

# The catalyst of Almelo central

## Redesigning Almelo's Train Station Area to Bridge Physical and Social Gaps

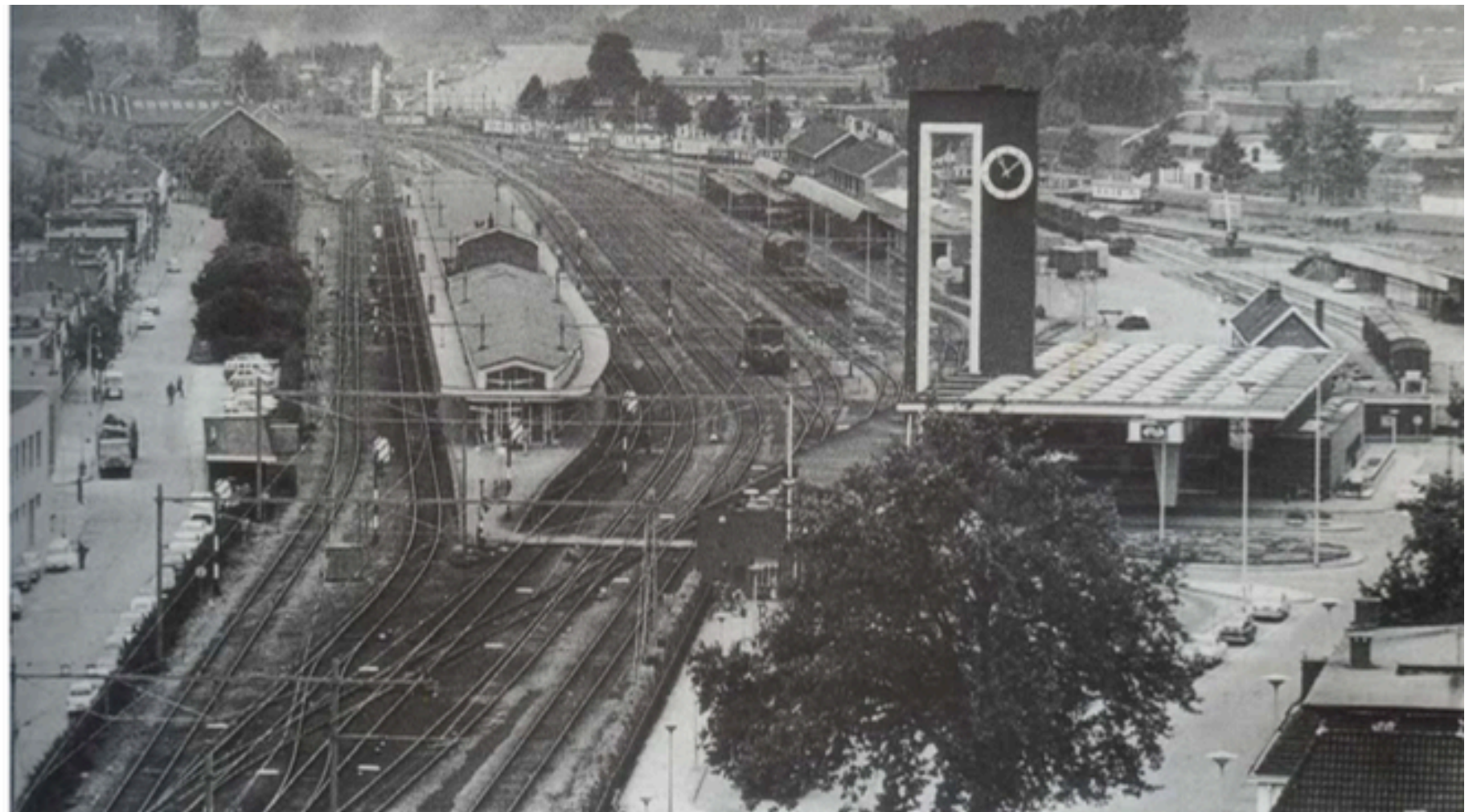


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Faculty of Architecture - TU Delft



## Problem statement

*Train stations often act as both essential transport hubs and physical or psychological **barriers** within cities, creating a disconnect between their "front" and "back" sides. At Almelo Central Station, this duality splits the urban fabric, hindering cohesion and accessibility. As **public transport use** is projected to **grow** significantly by 2040, there is an urgent need to redesign station areas to support **urban development, social integration, and sustainability goals**.*



*Image of an aeral view of the station in 1960*



## Research question

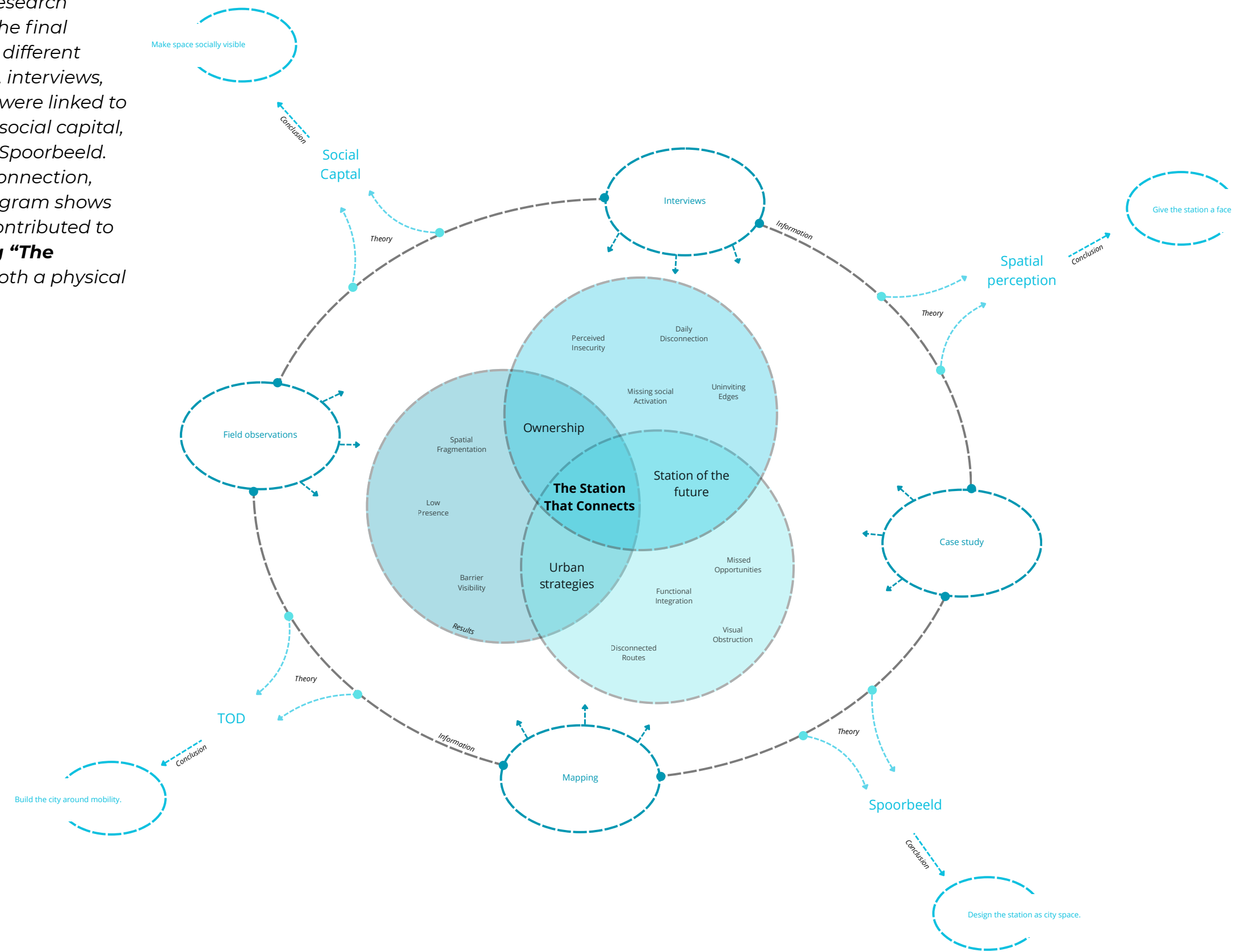
*To what levels can architectural and urban design interventions in the Almelo train station area **reduce the physical and social disconnection** between neighborhoods, and thereby enhance opportunities for local development and community integration on both sides of the railway tracks?*



*Image of an aeral view of the station in 2025*

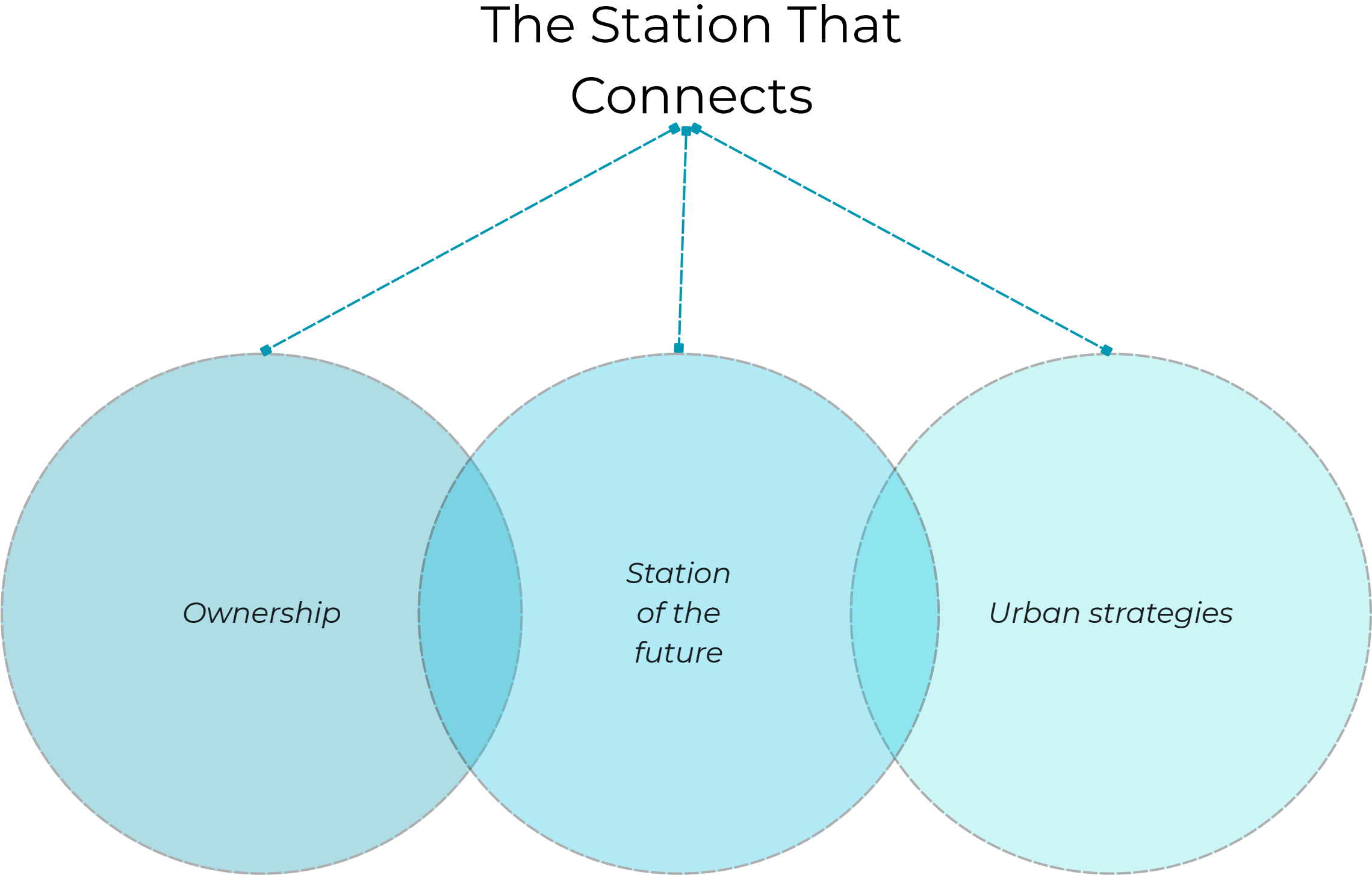
# Research diagram

This diagram illustrates the research methodology used to reach the final conclusions. It maps out how different **methods**—field observations, interviews, mapping, and case studies—were linked to **theoretical frameworks** like social capital, spatial perception, TOD, and Spoorbeeld. By analyzing ownership, disconnection, and urban strategies, the diagram shows how each layer of research contributed to **understanding and defining “The Station That Connects”** as both a physical and social connector.





Research topics





## Research outcomes

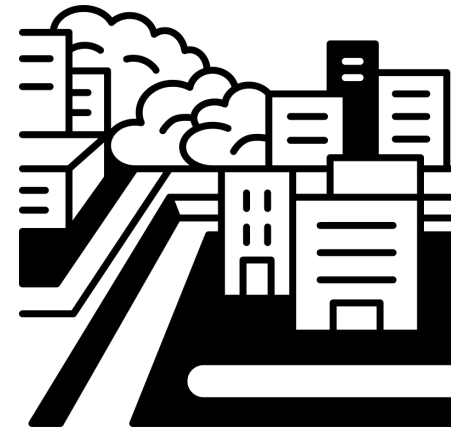
Make space socially visible



Give the station a face



Design the station as city space.

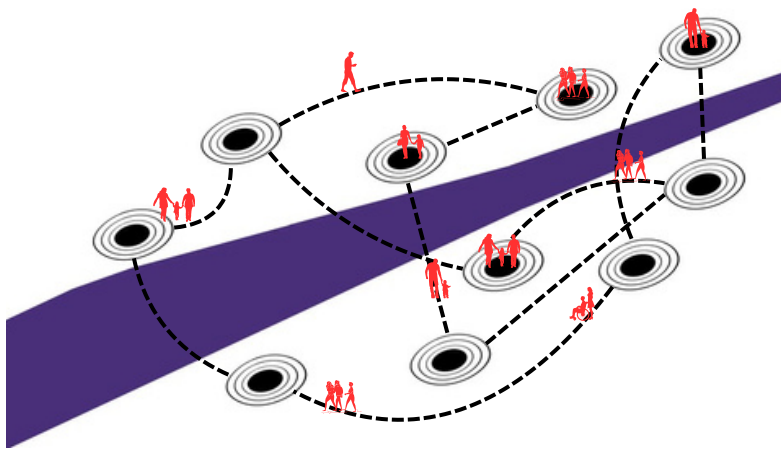


Build the city around mobility

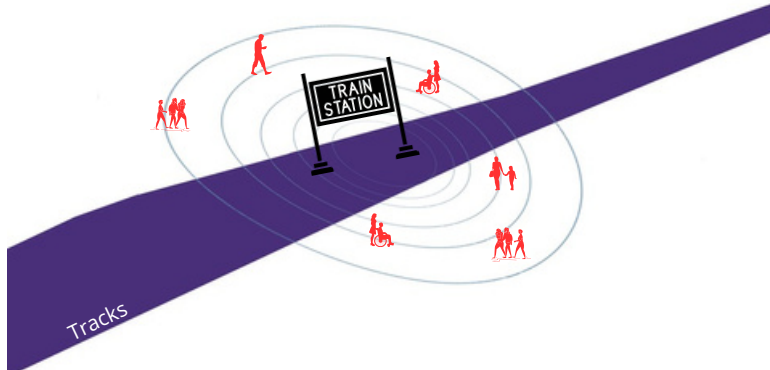




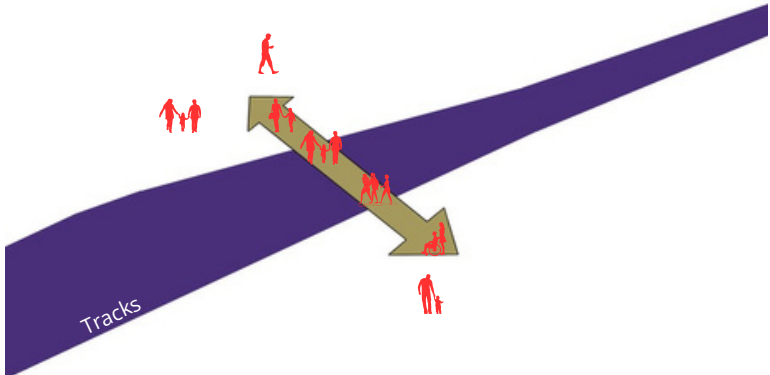
Design goals



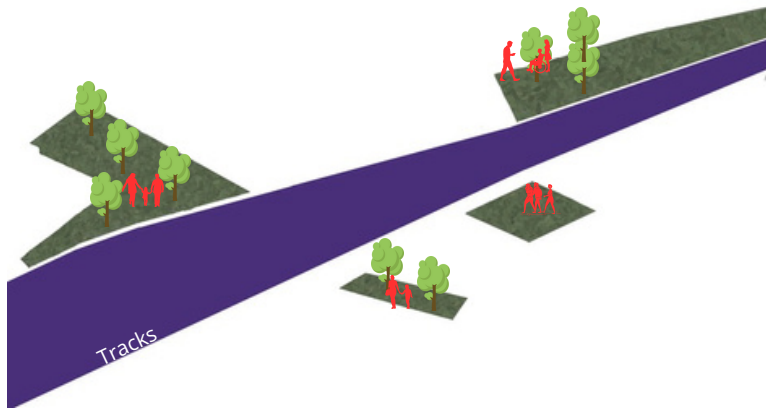
Connection zone



Accessible station area



Easy and safe interneighborhood connection



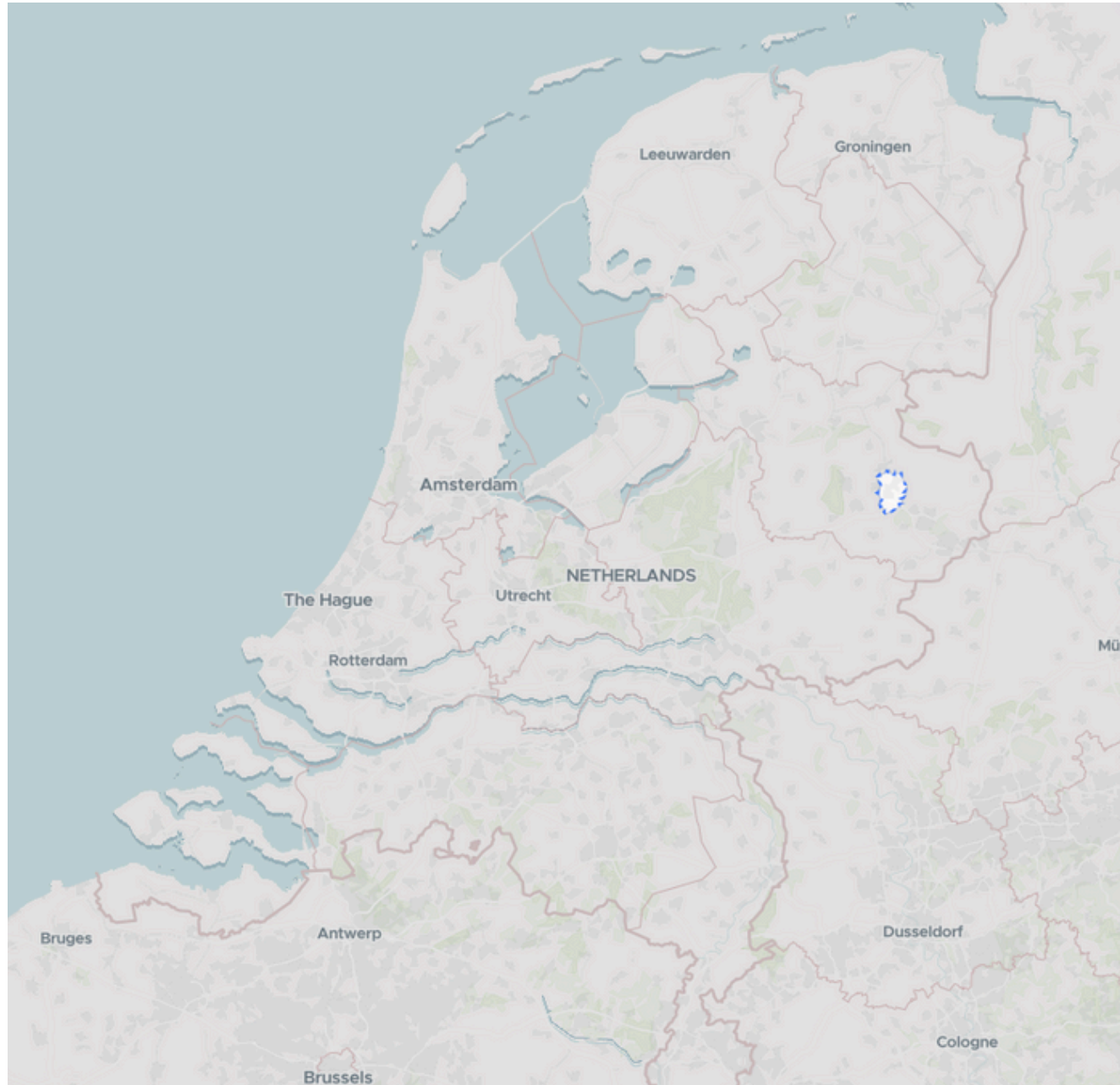
Sustainable public spaces



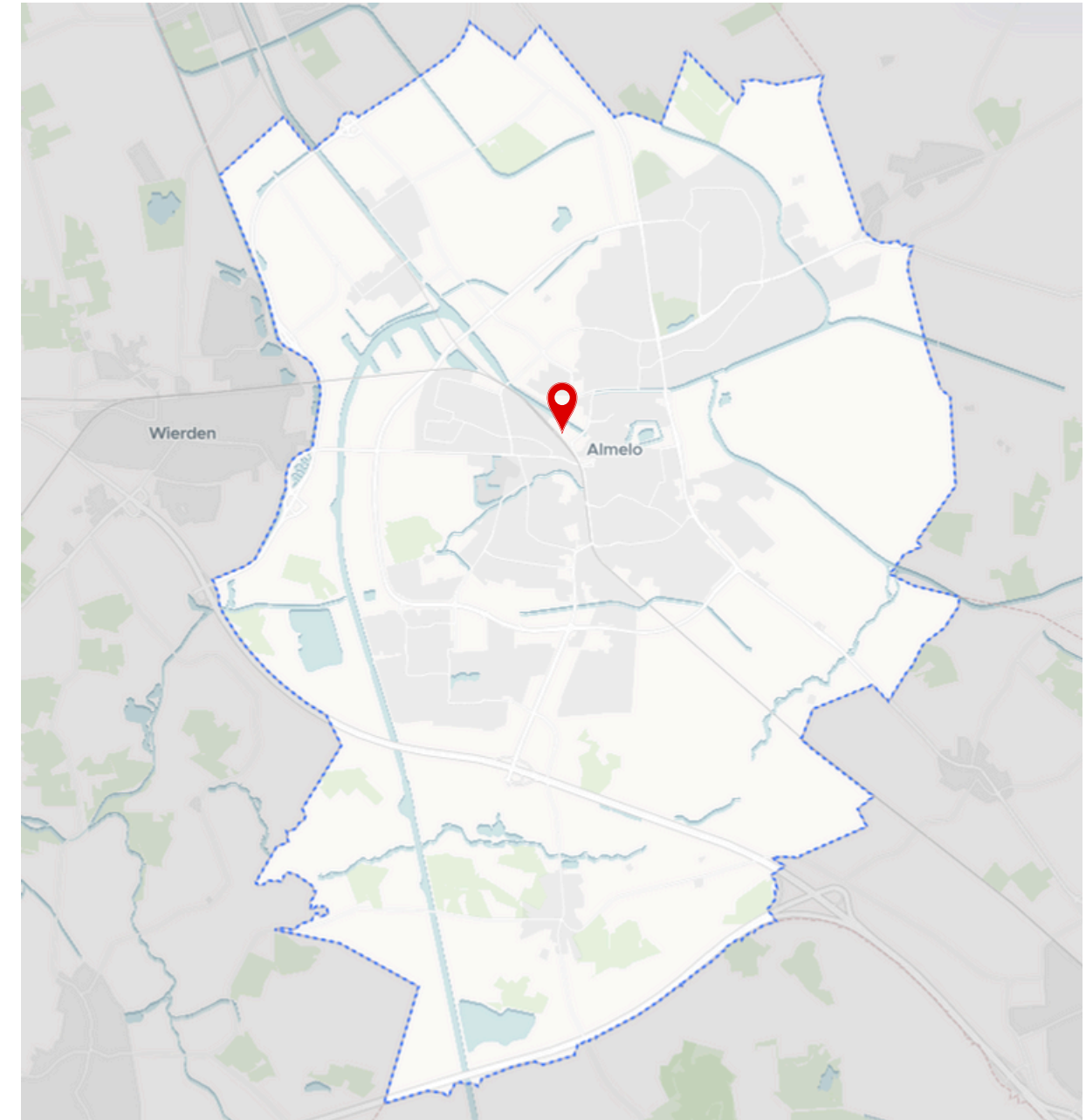
Local identity



## Location

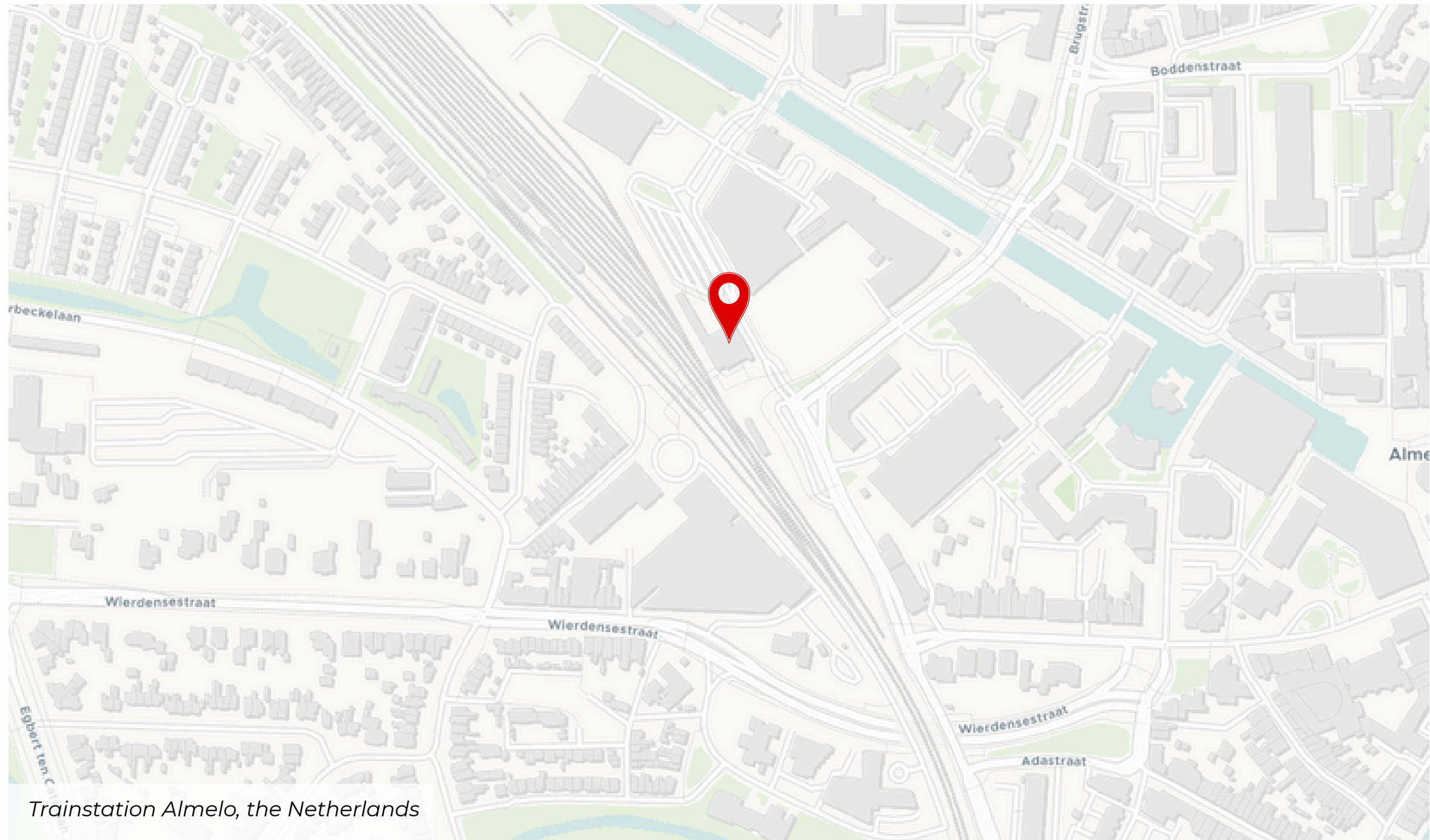


*The Netherlands, Almelo*





## Site





## Site



*Top-down view of the site*

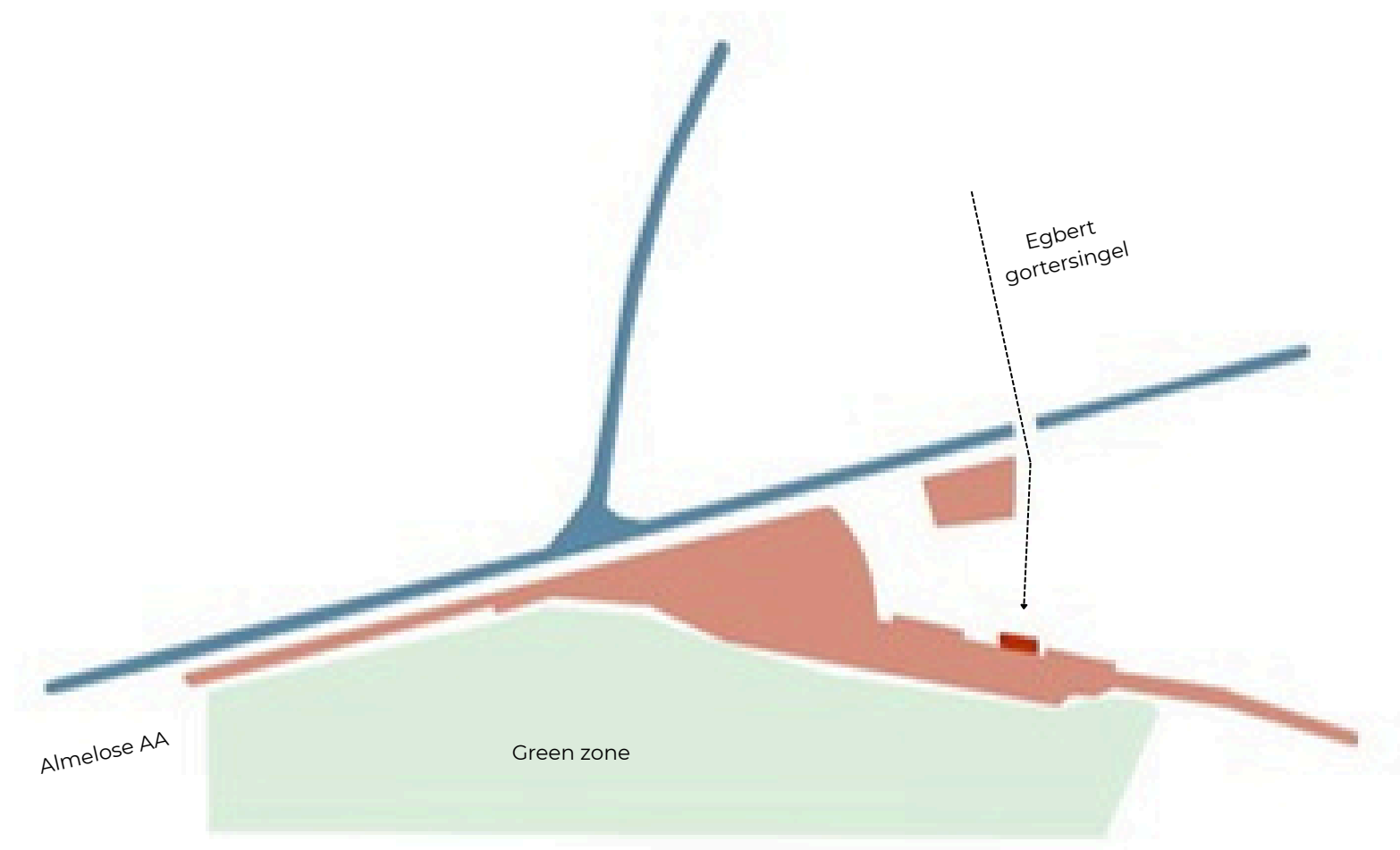


## History of the station

Almelo's first train station was built in 1865 after the 1860 Railway Act. It was initiated by **industrialist Charles Stork**, who aimed to **connect Twente's textile industry to German coal supplies**. The Almelo–Salzbergen line was vital for regional growth, linking Almelo to the national and international railway network and marking the city's industrial rise.



Image of the catalog trainstation building of Almelo



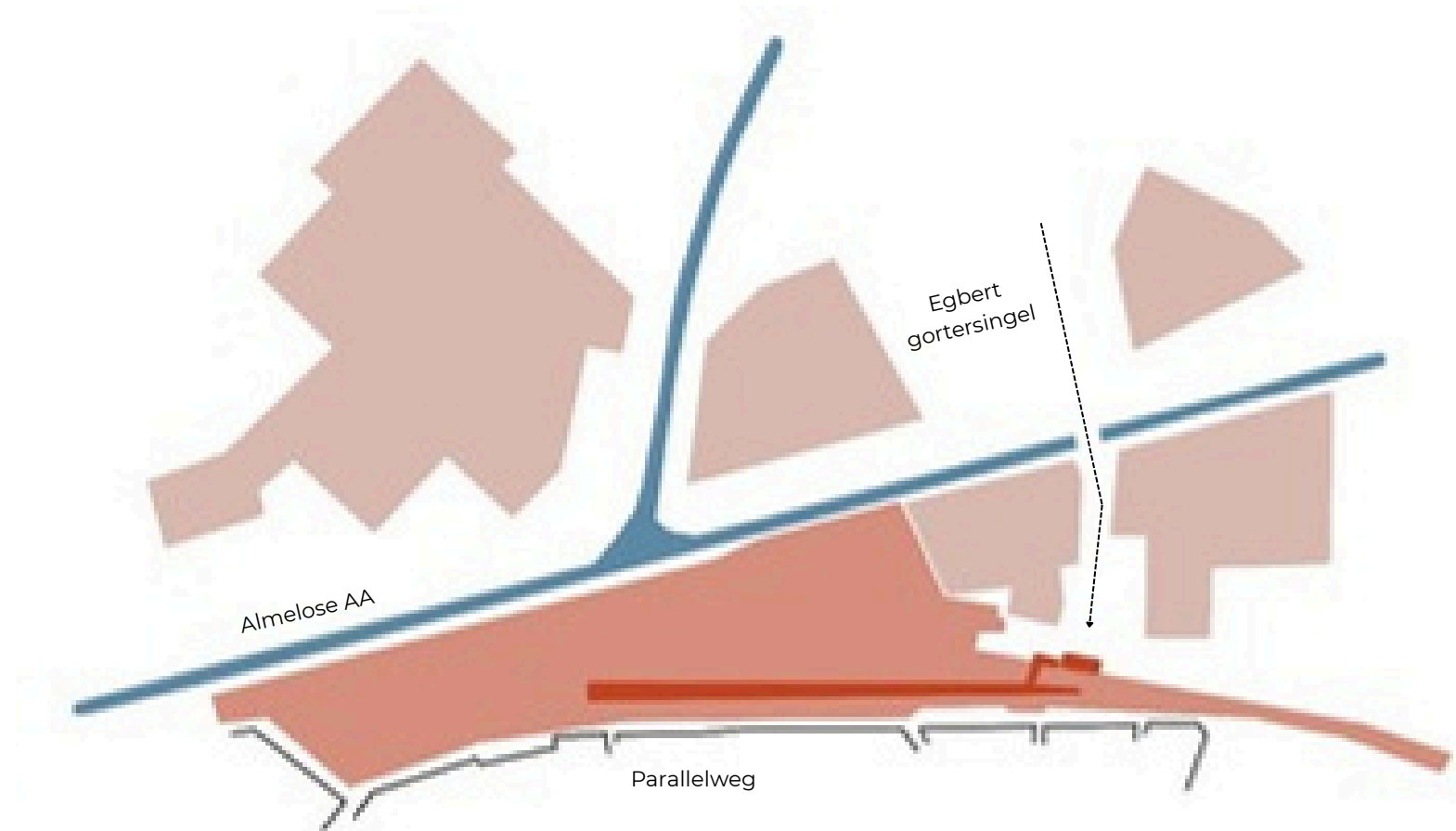
Trainstation 1860

## History of the station

Around 1900, Almelo station expanded with an island platform and a **cast-iron pedestrian bridge**. Increased traffic from new railway lines, including the Mariënberg connection, required better infrastructure. **The bridge connected the station building to the platform**, although inconveniently placed at one end. This improvement was led by the railway companies to handle growing passenger flow efficiently.



Image of trainstation extention



Trainstation 1900 extension

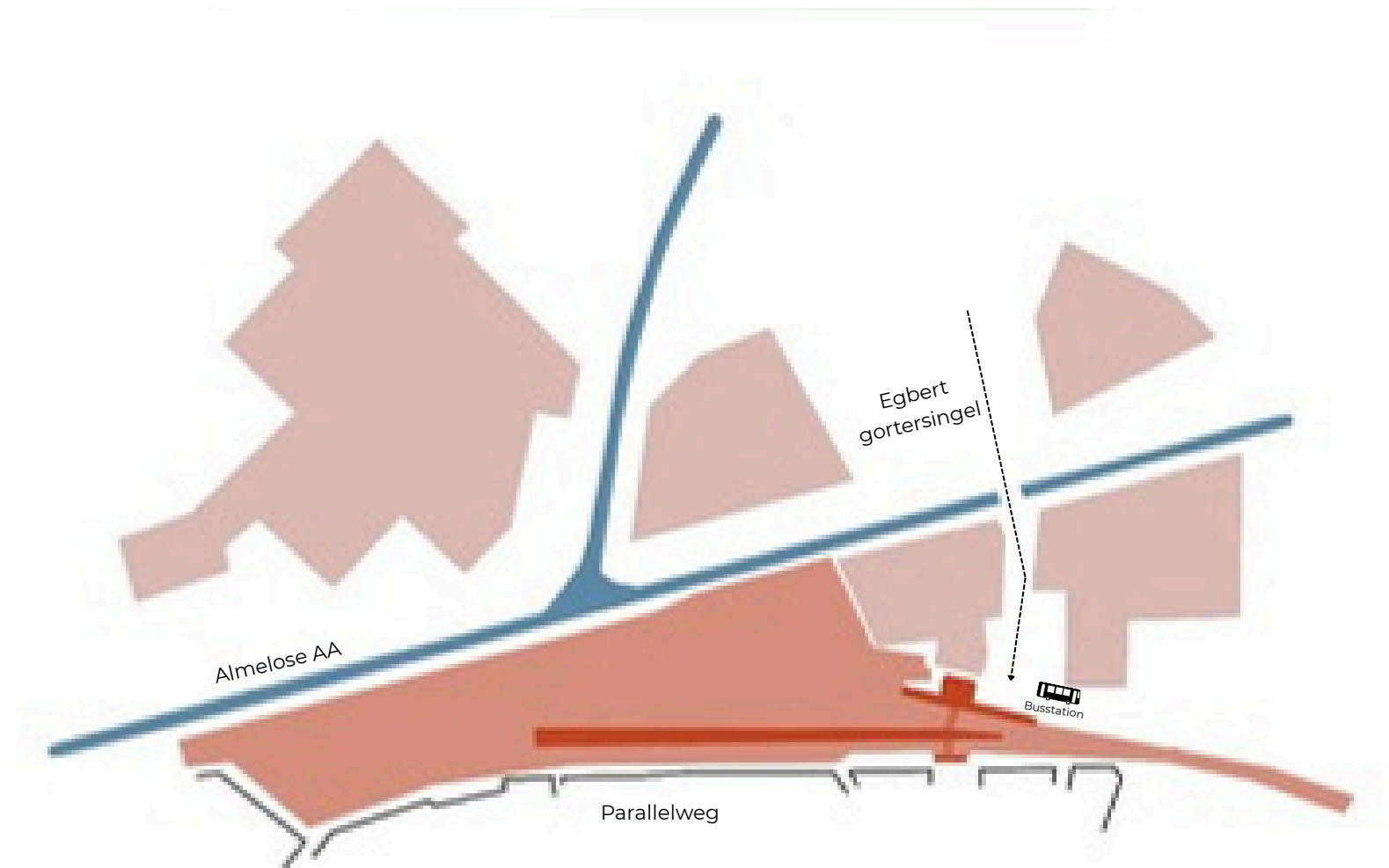


## History of the station

In 1962, a modern station replaced the 1882 building, designed by architect **Koen van der Gaast**. The new structure introduced a pedestrian tunnel, improved passenger flow, and a larger square for buses and cars. It reflected **post-war modernization goals**, accommodating rising commuter numbers and showcasing the Dutch Railways' contemporary, forward-looking identity in architecture and infrastructure.



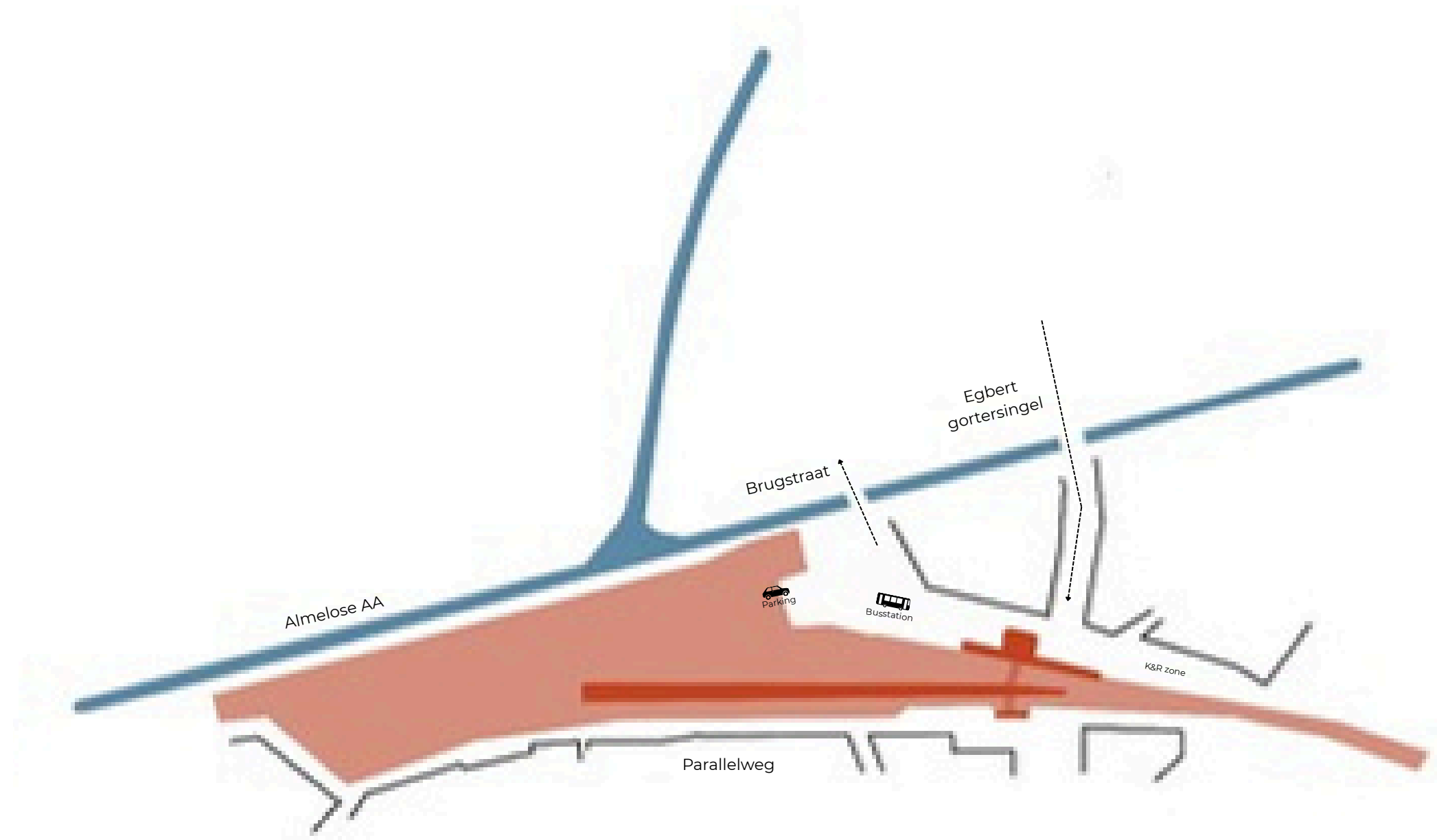
Image of trainstation in 1965



Trainstation 1960 new design

## History of the station

By 2005, the station area was redesigned to integrate better with Almelo's urban core. The **bus terminal moved to the north** side, creating a more walkable square. New developments, including the tax office and Javatoren, replaced former textile factories. These changes, led by the municipality and NS, aimed to revitalize the area and **improve city-station connectivity**.



*Trainstation 2005 last changes*



## Current station



*Image of main entrance*



*Image of busstation entrance*



*Top-down view of the site*



*Image of Kerkelanden entrance*



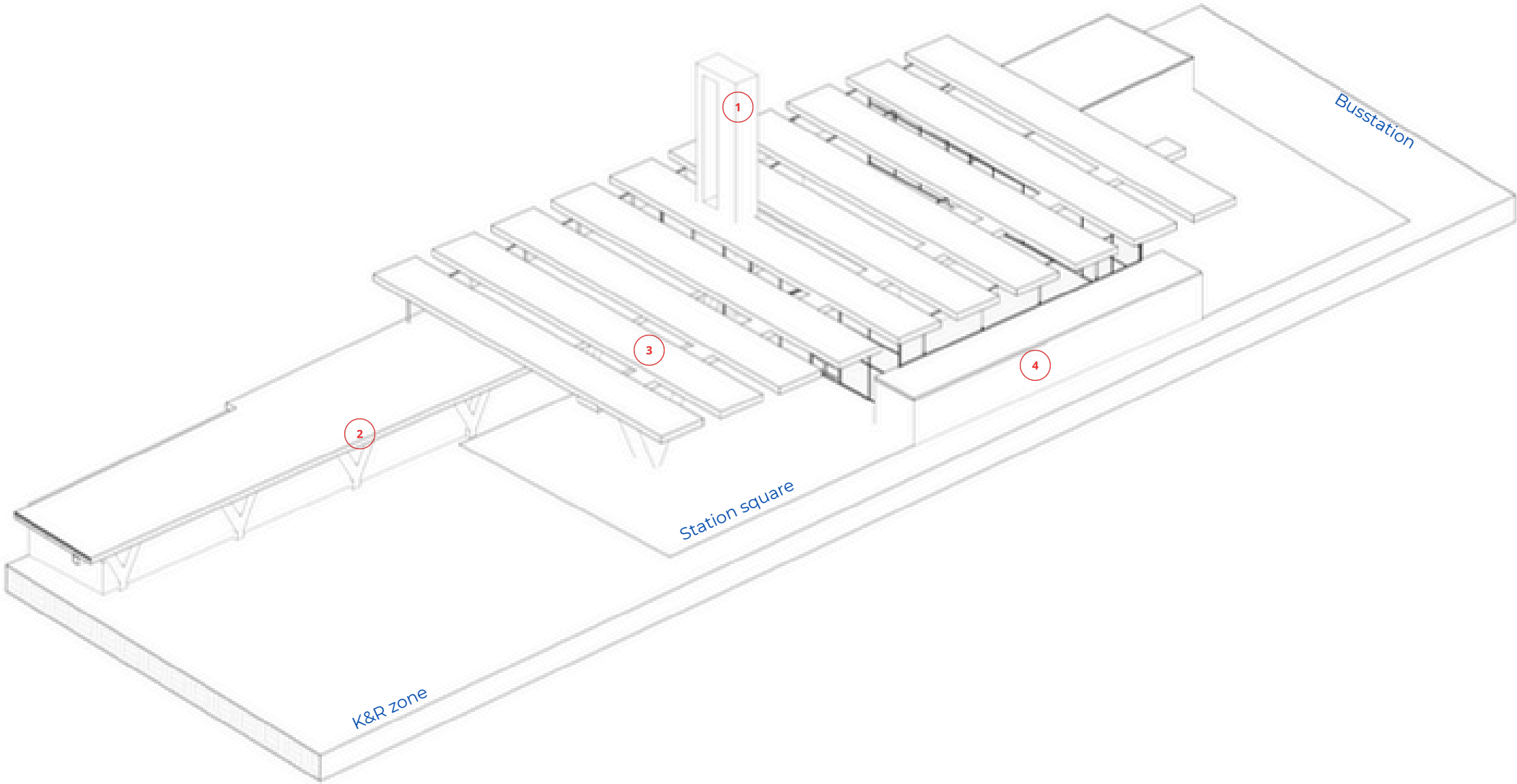
## Underpass



**Perrontunnel met restant van de oorspronkelijke scheidingsconstructie, 2016**



Centrum



1



2



3



4

Image of the monument and protected elements

## Urban vision



Image of the spoorzone visie created by the municipality of Almelo



## Urban strategies



*Oblique aerial view of the current trainstation area*

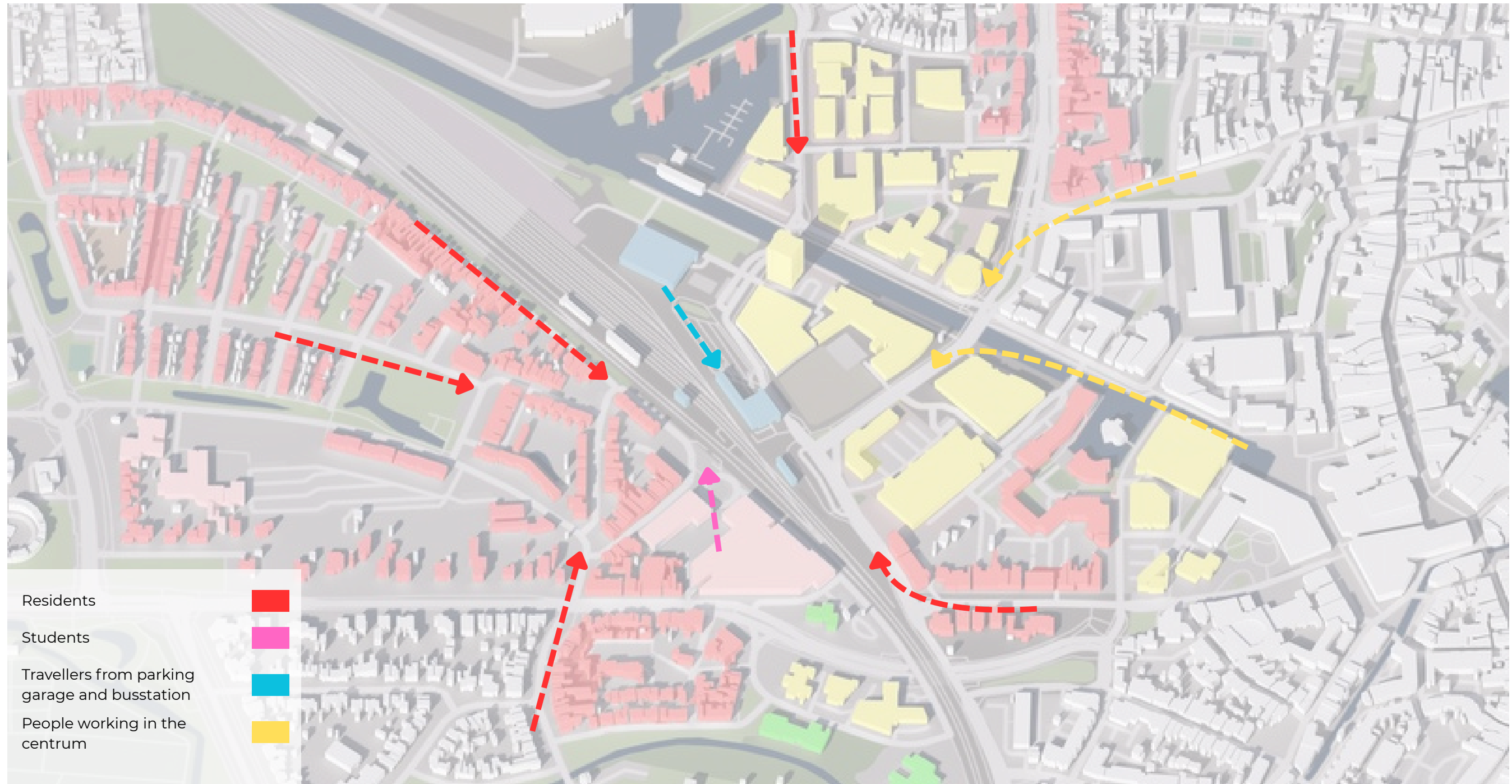
## Users



*The stakeholders using the trainstation*



## Users



*The stakeholders using the trainstation*

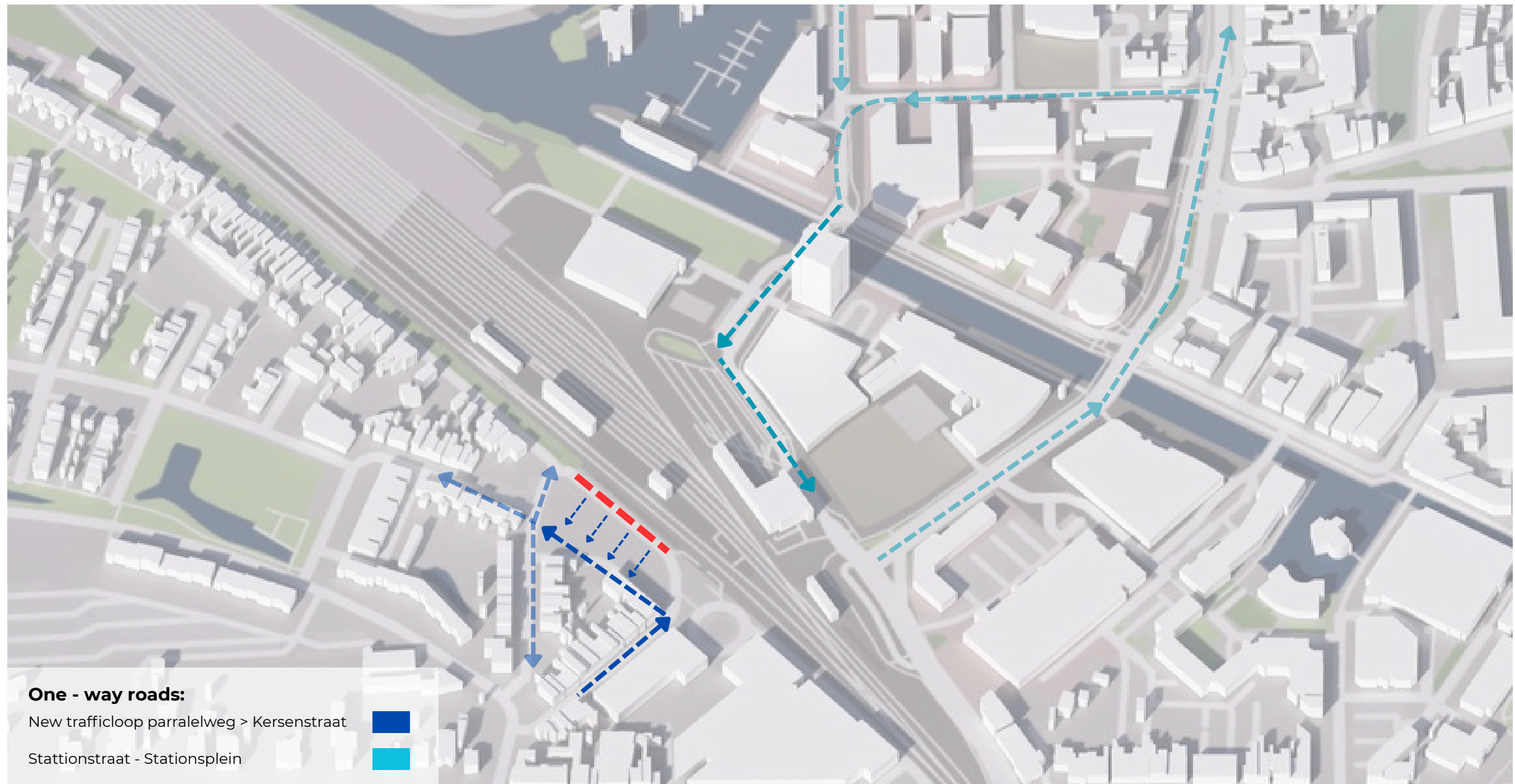
## Creating space



*Image of removed buildings to create space for the station*

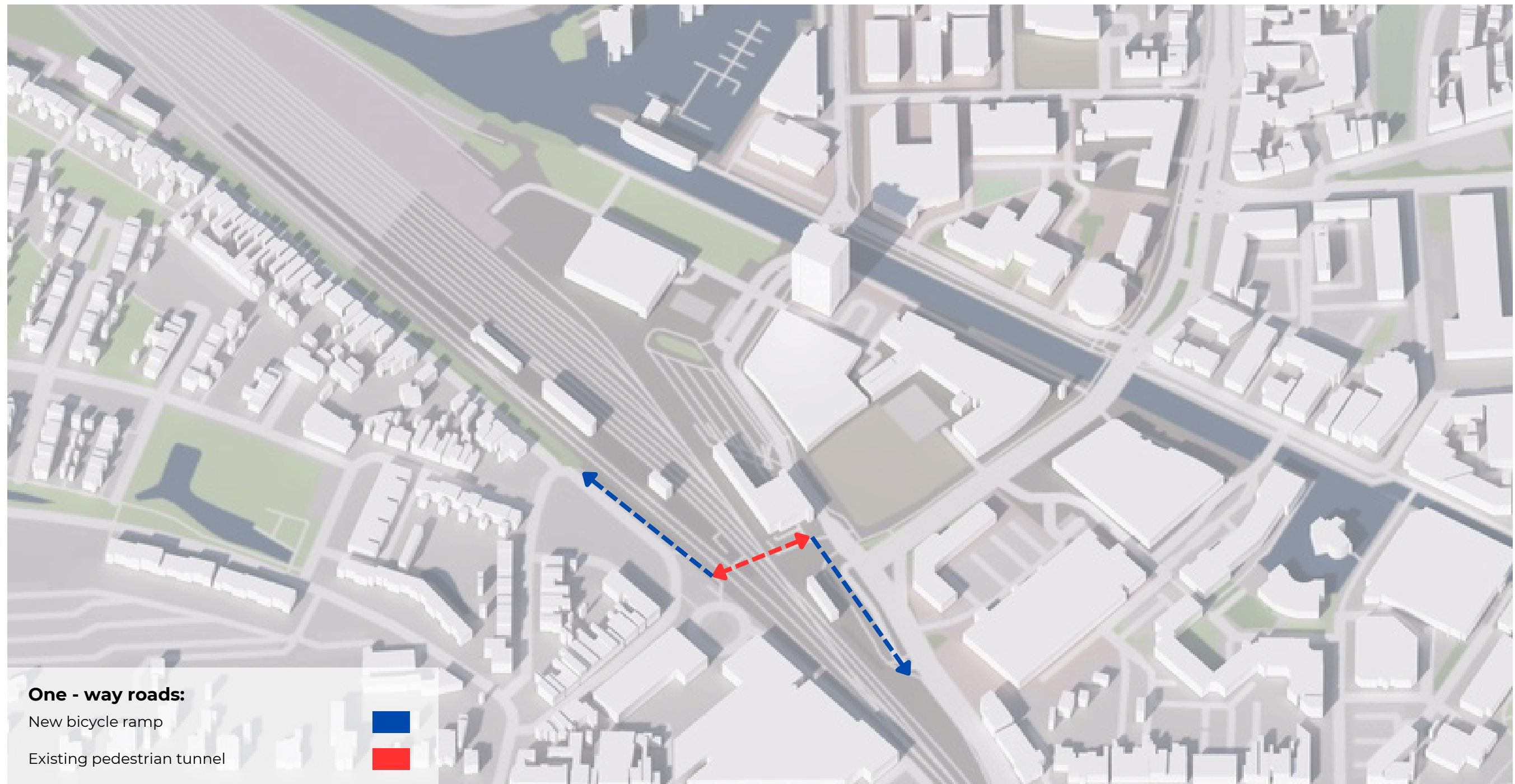


## New trafficloops



*Image of the two one - way road traffic loops connecting the station*

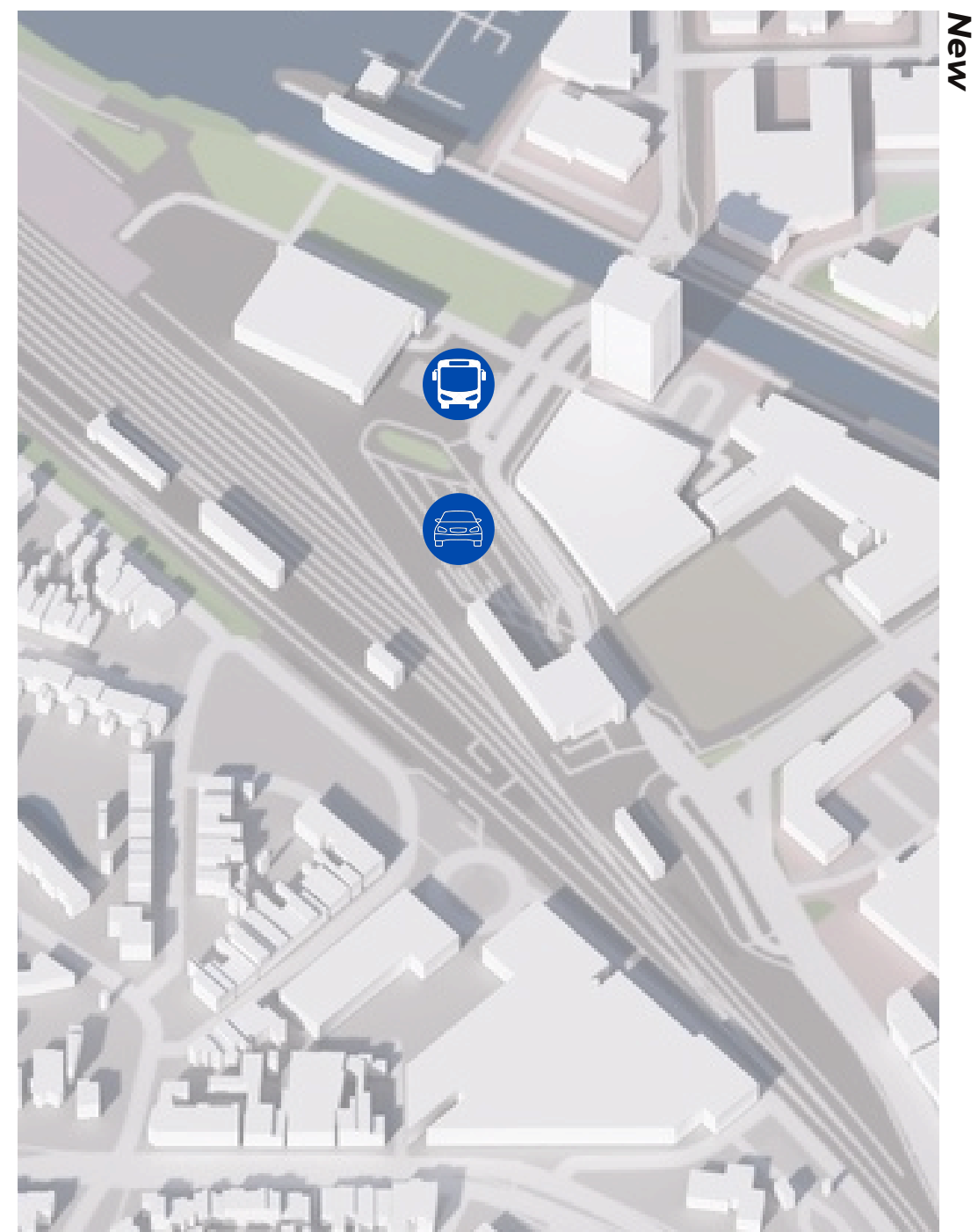
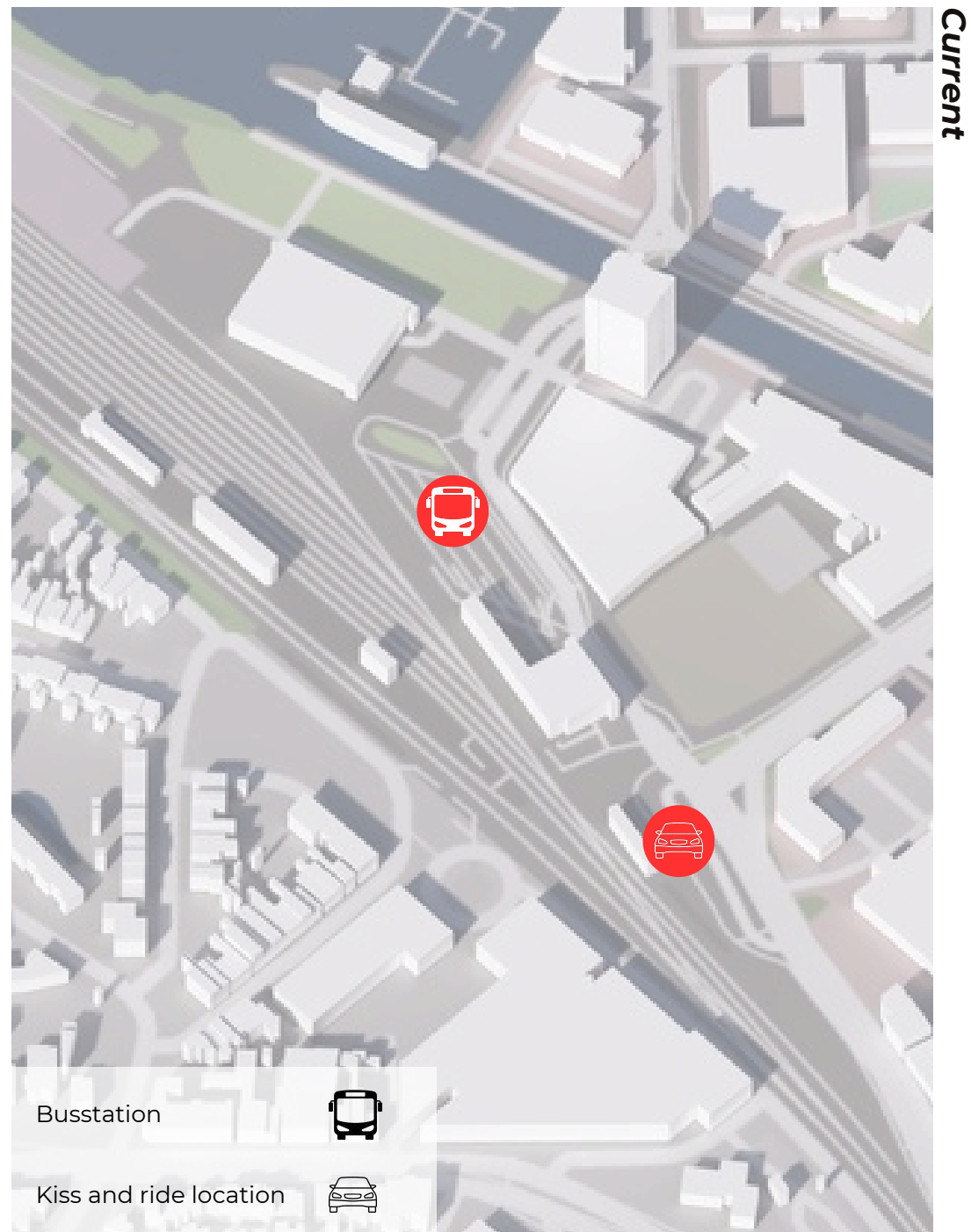
## New bicycle connection



*The new bicycle route connecting the two sides*

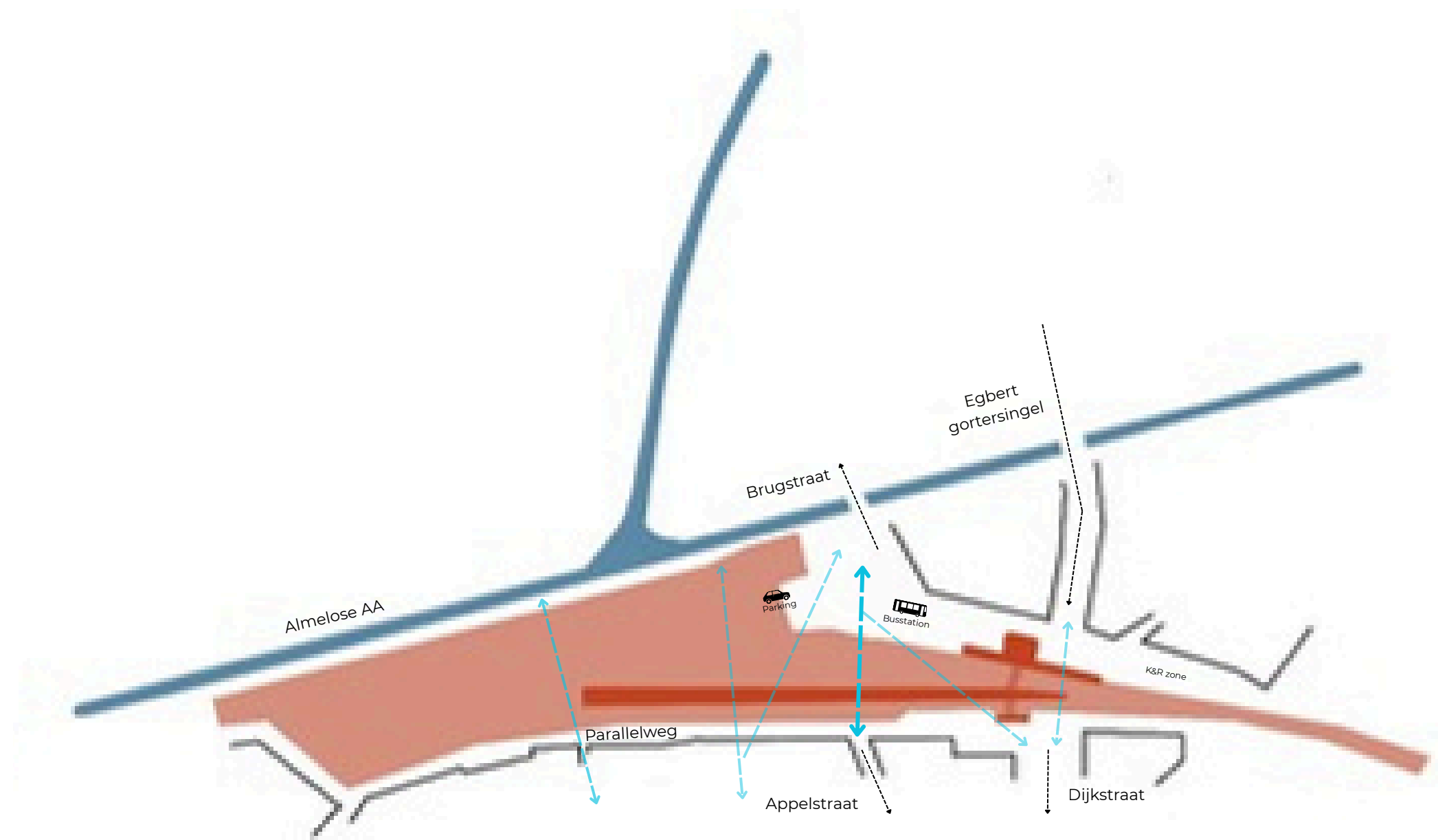


## Relocation public transport



*Transition of the busstation and K&R zone*

## Interneighbourhood conection



*Location interneighborhood connection*

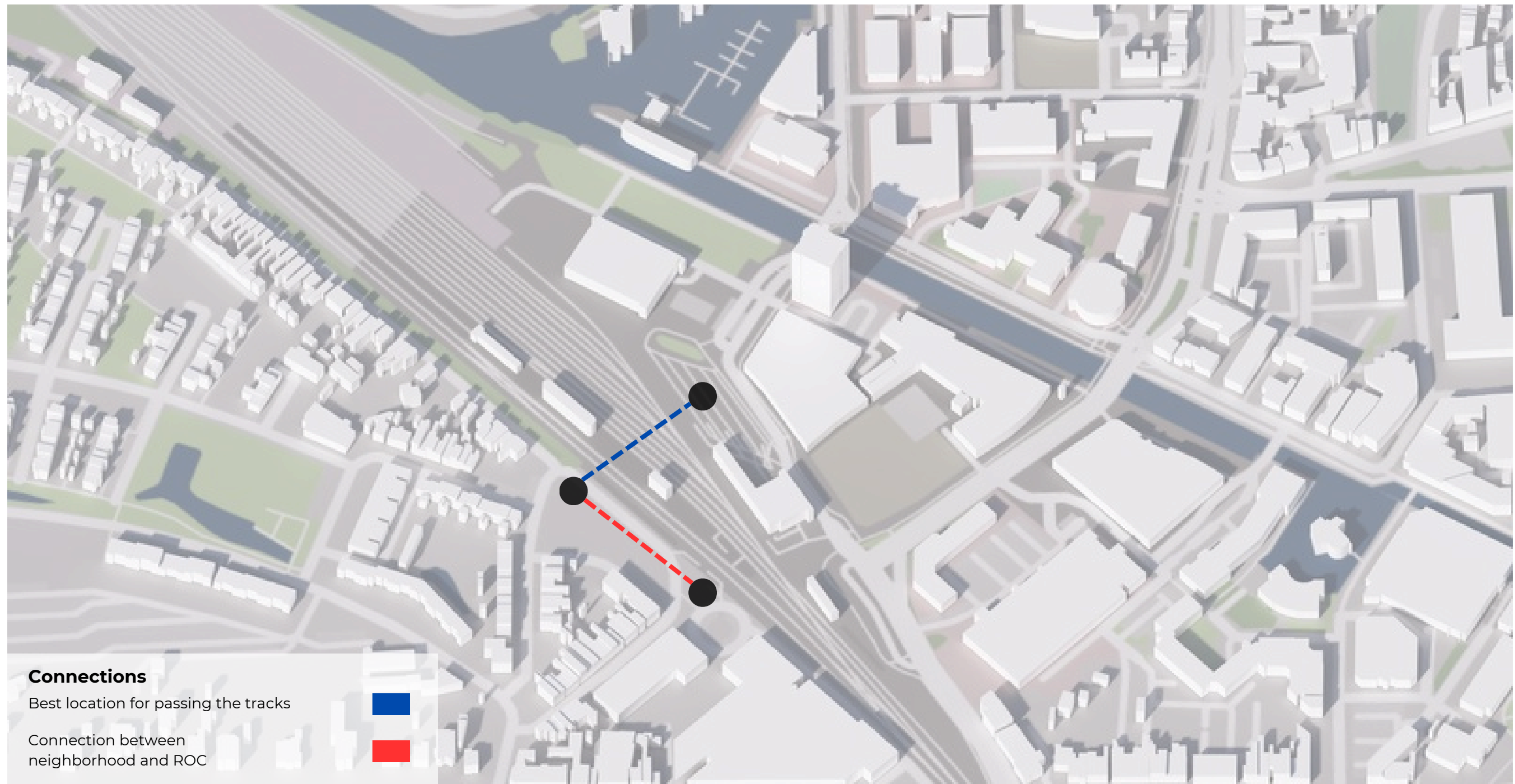


## New traffic loops



*There are three key spots that attract people, all located within the sight lines and close to key functions.*

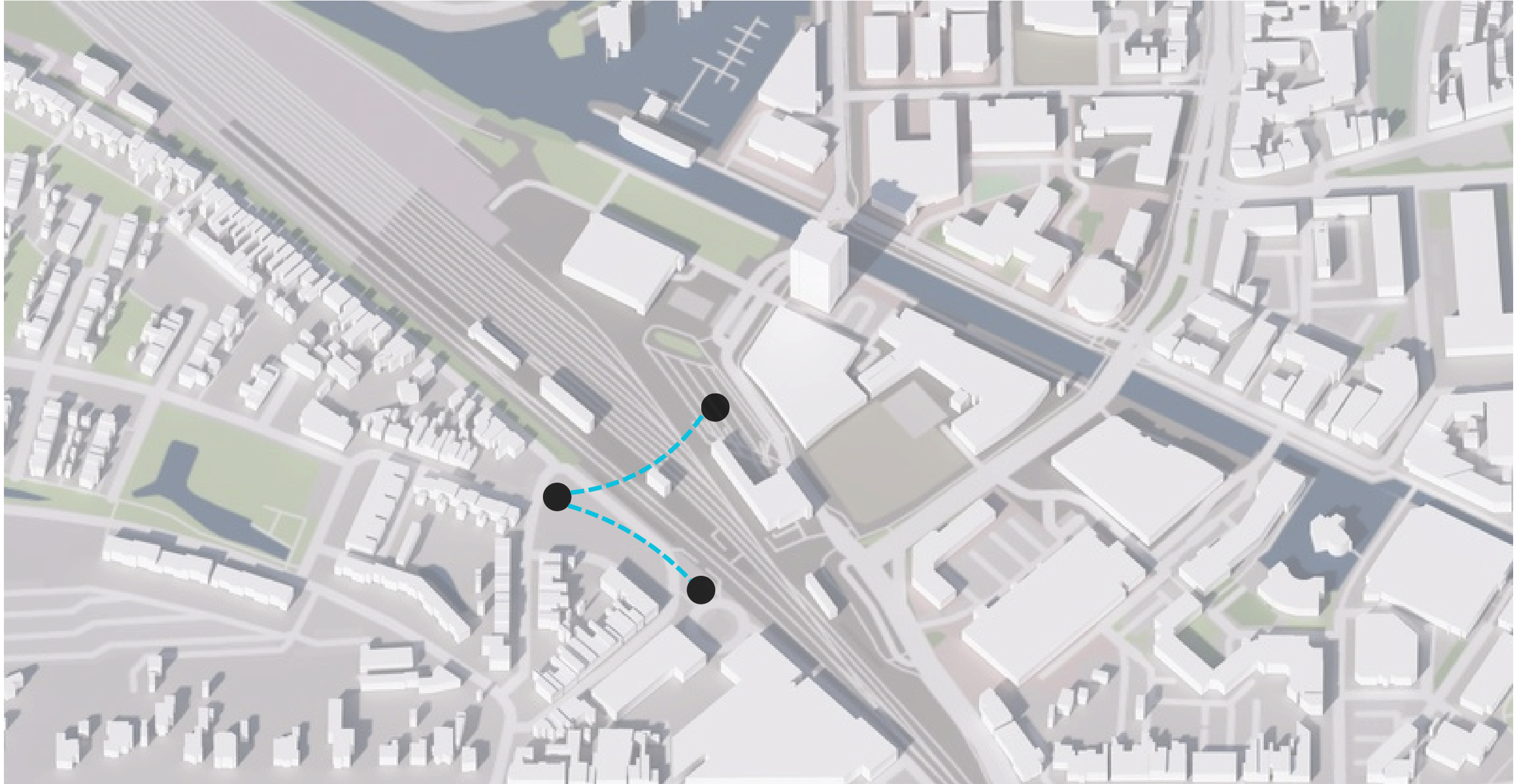
## New traffic loops



*By connecting these points, the spatial contours of the construction area start to emerge.*

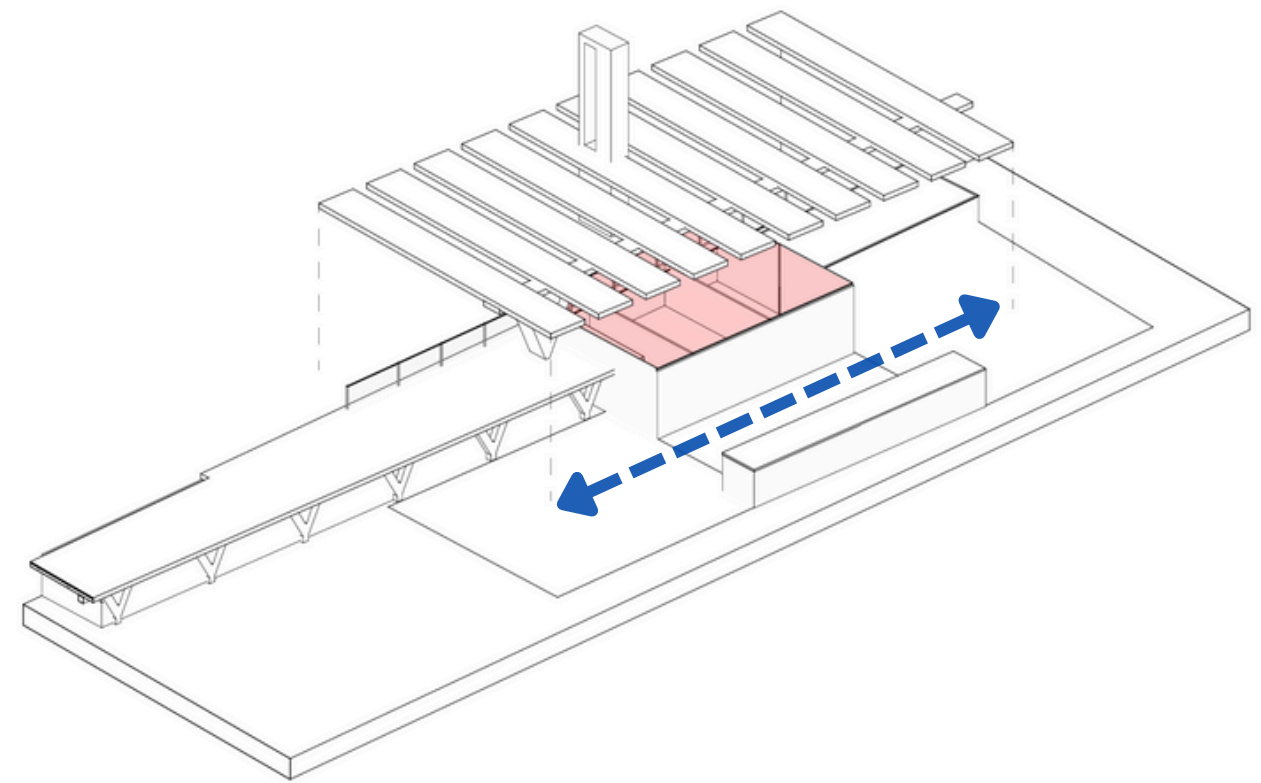
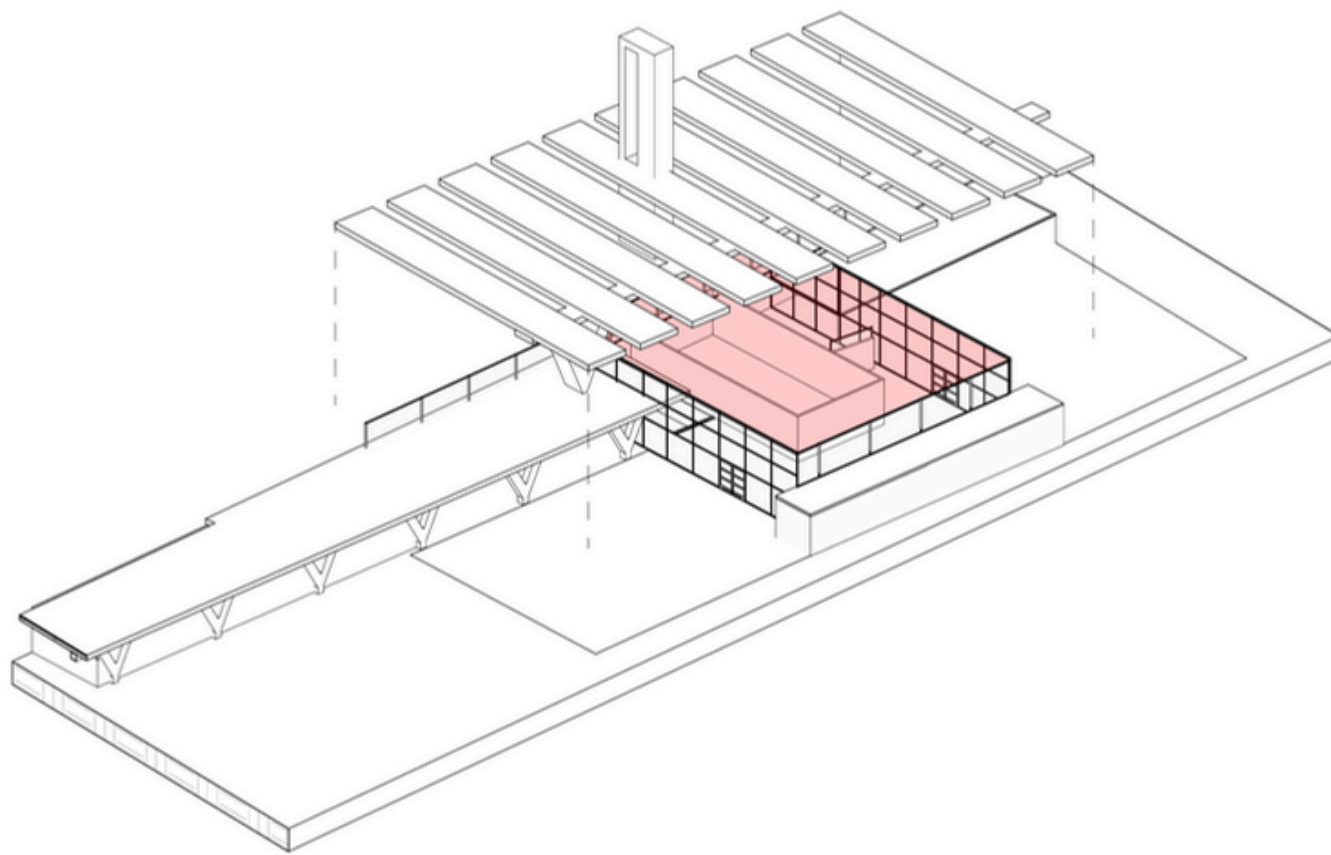


## New traffic loops



*After several design iterations, a building form has emerged that, as it were, winds like a ribbon across the tracks.*

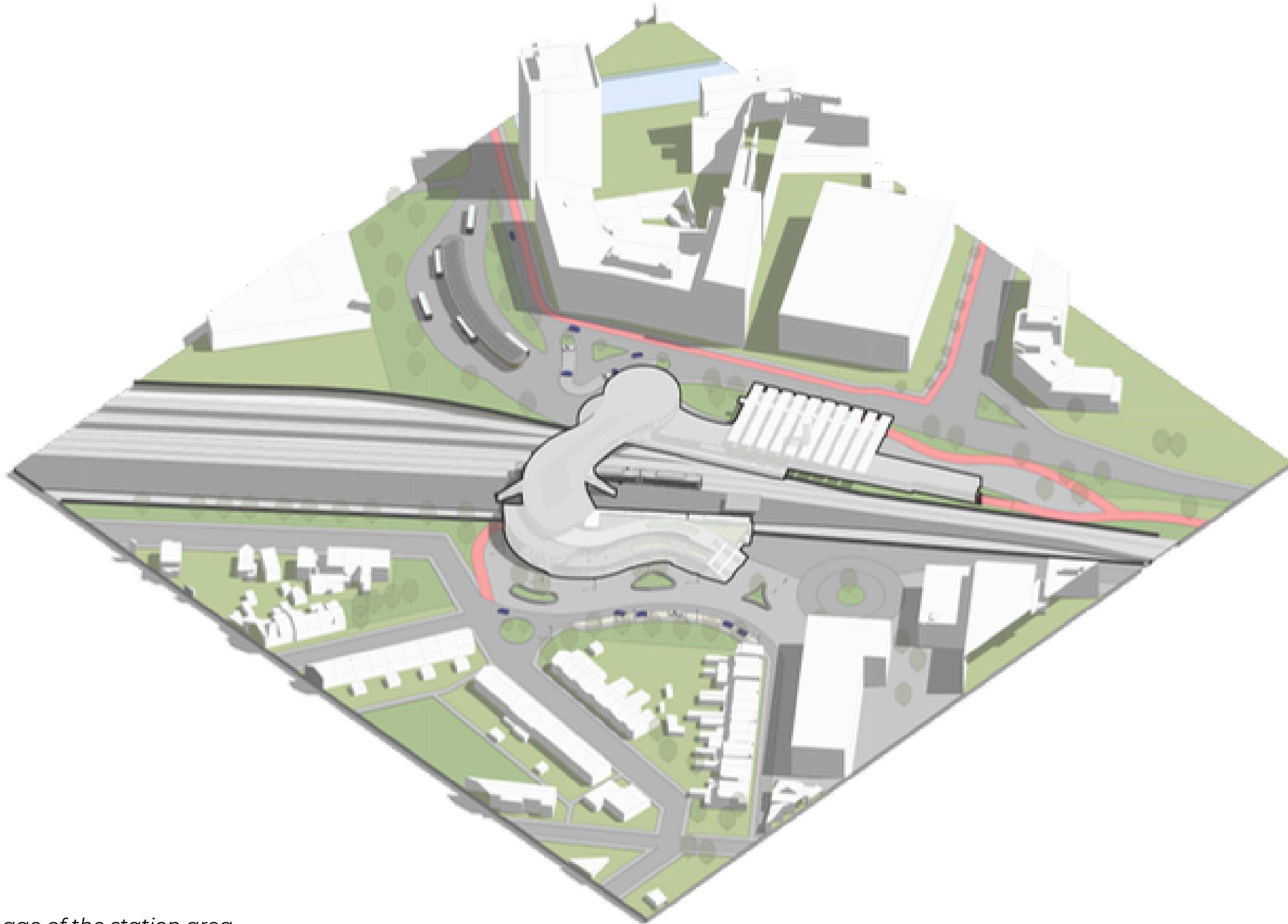
## Centrum



*Transforming the monument*

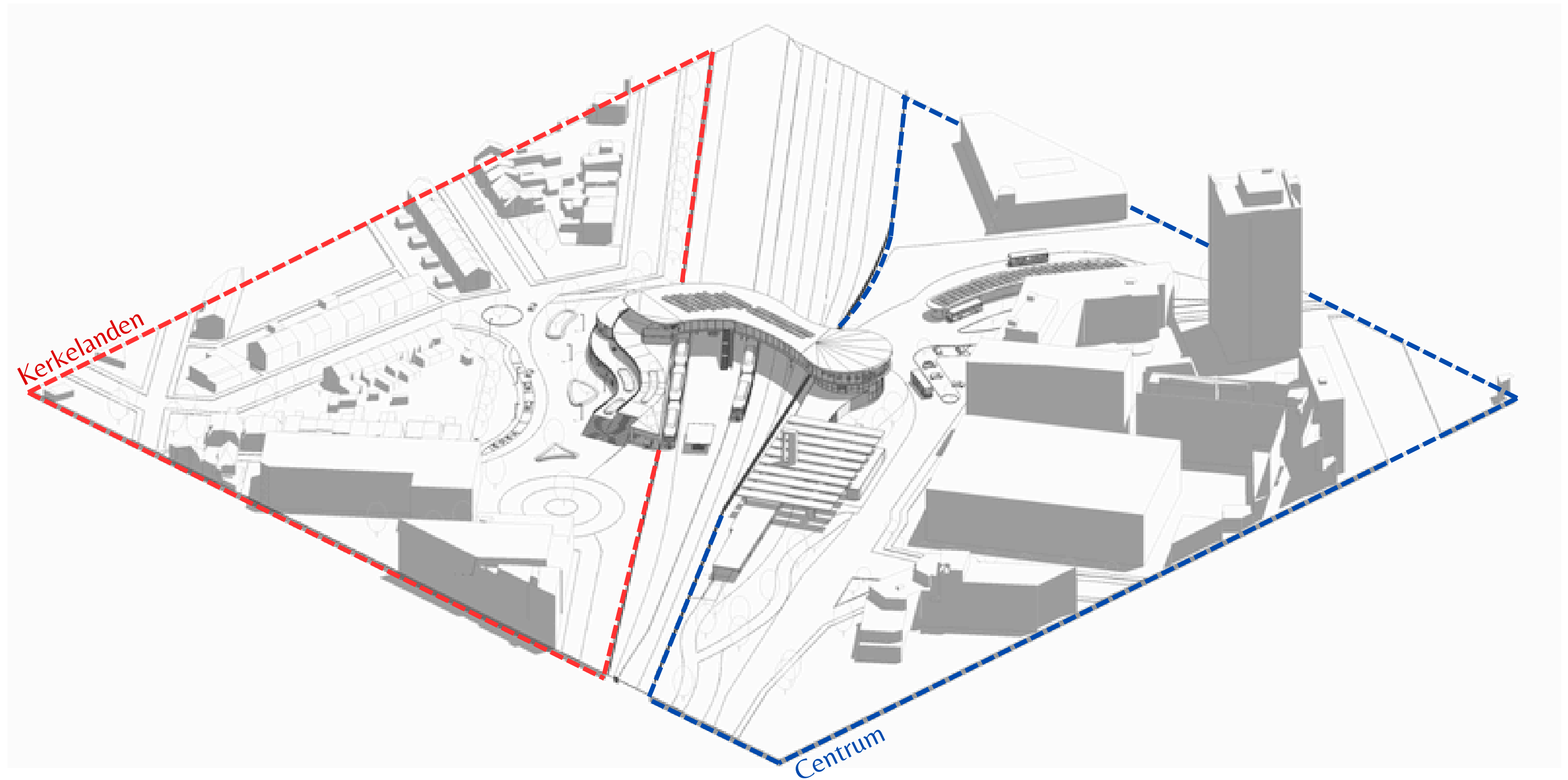


New masterplan



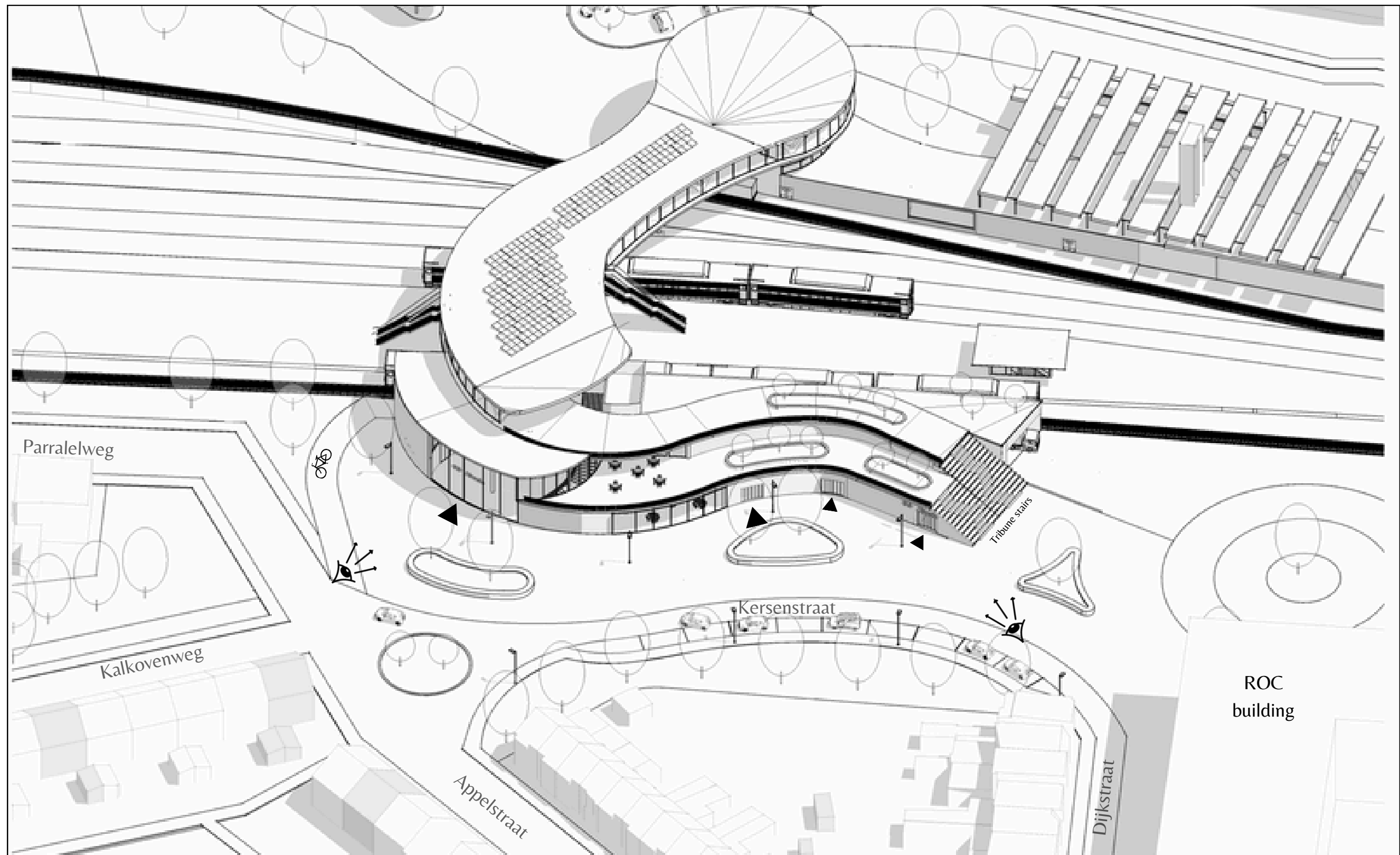
*Image of the station area*

## The catalyst



*The new station connecting both sides of the tracks*

## Kerkelanden



*Areal view of the kerkelanden side*



## Centrum



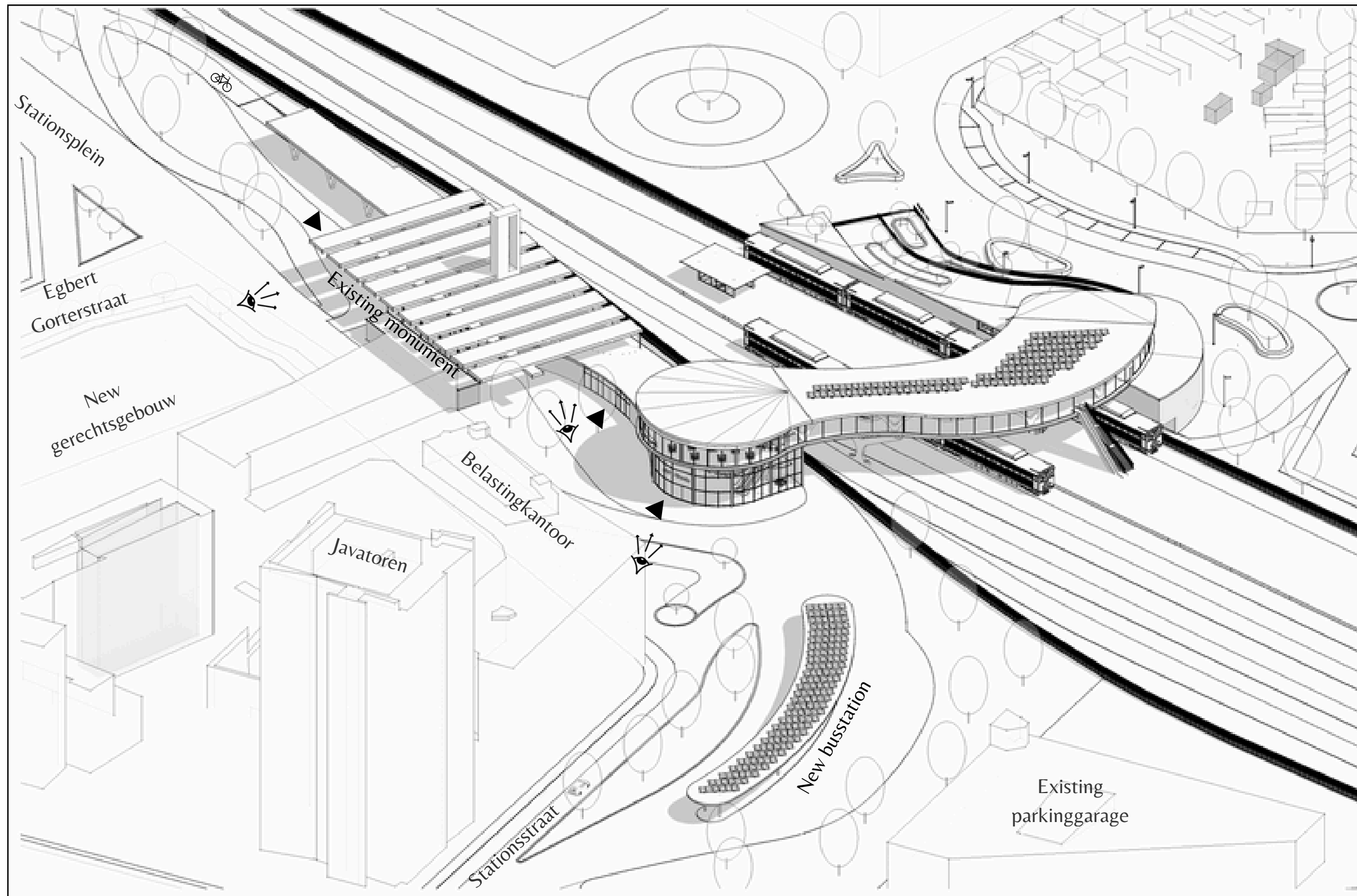
*New face of the Kerkelanden*

## Centrum



*Tribune stairs connecting the schools with the new station*

## Centrum



*Areal view of the centrum side*

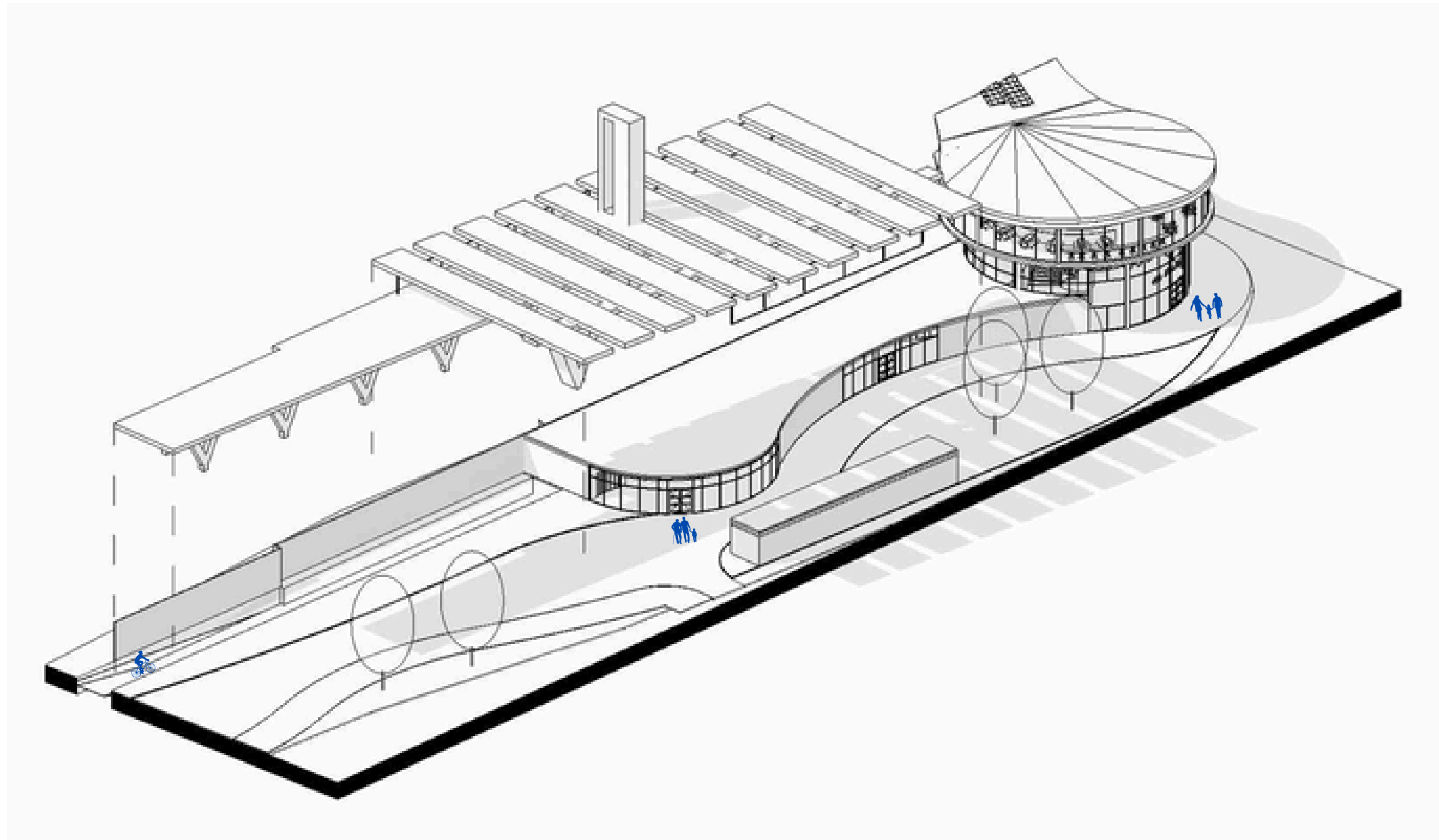


## Centrum



*New entrance for the centrum side*

## Centrum



*Exploded axometry of the new passage through the monument*

## Centrum



*Visual of the monument*



## Centrum



*Visual of the passage*

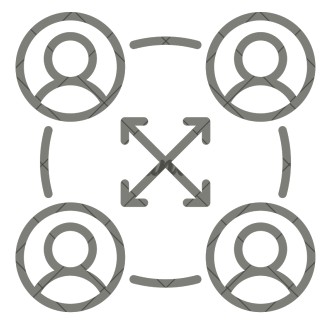
Functional program



Public & Social Functions

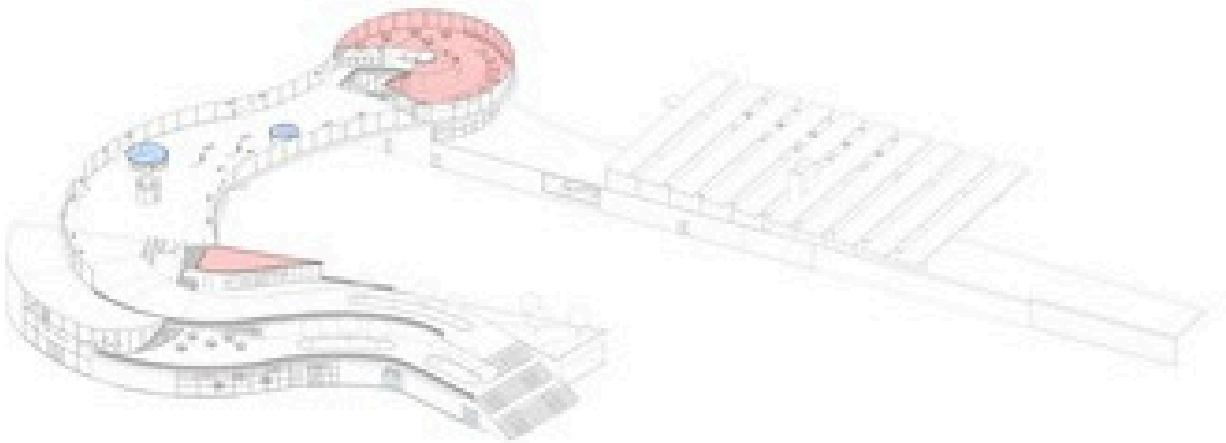


Commercial & Daily Amenities

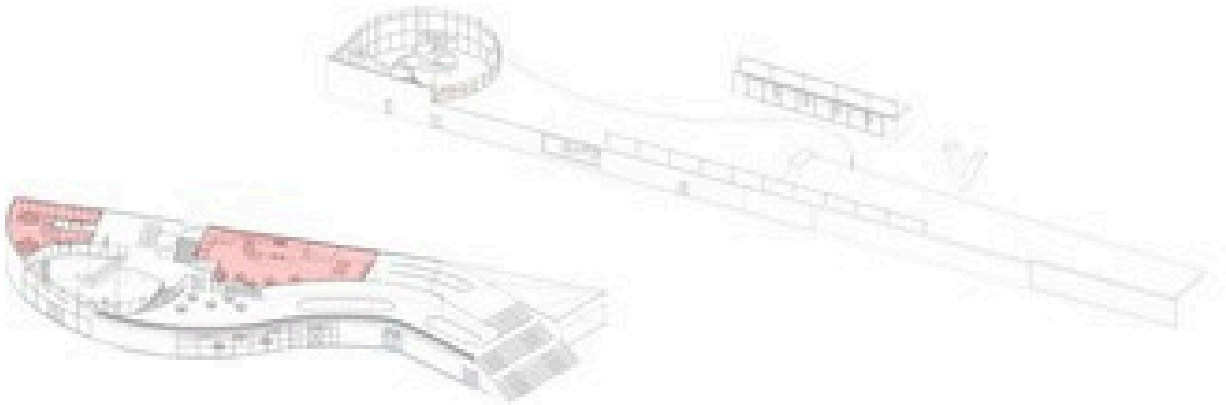


Functional & Support Spaces

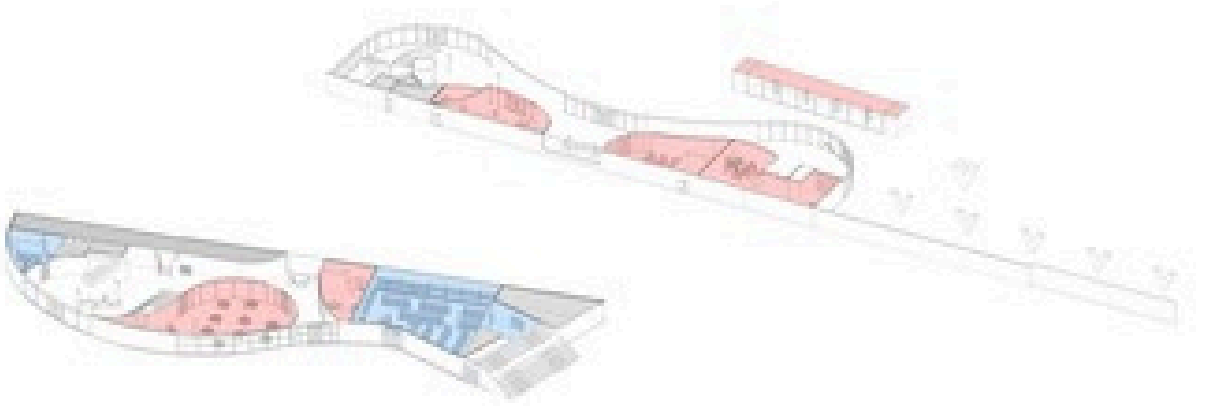
Second floor



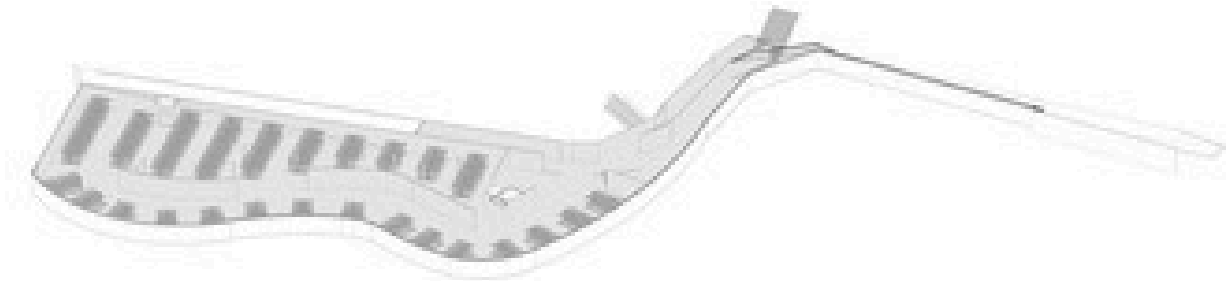
First floor



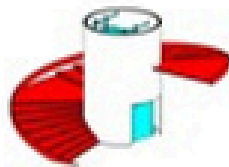
Ground floor



Basement



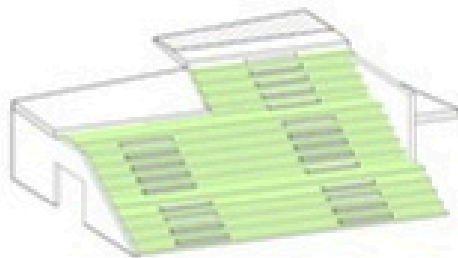
Flows



Scenic stairs and elevator

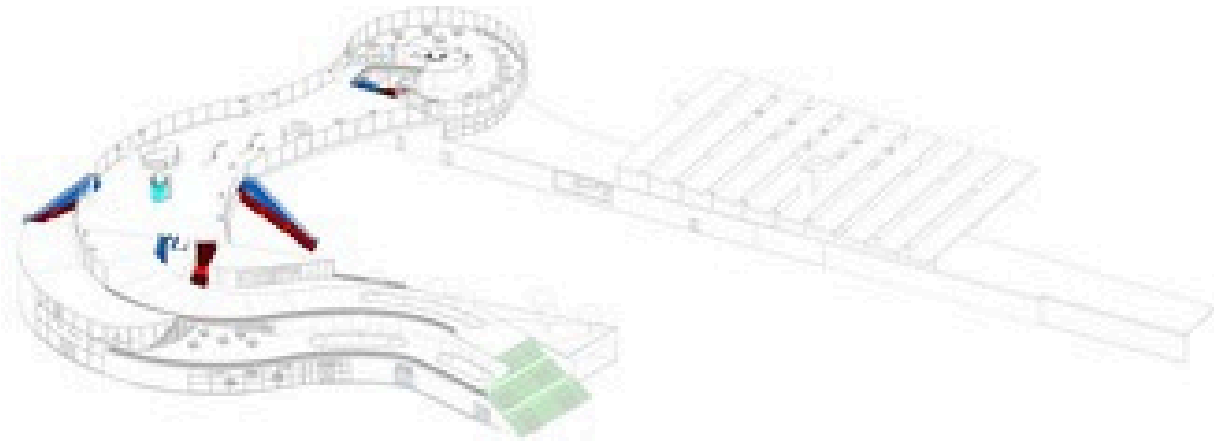


Escalator

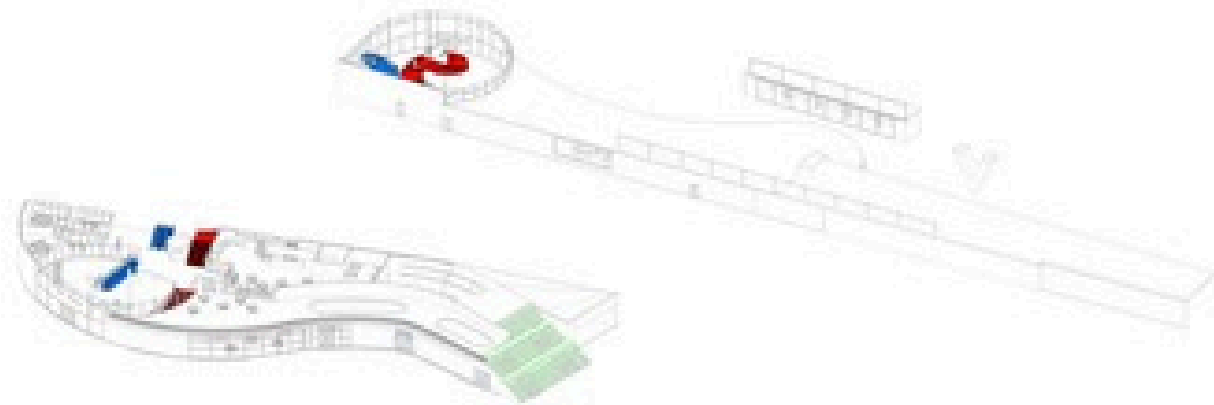


Tribune stairs

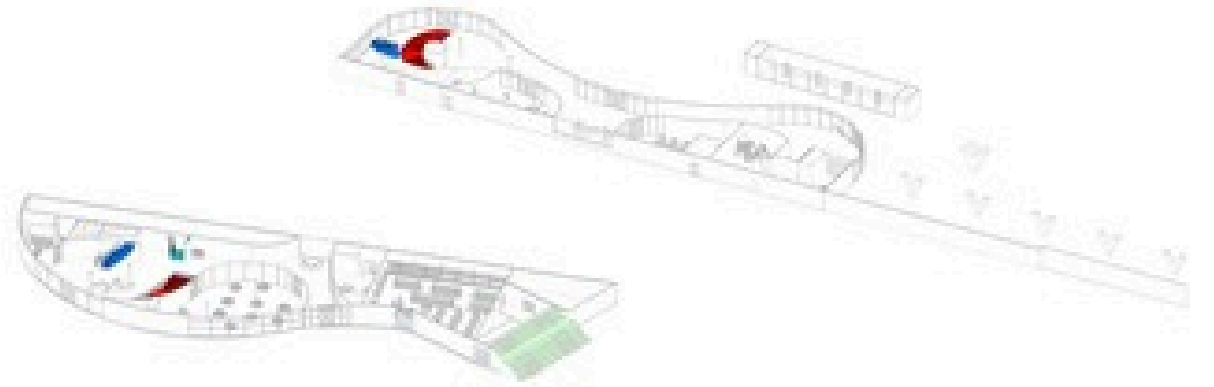
Second floor



First floor



Ground floor



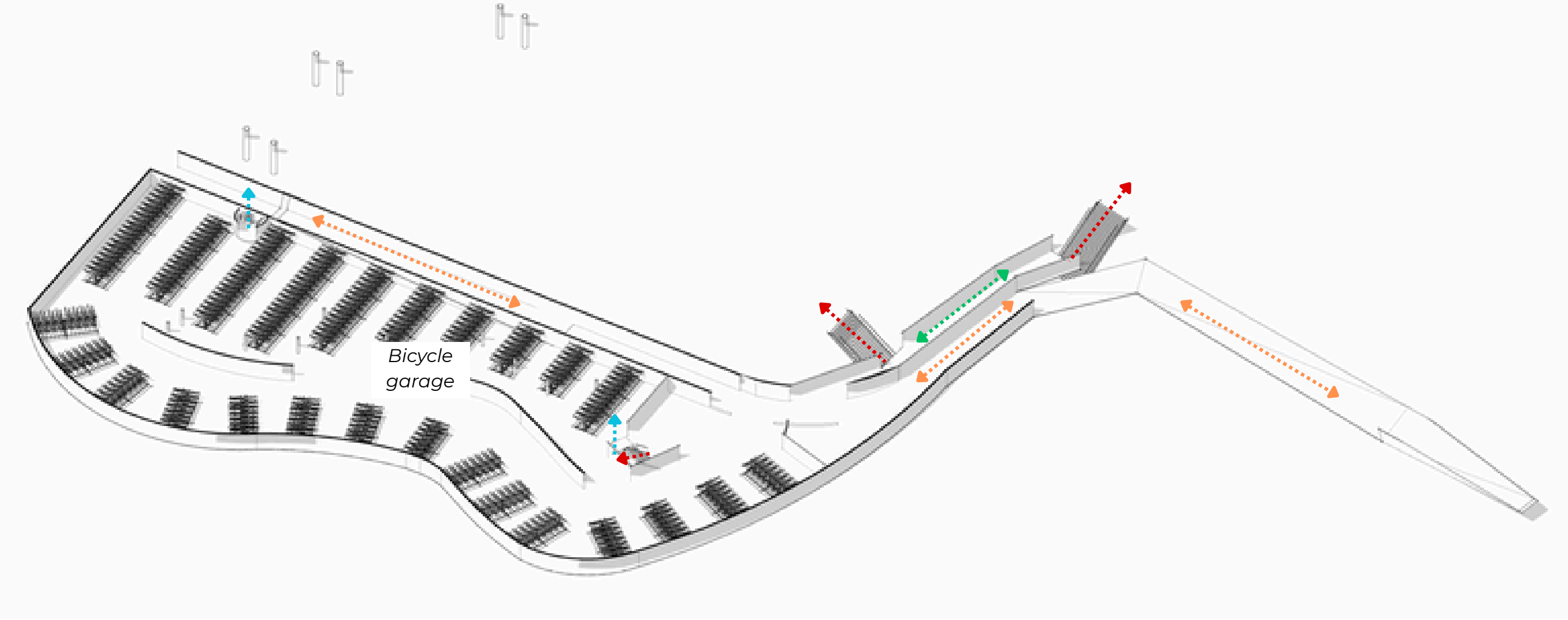
Basement





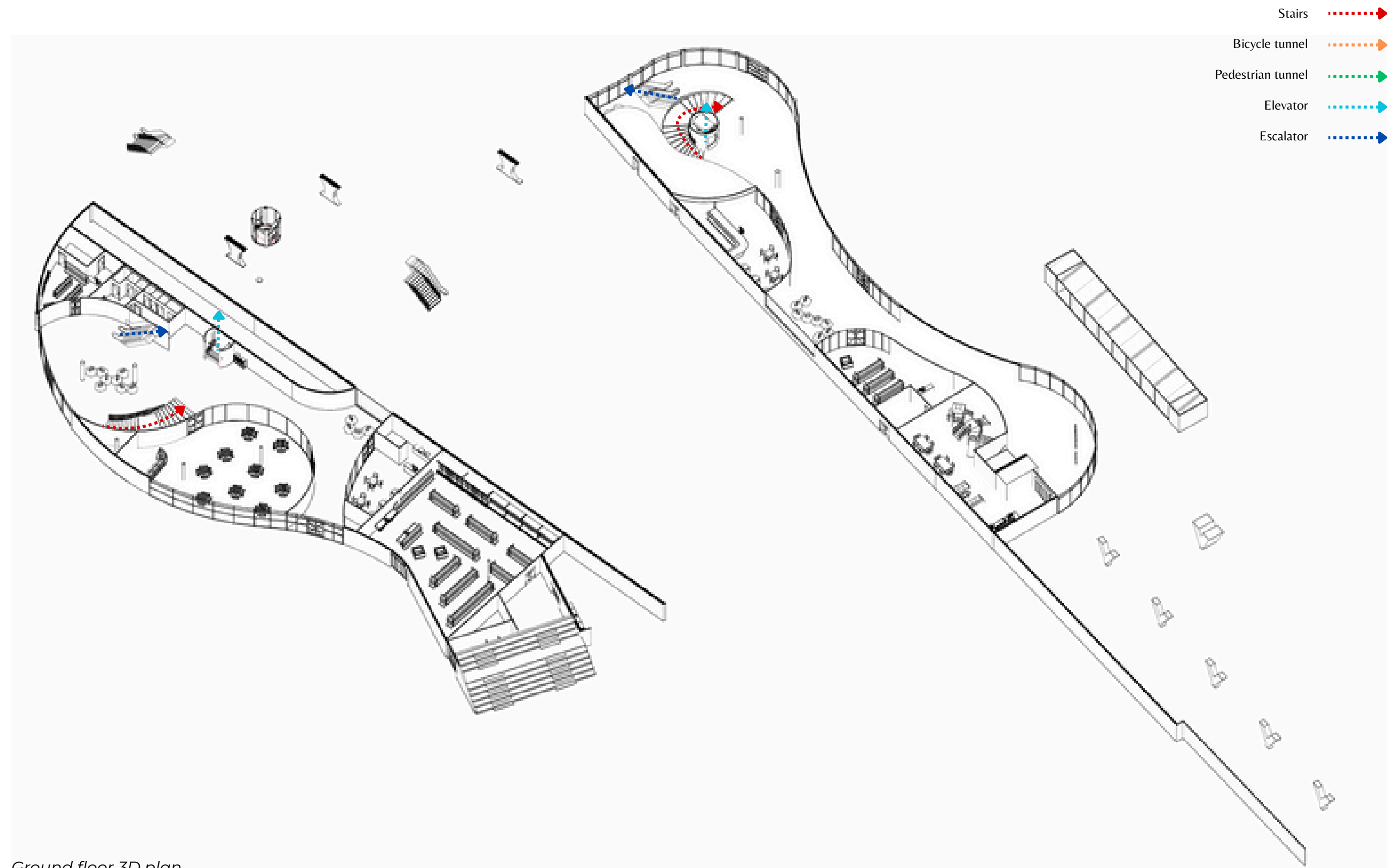
Plans

- Stairs
- Bicycle tunnel
- Pedestrian tunnel
- Elevator
- Escalator



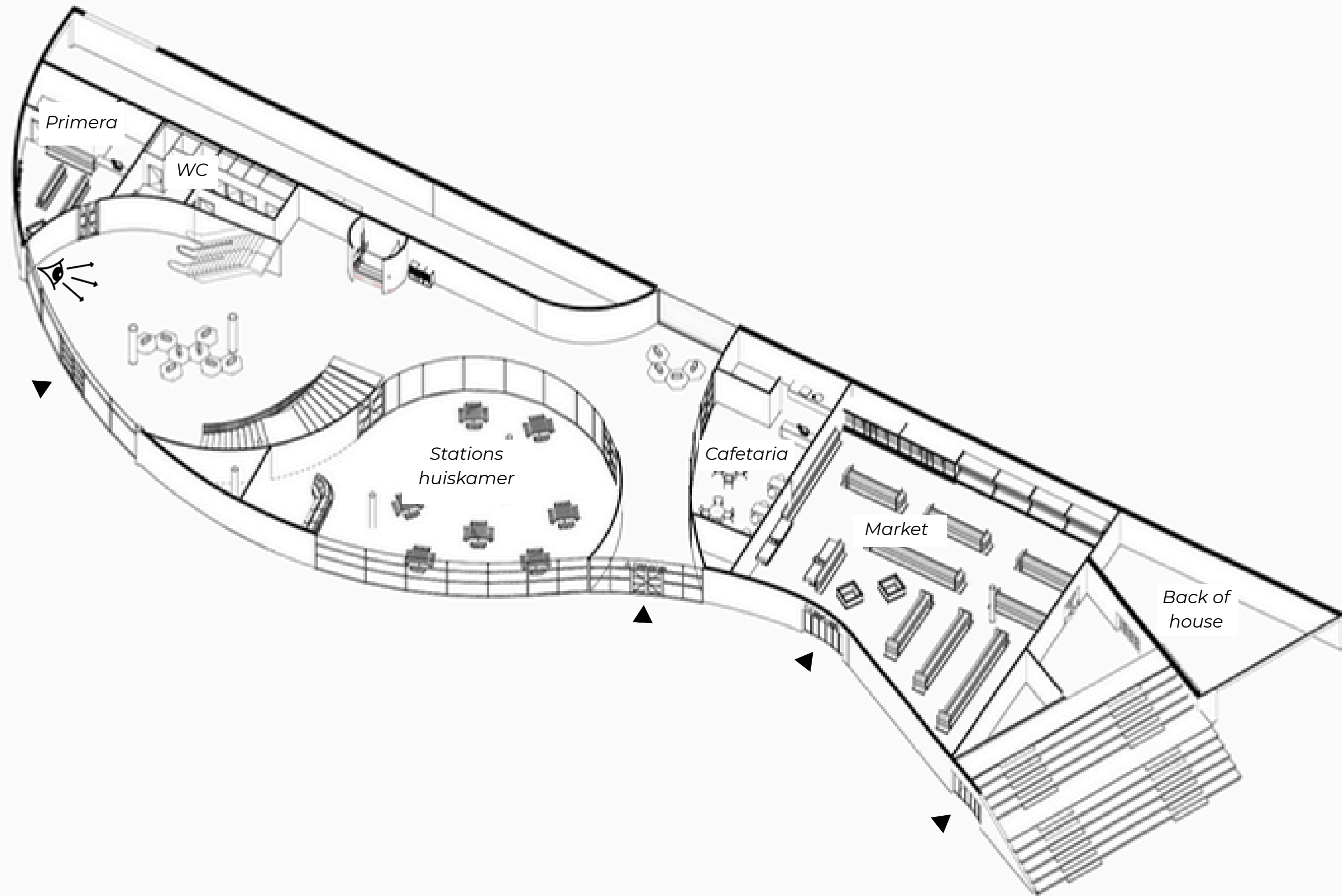
Basement 3D plan

# Plans



Ground floor 3D plan

# Plans



*Kerkelands side ground floor*

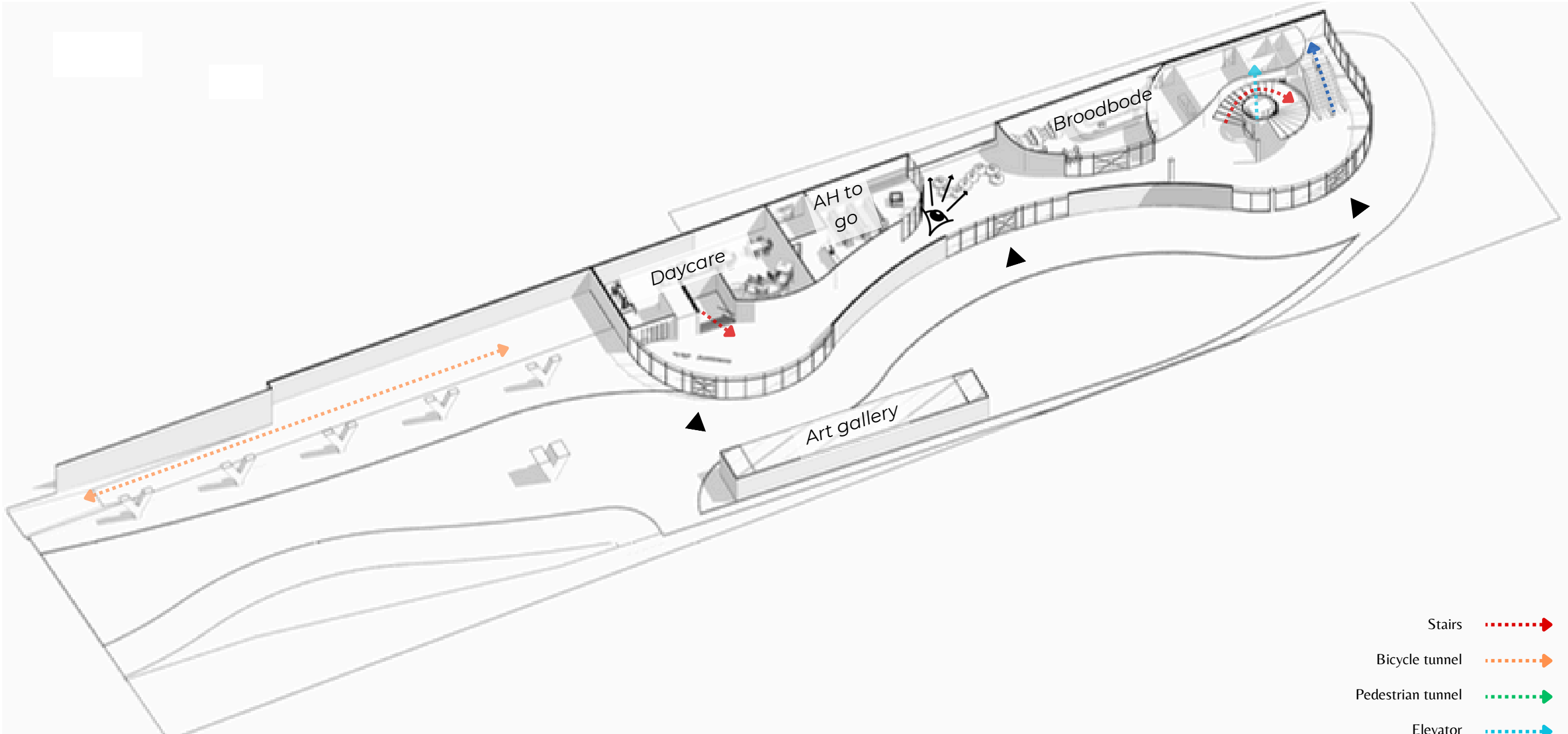


## Plans



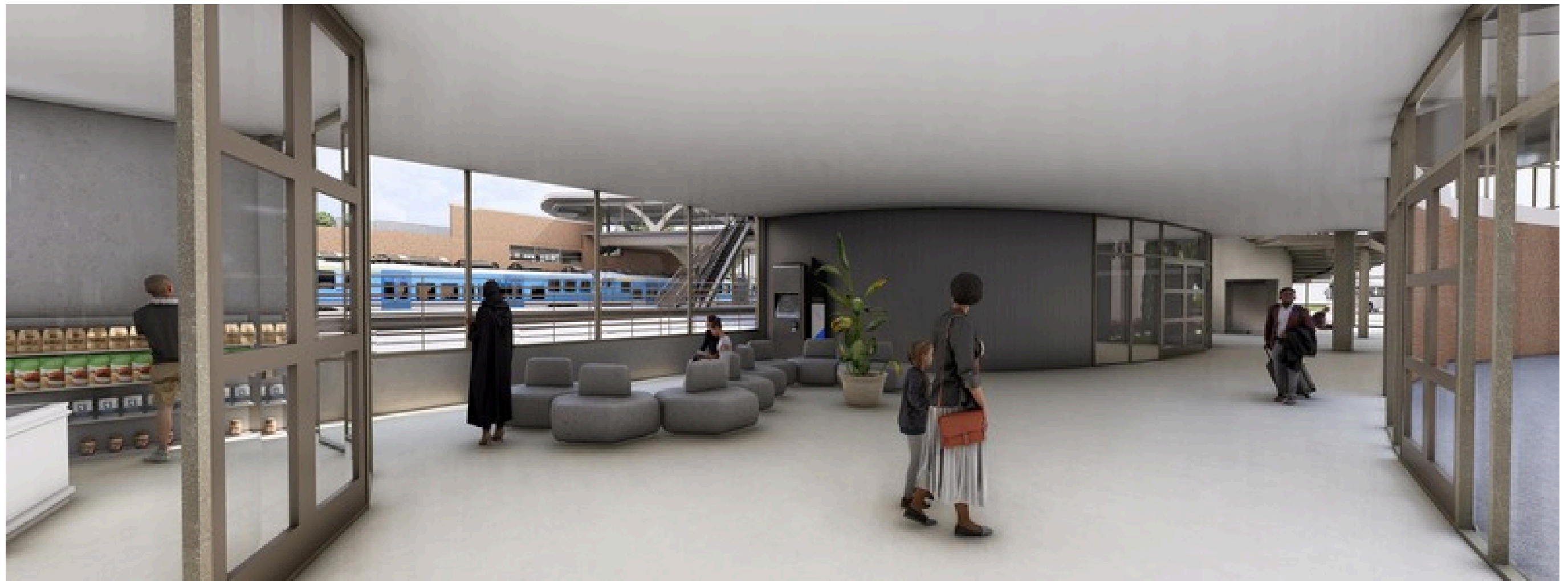
*Visual interior entrance Kerkelanden side*

Plans



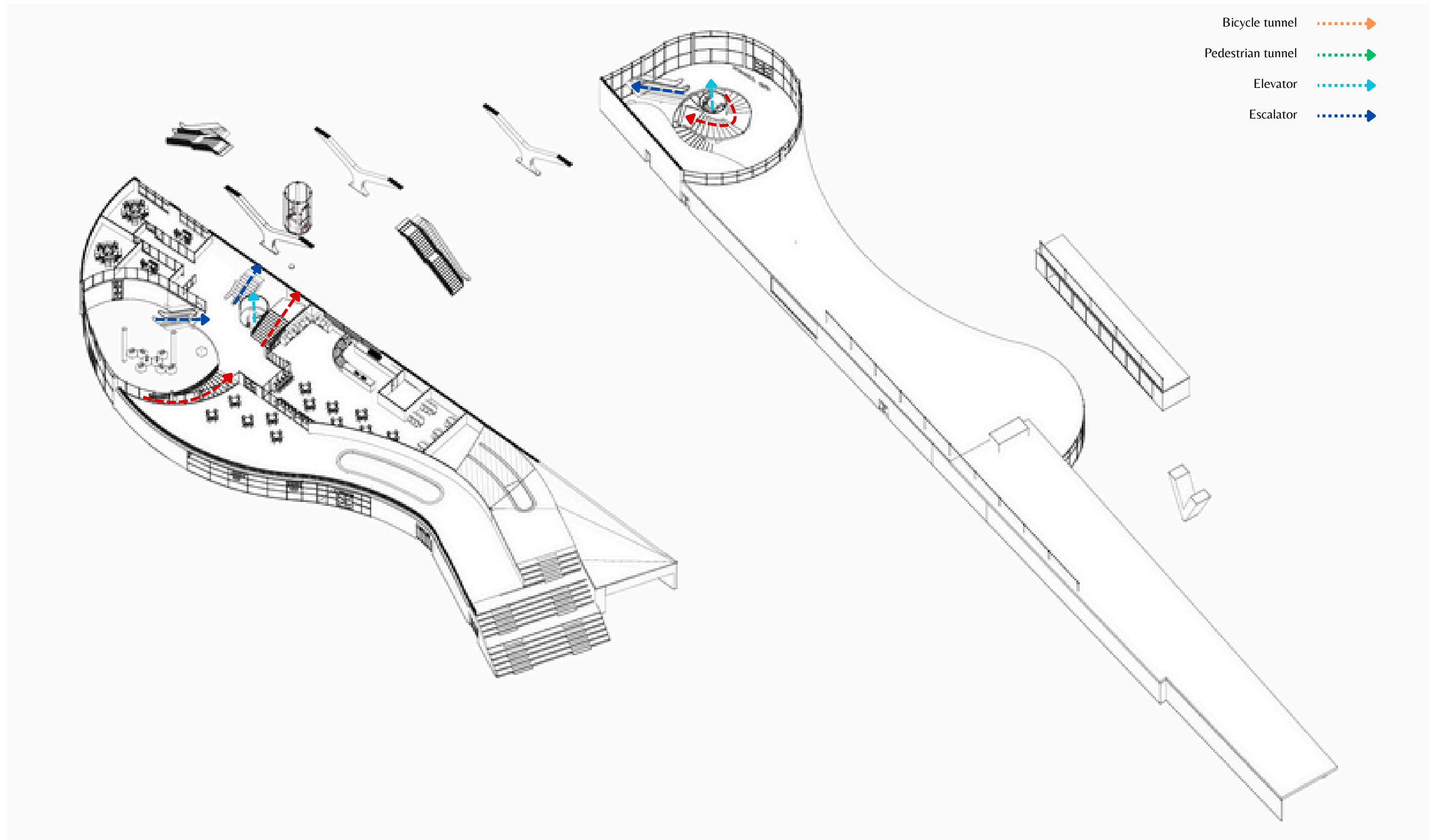
Centrum side ground floor

## Plans



*Visual interior centrum side*

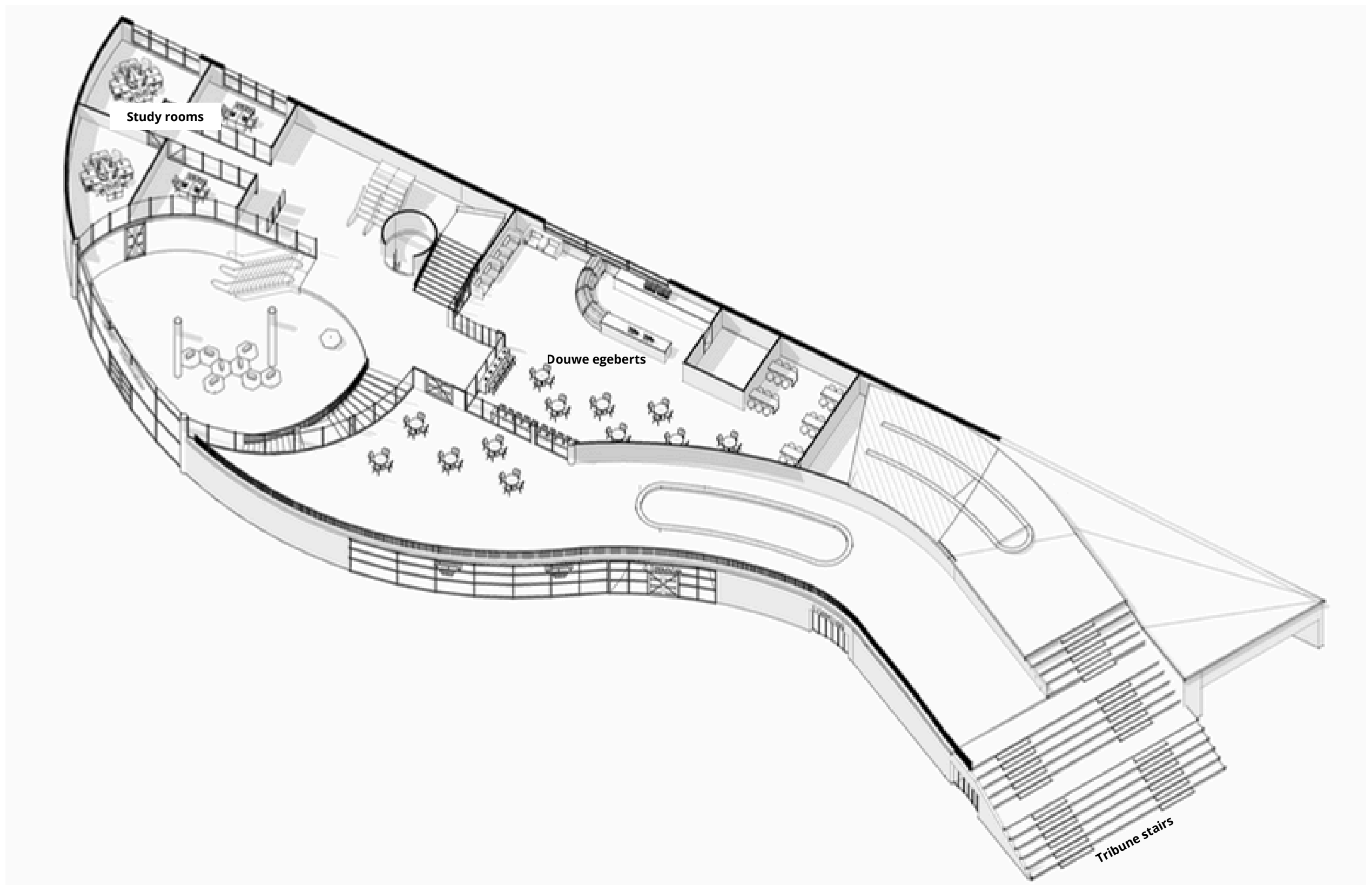
# Plans



*First floor 3D plan*

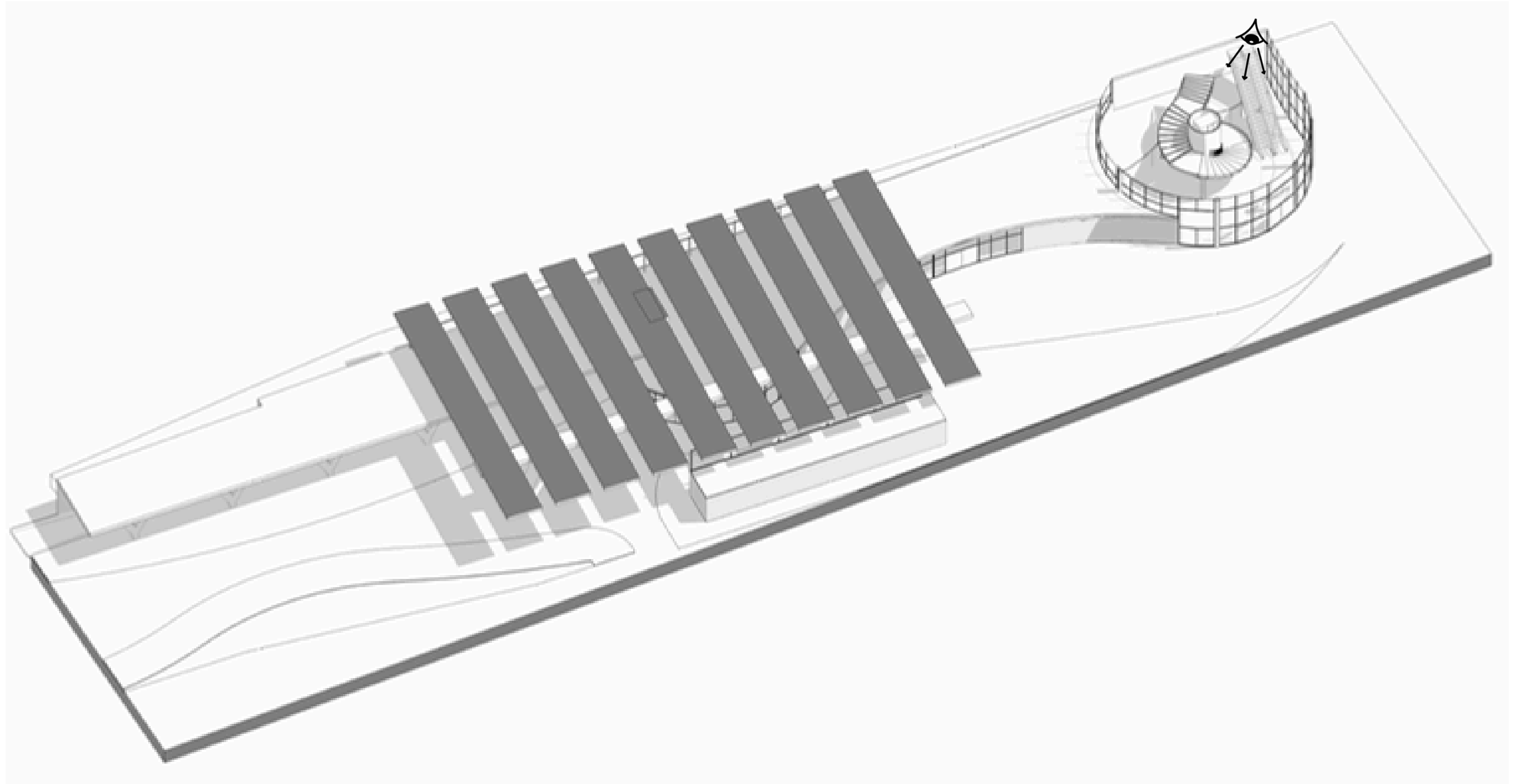


# Plans



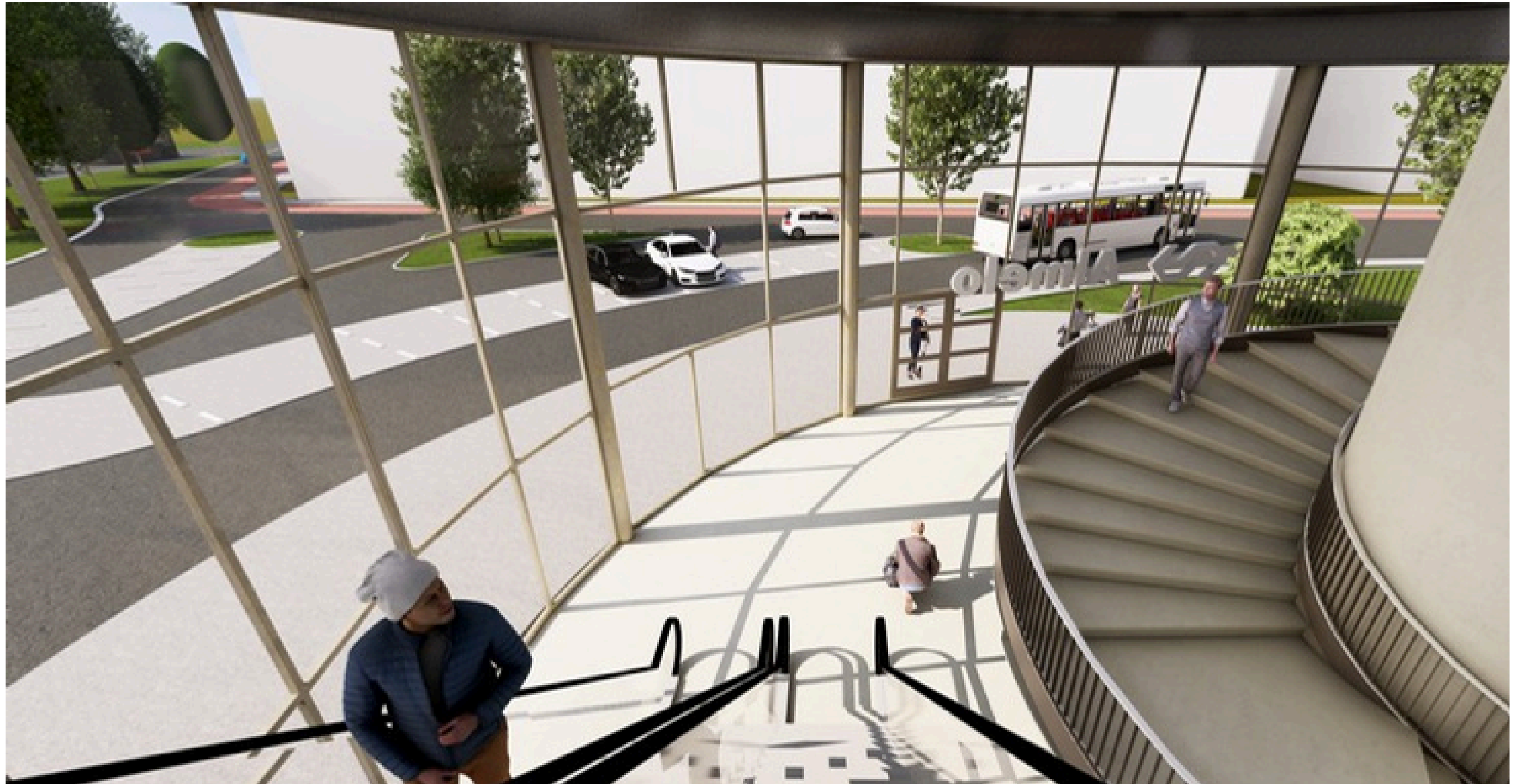
*Kerkelanden side first floor*

## Plans



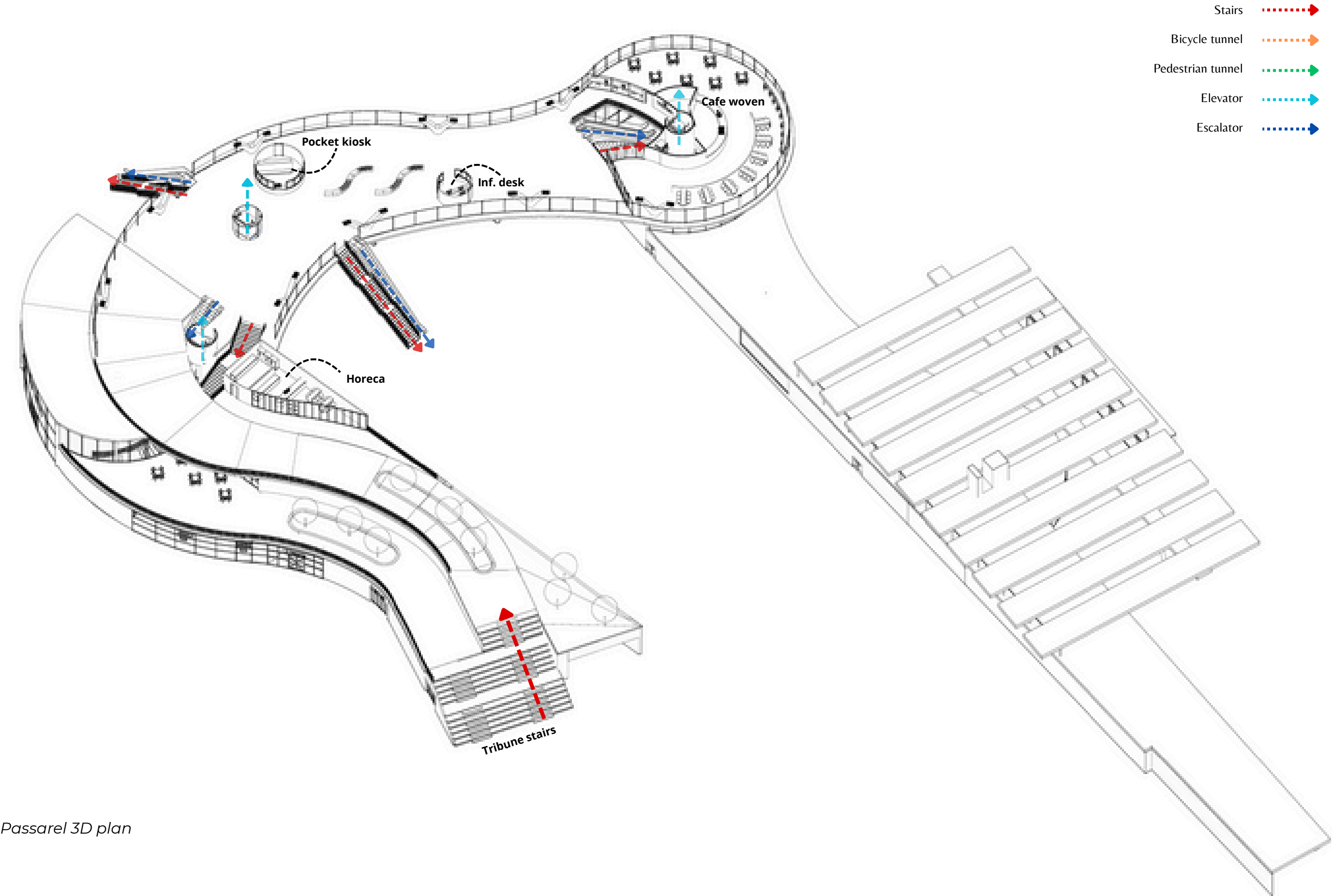
*Centrum side first floor*

## Plans



*Visual interior entrance centrum side*

Plans



Passarel 3D plan



## Plans



*Visual interior passarel*

# Facades



*North facade 1:200 scaled*



*East facade 1:200 scaled*

## Facades

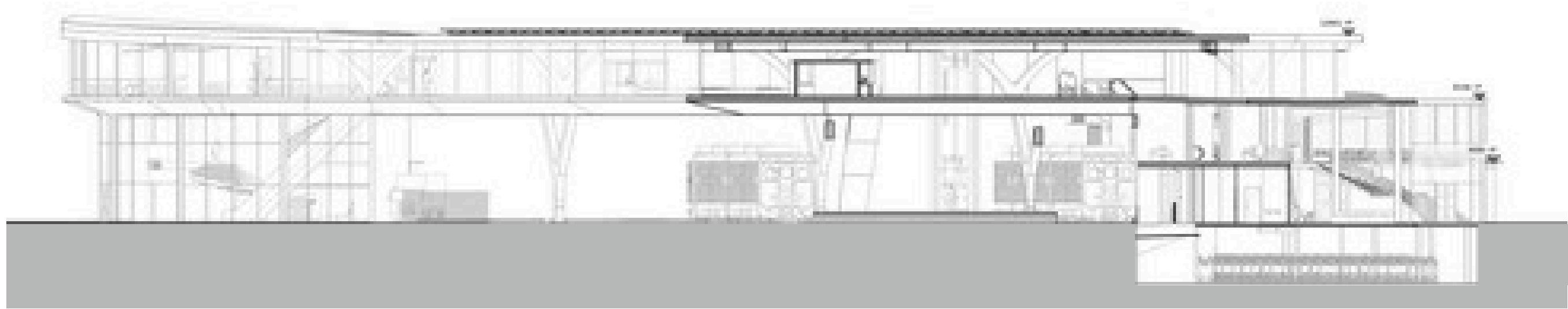


*South facade 1:200 scaled*

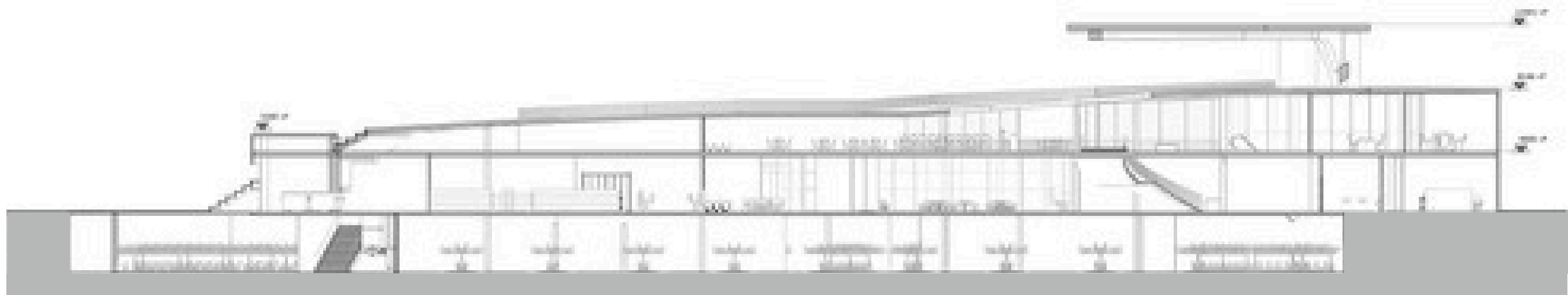


*West facade 1:200 scaled*

## Longditunal sections

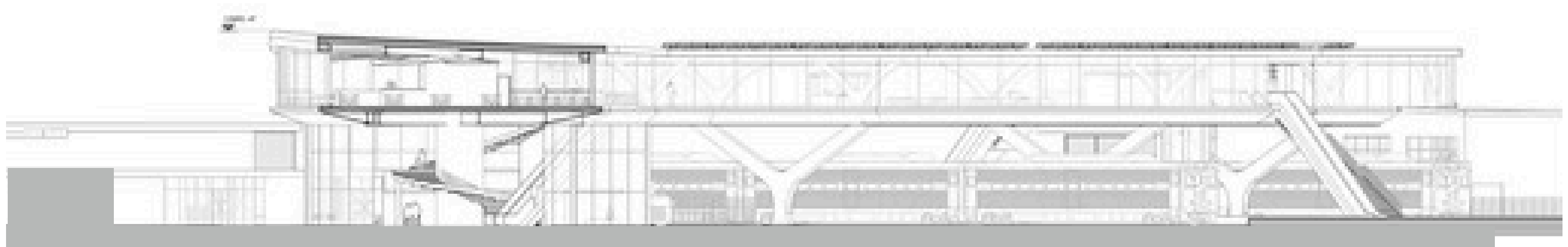


*Section AA 1:200 scaled*

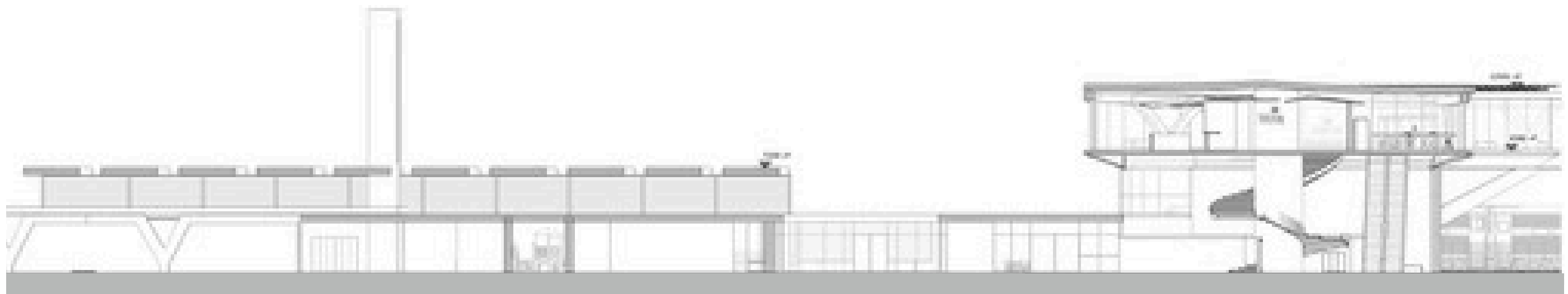


*Section BB 1:200 scaled*

## Longditunal sections



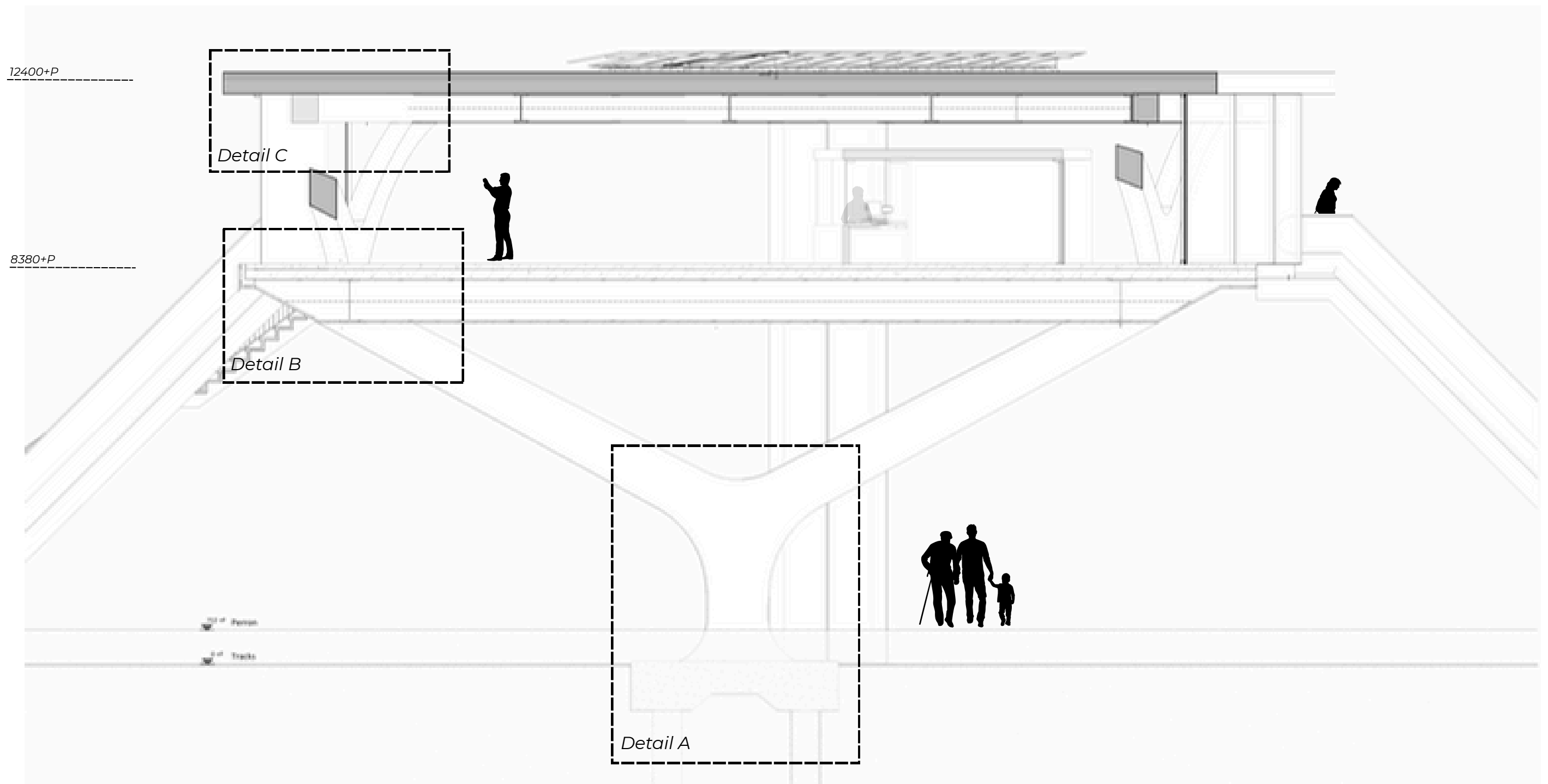
*Section CC 1:200 scaled*



*Section DD 1:200 scaled*

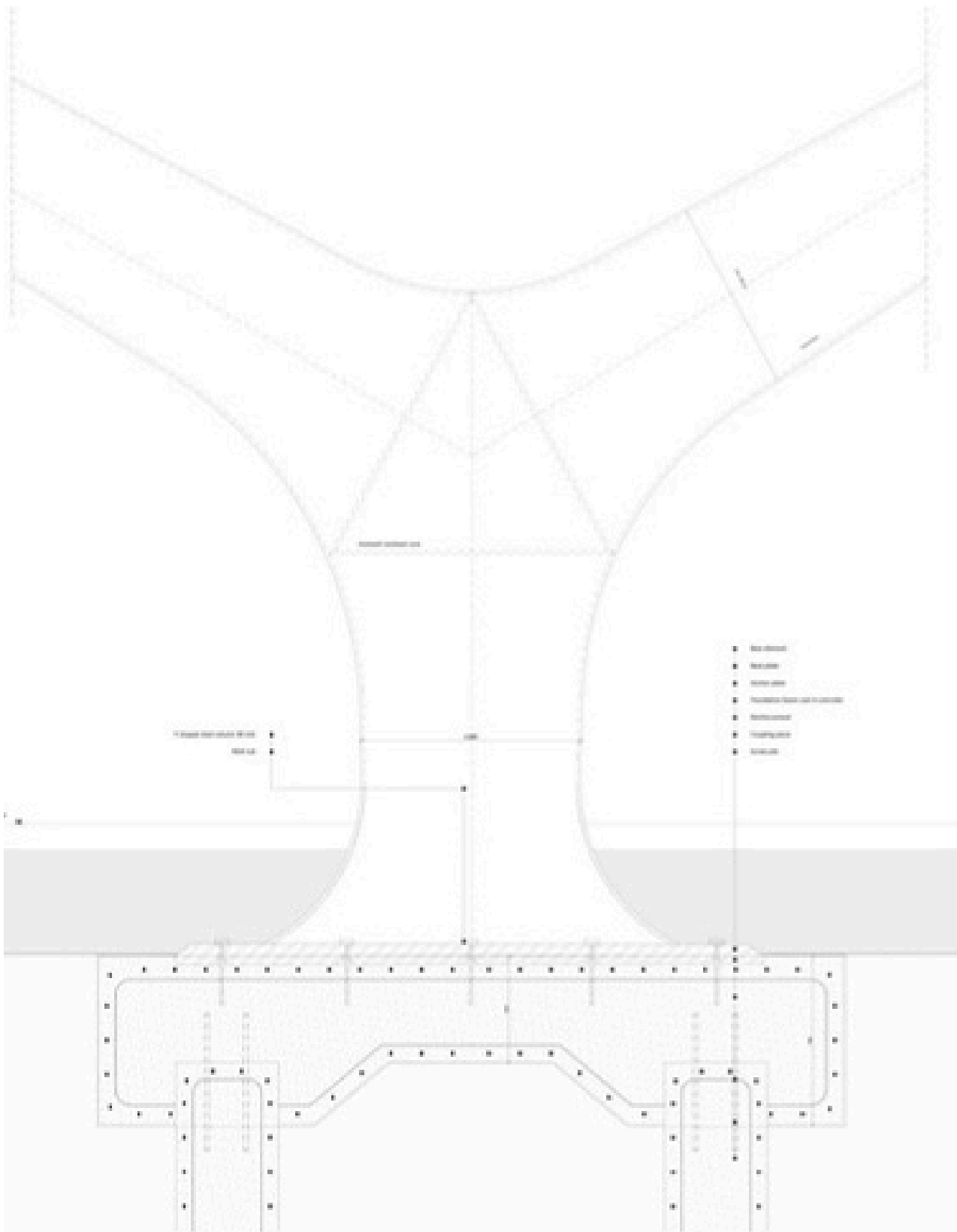


## Cross section

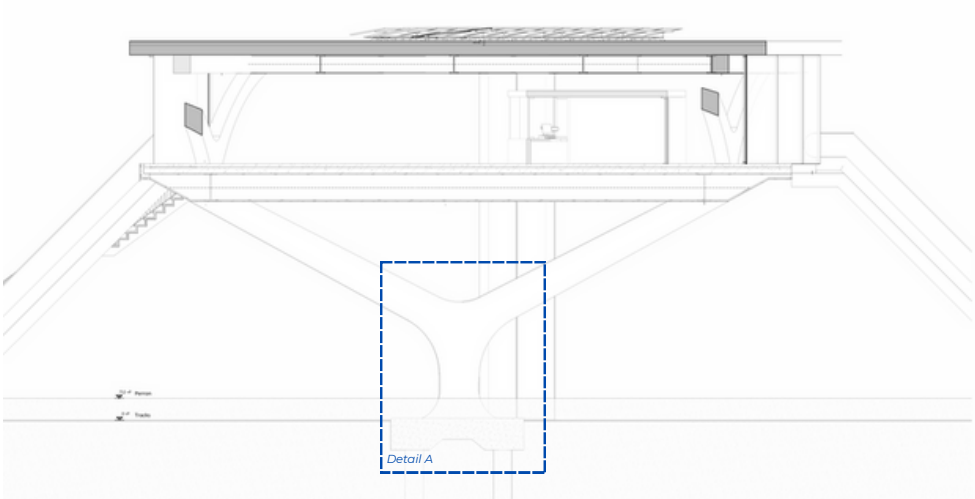


Section EE 1:50 scaled

# Details

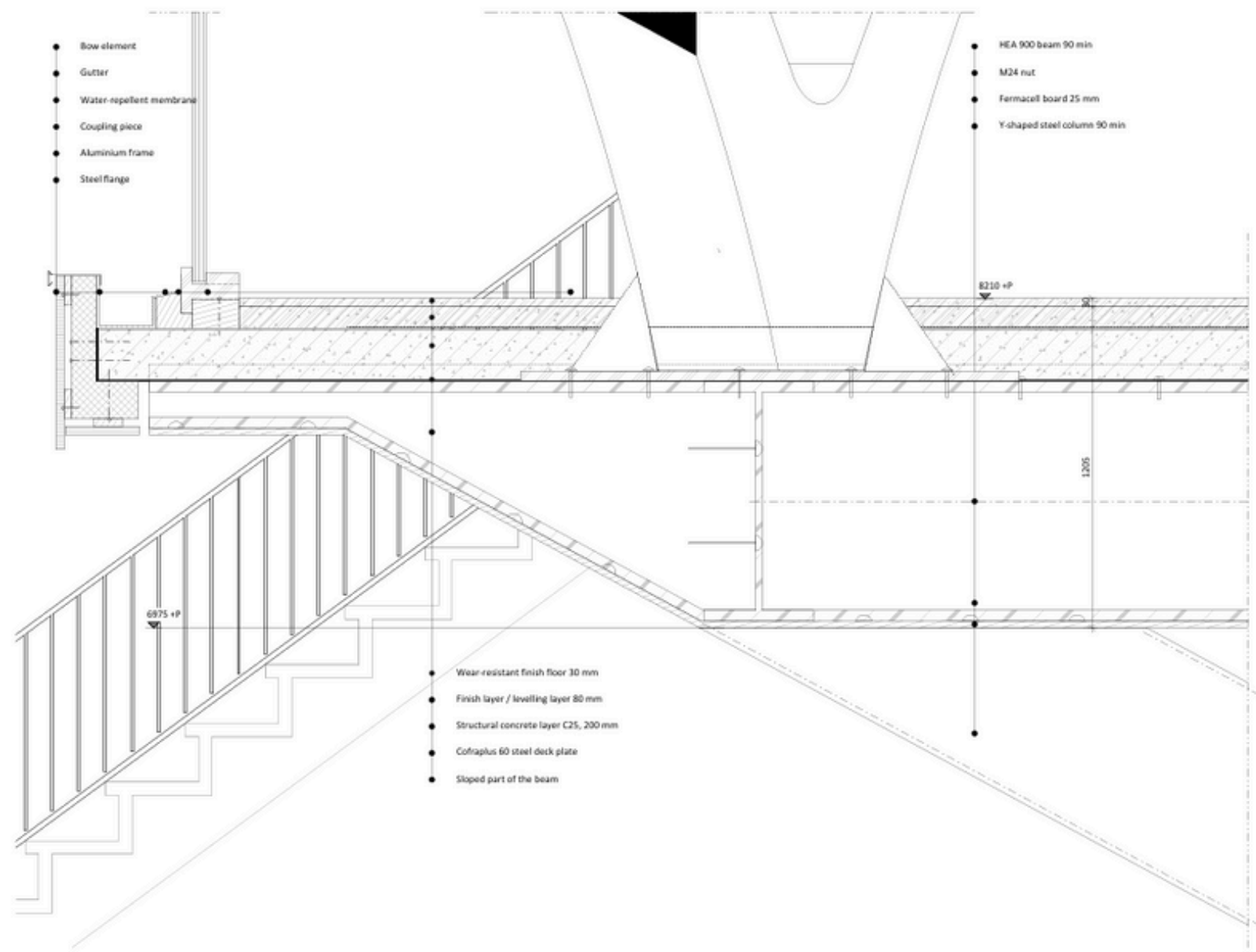


Detail A foundation and column

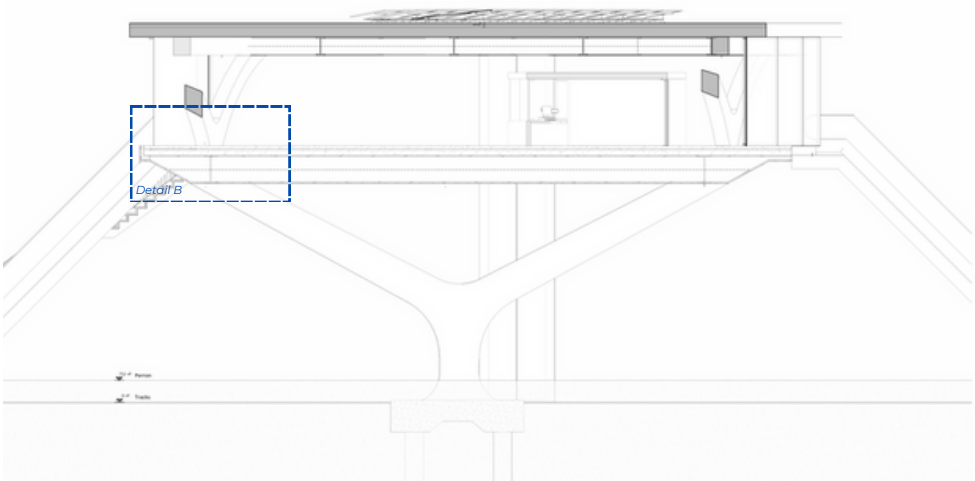


Section EE 1:50 scaled

# Details

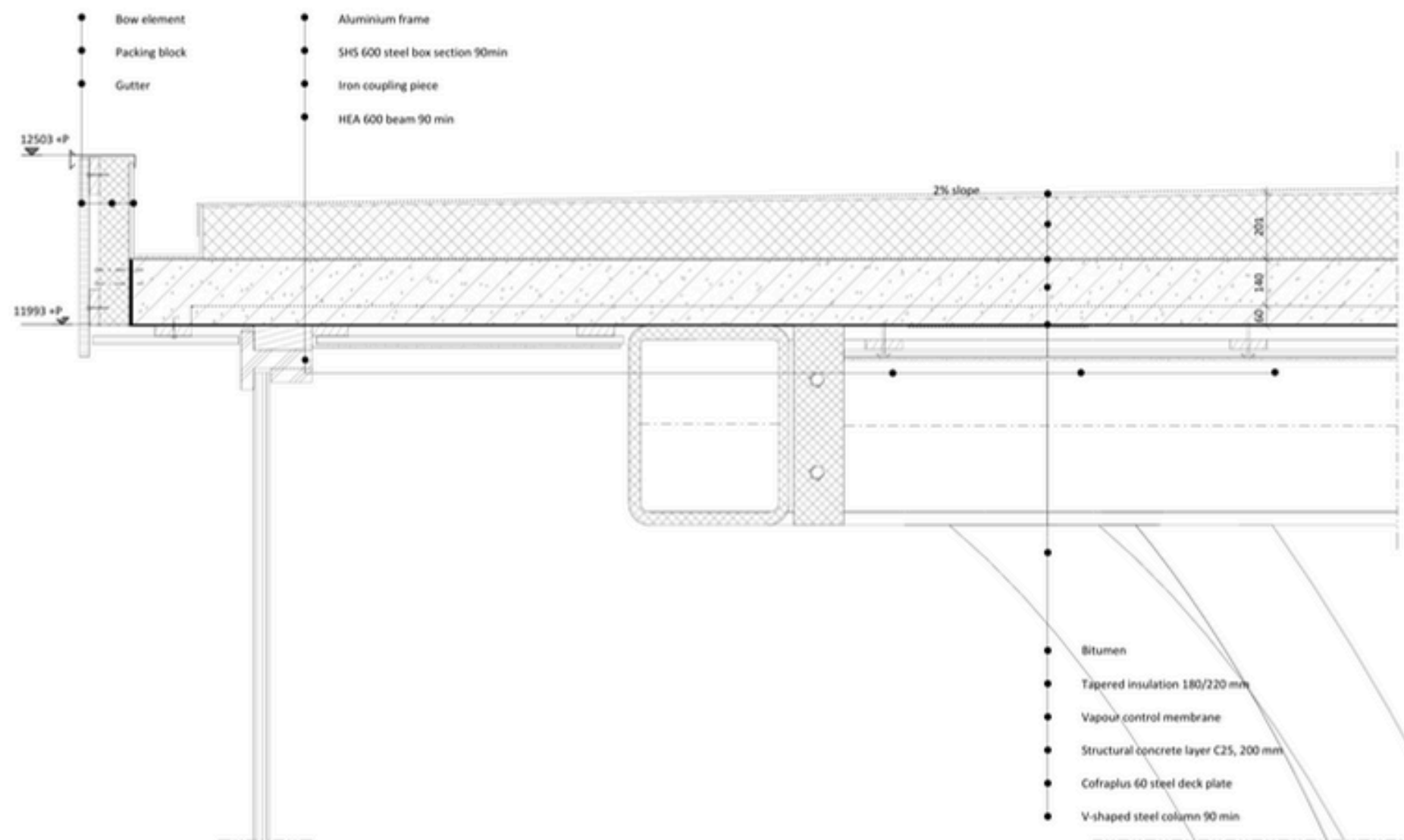


Detail B Steel construction and floor

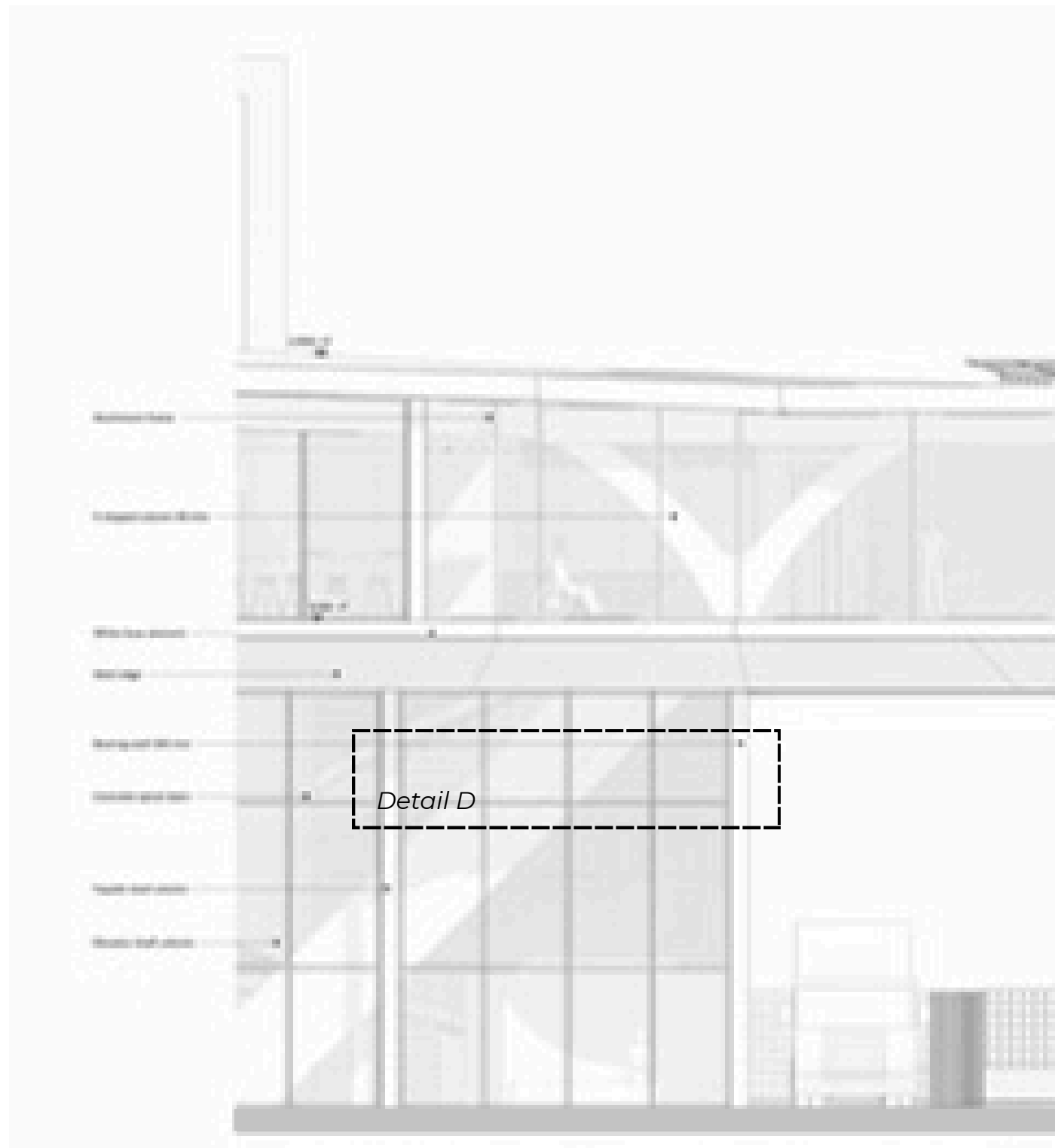


Section EE 1:50 scaled

*Detail C roof and framer*



## Facade fragment



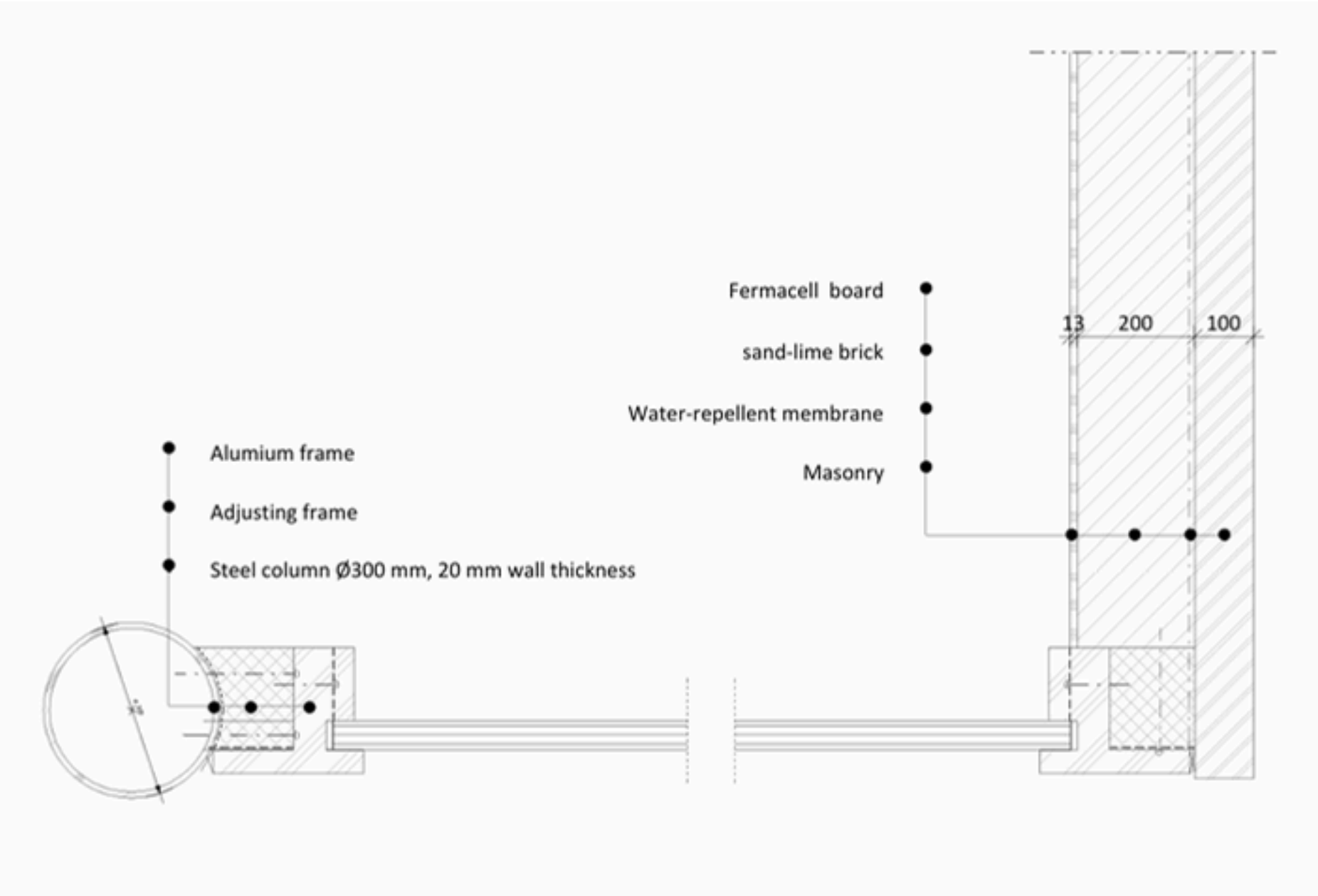
*Fragment 1:20 scaled*



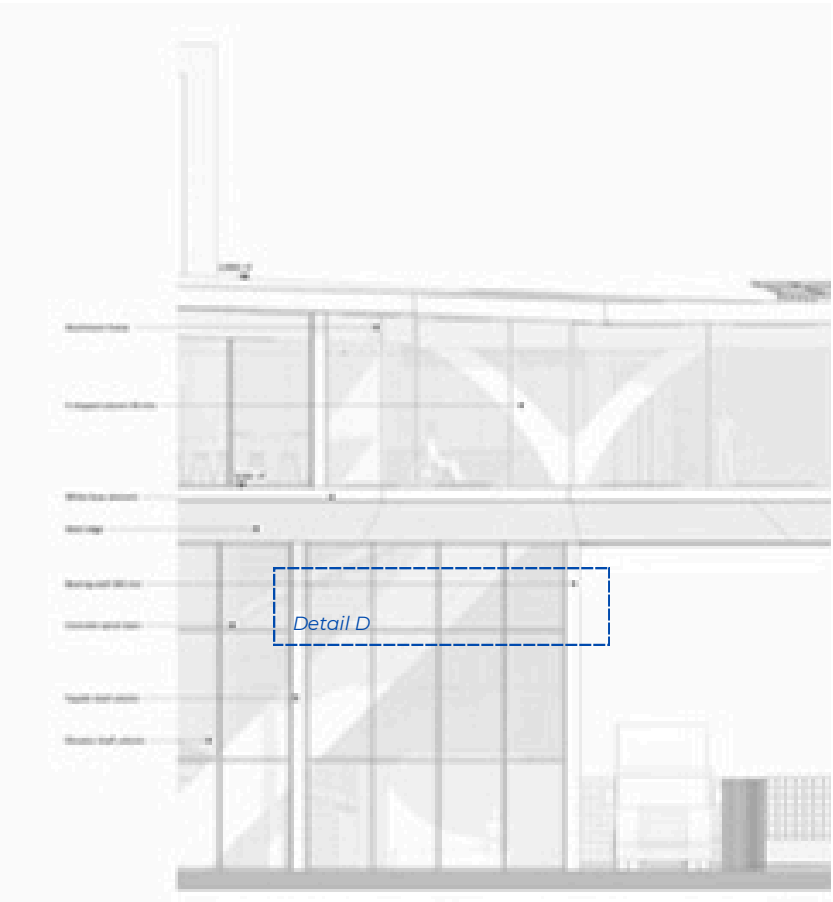
*Fragment realistic*



Details

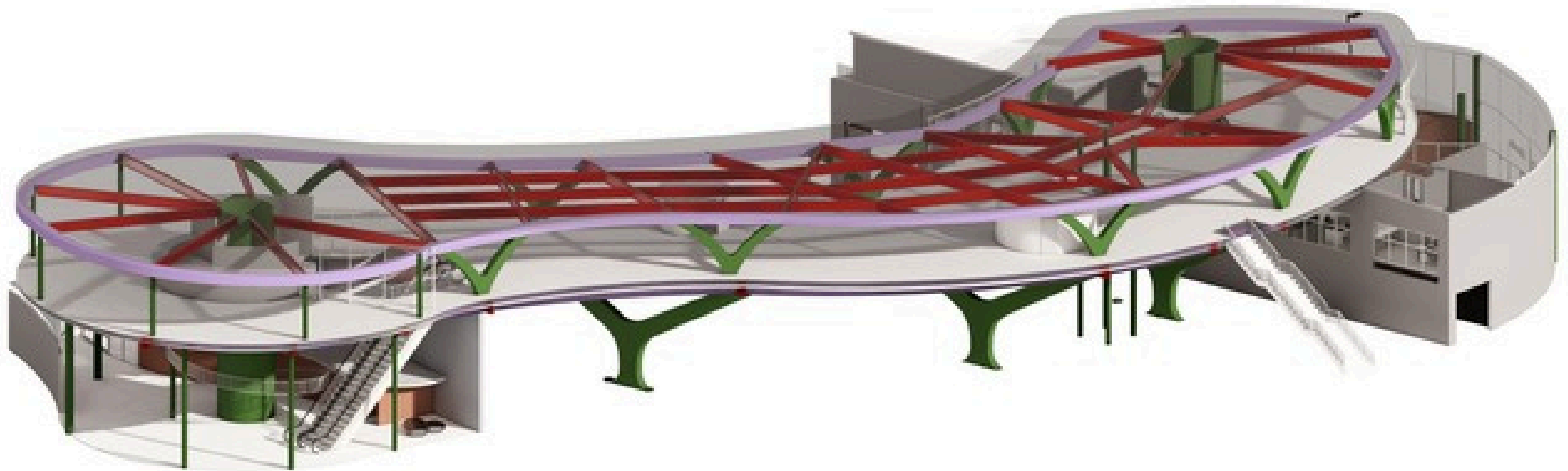


Detail D horizontal framework



Fragment 1:50 scaled

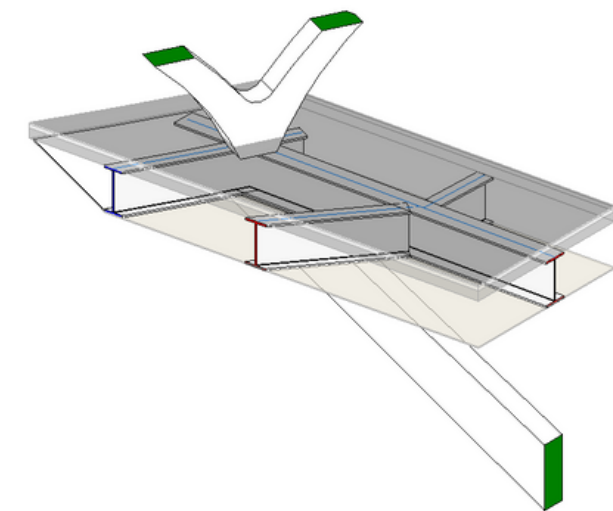
# Construction



## Bearing steel construction

The passerelle consists of a fully self-supporting **steel structure with a composite steel deck floor** (steel sheeting with concrete topping). This structure is connected to the main column framework, which in turn transfers loads to a moment-resisting foundation.


V-shaped columns are placed on top of the passerelle floor and are structurally linked both to the underlying steel frame and to the steel structure supporting the roof. The roof itself is also a composite steel deck floor, providing additional rigidity and contributing to the overall stiffness and stability of the structure.




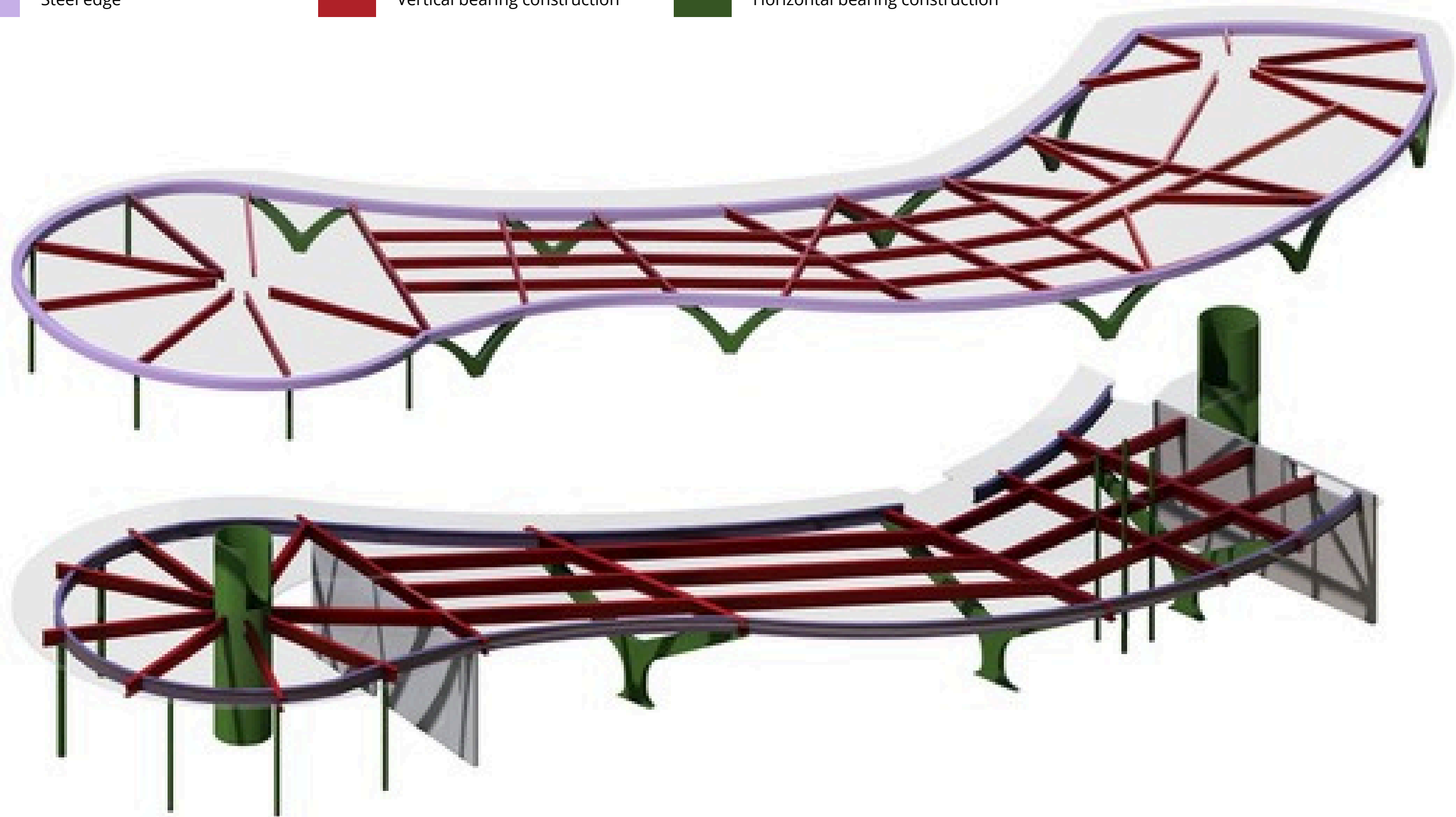
*Image of the connection between the beams and the floor*

# Construction

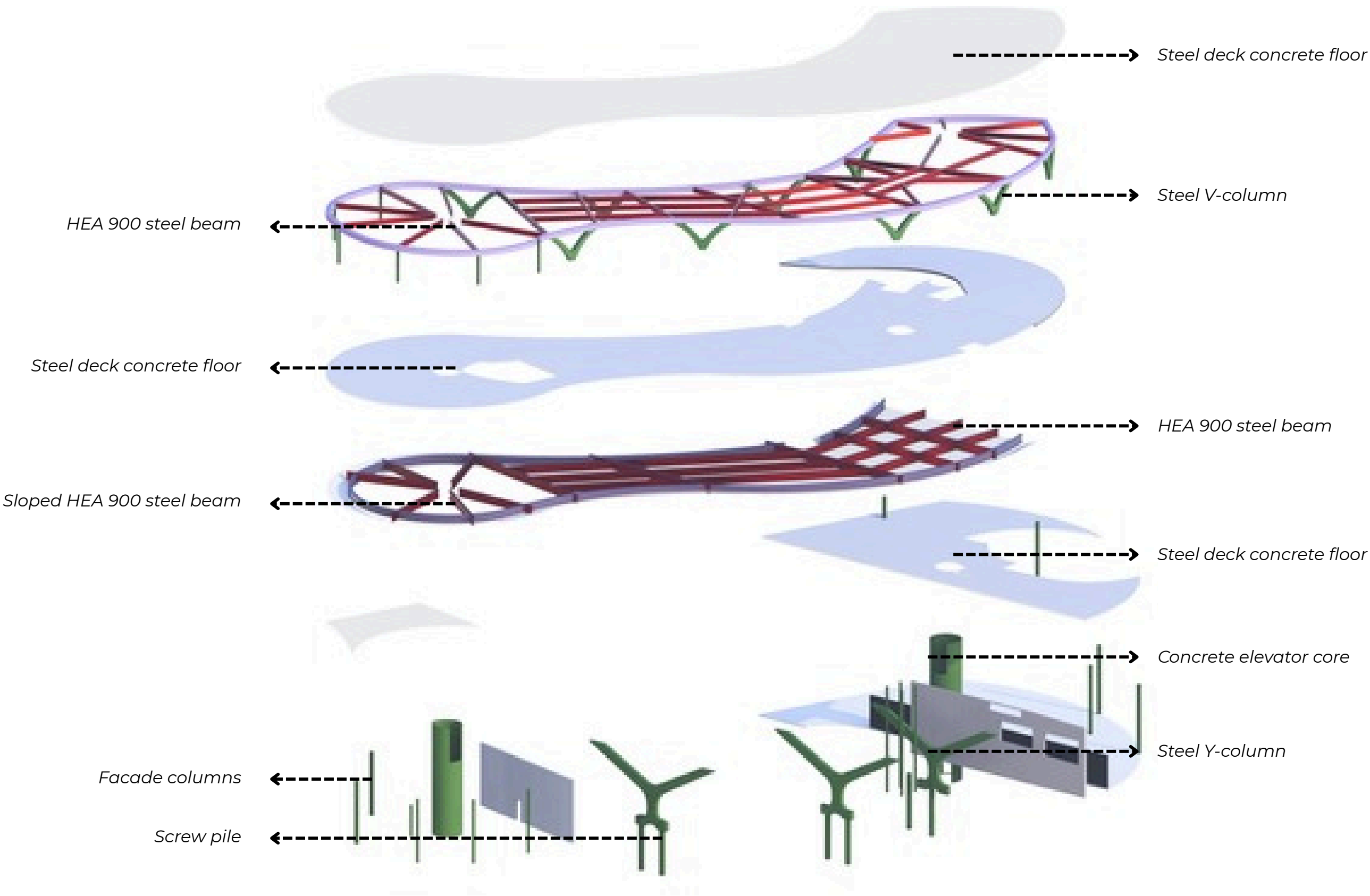
 Steel edge

 Vertical bearing construction

 Horizontal bearing construction



Construction



Construction



Steelplate floor used on a roof



Concrete floor steel column connection



Steelplate floor section



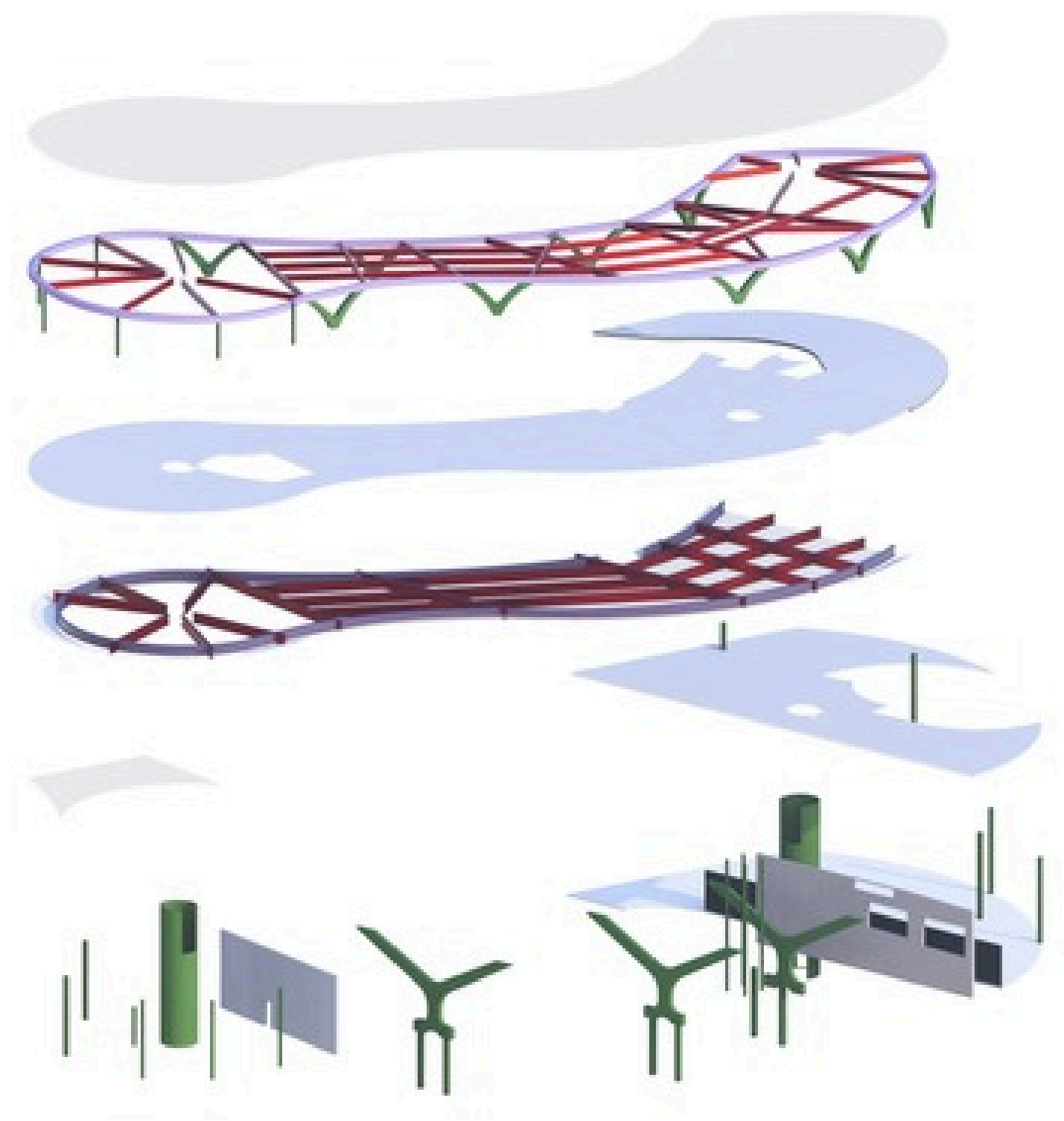
Steel HEA beams connected



Y shaped columns in Rotterdam central

Phase B

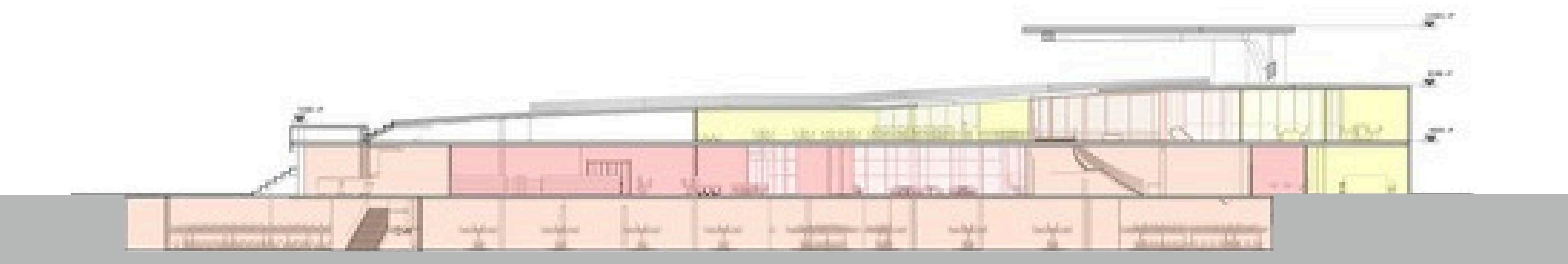
Phase A



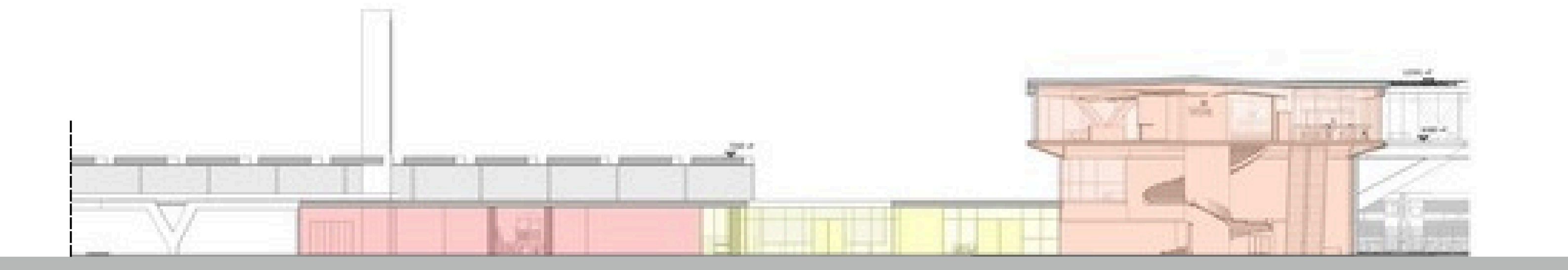


# Ventilation types

- Ventilation type A
- Ventilation type C
- Ventilation type D

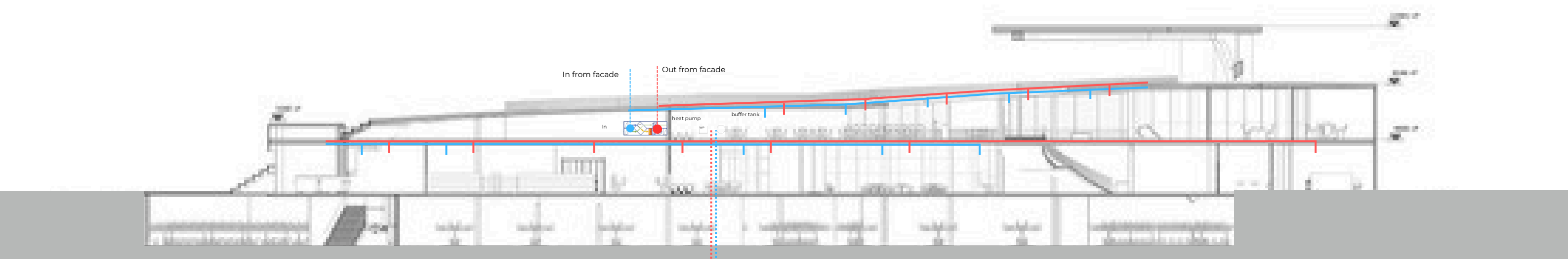


Section BB 1:200 scaled

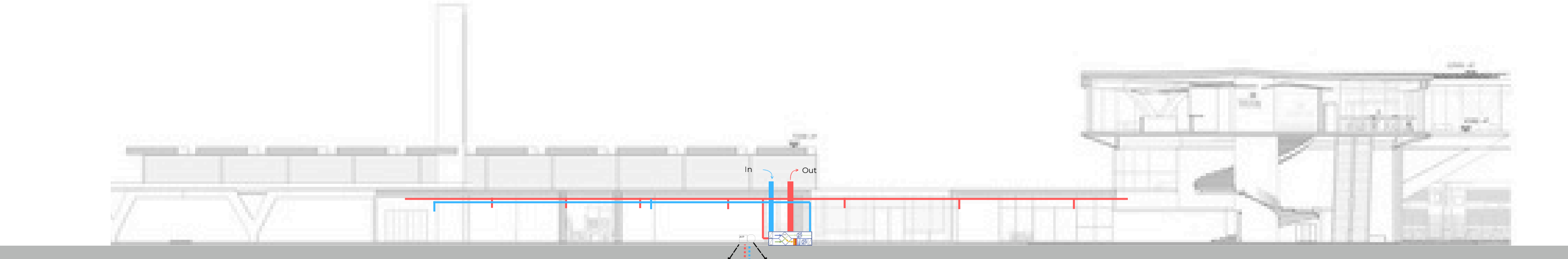


Section DD 1:200 scaled

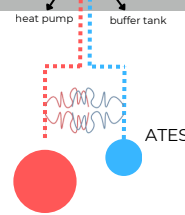
Climate schedule summer



Section BB 1:200 scaled

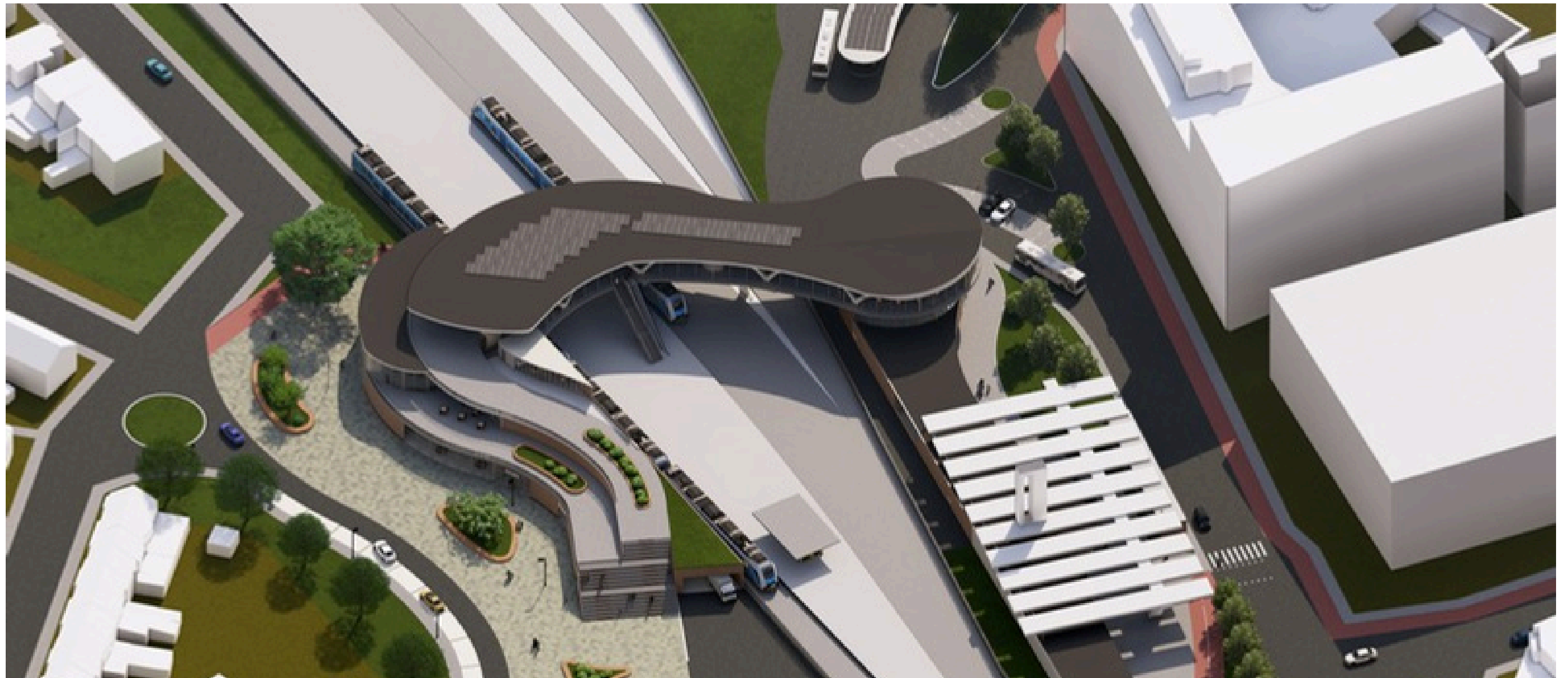


Section DD 1:200 scaled



# The catalyst of Almelo central

Redesigning Almelo's Train Station Area to Bridge Physical and Social Gaps



Bunyamin Durdabak - City of the Future Graduation Studio - P5