

**Matilde  
Negri**

# **Next Stop: Hardbrücke**

**A new vibrant  
cityscape for Zürich**

**#Centrality #Densification #Connection**

**#Traffic #Station #Mobility**

**#Rethink train trucks**

**#Infrastructure #Rethink the city tangentially**

# Next Stop: Hardbrücke

The city of Zürich is characterized by two main geographical borders: the Limmat and the Gleisfeld (Zürich-Baden railway). Because of their nature, they have been historically difficult to cross, and, as a consequence, the city developed along them, linearly spreading further away from the center. In order to easily overcome these borders, the first Hardbrücke was constructed in 1867, tangentially to the city center. It brought mostly people and horses from Hardplatz to Pfingstweidstrasse and provided access to the Nordwestbahn as well. The New Hardbrücke was built between 1969 and 1972 as a temporary solution - until the construction of the Expressstrassen-Y - to ease the city traffic from north to south. The traffic was so intense that cars directed southwards were diverted to cross further west over the Duttweilerbrücke. With the opening of the West Umfahrung the opportunity to develop a new traffic concept over the bridge was proposed, but the project was turned down eventually. The street was converted from an express-way to a neighborhood street only in the southern part of the area around Bullingerplatz. Over the Hardbrücke the traffic has decreased by 80% in some sections, but still around 80'000 cars pass each day through it nowadays. Despite the recent addition of the tram line number 8, the traffic over the bridge is still mainly car oriented, with a separate lane for busses and a slow-vehicles dedicated paths, but only in the southern part. Here pedestrians and bikes are confined together on a 4-meter-wide lane with a bus station in between.

The bridge has historically connected the city through cars, but it has also been developed in strong connection with the Hardbrücke station since the beginning. It was buildt in 1982 as a simple train stop with two tracks. Twelve years later, with the enlargement and addition of a new train line, the station participated actively in the development of the confining districts from industrial sites to urban neighborhoods. Trains passing through the station serve only regional destinations, however with around 50'000 passengers per day Hardbrücke is the fifth station in Zürich and the eleventh in Switzerland. Forecast say passengers will soon become 90'000, which is as much as the Lausanne station serves nowadays. However, for both its growing number of passengers and for the confining districts the station has nothing to offer. It is not a comfortable place to wait for connections or to rest. On the upper part of the bridge, the traffic is the protagonist. On the lower level, the situation doesn't change much. The underground passage with its narrow corridors and three small shops has nothing to offer, no free space, and no space to stay. During peak hours space becomes very tight.

Despite its current situation and the many challenges offered by the station of Hardbrücke, its location is unique: the Gleisfeld, which is probably the least constructed plot in Zürich and is very contended. Slowly, this area is being integrated into the city with projects as the Europaalle, the new development of the Altstetten Station and the SBB Werkstätten. However, these projects are almost filling the remaining spaces and the Gleisfeld still remains a hardly crossable border in the city. Indeed, only a few bridges provide crossing opportunities through this part of the city. The newly constructed pedestrian bridge near Hauptbahnhof (HB) and the underground passage of Langstrasse are the first one from the center. However, those bridges only allow crossing over the Gleisfeld. Further west we can find the Viadukt, the Hardbrücke and further west, Duttweilerbrücke and the Europabrücke. The Viadukt still remains interrupted, offering only a pedestrian crossing over the Limmat. Amongst these bridges, the Hardbrücke remains the first and almost only place to offer tangential crossing of the city of Zürich to both sides of the valley. Another challenge related to the Hardbrücke station is the Public Transportation Traffic. The tram network in Zürich is indeed very radial and is centered around HB only, which is thus overloaded, especially during peak hours. Hardbrücke offers the very first tangential connection of the city and with it the possibility to better distribute this part of traffic, mitigating the overburnt system.

To sum up, there are many potentialities and challenges in the area of the Hardbrücke station. The traffic still represents the major challenge to overcome. The Gleisfeld is at the same time a very imponent border but is also represent an opportunity to find some space in the city. Being on the first bridge connecting both sides of the valley and at the center of the defined densification areas, the Hardbrücke station encapsulates significant development opportunities for the future city of Zürich.

My project proposes a new and different vision of the Gleisfeld in Zürich. It regards it as an opportunity to provide the lacking and needed space to the city which is foreseen to grow by 25% by 2040. It regards the existing infrastructure around the Area as an opportunity of re-distribute and better-connect the city and regards the Hardbrücke as a new centrality for both passengers and inhabitants: the heart and motor of the tangential axis of the city of Zürich.

Zooming in:

The area around the station is characterized by a discontinued and complicated network of traffic and connections. At the present time, the most important ones are the railway and the traffic network, which are also taking up significant space. Five lanes on the bridge are exclusively dedicated to cars and with them every ramp. Consequently, the space for pedestrians is tight: the existing crossing are very few and completely absent on the bridge. Moreover, pedestrians don't even have a dedicated path on the bridge. Indeed, they are sharing it with

bikes and other slow traffic alternatives. The bike network is also inconsistent and incoherent. No separated lane is offered for bikes on the bridge. As a consequence, bikes have either the opportunity to cross the city underneath the tunnel (where the bike network is also interrupted) or to stay on the bridge where the situation for them is difficult and dangerous. The tram crosses the bridge only over the Gleisfeld and comes right after underneath it. The free spaces offered in the area are also discontinued and not always successful. Green spaces are less connected and lacking, while other open spaces such as Hardplatz hardly work and don't have much to offer to the inhabitants. Moreover, if we calculate the public space needed in line with the guidelines offered by the city of Zürich, many square meters are still required to match the expected amount. The last peculiarity of the area is its density in high buildings, only comparable to the one in Oerlikon in the city. Many skyscrapers have already been constructed and gave an identity to the area such as the Hardturmareal of the Prime tower. Others are coming in the next years, such as the Tram Depot and Siedlung Hard.

The Area I chose to consider lies within existing borders: on the west and east sides it is framed by the infrastructure of the Hardbrücke and the Viadukt, on the north by the Gleisfeld border to the Frau Gerolds Areal and on the south the Hohlstrasse with the new Justizzentrum. Compared with other existing spaces in the cities, the surface has similar dimensions and it has therefore the opportunity to offer similar programs and uses to the city.

My project is about exploring the potential of the Hardbrücke station to become a new station typology that both enhances the connectivity of the city and offers public space. To offer this I considered the possibility to build a living surface (bridge) over the Gleisfeld, with a new station development that considers both the needs of the growing city of Zürich and the increasing number of passengers for the station. As a first step, I therefore considered possible a new network connectivity in the area. In my project the tram over the Hardbrücke becomes a reality offering double the space as a single bus can nowadays. On the other side, part of my project is also a second international station over the southern tracks of the Gleisfeld. Both these interventions will allow with time to contrast the saturation of the public transportation network of the city. The project sees therefore two stations in front of each other dialoguing over and in between the main station square. On the south, the bridge slows down in direction Hohlstrasse favoring the crossing of the Gleisfeld and on the east the extension of the Viadukt becomes reality and the border of my project as well. This means that also here a connection to the proposed Seebahnpark in direction Limmat is provided. Over the surface mobility is layered promoting slow pedestrian and bike traffic. Major and minor connections are provided for both transportation systems, providing new cross connections and a fluid movement around the area. The strengthen public transportation system is integrated in the newly constructed square and promotes a fast and easy interchange between different mobility typologies. The car traffic slowed to 30 km/h and was thus significantly reduced.

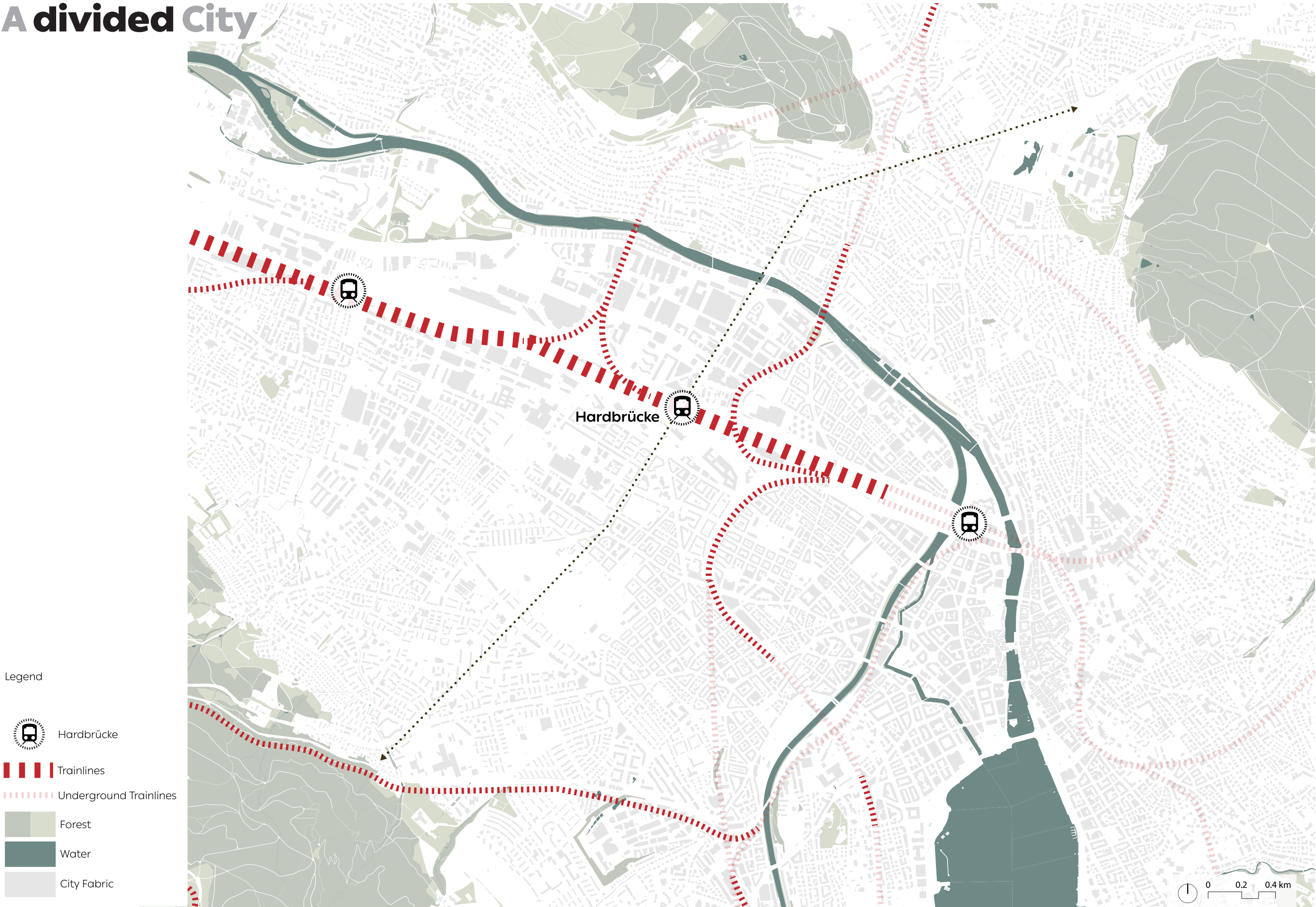
Overall, the project is composed by a surface, connecting the two sides of the city and offering different functions. The two station buildings at the side of the Gleisfeld are mainly two station halls containing retail and gastro spaces. They also represent an opportunity to expand function connected with the confining Frau Gerolds Areal, such as exhibition rooms, discos, and atelier spaces. On the southern side of the building site, a car parking space with a logistic center is provided underneath the surface, together with a sport center. Over the surface other functions are provided mainly related to public space functions. Different open spaces are provided. On the north a mobility square in between the two stations. On the east we can find a continuum to the Seefeld Park a green space with a playground, spaces for encounter offering shadow and rest. On the south different typologies of spaces are offered: a terrace related to the station, and a more silent green space offering some higher trees and shadow due to the different positioning and possibility to create a higher level for trees to grow. The station roofs are also functioning as energy collection spaces with solar panels and water collection surfaces. Indeed, the whole water collected from both the roofs and the mobility square is collected in a central water surface that functions both as a water storing space and as a gelande for a central hole. The latter defines the mobility square and offers a glimpse and visual relation to the Gleisfeld underneath as well. Finally, on the site, some density points in the form of skyscrapers are provided. These are intended to be programmatic mixed use of offices and shops on the first floors and apartment spaces on the top floors.

My project tries to offer a new typology of station that tackles the problematic of the area and tries to offer a more durable space in provision of the foreseen 90'000 passenger that will likely occupy the space. It develops a program in line with the Richplan guidelines, such as the use of roofs to produce energy, collect water and provide a green surface that helps with biodiversity. But also offering more space for fossil-free mobility, and diverse open spaces for the city. Looking at the big scale, it also potentially offers a green connection between the two neighborhoods, in particular between the Seebahnpark and the Josefswiese and on a bigger scale between the Seebahnpark and the Limmat through the Viadukt. At the same time my project develops a Mobility Hub inspired by the guidelines offered by the SBB on how future station development should look like. Indeed, not only providing fast and easy interchange between transport typologies but also providing new open spaces for the city.



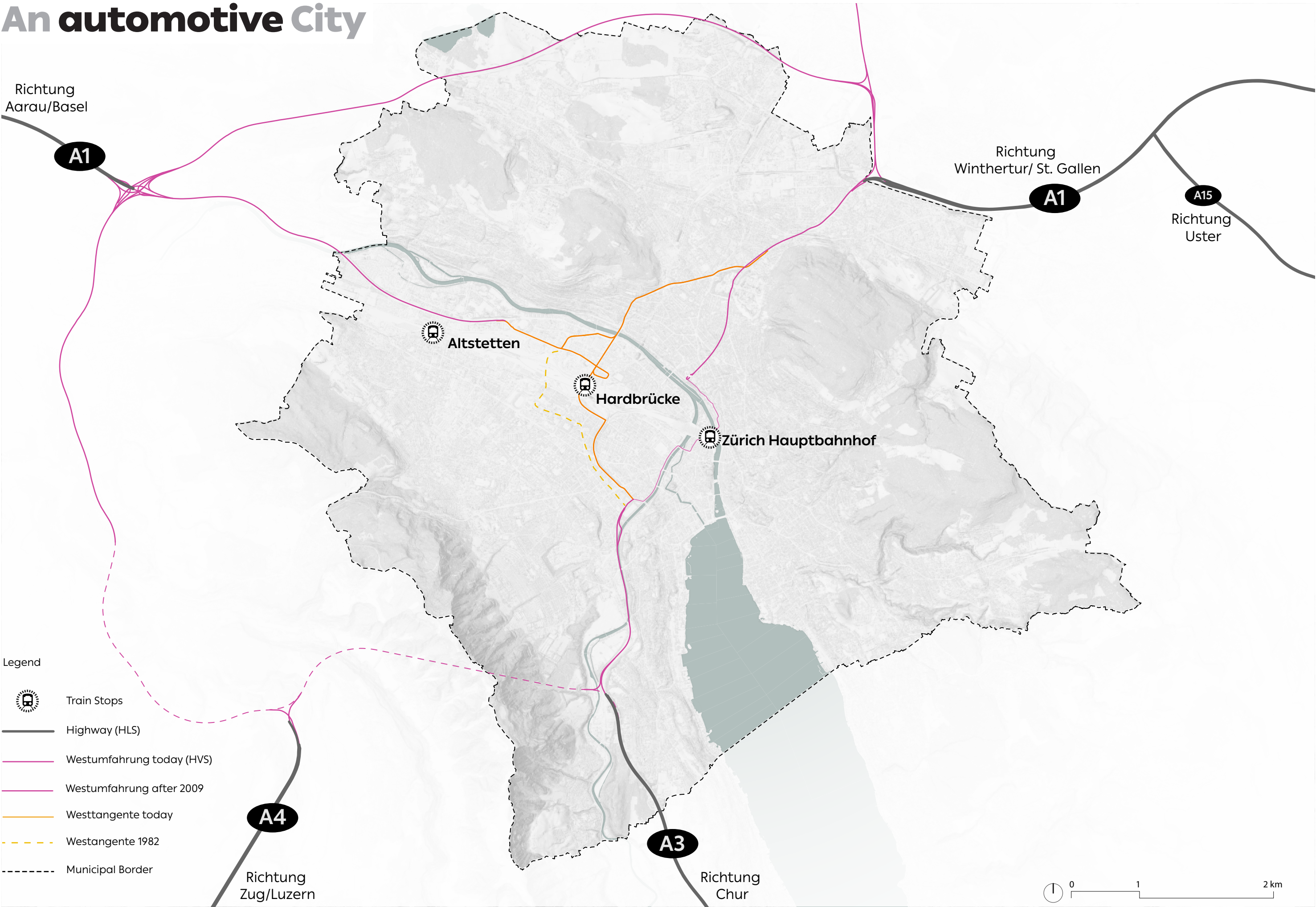
# Research Phase

# A divided City



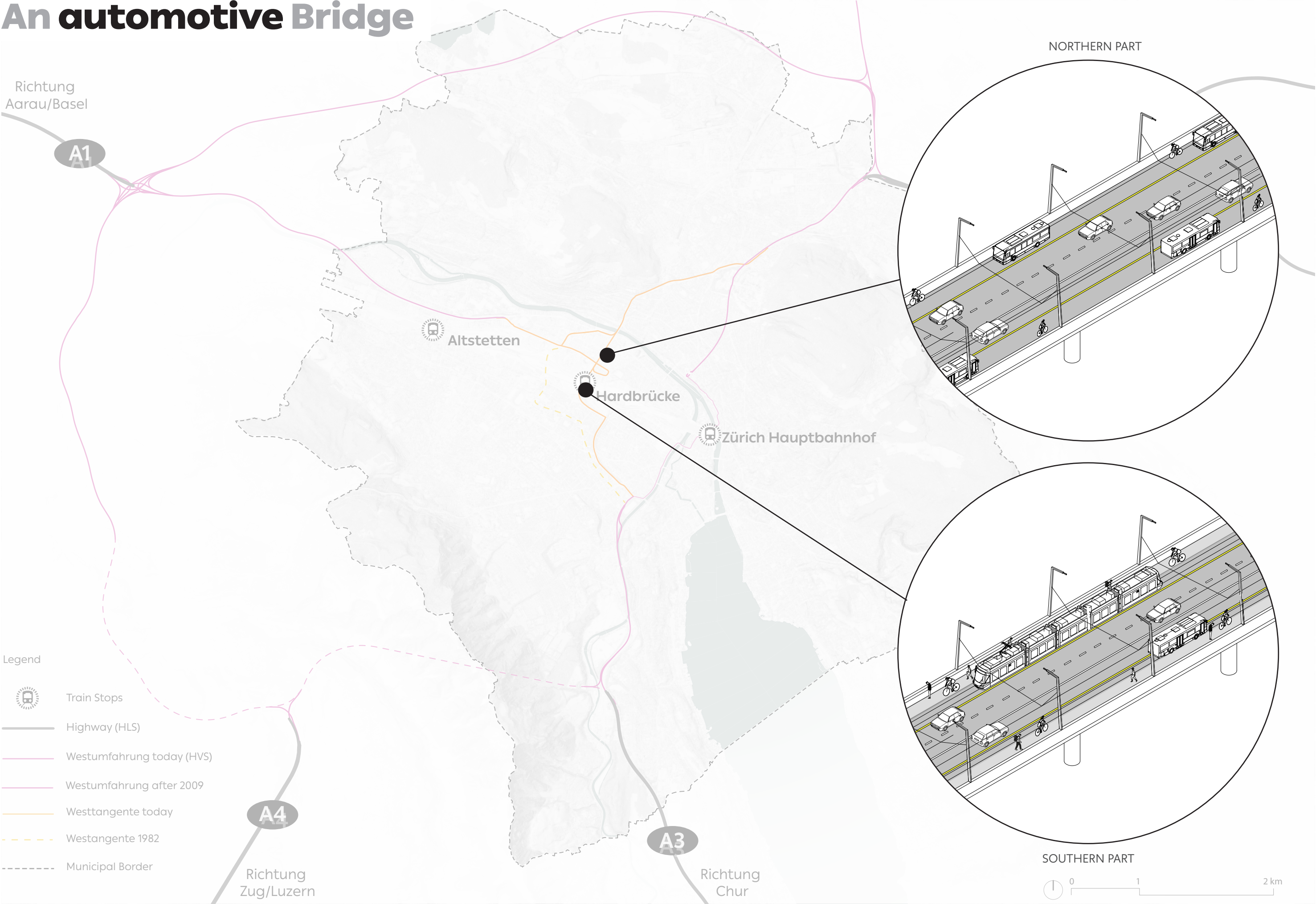


# An automotive City



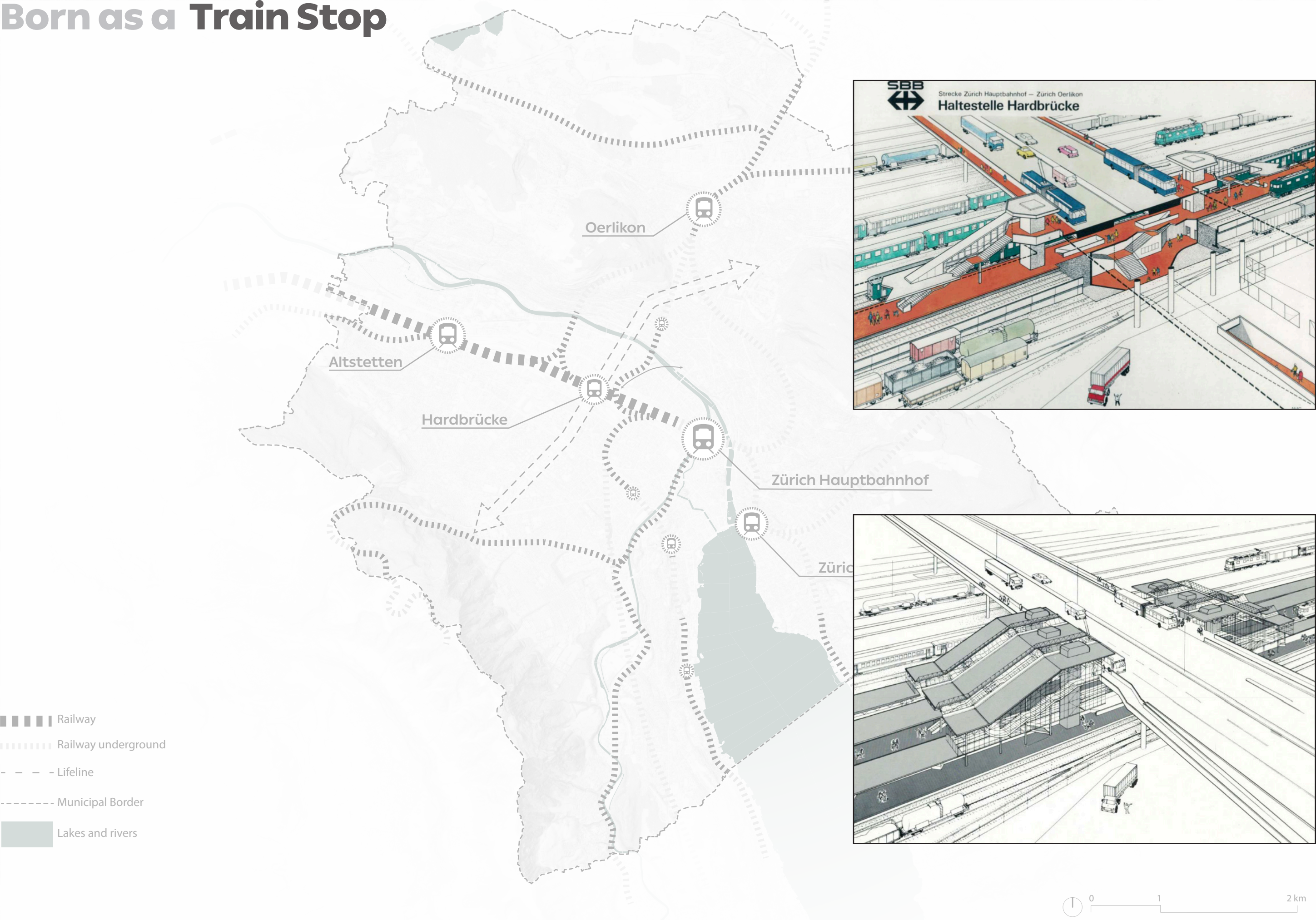


# An automotive Bridge



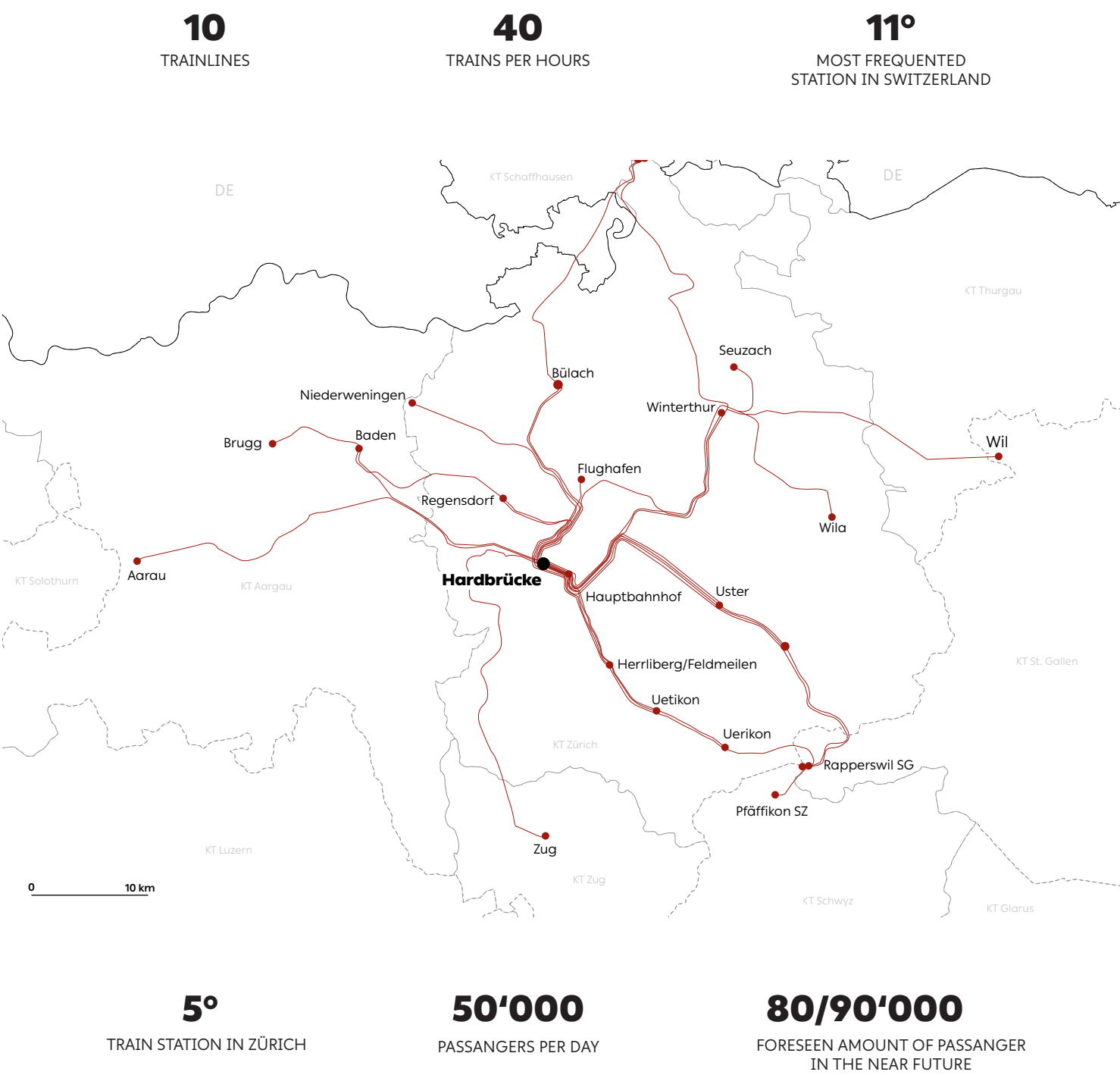


# Born as a Train Stop

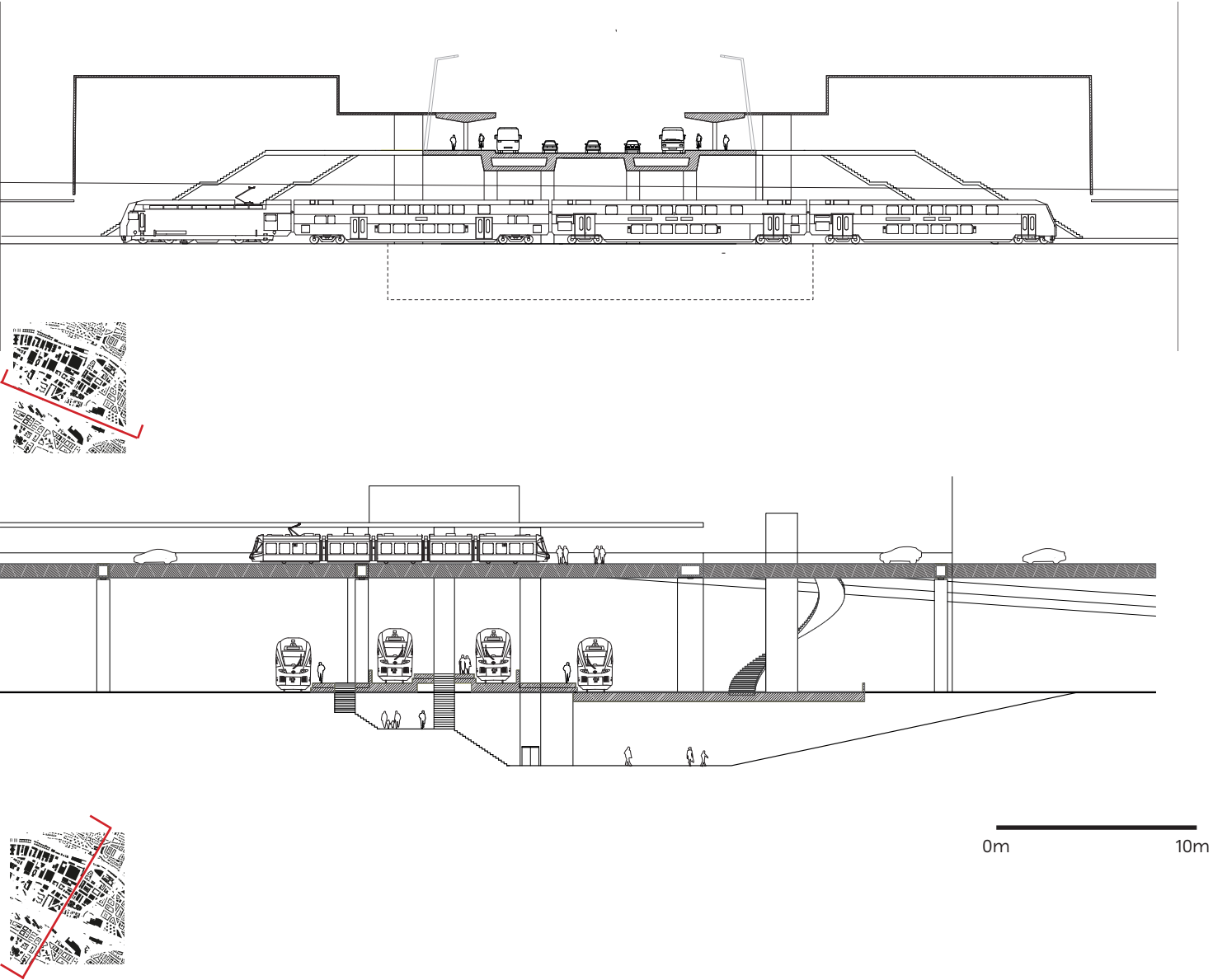




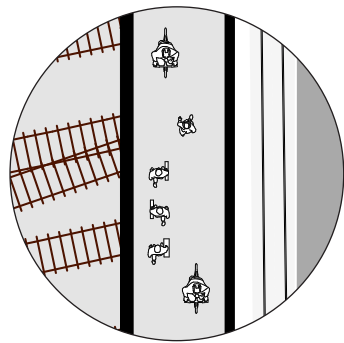
# The buisiest place in Zürich



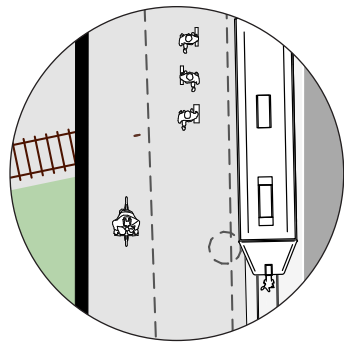
# Layered Mobility



# No place to stay



Busy slow traffic path - mixed use pedestrian-bike traffic



Tight Public Transportation Stops with complex traffic rules

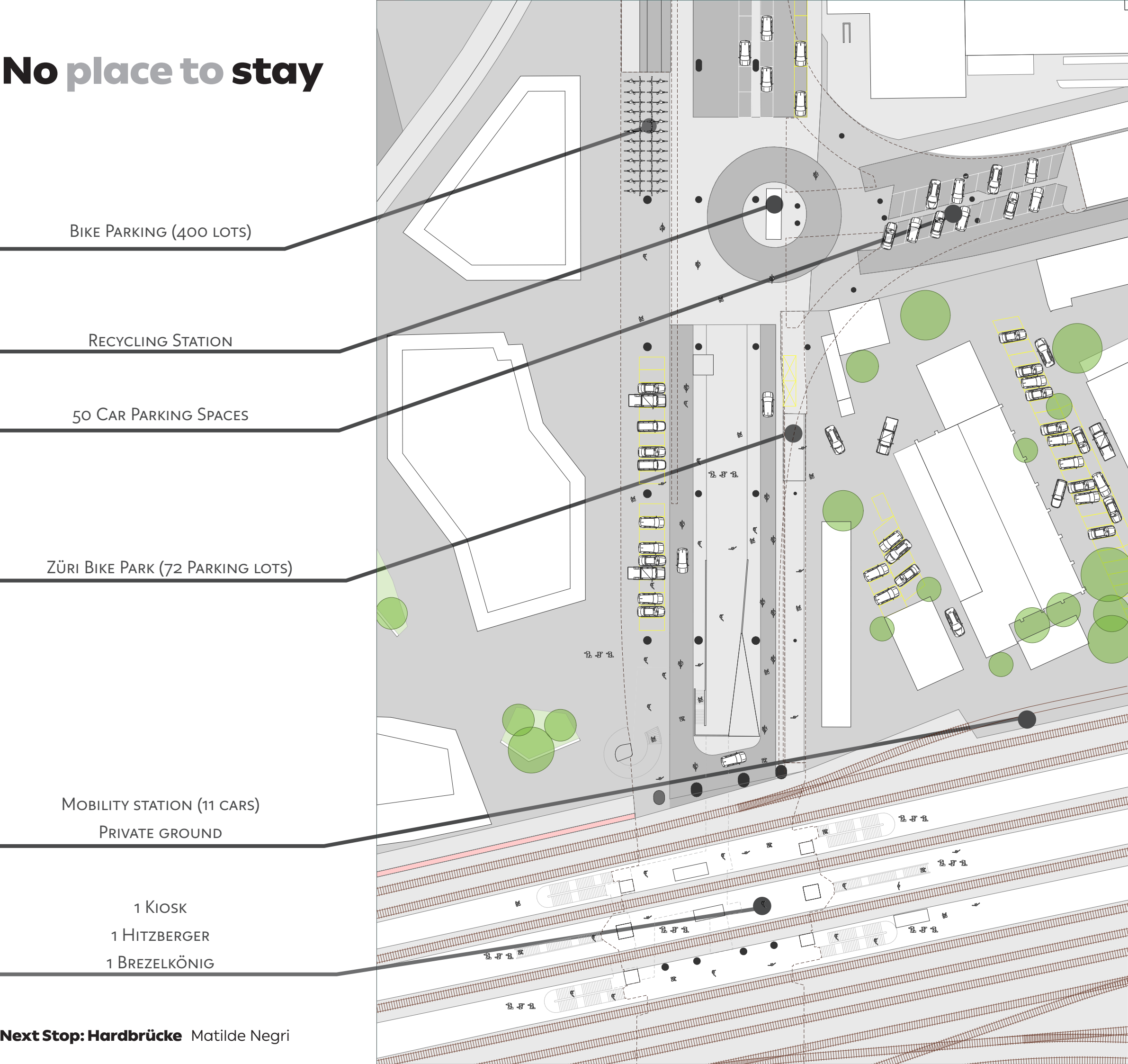
BUS STOP(4 BUSES, 1 TRAM, 2 NIGHT BUSES)

BIKE PARKING (400 LOTS)

EXPRESS STREET



# No place to stay



BIKE PARKING (400 LOTS)

RECYCLING STATION

50 CAR PARKING SPACES

ZÜRI BIKE PARK (72 PARKING LOTS)

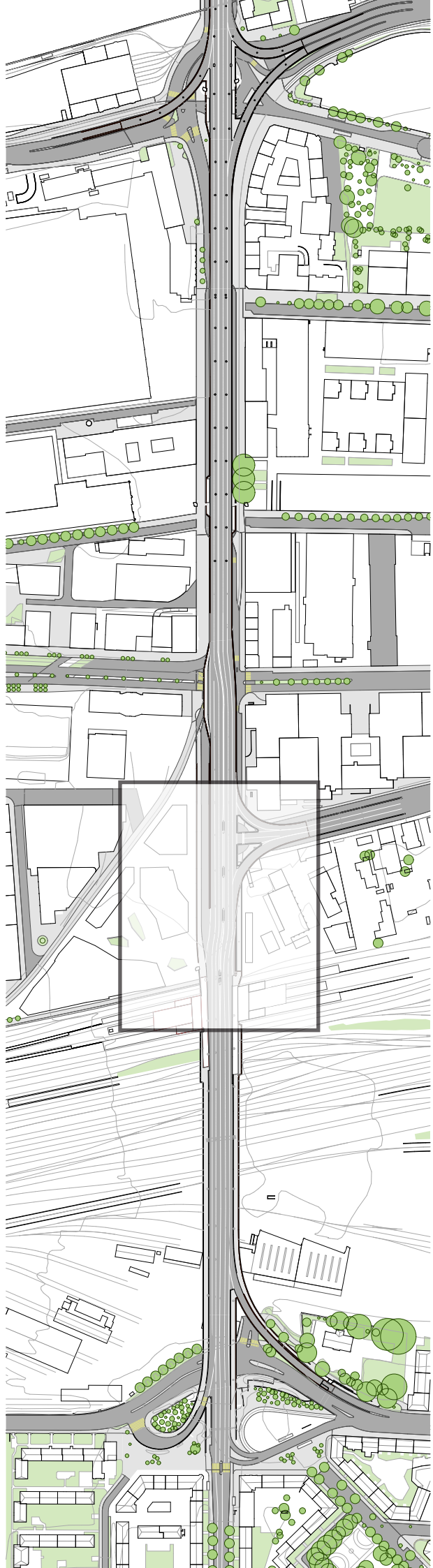
MOBILITY STATION (11 CARS)

PRIVATE GROUND

1 KIOSK

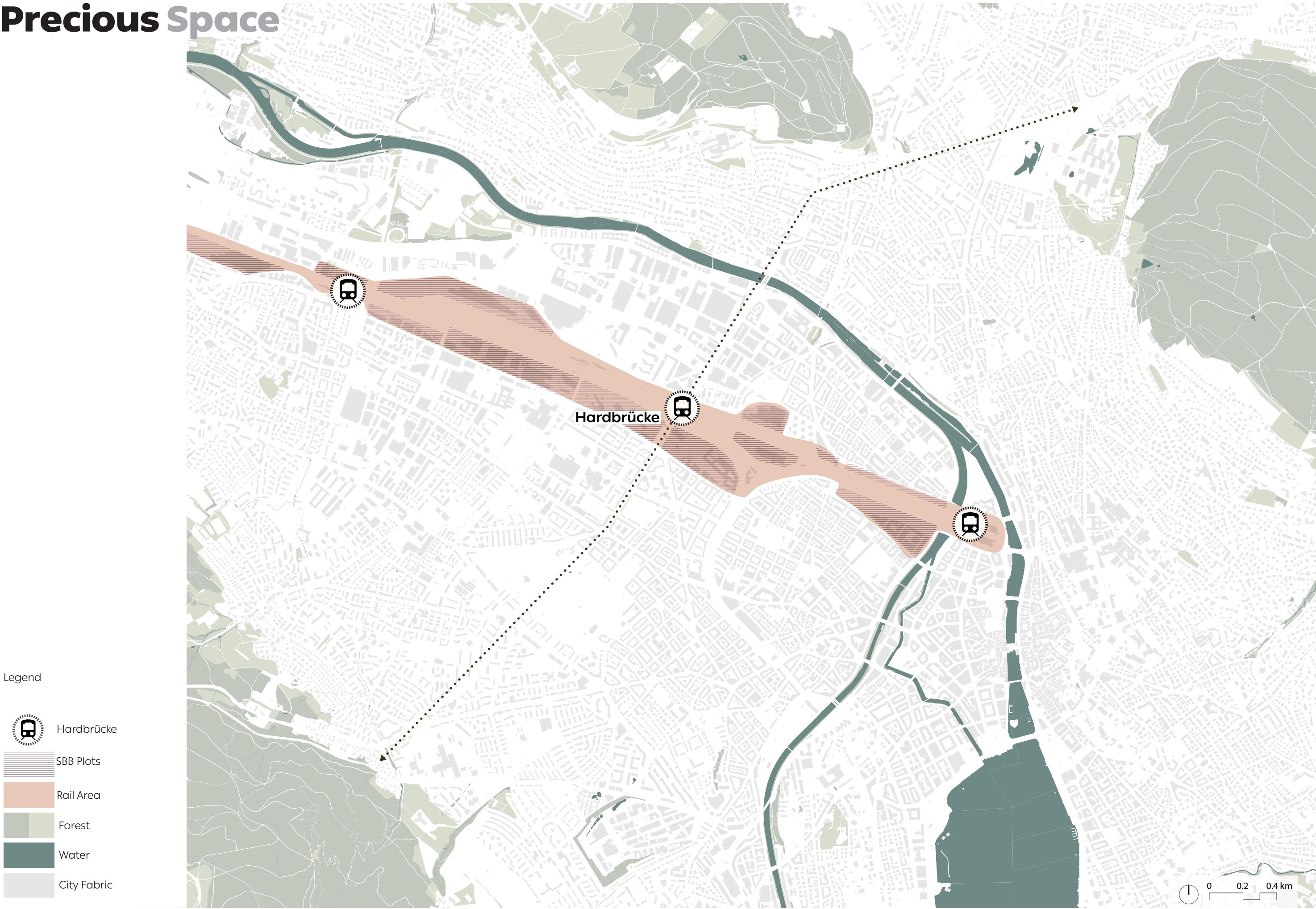
1 HITZBERGER

1 BREZELKÖNIG



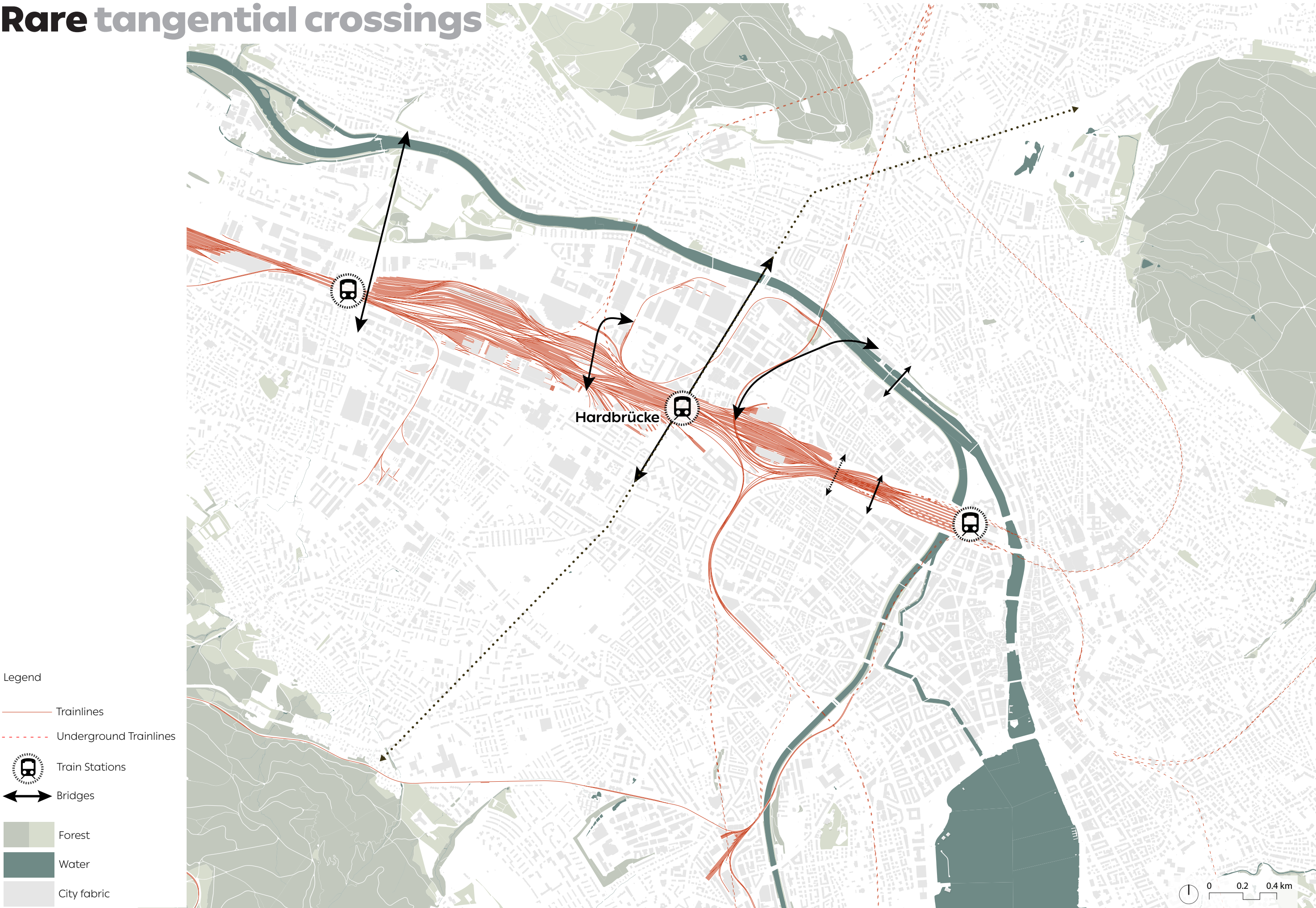


# Precious Space



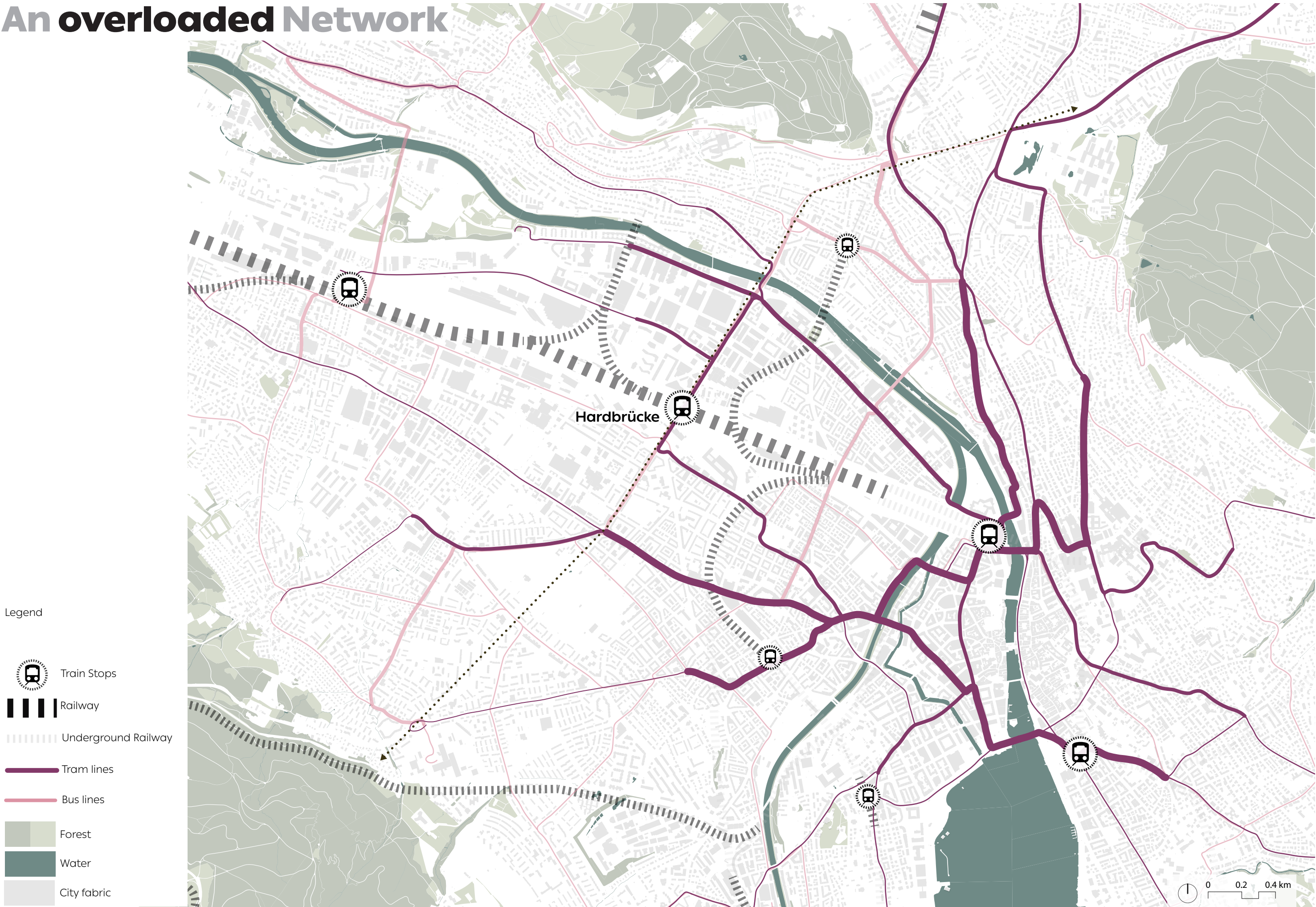


# Rare tangential crossings



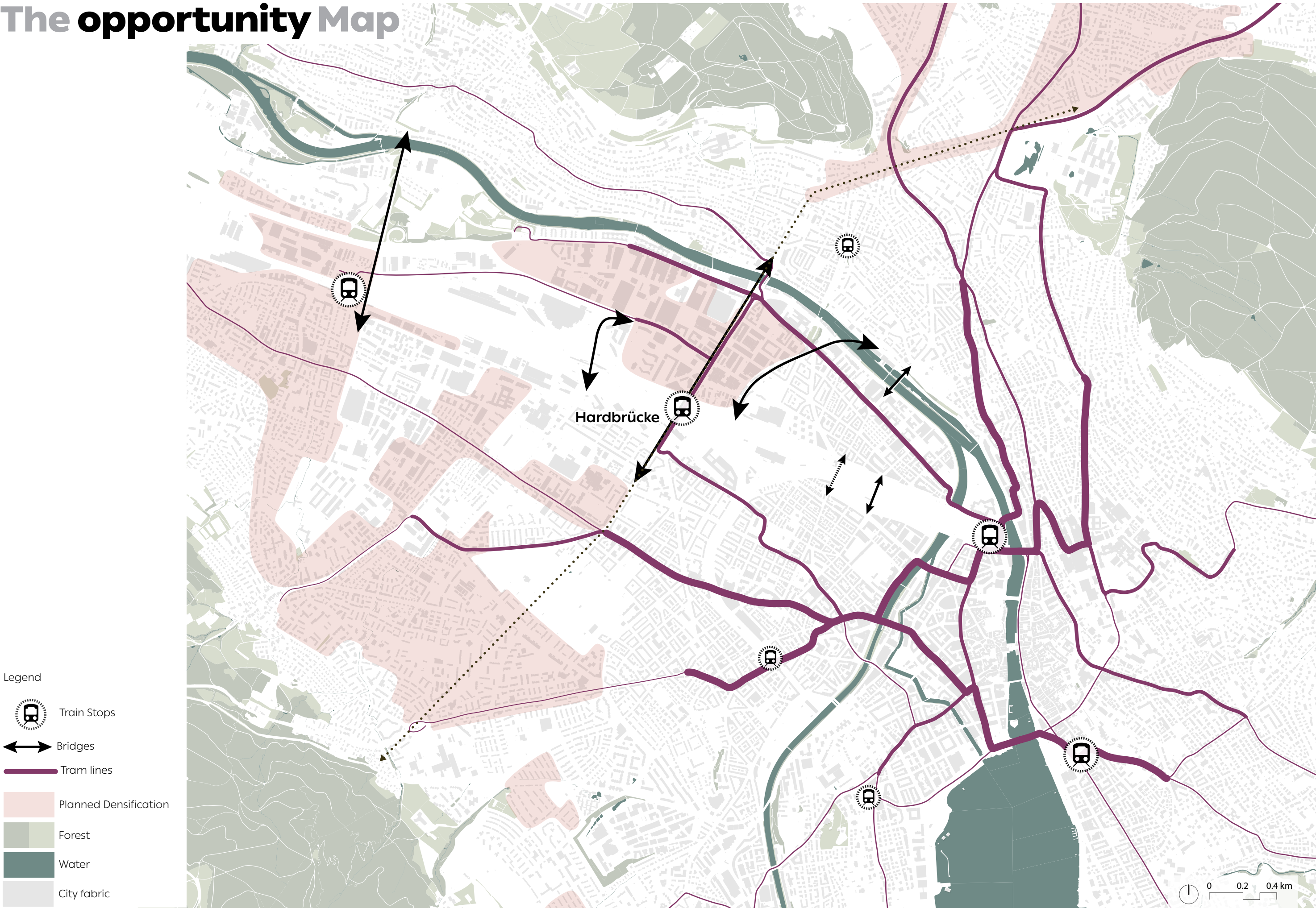


# An overloaded Network



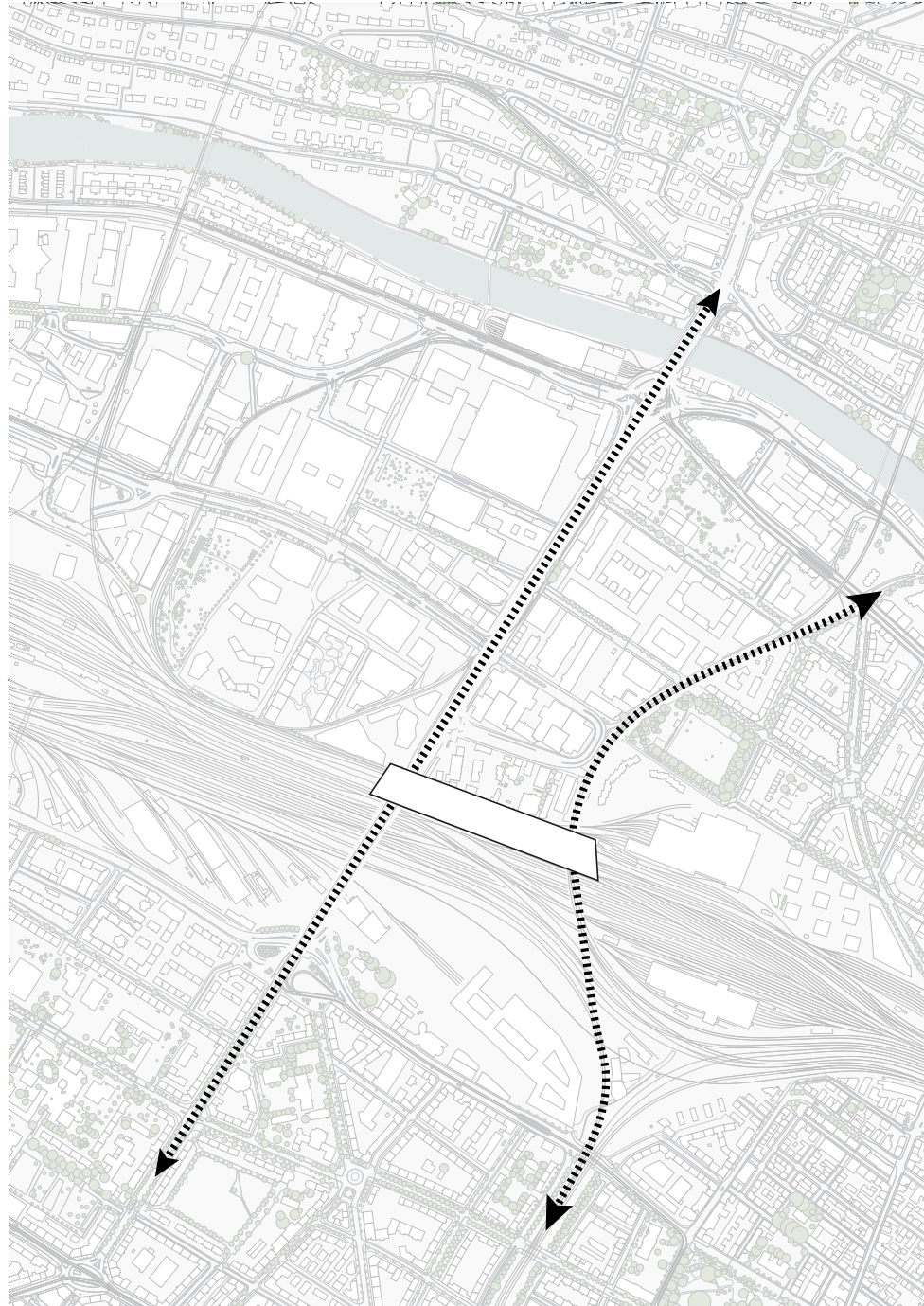


# The opportunity Map

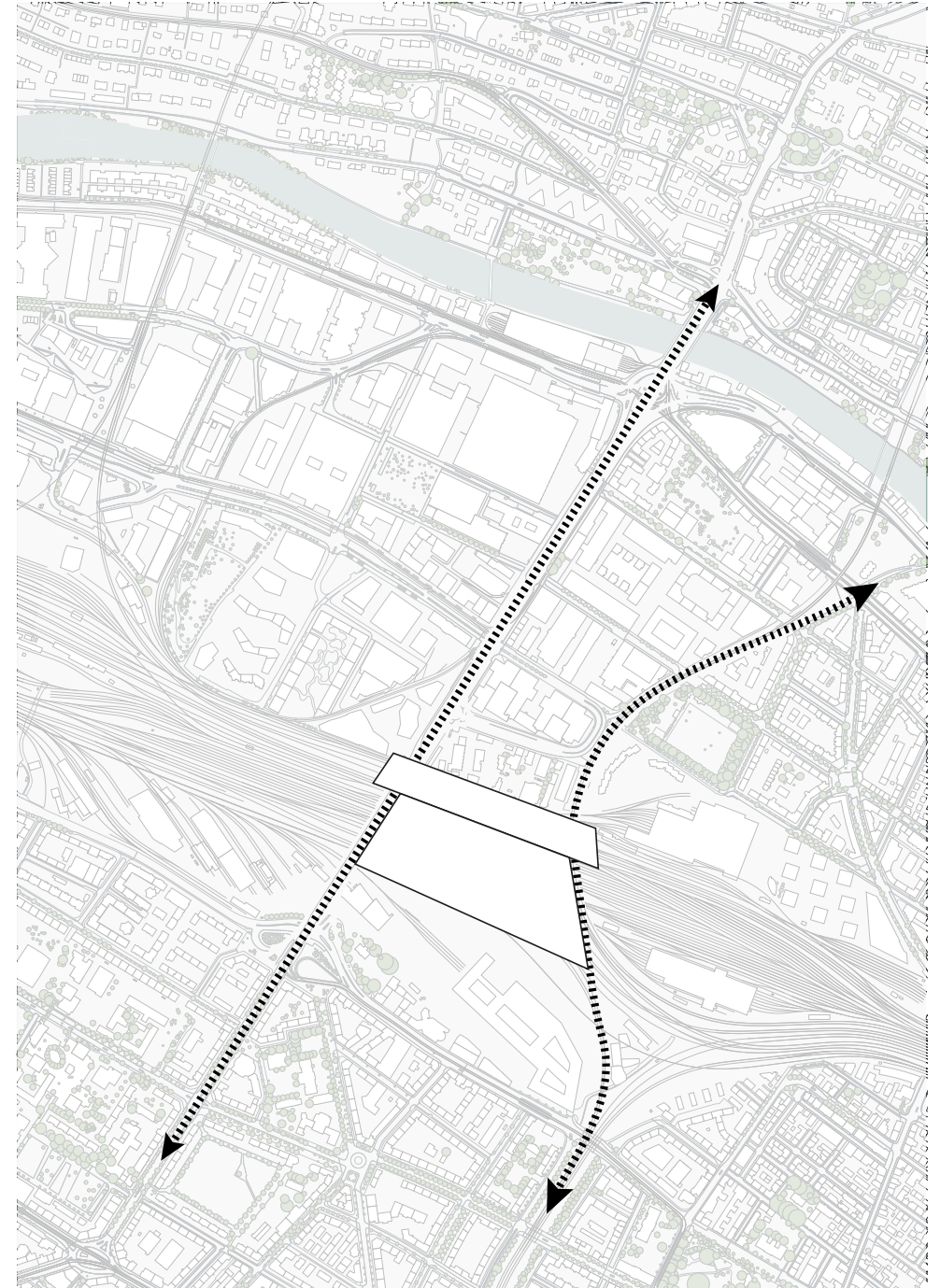




# Infrastructure as Distributor and Connector



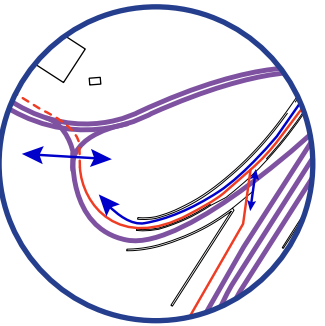
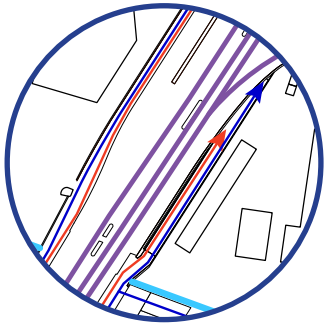
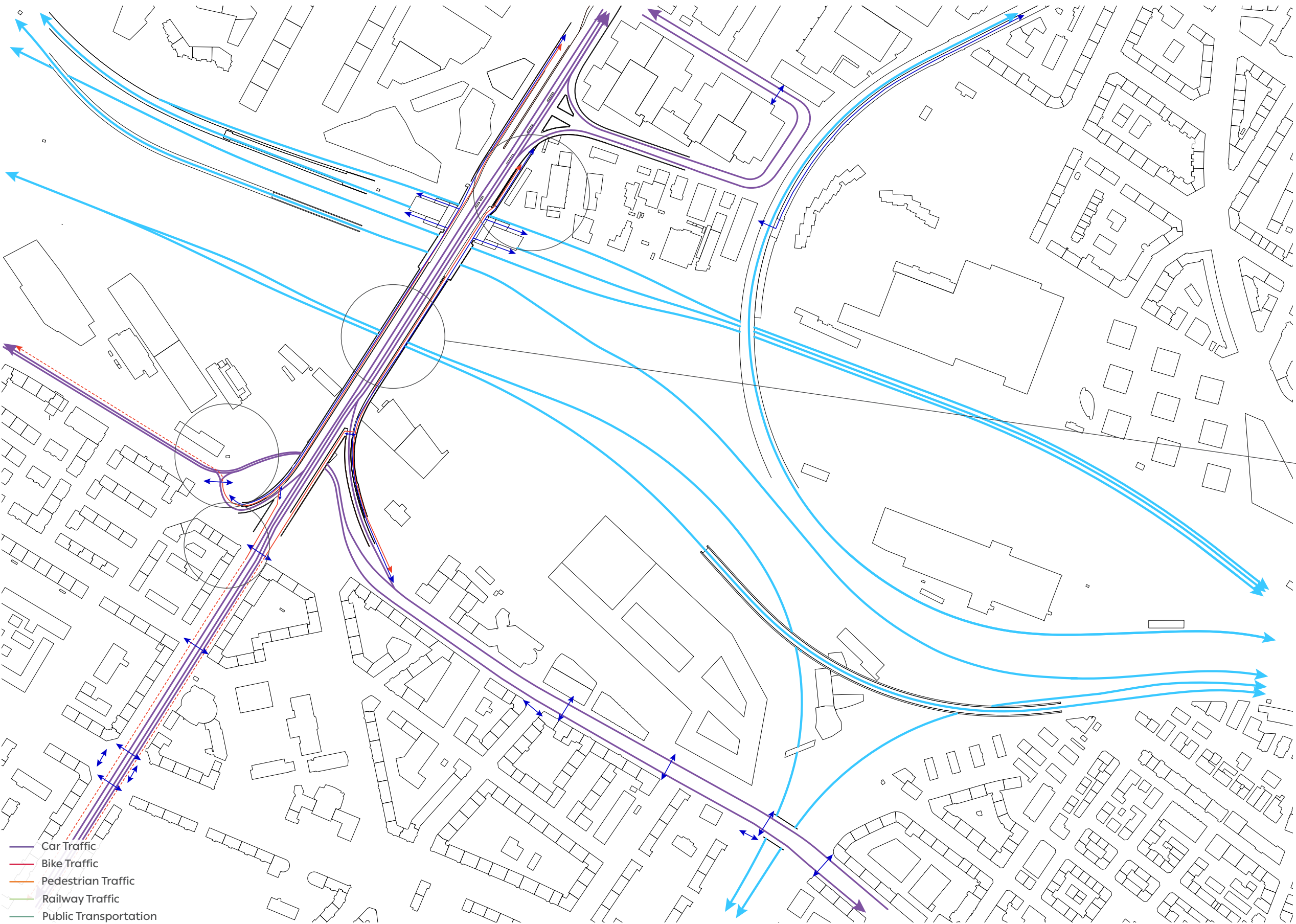
# Hardbrücke Station as a new centrality



# Project Phase

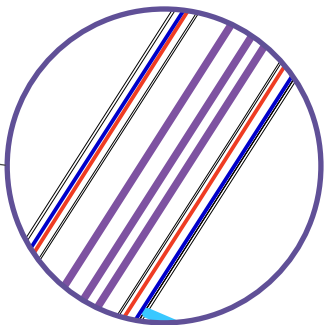


# A discontinued and complicated Network



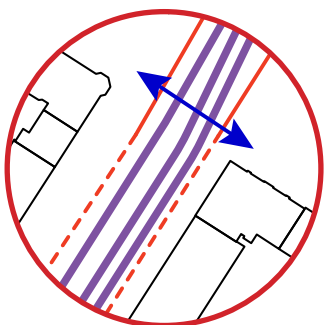
PEDESTRIANS

- few and complicated crossings
- no dedicated lanes



CARS

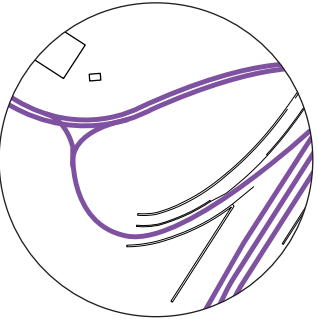
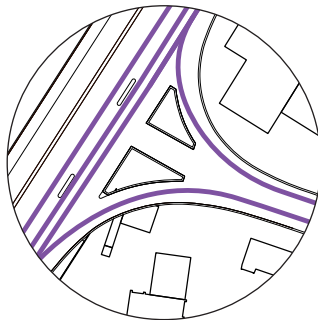
- many dedicated lanes
- clear continuity and priority



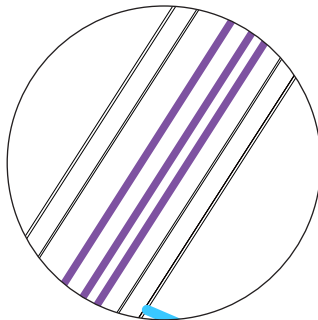
BIKES

- not continuous nor dedicated lanes
- difficult to understand where to go

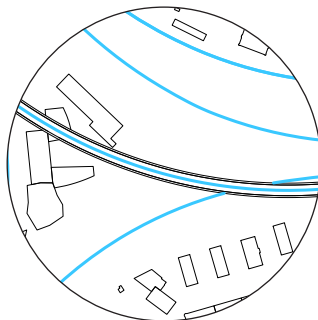
# The Car and Railway Network



PROTAGONIST OF THE CROSSINGS



PROTAGONIST OF THE BRIDGE

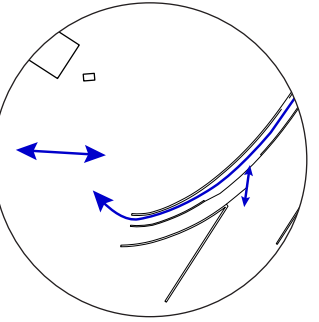
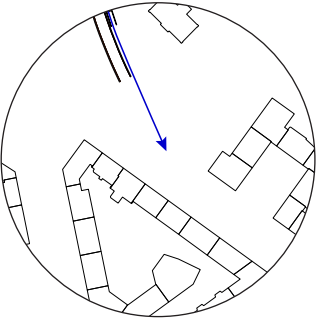
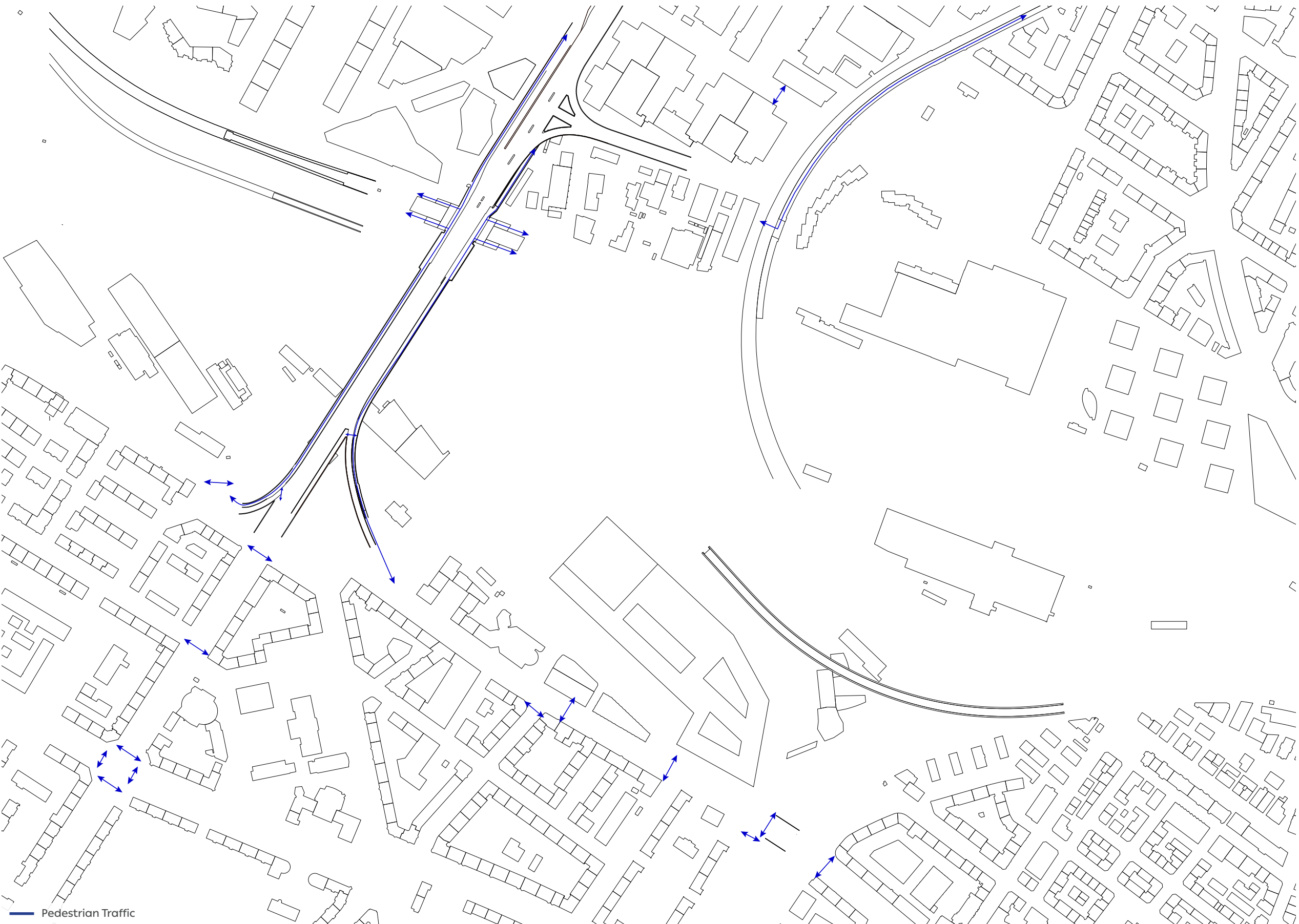


PROTAGONIST OF THE LANDSCAPE AND IDENTITY

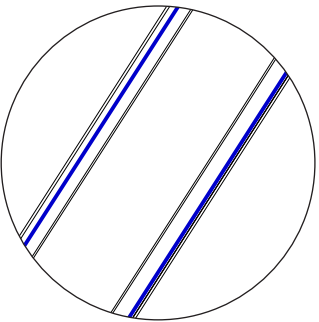
The railway trucks with their complicated crosses and bridges are protagonists of the identity of the confining districts and this place



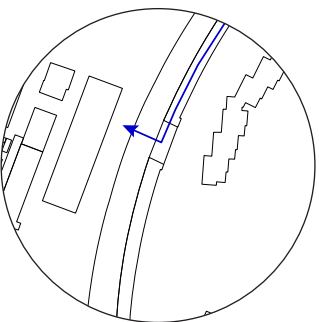
# The Pedestrian Network



FEW, COMPLICATED OR NON PROVIDED CROSSINGS



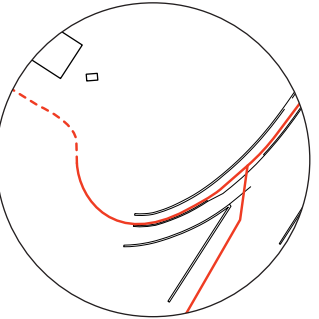
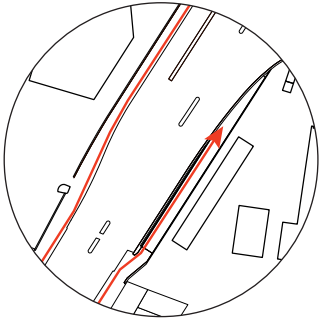
NO CONTINUITY  
Pedestrian can only cross the Gleisfeld and can't profit of the hardbrücke



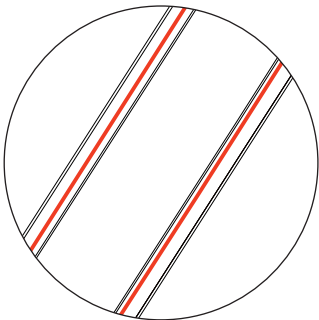
INTERRUPTED CONNECTIONS  
The Viadukt hasn't been developed to be a consistent connection over the Gleisfeld

Pedestrian Traffic

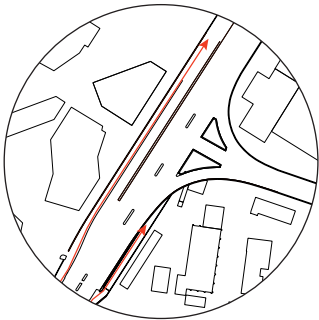
# The Bike Network



**DISCONTINUITI**  
no clear bike lane if offered, is hard to understand where to go



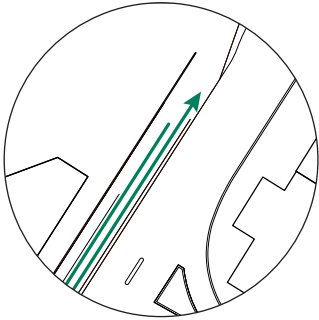
**CARS**  
over the bridge cars are protagonist bikes share a 4m wide path with pedestrian walking and waiting for the bus



**NO ACCESS OVER THE BRIDGE**  
Even if it would be useful to let bike crossing over the hardbrücke they also have no space or dedicated lane

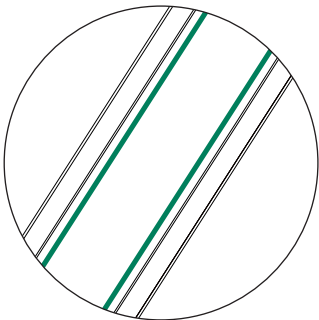
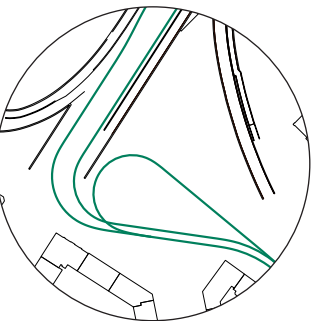


# The Public Transportation Network



USED A BRIDGE

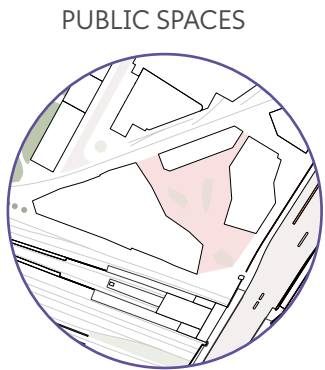
Like pedestrians and bikes the Hardbrücke is only a bridge to overcome the Gleisfeld also for the Trams.



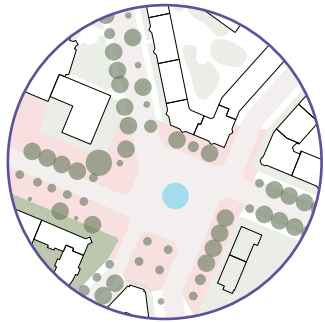
LANES

Public transportation has a dedicated lane an priority over thr Hardbrücke

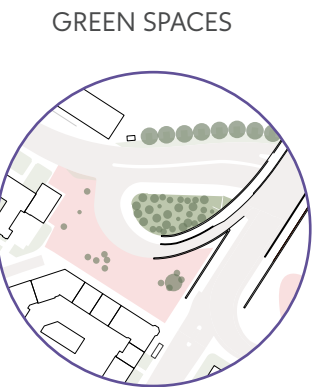
# Isolated and non-coherent Open Spaces



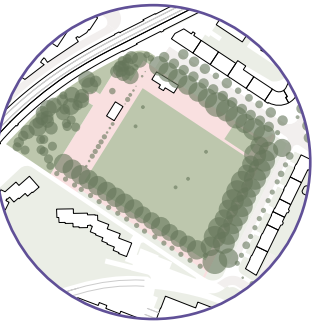
- single use  
- often not used or used during specific hours



- multi use  
- successful



isolated non used spaces



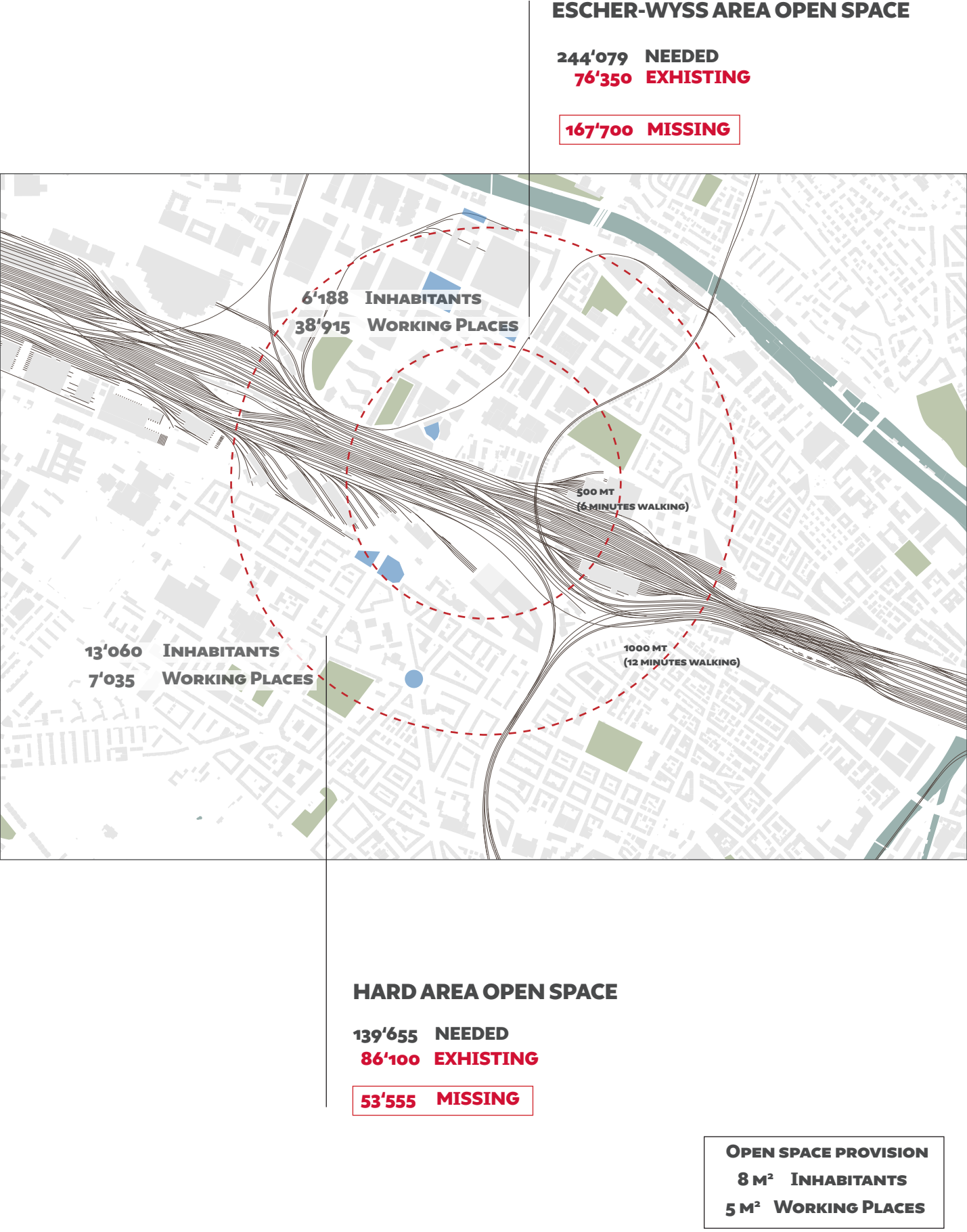
lively multi use spaces



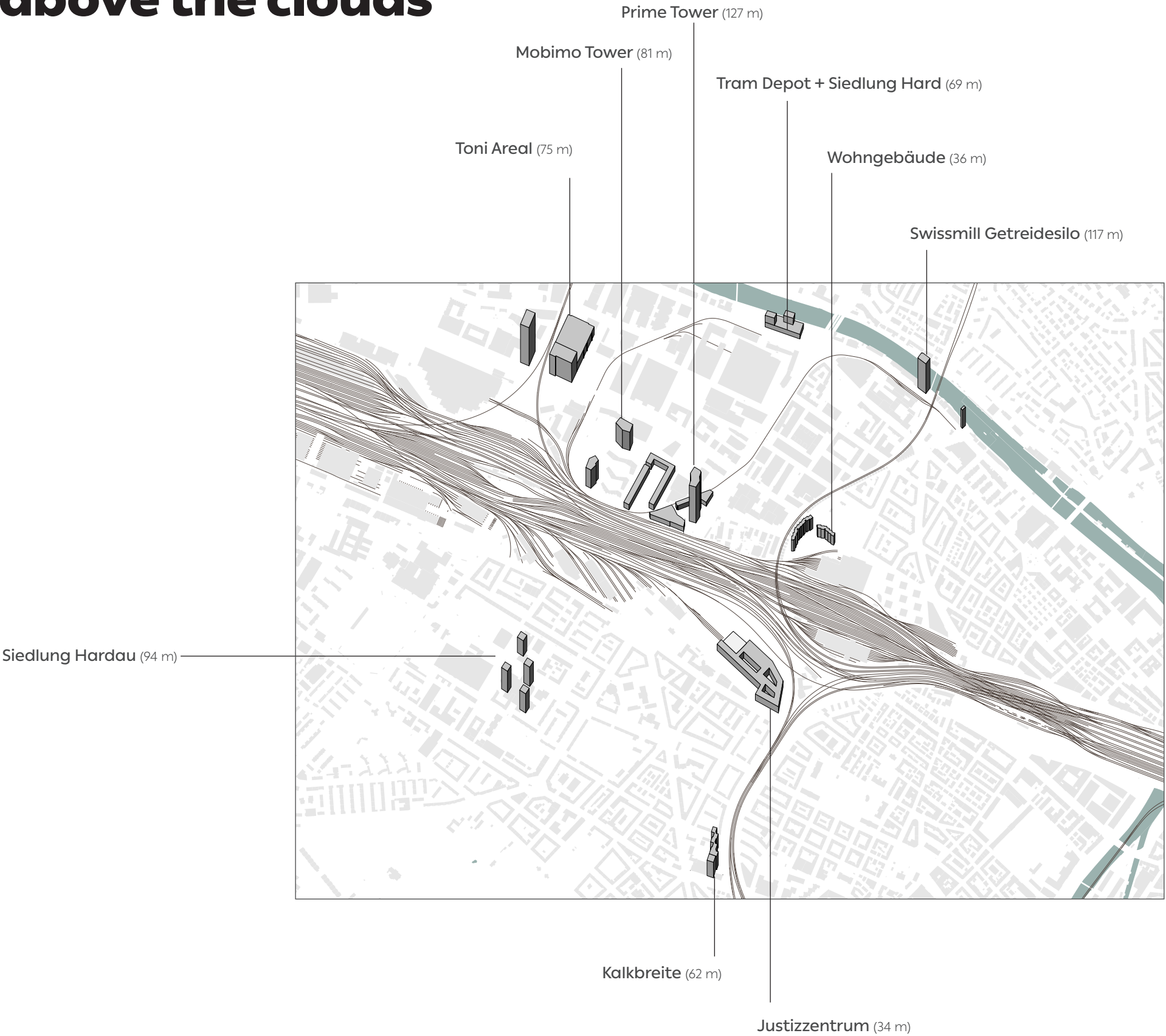
# Exhisting Public Space



# Needed Public Space

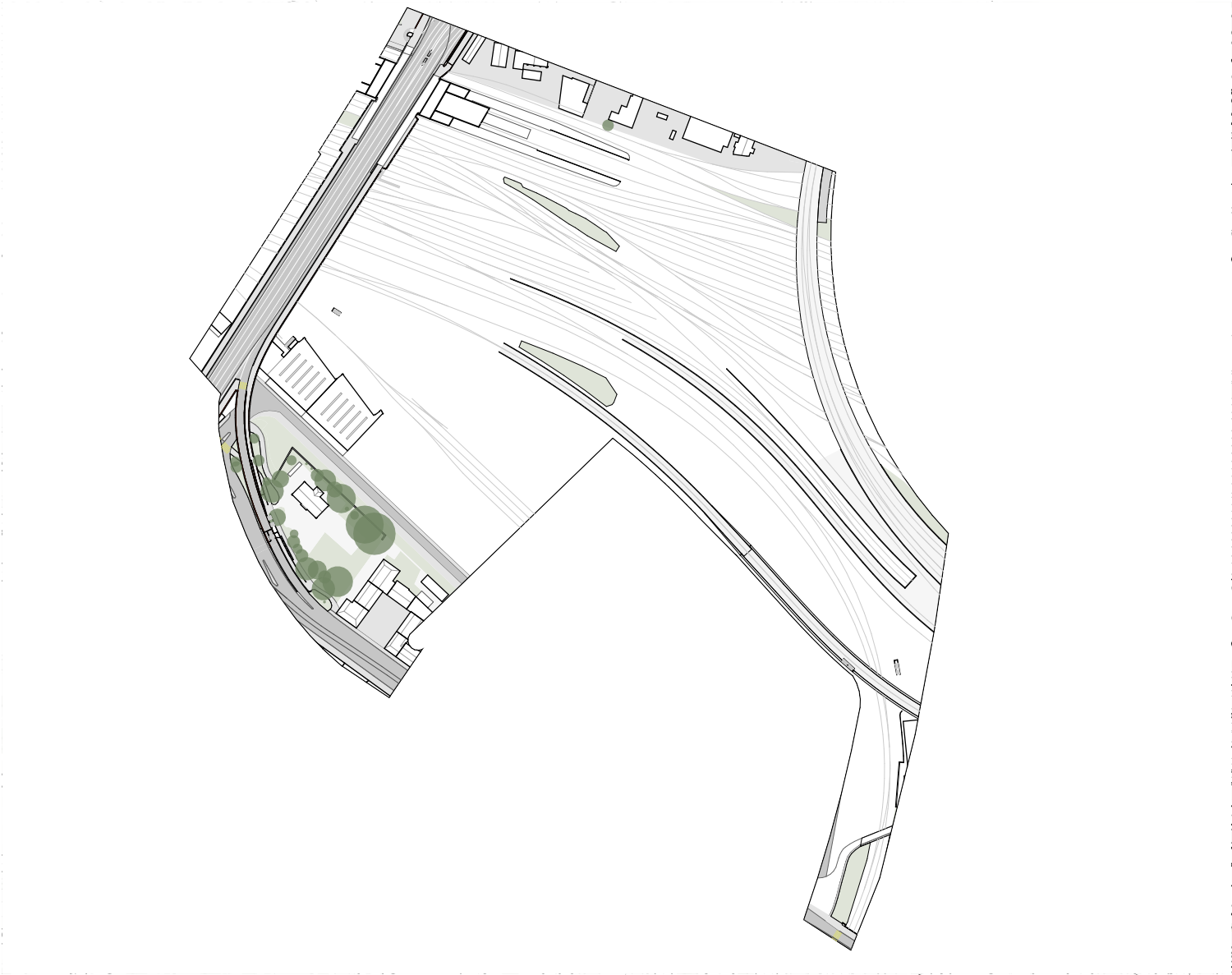


# Zürich above the clouds

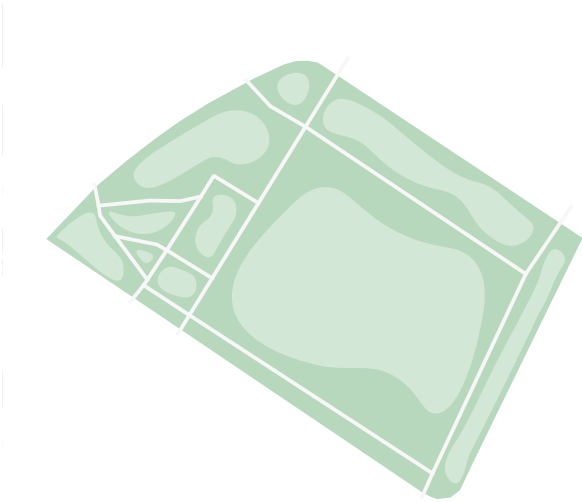




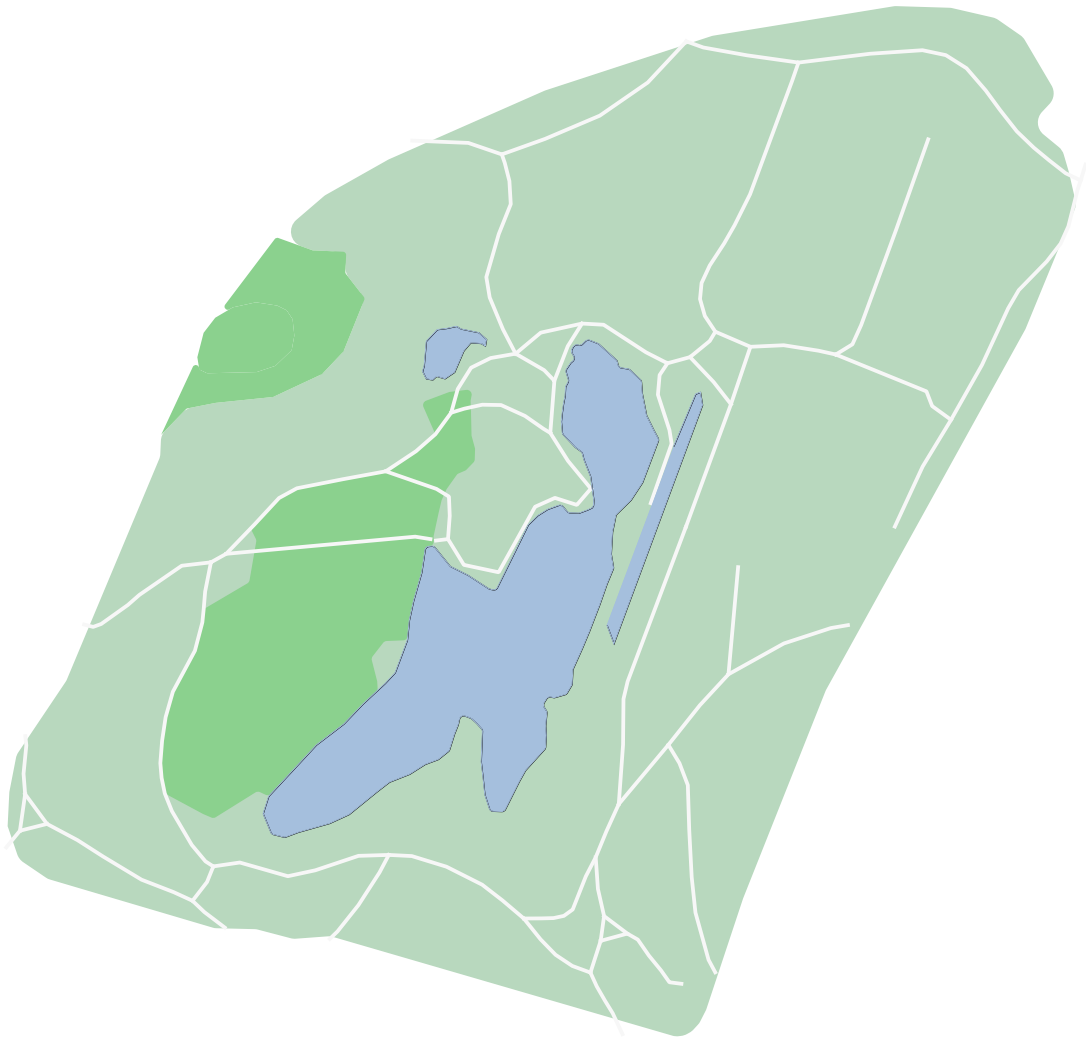
# The Potential of the Surface



CHINAWIESE

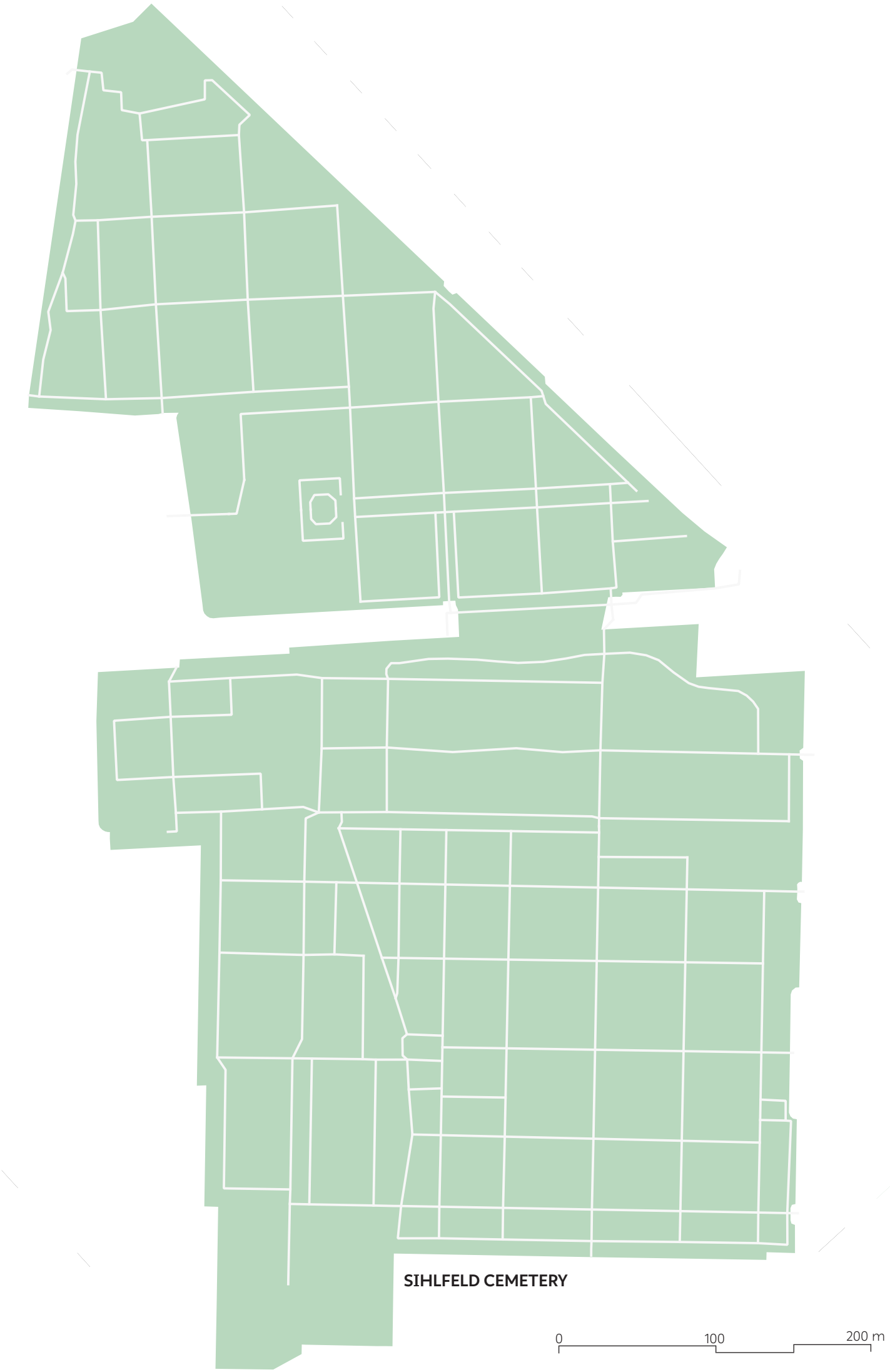
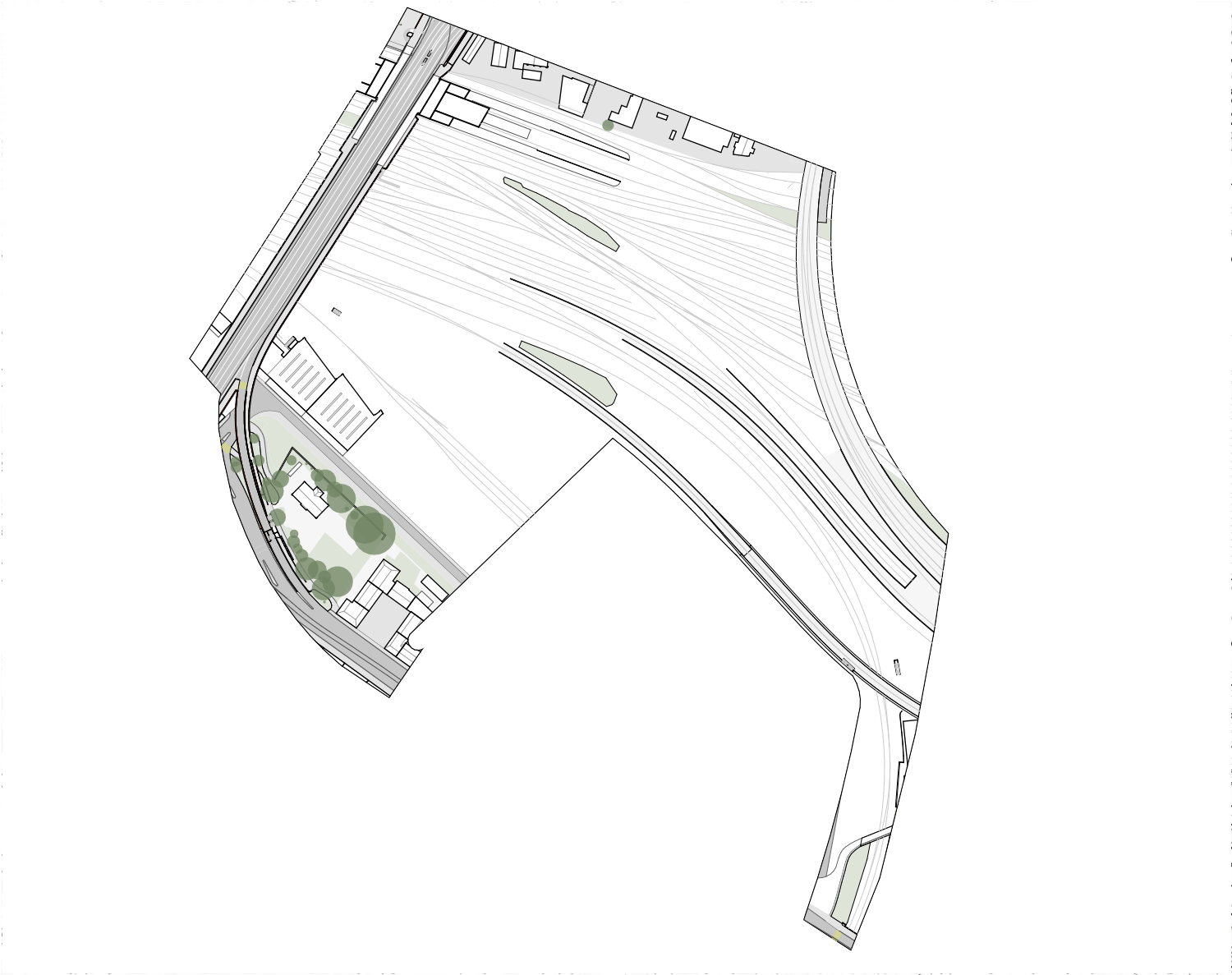


JOSEFSWIESE



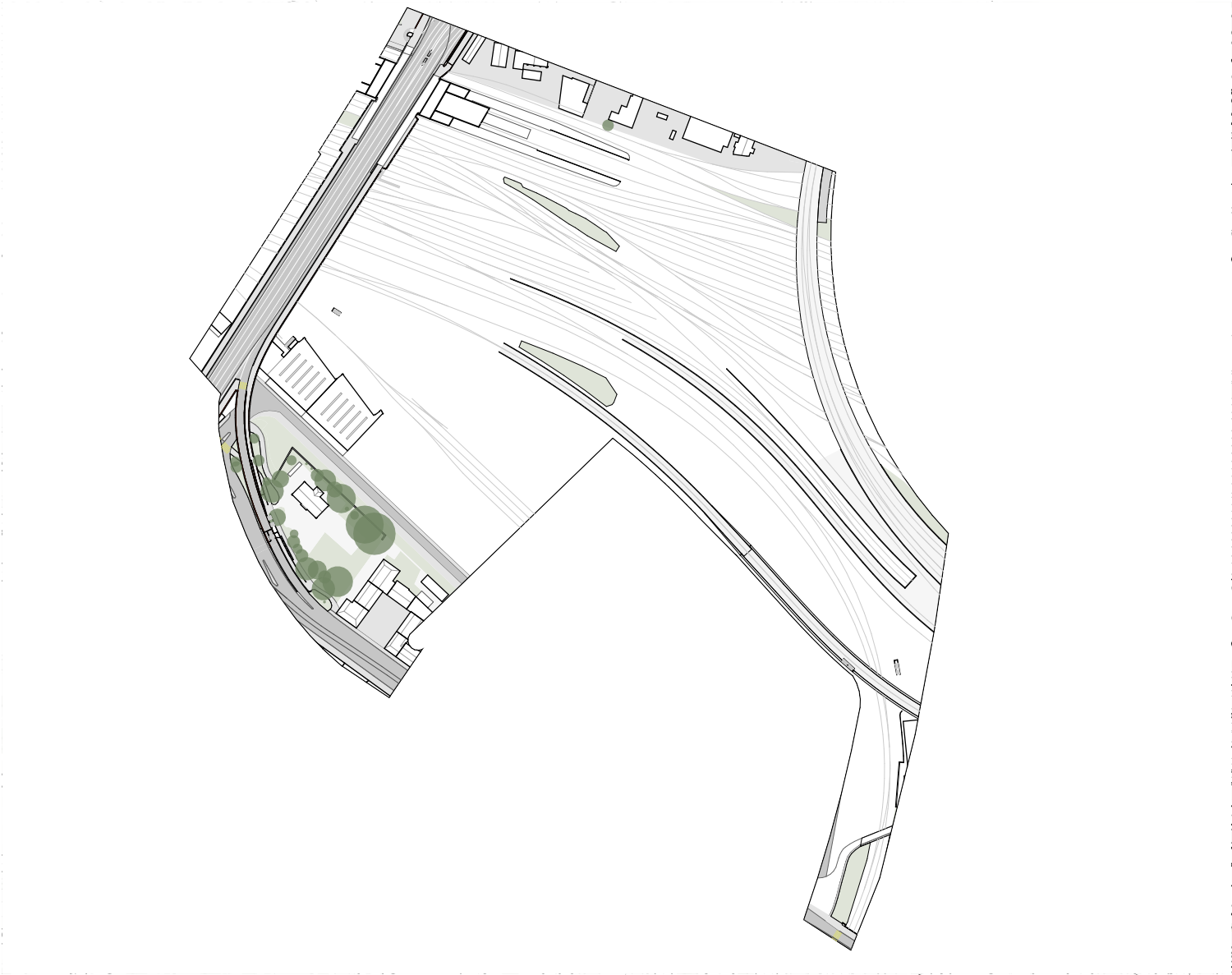
IRCHELPARK

# The Potential of the Surface

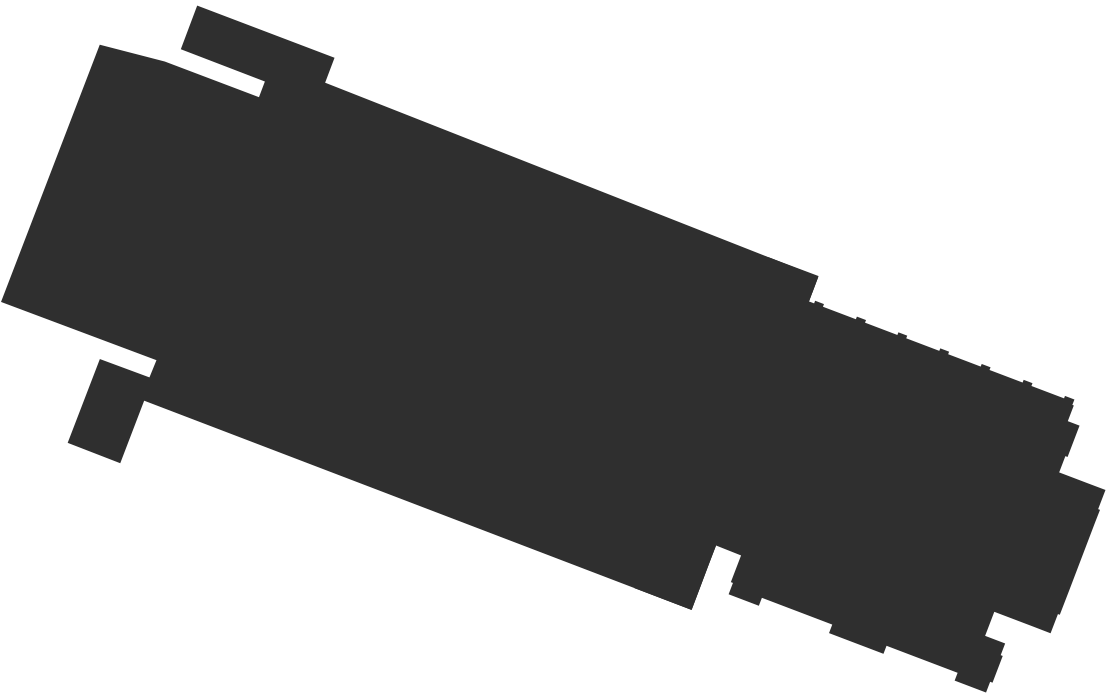




# The Potential of the Surface



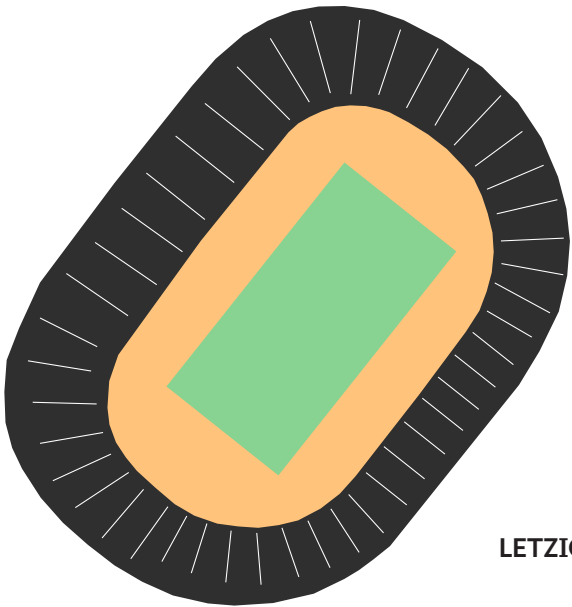
HAUPTBAHNHOF



EUROPAALLE

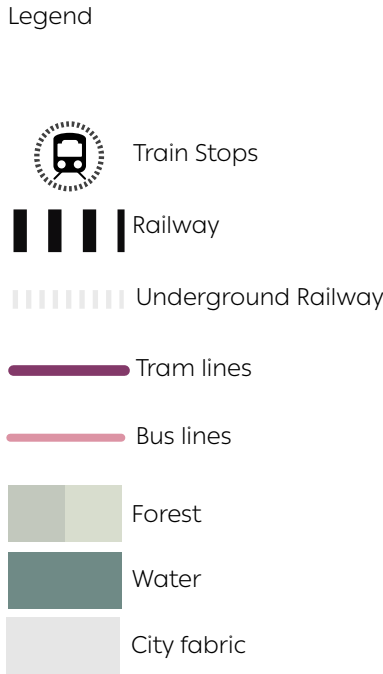
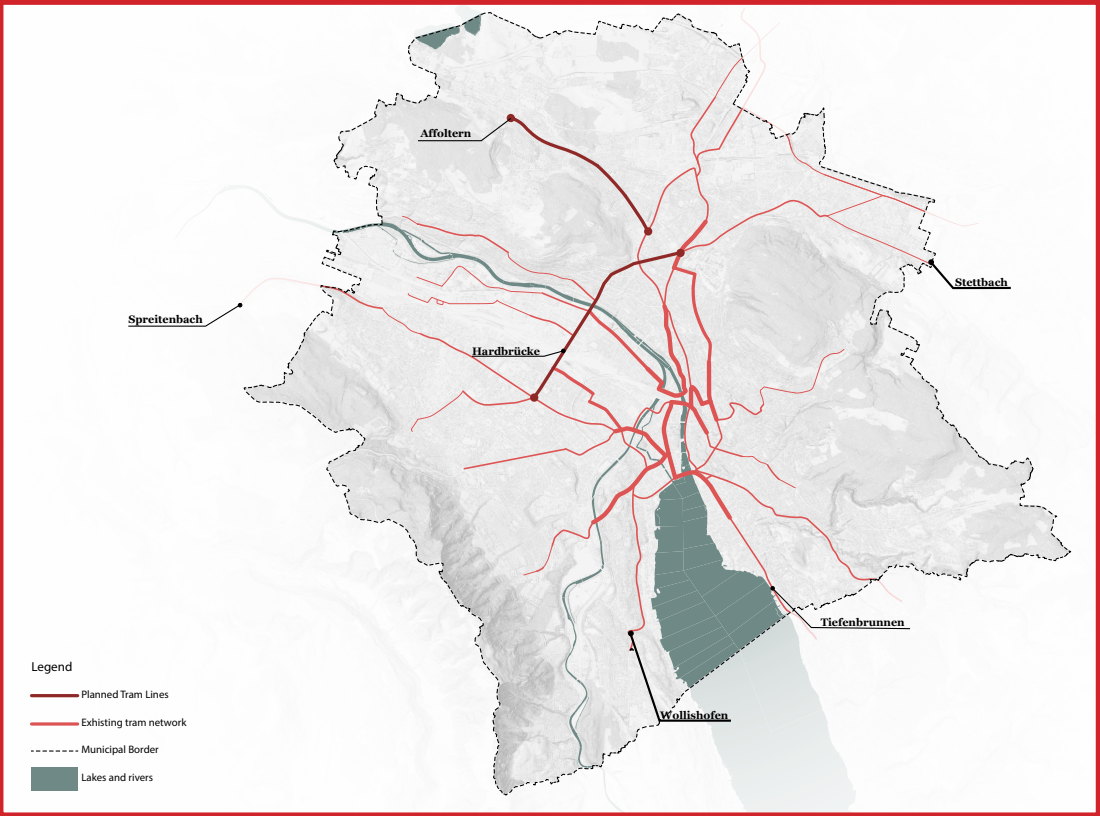


LETZIGRUND STADION



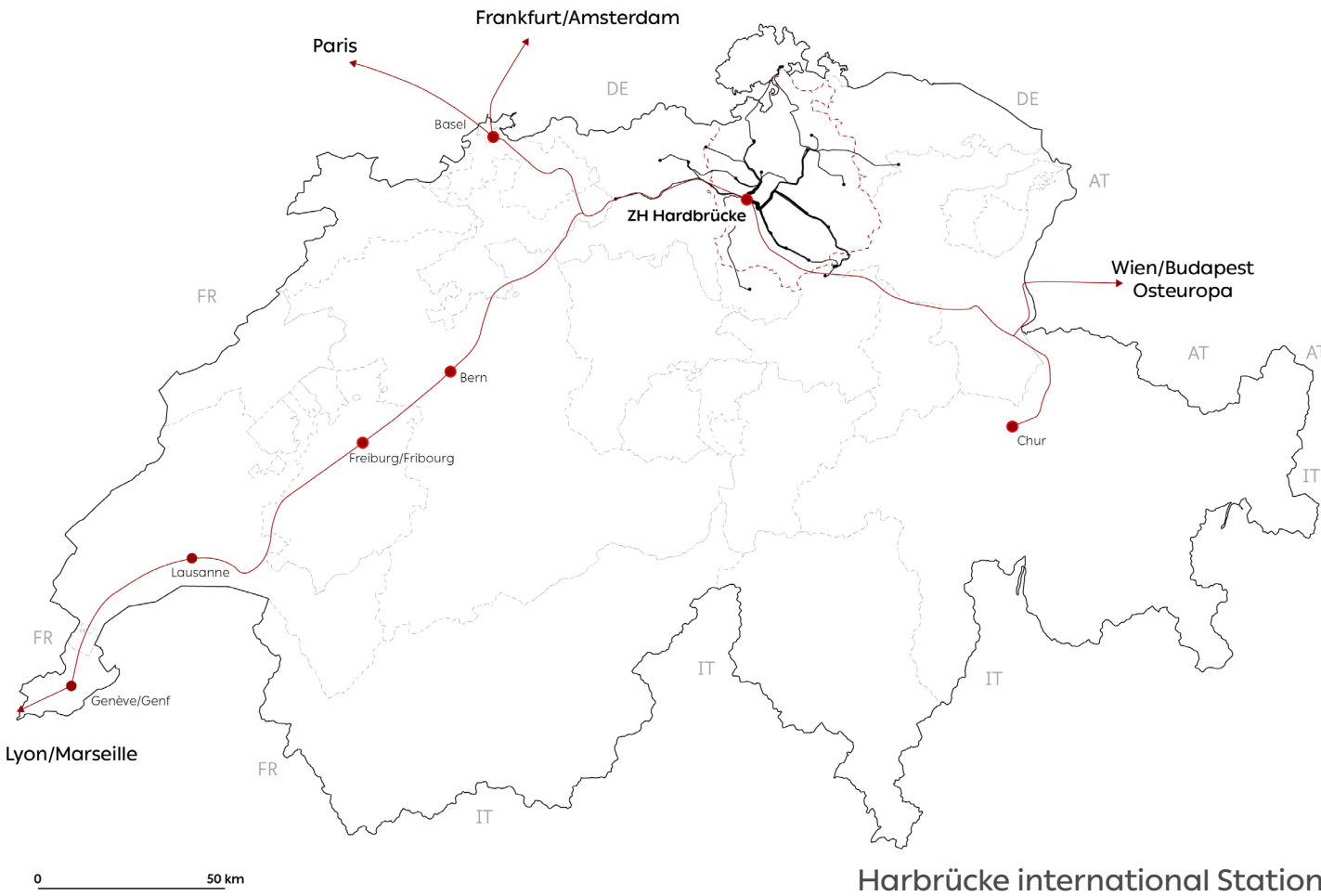
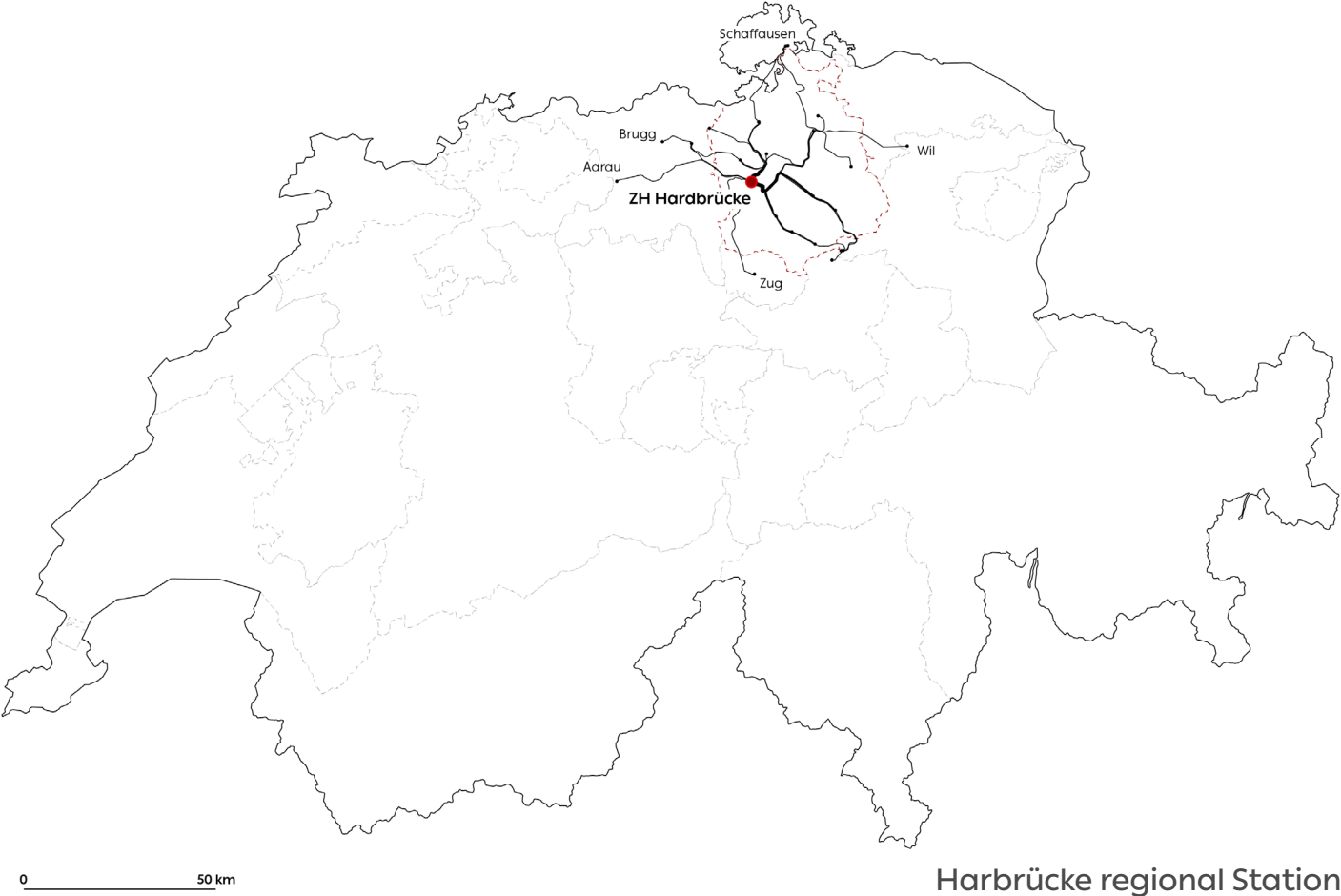
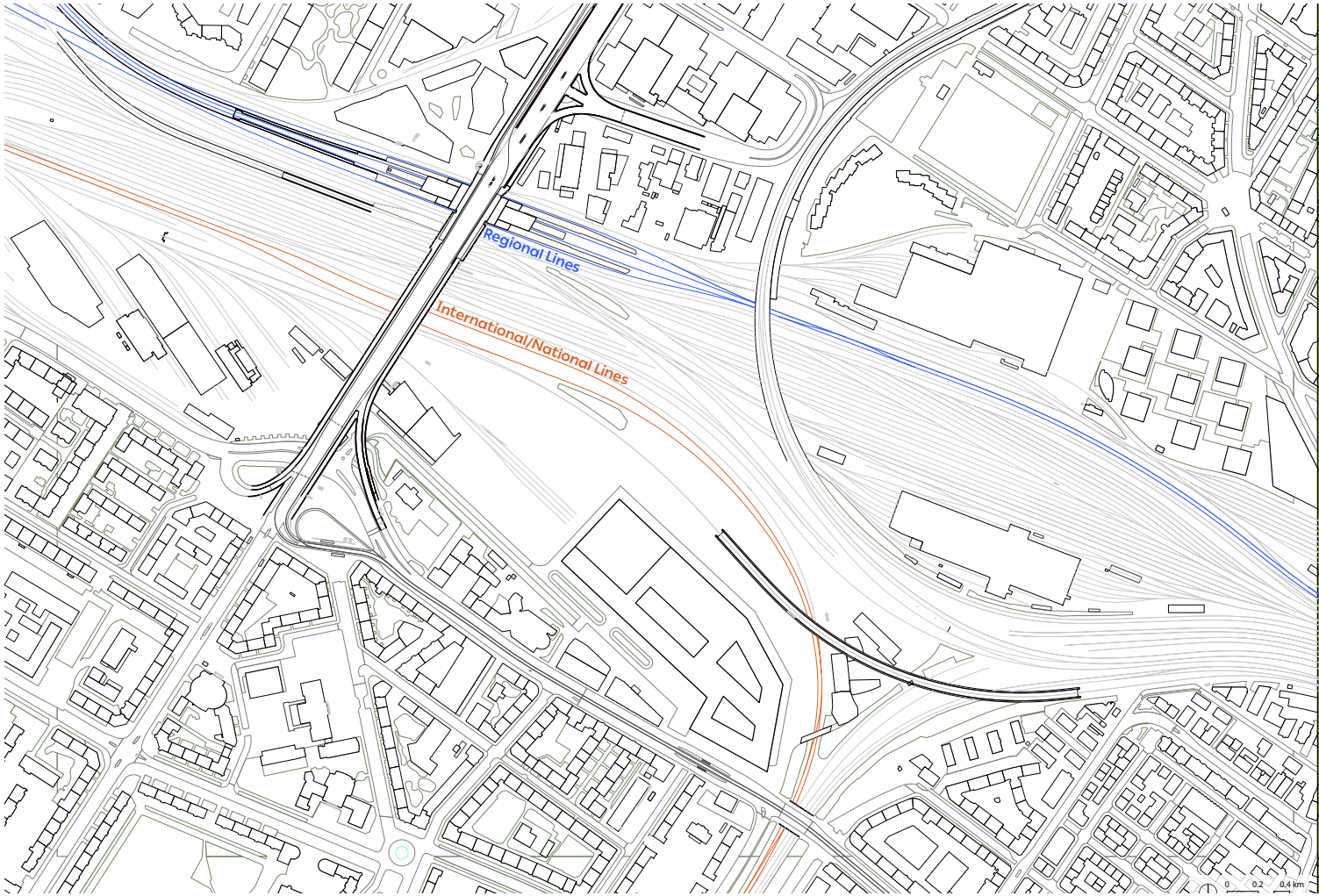


# Mobility: the bigger Picture

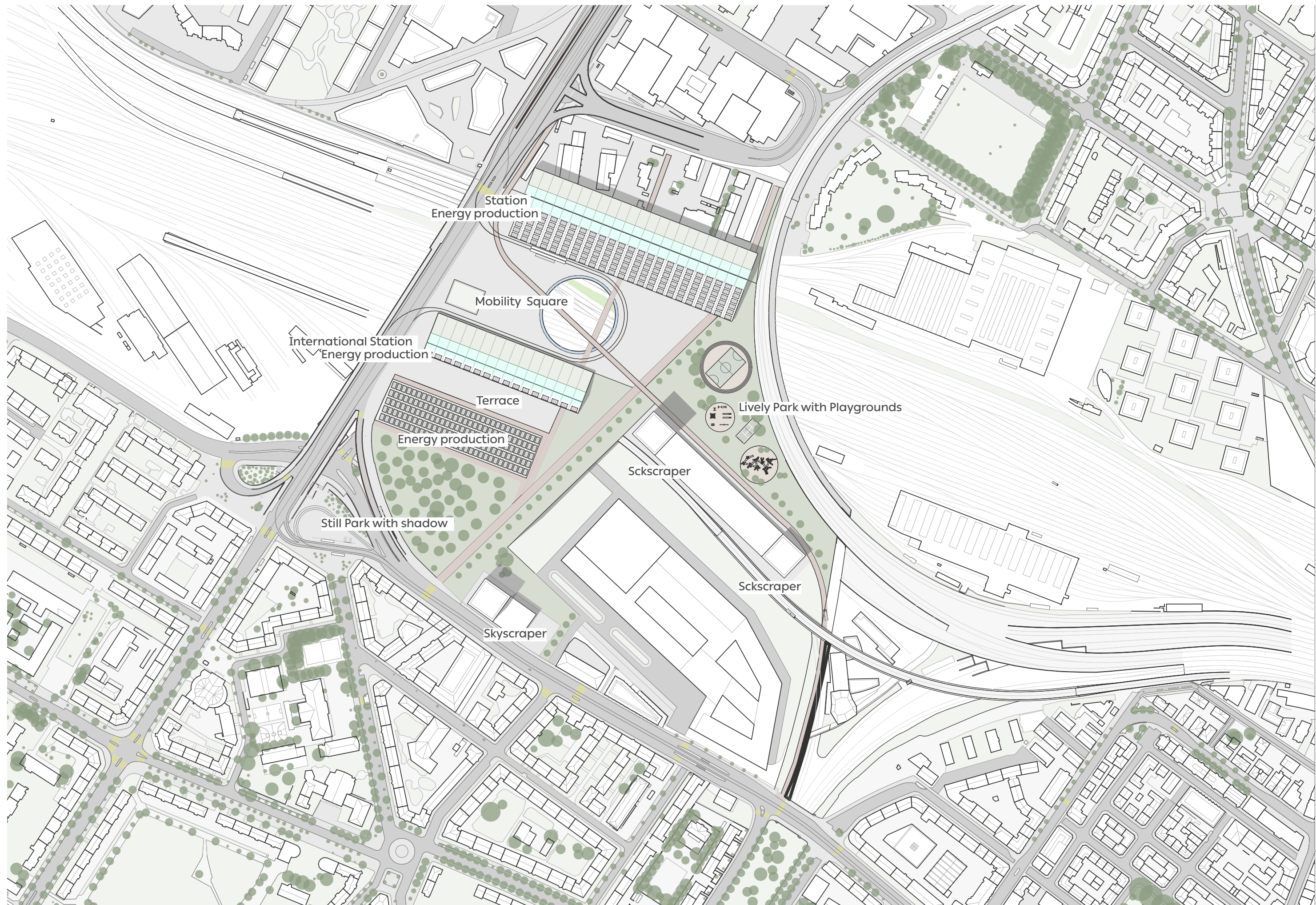




# Hardbrücke international Station

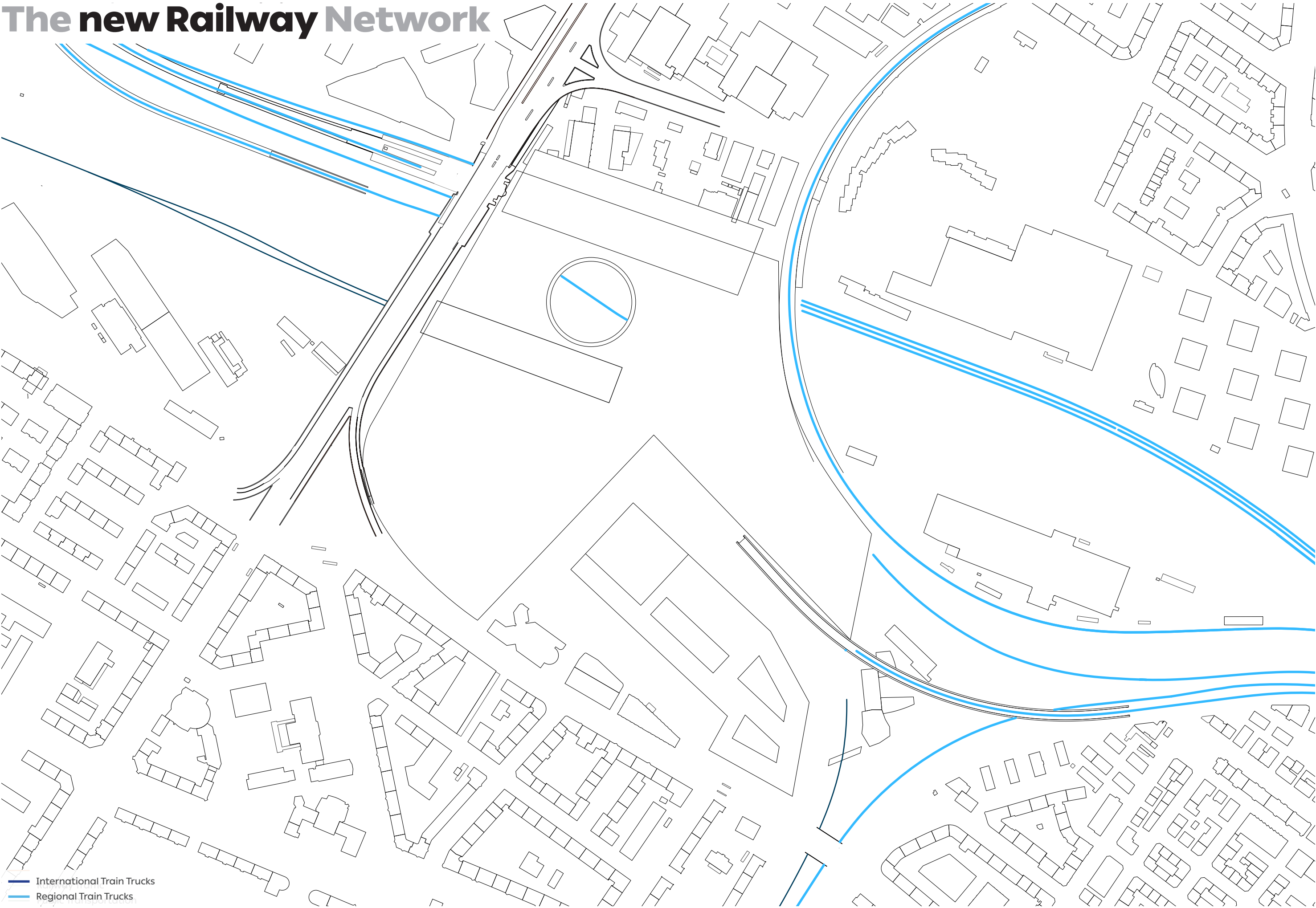






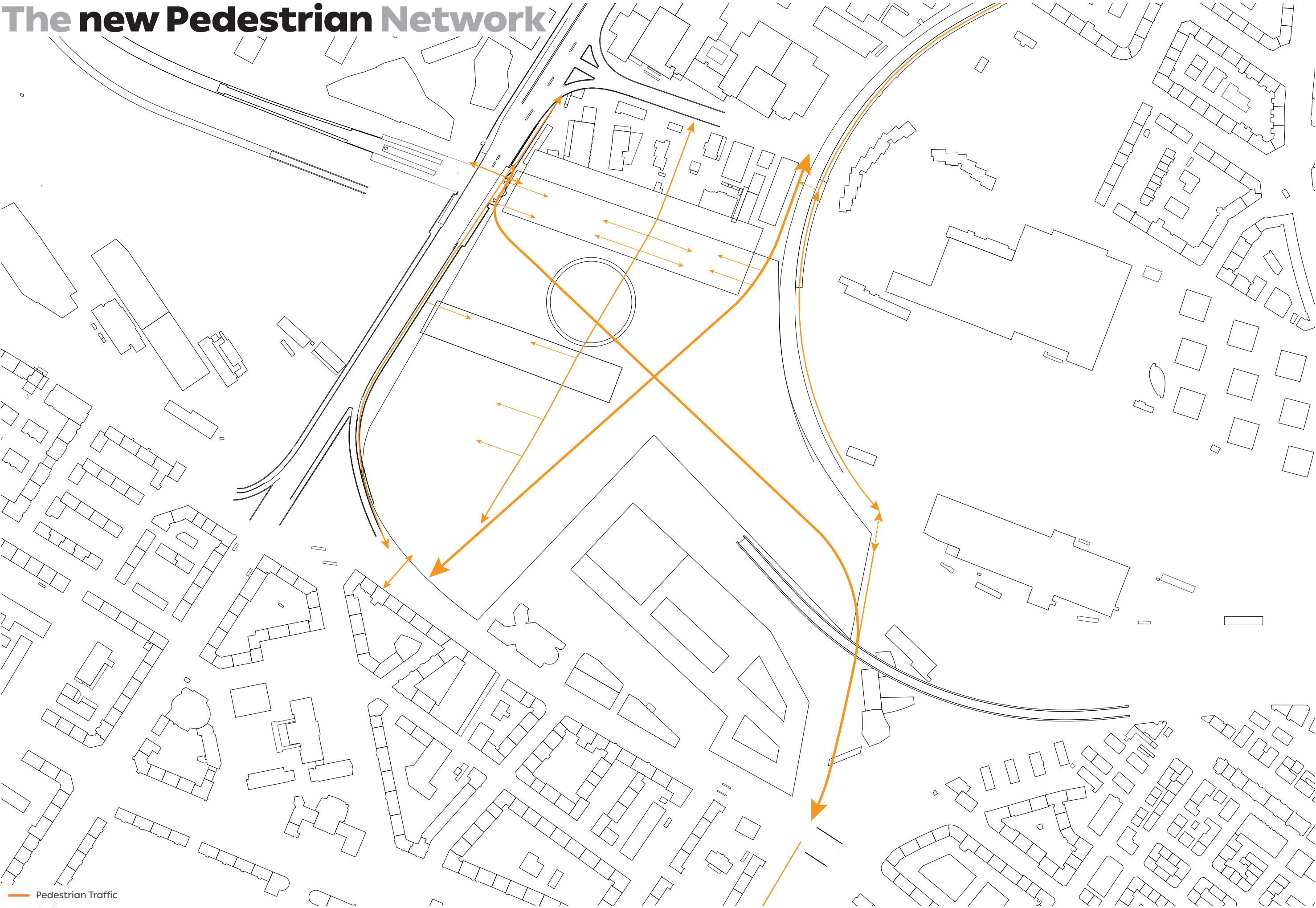


# The new Railway Network



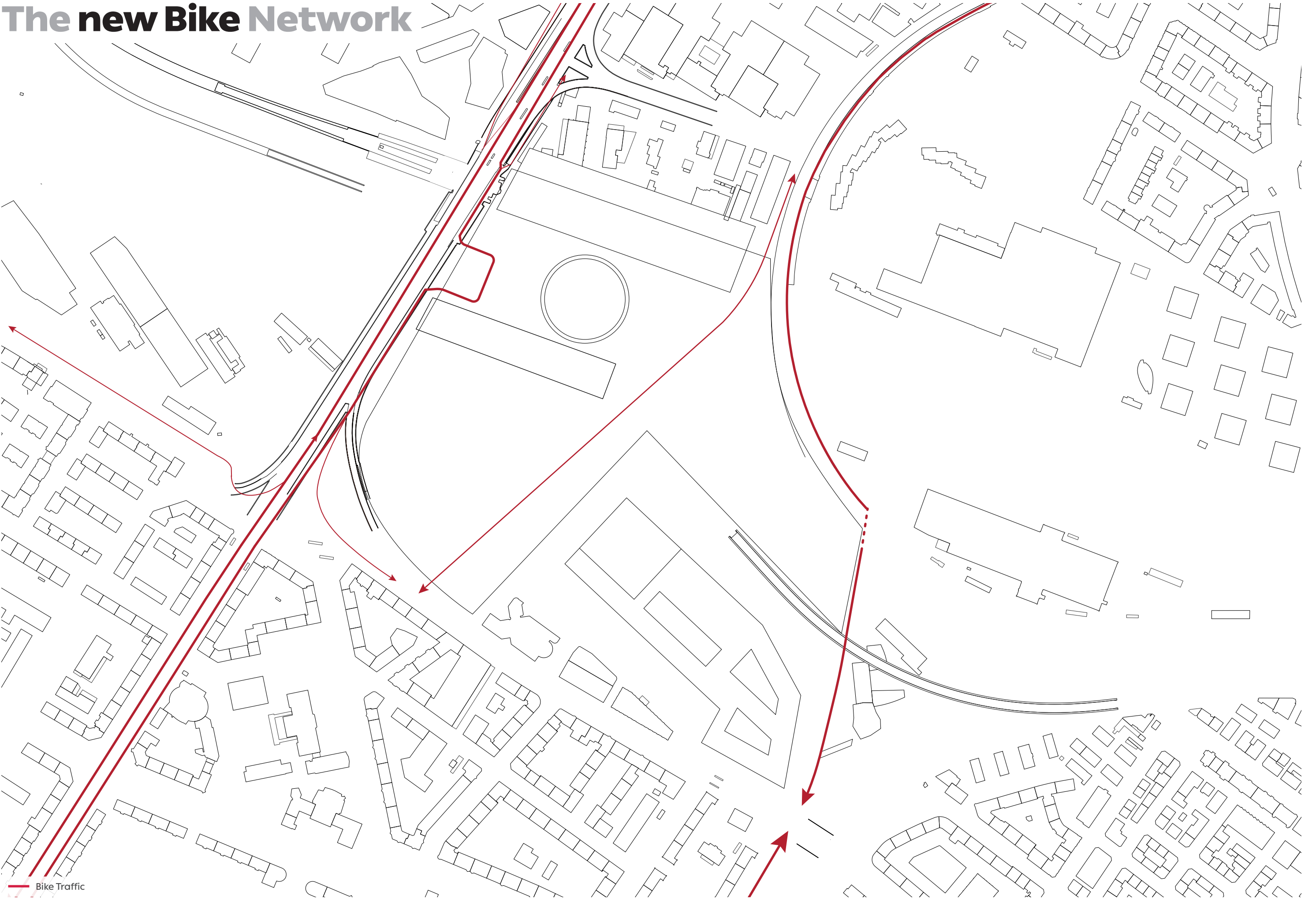
International Train Trucks  
Regional Train Trucks

# The new Pedestrian Network

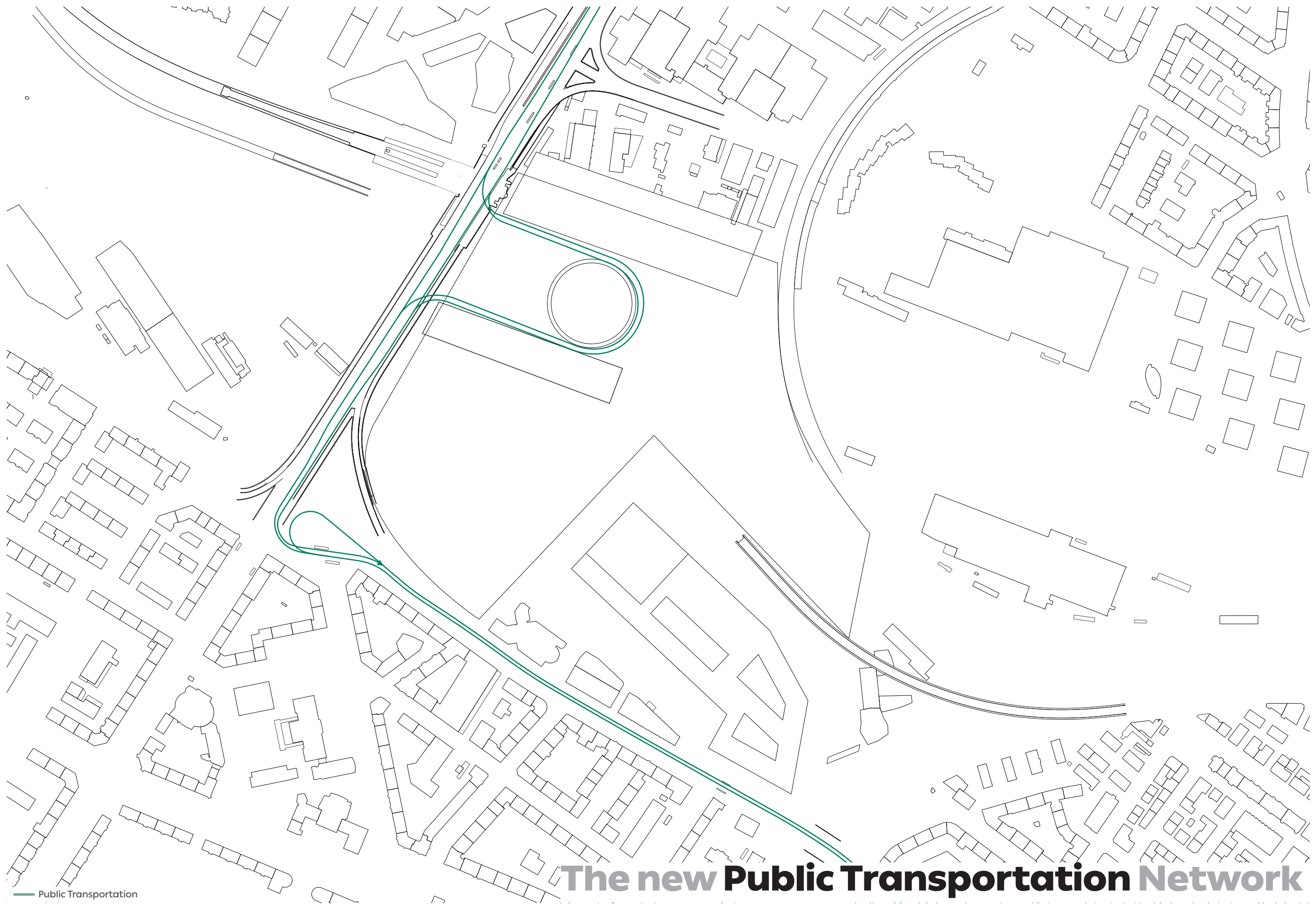




# The new Bike Network

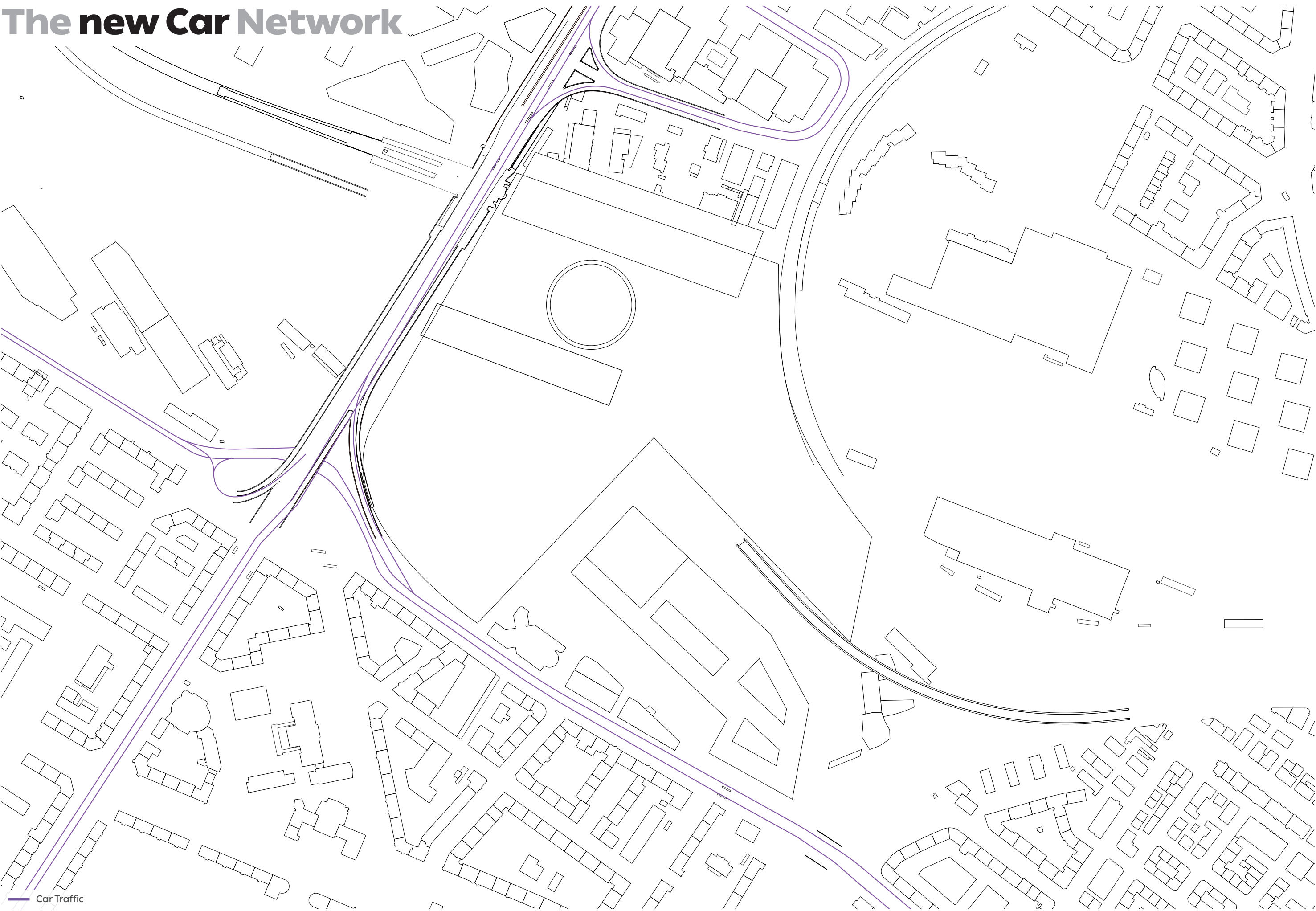


 Bike Traffic



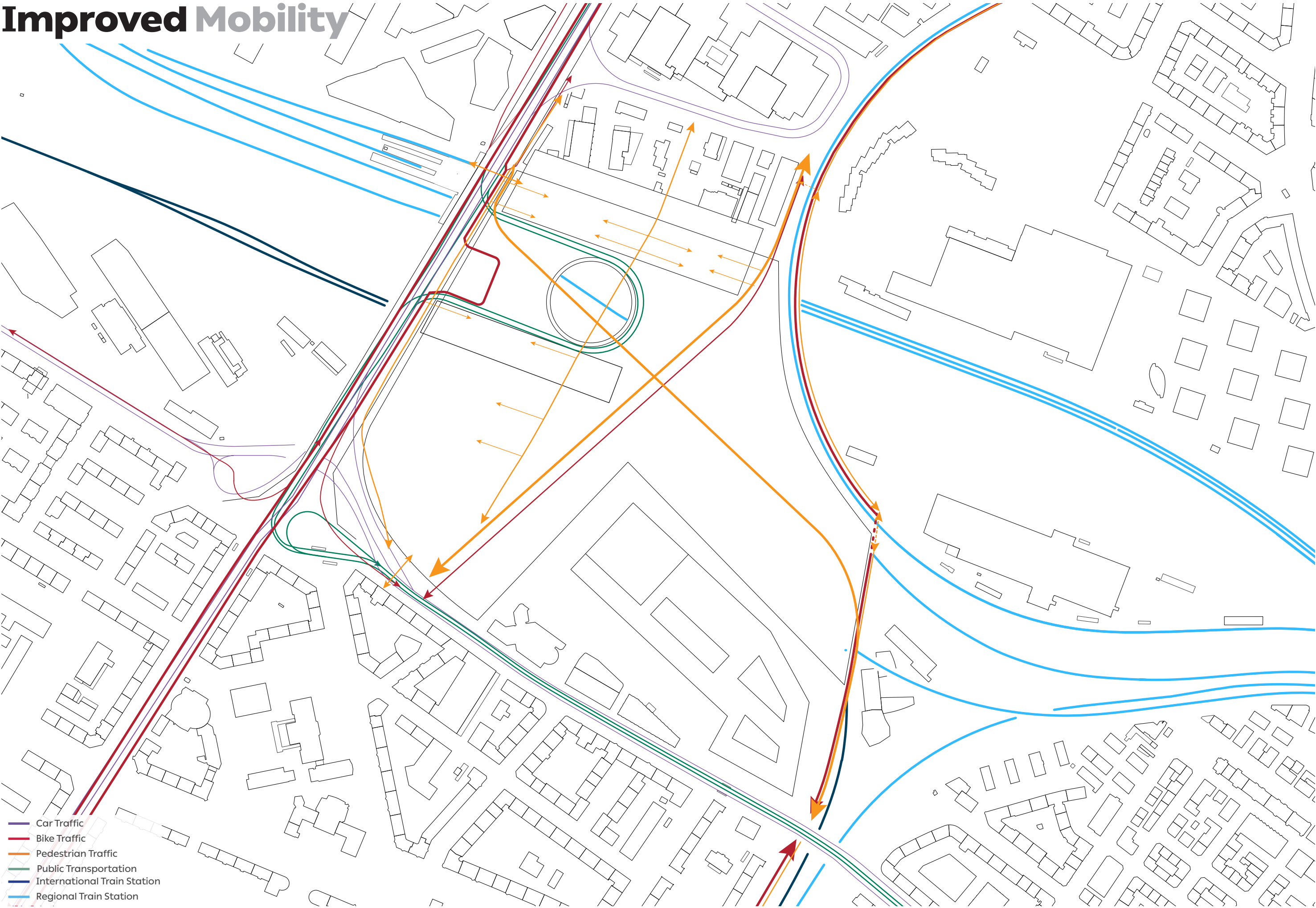


# The new Car Network



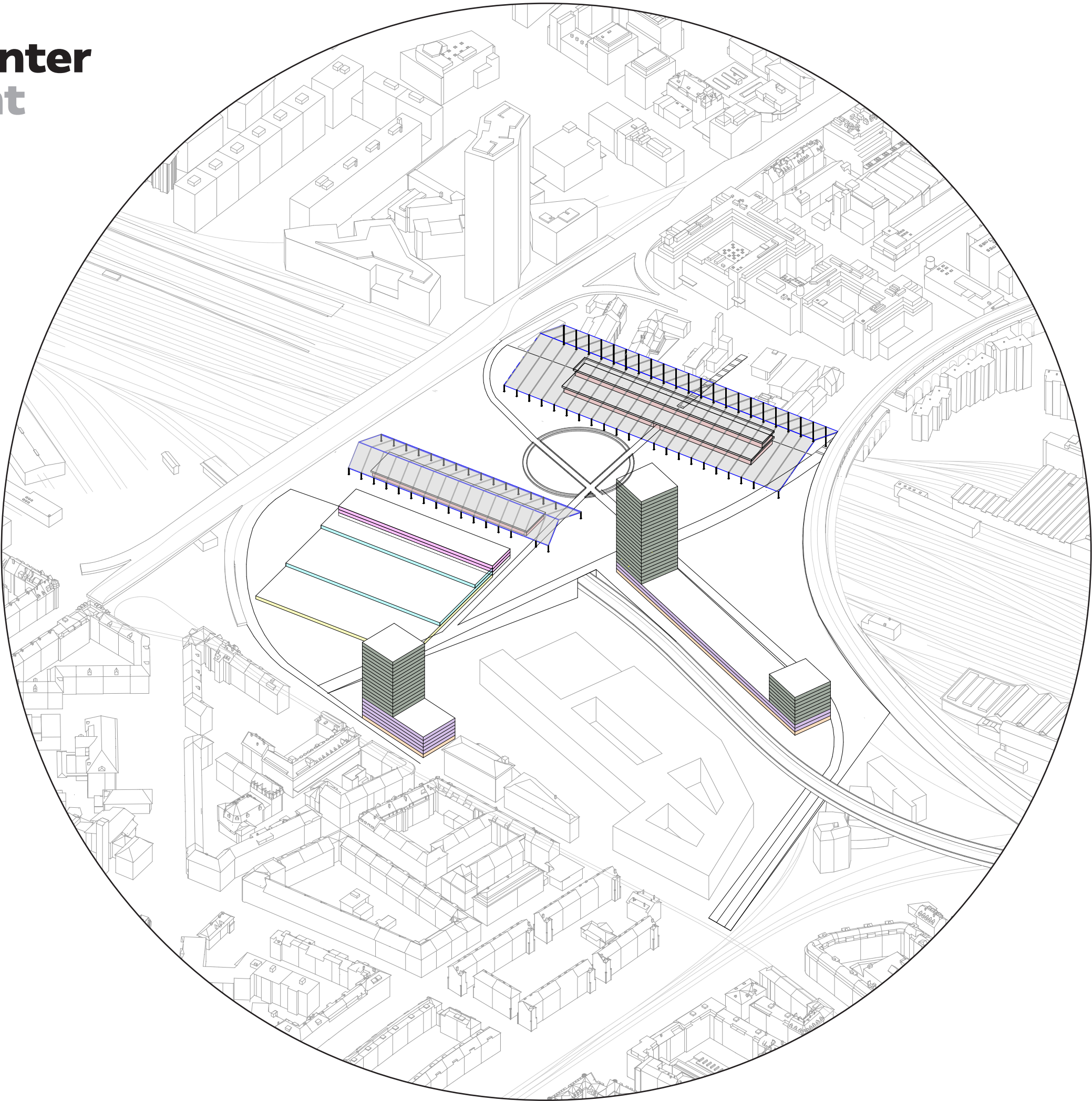
Car Traffic

# Improved Mobility



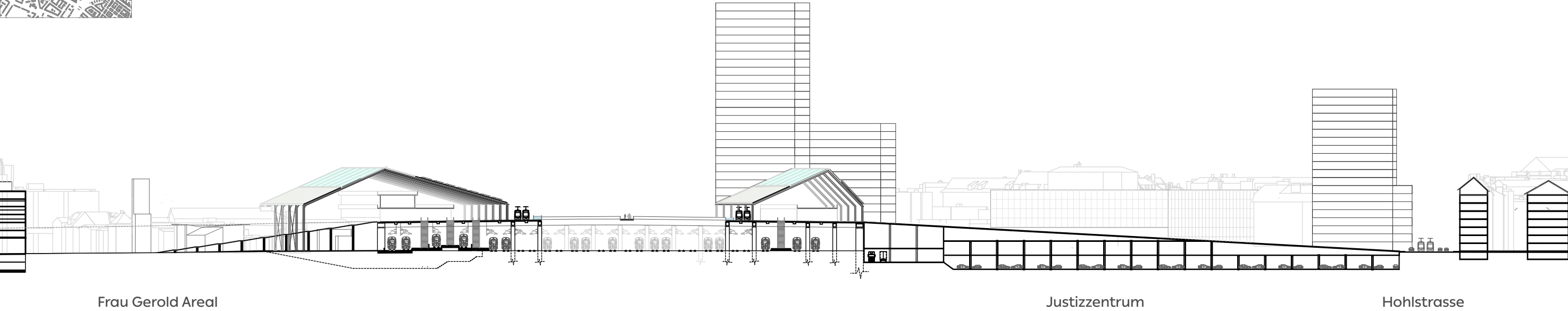
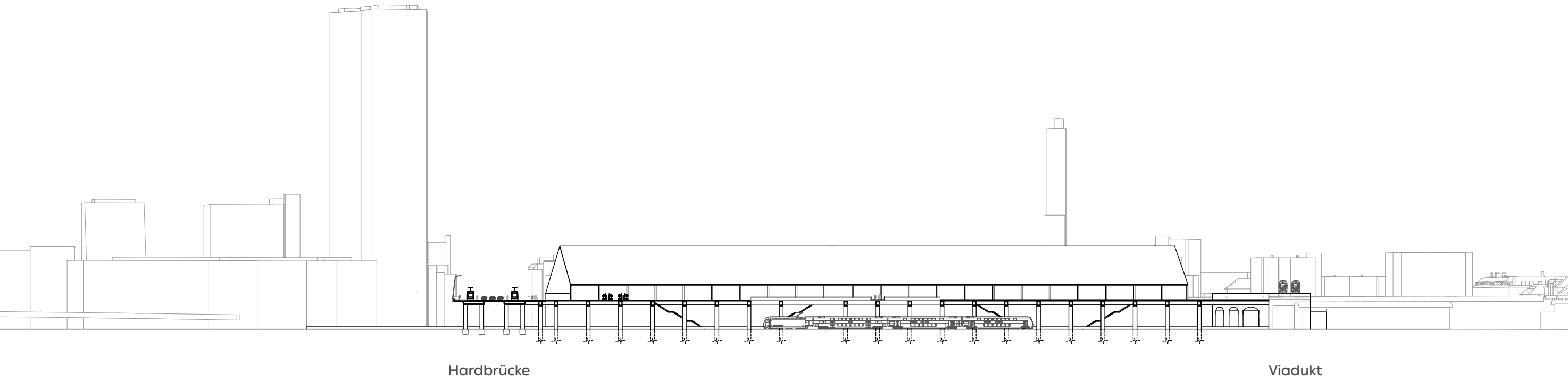


# The encounter of different Functions



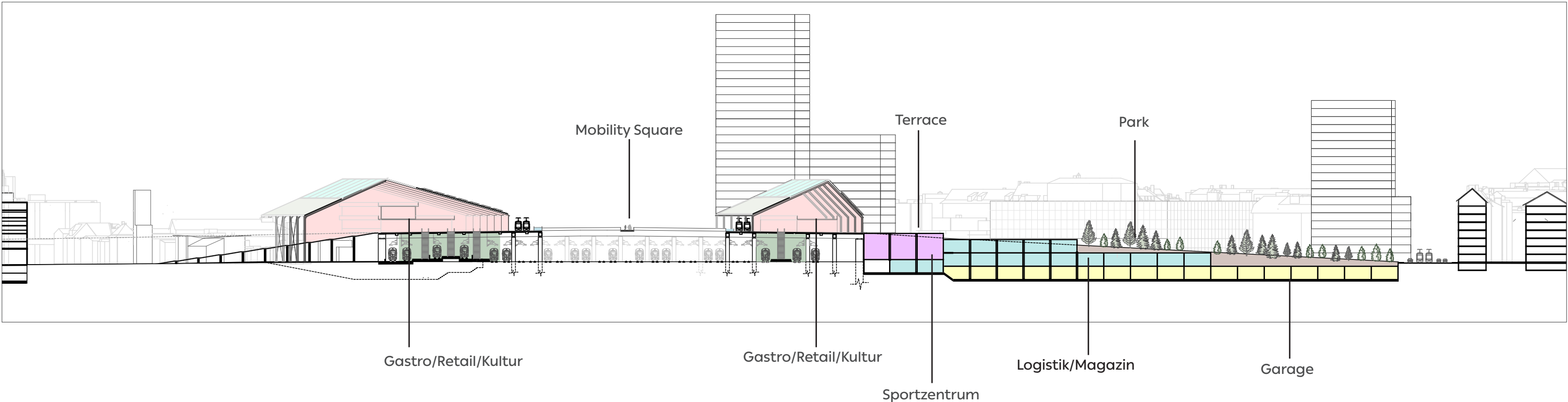
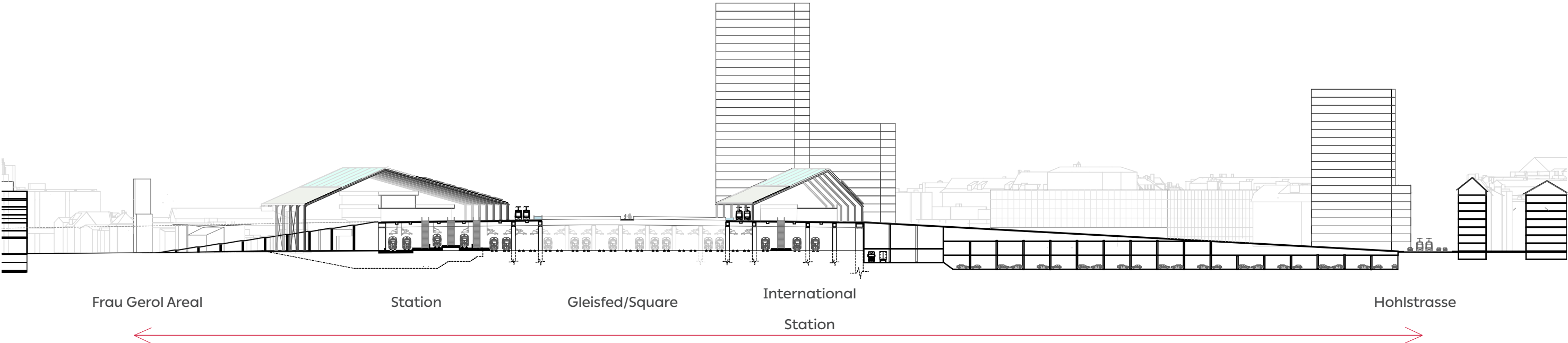
- Culture/Retail/Gastro
- Offices
- Shops
- Apartment towers
- Sportzentrum
- Logistik
- Parking

# Borders

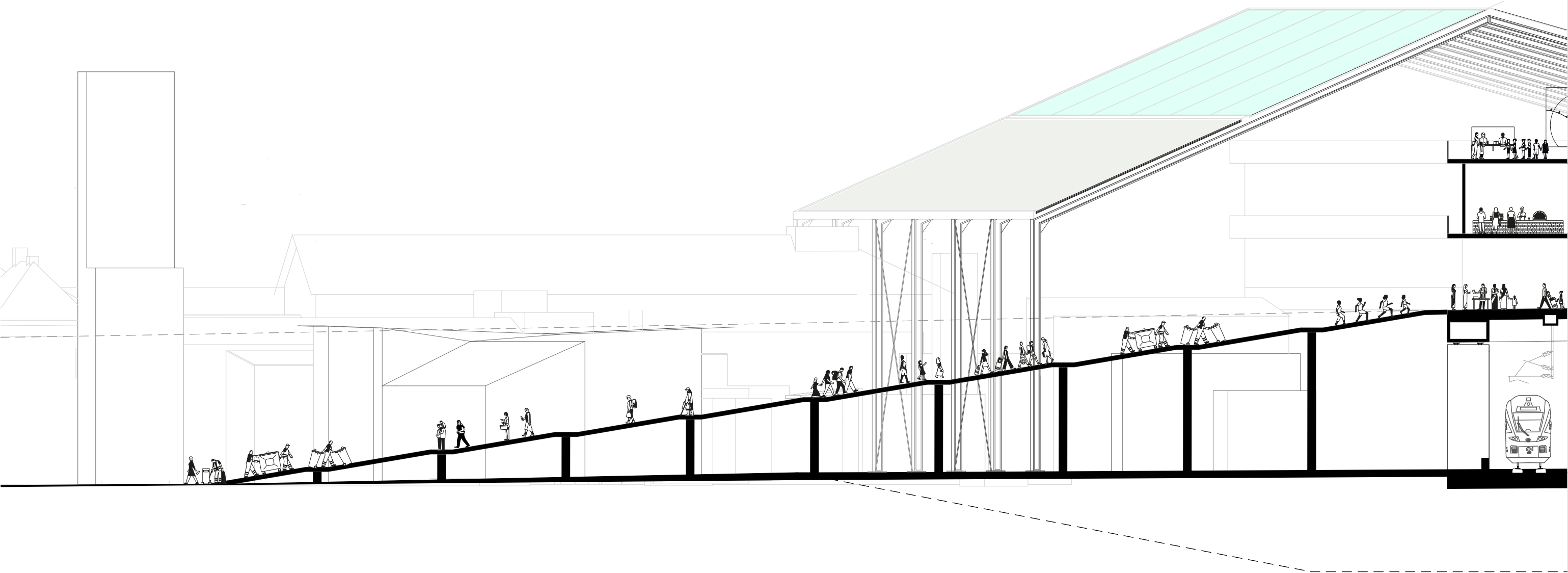




# New connection and new diverse use

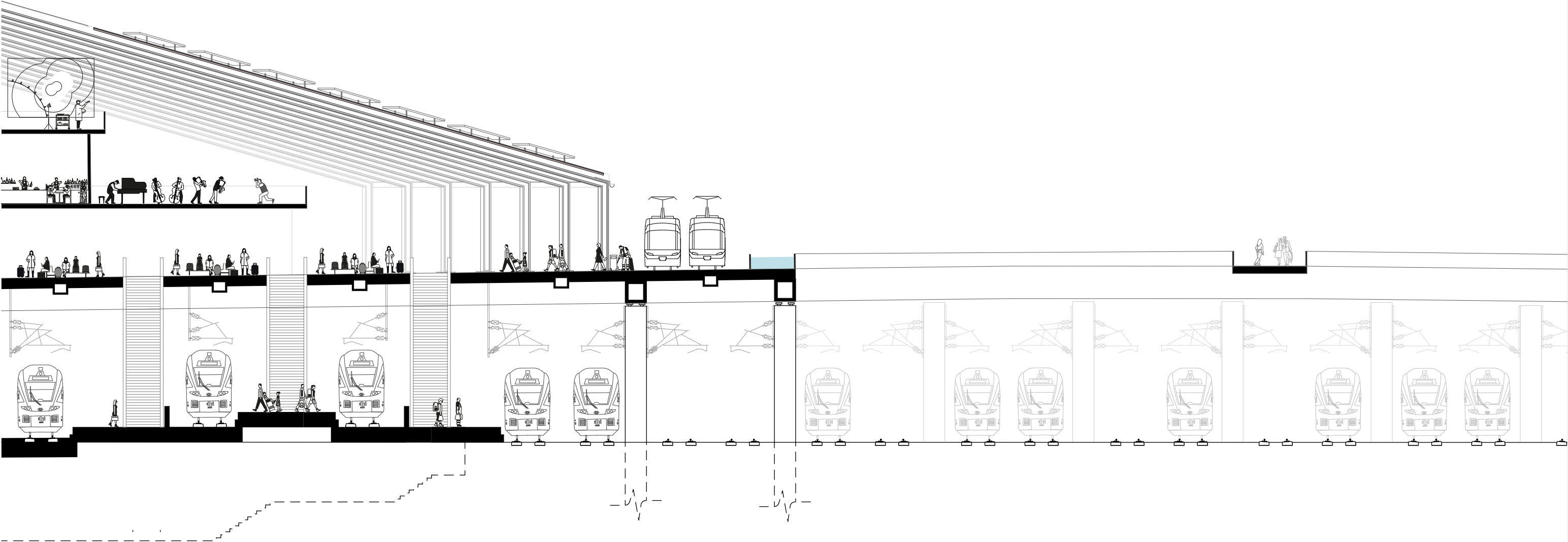


# From the Gerold Areal to the Station

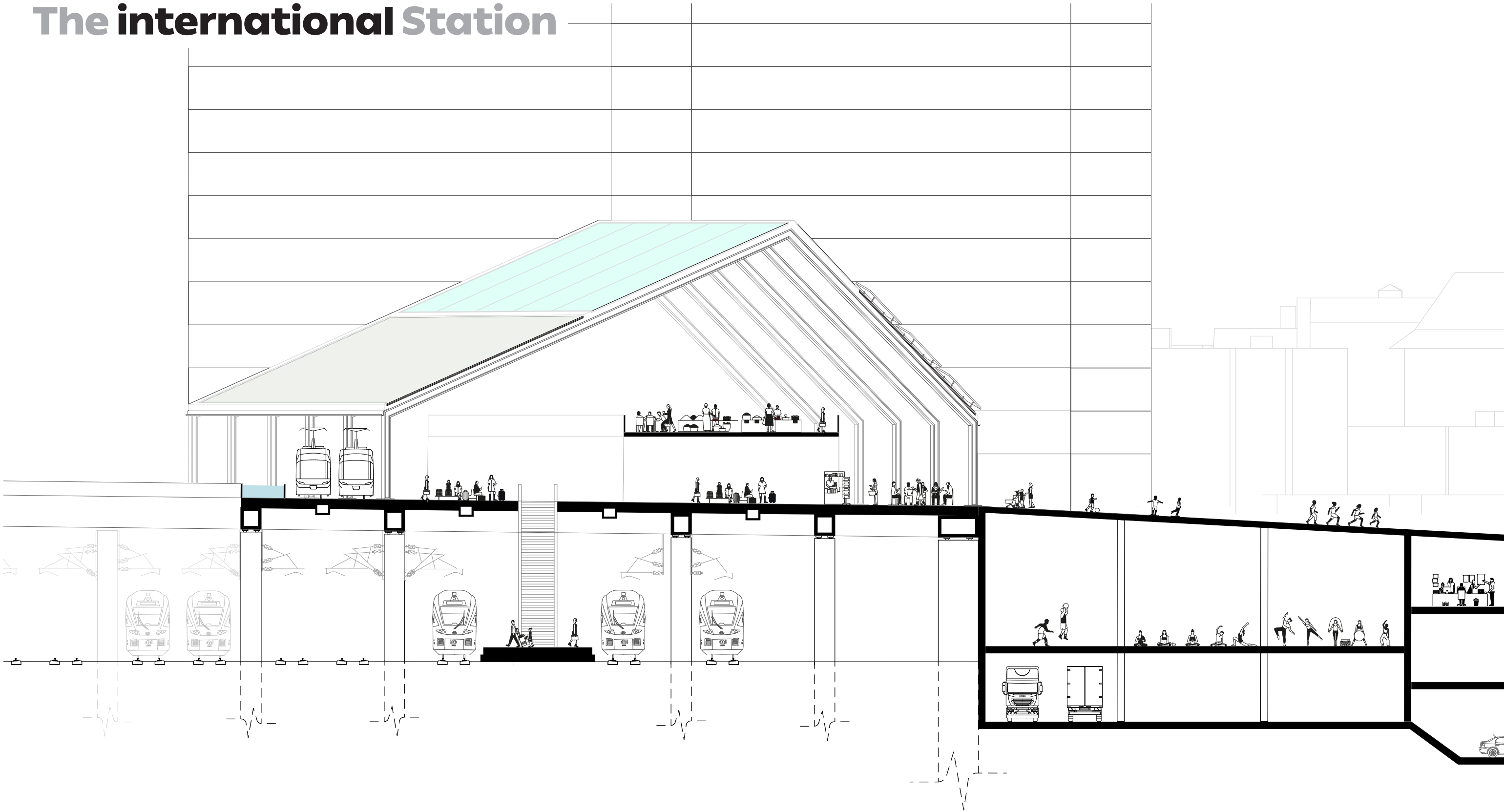




# Above the Gleisfeld

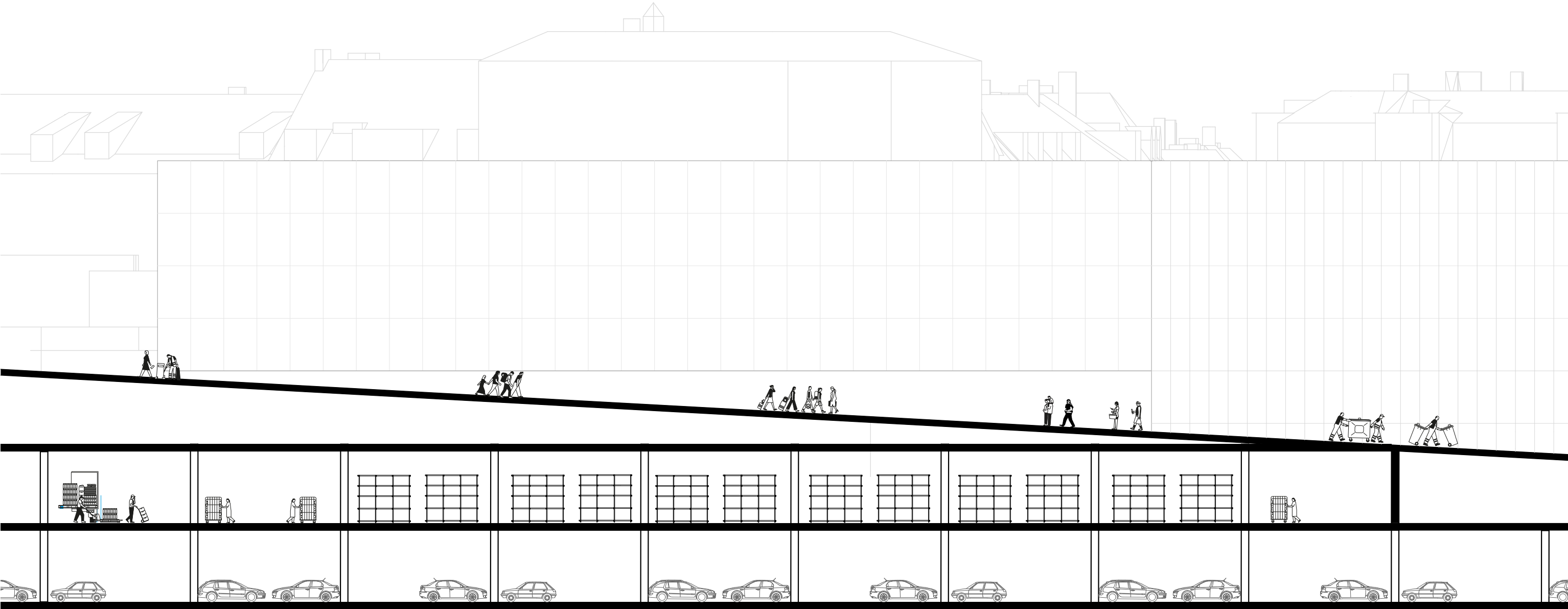


# The international Station

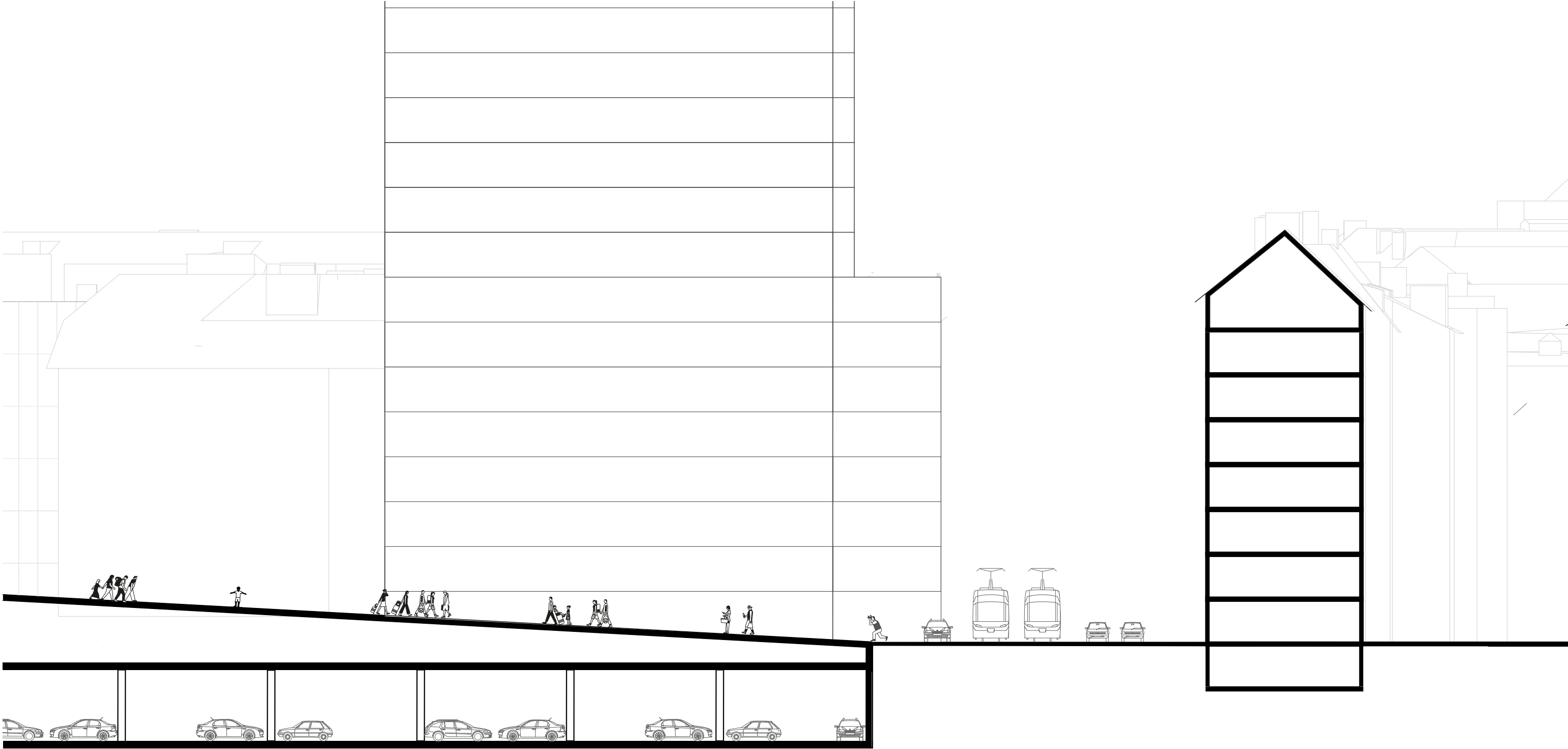




# Sloping down to...

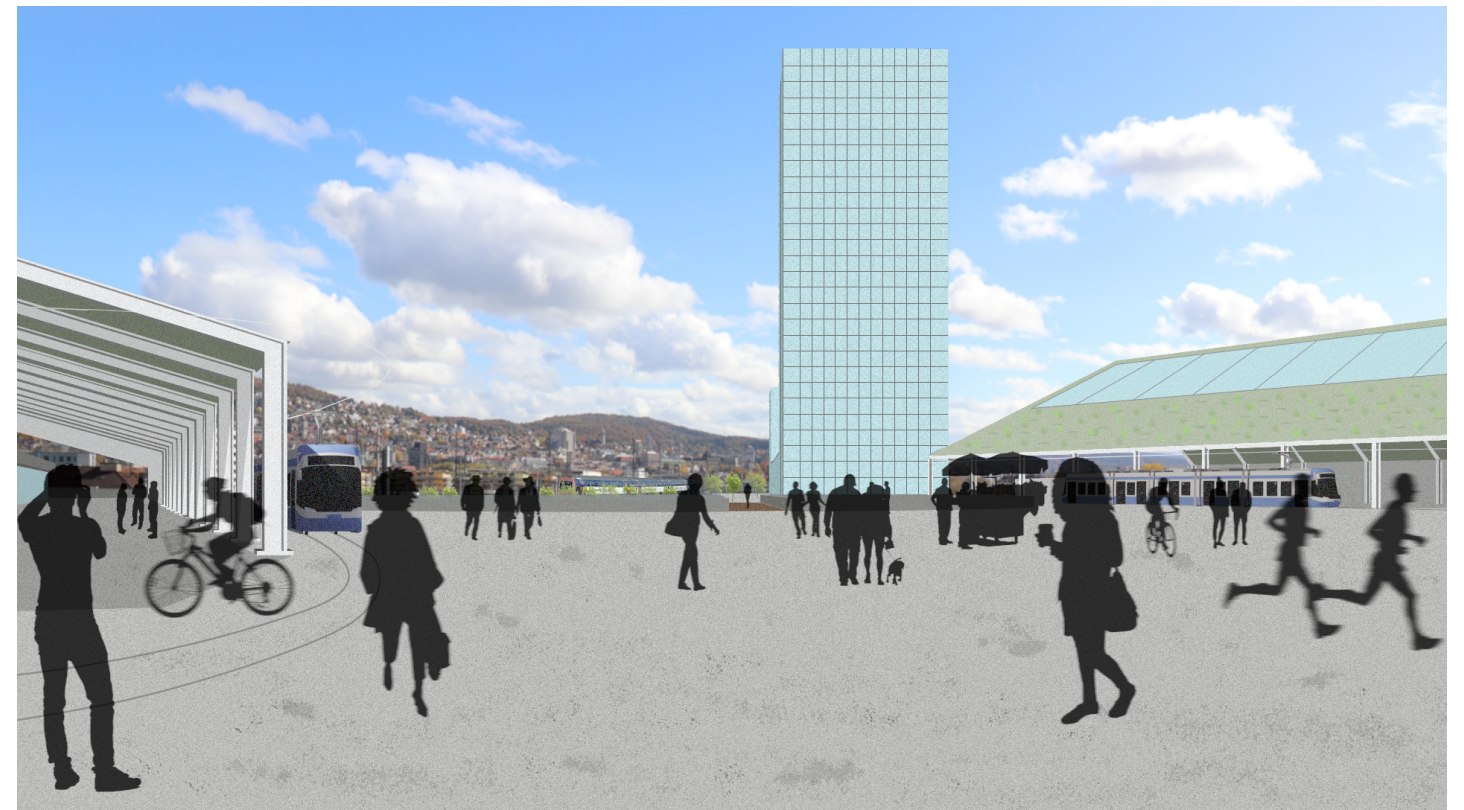


# the Hohlstrasse and the other side of the Valley



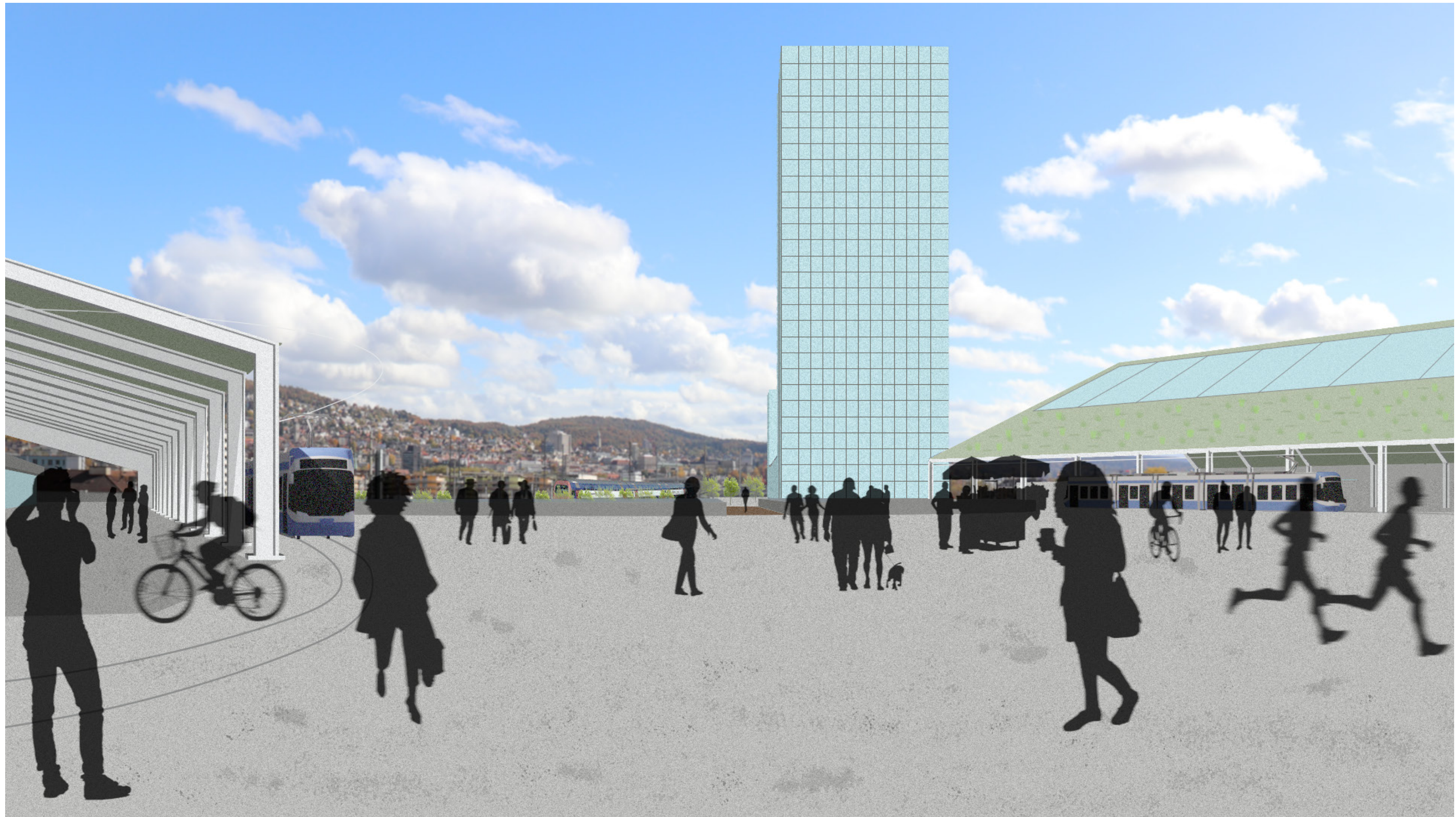


# Harbrücke Before and After



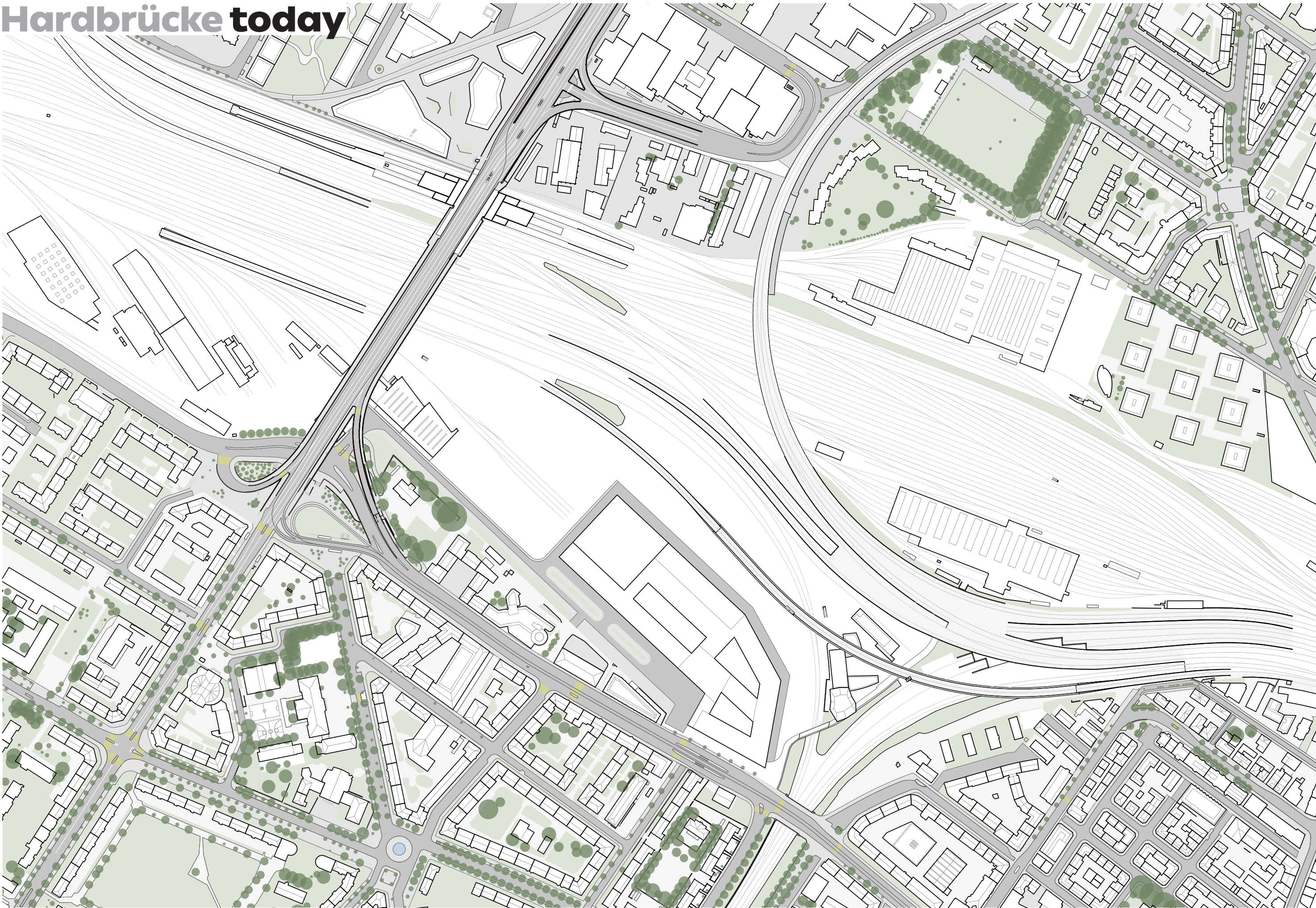


# The new Harbrücke Square



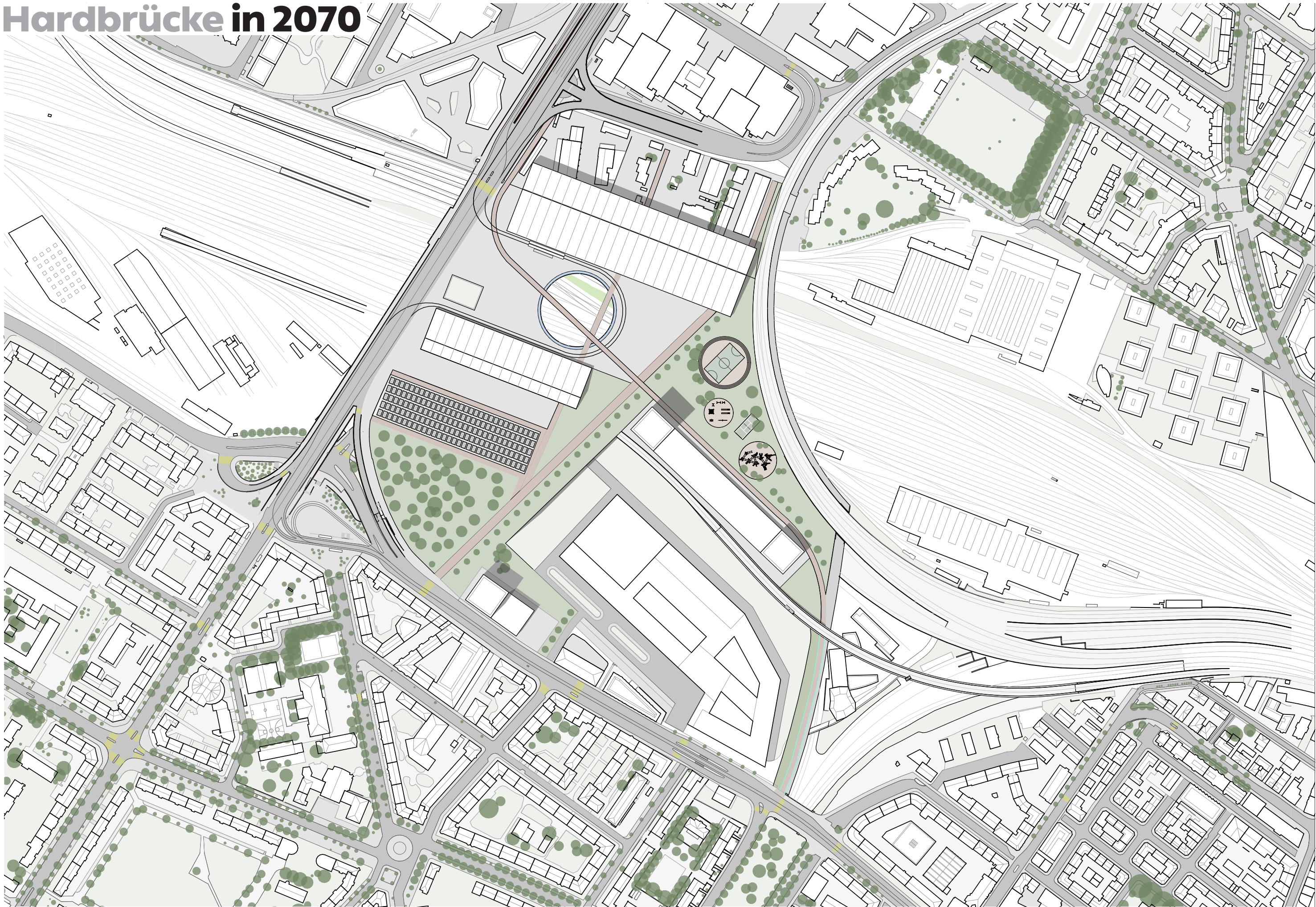


# Hardbrücke today





# Hardbrücke in 2070





# Back to the bigger picture

