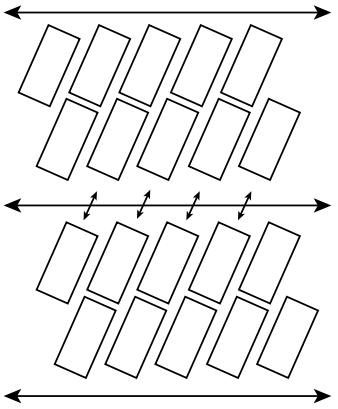


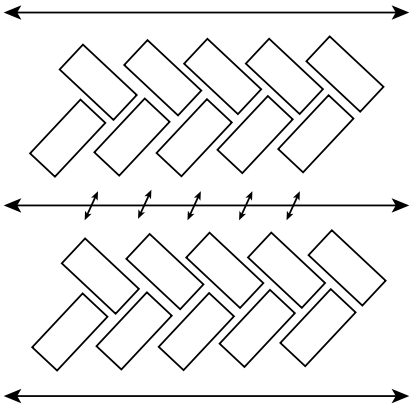
Diagonal parking





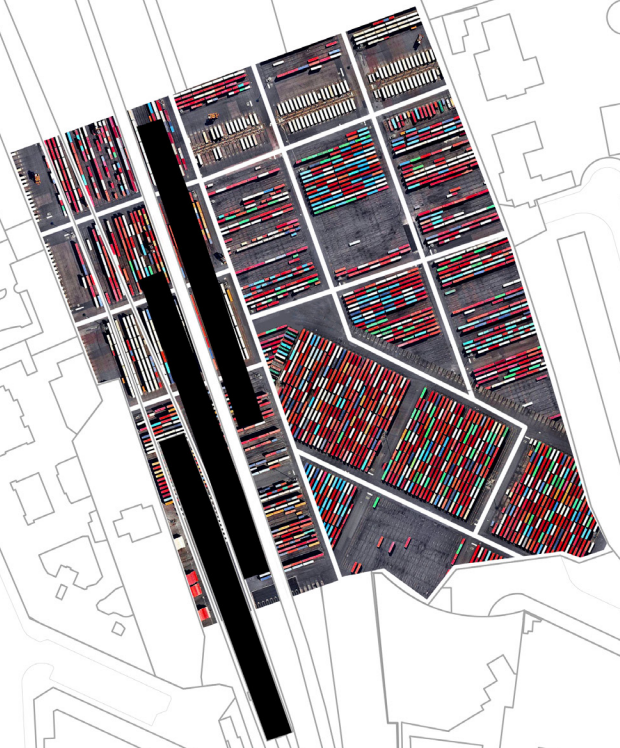






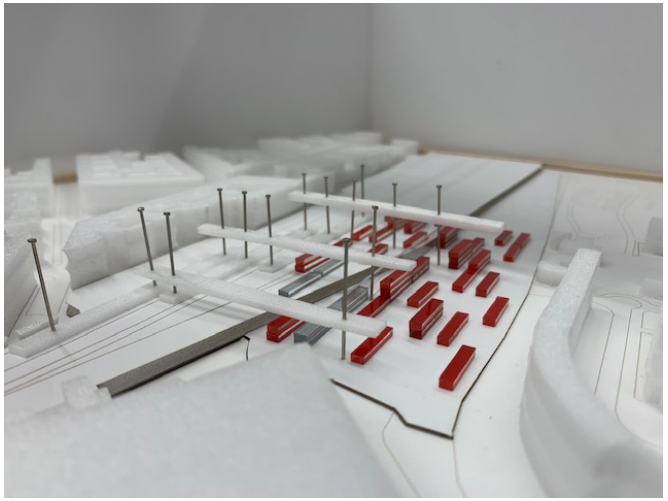
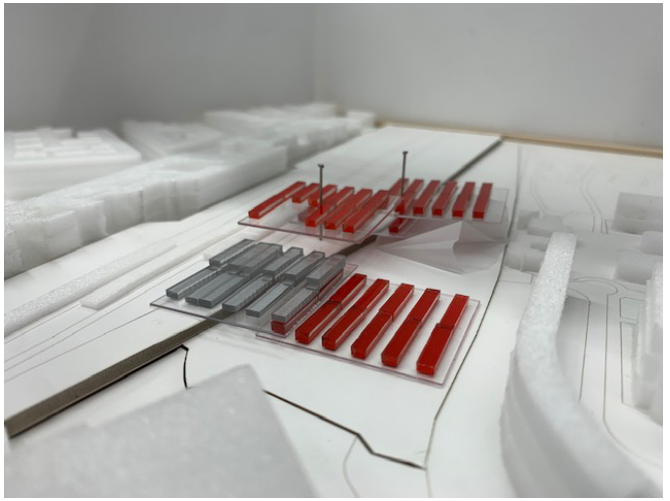
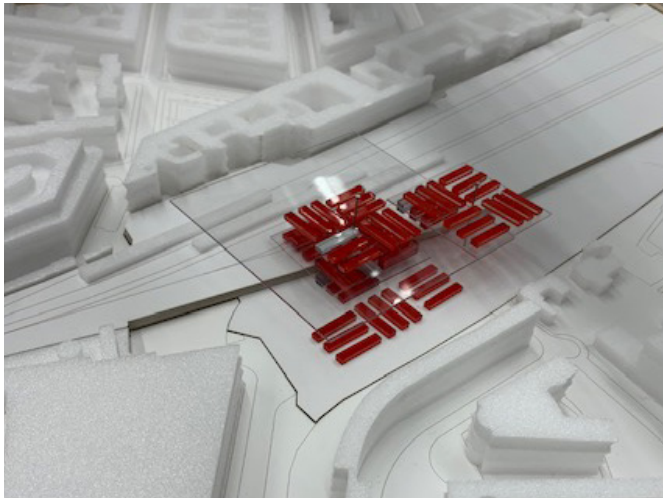
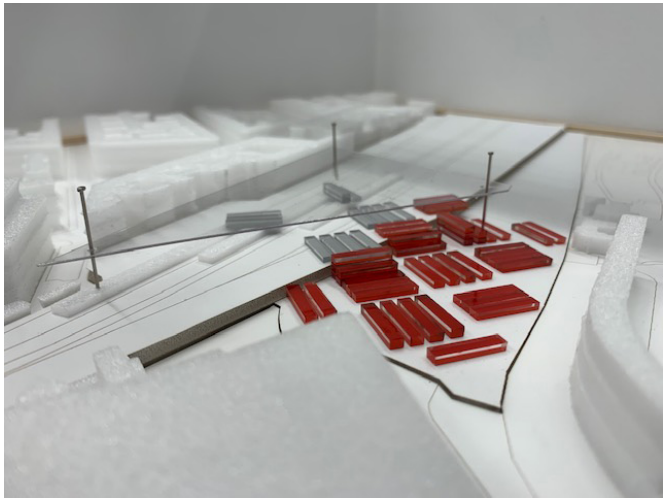
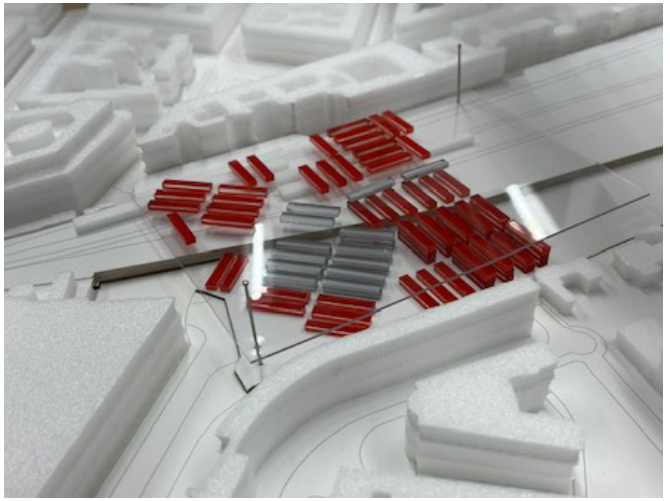
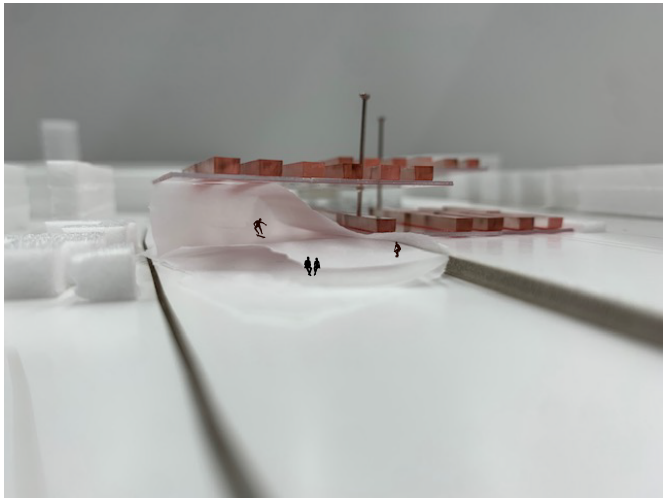
Concept

WHAT LAYOUT WORKS?



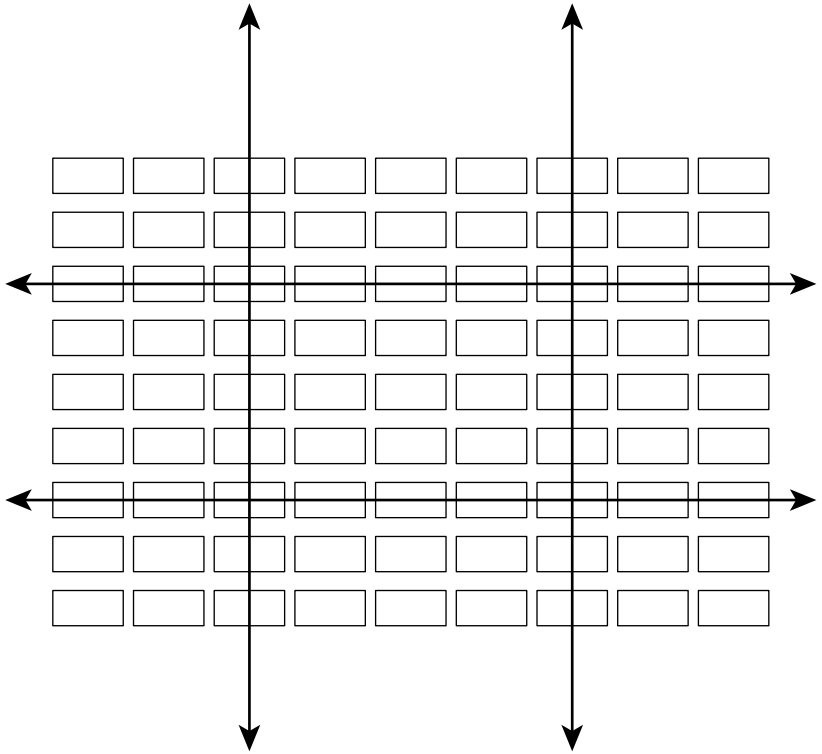
Concept

WHAT LAYOUT WORKS?

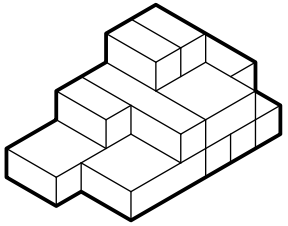







Concept

DESIGN



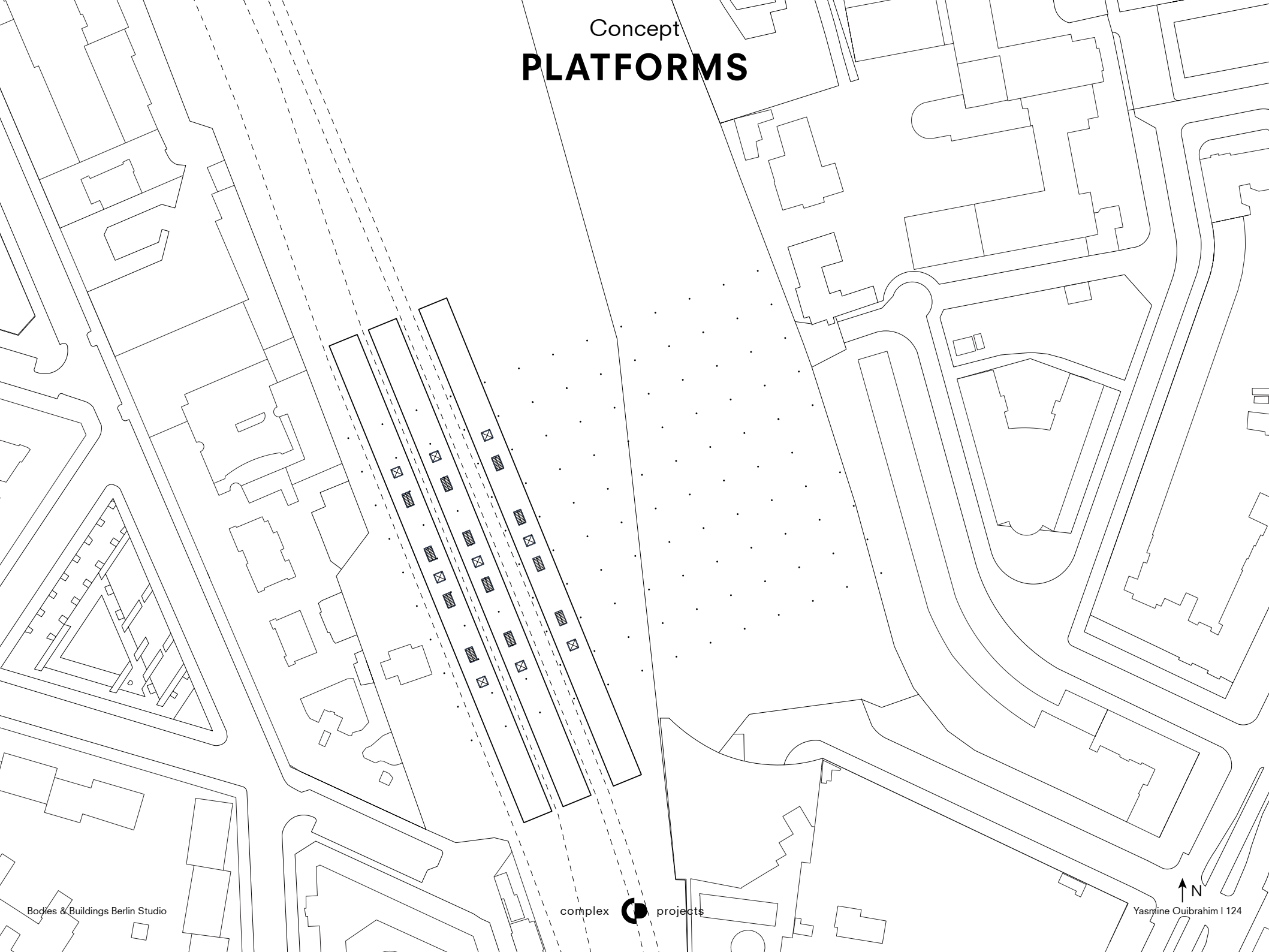
Layout becomes the masterplan



Limitations of the system

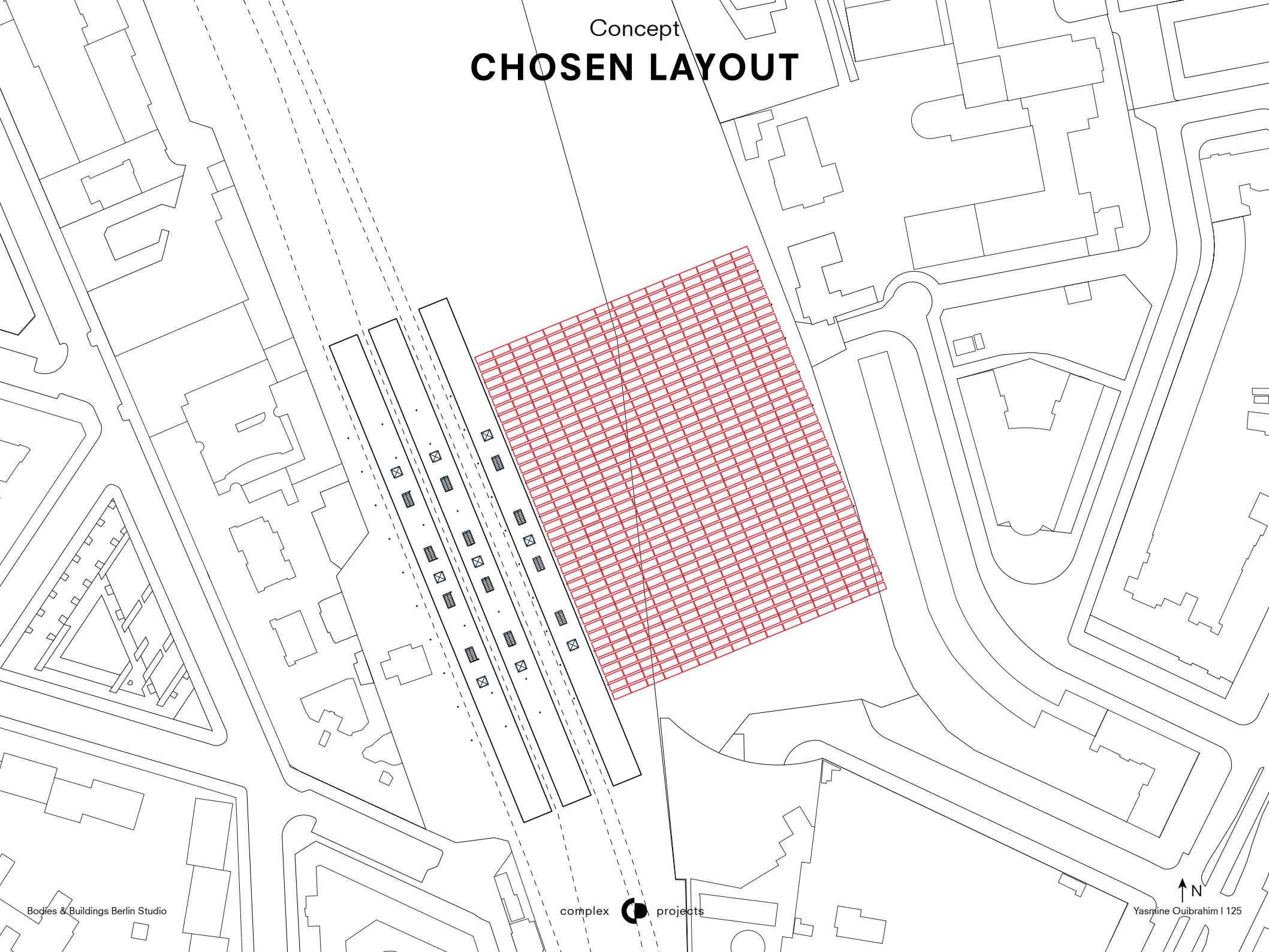
Concept

PLATFORMS



Concept

CHOSEN LAYOUT



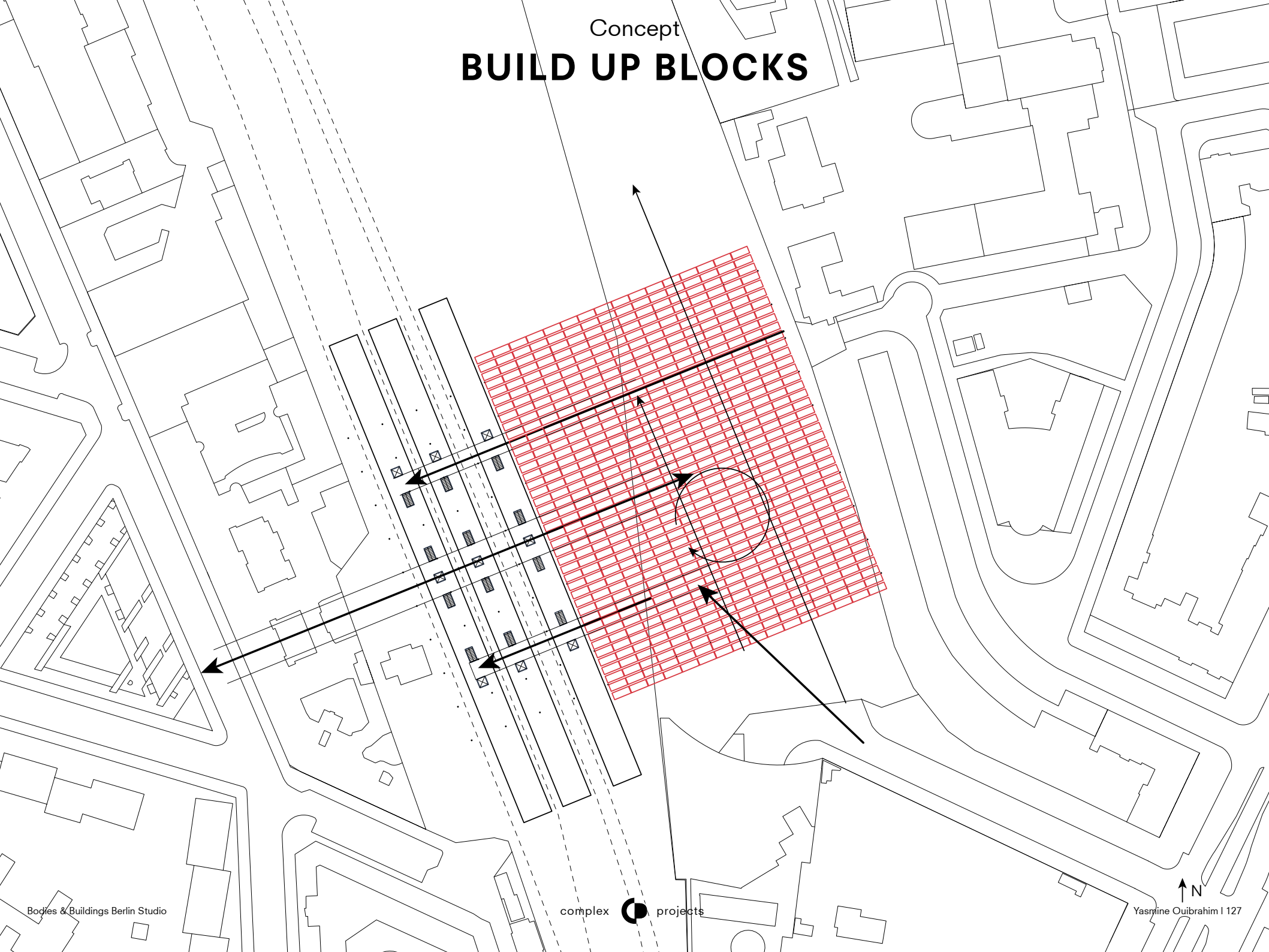
Concept

MAIN ACCESS

Although traveling gives me stress, I still want to do fun things. I am in need of a well-organized and visually impaired-friendly station.

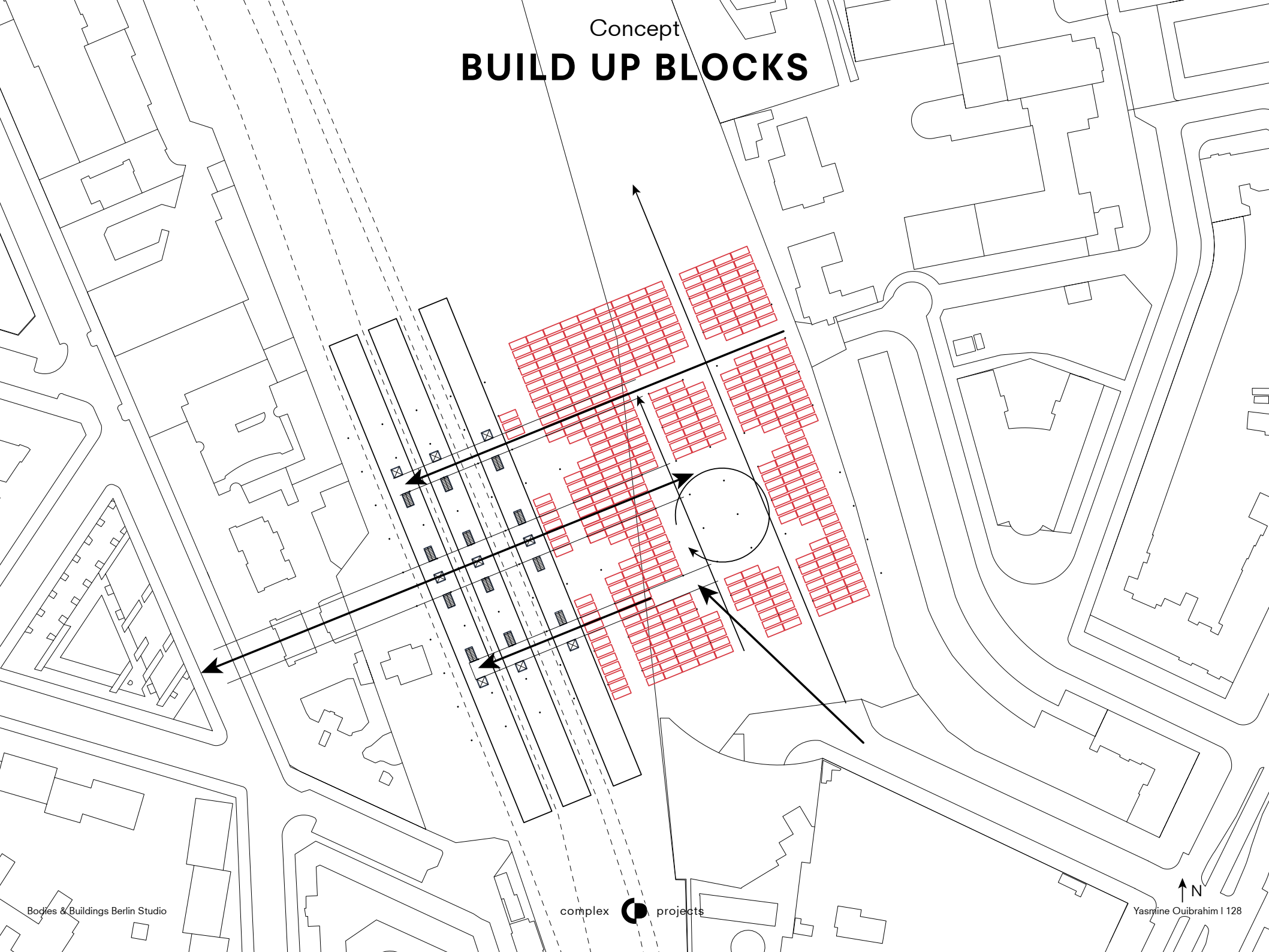
Concept

BUILD UP BLOCKS



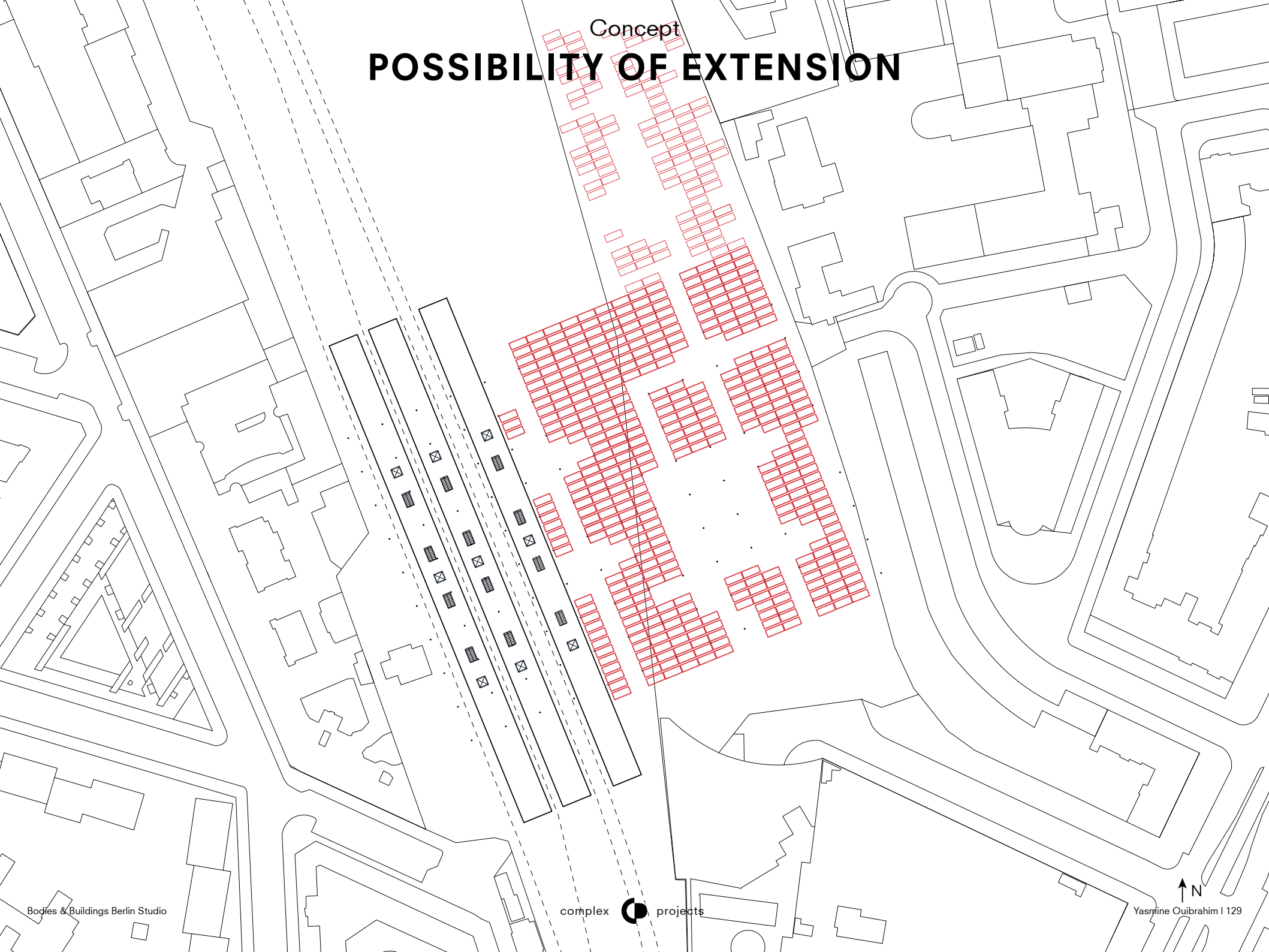
Concept

BUILD UP BLOCKS



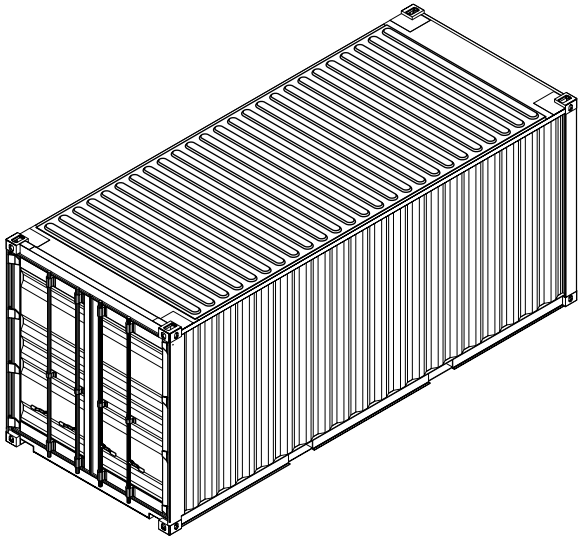
Concept

POSSIBILITY OF EXTENSION

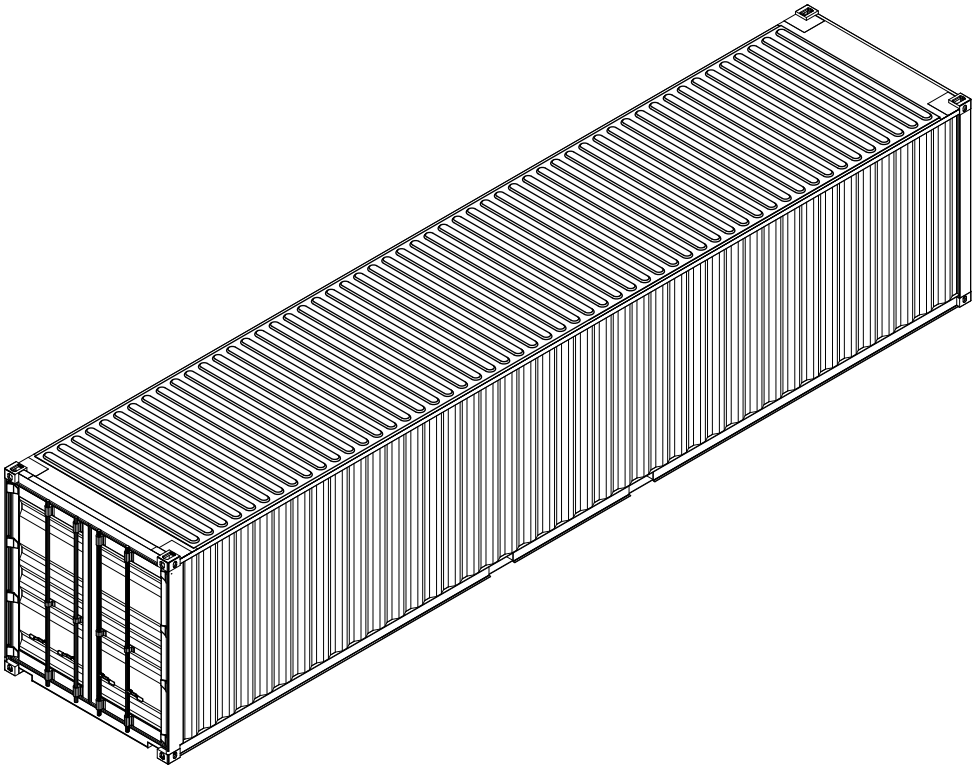


Concept

THE CONTAINER



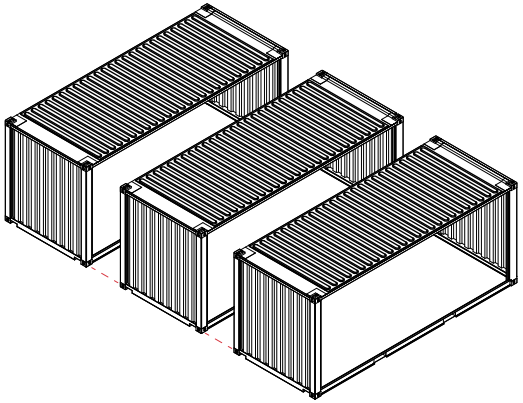
2.95 x 2.95 x 5.9



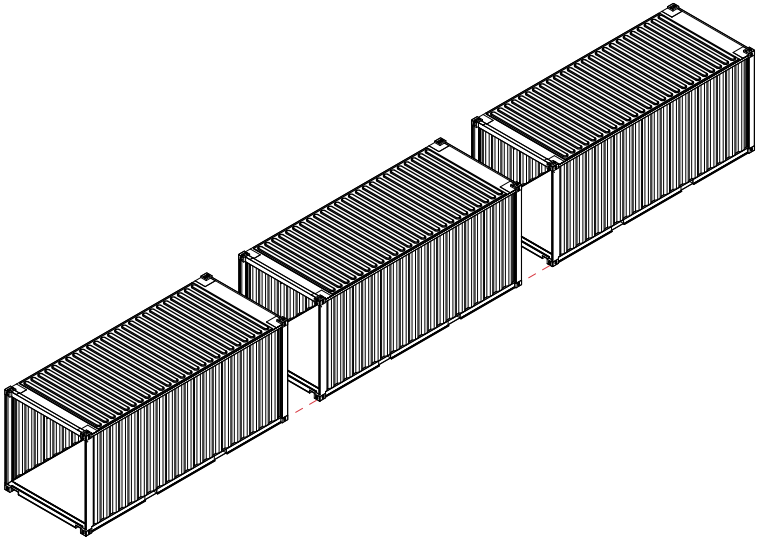
2.95 x 2.95 x 11.8

Concept

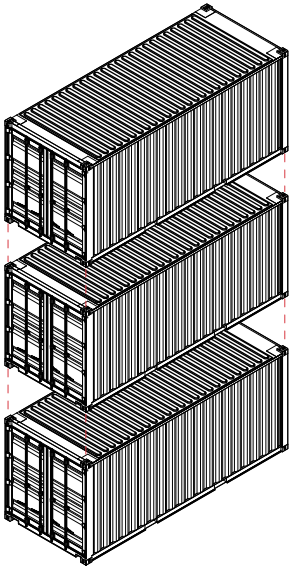
THE CONTAINER



Addition possible in width



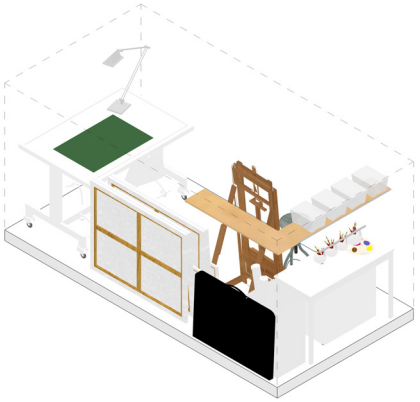
Addition possible in length



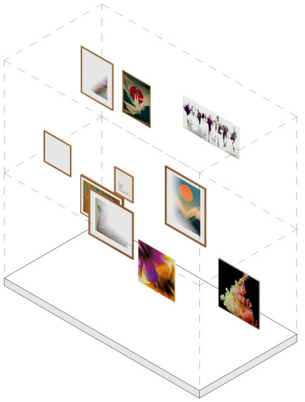
Stacked

Concept

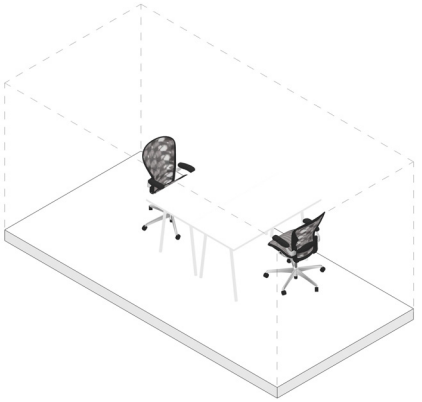
PROGRAM IN CONTAINERS



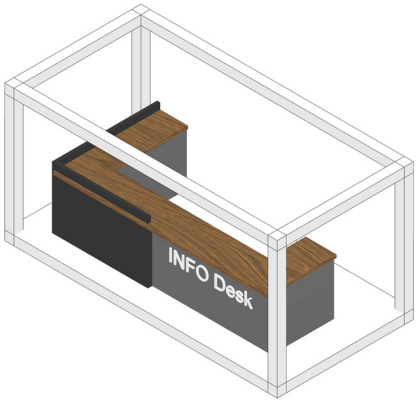
Atelier



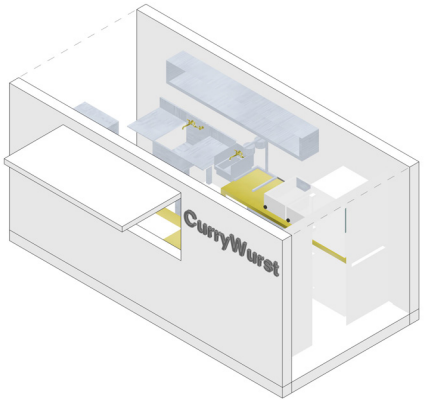
Exhibition



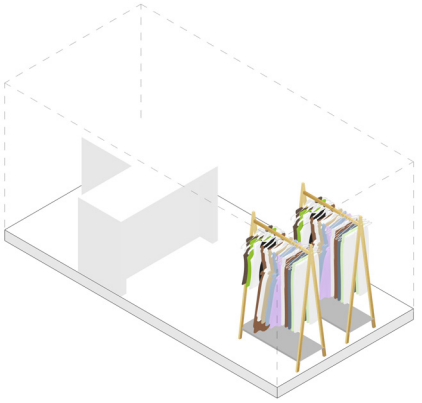
Office



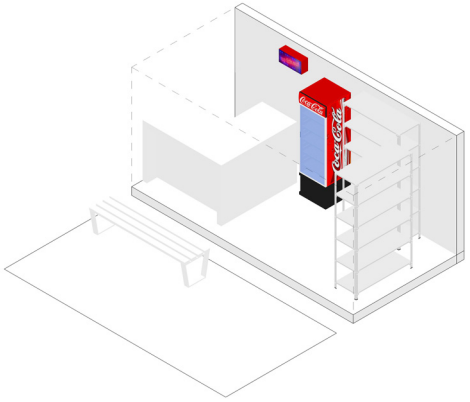
Travel Information



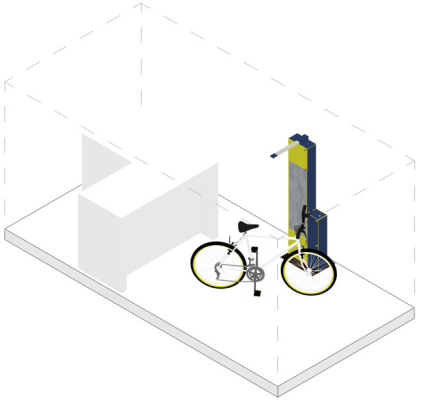
Foodtruck



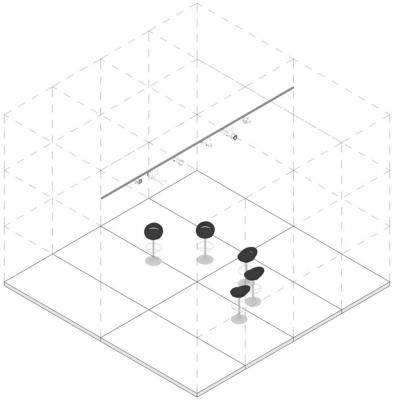
Upcycle clothing shop



Späti



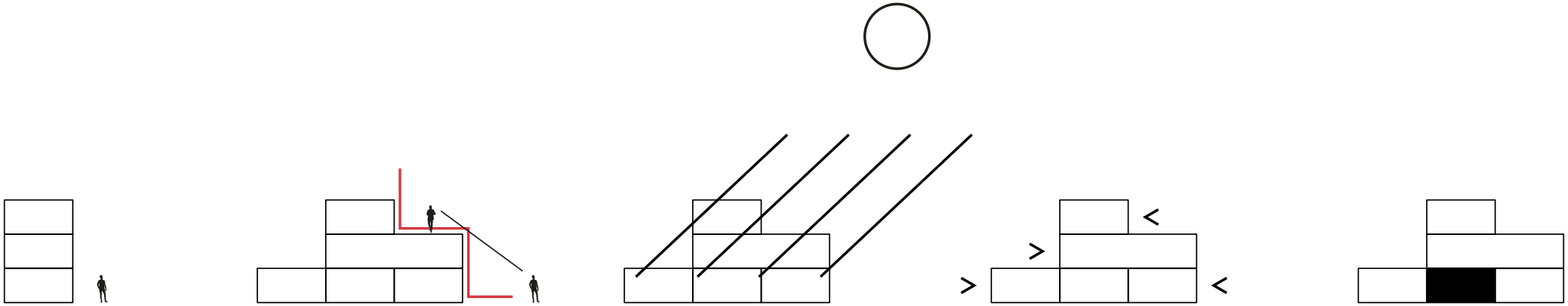
Repair station



Event space

Concept

THE SYSTEM IN SECTION



Max. 3 stacked for human scale

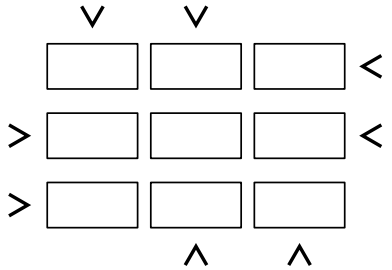
Stepped stacking provides sightlines for social safety

Stepped stacking allows daylight

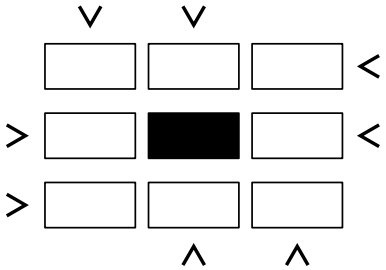
Stepped stacking ensures accessible entrances

Inside volume becomes BOH

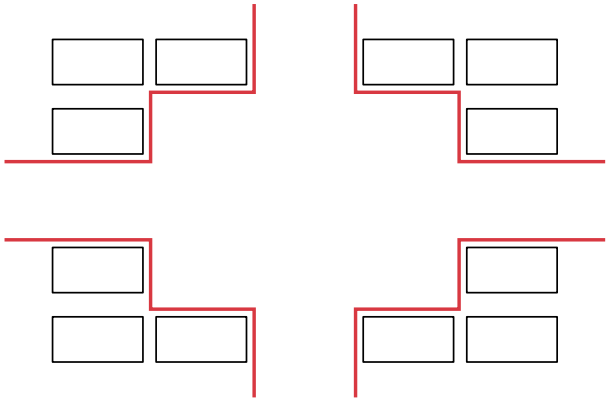
THE SYSTEM IN PLAN



Each volume must
have its own entrance



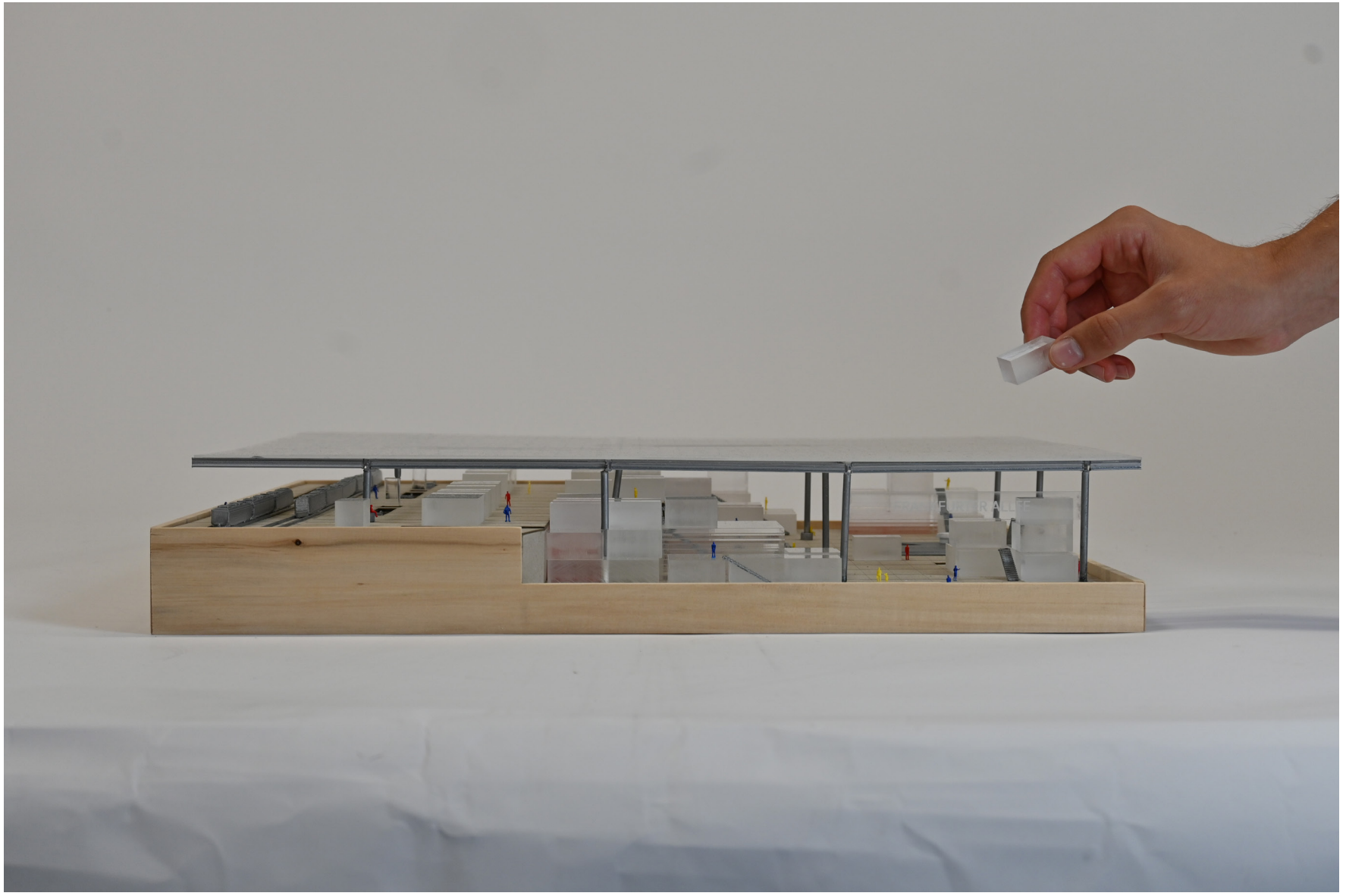
Inside volume
becomes BOH



Opening the masterplan in steps
ensures no blind spots and natural
wayfinding

Concept

LOCAL INVOLVEMENT



Concept

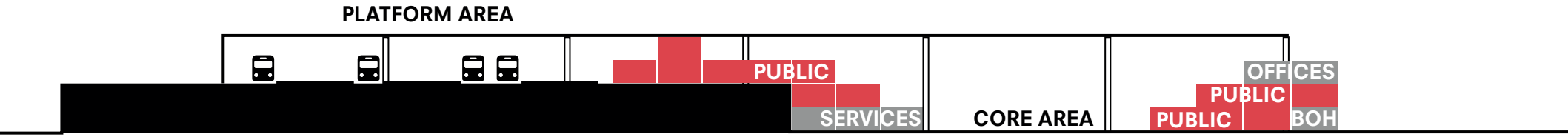
SYSTEM IMPLEMENTATION

Concept

STACKING

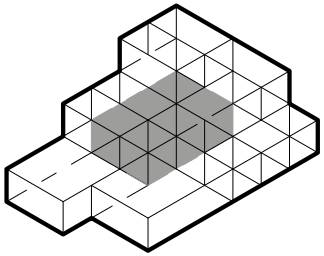
Concept

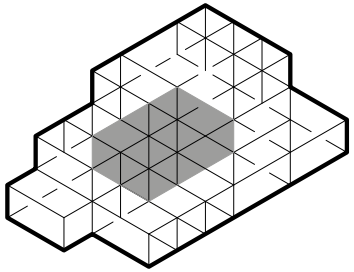
ORGANISATION

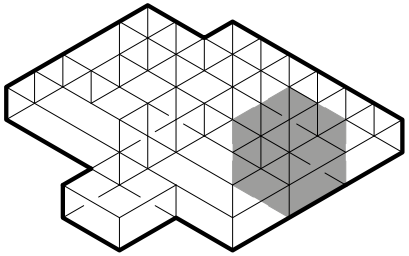


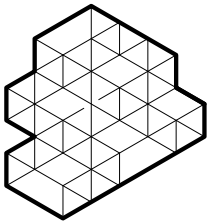
Concept

DIFFERENT BLOCK CONFIGURATIONS



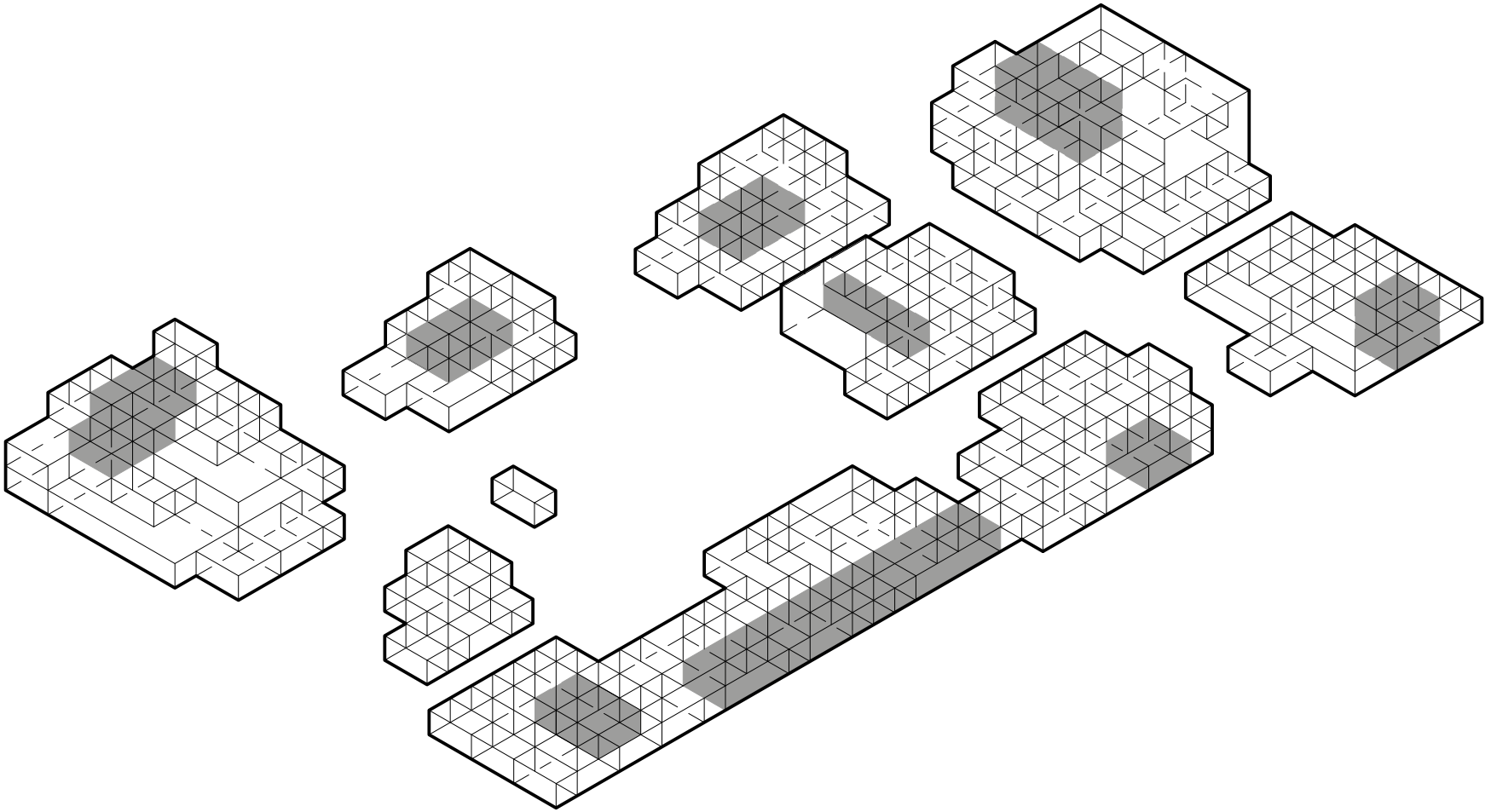






Concept

DIFFERENT BLOCK CONFIGURATIONS



INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

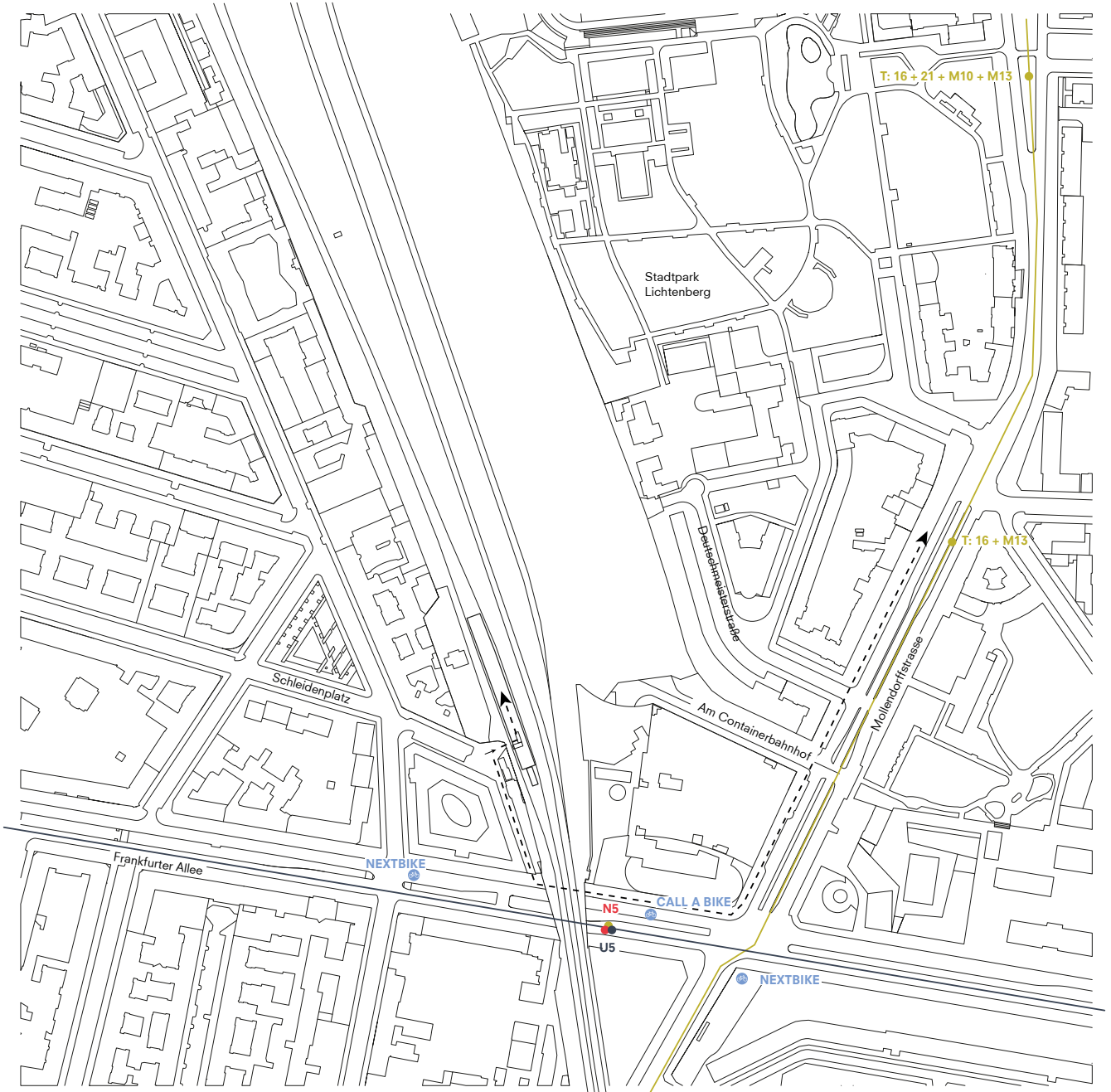
IMPLEMENTATION

DEVELOPMENT

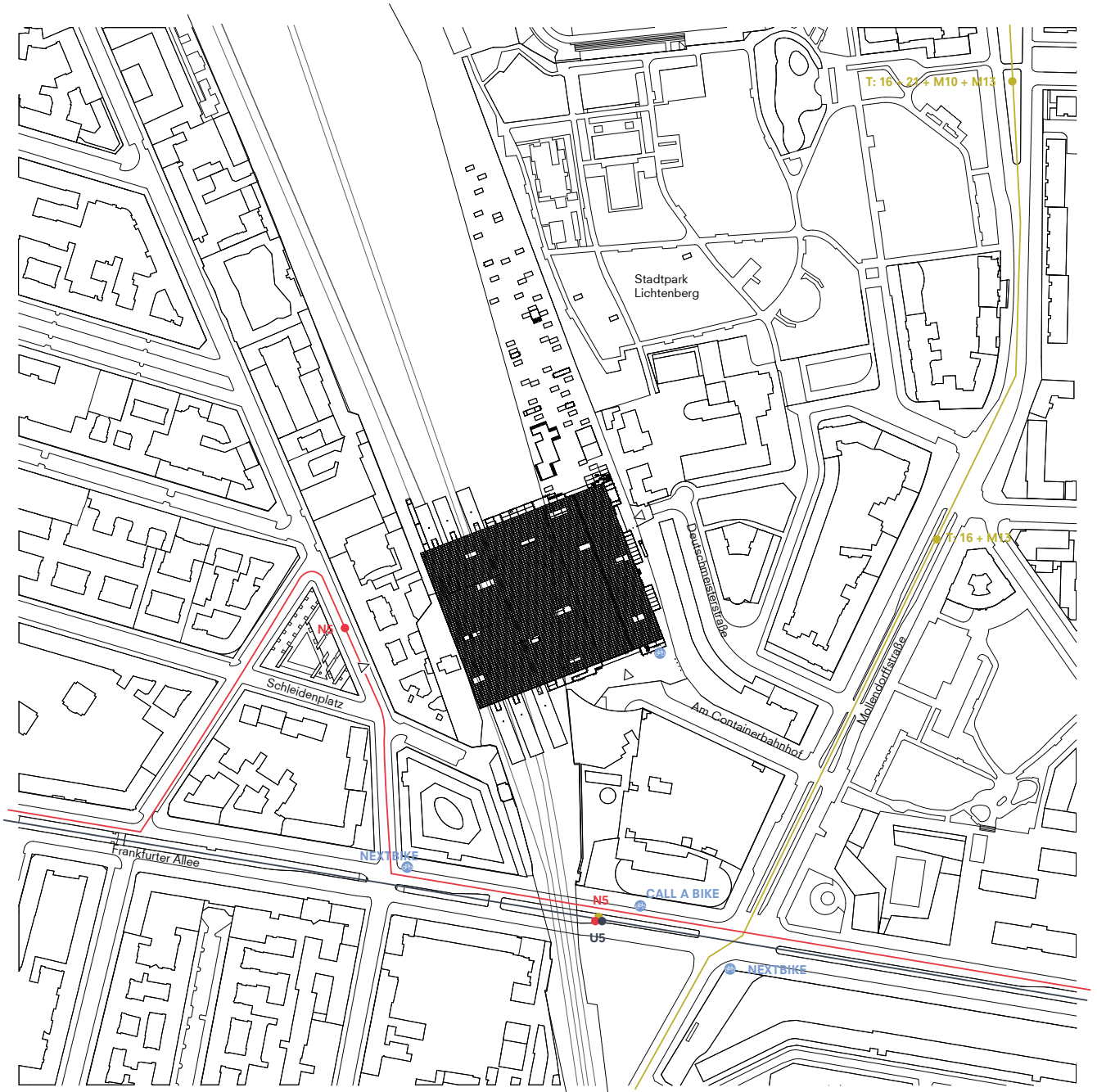
CONCLUSION

GROUP SITE PLAN

CURRENT SITUATION



NEW SITUATION



URBAN IMPLEMENTATION

Implementation

GROUND FLOOR

1. Exercise and recreate:
   - Skate
   - Hang out
   - Graffiti
   - Sports class
   - Dance studio
   - Medical space

2. Eat and drink:
   - Spati's
   - Curry wurst
   - Biergarten
   - Party

3. Debate and collaborate:
   - Event and conference room

4. Core area:
   - Ticket sale
   - Travel Information
   - Seating area
   - Services

   Exhibitions and performances

5. Lactationroom
6. Prayerroom
7. Lockers

8. BOH:
   - Technical space
   - Storage
   - Maintenance

9. Emergency shelter

10. Makers space:
    - Workshop space
    - Ateliers

11. Collect and repair:
    Bike repair
    Bike renting

12. Pedestrian and bicycle bypass

    Local shops

Implementation

TRAIN TERMINAL

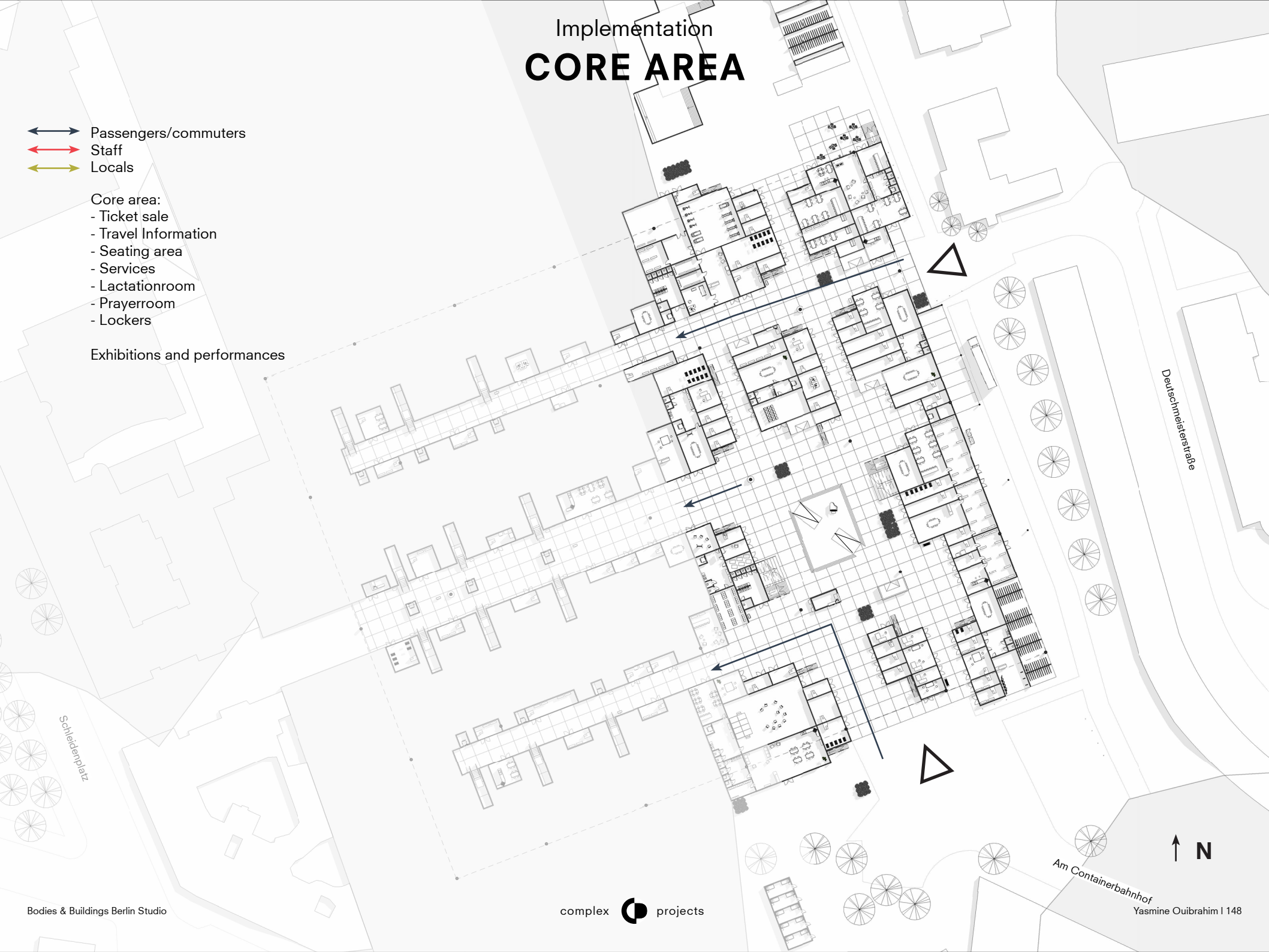
Implementation

CORE AREA

Passengers/commuters
Staff
Locals

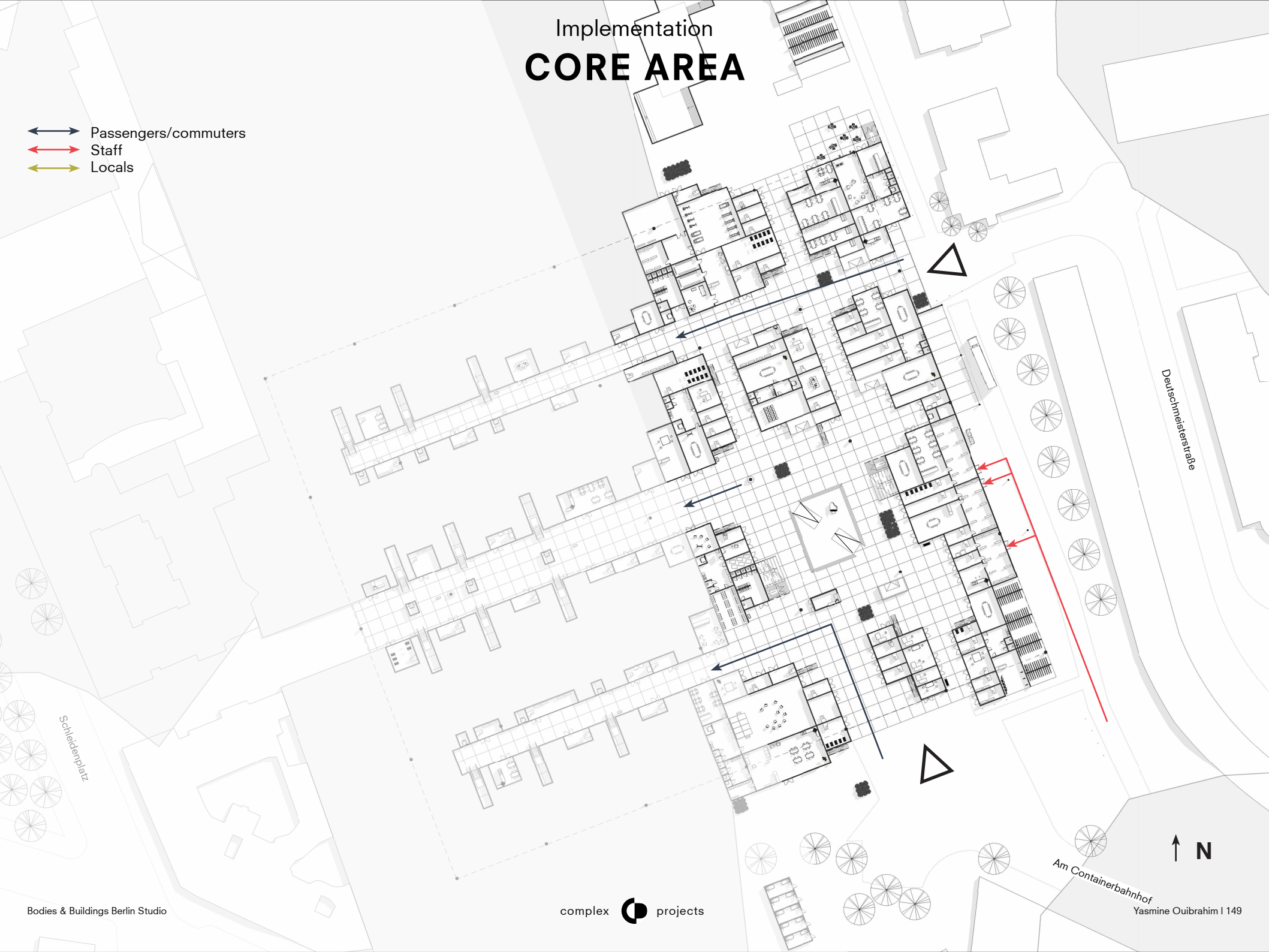
Core area:
- Ticket sale
- Travel Information
- Seating area
- Services
- Lactationroom
- Prayerroom
- Lockers

Exhibitions and performances



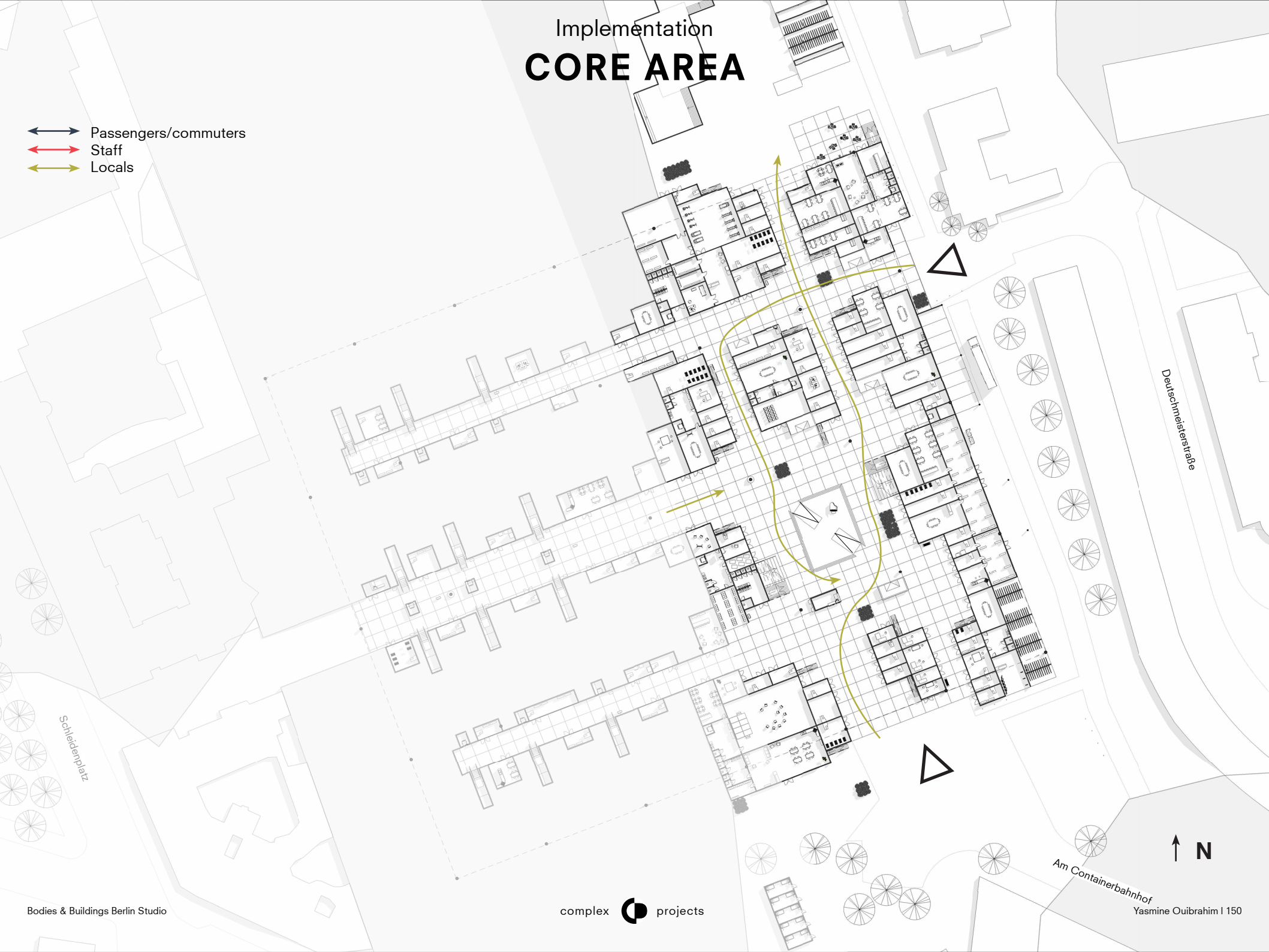
Implementation

CORE AREA



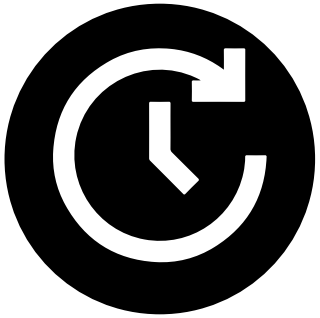
Implementation

CORE AREA

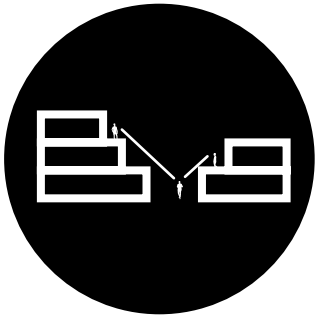


Implementation

MANAGEMENT



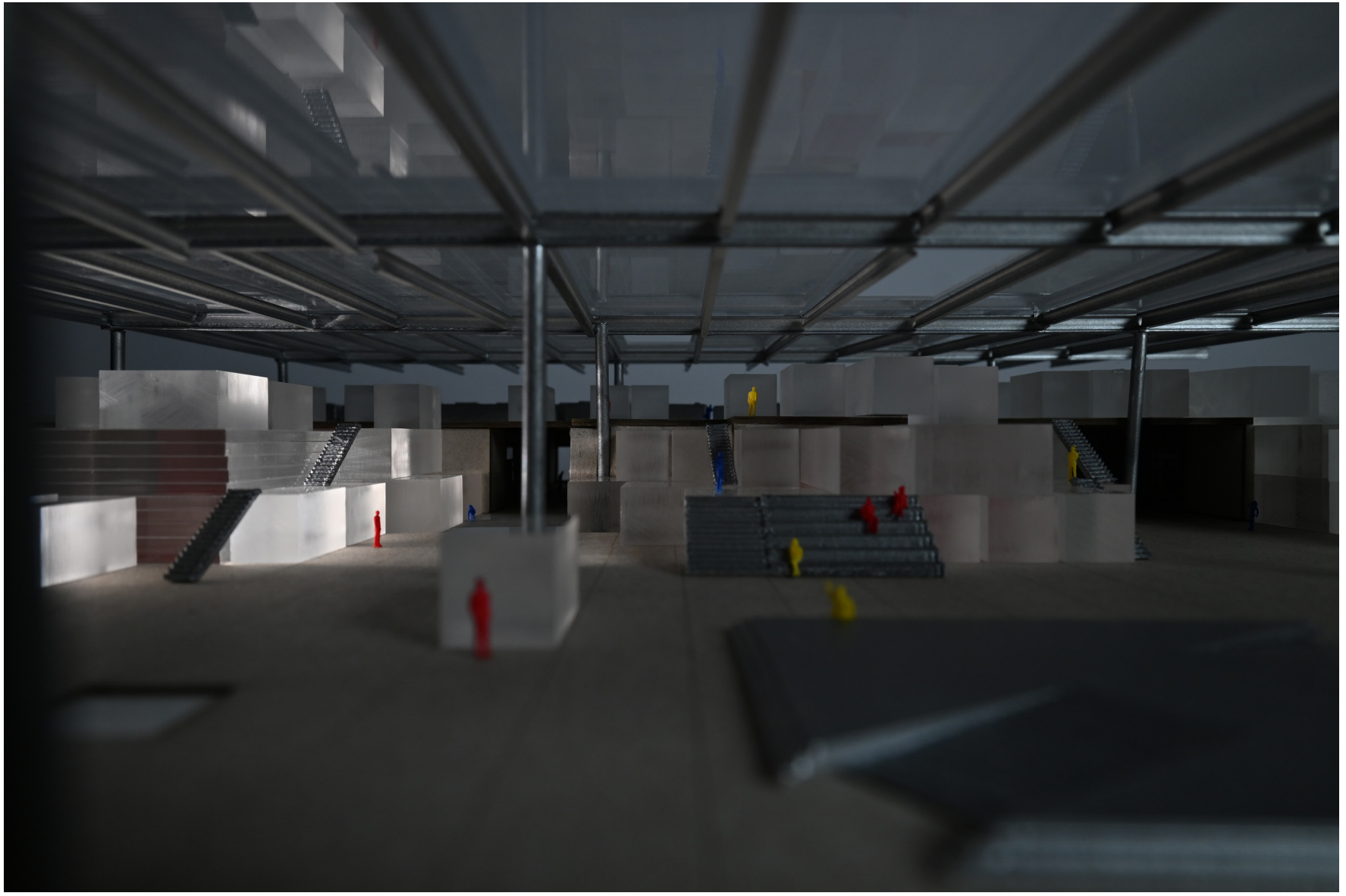
24/7 usage



Sightlines

Congierge knows community

AROUND THE CLOCK USAGE



JAKOB MANAGING FROM INFODESK

Implementation

REPAIR AND COLLECT

BOH:
- Technical space
- Storage
- Maintenance

Collect and repair:
Bike repair
Bike renting

Pedestrian and bicycle bypass

Makers space:
- Workshop space
- Ateliers

Schleidenplatz

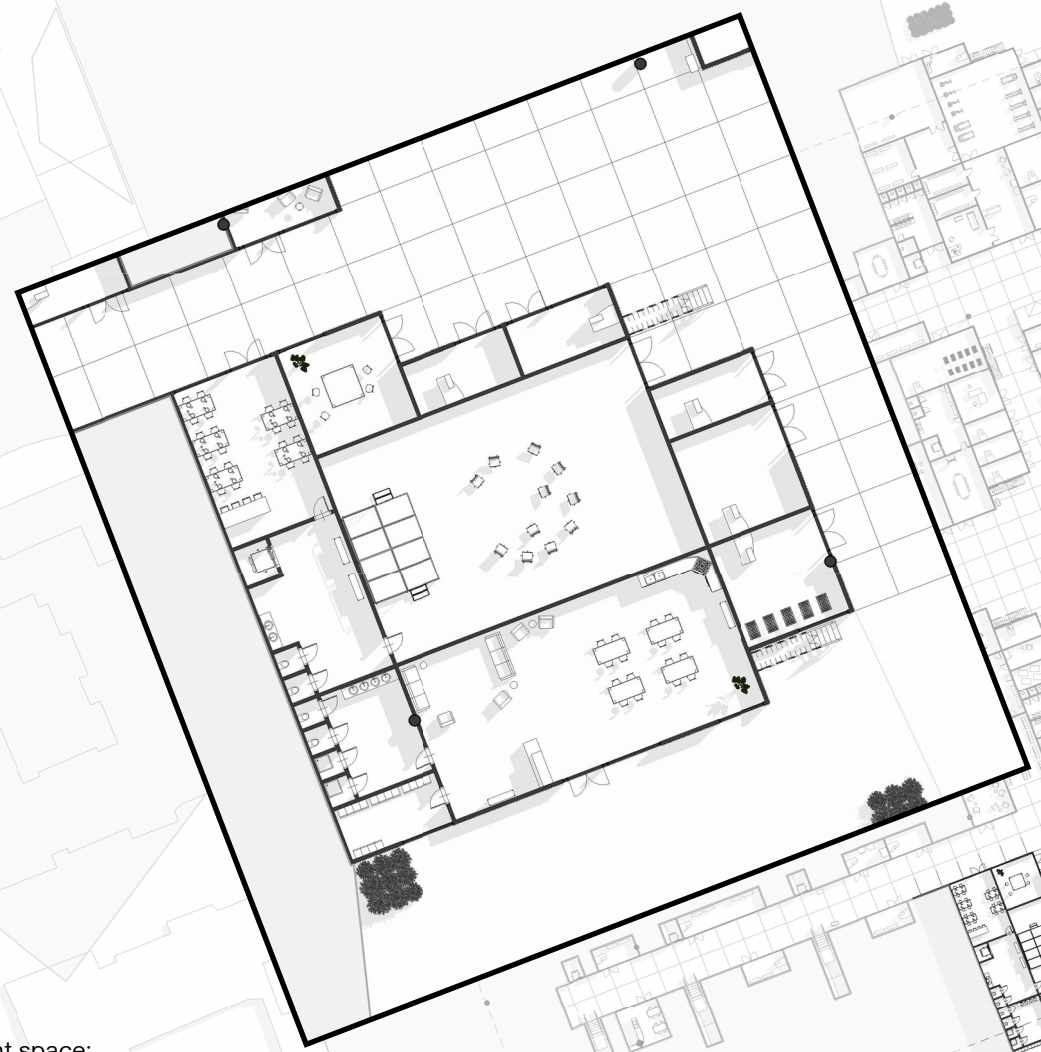
Deutschmeisterstraße

Am Containerbahnhof

N

Implementation

EVENT SPACE AND SHELTER



Event space:
- Event spaces
- Offices

Emergency shelter

Schleidenplatz

Deutschmeisterstraße

Am Containerbahnhof

N

MORITZ AT THE NOTUBERNACHTUNG

Implementation

DEBATE AND COLLABORATE

Debate and collaborate:
- Event and conference room

Schleidenplatz

Deutschmeisterstraße

Am Containerbahnhof

N

SOFIA HANGING OUT AT THE STATION

Implementation

EXERCISE AND RECREATE

Exercise and recreate:
- Skate
- Hang out
- Graffiti
- Sports class
- Dance studio
- Medical space

Schleidenplatz

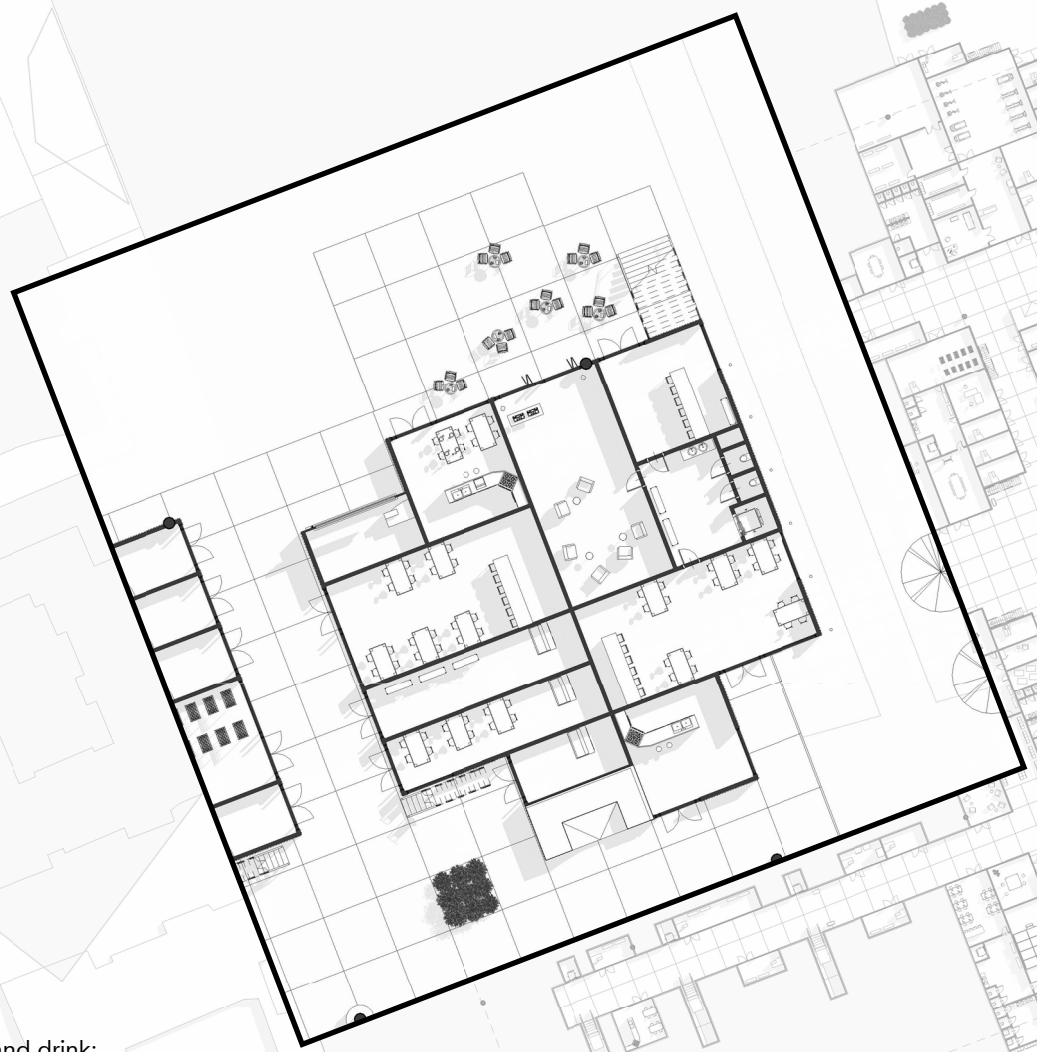
Deutschmeisterstraße

Am Containerbahnhof

N

Implementation

EAT AND DRINK



Eat and drink:
- Food trucks
- Biergarten
- Party space
- Shops with local delicacies

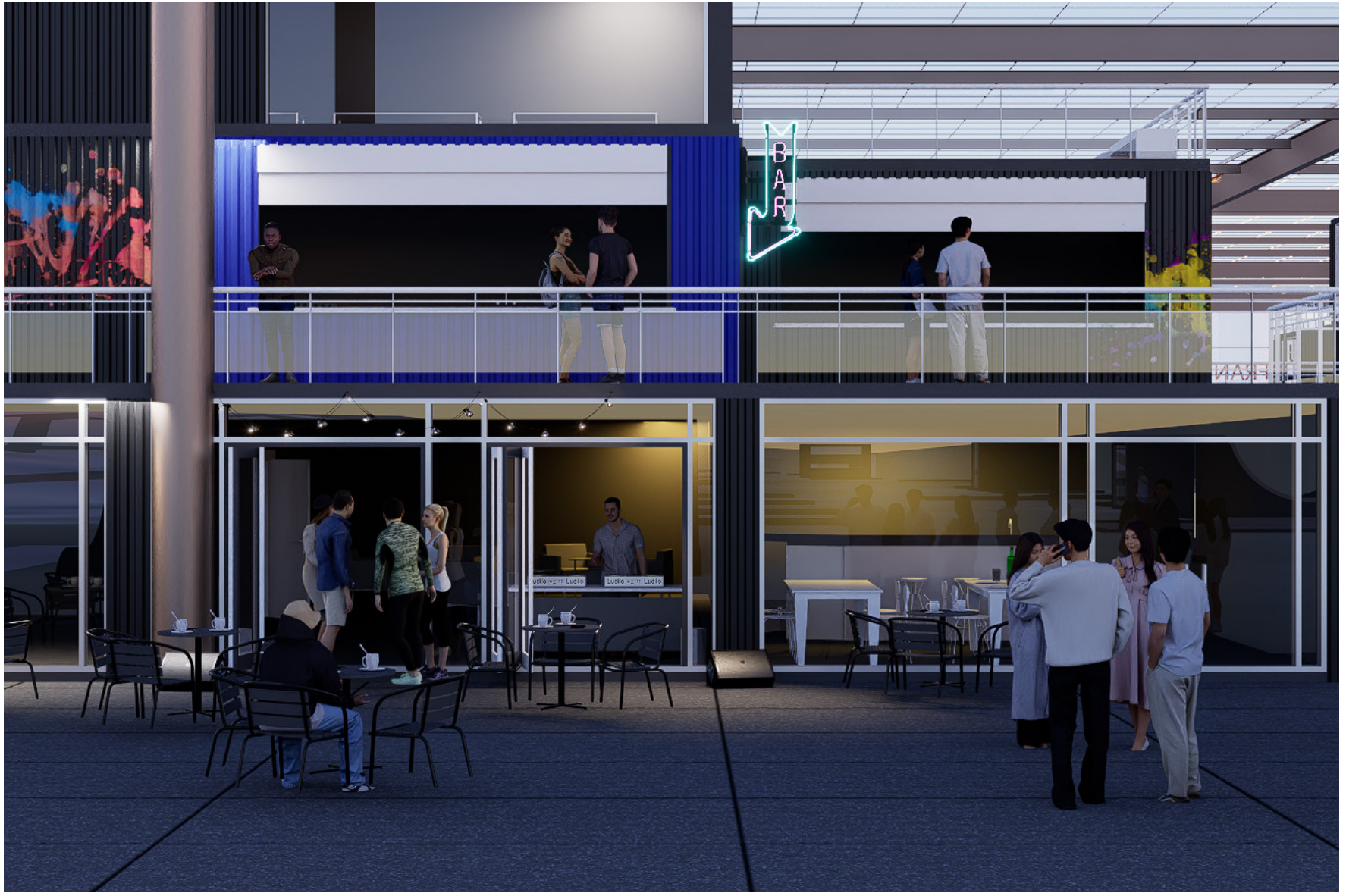
Schleidenplatz

Deutschmeisterstraße

Am Containerbahnhof

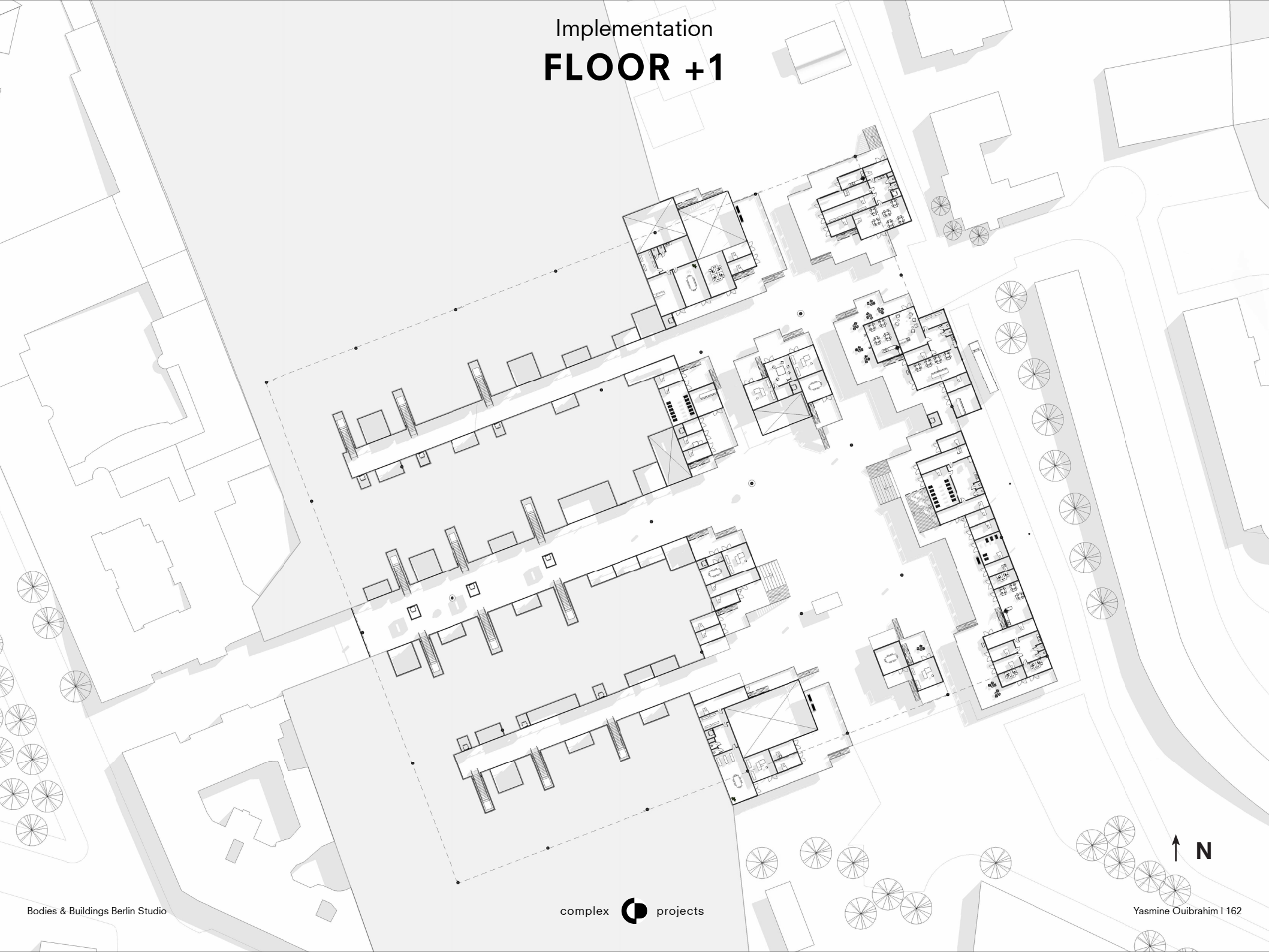
N

STATION BY NIGHT



Implementation

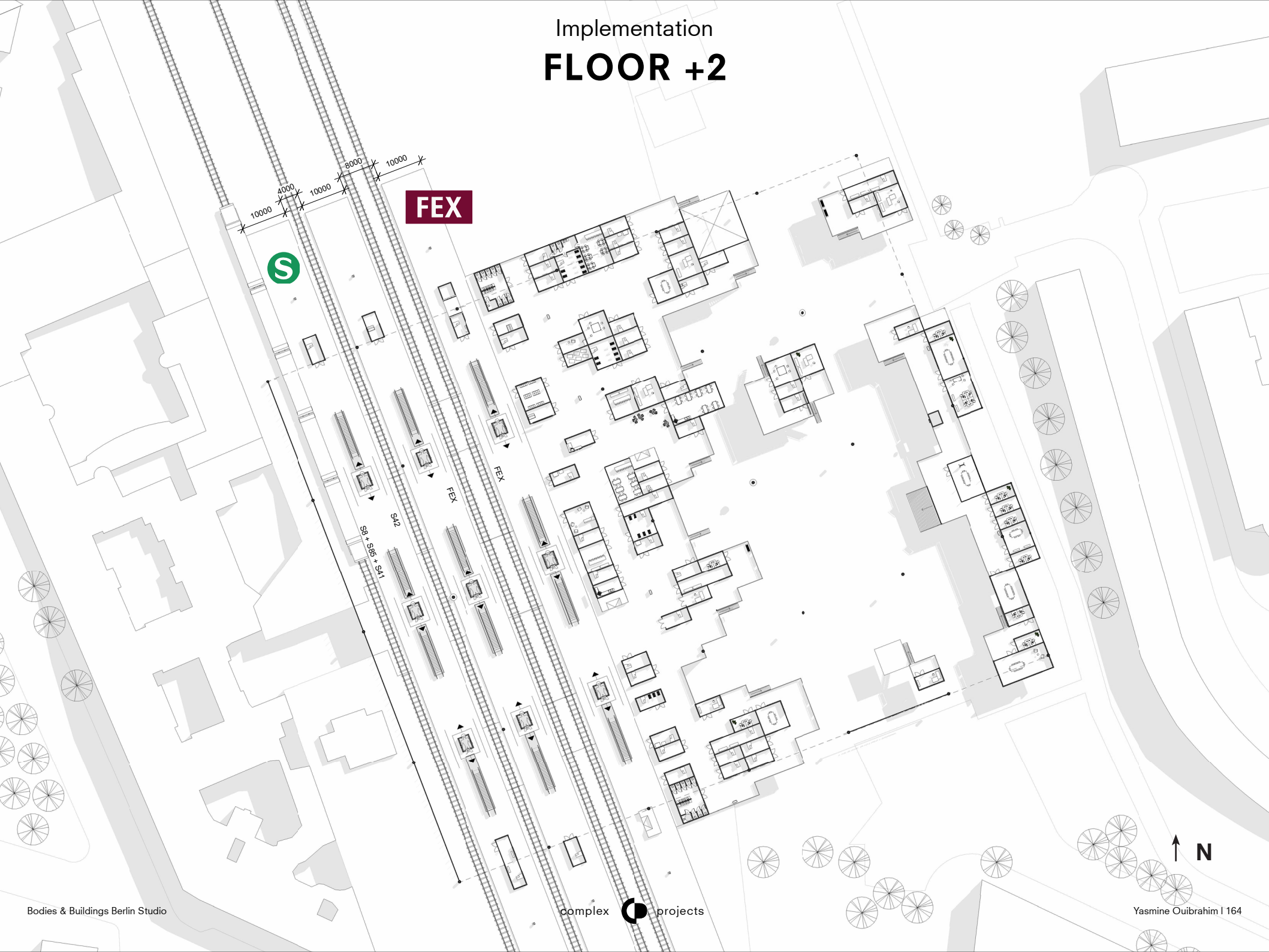
FLOOR +1



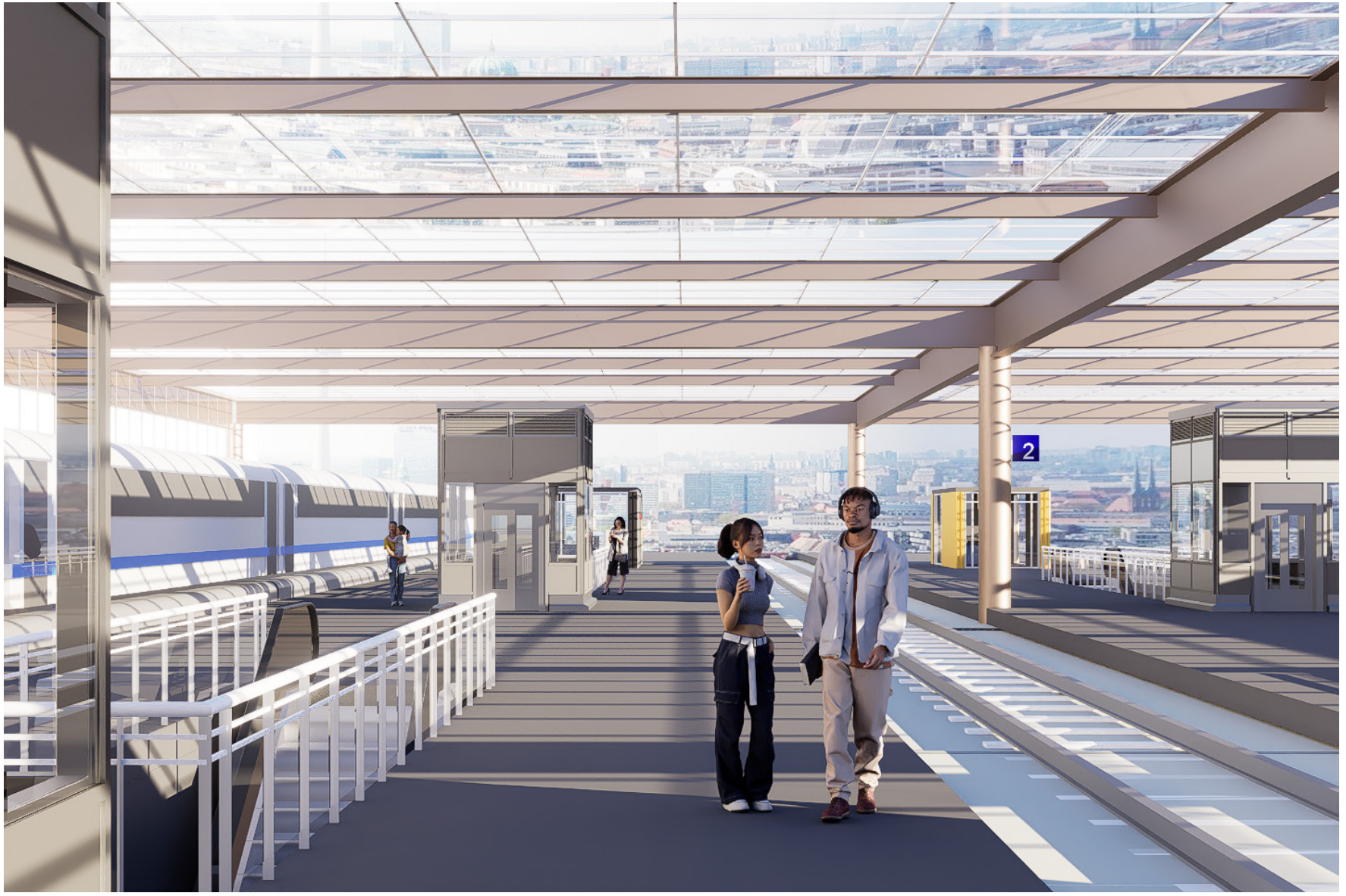
COFFEE TIME

Implementation

FLOOR +2

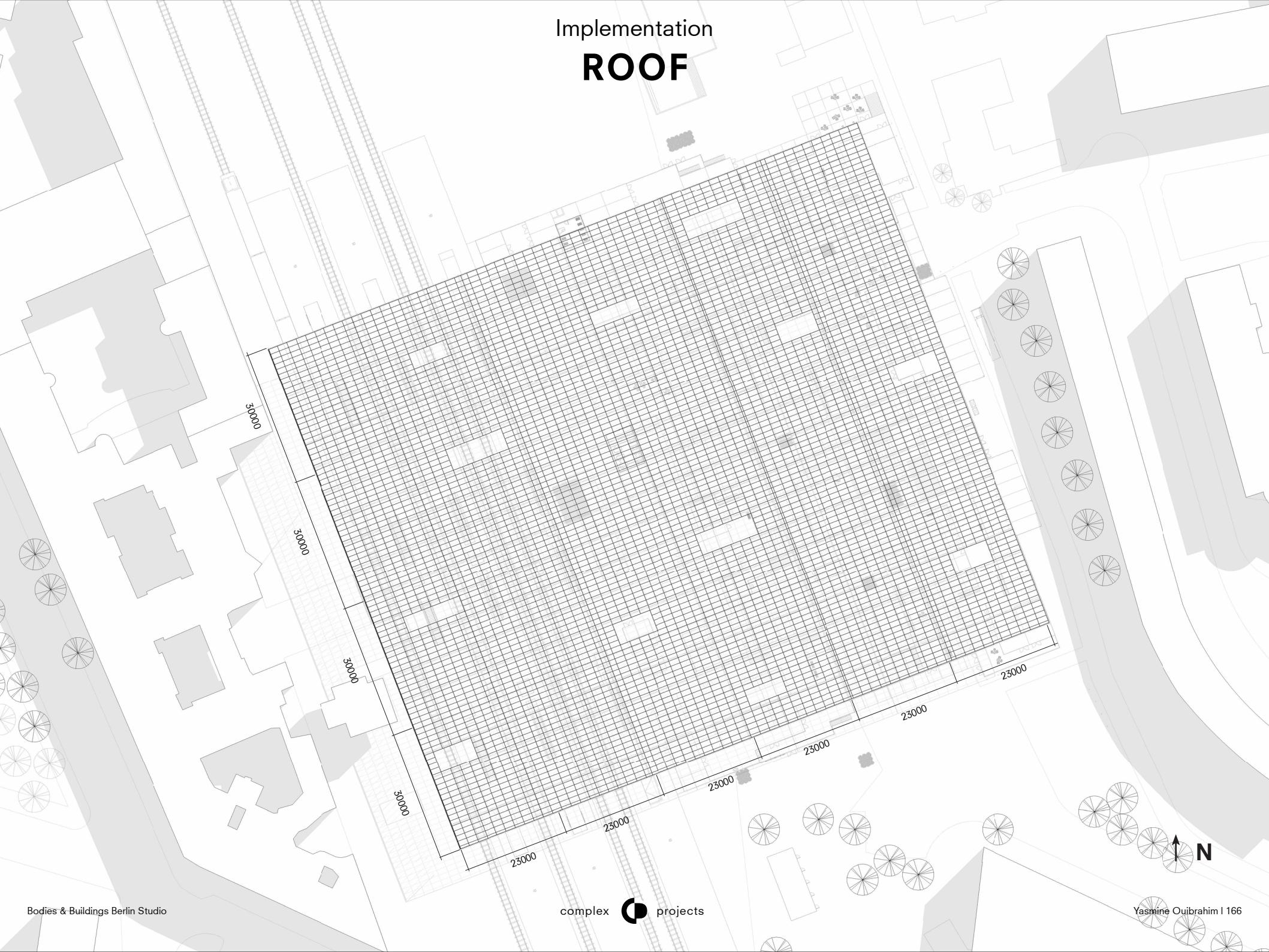


LEA AND FELIX ON THE GO



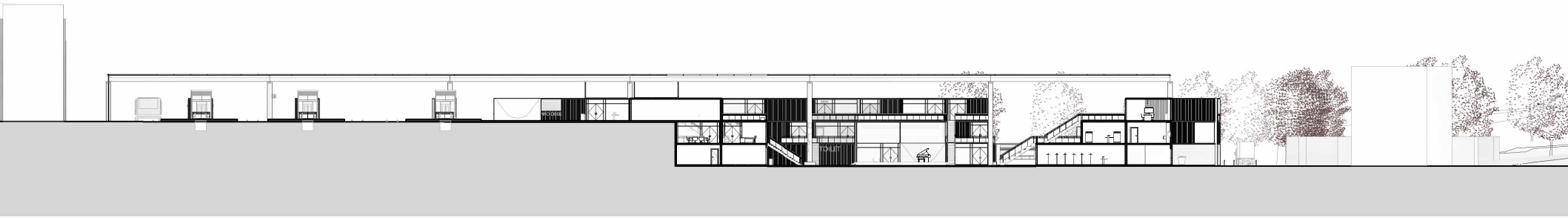
Implementation

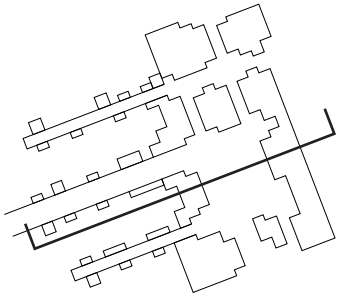
ROOF



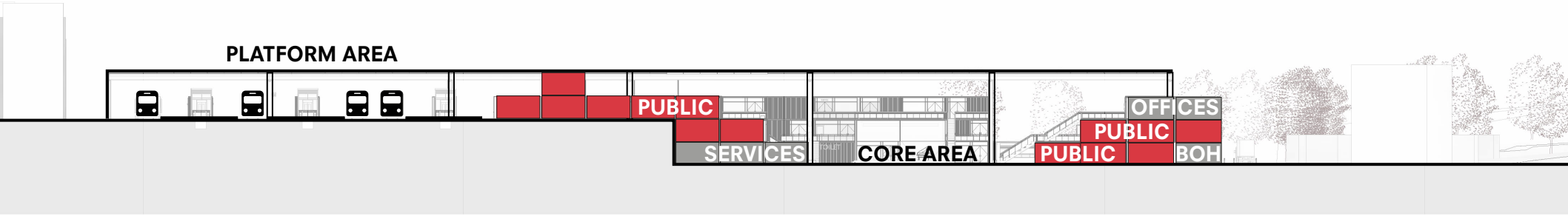
Implementation

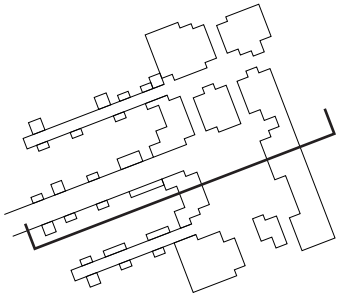
SECTION AA





SECTION AA


PLATFORM AREA
PUBLIC
SERVICES
CORE AREA
OFFICES
PUBLIC
PUBLIC
BOH



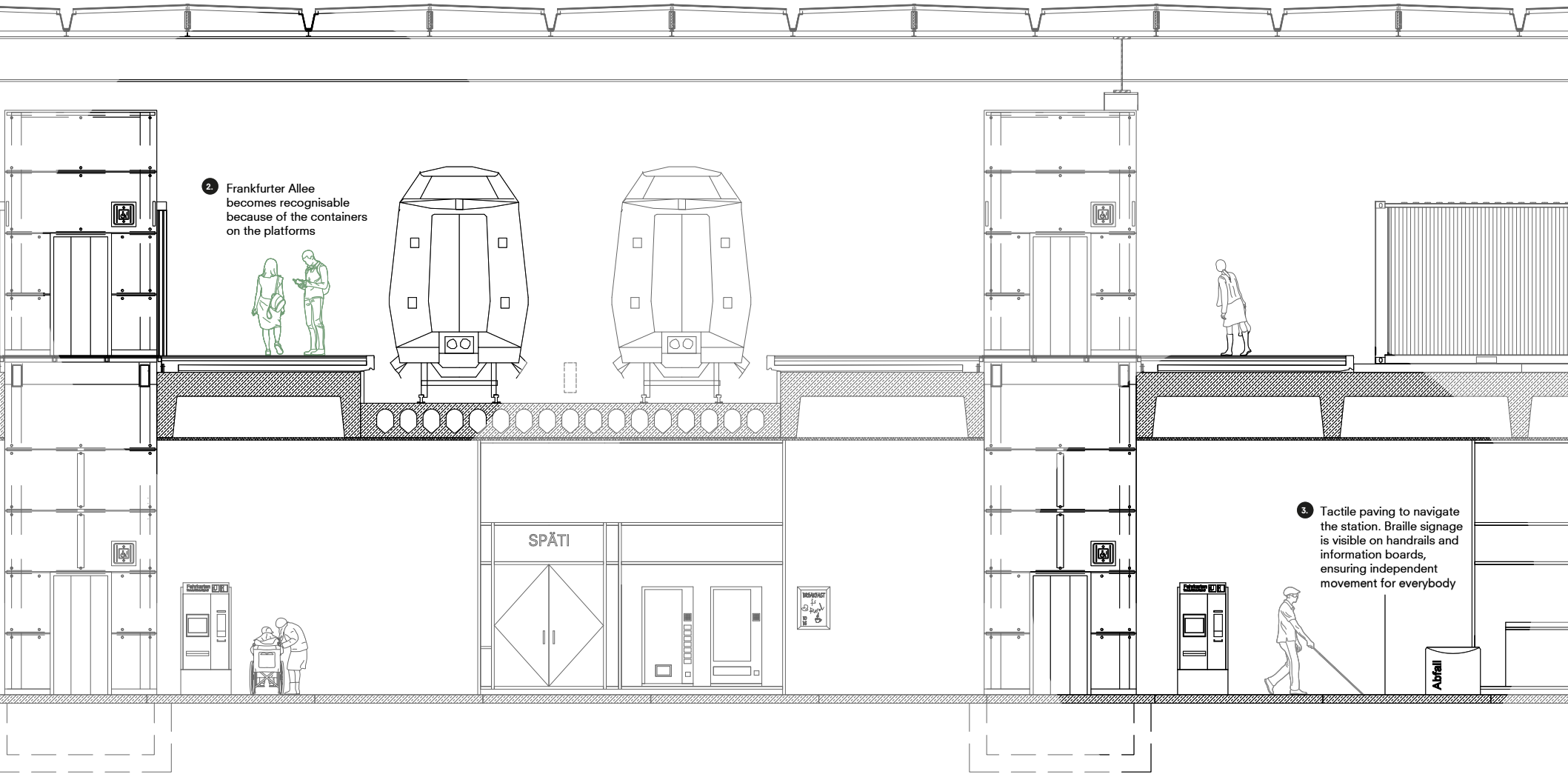
Implementation

SECTION AA

2% slope
2% slope
Gutter
HEB800
HEB1000
1. Acoustic facade reduces noise to the neighbourhood
2
Hollow-core slabs
Concrete double T floor
< N5
< Schleidenplatz
INFORMATION
Abfall
Foundation
Stelcon slabs

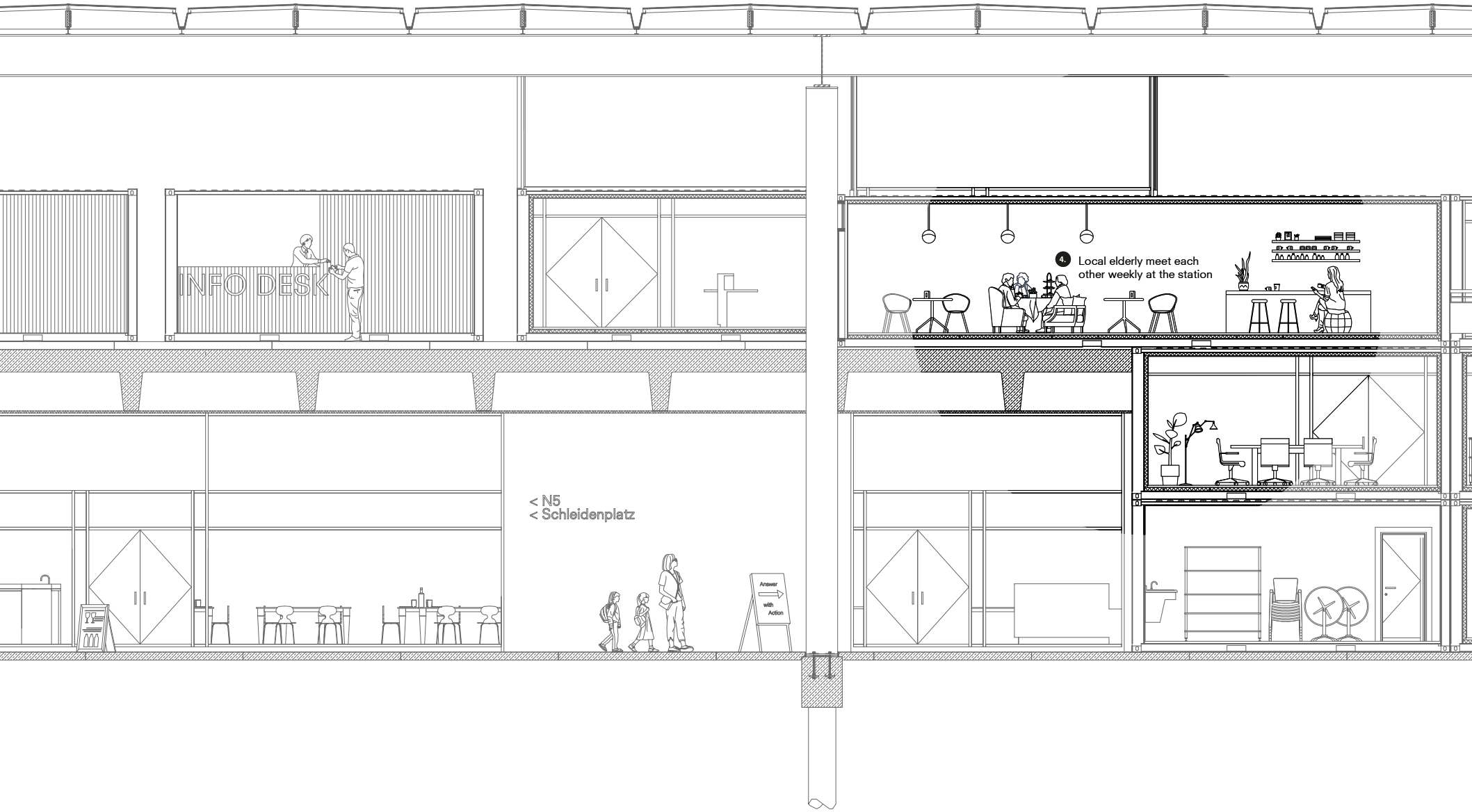
Implementation

SECTION AA

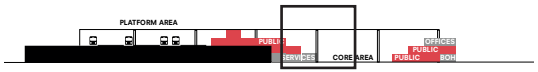


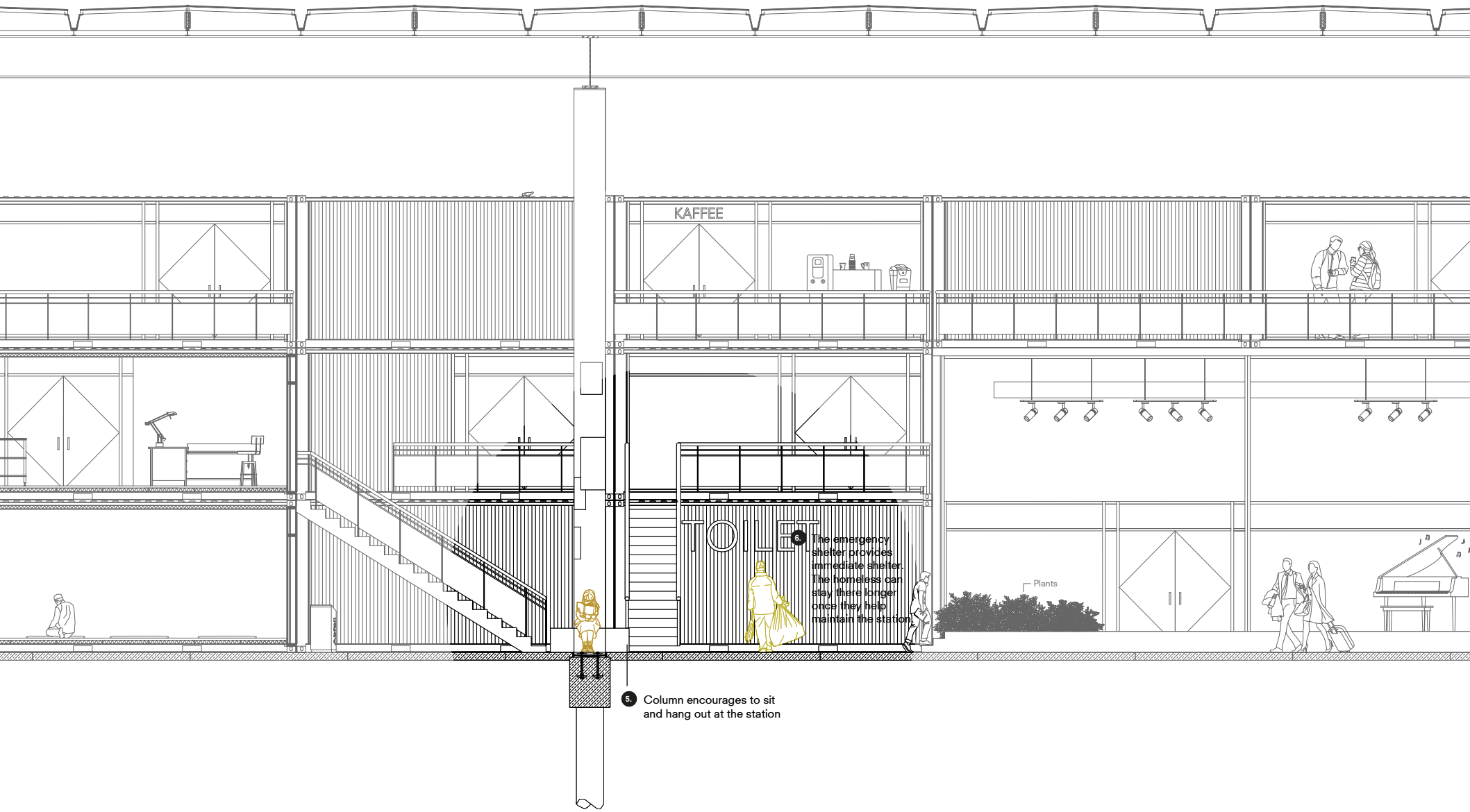
SECTION AA

PLATFORM AREA
PUBLIC
CORE AREA
OFFICES
PUBLIC
PUBLIC
BOH


INFO DESK
4. Local elderly meet each other weekly at the station
< N5
< Schleidenplatz
Answer
with
Action

SECTION AA



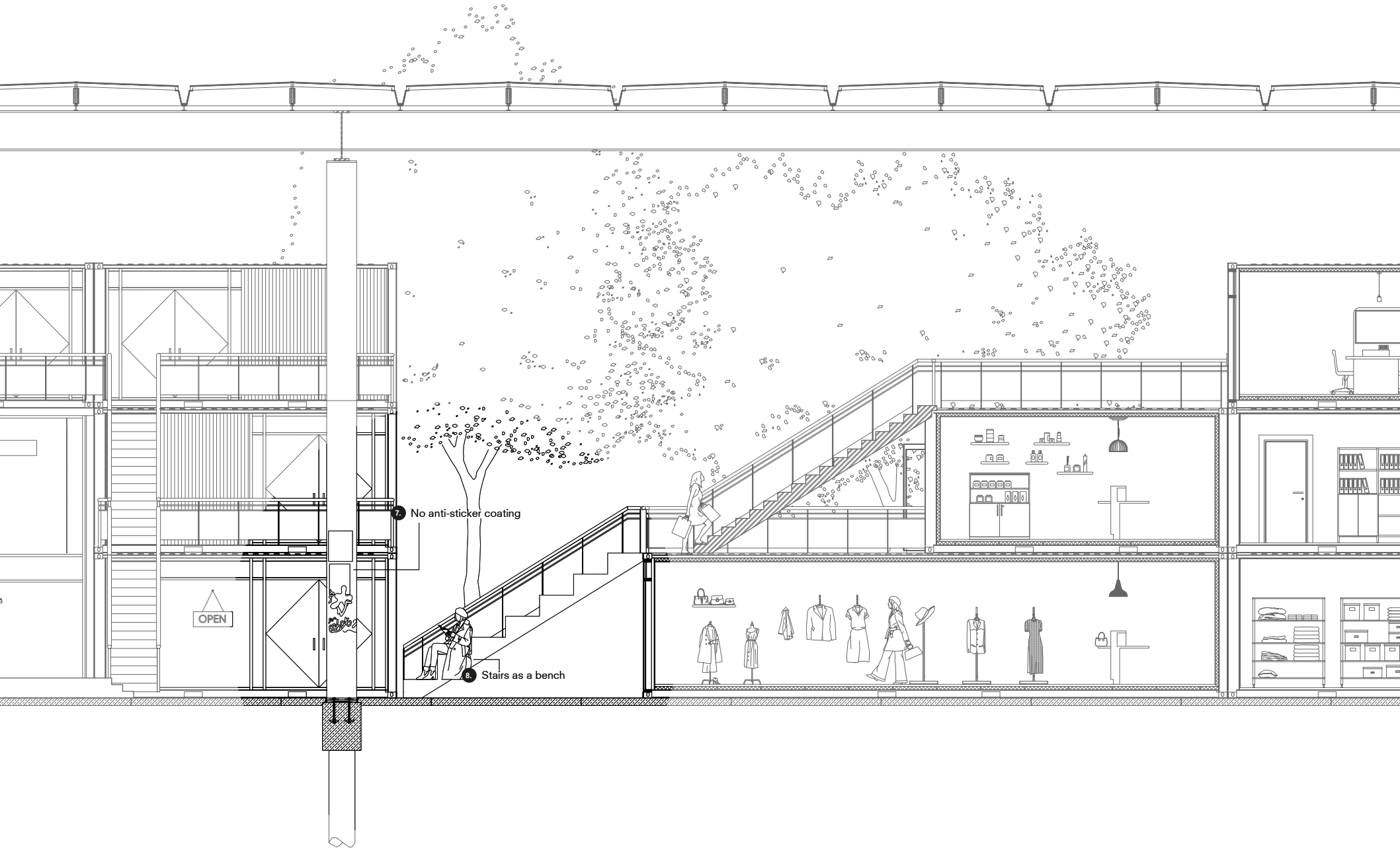


6. The emergency shelter provides immediate shelter. The homeless can stay there longer once they help maintain the station.

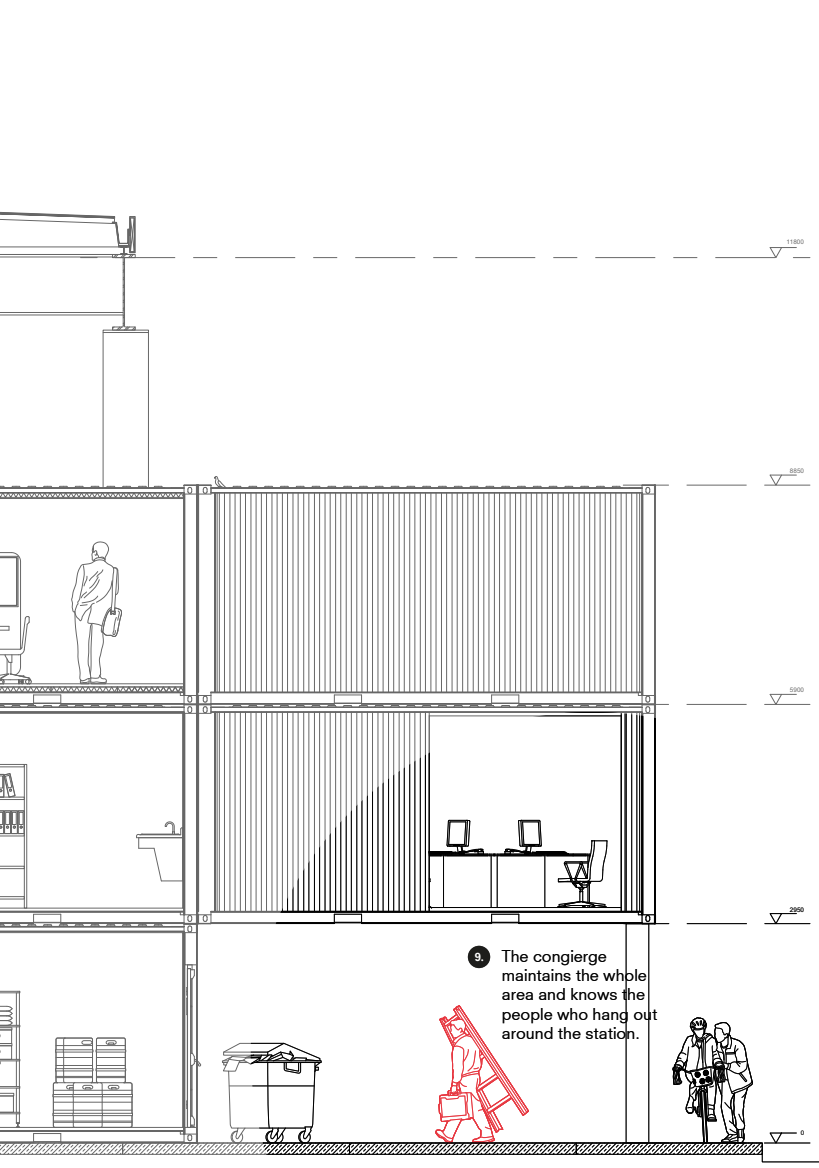
5. Column encourages to sit and hang out at the station

SECTION AA

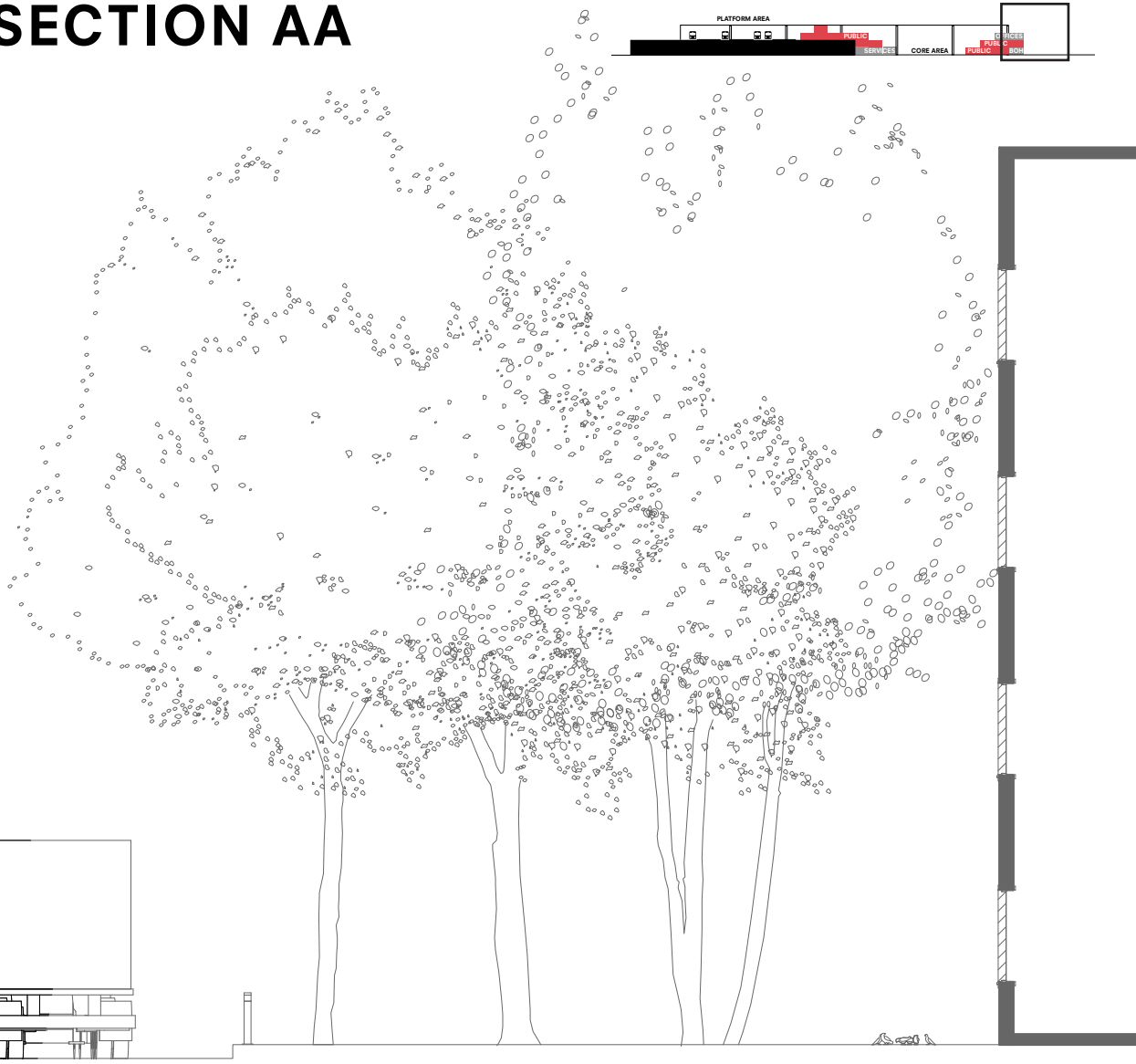
PLATFORM AREA
PUBLIC
SERVICES
CORE AREA
PUBLIC
PUBLIC
BOH


OPEN
7. No anti-sticker coating
8. Stairs as a bench

SECTION AA

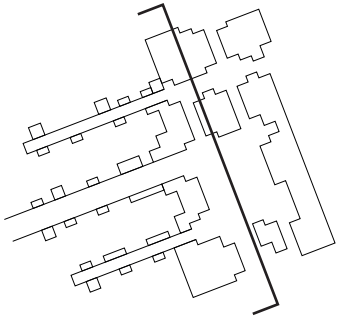


9. The congierge maintains the whole area and knows the people who hang out around the station.



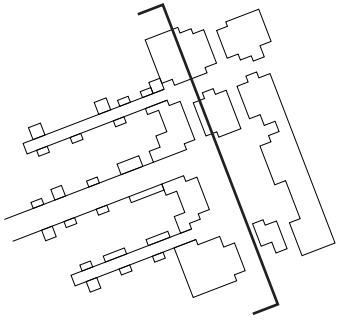
Implementation

SECTION BB



Implementation

SECTION BB



Implementation

ELEVATIONS

West

East

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

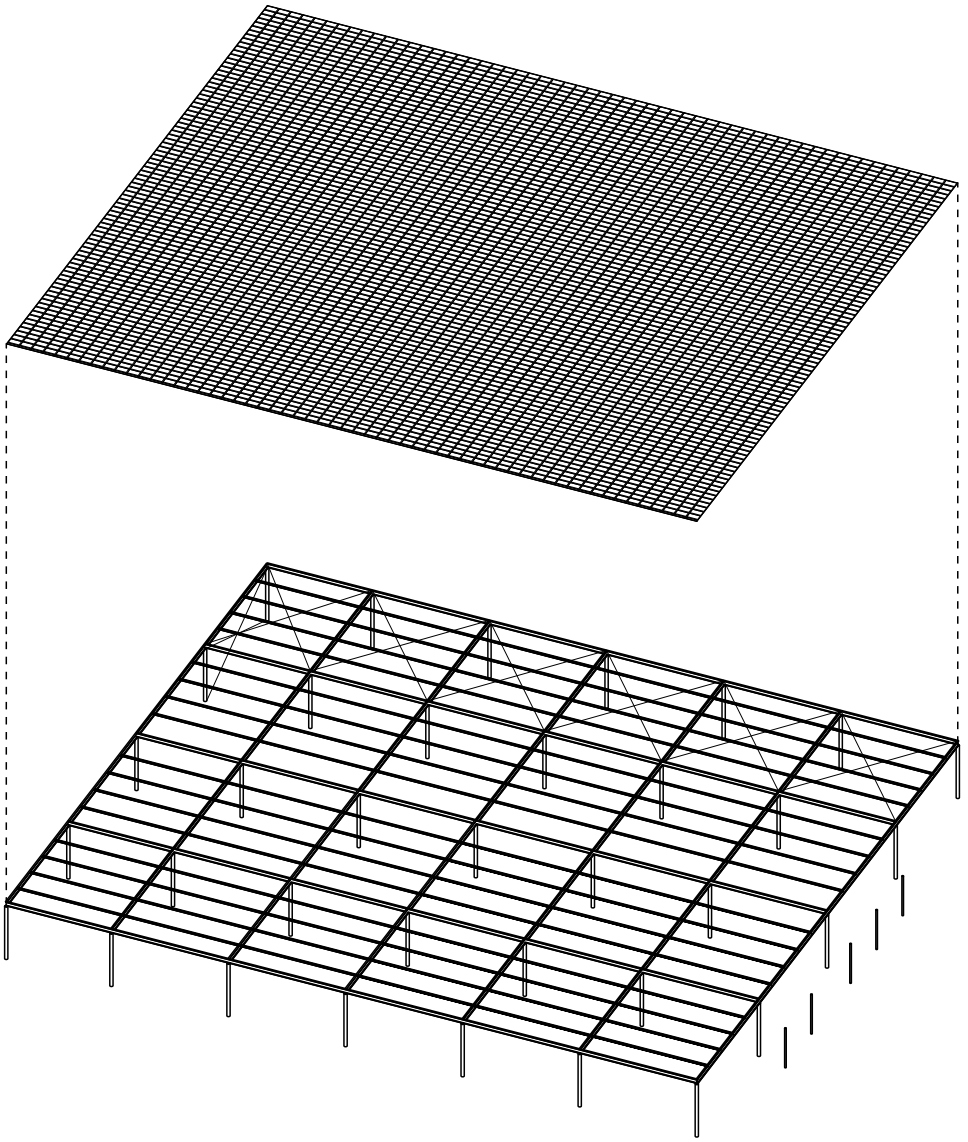
IMPLEMENTATION

DEVELOPMENT

CONCLUSION

Development

LOAD-BEARING STRUCTURE

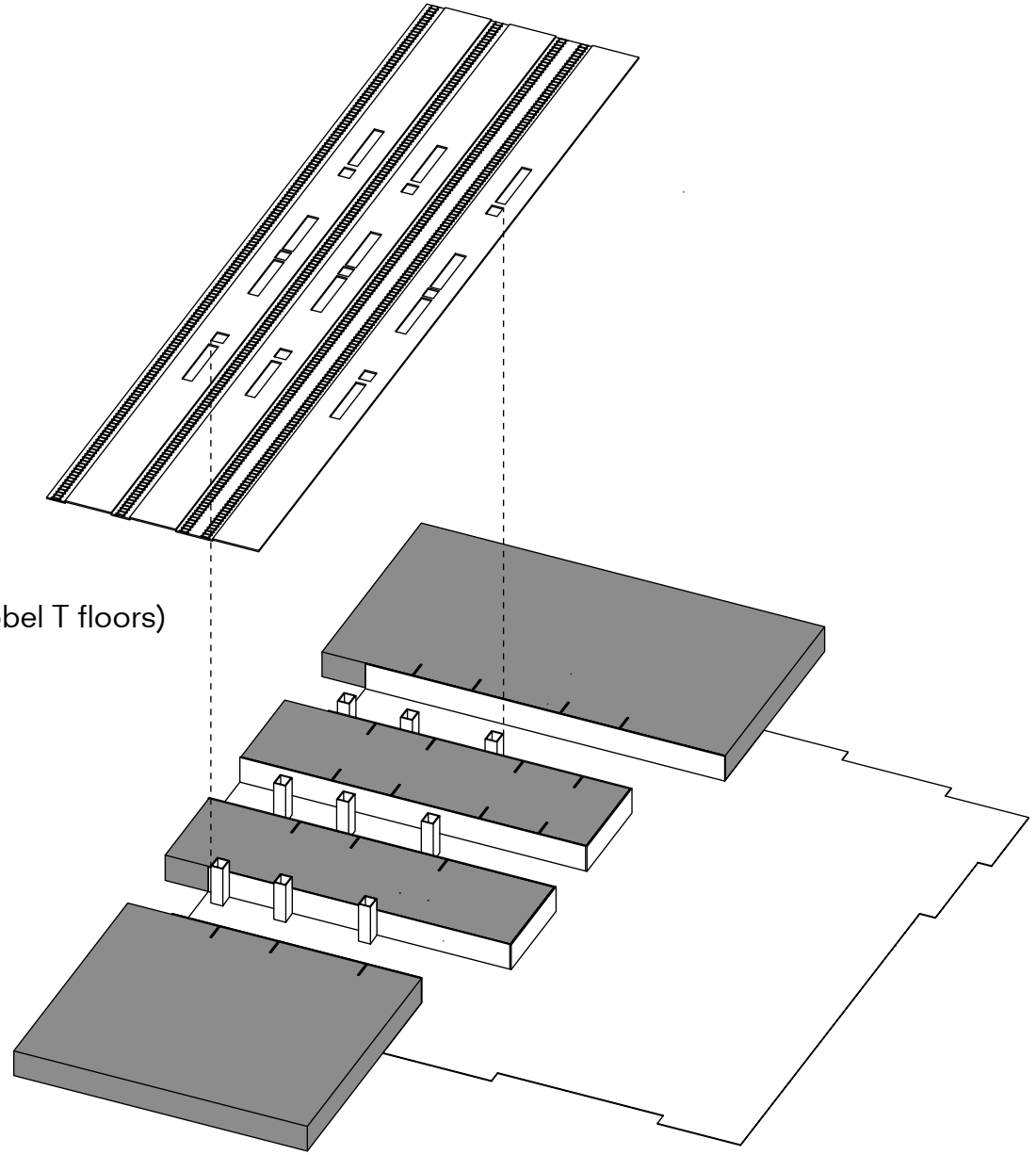


Aluminium framed roof

Steel columns and steel beams

Development

LOAD-BEARING STRUCTURE

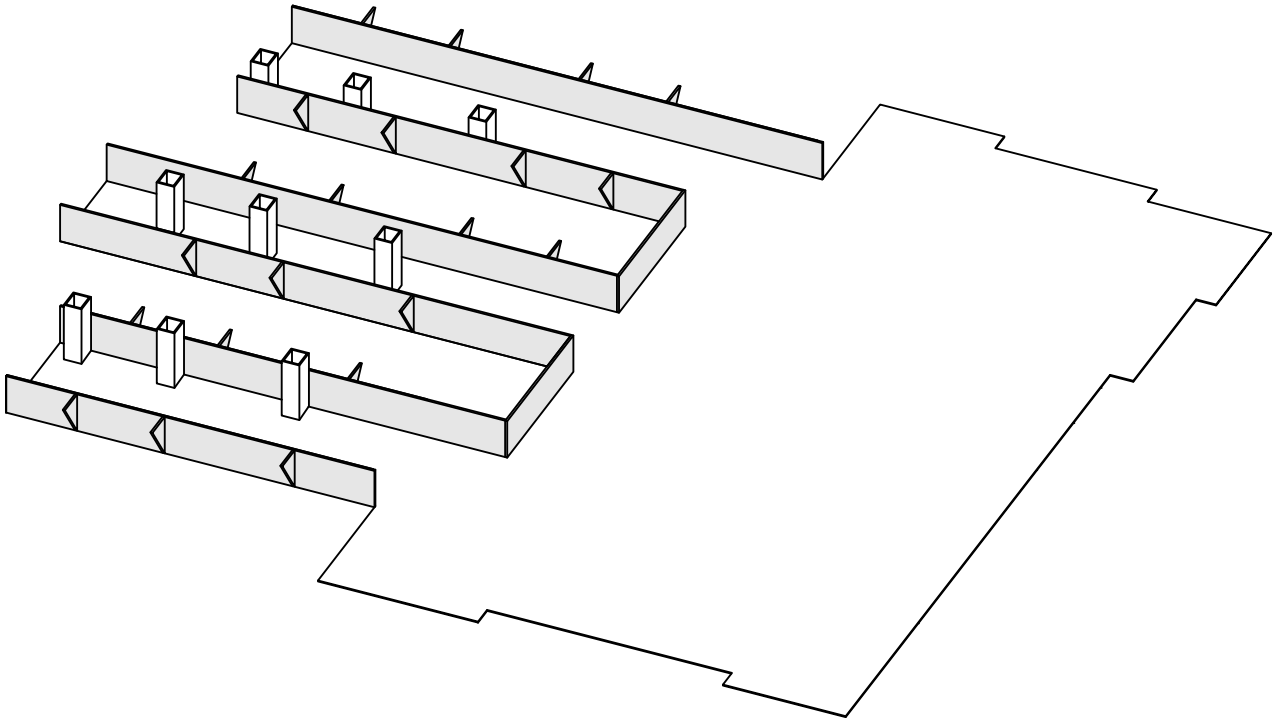


Platforms and tracks
Concrete structure (Dubbel T floors)

Retaining walls
Trainstation floor

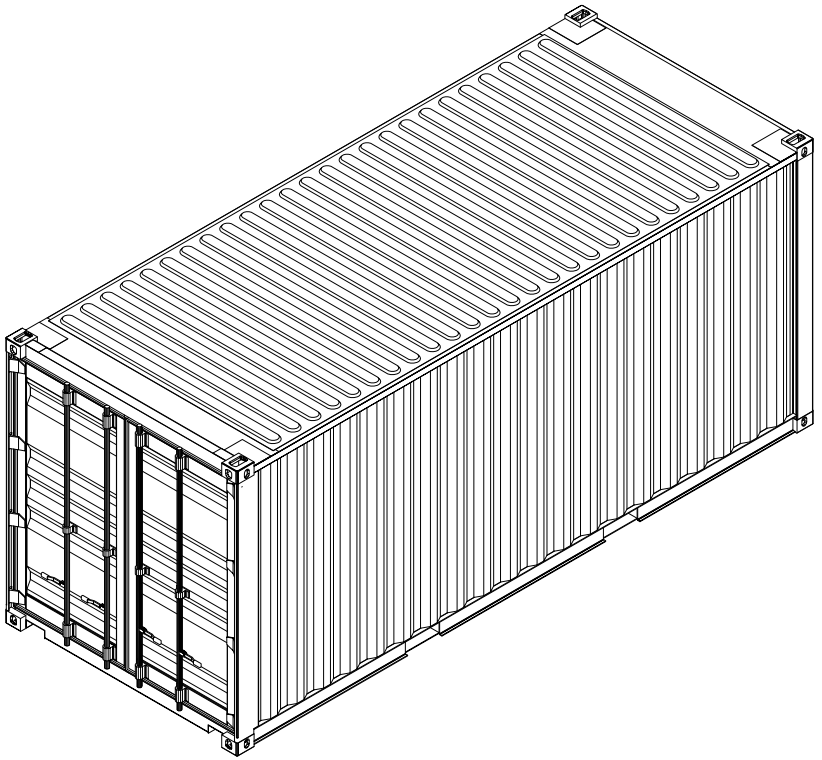
Development

RETAINING WALLS



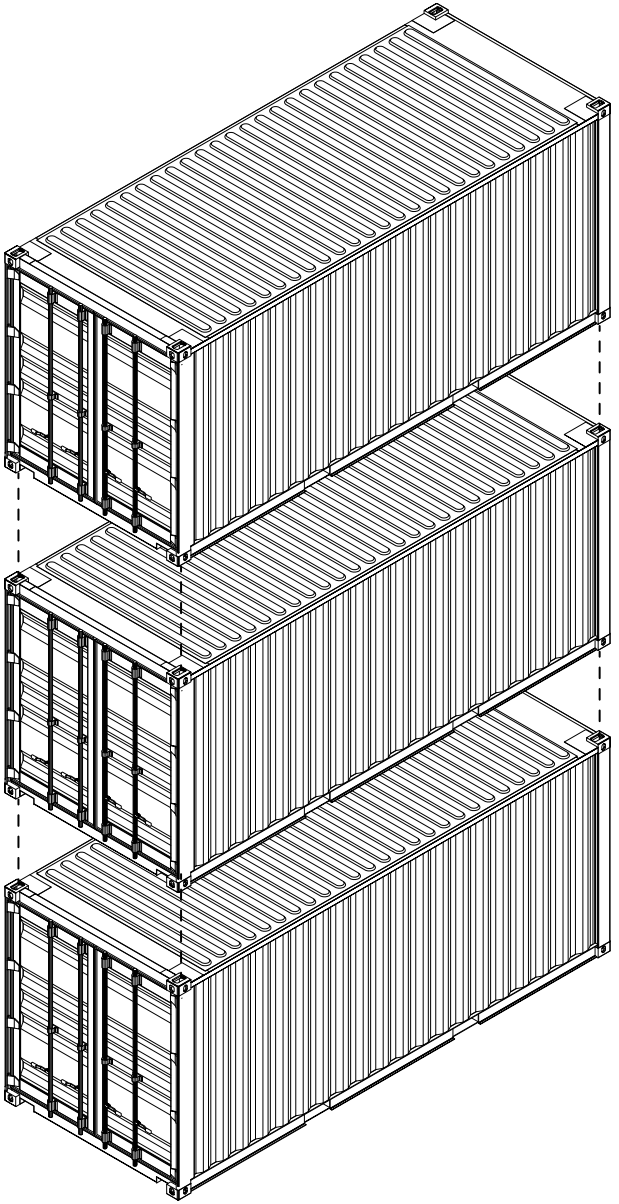
Development

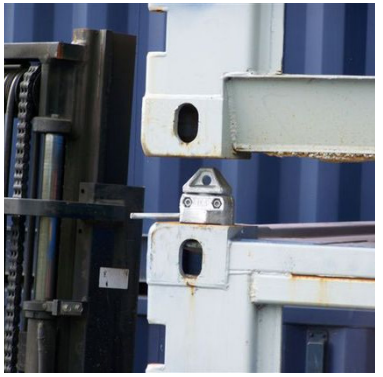
CONTAINER CONSTRUCTION



Development

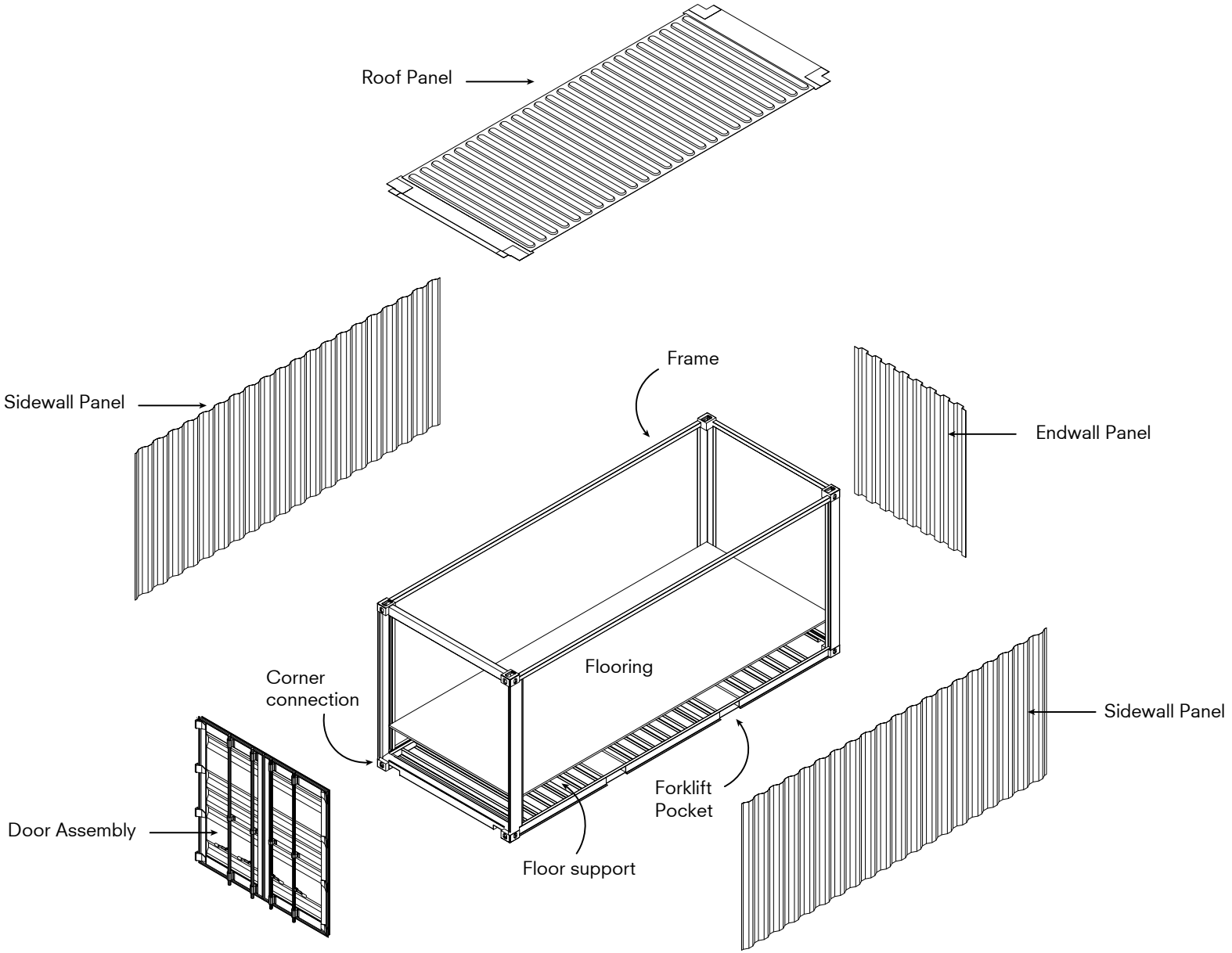
CONTAINER CONSTRUCTION





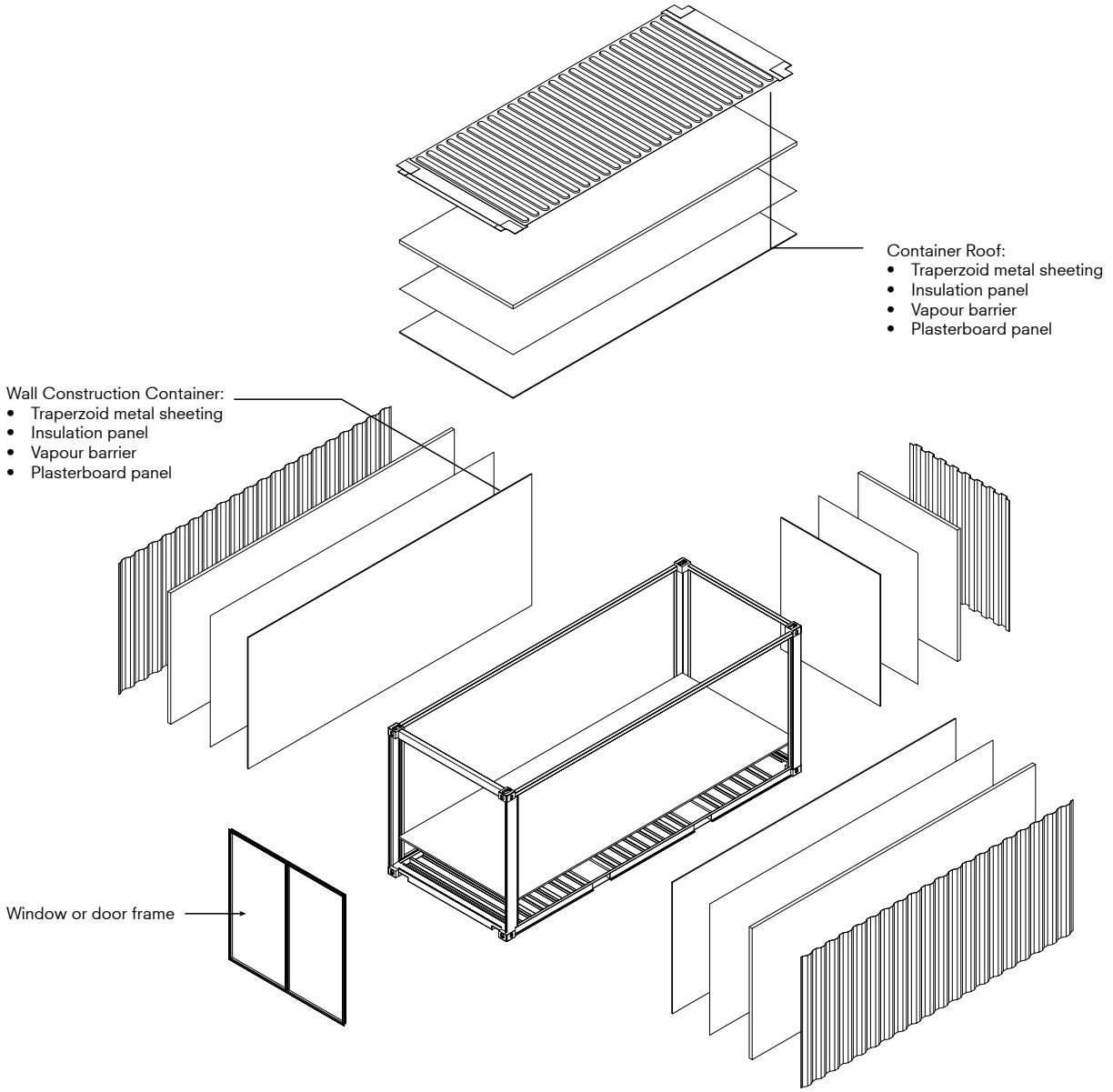
Steel corner connection with pins to transfer loads

CONTAINER COMPONENTS



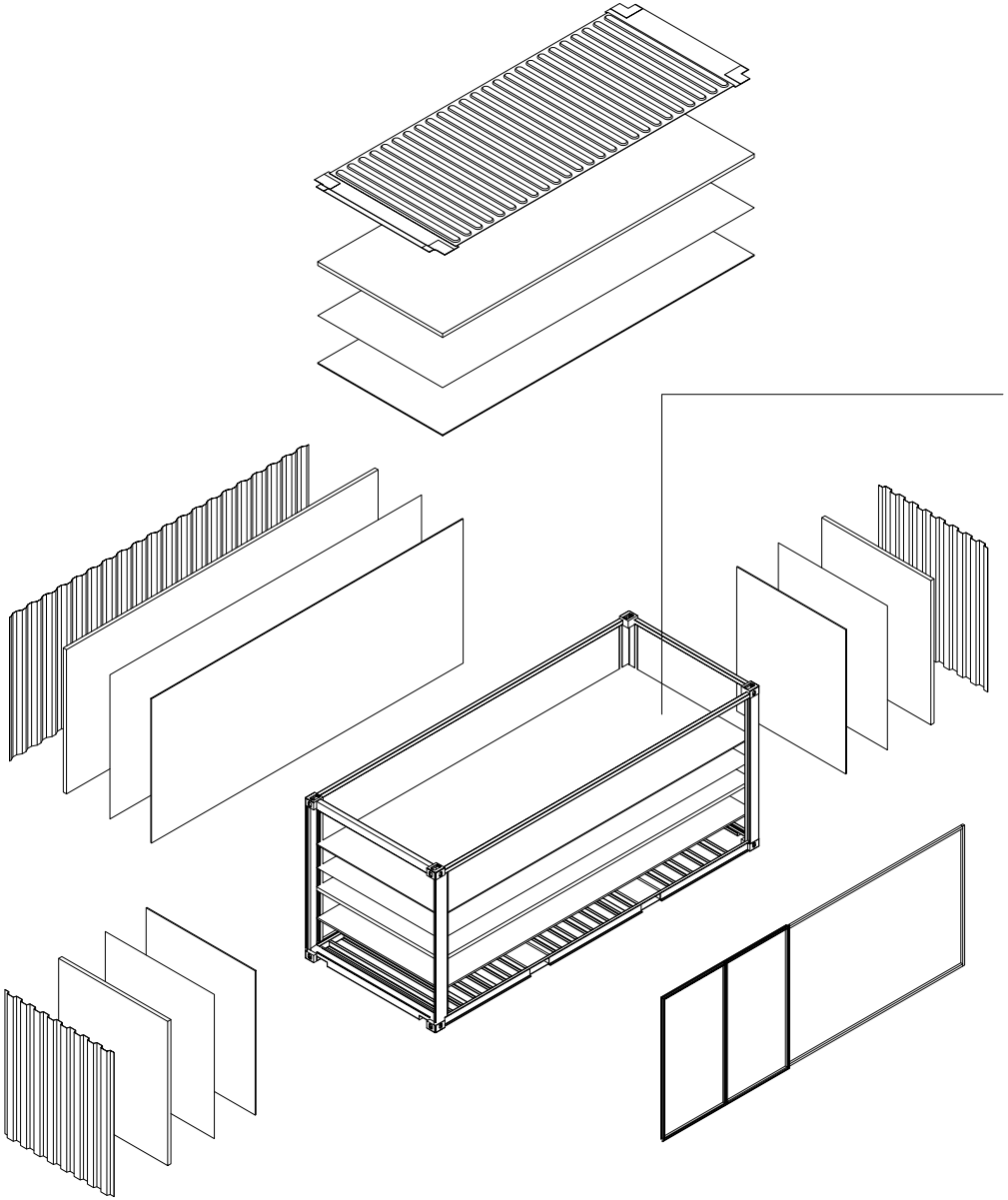
Development

CONTAINER COMPONENTS



Development

CONTAINER COMPONENTS



Floor Construction Container:
- Screed
- Separating layer heat resistent
- Sound insulation panel
- Flooring
- Floor support

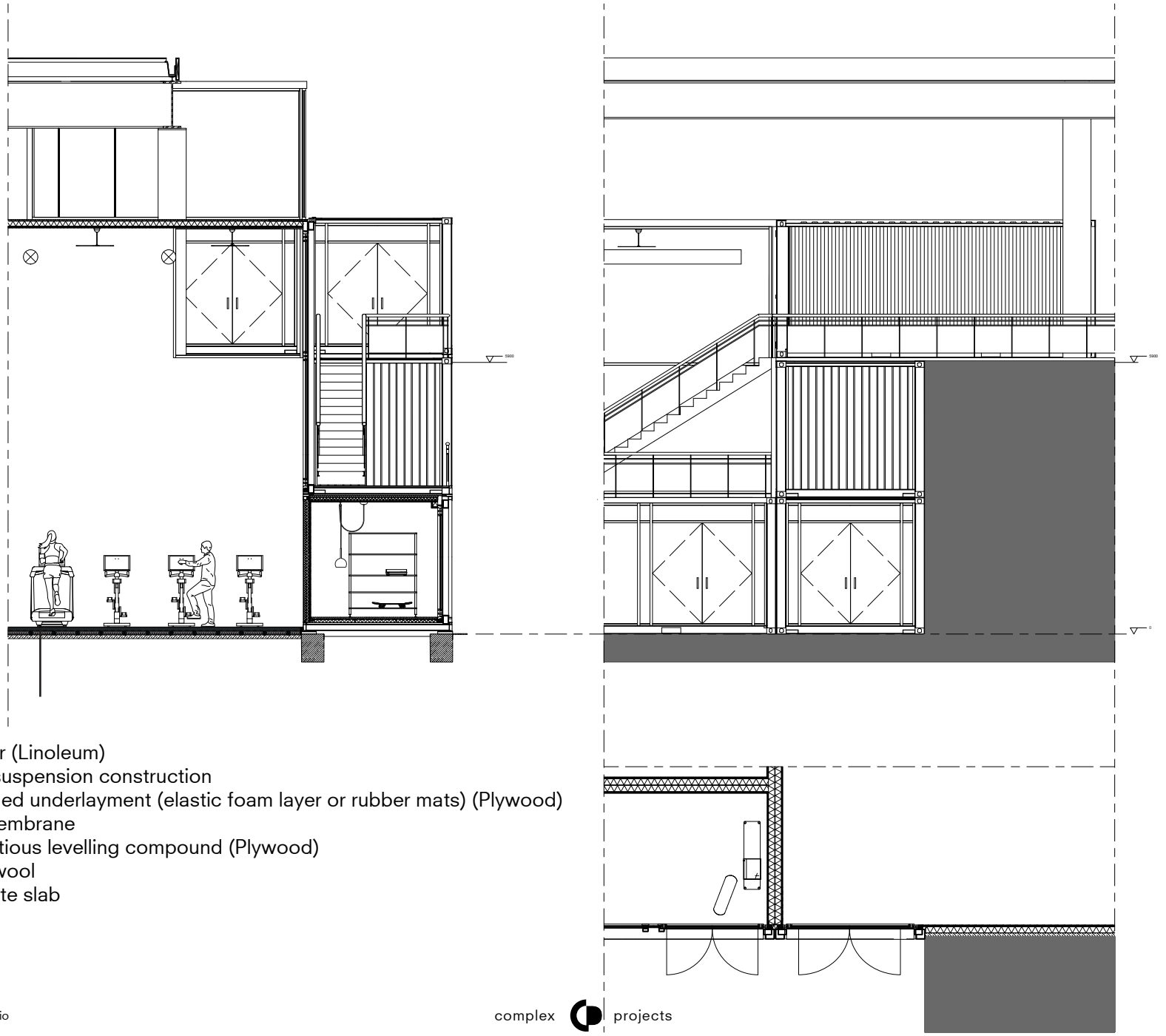
Development

MATERIAL

Containers + color for wayfinging

Glass spaces as the exception

FRAGMENT

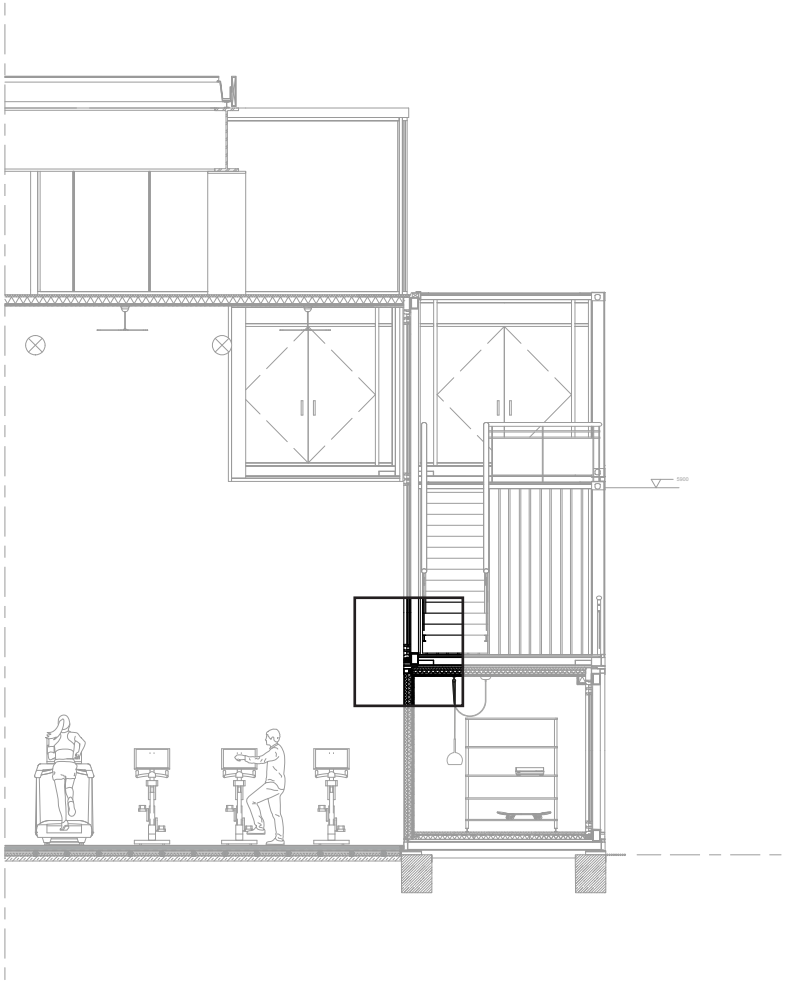


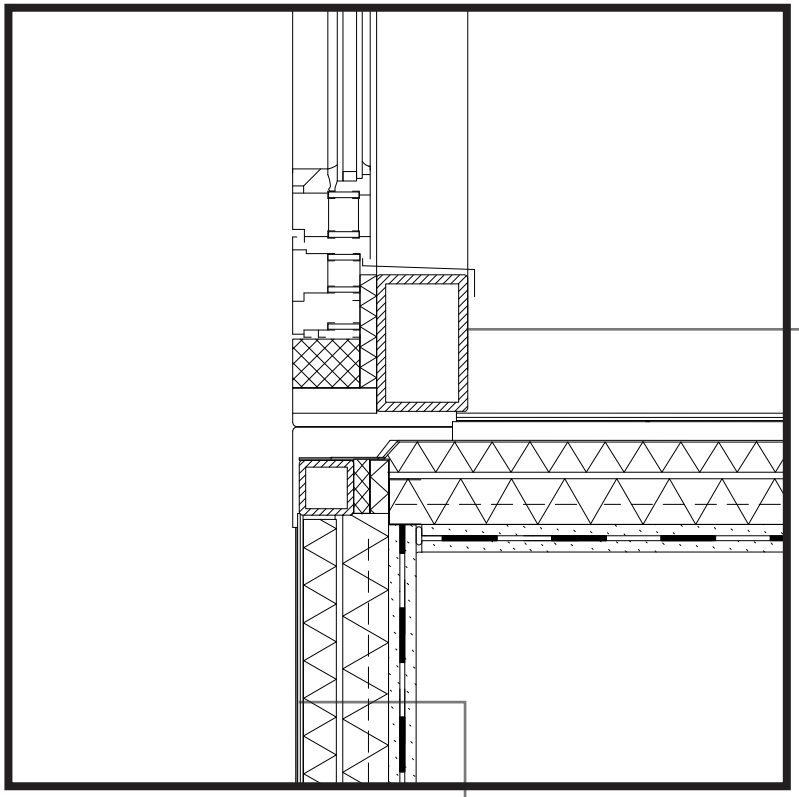
Sports floor:

9.5 mm top layer (Linoleum)
21 mm Carrier/suspension construction
19 mm Suspended underlayment (elastic foam layer or rubber mats) (Plywood)
Vapour-proof membrane
19 mm Cementitious levelling compound (Plywood)
16 mm mineral wool
200 mm Concrete slab

Development

DETAIL



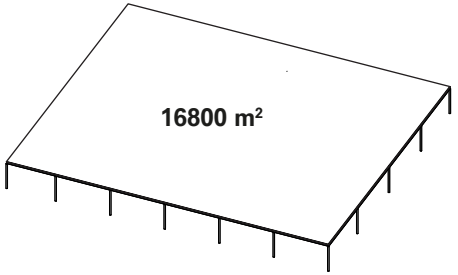


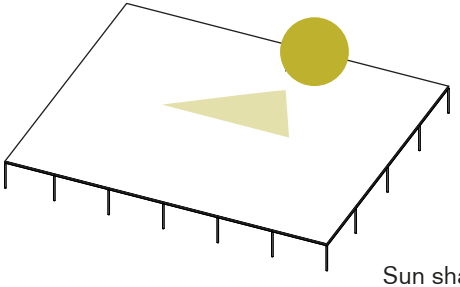
150/100/10 mm RHS steel tube as frame

Wall Construction Container:
Traperzoid metal sheeting
Insulation panel
Vapour barrier
Plasterboard panel

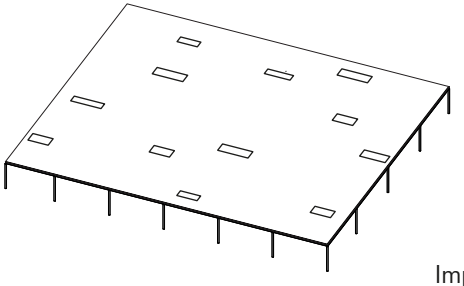
Development

ROOF

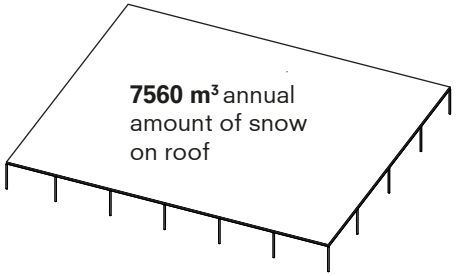


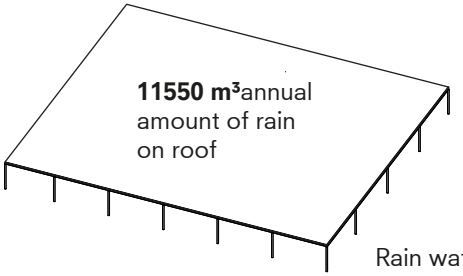


Sun shading

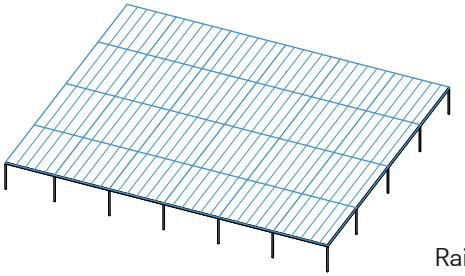


Impluvia

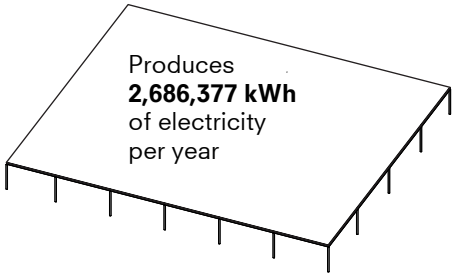


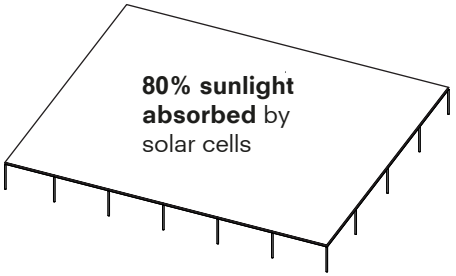


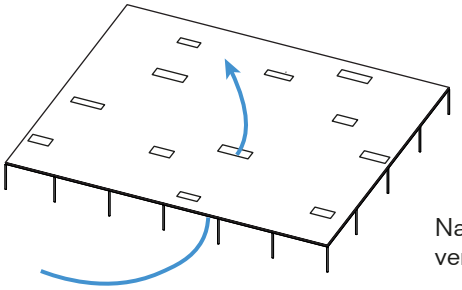
Rain water
harvesting



Rain water
harvesting



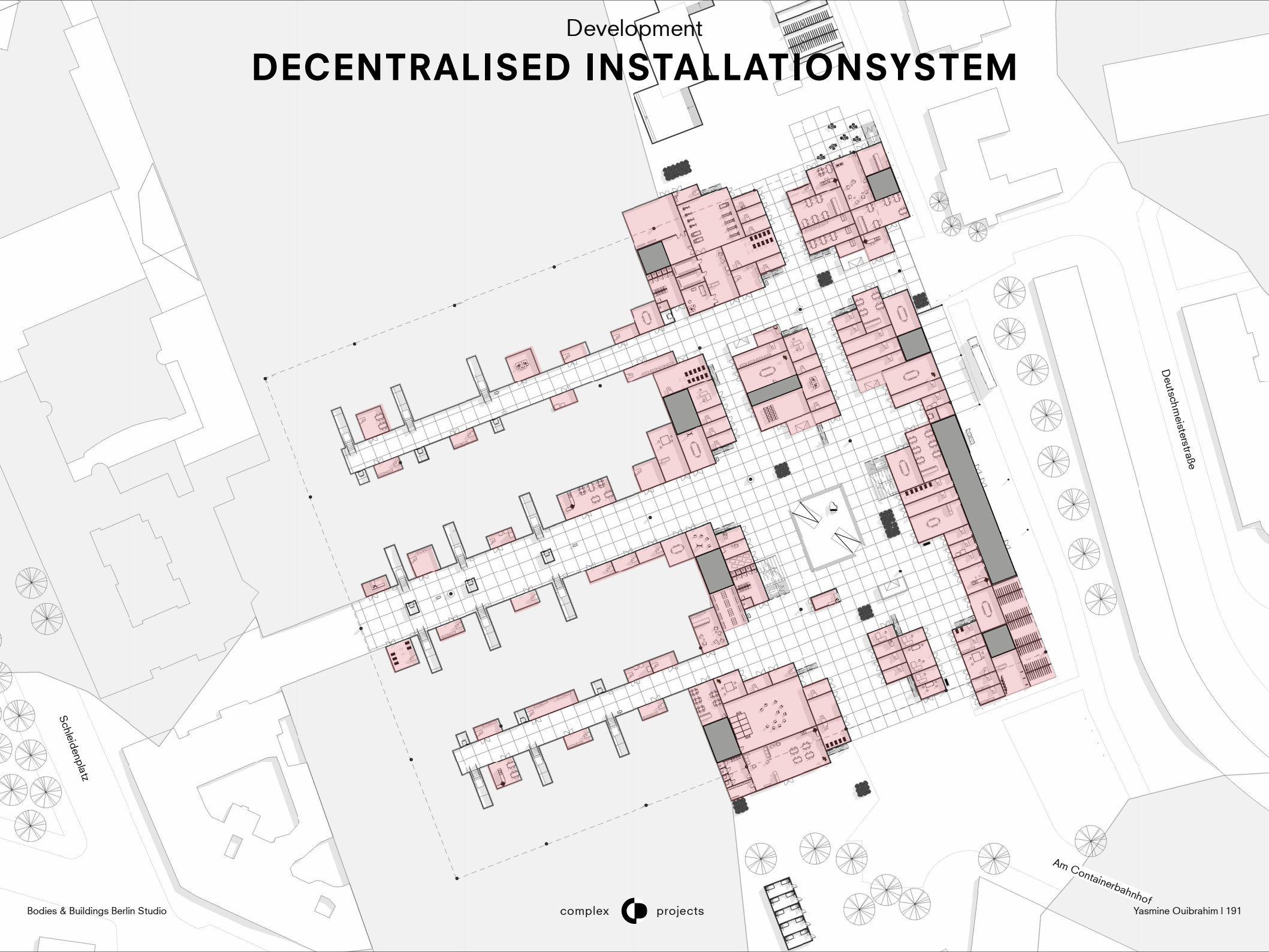




Natural
ventlation

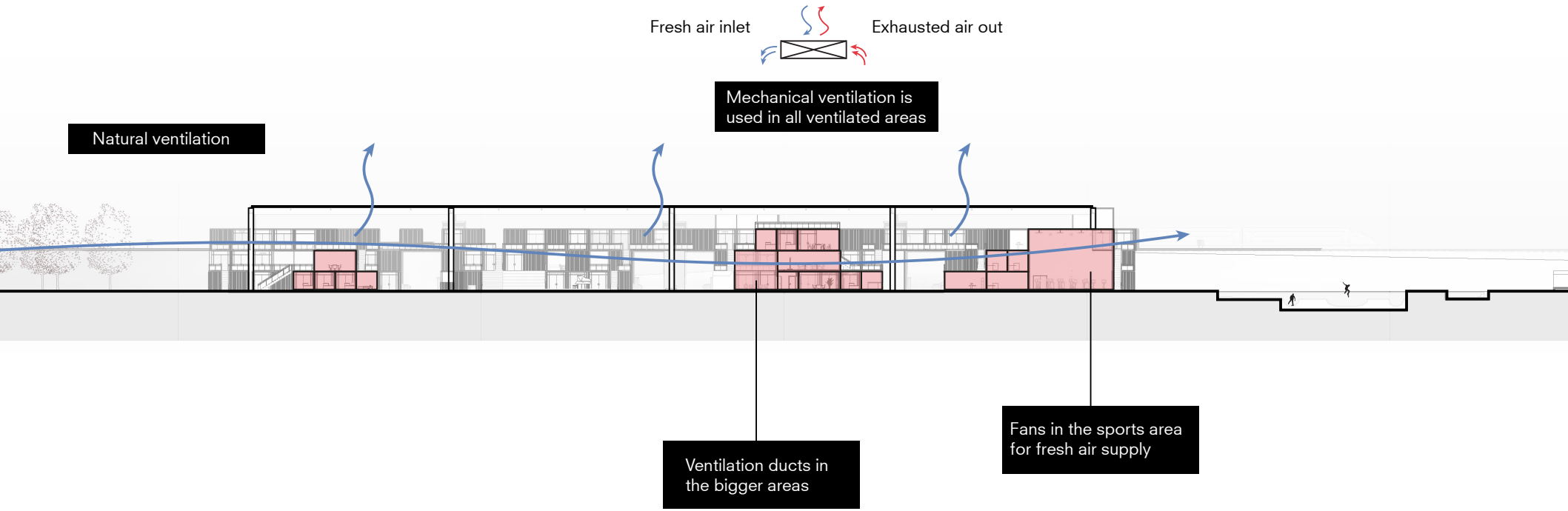
Development

DECENTRALISED INSTALLATIONSYSTEM



Development

VENTILATION

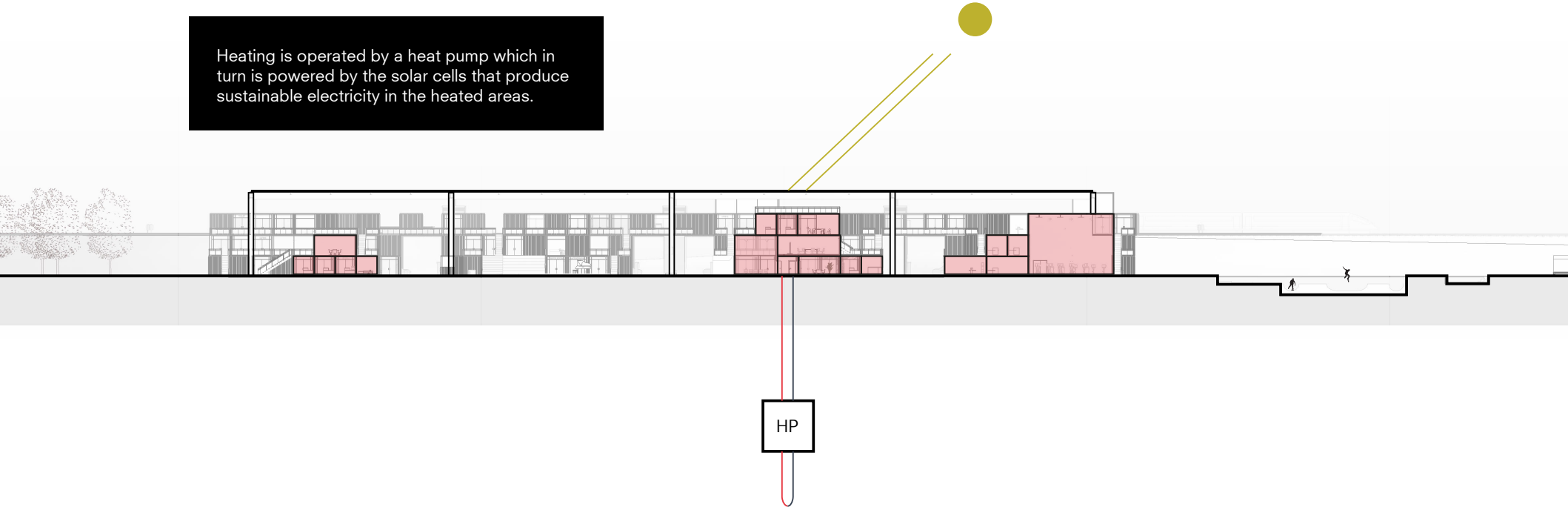


Development

SECTION

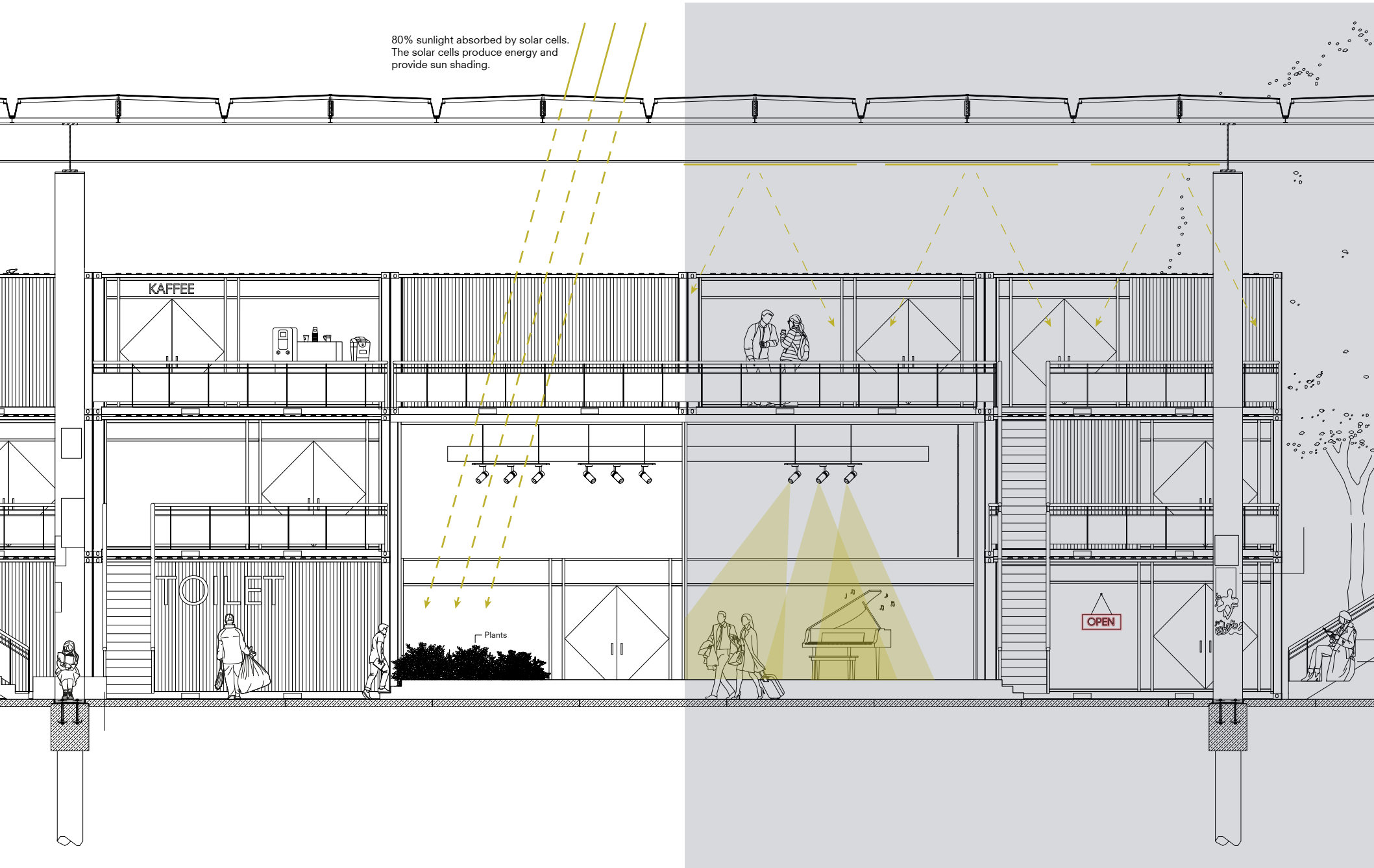
The collectors absorb 80% of light and let 20% of sunlight through. There are PVC cells in all glass roof panels.

Heating is operated by a heat pump which in turn is powered by the solar cells that produce sustainable electricity in the heated areas.



Development

DAY VS. NIGHT



Development

PV CELLS

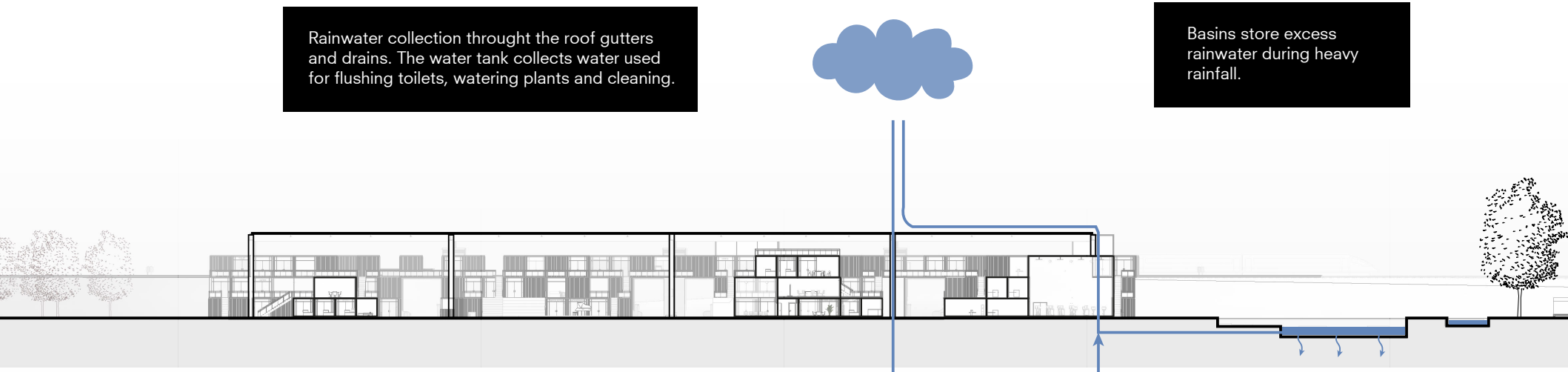
Pattern ensures that some parts get more shade than others

Development

WATER MANAGEMENT

Rainwater collection throught the roof gutters and drains. The water tank collects water used for flushing toilets, watering plants and cleaning.

Basins store excess rainwater during heavy rainfall.



Toilet
Cleaning
Plants

Potable water

Treatement
= filter

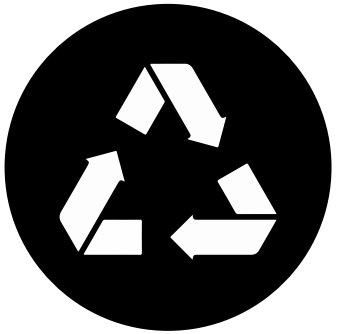
Water tank

Overflow
mechanism

Infiltration zones that allow water to percolate into the ground, replenishing groundwater supplies.

Development

SUSTAINABILITY



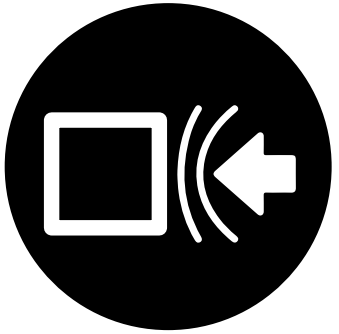
Reuse of Materials

Reduction of Waste

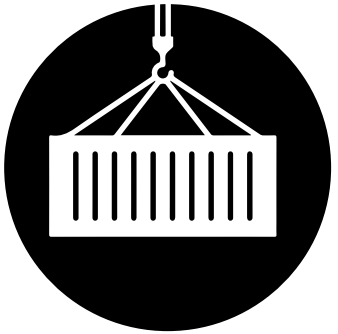
Energy Savings

Cost-Effective

Flexibility and Adaptability



Resiliency and Durability



Easily Transported and Assembled

Reduced Construction Time

INTRODUCTION

RESEARCH

DESIGN BRIEF

CONCEPT

IMPLEMENTATION

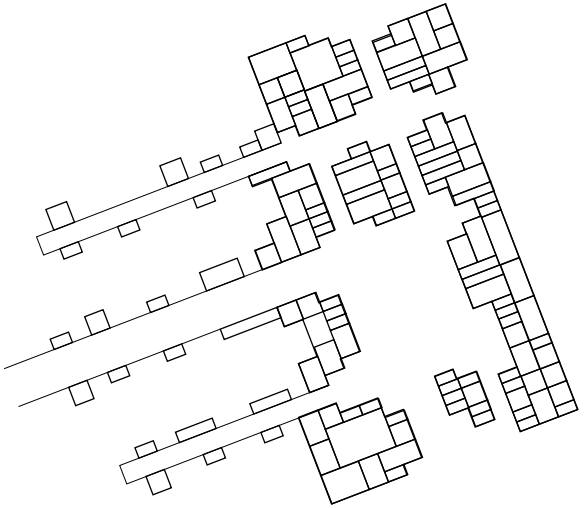
DEVELOPMENT

CONCLUSION

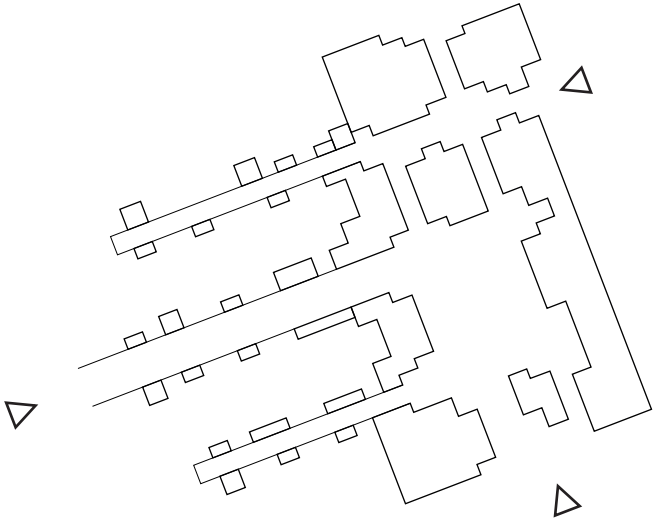
How to design a **prototype station** for the S-Bahn ring in Berlin combining **all flows** with **local identities?**

Conclusion

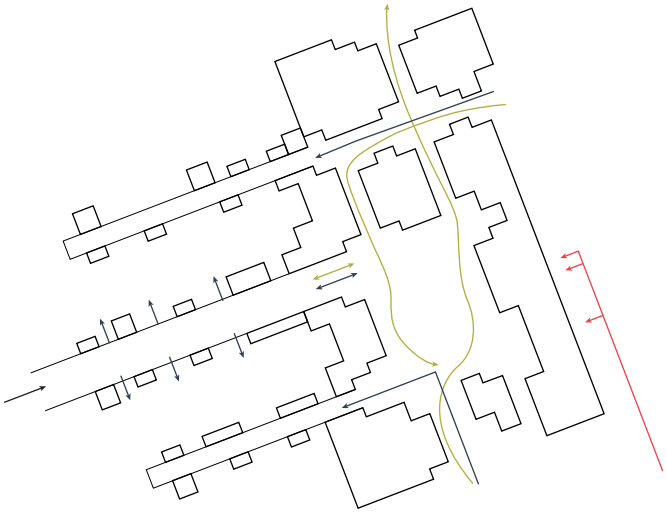
RESEARCH THROUGH DESIGN



Local identity



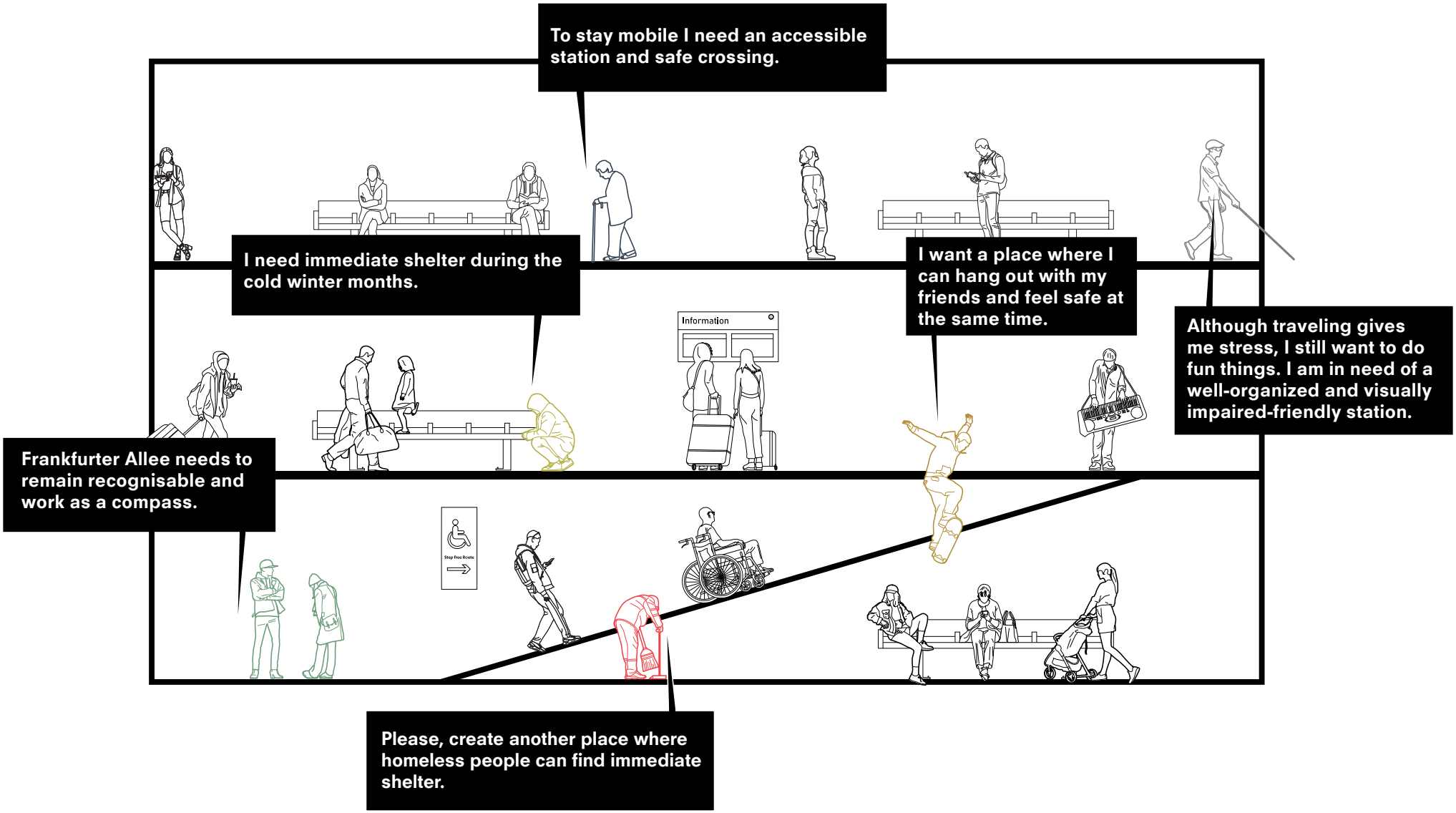
Ground the building



Design for all flows

Conclusion

REFLECTION



REFLECTION

Trains are likely to become the primary mode of travel

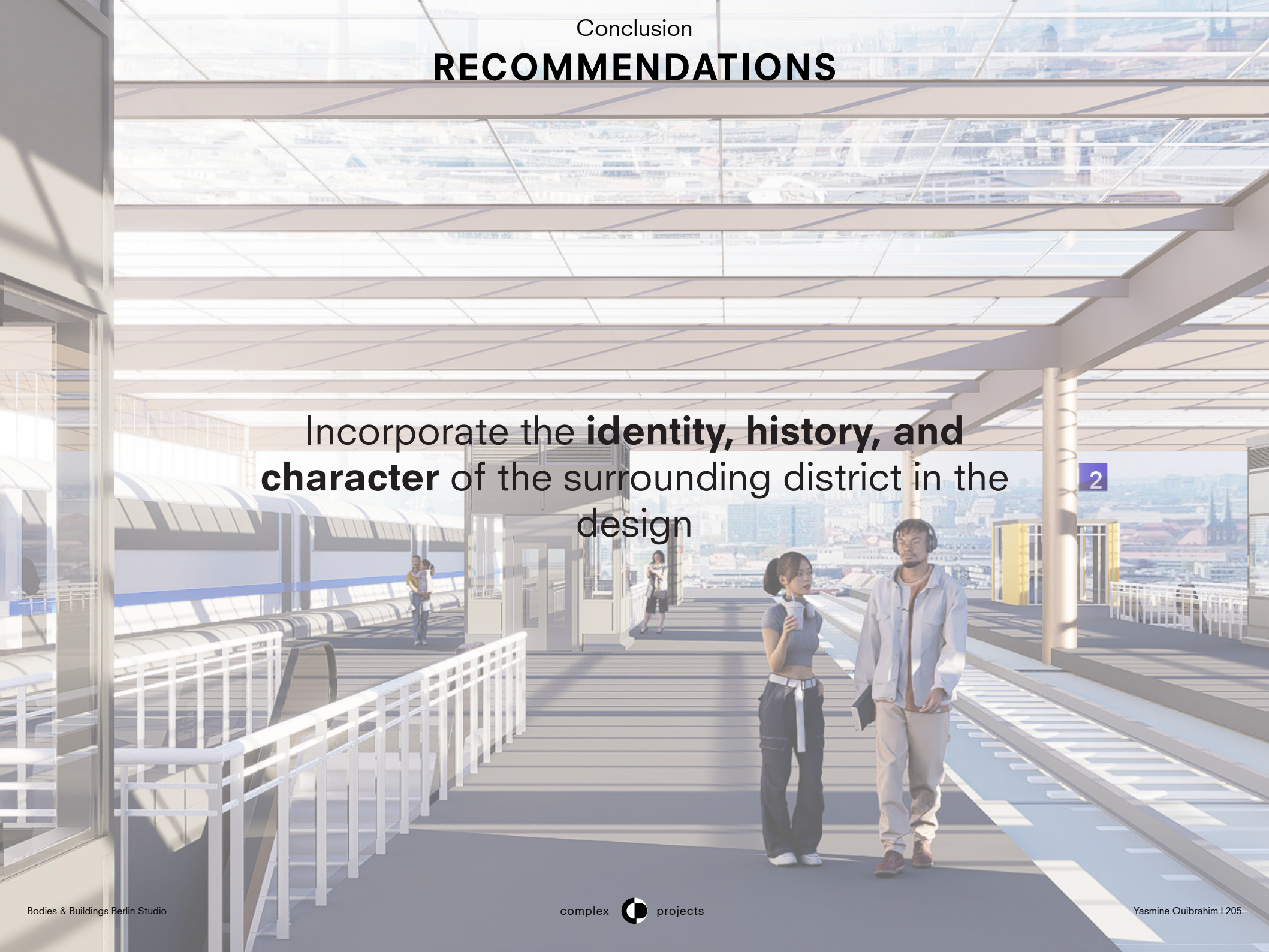
RECOMMENDATIONS

Integrate a **small-scale system**

RECOMMENDATIONS

Prioritize **user-centric design** and promote community involvement

RECOMMENDATIONS



Incorporate the **identity, history, and character** of the surrounding district in the design

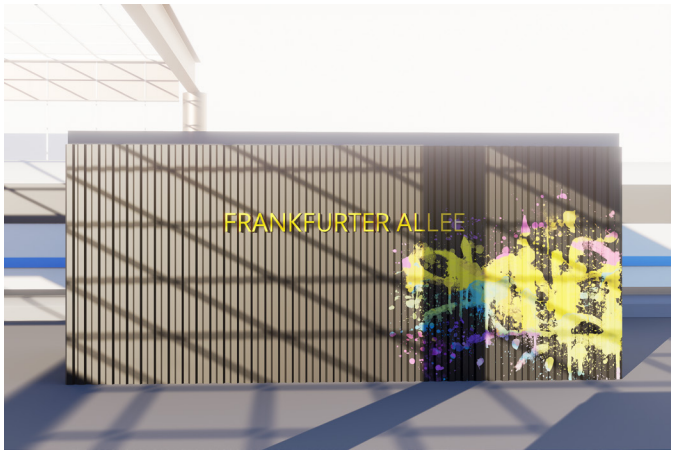
Its former identity as **containerbahnhof** has been repurposed for this particular station

Konstanzer Strasse
3

FEHRBELLINER PLATZ
6

Fehrbelliner
Platz
6

DEUTSCHE OPER


FRANKFURTER ALLEE

BREITENBACHPLATZ

Jungfernheide

TIERPARK

BAYERISCHER PLATZ

THANK YOU!