ON TRACK
TRAIN STATION FOR EVERY**BODY**

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30-01-2024

TU Delft

2024

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Bodies & Building Berlin Studio

Train station
Group 7 - Health
Flow

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INTRODUCTION

01

THESIS TOPIC

Berlin, a city characterized by its diversity, creativity, and resilience, stands as a vibrant hub with a rich history, influential club culture, with a prominent global position. The city's identity has been shaped by a series of transformative events, from its growth along the Spree in 1724 and the cities expansion with characteristic blocks in 1862, up to the significant impacts of World War II and the division imposed by the Berlin Wall in 1961. The subsequent reunification process led to redevelopment, urban planning, and the evolution of Berlin's dynamic, multicultural identity.

Aligned with this historical narrative, the city's spatial structure, public transportation network, and urban development have undergone continuous evolution. The Berlin railway network, dating back to 1846, has expanded and adapted to the city's growing needs, as evidenced by the i2030 expansion plans for railways (Start - i2030, 2023).

However, the evolution of train stations, integral to the city's transportation infrastructure, has taken a distinct turn. Once serving as waiting shelters, stations have transformed into commercial entities prioritizing profit and efficiency often at the expense of inclusivity. While the program focuses on becoming a symbolic gateway to the city, there is a growing sense of exclusion despite train stations being the daily crossroads for diverse populations.

In the spirit of Berlin's anarchistic character, which advocates a bottom-up approach to city-making, this thesis proposes a radical departure from the conventional model of train stations. Instead of admitting to the profit-driven agenda of the state-owned railway operator, Deutsche Bahn, the thesis advocates for a user-centric architectural approach which will make it inclusive. By delving into the essential needs of Berlin's community, passengers, and commuters, the aim is to establish a harmonious balance between profit-driven objectives and the diverse requirements of the local population.

The thesis seeks inspiration from anarchism, a philosophy advocating for the absence of top-down authority. This departure from conventional architecture involves challenging the prevailing paradigm of "hostile architecture," marked by exclusionary designs, towards a more inclusive and versatile approach focused on liveability. Through the lens of anarchistic principles, the proposal aims to redefine the S-Bahn stations along the Berlin ring, offering a compelling vision for a more user-friendly, community-oriented, and progressive environment as prototype station.

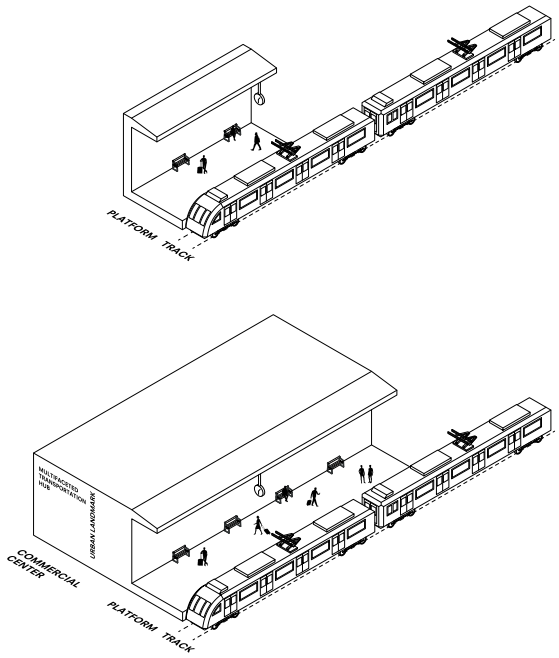


Figure 1: From waiting shelter to commericial entity

PROBLEM STATEMENT

With the development of the I2030 expansion plan of Berlin and Brandenburg, the city aims at becoming free or almost free of cars and to prioritize sustainable transportation through trains (Frearson & Frearson, 2022), the 'Stadt Bahn' or 'City rail', specifically the S-Bahn-ring will experience increased activity and demand.

Within the polycentric node system, stations of varying sizes hold significant importance. They serve not only as areas of increased density but also as entry points to a more sustainable, car-free urban core. These stations present opportunities to function as efficient hubs that facilitate shifts in transportation methods while also providing valuable spaces for both people and community within the transit zone (figure 3).

With a growing and diverse population, critical questions emerge. How to get a balance between the goal of creating attractive public spaces for all, striving for seamless transitions and at the same time maintaining cleanliness, safety, and comfort? Is there a new kind of prototype station that can provide all of this while addressing program gaps, accommodating diverse flows of people, ensuring safety compliance, fostering placemaking, preserving local identity, and integrating systemic thinking throughout without mainly focusing on the commercial authority?

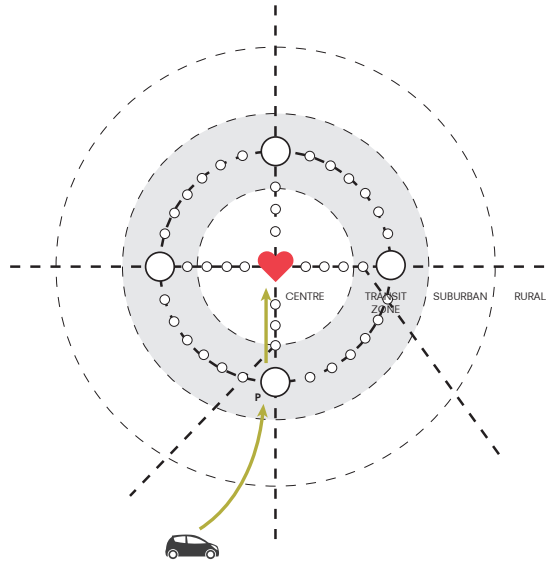


Figure 2: S-Bahn-ring as transit zone

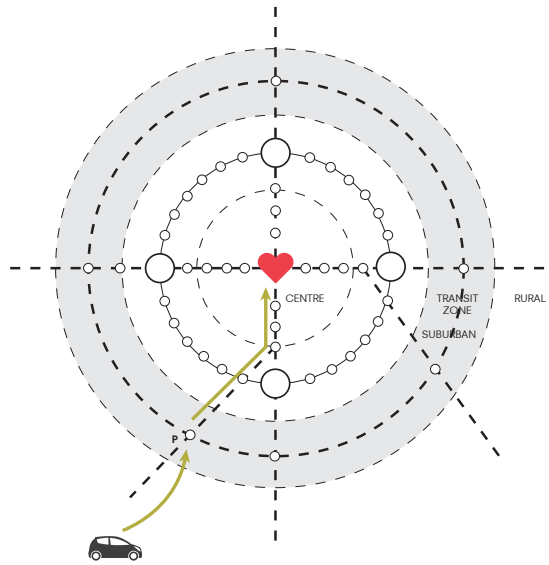


Figure 3: I2030 expansion as transit zone

RESEARCH QUESTION(S)

The core of this thesis centers around the research question:

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

Sub-questions:

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

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

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

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


Konstanzer Strasse
3


FEHRBELLINER PLATZ
6


DEUTSCHE OPER


Fehrbelliner
Platz
6


Jungfernheide


BREITENBACHPLATZ


TIERPARK


BAYERISCHER PLATZ

RESEARCH FRAMEWORK

02

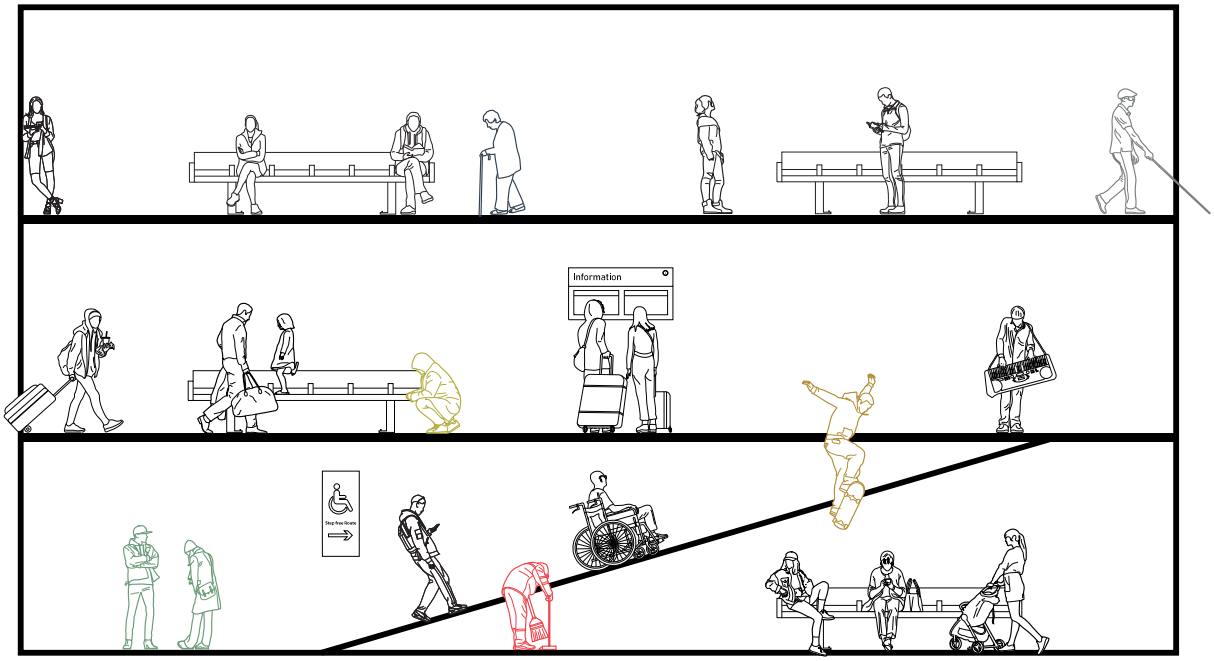


Figure 4: Widest range of users

THEORETICAL FRAMEWORK

The theoretical framework of this thesis will intricately explore themes such as local community, neighbourhoods, identity, flows of people, safe regulations, system thinking, and placemaking. This comprehensive exploration serves to elucidate the relevance of these themes in the context of the research. Moreover, the established framework will play a pivotal role in guiding decisions throughout both the research and design phases, ensuring a cohesive and informed approach to addressing the multifaceted challenges of designing a new prototype station for the S-Bahn ring in Berlin.

To unravel this complex query, the research is segmented into key investigations. The first explores potential program additions for small stations along the S-Bahn ring, identifying the missing links in their functionality.

The second examines contrasting user group flows, encompassing passengers, commuters, and locals, emphasizing the importance of inclusivity while ensuring safety and comfort for all users.

Lastly, the research explores how local identity and community representation can be embedded in design, considering factors such as safety regulations, system thinking, placemaking, and the intersection of local community and efficiency. It shows the multifaceted aspects of the problem statement, setting the framework for a comprehensive exploration of solutions.

Figure 5: Hangschlitt, A.

RELEVANCE

The research holds significance for Berlin, as the thesis topic is tailored to the specific context of the city. However, it also extends its relevance beyond Berlin, encompassing a global scale and contributing to the broader objectives of the studio.

The research delves into crucial aspects of universal accessibility and safety in train stations, advocating for a delicate equilibrium between seamless transitions, cleanliness, safety, and comfort. It extends its focus to ensure inclusivity for international visitors, considering barriers, as well as addressing the needs of individuals with varying abilities and homelessness.

Recognizing the significance of aligning train stations with Berlin's evolving demographic and cultural landscape, the study questions current strategies and explores potential new elements to guide the design towards sustainability and efficient public transportation. Essentially, this research contributes to the dynamic role of train stations in shaping urban environments and fostering inclusive, safe, and welcoming public spaces and at the same time helping to make Berlin "car-free".

With urban growth impacting cities globally, the need for adaptable train station designs is emphasized, reflecting the research's broader relevance beyond Berlin. The studio's thematic focus on "Body Building Berlin" complements this, accentuating the importance of designing for human needs and experiences to enhance community health and well-being.

Europe's commitment to sustainability is evident in initiatives such as the low-car city movement. The thesis aligns with these goals, offering design solutions that promote environmental sustainability and align with the broader European vision for green urban futures. The thesis aligns with the evolving priorities of Europe, which is increasingly recognizing that a well-connected train system will be a central element of its future transport ecosystem.

RESEARCH METHODS

03

The Complex Projects graduation studio follows a methodological and structured approach to the design process. Confronted with the complex and demanding design assignment, we learn how to process, organise and use a large amount of data.

In the first phase the city of Berlin is explored and researched. A direction for the graduation project is chosen rather quickly. The first task was to select a typology and form functional group set ups in which individual projects should fit into. Next, it was encouraged to take preliminary choices regarding client, basic program, and possible locations for site. In parallel the urban context is closely examined and a thesis topic emerged which became the foundation for the research.

PROGRAM

Developing further the understanding of the building typology, the program phase requires to develop a functional program and understand how separate components relate to one another. It is also a defining point at the end of which I select a research question and submit the research plan. After building an understanding of the critical components which define the typology , I should be able to select an aspect of the building which will become the focus of this thesis and should guide the research and support the investigation of the studio theme.

Literature review helps establish the functional requirements and spatial considerations for the project. This involves examining official documentation such as government documents, urban development plans, and transportation department reports.

In the process of understanding the building program for the train station in Berlin, I examined the program through relevant case studies and benchmarking. This offered insights into design preferences and priorities.

The analysis involved a comprehensive exploration of the sizes, layouts, and functionalities of seven stations. Through calculations of areas and their representation as percentages of the total program, I will generate a visual program bar that encapsulates the essential components, facilitating a comprehensive understanding of the train station's functional requirements.

SITE

With a better understanding of the program and typological requirements, I will narrow down and ultimately select a suitable site. This is to comply with my defined typology requirements as well as group oriented thematic requirements. The site phase focuses on the questions revolving around urban implementation and this is a key factor for the connection to the group urban vision. Once sites are defined, I will elaborate on both the potentials, the constraints and feasibility of the site.

In an attempt to identify a suitable site for a potential train station in Berlin, I am conducting a comprehensive site analysis employing various methodologies. Beginning with a consideration of the site's topography and geography by mapping, I delve into understanding its physical characteristics, recognizing that these elements play a pivotal role in shaping the city's layout.

By researching the city of Berlin on an urban level, I am trying to get a grip on the urban network and development. The city's origins and diverse districts hold significance in my research, especially when overlaid with existing transportation networks, revealing intriguing nodes.

To enrich the analysis of site suitability, a field trip to Berlin enabled an in-depth investigation that will enhance the understanding and evaluation of the identified locations in the context of the city's urban development. Subsequently, I will conduct on-site visits to the selected locations, allowing for a firsthand evaluation of existing conditions, surrounding infrastructure, and potential constraints that could influence the design and size of the train station.

Overlaying the broader urban context to the information on existing transportation networks will unveil noteworthy nodes.

CLIENT

As the project brief nears completion and the potentials, limitations and feasibility of the building become clearer, I will have to decide upon client and users in order to define the ambitions of the project. This is to formulate what the agenda of the building should be and also in what way it should be developed. The aim is to set up user requirements through a thorough examination of the client's perspective and broader city guidelines.

Understanding the client is essential to create a space that aligns with their vision and meets their functional requirements. In the process of comprehensively understanding the client for the design of a train station, a multifaceted approach incorporating user needs and stakeholder consultation is essential.

Background research involves exploring the client's official website, seeking information on their goals, values, and past projects in transportation or infrastructure. The examination of news articles and press releases related to the client offers insights into recent developments and partnerships.

Direct engagement with relevant authorities, including transportation and urban planning departments in Berlin, is imperative to comprehend the city's broader perspectives and existing guidelines for train station design. Interviews and workshops are instrumental in delving into the client's goals, expectations, and specific requirements.

Site visit and observation of the chosen site, provide valuable insights into functionality, user behaviours, and unique features.

DESIGN PHASE

All this research will be concluded into the design brief. That will form the initial design assignment that should be answered throughout the design phase. The methodology for the design approach is as follows:

Concept

In this first phase after the P2 presentation, I should develop a concept for the design proposal. Concept should entail both spatial, but also programmatic concepts as well as a preliminary choice of look and feel of the project.

Design

Based on the developed concept, I should then develop further functional and programmatic layout, integrate structural solutions and develop materialisation. Preliminary ideas for safety, climate and comfort should be initiated.

Material

Materialisation and detailing of the building should be developed in this phase. Full development and integration of the structural solution is the main focus, together with architectural development of the façade. The goal of this phase is to complete the design and present it for the P4 go/no-go presentation.

Final

The final phase will focus on postproduction, and only small design changes are possible. Next to the presentation, physical scale model and visuals should be done.

DESIGN BRIEF

04

Berlin today has the spirit of an anarchistic city, so what if we don't look at the authority but the user? The state owned railway operator, Deutsche Bahn prioritizes the most profitable and efficient program for train stations. However, if we consider a program that focuses on the essential needs of Berlin's community, passengers, and commuters, a more versatile and permissive architectural approach might provide a harmonious balance. This alternative approach could potentially align the requirements of both Deutsche Bahn, aiming for maximum profit and efficiency, and the diverse needs of the local community and station users. The approach involves conducting research on an existing S-Bahn station and proposing a prototype station that aligns with these varied requirements.

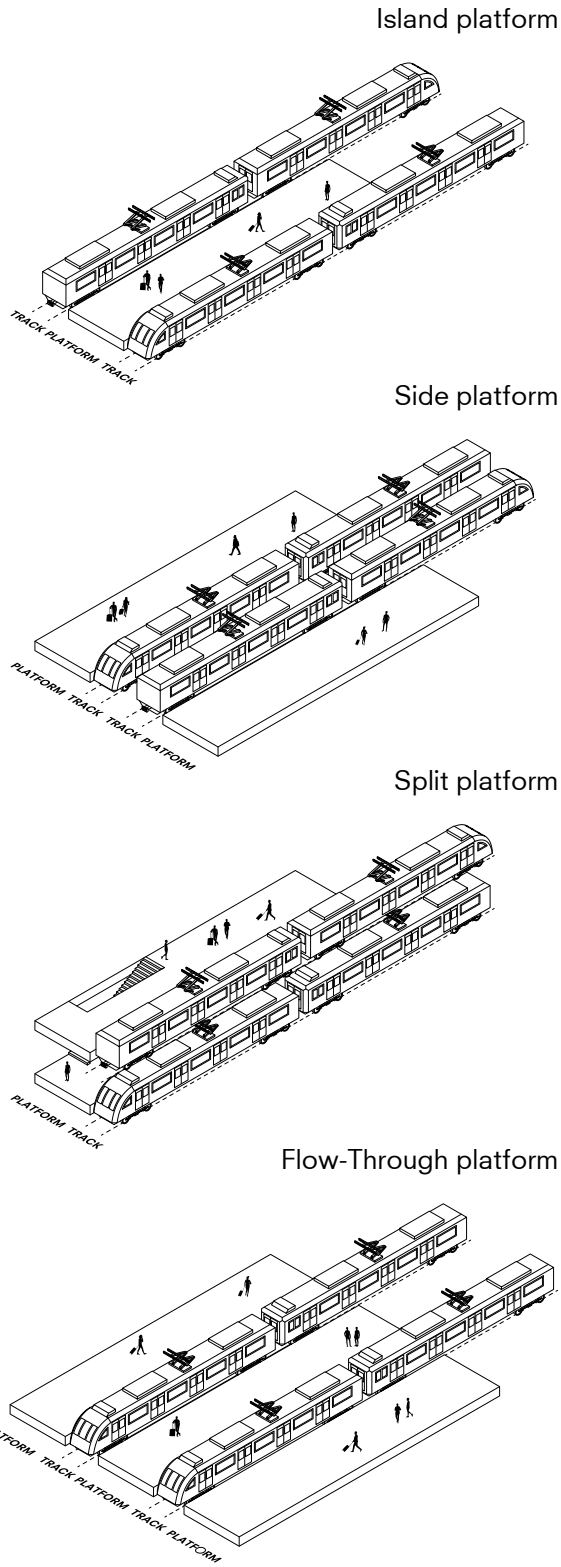


Figure 6: Different configurations platforms and tracks

PROGRAM

Literature review helped establish the functional requirements and spatial considerations for the project. The basic configuration of a station and various other features set certain types apart (Ross, 2000), see figure 6.

- The layout of the platforms
- The level of the tracks

The layout of the platforms:
Island platform

- One set of supporting services
- Simplifies transfers

Side platform

- Wider overall footprint station
- 'Up' platform & 'down' platform
- Station's main buildings located on side faces the town it serves

Split platform
- A narrower station plan
- A deeper/higher vertical elevation

Flow-Through platform
- Eliminating conflicting passenger flows
- Speed boarding and alighting
- Cost and operational considerations

The tracks:

Station track
- House track or platform track
- Board and disembark

Passing track
- No platform
- Allow a train to clear the main line at the station

Through track
- No platform
- To pass the station without stopping

Terminal track
- The end of a track
- Lower speed track

Maintenance track or a maintenance siding; for parking maintenance equipment, trains not in service, autoracks or sleepers.

Refuge track; a dead-end siding that is connected to a station track as a temporary storage of a disabled train.

The ambitions for the prototype station are as follows:

- Accessible
- Inclusive
- Day-/night

The prototype station aspires to be accessible, inclusive, and operational day and night. The program aims to enhance social safety, accessibility, and community cohesion by incorporating cultural activities, transforming the station area into a place for locals, and providing spaces that promote physical and social well-being, benefiting both physical and mental health.

The keyspaces of a train station are:

- Station hall
- BOH
- Office and services
- Commercial
- Circulation
- Platforms & tracks

The program breakdown has been the first step to a better understanding of stations. The program is derived from case study analysis and benchmarking. To get an understanding of the key spaces I analysed the following case studies; Rotterdam Central Station, Berlin Hauptbahnhof, Zurich Hauptbahnhofm Antwerp Central Station, Atocha station in Madrid, Orientkaj station in Copenhagen and Coburg.

I chose different sizes of stations; from very big with a lot of daily passengers to smaller stations.

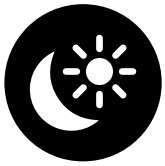
They all have in common that they function as a gateway to the location. They show the identity of the place or function differently;

- Berlin Hauptbahnhof; Airport like

Program ambitions:

Accessible

Inclusive



Day-/night

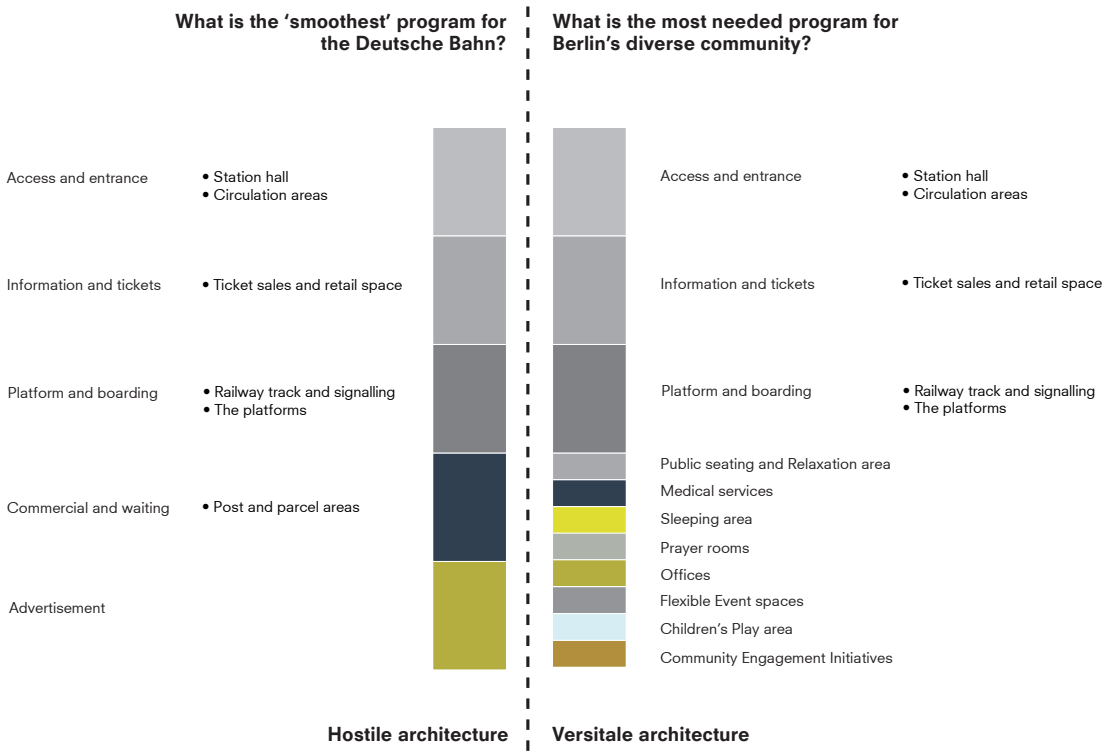


Figure 7: Concept utopian program breakdown

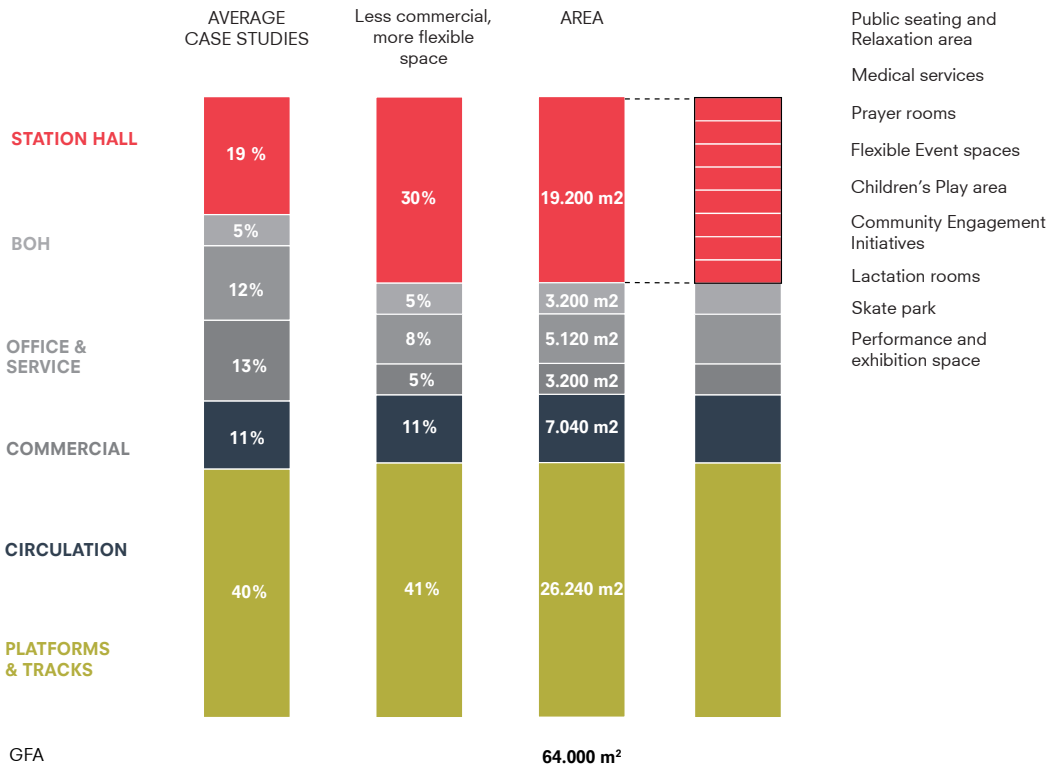


Figure 8: Program breakdown

station
o Zurich Hauptbahnhof; Shopville, only shops open on Sundays
o Antwerp central station; City of diamond trade
o Atocha station; botanical garden
o Orientkaj; Port city
o Coburg: Local neighbourhood

What unites the bigger stations is their shared feature of having contracts with prominent chains that are consistently present in other stations operated by the same entity.

By examining the floor plans and assessing the proportional areas of essential spaces, I derived my own conclusions from the analysis and created the program bar for the prototype, which prioritizes flexible space for the users and less profit based commercial space.

This has culminated in the development of the current program, visually represented as a program bar in figure 8 and a relation scheme in figure 9.

As stated before the key spaces are the station square, the station hall and the platform and tracks. Commercial area, service and ticket sale and information is the hard program that every station will need to have.

Inclusive services are:

- Lactation rooms
- Prayer rooms
- Medical services

This is the 'hard program' that must be present in every prototype station.

Within the prototype station, a 'soft program' will be introduced in the flexible area which could be part of the station square and station hall. Embracing the spirit of Berlin's anarchistic character, advocating a bottom-up approach, these spaces aim to be valuable for individuals and the community, emphasizing user-centricity and a community-driven approach, free from top-down authority. The prototype station will provide space for so-called 'soft program':

- Space for community engagement initiatives
- Children's play area
- Performance and exhibition space
o For example: Art installations by local artist
- Space to exercise/recreate
o For example: Skate park

It's important to note that while skate parks might embody elements associated with anarchy or counterculture, the term "anarchistic programmatic infill" might not universally apply to all skate parks. The usage of this term may vary based on individual perspectives or interpretations of how these spaces are created and utilized within the urban fabric. Ultimately, skate parks serve as spaces for recreation, community gathering, and self-expression for enthusiasts and are not necessarily designed with explicit anarchistic intentions.

- Plots (for pop-up spaces) to rent by the locals
o For example: Informal bicycle repair stations and communal bike-sharing initiatives
o For example: Clothing shops that upcycle clothes for all sizes.
o For example: 'Spati'-concept, which is the reflection of the Kiez Culture. 'Kiez' is a city neighbourhood, a relatively small community within a larger town. It is a supermarket, meeting place, Internet cafe, bakery, drugstore, lottery office, post office and tavern all in one.

While these initiatives might be seen as anarchistic in nature due to their unconventional approach and challenge to established norms, they often embody community-driven efforts to transform public spaces and foster a sense of ownership or identity among local residents. I will discuss ownership in more detail in the client section.

Apart from providing facilities for commuters and passengers, the building will also incorporate amenities for local residents and individuals not utilizing the train services. Therefore, the design phase must accommodate these distinct user flows.

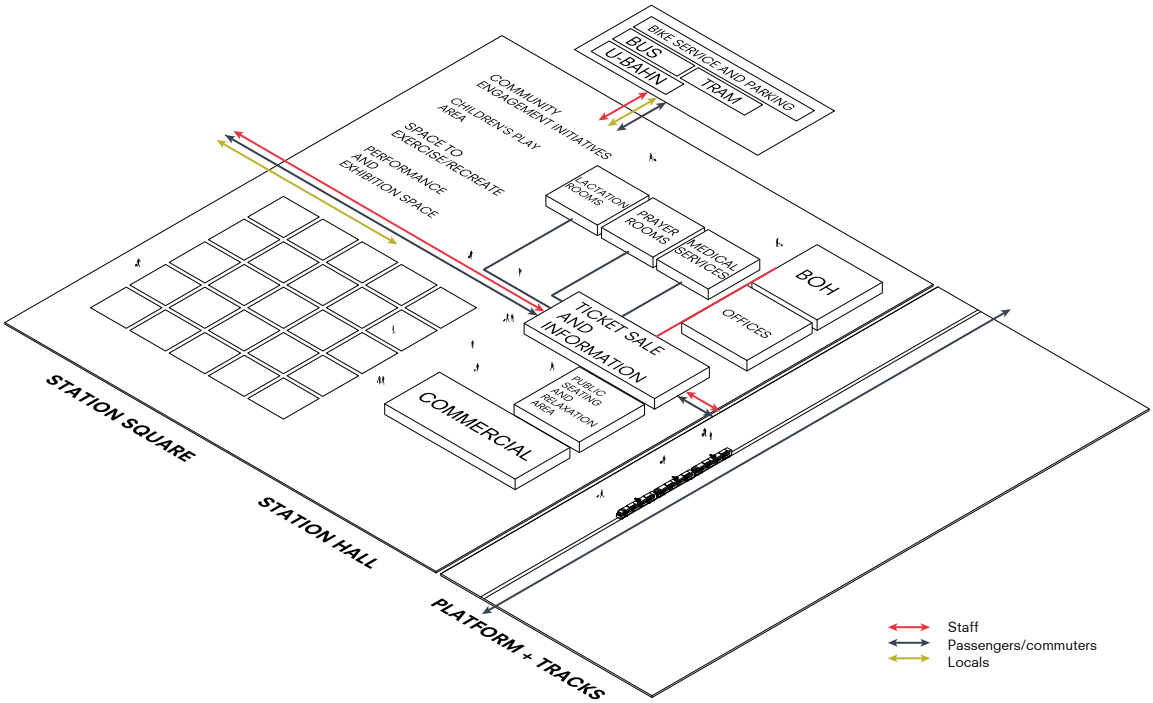


Figure 9: Program relation scheme and different user flows

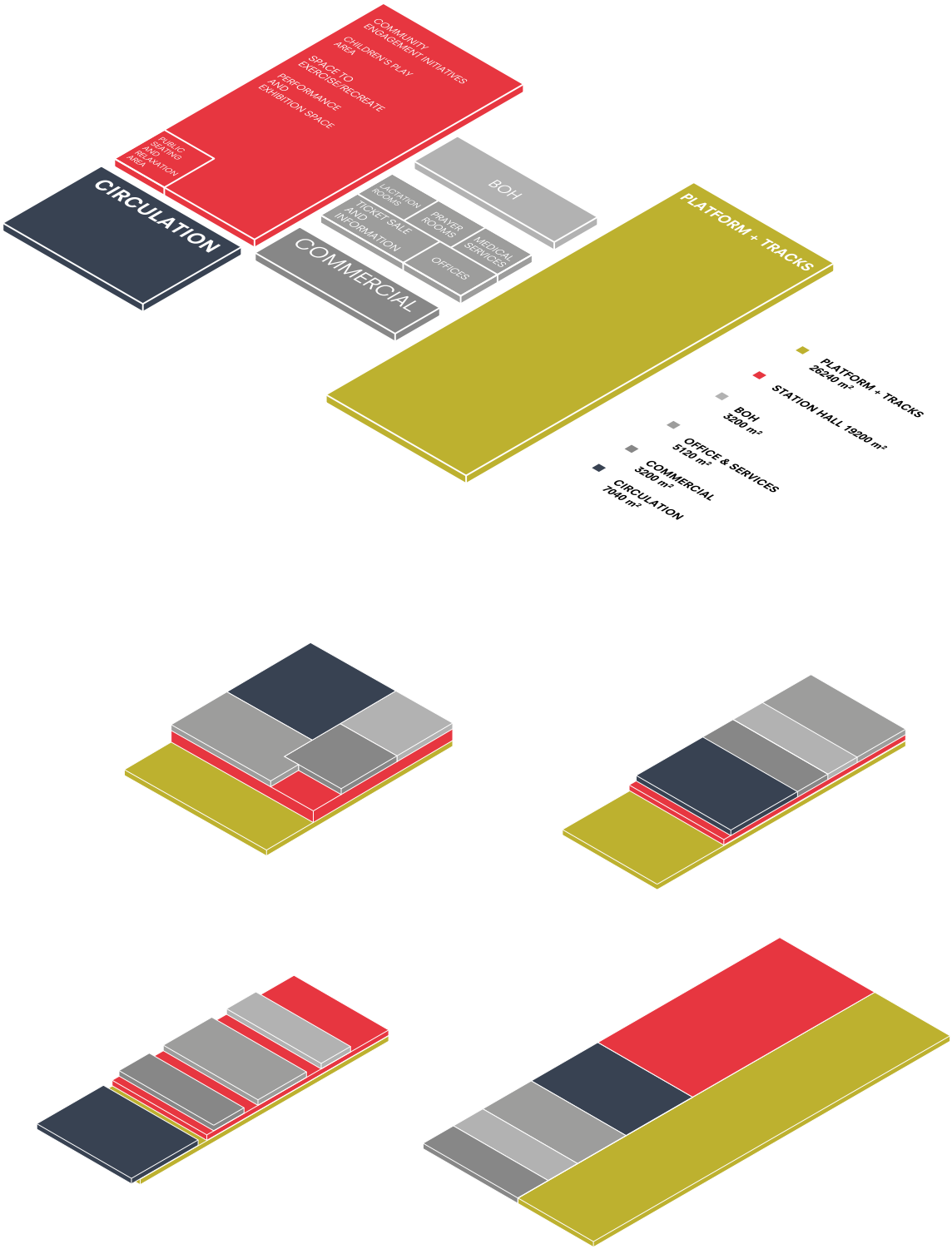


Figure 10: Configurations of the program layout

SITE

With a better understanding of the program and typological requirement, I narrow down and ultimately select a suitable site. This is to respond to my defined typology requirements as well as group oriented thematic requirements.

Typology 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.

'Health' thematic 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.

The S-Bahn short for 'Stadt Bahn' or 'City Rail' in German, is the used train system. The ring of 37 km and 27 stations encloses the city centre.

First I investigated all 27 existing stations and 1 possible new station along the ring. To understand how the ring works. I compared the stations to see if they meet the requirements. I also took into consideration if it's a node with other transport facilities such as the U-Bahn, bus, and tram. Frankfurter Allee (an existing S-Bahn station) met the requirements best. That is the site I propose for this project.

Frankfurter Allee is densely populated. It is a housing area with mixed use and a core area. Which means a high use intensity and density, area of particular importance for commercial, private and public services, and for cultural and scientific institutions.

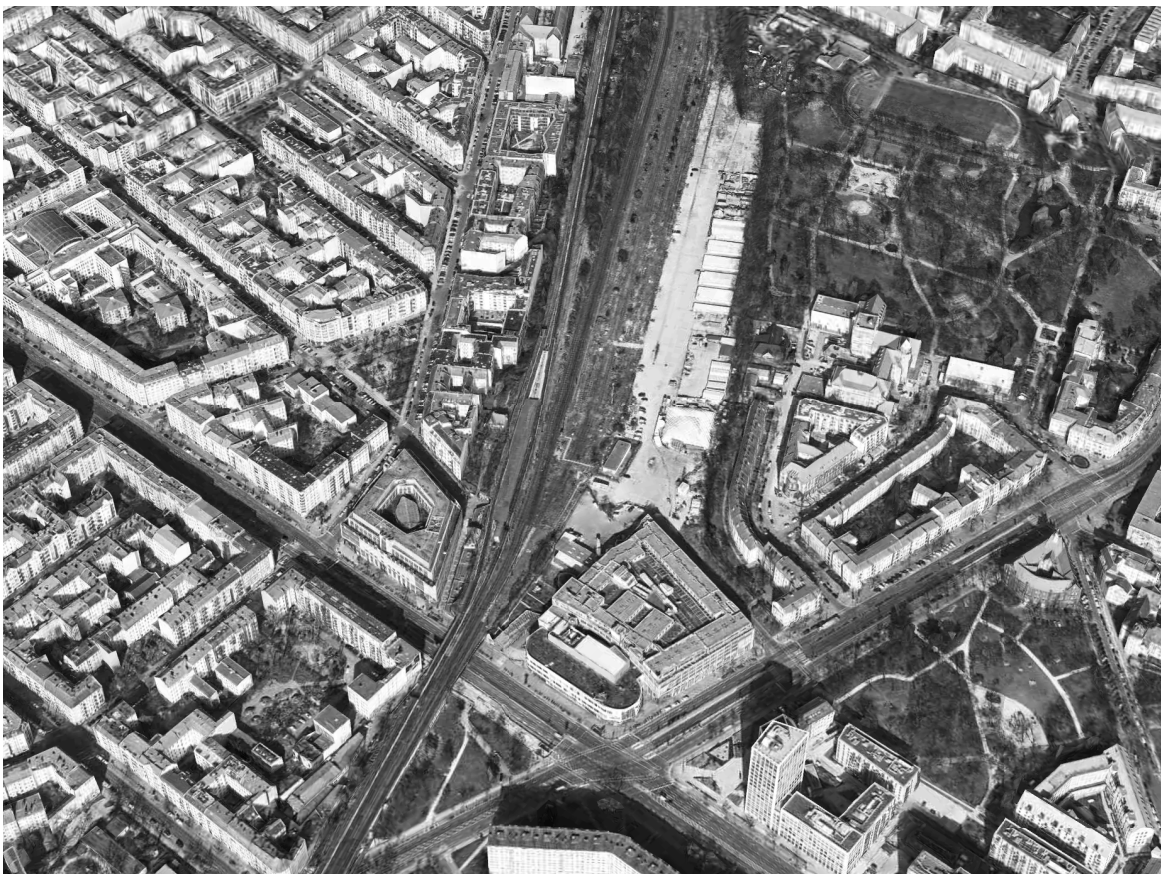


Figure 11: Frankfurter Allee

Figure 12: 'Am Containerbahnhof', 1976 (Roderick, 2020)

History

The Frankfurter Allee station, historically hosting a freight station on the Ringbahn's east side, saw the development of extensive freight and marshalling yards in Rummelsburg and Lichtenberg-Friedrichsfelde. These yards were linked to the Ringbahn through a connecting route, primarily for freight traffic. In 1968-1970, the GDR established its first container station near Frankfurter Allee, pioneering container transportation. After the fall of the Berlin Wall, the station's significance dwindled, eventually leading to its closure at the end of 1999. Over time, the station's infrastructure was removed, and its history is now preserved in the renamed access road, "Am Containerbahnhof," serving as a delivery entrance for Ringcenter.

It was officially shuttered in 1999. The loading docks and most of the rail sections were removed.

While most of the area lies unused, slowly filling with small trees and brush, the Berlin City Mission has established an emergency relief centre for the homeless. The winter months are a particularly difficult time for the homeless. The Berlin City Mission offers them an invaluable service. At several emergency shelters, it provides the homeless with a bed and protective roof, hot food, basic medical care and social counselling. One of these emergency shelters is located in the air dome at the old container station.

Districts

Friedrichshain – Kreuzberg is the combination of two localities that differ greatly from each other. It was split down the middle by the Berlin Wall for 40 years. Although it is the smallest borough it is the most dense.

West Berlin became a hub for counterculture movements in Europe. The city attracted artists, musicians, activists, and intellectuals seeking freedom of expression and alternative lifestyles. The district of Kreuzberg, in particular, became a focal point for squats, communal living, political activism and Punk and Underground Music Scene.

Lichtenberg

The legacy of the Stasi, is still visible in the urban fabric of East Berlin in various ways, despite efforts to move past this period of history:

The former headquarters of the Stasi, located in Lichtenberg, East Berlin, still stands today. It has been converted into the Stasi Museum, offering visitors a glimpse into the workings of the secret police and the surveillance methods used during the GDR era.

More information about the proposed site:

It's well connected. There are several modes of public transport that pass by the existing station. Trams run only in the north-east of Berlin. So here runs tram 16 and the M13. Buses also run and there is an U-Bahn station. The U5 goes into the city centre. So no need to go to Ostkreuz first. Within 5 min biking people could get to other S-Bahn stations and there are a lot of shared mobility options.

It is a mixed use area with a lot of different facilities. The most important once are:

Stadtpark Lichtenberg
- Villa Kuriosum

Villa Kuriosum is a self-managed artistic space in Berlin Lichtenberg, where local and international cultures interact, established international artists and amateurs and neighbors meet.

Since its founding in 2012, the focus has been on participatory and interdisciplinary projects that combine contemporary circus with visual art. The collective experiments with new aesthetic representational formats between the genres of performance, (interactive) installation, circus and exhibition and practices mutual enrichment.

- Graffity park
- Cultural centre
- Theater

The area on the Frankfurter Allee side contains 2 shopping centres, making it the commercial side of the area.

The site imposes certain constraints. The building has to be designed at the north site of Frankfurter Allee and in between the residential area of Friedrichshain and Stadtpark Lichtenberg. Plans involve the removal of existing on-site containers, and a re-evaluation of the current station. Looking at the building heights, the only 'high buildings' are along Frankfurter Allee. Because of the user-centric design approach, the building envelope will not be higher than 40 m to harmonize with the surrounding buildings, avoiding any excessive elevation (figure 18).

The current S-Bahn station has one island platform which provide a stop for 2 station tracks for S8, S85, S41 and S42. The Berlin City Airport Express has a through track running along the existing station (figure 16).

Conclusion

The main goal is to make Frankfurter Allee a space that integrates and reactivates existing public spaces and connects the east and west side (Friedrichshain and Lichtenberg). The aim is to break the barrier of the station, increase social safety, accessibility and create cohesion by adding cultural activities and transforming the station area into a place for the locals.

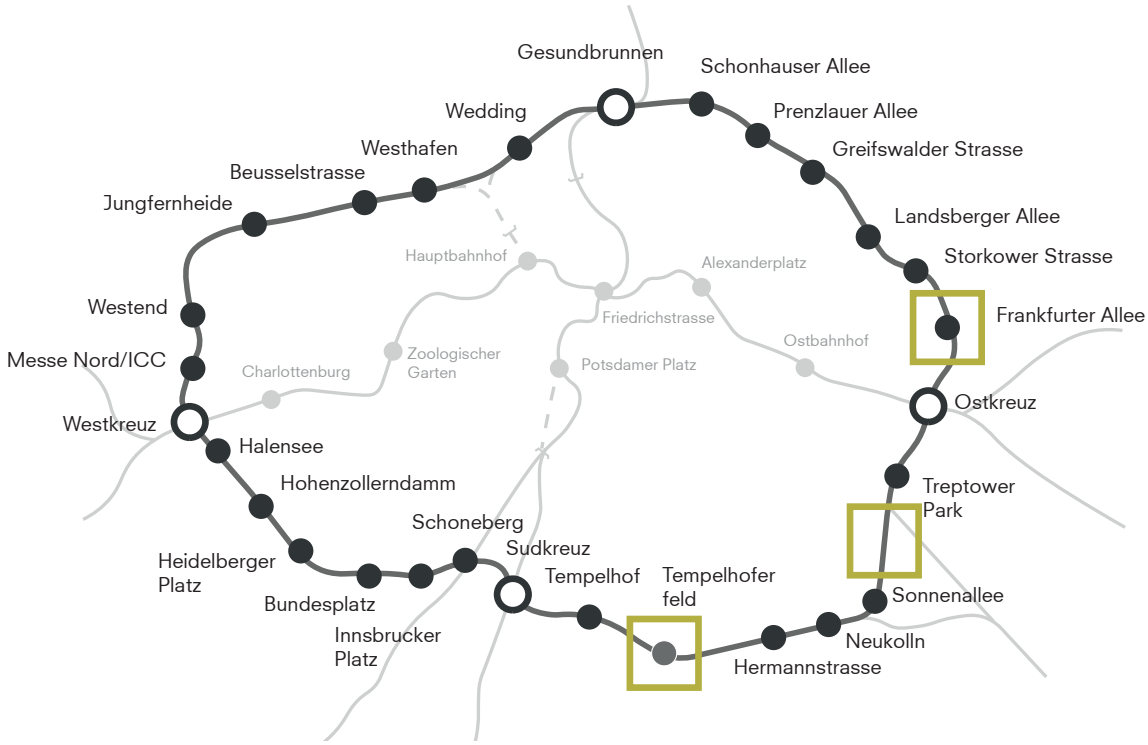


Figure 13: Potential locations

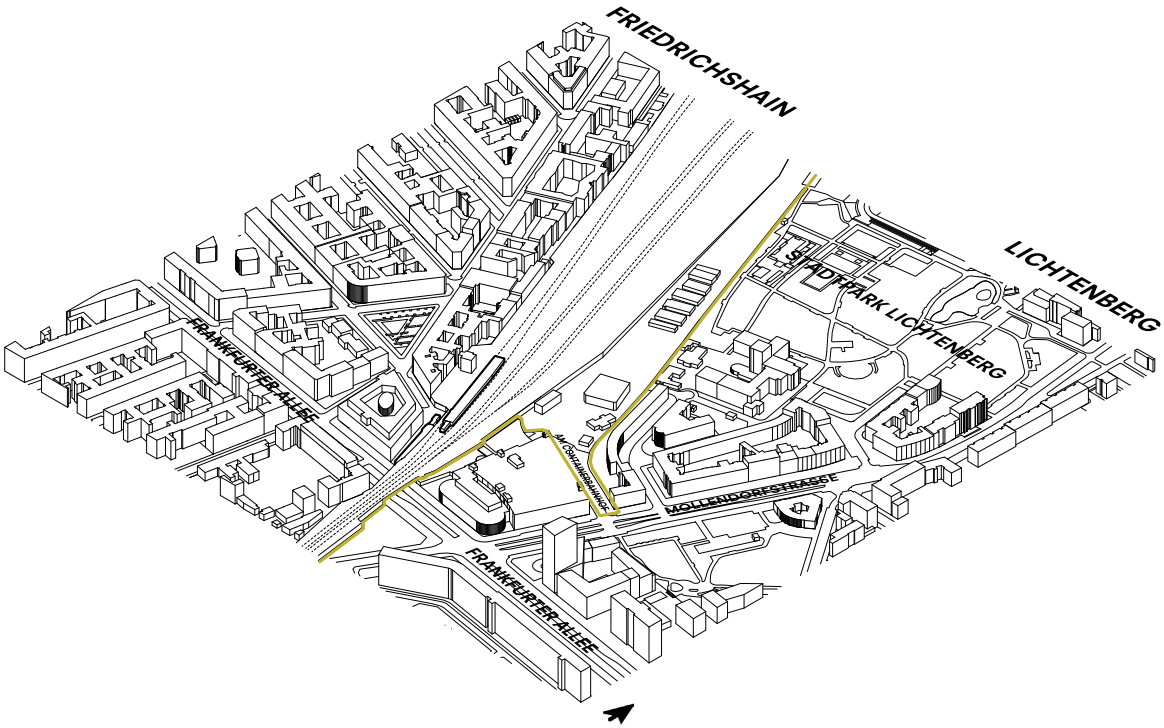


Figure 14: Frankfurter Allee, the chosen site

Figure 15: Functions

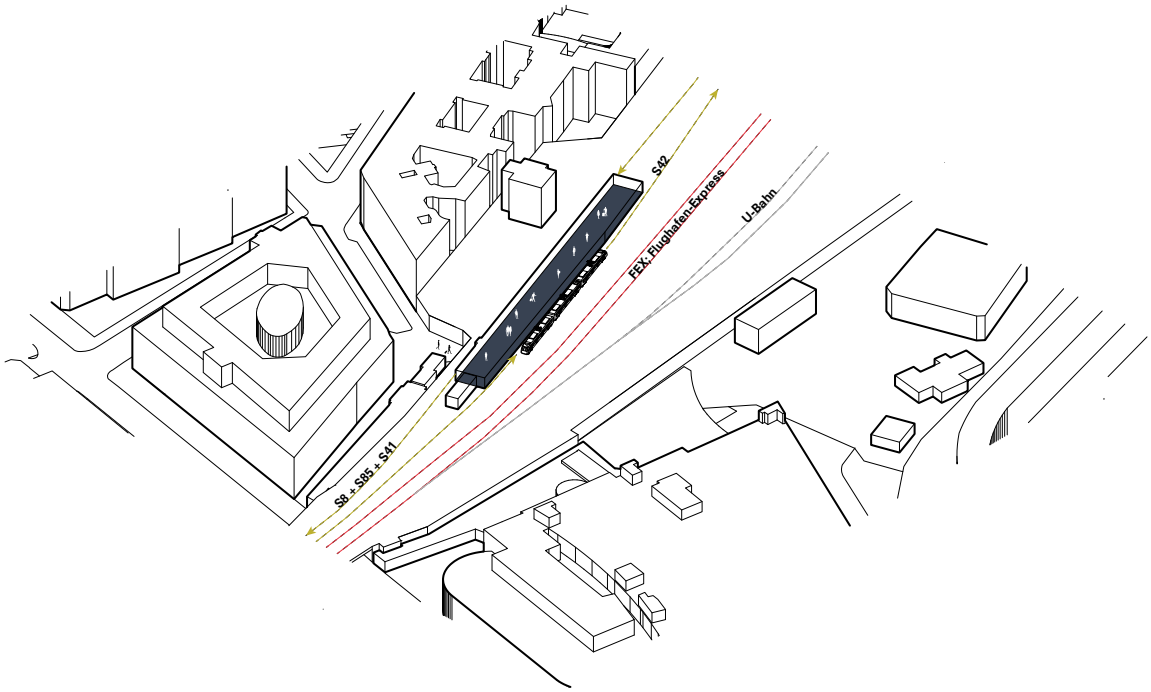


Figure 16: Current station

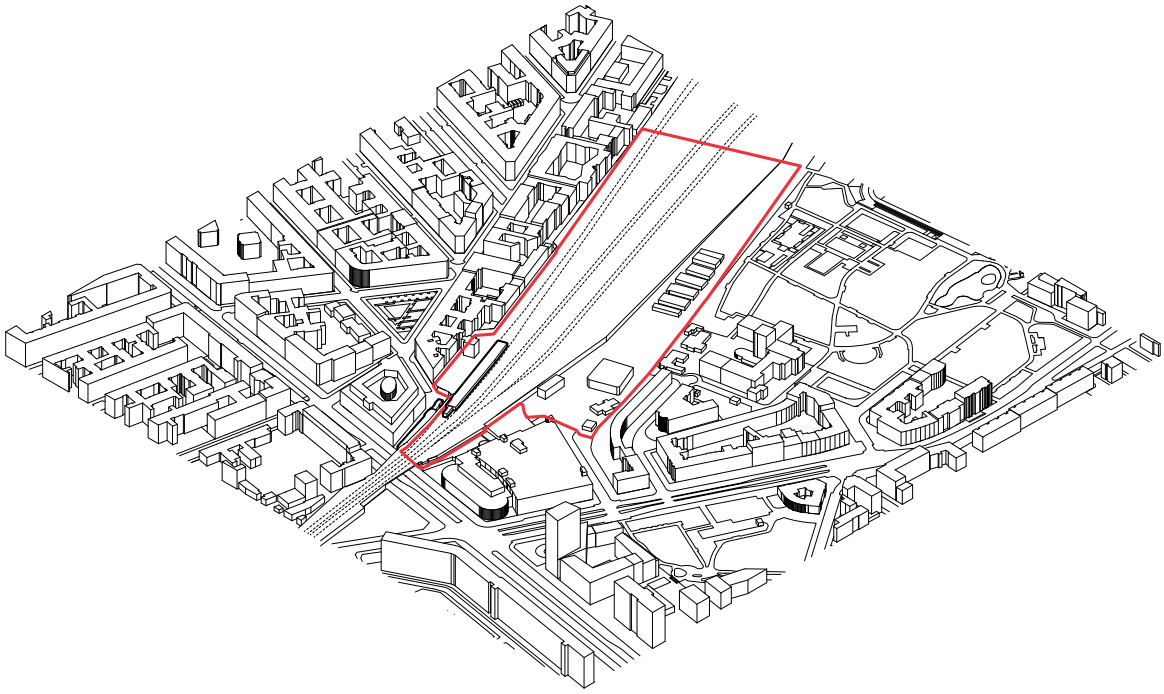


Figure 17: Site restrictions

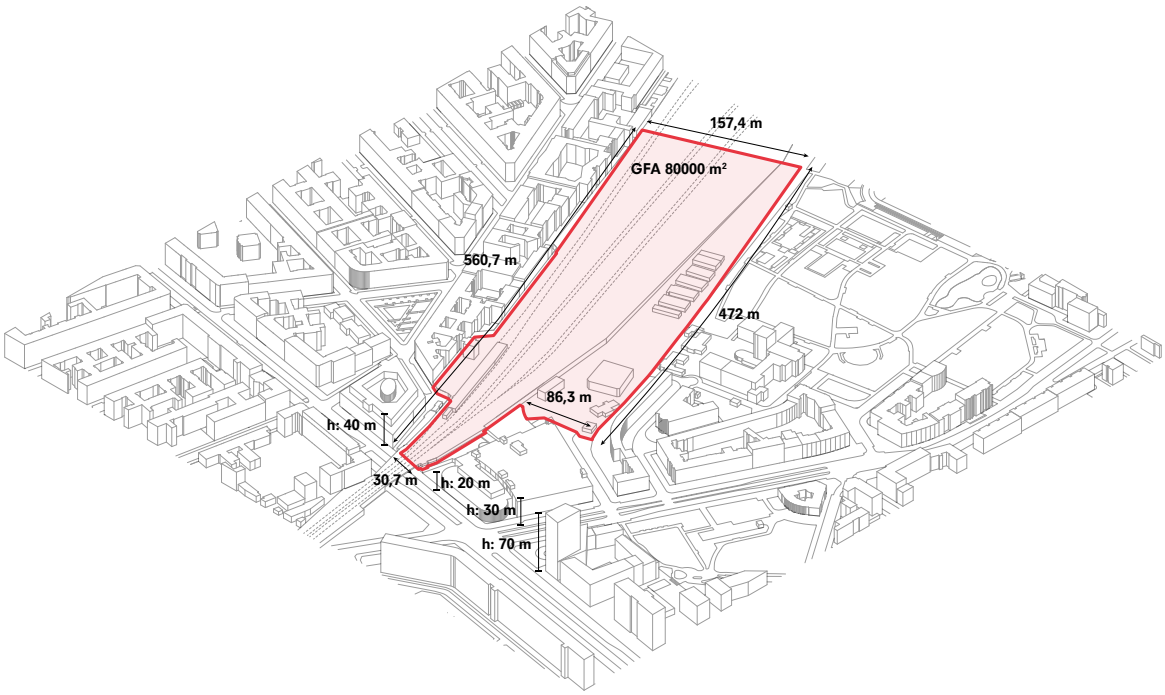


Figure 18: Site restrictions

CLIENT

In order to define the ambitions of the project the client and users are formulated.

Stakeholders: Parties with an interest in efficiency and making a profit. What is their agenda?

- Senatsverwaltung fur Unwelt, Verkehr und Klimaschutz

The Berlin Senate Department for Mobility, Transport, Climate Protection and the Environment (SenMVKU for short) is one of ten specialist administrations of the Berlin Senate with the rank of a state ministry and as such is part of the state government and the highest state authority responsible for environmental, transport and climate protection policy in the German capital. They provide funding for transport and infrastructure in Berlin.

- Deutsche Bahn > Railway operator

Deutsche Bahn is the state-owned railway company in Germany, operating passenger and freight trains across the country and internationally. It provides various rail services including high-speed trains, regional trains, and logistics, serving as a major transportation network in Germany and Europe. Frankfurter Allee station is owned and operated by Deutsche Bahn.

DB Netze is a subsidiary of Deutsche Bahn, responsible for managing and maintaining the infrastructure of the German railway network. It oversees tracks, signals, stations, and other essential components, ensuring the safe and efficient operation of train services throughout Germany.

- VBB Verkehrsverbund Berlin-Brandenburg (VBB)

VBB Verkehrsverbund Berlin-Brandenburg (VBB) is the public transport authority for the German metropolitan region including the city state of Berlin and the surrounding state of Brandenburg. VBB is a transport association that coordinates and integrates public transportation services in the Berlin-Brandenburg region of Germany. It manages fare structures, timetables, and ticketing systems across various modes of transportation, including buses, trams, trains (S-Bahn, U-Bahn), and ferries, facilitating seamless travel within the metropolitan area of Berlin and the surrounding Brandenburg region.

- Local authorities of Friedrichshain and Lichtenberg
    - o Bezirksamt Friedrichshain-Kreuzberg > District government (Office Economic Development)
    - o Bezirksamt Lichtenberg > District government (Office Economic Development)

It serves as the local administrative body responsible for managing various public services and local affairs within the district. The Bezirksamt consists of several departments handling matters such as urban planning, social services, cultural affairs, education, and more, serving the residents and businesses.

The responsibility for initiating projects related to S-Bahn station developments would typically fall under the jurisdiction of the urban development or city planning department. This department is often tasked with managing and overseeing projects related to infrastructure, transportation, and urban development within the district.

They would collaborate with other

relevant departments such as public transportation, city infrastructure, or possibly a specialized unit for transportation planning to propose, plan, and potentially implement projects aimed at developing or improving S-Bahn stations within the districts.

Stakeholder ambitions:

Break the barrier

Increasing social safety

Create cohesion

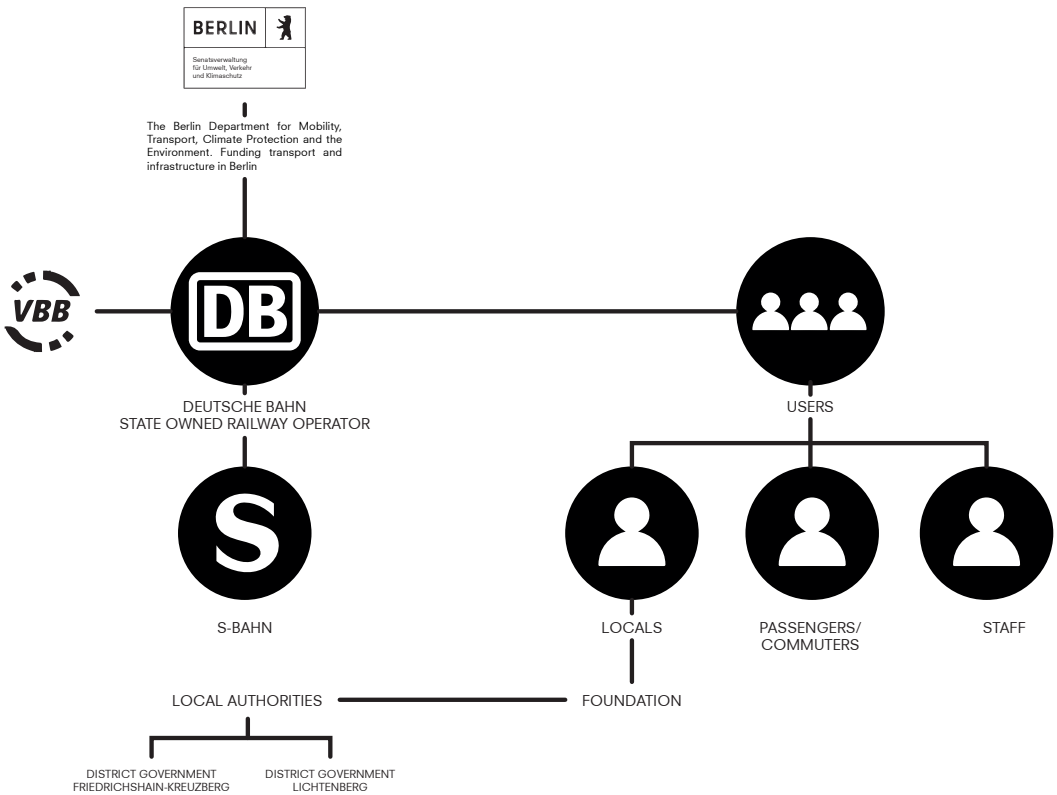


Figure 19: Client scheme

The S-Bahn station, Frankfurter Allee, is being redefined. Only the tracks and platforms will still be owned by the Deutsche Bahn. The new building is for and by the locals of Friedrichshain and Lichtenberg. Locals can rent a plot if they meet the following requirements:

1) If they want to start a shop there, it must not be a chain
2) It must be a local business
3) It must be creative and diverse
4) There must be a good balance between day and night use

No chains

Local businesses

Diverse and creative

A foundation only including locals who rotate at a certain time, will have joint ownership of the plots: "Frankfurter Allee Locals Foundation"
The structure will be as follows:

The board of the foundation is formed by local residents who meet specific criteria and rotate periodically. The board could consist of representatives from various neighborhoods in Friedrichshain and Lichtenberg.

Locals wishing to participate in the foundation must meet certain criteria, such as community involvement, creativity, and diversity in business background.

Membership may be temporary, with a specified term for rotating members. Decisions are made based on consensus within the foundation board. Major decisions may be presented to all foundation members during periodic meetings.

Local entrepreneurs lease the land from the foundation at reasonable rates, which can be used for maintenance and development of the communal space.
Financial accountability and transparency are crucial, with the community involved in budgeting. Local entrepreneurs must meet specified requirements, such as community involvement, creativity, and diversity in business operations.

The foundation can collaborate with local governments and businesses to support the development and maintenance of the area.

There will be regular communication with the local community to gather their ideas and concerns. Organizing events and activities will enhance community engagement.

By establishing such a foundation, where local residents collectively own the piece of land, a sustainable and community-focused approach is promoted for the development of the area around the Frankfurter Allee S-Bahn station.

The user

People with (invisible) disabilities, the elderly, children and families, non-English speakers, tourists, LGBTQ+ community, ethnic and cultural minority groups, low-income communities, neurodiverse individuals (e.g. Autism, ADHD), homeless people all use stations in their own way or feel a barrier to using them.

In examining Berlin, a city where 22% of the population is foreign-born, with significant contributions from Turkey, Ukraine, and Poland (Demographic data about Berlin's population, z.d.), the metropolis faces evolving demographic challenges. As the city grows, so does its aging population, bringing with it an increase in age-related issues such as visible and hearing impairments (Demographic data about Berlin's population, z.d.). Simultaneously, Germany grapples with having the highest number of homeless people in Europe, particularly noticeable during the harsh winter months in Berlin, where many seek refuge in train stations (Übersicht, z.d.).

Both passengers and daily commuters who traverse the station solely to reach a specific destination interact. Additionally, there are local residents residing in the vicinity of the station who avail themselves of amenities like supermarkets without relying on the train.
How does a perfect station for all user groups looks like? Because of concerns like safety and security, vandalism, damage and community concerns, it's a challenge. I want to investigate if an ideal is possible.

When looking at the demographics on site we see the following numbers:

Friedrichshain:

- 290,386 estimated population 2019
- 20,25 km2 area
- 14,338/km2 population Density 2019
- Although it is the smallest borough it is the most dense
- 1.1% Annual Population Change 2016 > 2019
- One side is a fashionable area full of young creatives, while the other has a high immigrant population an high unemployment

Lichtenberg:

- 41,758 estimated population 2019
- 20,25 km2 area
- 5,808/km2 population Density 2019
- 0.45% Annual Population Change 2016 > 2019

To see if an ideal was possible, I need to know more about this wide range of users. I would like to stress that I cannot speak for everyone because I only have 1 body type, but through research I have tried to make an overview of users on site. I want to make a disclaimer that there are many more different kinds of users and they should all be able to use the new prototype pleasantly.

Analysing the user reviews of Frankfurter Allee, helped me visualise the current situation. Here are some points from it:

- The entrance is hard to find
- It smells bad
- Many homeless people
- Poor signage
- Lots of shops in the surrounding

To make the research as inclusive as possible, I approached it from the user needs. I designed persona's to visualize the wide range of users, their journeys on site and their needs:

1) Anna:

Anna has lived in Lichtenberg for more than 40 years and is a retired banker. For this, she often had to go back and forth into the city centre. Still there are many alumni events she likes to attend. Unfortunately, she has mobility problems but does not want to lose her independence. Most of her old neighbours have moved out. Anna is lonely besides these events, but there are no other places where she can connect with others. She often goes to the Ring-Center for her groceries and some social interaction, only to do so she has to cross the big dangerous road to get around, which is undesirable. She often goes to stadtpark Lichtenberg to see the birds and people.

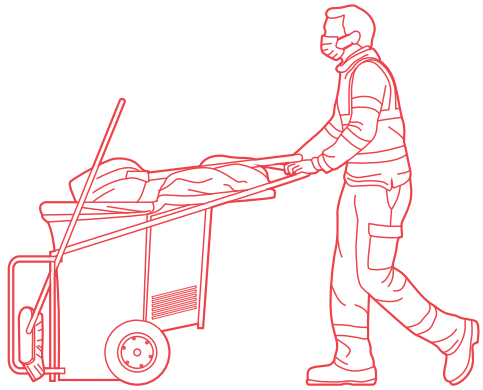
2) Sofia:

Sofia starts her day by biking to school. After school, she meet up with her friends at stadtpark Lichtenberg. There are a lot of benches to hang and skate and they spray graffity on the walls in Graffity Park. They would like a better place to skate tho. Sometimes they do that in front of the entrance to Frankfurter Allee. Here they get in the way of passengers so Jakob send them away. At the end of the day she bikes home but her bike often breaks down so she has to walk home. She has to pass the Frankfurter Allee station by going under the bridge. She doesn't feel comfortable with this and has a feeling of unsafety. A homeless person bothered her once.

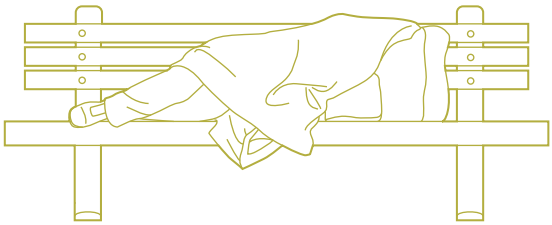
Anna

Sofia

Lea and Felix



Jakob



Moritz

Jonas

Figure 20: Persona's

3) Lea and Felix:

Lea and Felix have just moved to Berlin. They both have new jobs and live in Friedrichshain. They still have to find their way around and are often lost. They love the S-Bahn, much better public transport than they were used to. In no time they figured out how the S-Bahn ring works and are already using it as a compass. Frankfurter Allee is their stop to go to the office. After work they like to attend a performance or exhibition.

4) Jakob the concierge:

Jakob has been working at Frankfurter Allee for 20 years. He lives downtown and takes the U5 to get to work. Because of people who live around the shopping centre and station, he often gets complaints that it stinks. This is largely due to the homeless who seek shelter there. He tries to send them away but does not always succeed.

5) Moritz

Moritz went bankrupt 10 years ago. His wife and children left him. Since then, he has sought shelter in Frankfurter Allee during the cold winter months. Here, unfortunately, he is often kicked out by Jakob. He heard through other homeless people that shelter can be found in the dome of the old container railway station.

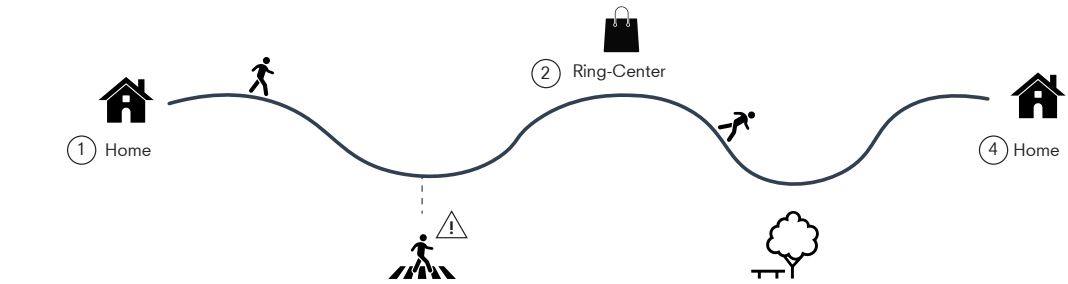
6) Jonas

... is visually impaired. Unfamiliar places require a lot of energy from visually impaired people and cause stress.

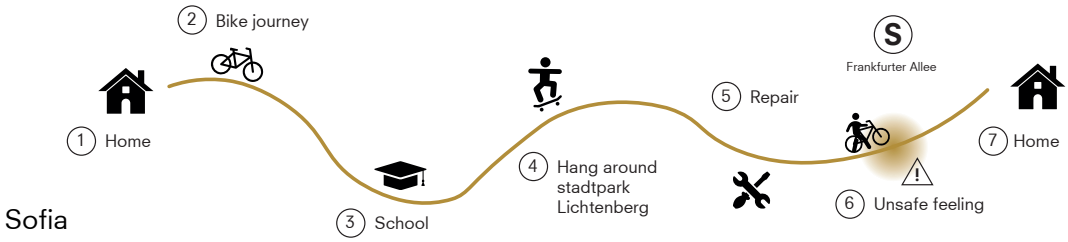
- Not all visually impaired people can read Braille
- Not being able to read the signs
- A lack of logic in the map

The persona's journeys generate specific demands that will subsequently be addressed in the prototype station.

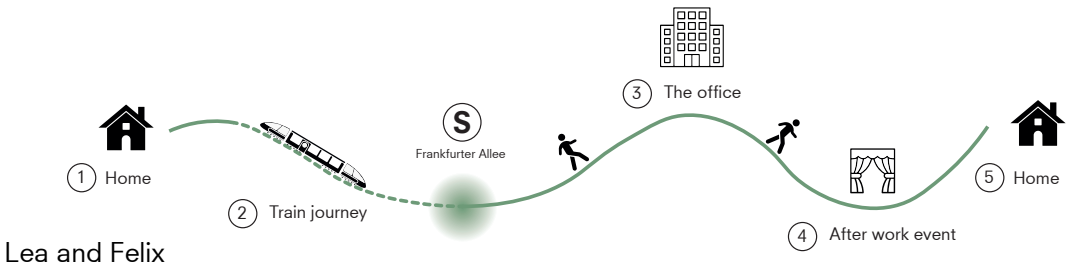
- Anna: Accessible station and safe crossing.
- Sofia: Social safety, bike repair stations and a better place to skate.
- Lea and Felix : Frankfurter Allee needs to stay recognisable and work as a compass
- Jakob: Another place where homeless people can find shelter
- Moritz: Shelter must remain
- Jonas: A logical and blind-friendly station



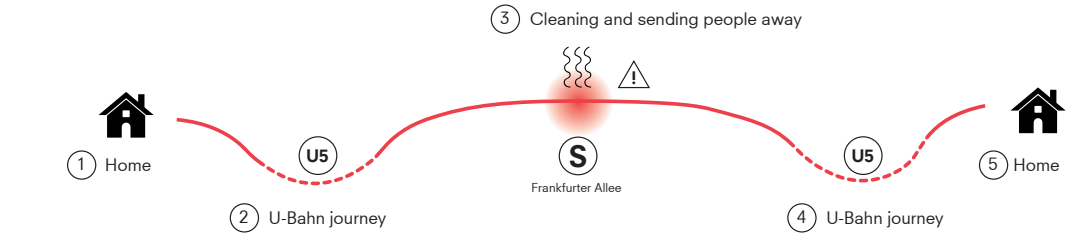
Anna



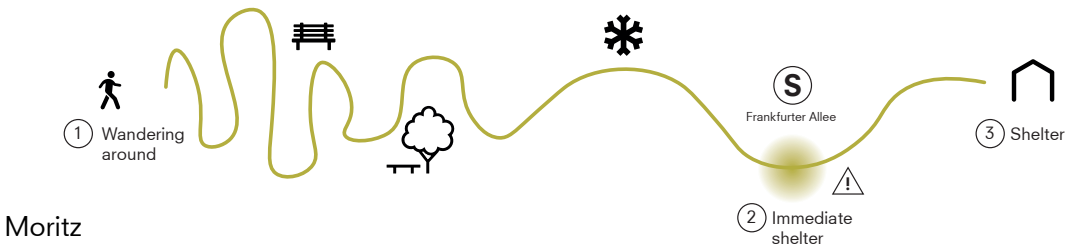
Sofia



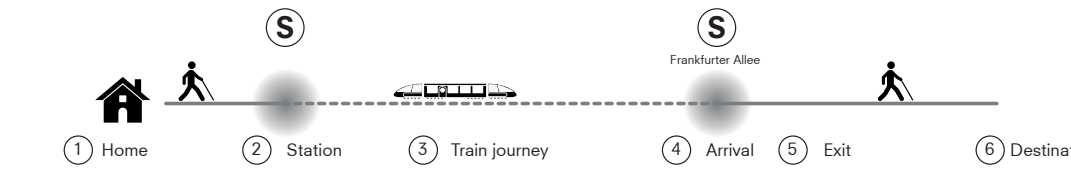
Lea and Felix



Jakob



Moritz



Jonas

Figure 21: Persona journeys

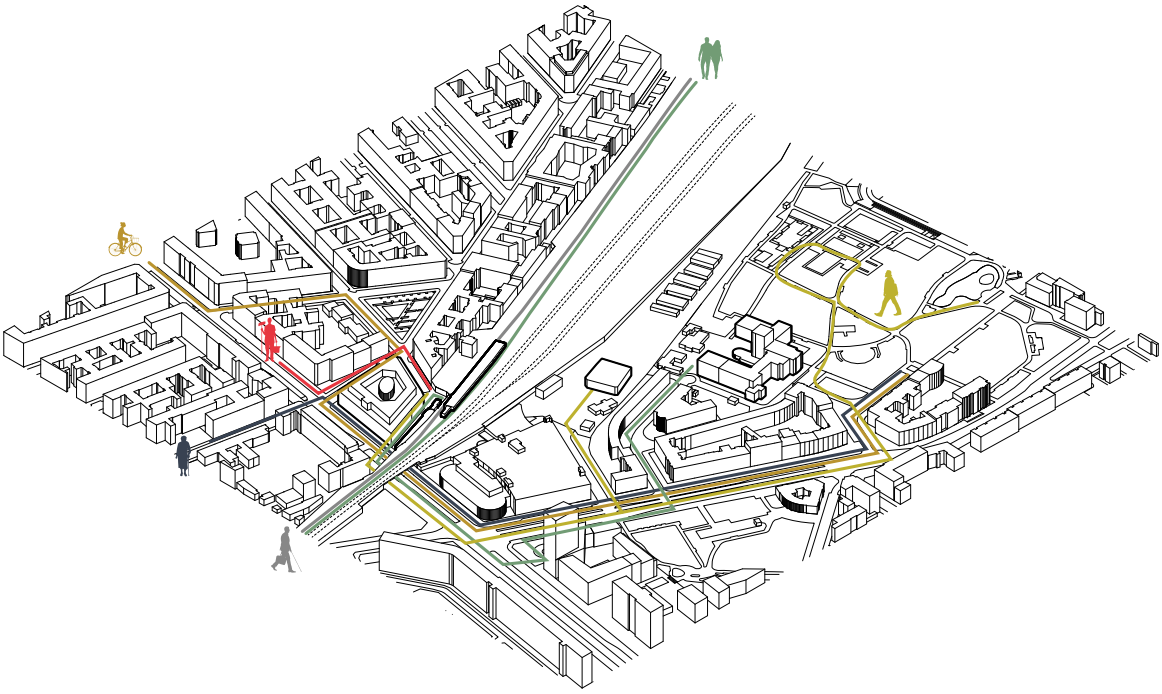


Figure 22: All journeys

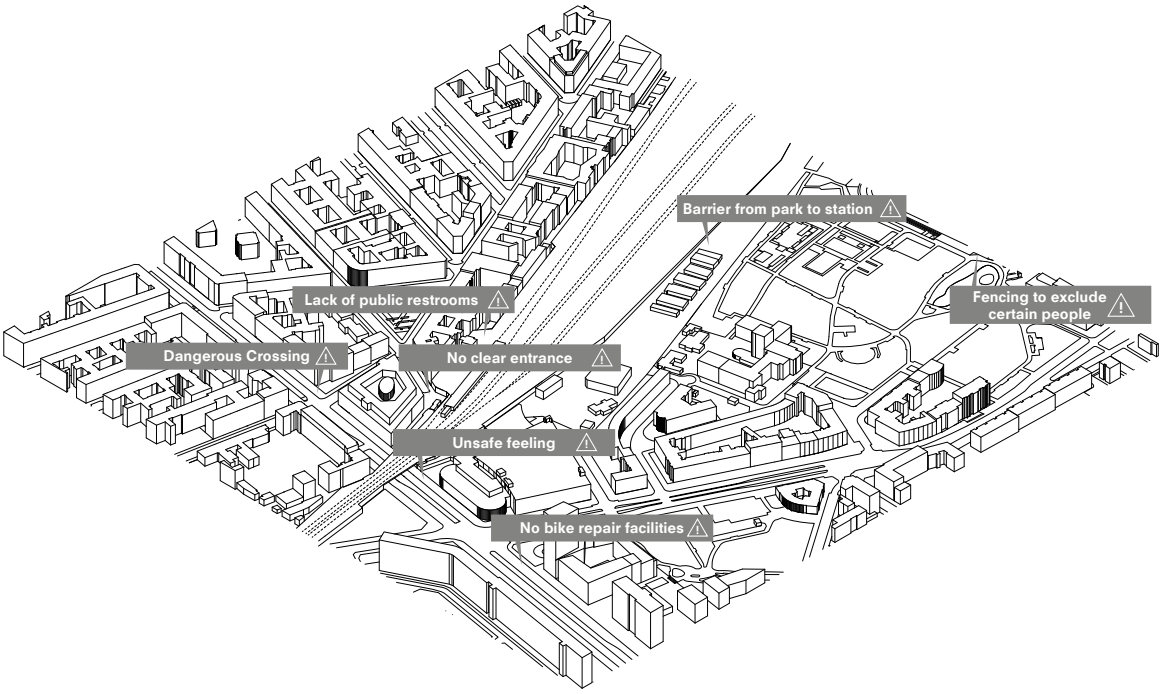


Figure 23: Current situation Frankfurter Allee

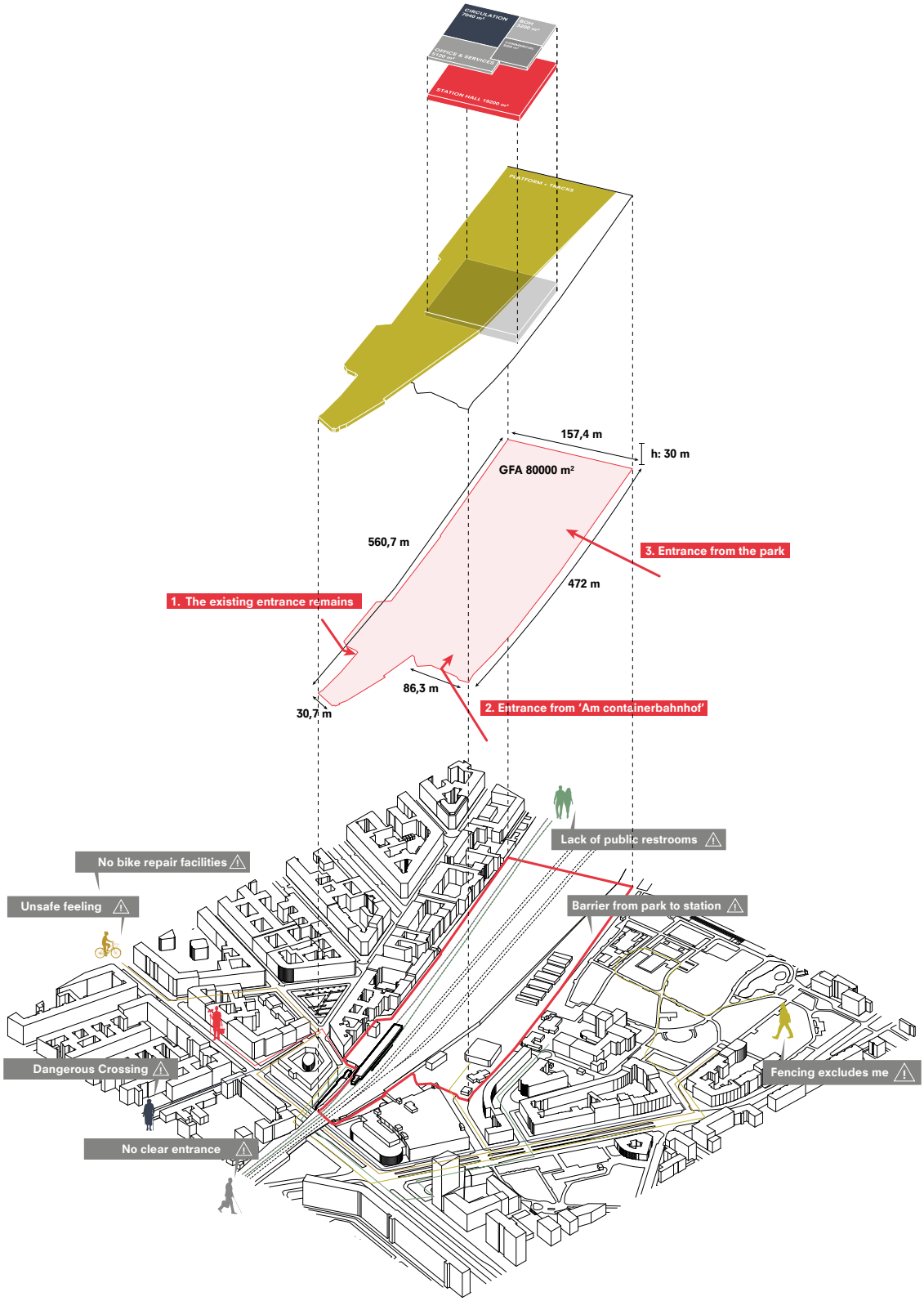


Figure 24: Program responding to user demands on site

The suggested program aims to address the diverse needs of various personas in the best possible ways through the following potential approaches:

As mentioned before, the platforms and tracks serve as the key spaces for a train station. Analysing Frankfurter Allee, this becomes a major constraint, necessitating the initiation of the design process with a focus on the existing tracks. This foundational aspect already imposes limitations on shaping the building's form.

The proposed program is designed to meet the diverse needs of various personas in the most effective manner. The emphasis is on achieving accessibility, inclusivity, safety, and maintaining a recognizable identity. Consideration should be given to introducing new entrances to overcome barriers from the park. Adhering to a user-centric and anarchistic approach, the building shouldn't be higher than 30 meters (figure 24).

There are multiple approaches to situating the program on the site. Options include consolidating all square meters on one floor, adopting a cube configuration for logical wayfinding, or embracing a campus approach where users may have the opportunity to customize a section—an anarchistic method of design (figure 25).

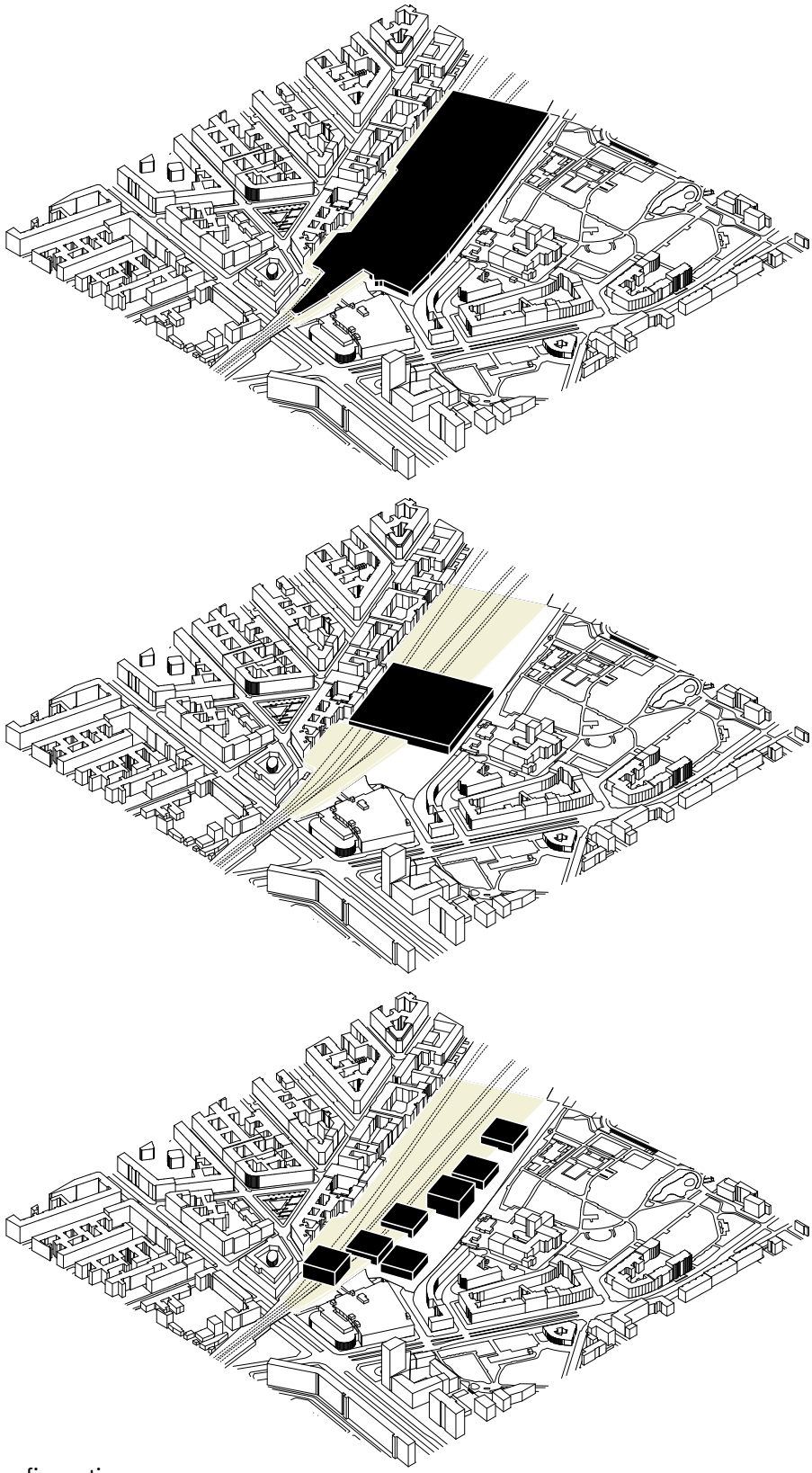


Figure 25: Massing configurations

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05


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FIGURES

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Figure 11: Google Earth Engine
Figure 12: 'Am Containerbahnhof'

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