

Ellipsis

Thresholds under pressure: a ground for affordable housing

Thesisbook
Spring Semester 2026
By Hugo Dumont

Abstract

This thesis positions Zürich's railway corridor as a structuring infra-structural field that conditions contemporary urbanization, where infrastructure, landscape, public realm, and housing intersect.

The southern east–west axis of the railway corridor is understood as a thick urban threshold in which fragmented residual spaces, ecological systems, and residential conditions converge into a continuous territorial layer. Within this framework, the workers' housing settlement on Brauerstrasse operates as a critical case, embodying the persistence of working-class habitation on land increasingly pressured by the housing crisis and infrastructural redevelopment projected for 2040. The project develops a multiscalar strategy that extends infrastructural logic into inhabited space. It constructs continuity through adjacency between heterogeneous systems, integrating circulation, public program, and dwelling within a shared spatial field. Elevation, porosity, and modular repetition structure a housing system that responds to economic constraints while sustaining spatial quality and diversity. Across scales, the thesis reframes residual and infrastructural territories as active urban components. It proposes architecture as an instrument of articulation capable of revealing latent potentials within land under pressure, redefining thresholds between infrastructure and housing as performative spaces for collective life, ecological processes, and affordable housing within Zürich's evolving urban landscape.

This project reframes Zürich's railway corridor as a structuring infra-structural field that conditions contemporary urbanization, where infrastructure, landscape, public realm, and housing overlap.

Thesis Book
Free Master's Thesis

Ellipsis
A pressured threshold as an opportunity for
affordable housing

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1 CONTEXTUALISATION

The railway corridor extending from Zürich Hauptbahnhof establishes one of the most significant infrastructural boundary within the city, producing a clear separation between the northern and southern urban developments. Along this extensive field of tracks, a series of fragmented conditions emerge where infrastructure, residual landscapes, housing, and temporary programs coexist within spaces of indeterminacy.

By 2034, the pedestrian Franca Magnani Bridge will connect Districts 4 and 5, prolonging the Lettenviadukt through a continuous north–south gesture across the railway infrastructures. While this intervention reinforces pedestrian continuity between the two sides of the city, the perpendicular axis along the south side of the railway corridor remains fragmented and largely inaccessible. Defined by fences, bridges, and residual territories, this threshold between infrastructure and urban tissue currently operates as the backside of the city.

Yet within this fragmented condition lies a strong latent potential. Between the workers housing settlement, also called the Junggesellenheim, and the temporary Kantonsschule Wiedikon, a continuous layer unfolds alongside the railway infrastructures, positioned between urban territory and ecological systems. Although this thick limit remains disconnected and largely unconsidered within the existing urban structure, it contains the possibility for new forms of pedestrian continuity, landscape articulation, and spatial coexistence between infrastructure and habitation.

Simultaneously, the coexistence of Zürich's persistent housing crisis and a model of urban development largely oriented toward horizontal expansion generates increasing pressure along these infrastructural edges. Threshold conditions emerge where heterogeneous programs accumulate: former industrial depots, temporary educational facilities, residual voids, and forms of precarious housing.

Within this context, the Junggesellenheim settlement reveals not only an architectural condition, but also a socio-political one.

Among these conditions, the Junggesellenheim houses on Brauerstrasse occupy a particular position. Originally constructed in the 60's



Fig.1. Satellite image of Zürich, January 2025.
A sea of railway tracks divides the city.

to accommodate guest workers and saisonniers, the four houses remain today as one of the last surviving forms of working-class housing directly embedded within Zürich's infrastructural landscape. Despite never having undergone refurbishment, 136 residents continue to inhabit the buildings under precarious living conditions defined by 8m² rooms, strict rules of inhabitation, and limited domestic comfort. At the same time, these houses represent one of the final possibilities for affordable rent within the city centre, with monthly rents remaining around 600 CHF.

The future implementation of Tram Line 1 as part of Zürich's Network Development Strategy 2040 directly determines the fate of the houses. Due to technical constraints associated with the infrastructural works, the buildings are expected to disappear, while no refurbishment is planned for the next 15 years, prior to their demolition. This condition raises questions on multiple levels: the disappearance of one of the last remaining architectural traces of guest-worker habitation in Switzerland, and simultaneously the loss of one of the last affordable housing situations within the city center of Zürich.

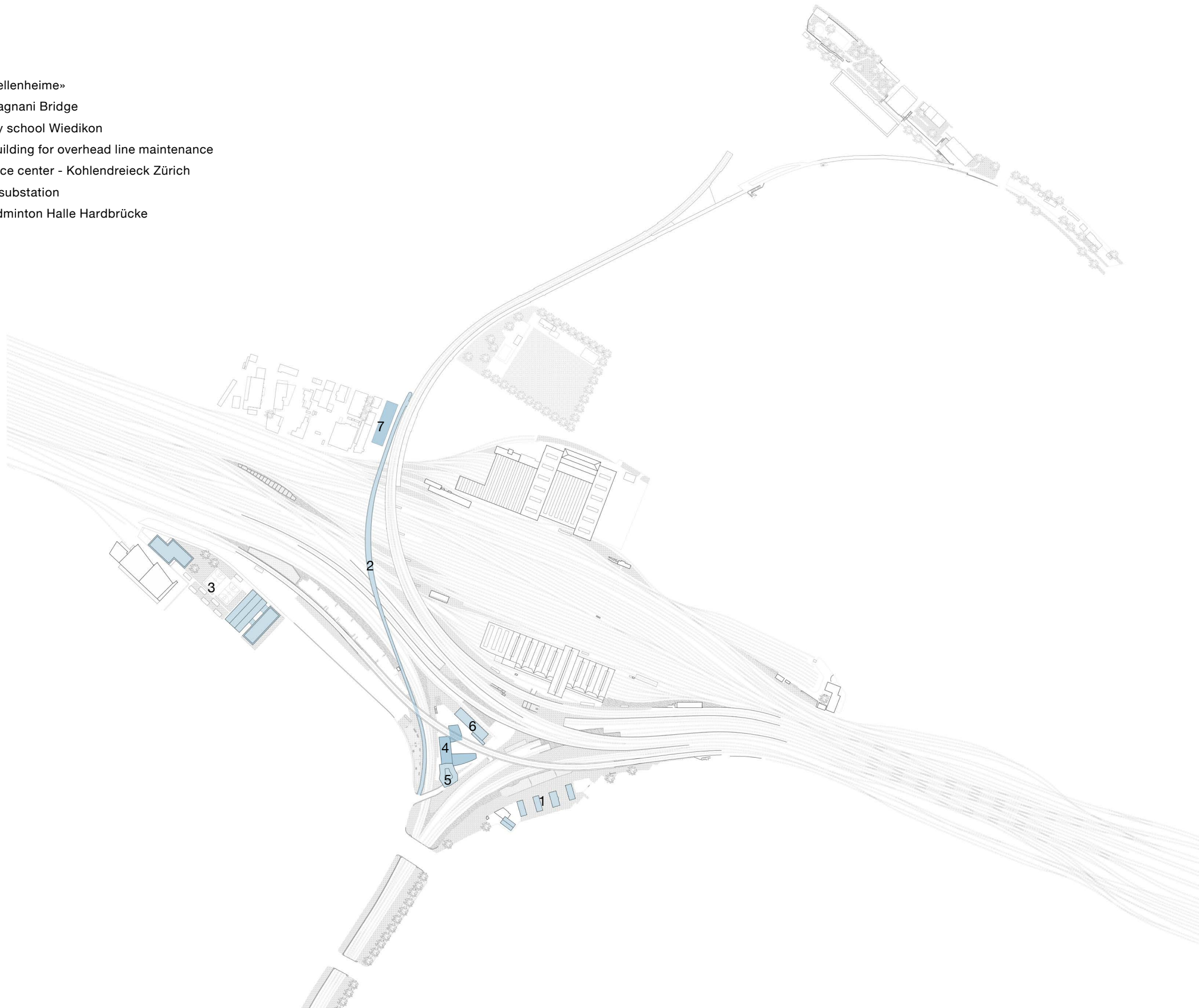
Starting from these conditions, the project aims to interpret the southern east-west infrastructural corridor as a significant latent layer within Zürich, capable of reconnecting fragmented urban tissues through landscape, circulation, and housing complexity. The construction of the Franca Magnani Bridge becomes part of a broader reflection on infrastructural continuity, while the threshold between railway infrastructure and urban habitation is reconsidered as a potential territory for affordable housing and collective coexistence. Particular importance is therefore given to understanding the site within its wider physical, political, social, economic, and territorial dimensions. Through the overlapping of landscape systems, infrastructural networks, and housing typologies, the project seeks to reveal and activate the hidden potential embedded within Zürich's infrastructural corridors, while simultaneously opening the debate surrounding affordable housing and guest workers' heritage.

2 ANALYSING THE SITE

A preliminary focus on Switzerland's infrastructural development history brought attention to the long-standing role of guest workers and saisonniers in shaping major national projects such as the Grande Dixence Dam and the extensive railway infrastructure radiating from Zurich's central station. This layered history remains embedded in the four SBB workers' housing blocks on Brauerstrasse, known as the Junggesellenheim. Originally built in the 1960s as temporary accommodation, these structures have gradually taken on a renewed role as one of the remaining forms of centrally located affordable housing, integrated within the city's ongoing transformation.

At the intersection of a north-south axis structured by the Franca Magnani Bridge and an east-west axis formed along the southern edge of the railway tracks, the Kohlendreieck railway territory, it articulates a condition in which infrastructure, habitation, and temporary uses coexist in close proximity within a continuously evolving landscape. At the convergence of mobility corridors and public-space networks, the Kohlendreieck operates as a strategic urban territory shaped by transition, where processes of urban growth, infrastructural expansion, housing provision, and heritage dynamics are interwoven.

- 1 «Junggesellenheime»
- 2 Franca-Magnani Bridge
- 3 Temporary school Wiedikon
- 4 Service building for overhead line maintenance
- 5 SBB Service center - Kohlendreieck Zürich
- 6 Electrical substation
- 7 Yonex Badminton Halle Hardbrücke



The Kohlendreieck is located within the railway corridor separating District 4 from District 5 (Industriequartier), between Hardbrücke and Langstrasse. The site occupies a strategic position between several major urban figures: the Lettenviadukt and its sequence of public spaces to the north, Europaallee to the east, the railway maintenance and logistics areas to the south, and the dense mixed fabric of Zürich-West. Historically structured by railway infrastructure, the area has remained difficult to access despite its central location within the city.

The site can be understood through the interaction of two territorial systems. The first follows the north-south continuity established by the Lettenviadukt. Beginning along the Limmat River and extending through the viaduct arches of District 5, Josefwiese, and Frau Gerolds Garten, this sequence forms one of Zürich's principal public-space spine. Over the last two decades, former railway infrastructures along this axis have progressively been transformed into spaces dedicated to leisure, soft mobility, commerce, and collective urban life.

Perpendicular to this continuity, the railway corridor forms a territorial system structured by tracks, maintenance areas, service roads, retaining walls, residual spaces, and isolated buildings. Accessibility remains uneven, with certain areas publicly accessible while others remain restricted, fenced, temporarily occupied.

Moving through this transversal condition involves crossing a succession of distinct spatial situations. Variations in noise, visibility, speed of movement, material conditions, and proximity to infrastructure produce a constantly changing territorial experience.

The Kohlendreieck emerges precisely at the intersection of these two systems. Here, the continuity of the viaduct landscape encounters the depth of the railway territory, generating a condition where different forms of movement, occupation, and transformation overlap. Pedestrian flows, cycling infrastructures, railway operations, housing and logistical functions coexist within the same spatial field.

This condition is further intensified by metropolitan pressures linked to Zürich's housing crisis and the increasing valorization of centrally located land. Situated adjacent to the main station and connected to major mobility infrastructures, the Kohlendreieck and its surroundings has become a strategic territory for future urban development. At the same time, many of its existing structures remain tied to uncertain

temporalities associated with infrastructure planning, and deferred redevelopment processes.

Within this context, several entities reveal the transformations currently affecting the site.

The four residential buildings on Brauerstrasse represent a first condition of transition. Built in 1965 as temporary accommodation for SBB workers, they continue to house approximately 100 railway construction workers today. Their future remains uncertain due to the construction of the future Tram Line 1, placing them in a prolonged state between occupation and anticipated demolition. As one of the last remaining examples of worker housing associated with the history of guest workers and seasonal labour in Switzerland, the ensemble reveals the tensions between infrastructural development, affordable housing, and the preservation of guest workers heritage.

The Franca Magnani Bridge extends this continuity across the railway corridor, creating a direct pedestrian and cycling connection between Districts 4 and 5. By linking Hohlstrasse to Geroldstrasse and the viaduct network, the project transforms the Kohlendreieck from a terminal condition into a new point of articulation within the broader public-space sequence.

The Kantonsschule Wiedikon introduces a temporality of phased occupation. The temporary school installation currently occupies part of the site while the permanent educational infrastructure is being planned. The dismantling of these structures will generate a new void already anticipated within the planning process itself.

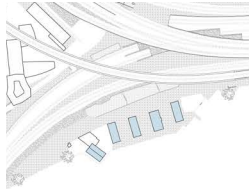
At the centre of the Kohlendreieck, the overhead-line maintenance facility, the electrical substation, and the SBB workers' canteen form the operational core of the railway territory. Together they sustain the daily functioning of the rail system within a highly central urban location. The maintenance facility and canteen remain fully active and inaccessible to the public, continuing to operate as closed infrastructural units despite their proximity to the expanding network of public spaces surrounding the viaduct landscape. The electrical substation occupies a different position. Although still operational, it is expected to be decommissioned in the coming years, placing it in an intermediate state between active infrastructure and future availability

The Yonex Badminton Hall represents another transitional figure. Although limited in architectural value, it has supported informal social and sport activities. Its planned removal, linked to the construction of the Franca Magnani Bridge, illustrates the gradual replacement of informal occupations by new infrastructural and urban programs. Simultaneously, the potential relocation of these activities into obsolete technical structures such as the former transformer station demonstrates how infrastructural artefacts may acquire new social functions once their original purpose disappears.

These situations share a common characteristic: all operate within unstable temporal frameworks shaped by deferred transformation. None are fully stabilized, yet none are entirely obsolete. Their significance lies precisely in this intermediate condition. From this perspective, the east-west axis crossing the Kohlendreieck functions as a transitional territorial system where infrastructure, housing, mobility, and temporary occupations intersect under conditions of continuous transformation. Its interstitial spaces and unstable figures are central components of the way the site currently operates and evolves within the metropolitan structure of Zurich.

«JUNGGESELLENHEIME»

Architect/planner: Durisol Villmergen AG (Pläne sign. ER)
Date of construction: 1965
Adresse: Brauerstrasse 118–126



The tension between provisional intent and prolonged occupation becomes particularly visible at the Brauerstrasse housing ensemble in Zurich, located at the edge of the railway corridor in District 4, directly entering Zurich Hauptbahnhof. The site sits within a dense infrastructural condition where railway operations, residual urban land, and housing intersects with clear separation. It forms a direct interface between the railway yard and the expanding urban fabric of the city center.

The four residential buildings at Brauerstrasse 118, 120, 122, and 124 were constructed in 1965 by the Durisol company of Villmergen AG. They were conceived as “Junggesellenheime” (bachelor residences) for Swiss Federal Railways (SBB), specifically designed to accommodate unmarried male employees undergoing training in railway operations. The ensemble was therefore not intended as conventional housing, but as a functional extension of the railway system itself, temporary accommodation embedded within the logic of infrastructural labor.

The typology reflects this origin in a direct and legible manner. The buildings are three storeys high, organized in repetitive cellular units. Each storey contains twelve single rooms or, in the larger building, ten double rooms per floor. Across the ensemble, this results in a total capacity of roughly 100 rooms. Shared facilities are distributed across all floors, including communal kitchens, sanitary spaces (toilets and showers located on corridors), storage rooms, and laundry facilities in the basement. The spatial organization is deliberately collective, prioritizing functional efficiency over individual domestic autonomy.

Fig.2. *Temporary housing*

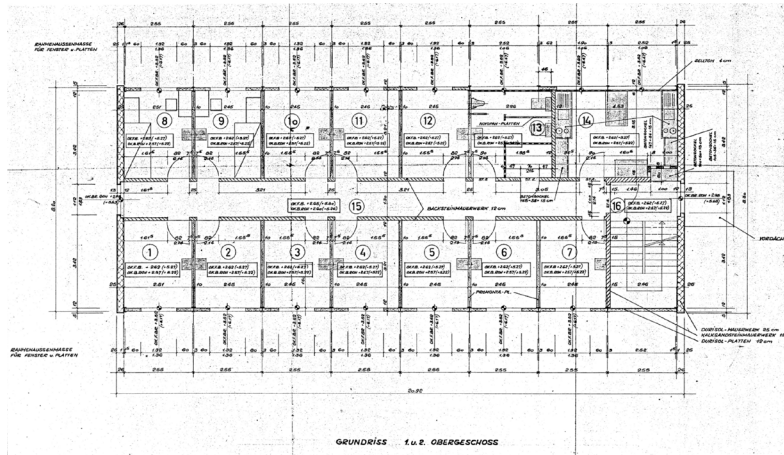


Constructively, the buildings are based on a prefabricated Durisol system. Lightweight panels made from cement bonded with wood-based aggregates are mounted onto a structural frame using T-beams. The joints between panels and the exposed logic of assembly remain visible on the façades, where structural edges and beam angles define the architectural expression. Flat roofs with narrow eaves and exposed concrete entrance slabs reinforce the formal austerity of the ensemble. The material system, developed in the early postwar period, was widely used in Switzerland for rapid construction of military, administrative, and infrastructural buildings, and is historically associated with industrialized building processes of the 1940s–1960s.

Urbanistically, the buildings belong to an infrastructural typology. This reading is reinforced by their immediate proximity to railway operations, the adjacent substation built in 1996, and the broader spatial condition of the Kohlendreieck as an infrastructural void within the city.

Today, the buildings continue to be occupied, although under unconventional living conditions. Ownership remains with SBB, which leases the ensemble to Sersa Group AG. Sersa, that sublets the approximately 100 rooms to railway construction workers, primarily short-term laborers from abroad working on temporary contracts in Switzerland. Occupancy rates are reported at approximately 90 percent, with a deliberate buffer maintained for short-term workforce fluctuations linked to infrastructure projects.

Fig.3. Temporary housing, plan



The internal conditions are described as functional but minimal, and living condition questionable. Shared kitchens, bathrooms, and communal spaces remain in use, with basic maintenance provided through building services. Reported rents are approximately CHF 600 per month per room, a level that remains exceptionally low for central Zurich, particularly given the site's proximity to major transport infrastructure and employment zones. This affordability, however, corresponds directly to a reduced standard of spatial comfort, with bedrooms of 8m², and a high degree of collective living.

Testimonies from residents describe a pragmatic acceptance of these conditions. Rooms are used primarily as sleeping spaces, often during daytime hours due to night-shift railway work. The acoustic proximity to train movements is not perceived as disruptive but rather integrated into daily routines. This reflects a broader adaptation of domestic life to infrastructural rhythms, where housing becomes an extension of work logistics rather than a separated private domain.

Despite their functional degradation and modest appearance, the buildings are formally recognized within Zurich's urban inventory as structures of potential heritage value. They are considered representative examples of postwar industrialized housing and early prefabrication systems in Switzerland. The Durisol construction method, based on wood-cement composites molded into standardized panels, is itself documented as an important technological development in Swiss postwar architecture.

The site is structurally suspended between preservation and replacement. A planned construction of Tram Line 1, currently safeguarded in



Fig.4. Temporary housing facing the infrastructure

regional planning frameworks, would require the reservation of adjacent land and could affect the site's future viability. In such a scenario, demolition would become a technical prerequisite for infrastructural expansion.

At this point, the question of transformation becomes inseparable from the question of disappearance. The potential demolition of the Brauerstrasse ensemble would not only remove a specific architectural typology, but would also erase one of the last remaining spatial traces of a broader history of guest workers and seasonal laborers, "Saisonniers", in Switzerland. Within the Swiss context, Brauerstrasse is one of a very limited number of surviving ensembles that still materialize this specific urban condition of temporary worker housing. Its disappearance would therefore also mark the loss of one of the last accessible possibility for low-income and working-class populations to rent an accommodation in the city center of Zurich.

This condition of temporal indeterminacy defines Brauerstrasse as a highly fragile urban entity. It is simultaneously infrastructural housing, historical residue, and strategic land reserve. Its continued existence depends not on a stable programmatic definition, but on the unresolved overlap between transport planning, housing demand, and heritage recognition.

Adjacent to the four Durisol residential blocks stands the building at Brauerstrasse 126, which forms part of the same broader SBB development perimeter while differing substantially in architectural typology and programmatic role. The house on Brauerstrasse 126 appears as a more conventional and individualized building type, spatially separated from the strict dormitory logic of the ensemble.

The building has been associated with railway-related administrative and institutional functions, including entities linked to the Sersa Group, the company currently operating the adjacent workers' housing on behalf of SBB. This suggests that Brauerstrasse 126 historically occupied a supporting role within the broader railway labor infrastructure, functioning as an auxiliary structure tied to supervision, administration, or personnel organization within the railway system.

Architecturally, the building reinforces this distinction. In contrast to the prefabricated Durisol panels, exposed assembly logic, and infrastructural austerity of the four dormitory blocks, the house adopts a more

conventional residential language, with a spatial and formal composition closer to mid-century urban housing in Zurich. The difference in typology reflects an internal hierarchy embedded within the site itself: while the bachelor residences were conceived for temporary, highly standardized occupation by unmarried railway workers, the adjacent house implies a more stable and individualized mode of use associated with institutional continuity and managerial presence.

Taken together with its residual spaces, technical infrastructures, and the adjacent SBB workers' canteen, the ensemble forms a broader infrastructural constellation. Its significance lies in its capacity to make visible the historical continuity of temporary labor within Switzerland's railway system, and the spatial arrangements through which this labor has been sustained over time.¹

Fig.5. *Brauerstrasse*
126



1 Swiss Federal Railways (SBB), 2005.

FRANCA-MAGNANI BRIDGE

Architect/planner:
Date of construction:
Adresse:

sbp / Itten+Brechbühl AG
2022-2031
Zürich



Stretching across the dense railway corridor, the Franca Magnani Bridge introduces a new layer of continuity between the districts 4 (Ausersihl) and 5 (Industriequartier). This infrastructural field, historically structured by railway tracks, service infrastructures, and fragmented crossing, has progressively accumulated passages, underpasses, and bridges, yet continues to operate as a territorial rupture within the urban fabric. The bridge emerges within this condition as part of a broader process through which the railway corridor is gradually transformed from a barrier into a traversable urban thickness.

Conceived within Zurich's long-term mobility strategy, the bridge reinforces north-south continuity while extending the existing network of pedestrian and cycling infrastructures. Linking Hohlstrasse to Geroldstrasse, it inserts itself into a sequence of public spaces and mobility corridors already structured by the viaduct landscape, the Europaallee developments, and the growing densification of Zürich-West. More significantly, the project consolidates the north-south continuity established by the Lettenviadukt and the successive public transformations attached to it. Through the creation of a direct connection between District 5 and District 4, the bridge resolves one of the major discontinuities produced by the railway corridor. In this sense, the first territorial axis, the linear sequence extending from the Letten through the viaduct landscapes toward the Kohlendreieck, is progressively reconciled and spatially completed.

Fig.6. Franca-Magnani Bridge



Designed by Schlaich Bergermann Partner, the bridge is defined by a continuous steel structure. Its curvature negotiates the complexity of the site through a progressive sequence of spatial situations; beginning near the Police and Justice Centre, passing beneath the Kohlendreieck bridge, spanning the railway tracks, and continuing alongside the Wipkinger Viadukt before connecting to the network around Viaduktstrasse. The crossing is therefore conceived as an extended linear experience, where the perception of the city unfolds simultaneously with the movement across infrastructure.

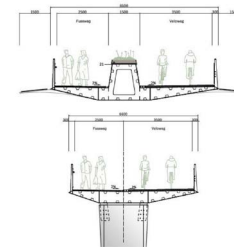


Fig.7. Section

“At the center of the project lies an eight-metre-wide deck organized to accommodate both pedestrians and cyclists within a shared but differentiated spatial structure. A planted median separates circulatory flows while introducing a softer and more continuous landscape condition within the predominantly mineral environment of the railway corridor. Open steel railings maintain visual permeability across the entire length of the bridge, allowing uninterrupted views toward the tracks, the viaduct, and the surrounding urban fabric. The project therefore operates simultaneously at the level of movement and perception: it reconnects districts physically while re-establishing visual continuity across a historically inaccessible territory.”²

This transformation is particularly significant within the context of the Kohlendreieck. The bridge traverses a space traditionally associated with logistical functions, railway maintenance, residual land occupa-

tions, and temporary forms of habitation. By introducing continuous public accessibility into this infrastructural landscape, the project alters the status of the corridor itself. What was previously perceived primarily as a technical void progressively acquires characteristics of an inhabited urban field.

At the same time, the bridge intensifies existing territorial pressures. Improved accessibility increases the strategic value of adjacent land and reinforces ongoing processes of redevelopment within the railway perimeter. The infrastructural enhancement of the corridor therefore operates ambiguously: while producing greater continuity and public accessibility, it also accelerates the transformation of residual and low-cost spaces into highly valorized urban territory.

In this condition, the north–south axis is further articulated, establishing direct connections that extend the continuity of the Letten–Viadukt sequence. By creating a pedestrian junction between District 5 and District 4, this primary axis is thus reassembled and made spatially legible once again.

2 Schlaich Bergermann Partner, 2024.

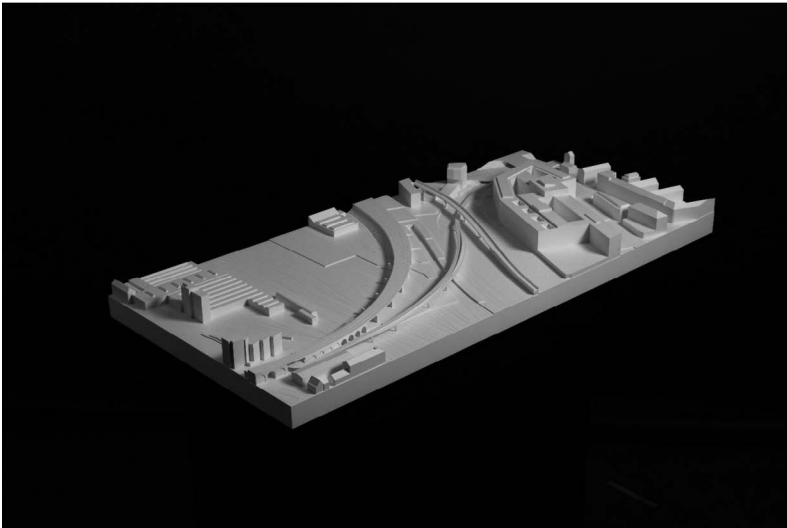
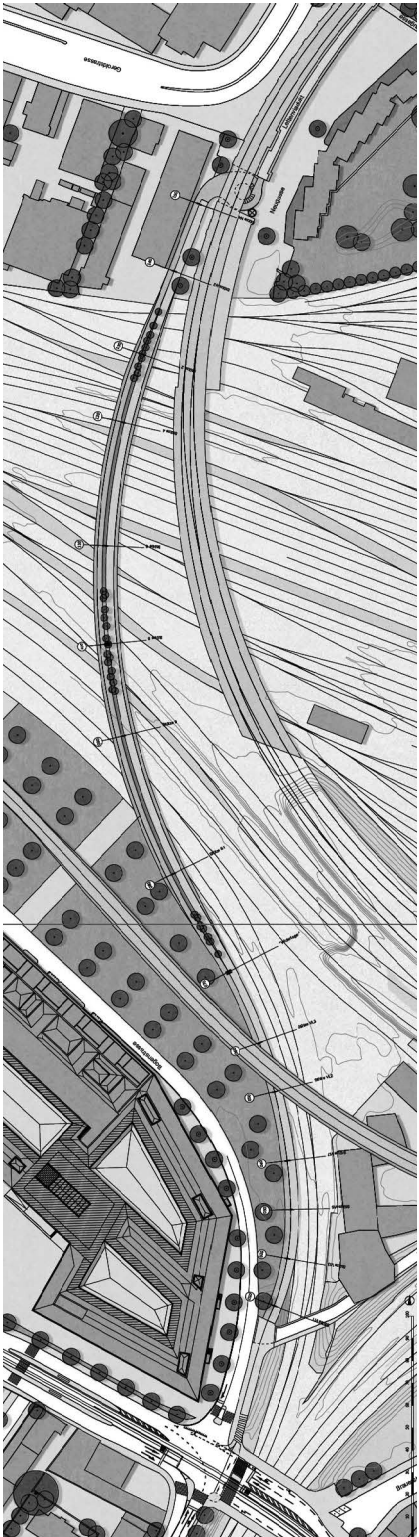


Fig.8. *Competition model*

Fig.9. *Plan*



TEMPORARY SCHOOL WIEDIKON

Architect/planner:

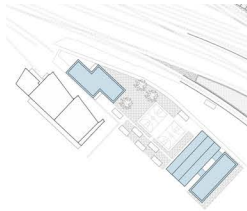
POOL Architekten + baubüro in situ

Date of construction:

2020-2024

Adresse:

Hohlstrasse, Zürich



Between Zürich Hauptbahnhof and Hardbrücke, within a landscape defined by railway tracks, road corridors, and residual industrial parcels, a temporary school has been established as an interim occupation of a site in transition. Formerly part of the freight yard between Hardbrücke and Seebahnstrasse, the area is currently undergoing rapid urban transformation driven by densification processes. The ensemble, designed by POOL Architekten in collaboration with baubüro in situ, was realized in 2024 after a compressed design and construction phase.

The project is composed of three buildings arranged around the future footprint of a permanent school: a double sports hall and two classroom blocks based on modular timber systems. Prefabrication and reuse form the underlying logic of the intervention. The sports hall, assembled from timber frame elements on site and placed on reusable concrete foundations, is wrapped in a layered envelope of timber cladding, weather protection membrane, and translucent panels, producing a calm and slightly variable exterior expression. Inside, the structure remains exposed and legible, organised with minimal spatial redundancy and a clear hierarchy of circulation and storage. The classroom buildings extend this principle through stacked, pre-used timber modules, reconfigured into compact learning units that meet full technical requirements while retaining their temporary status.³

Across the ensemble, a consistent material language ensures coherence despite its provisional condition. Rather than appearing makeshift, the school establishes a stable and restrained presence, activating a former railway hinterland and temporarily transforming it into a functional piece of urban territory within the infrastructural city.

Fig.10.Southern facade



Fig.11.Plan



3 Swiss Federal Railways (SBB), 2005.

SERVICE BUILDING FOR OVERHEAD LINE MAINTENANCE

Architect/planner: Hans Hilfiker
Date of construction: 1952
Adresse: Remisenstrasse 7, «Kohlendreieck»



The “Kohlendreieck” name reflects the site’s former industrial use, shaped by coal storage and related railway infrastructure, later complemented in the late 19th century by a wood preservation facility. Early 20th-century plans for a large locomotive depot were never realized, yet the area remained defined by its logistical role within Zurich’s expanding rail network.

In 1952, a service building for overhead line maintenance was constructed, integrating depot, workshop, and garage functions, along with a new access bridge across the railway corridor between Wiedikon and Altstetten. Designed by Hans Hilfiker, the ensemble forms a three-sided courtyard composition, dominated by a reinforced concrete service building with a vertical structural rhythm and a subtly curved main façade.

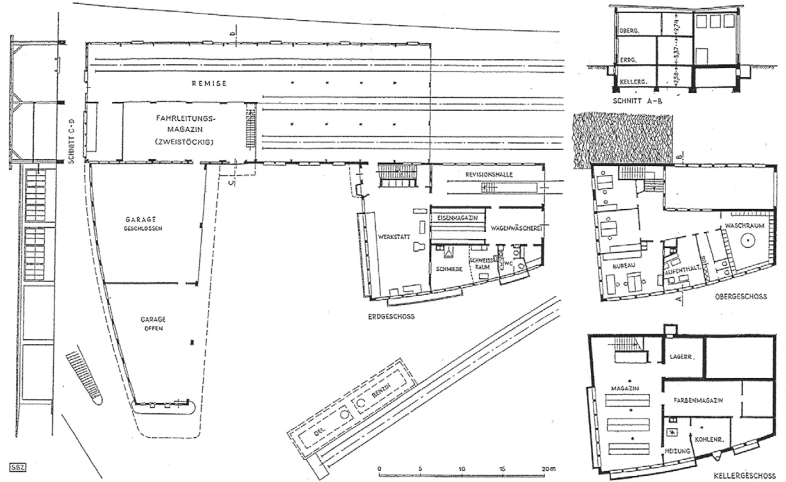
Often cited as an important testimony of early 1950s Swiss architecture, the complex is valued for its clarity between infrastructural function and architectural form, and is considered a significant, though long under-documented, work within Hilfiker’s oeuvre. ⁴

4 Swiss Federal Railways (SBB), 2005.

Fig.12.Service building



Fig.13.Plans



SBB SERVICE CENTER - KOHLENDREIECK ZÜRICH

Architect/planner: Von Ballmoos Krucker Architects / Conzett Bronzini Gartmann
Date of construction: 2010-2012
Adresse: Remisenstrasse 7, «Kohlendreieck»



The project is defined by a precise set of spatial and infrastructural constraints. The irregular geometry of the site, the restricted perimeter, and the complex access conditions shaped by bridges and railway infrastructure establish a tightly delimited framework. Within this context, the preservation of the historic Hilfiker ensemble acts as a constant reference, simultaneously limiting intervention and ensuring continuity with the site's architectural legacy.

The buildings by Hans Hilfiker are fully conserved and carefully renovated, maintaining their structural and spatial coherence. The new construction is positioned as an autonomous element in close proximity, allowing functional relationships without physical attachment. This deliberate separation preserves the clarity of the existing courtyard and safeguards the legibility of the original ensemble.

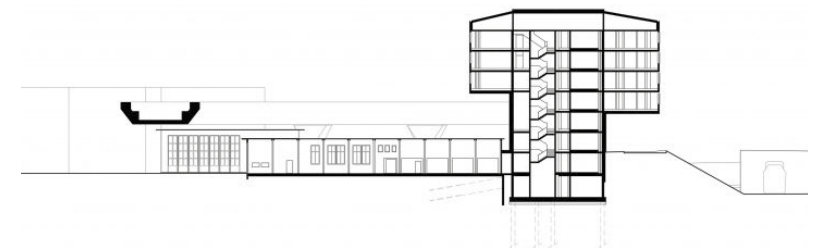
The new volume is inserted as a compact figure within a fragmented railway landscape, mediating between large-scale infrastructure and adjacent urban districts. It establishes a restrained yet distinct presence, calibrated to both the scale of transit operations and the sensitivity of the preserved structures, while reinforcing the overall coherence of the site. ⁵

⁵ von Ballmoos Partner Architekten, 2018.

Fig.14. *Canteen and offices*

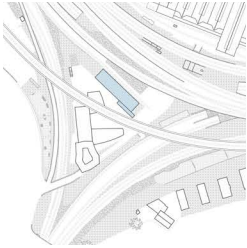


Fig.15. *Section*



ELECTRICAL SUBSTATION

Architect/planner: Architekten AG Zoelly/Rüeggger/Holenstein
Date of construction: 1997-1998
Adresse: Remisenstrasse 9, «Kohlendreieck»



This facility converts high-voltage electricity into the operating voltage required by the railway network of SBB. Planning began in 1988 and was repeatedly revised until the constraints of the “Kohlendreieck” site determined an elongated traction power building, tightly adapted to the surrounding railway infrastructure.

The programme is clearly stratified: transformer cells are located in the lower levels, while switching equipment occupies the upper floors. The building presents itself as a darkened, monolithic concrete volume, complemented by a stainless-steel-clad access core that introduces a more precise technical contrast.

An earlier concept proposed glazed transformer chambers, intended to reveal the installations as illuminated mechanical objects, but was replaced by a ventilated envelope using fine metal grilles due to heat and airflow requirements.

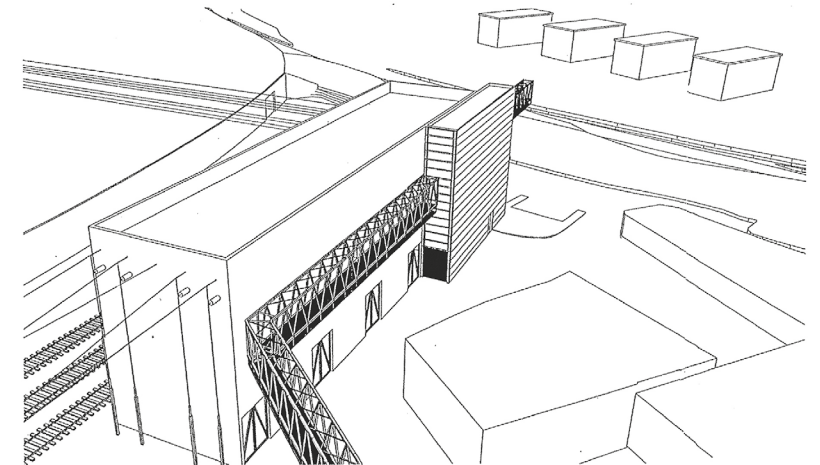
Positioned prominently within the railway yard, the substation aligns with the geometry of the freight infrastructure and is further linked to the urban fabric through overhead cable bridges connecting toward the residential buildings along Brauerstrasse 118–124 residential buildings.

6

Fig.16. *Electrical substation*

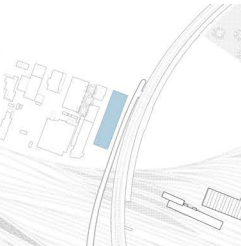


Fig.17. *Axonometrical drawing*



YONEX BADMINTON HALLE HARDBRÜCKE

Architect/planner: Informal
Date of construction: 2011
Adresse: Geroldstrasse 5



Along Geroldstrasse at the edge of Zurich’s railway corridor, the Yonex badminton hall occupies a residual urban space informally shaped by infrastructure and gradual redevelopment within District 5. It provides an accessible sports facility in an otherwise transit-dominated and rapidly transforming area.

Its future has become uncertain due to the planned Franca Magnani Bridge, which introduces a lowered alignment that significantly reduces the available space along Geroldstrasse. In this configuration, the continued presence of the hall is no longer compatible with the infrastructural requirements of the crossing.

Public and political responses, including petitions, have called for its preservation, but the situation highlights a broader conflict between maintaining existing social uses and enabling new metropolitan connections. Proposed relocation, including to the Sihlquai parking garage, proved impractical due to spatial and technical constraints.

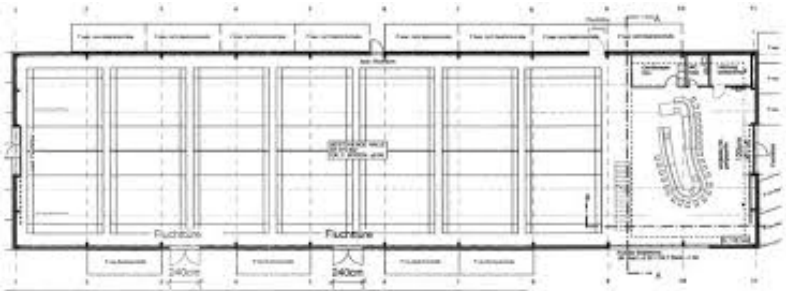
The case reflects the fragility of low-threshold urban programs in areas of infrastructural transformation, where everyday social infrastructures are increasingly displaced by large-scale mobility projects. ⁷

7 Tages-Anzeiger, 2024.

Fig.18.Yonex Badminton Halle



Fig.19.Plan



3 THEORETICAL POSITIONS ON TERRITORIAL READING

This chapter puts into dialogue five theoretical texts within the specific context of the site of intervention, revealing an often-overlooked territorial layer understood as a form of barrier through which the existing landscape is both reinterpreted and made visible.

This reading suggests a shift in perspective toward already existing forms of nature and ecological systems, operating through careful gestures of enhancement and accompagnement. The project seeks to reveal latent spatial and ecological conditions already embedded within the territory by accepting temporal changes and treating the landscape as an evolving process.

Le Tiers paysage, Gilles Clément, 2004
Vers une nouvelle nature, Christophe Girod, 2003
Terrain vague, Ignasi de Solà-Morales, 1995
Die Zwischenstadt, Thomas Sieverts, 1997
Junkspace, Rem Koolhaas, 2001

Through a situated reading, the contemporary urban condition is understood beyond the traditional opposition between city and countryside, center and periphery, architecture and nature, housing tissue and infrastructure.

Putting into dialogue the five texts aims to describe the emergence of a fragmented territorial field, structured by infrastructures, residual spaces, diffuse urbanization, and unstable ecological systems. What appears across these theories is the transformation of the city into a condition of continuity, where opposed distinctions between built and unbuilt, planned and unplanned, productive and abandoned progressively dissolve.

Continuity as Spatial Logic and diffuse urbanization

This condition of continuity resonates strongly with what Junkspace defines as its fundamental spatial logic. “Continuity is the essence of Junkspace; it exploits any invention that enables expansion, deploys the infrastructure of seamlessness: escalator, air conditioning, sprinkler, fire shutter, hot-air curtain.” In this sense, continuity is no longer an exception but the dominant spatial grammar of contemporary urbanization.

At the same time, this condition can be understood as the intensification of a long-standing spatial ambiguity in which absence itself becomes productive. As terrain vague theory suggests, “the relationship between the absence of use, of activity, and the sense of freedom, of expectancy, is fundamental to understanding the evocative potential of the city’s terrains vagues: void, absence, yet also promise, the space of the possible, of expectation.” In this sense, the contemporary territory is not defined by lack, but by a suspended form of potentiality embedded within abandonment itself.

This ambiguous suspension resonates where spatial resolution dissolves into indistinction: “There are no walls, only partitions, shimmering membranes.” In this sense, continuity becomes the dominant spatial grammar of contemporary urbanization.

This transformation becomes visible through the destabilization of spatial boundaries. The urban territory operates as a dispersed and stratified system. In Zwischenstadt, this condition is explicitly framed as the rise of a “between-city” a territorial formation, a threshold in permanent transition. As Sieverts argues, the contemporary landscape is structured through a continuous field of dispersed settlements, infrastructural corridors, and fragmented open spaces. On a wider



"Junkspace" is an essay by Rem Koolhaas, published in 2001. It describes the continuous and fragmented environments produced by contemporary capitalist systems, such as malls, airports, and corporate interiors, which evolve without coherent architectural or urban intention. While the text primarily engages with enclosed and infrastructural spaces within the urban field, it is here mobilised and reinterpreted within a landscape-oriented reading.

scale, Zwischenstadt describes a condition where “the distinction between city and landscape is no longer clearly readable in the built environment, but replaced by overlapping layers of use, infrastructure and residual open land.” The metropolitan condition extends horizontally through infrastructures, commercial zones, suburban fabrics, and open residual land, producing a diffuse urbanity without clear hierarchy or center. This dissolution of limits is equally present in terrain vague, where abandoned urban voids occupy an ambiguous position. They remain physically embedded within the city while escaping its functional and economic structures. The same ambiguity structures the tiers paysage, where neglected and unmanaged fragments form discontinuous ecological reserves distributed throughout the territory. As Gilles Clément writes in the Manifesto of the Tiers Paysage, “an undecided fragment of the planetary garden, the Third Landscape is made up of all places abandoned by humans. These margins assemble a biological diversity that is not currently recognized as a form of wealth.” These fragments appear across all territorial scales and conditions: “Abandoned spaces concern all areas. The city, industry, tourism produce as many abandoned spaces as agriculture, forestry and livestock farming.” The urban condition thus no longer produces only centers and organized forms, but also margins, residual territories, and suspended spaces. In Nouvelle Nature, this condition is reformulated through the integration of ecological systems within urban processes, where nature itself becomes inseparable from artificial and infrastructural environments.

This logic of continuity is further radicalized in Junkspace through its refusal of closure: “Because Junkspace is endless, it is never closed.” Spatial systems no longer terminate but perpetuate themselves through incremental expansion.

This transformation is also central to Zwischenstadt, where urbanization is described not as expansion of a bounded city, but as a process of “planetary urbanization at the regional scale,” in which settlement structures spread into formerly non-urban territories. The idea that Zwischenstadt is characterized by “a landscape of dispersed nodes connected by infrastructure rather than a continuous urban fabric” reinforces the notion that spatial coherence has been replaced by relational connectivity. The city is no longer a form, but a field of relations. In Junkspace, this relational field is further destabilized: “Corridors no longer simply link A to B, but have become ‘destinations’.” Movement itself becomes spatial content, dissolving the



distinction between origin, transit, and destination.

Infrastructure and the crisis of urban form

The convergence of these conditions reveals a broader crisis of the modern urban order. The stable and rational city imagined by modern planning gives way to territories characterized by fragmentation, superimposition, and instability. In this context, infrastructure progressively replaces traditional urban form as the primary organizational system. Highways, railways, logistical corridors, airports, and networks of circulation no longer simply connect the city; they become the city itself. In *Zwischenstadt*, mobility structures everyday life more than the historic center, and daily life is increasingly organized through commuting patterns, regional accessibility, and infrastructural dependence rather than proximity to an urban core. As Sieverts emphasizes, *Zwischenstadt* is defined by “everyday life organized through networks of movement rather than fixed urban centralities,” where access replaces location as the dominant spatial logic. The city is composed through sequences of flows and transitions.

At the same time, many of the spaces described in *terrain vague* and *tiers paysage* emerge precisely from infrastructural leftovers: railway margins, industrial voids, and interstitial zones excluded from productive systems. Clément precisely situates these conditions both in rural and urban territories: “In rural areas, abandoned spaces occupy rough terrains incompatible with machinery and all remnants directly linked to planning: field edges, hedges, borders, roadsides, etc. In urban areas, they correspond to plots awaiting designation or the execution of projects suspended due to budget allocations or political decisions.” These spaces reveal how infrastructure simultaneously produces connection and abandonment, continuity and rupture. This infrastructural logic also resonates with *Junkspace*, where form is no longer differentiated but accumulated: “Junkspace is additive, layered and lightweight... not articulated in different parts but subdivided.” The city becomes a continuous aggregation rather than a structured composition.

Historically, however, infrastructure once operated differently, as suggested by the observation that in Western Europe “there was, for a given moment in time in the mid-to-late 19th century, an extraordinary symbiosis between nature, infrastructure and architecture. The parks and promenades markedly improved the quality of life of neighbourhoods, and they also considerably increased the real estate value of



buildings in the vicinity.” This historical synthesis underscores that the contemporary separation of systems is not inevitable, but contingent. Within this expanded framework, Zwischenstadt also insists that this fragmented condition should not be read as failure, but as the dominant spatial logic of contemporary life. It describes a territory where “planning can no longer operate through total design but must engage with partial systems, incremental transformations, and emergent urban landscapes,” suggesting that design becomes adaptive rather than deterministic. Temporal instability becomes structural. At the same time, this condition also produces conceptual and disciplinary tension, especially regarding architecture’s role. In terrain vague, this is formulated as a crisis of architectural authority: “in this situation the role of the architect is inevitably problematic. architecture’s destiny has always been colonization, the imposing of limits, order, and form, the introduction into strange space of the elements of identity necessary to make it recognizable, identical, universal. In essence, architecture acts as an instrument of organization, of rationalization, and of productive efficiency capable of transforming the uncivilized into the cultivated, the fallow into the productive, the void into built.” This critique becomes particularly relevant in Zwischenstadt, where planning authority is diluted across multiple scales and actors, and where the architect can no longer operate as a singular author of form but must instead navigate a field of infrastructural and territorial forces.

Residual Landscapes and Ecologies of Abandonment

This tension between excess and emptiness constitutes another shared condition. Contemporary urbanization generates both saturation and vacancy at the same time. Junkspace describes a world of permanent designed accumulation, where commercial programs, signage, interiors, and consumption expand endlessly, producing an environment without pause or outside. In opposition to this built saturation, terrain vague and tiers paysage focus on spaces of withdrawal and indeterminacy, territories left outside economic optimization and therefore capable of hosting alternative temporalities. Their value lies precisely in their suspension, where they remain undefined, unstable, and open to transformation.

Clément insists on the temporal condition of these spaces: “Abandoned spaces result from the abandonment of an activity. They naturally evolve toward a secondary landscape.” Unlike protected natural reserves, these spaces remain outside institutional control: “A



territory declared a 'reserve' from an administrative point of view is subject to protection, surveillance and sanctions. A roadside verge, an urban vacant lot, are not subject to any protection. Places that are sought to be reduced or eliminated. All nevertheless constitute biological reserves." Nouvelle nature can be understood as an attempt to operate within this tension by transforming obsolete or abandoned territories into new ecological landscapes. Rather than opposing urbanization, it seeks to absorb and redirect its residual conditions. However, this process is constructive in parallel with rejection and degradation. As noted in nouvelle nature: "The third case concerns nature as a spontaneous left-over of industrial projects and infrastructures that were undesirable in the elegant quarters of the 19th century city." This nature is produced through exclusion.

Within these spaces, nature no longer appears as an external or autonomous domain. Across the five texts, it emerges through abandonment, infiltration, and hybridization. In terrain vague and tiers paysage, spontaneous vegetation and ecological succession become possible precisely because control diminishes. The absence of planning allows alternative forms of life to develop within the gaps of the urban system. These spaces are not conceived as designed parks or stabilized landscapes, but as evolving environments shaped by temporal processes. As Clément notes, "The Third Landscape does not evolve according to simple temporal curves but according to the biological modalities of its environment." Ecology here escapes fixed scales and stable classifications: "The Third Landscape has no scale. It covers all ecosystems capable of ensuring the maintenance of diversity. A forest is an ecosystem. A lichen is an ecosystem. A shoreline... a bark... a mountain... a rock... a cloud..." a railway side... Nouvelle nature extends this logic by proposing that ecology can become an active component of urban transformation itself. Nature is no longer preserved outside the city but integrated into post-industrial and infrastructural territories. In Zwischenstadt, the coexistence of suburbanization, infrastructure, and open landscapes further dissolves the distinction between urban and natural systems.

Instability, Indeterminacy, and the Contemporary Territorial Field

The instability produced by these transformations introduces ambiguity as a central spatial condition. Theories describe territories in transition, suspended between multiple states and temporalities.



In terrain vague, indeterminacy becomes a source of freedom, allowing memory, informal appropriation, and alternative imaginaries to persist outside productive logic. In tiers paysage, the absence of management creates ecological openness and diversity. This ambiguity becomes a political condition. Clément therefore proposes “to cultivate the mindset of non-action just as one cultivates the mindset of action” and to “elevate indecision to a political level. To place it in balance with power.” The indeterminate condition ceases to be a deficiency and becomes an operative value. Similarly, his invitation to “consider boundaries as a zone of thickness rather than a line” resonates strongly with the spatial conditions described in Zwischenstadt and terrain vague, where thresholds and transitional zones replace fixed urban boundaries. Nouvelle nature also embraces transformation and adaptation as operative conditions. Junkspace itself frames this condition as systemic uncertainty: “Junkspace is often described as a space of flows, but that is a misnomer.” What appears as flow is in fact accumulation without structure, movement without direction.

Taken together, these texts describe a profound mutation in the relationship between urbanization, infrastructure, ecology, and space. The contemporary territory appears as a dynamic system structured by processes of transition, accumulation, abandonment, and reconfiguration. Residual voids, diffuse metropolitan fabrics, infrastructural corridors, and hybrid ecological landscapes are not secondary anomalies within the urban condition; they become its primary material. The ecological value of these unstable spaces therefore emerges precisely from their resistance to total optimization and control. As Clément suggests, it becomes necessary to “value biological growth and development in opposition to economic growth and development” and to “approach diversity with wonder.” What emerges is a territorial field governed by unstable equilibrium, where architecture, landscape, and infrastructure continuously negotiate conditions of friction, continuity, and transformation.

This dynamic perspective is reinforced by the recognition that “Landscape architecture is probably one of the last subversive disciplines in modern society, because it counteracts short-term politics and other economic urgencies with the temporal inertia of nature.” Within this framework, design is not form-making but temporal negotiation. Similarly, ecological instability is increasingly understood as operational rather than exceptional, as seen in proposals where “the collection of water run-off at the scale of a city could be declined in exquisite architectural water gardens, wonderful neighbourhood basins and



ponds and exciting new waterfronts and 'waterback' areas." Here, infrastructure becomes ecological medium.

Finally, the emerging condition is spatial and anthropological, as contemporary territories produce new forms of belonging: "The recent appropriation of this industrial canal waterfront as a place of leisure and delight for people, as opposed to a place of drugs and blight, shows the extent to which the anthropology of a place can influence its identity." This reinforces the idea that urban ecology is inseparable from lived experience and collective redefinition of space.





Perpendicular to the north–south axis, established through the Franca Magnani Bridge, the territory between the temporary school Wiedikon and Brauerstrasse unfolds as a fragmented infrastructural ground reinterpreted as a continuous territorial field. The east–west axis is read as a threshold with thickness, extending as a sequence across District 4. It operates as a layered spatial condition where infrastructural, residential, and ecological logics overlap.

A first reading of the site establishes continuity as a spatial construct emerging from discontinuous urban fragments. The railway corridor, traditionally understood as a dividing line, is reframed as a connective structure producing territorial coherence across scales, shifting the perspective from an inaccessible urban barrier towards latent spatial and ecological qualities. Private and residual grounds become opportunistic territories for a redefinition of publicness. Infrastructure becomes an embedded urban substrate.

Attached along the railway bridge crossing the Kohlendreieck, the pedestrian infrastructure connecting both sides materialises axial continuity and exposes infrastructural ground as lived space.

The landscape is enhanced through a careful negotiation with existing ecological and spatial conditions. Planting strategies introduce structure while maintaining openness to aleatory and spontaneous growth. The project operates with controlled indeterminacy, allowing biodiversity and spatial variation to emerge over time.

Sports fields distributed along the axis function as residual spatial devices.

Instability becomes a productive condition within the project. The axis operates as a reversible and evolving system in which programmatic definitions are deliberately loosened. Sport facilities and pedestrian paths function as adaptive structures open to reinterpretation and appropriation, encouraging exploration and curiosity.

Ambiguity operates as a spatial strategy. The territory forms a field of continuous negotiation between infrastructure, ecologies, and use.

Continuity emerges as a relational condition rather than a formal one, producing a territorial system defined by interaction, overlap, and temporal adjustment.



FRANCA - MAGNANI - BRÜCKE

LOKOMOTIV - REMISE G

GÜTERVERWALTUNG

Kantonschule Wiedikon

LOKOMOTIV - REMISE G

WOHLENDREIECK

BRAUERSTRASSE

4 EXPLORING REFERENCES

Reference projects are explored in relation to the context of a historically working-class neighbourhood and the ongoing housing crisis, which demands the integration of affordable housing within city centres across physical, economic, and socio-political dimensions.

Through an exploration of selected case studies, the intention is to further investigate conditions related to ground floor interactions, public floor configurations, collective housing models and typologies, and housing developments along railway infrastructures.

PEDREGULHO HOUSING COMPLEX

Architect/planner:
Date of construction:
Adresse:

Affonso Eduardo Reidy
1947-1952
Rio de Janeiro, Brazil



Fig.20. *Pedregulho housing complex, photograph from the hill*

Designed in 1947 and largely completed in the early 1950s in Rio de Janeiro, the Pedregulho Housing Complex by Affonso Eduardo Reidy represents a pivotal moment in Brazilian social housing. Commissioned by the municipal government for public employees, the project emerges within a broader political ambition to improve living conditions through architecture. At a time of rapid urbanization and rising inequality, Pedregulho proposes a new model of collective housing, combining modernist principles with a strong social agenda.⁸

Set on a steep hillside, the complex is organized around a serpentine residential block that follows the natural contours of the terrain. This sinuous form minimizes excavation while opening expansive views and ensuring optimal sunlight and ventilation. Elevated on pilotis, the building allows the landscape to continue beneath it. Its reinforced concrete structure, together with brise-soleil and open circulation galleries, reflects tropical modernism and its adaptation to local climatic conditions.^{9 10}

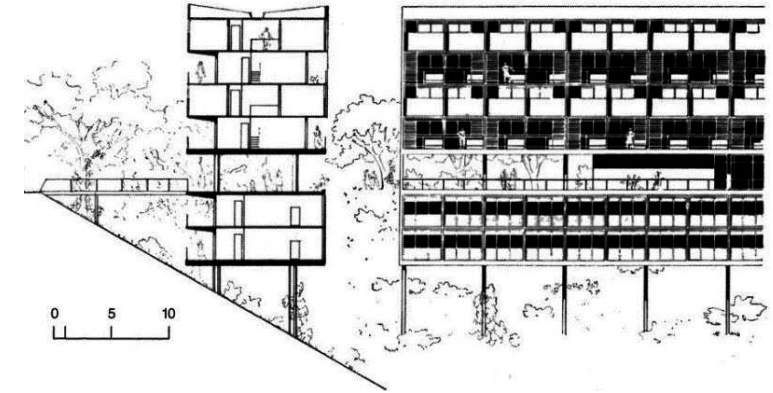
Beyond its formal aspects, the project is defined by the richness of its program. Conceived as a self-sufficient neighborhood, Pedregulho integrates a school, health center, sports facilities, and commercial spaces, alongside a celebrated swimming pool and landscape design by Roberto Burle Marx. This combination of services expresses a holistic vision of housing, where architecture extends beyond shelter to include education, health, and leisure. The apartments are designed to maximize cross-ventilation and natural light, offering functional and dignified living spaces.

⁸ Goodwin, 1943.

⁹ Segawa, 1998.

¹⁰ Conduru, 2013.

Fig.21. *Section*



The relationship between building and ground is one of the defining aspects of the complex. The project adapts to the existing topography, following its natural contours. Pilotis allow the terrain to remain continuous, reducing earthworks and preserving visual and physical permeability at ground level. This reflects a broader modernist intention to reconcile construction and landscape through controlled separation. Access is organized in response to the topography. The upper level, connected to the mountain, serves as the main entry point, redefining the idea of ground level. Circulation occurs through open galleries linking the different parts of the building, creating a system of horizontal and elevated movement. This accessible level functions as an intermediary space, enabling encounters and shared uses while maintaining separation from private interiors. The project establishes a layered hierarchy of accessibility, structured in section rather than plan.

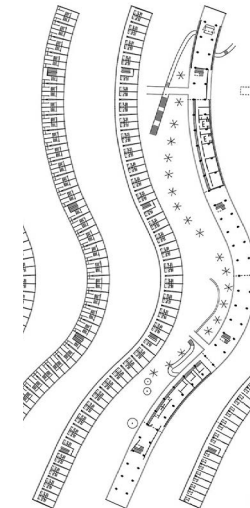


Fig.22. *Plans from the public floor on*

Within this framework, the maisonnette typologies introduce a specific domestic organization that departs from standard single-level apartments. These duplex units are arranged vertically, separating living and sleeping areas while maintaining compact footprints. Their configuration improves cross-ventilation and natural lighting, aligned with the climatic logic of the design. Internal subdivision creates a more articulated domestic environment, where circulation becomes part of everyday living. The repetition of these units along the serpentine block ensures structural coherence and spatial variety within a unified system.

EDIFICIO COPAN

Architect/planner: Oscar Niemeyer
Date of construction: 1951-1966
Adresse: São Paulo, Brazil



Fig.23. *Edifício Copan, photograph from the street*

Designed in 1951 and completed in 1966 in São Paulo, the Copan Building by Oscar Niemeyer stands as one of the most emblematic works of Brazilian modern architecture. Conceived during a period of intense urban growth, the project responded to the need for high-density housing in the city center. Initially commissioned as part of a larger development including a hotel, it ultimately evolved into a vast residential complex, reflecting the social and economic transformations of mid-20th-century São Paulo.

Its sinuous, wave-like form sets it apart from the surrounding urban grid. This continuous curve, both fluid and monumental, breaks with the rigidity of modernist housing blocks. The façade, composed of horizontal brise-soleil, regulates sunlight and reinforces a strong rhythmic expression. Beneath this sculptural envelope lies a reinforced concrete structure enabling the repetition of compact housing units and the accommodation of a diverse population.¹¹

Housing more than a thousand apartments of varying sizes, the building functions as a vertical fragment of the city. The ground floor operates as a continuation of the city, incorporating shops, services, and circulation spaces, ensuring direct continuity with the surrounding streets. This mix of functions sustains its vitality, turning it into a microcosm of urban life where different social groups coexist. The internal organization remains rational, supporting this diversity through a range of unit types adapted to multiple ways of living.

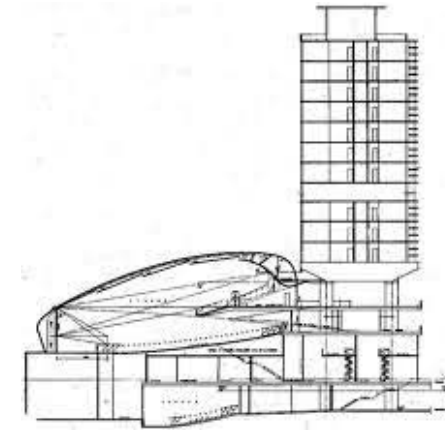
Over time, the Copan Building has become both symbol and subject of debate. It has been celebrated for its architectural boldness and its capacity to embody São Paulo's dynamism. It has faced issues of maintenance and social complexity. Through its scale, form, and programmatic richness, it continues to question how architecture can engage with metropolitan realities.¹²

¹¹ Niemeyer, 2000.

¹² Jodidio, 2003.

¹³ Segawa, 1998.

Fig.24. *Section*



The organization of the public level plays a central role in the building's functioning, extending beyond the residential program. The ground floor is conceived as a continuation of the city, incorporating shops, services, and circulation paths. This level operates as an active urban interface, where interior and exterior intersect through open passages and covered galleries. Maintaining permeability supports integration into the urban fabric and reduces isolation typical of large housing complexes. Commercial activities ensure constant movement, sustaining a form of urban animation that extends beyond domestic rhythms.¹³

This articulation between public and private realms is reinforced by the diversity of apartment typologies throughout the building. The Copan includes a wide range of units, from compact studios to larger family apartments. This variety reflects both the original economic ambitions and the evolving social composition of its inhabitants. The plan remains rational, based on structural repetition, and allows multiple configurations within this framework. This flexibility enables coexistence of different modes of habitation, reinforcing the idea of a vertical city. The distribution of units follows a logic balancing density and livability. Smaller apartments are grouped in specific sectors to optimize circulation and access. Larger units benefit from more generous orientations and spatial layouts. This gradation introduces a subtle hierarchy within the composition, without breaking façade coherence. The repetition of the brise-soleil system unifies these differences, masking internal diversity behind a continuous envelope. The project reconciles standardization and variation, ensuring architectural unity and social multiplicity.

UNITÉ D'HABITATION

Architect/planner:
Date of construction:
Adresse:

Le Corbusier
1947-1952
Marseille, France



Fig.25. Unité d'habitation, Marseille

Completed in 1952 in Marseille, the Unité d'Habitation by Le Corbusier stands as a major response to the postwar housing crisis. Conceived as a prototype for collective living, the building embodies a broader ambition to redefine domestic life. In a context of urgent reconstruction, it proposes a new model: a “vertical city” combining diverse functions within a single structure.

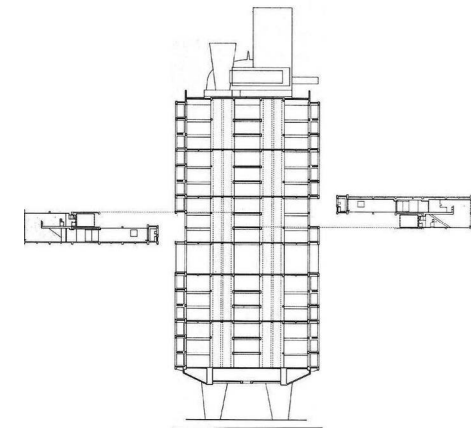
Rising on pilotis, the massive concrete block asserts a strong presence in the landscape, both autonomous and monumental. Its rough béton brut surfaces reveal the imprint of the formwork, giving the building a raw, expressive character. The structure follows a rigorous modular system derived from the Modulor, governing both overall composition and the layout of each apartment.

The duplex apartments are interlocked, enabling cross-ventilation and generous double-height living spaces. Interior “streets,” placed every third floor, provide access and function as social corridors, encouraging encounters between residents. Beyond housing, the building integrates communal facilities such as shops, a hotel, and a rooftop terrace with a nursery, running track, and sculptural ventilation stacks. This layering reinforces the idea of a self-contained community suspended above ground.¹⁴

¹⁴ Le Corbusier, 1953.

¹⁵ Curtis, 1986.

Fig.26. Section



The relationship between building and ground is defined by deliberate separation. Raised on pilotis, the Unité establishes a distance from the terrain, allowing the landscape to remain continuous beneath it. This reflects a modernist intention to free the ground plane, preserving it as an open collective surface. The volume appears to hover above the site, creating a shaded zone that mediates between building and environment. This separation is a redefinition of the ground as a shared, permeable urban field.

This condition extends into the organization of the public level, where a diversity of functions is concentrated within the building. The internal “streets,” set at regular intervals, gather shops and everyday services. These corridors operate as collective interior spaces rather than simple circulation routes, where residents cross paths in daily life. By integrating these functions, the project reduces reliance on the surrounding city while reinforcing internal social interaction. The building thus functions as a compact vertical neighborhood, where domestic and shared uses are closely interwoven.¹⁵

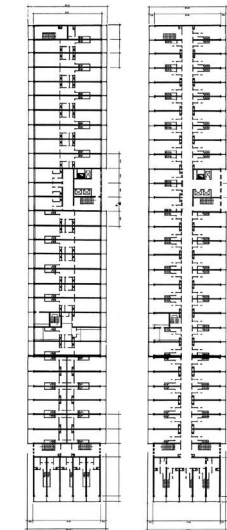


Fig.27. Plans of the residential floor

The residential units, though based on a strict modular system, reveal a more complex spatial logic in section. Each apartment is organized as a duplex, interlocking with adjacent units in a continuous vertical arrangement. This enables double-height living spaces and improved cross-ventilation, enhancing spatial quality and environmental performance. The repetition of Modulor proportions ensures consistency, while the sectional interlocking introduces variation and depth. The result is a highly regulated system that still produces diverse domestic experiences, where standardization and spatial richness coexist within a single architectural structure.

NEMAUSUS

Architect/planner:
Date of construction:
Adresse:

Jean Nouvel
1985-1987
Nîmes, France



Fig.28.Nemausus

Completed in 1987 in Nîmes, Jean Nouvel's Nemausus I housing complex emerges from a broader reflection on social housing in late 20th-century France. At a time when standardized, repetitive housing blocks dominated urban peripheries, Nouvel challenges both spatial and social conventions. Commissioned as part of a public housing program, the project was developed under strict economic constraints, which paradoxically fueled its architectural innovation. The reduced budget leads to a rethinking of space, producing unusually generous apartments for social housing standards.¹⁶

The building's long, linear form recalls an industrial structure more than a conventional residential block. Inspired by shipbuilding and high-tech aesthetics, its exposed steel framework, prefabricated elements, and external circulation galleries assert a raw, infrastructural character. This reference to industrial architecture reflects Nouvel's ambition to dignify social housing through typologies associated with modernity and production. The access corridors, resembling gangways, reinforce a maritime imagery while encouraging social interaction.

The apartments are conceived as flexible, open-plan units, often featuring double-height spaces and large sliding doors extending interiors towards generous terraces. This continuity between inside and outside blurs conventional domestic boundaries and strengthens the sense of spatial freedom. Large openings allow daylight to penetrate deeply, producing bright and adaptable living environments.¹⁷

The project quickly sparked debate. It was praised by architects for its boldness and ingenuity. It also raised questions of comfort, privacy, and long-term maintenance. Its radical aesthetic and unconventional organization were not universally embraced, revealing the tension between architectural experimentation and everyday use.¹⁸

¹⁶ Nouvel, 1987.

¹⁷ Migayrou, 2015.

¹⁸ Jodidio, 2002.

Fig.29.Plans showing
the different apartment's
typologies

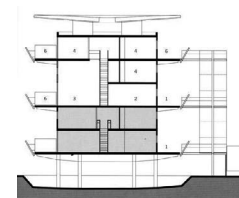
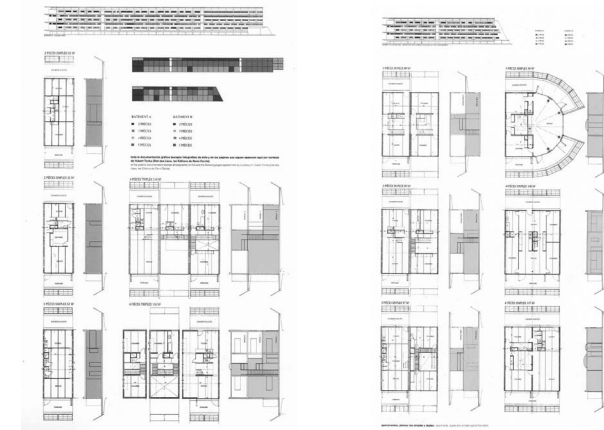


Fig.30.Section

External circulation is one of the defining principles of Nemausus. Access to the apartments is entirely located outside, through long horizontal walkways running along the façade. These circulation strips are fully exposed, forming continuous lines of movement along the length of the building. This choice gives circulation a clear structural role, with the project read as much through its movement system as through its residential volumes.

This system of external circulation is closely linked to the diversity of housing typologies. The project avoids a single repetitive model, introducing a range of units including simplex, duplex, and triplex configurations. This variation enables different ways of inhabiting the building, from compact single-level apartments to more complex vertical arrangements. Duplex and triplex units introduce internal level shifts that structure domestic life dynamically, separating living, sleeping, and service areas while maintaining spatial continuity. This vertical articulation gives the apartments qualities more often associated with individual houses than collective housing.

In the context of social housing, Nemausus represents a clear shift in the perception of what collective housing can offer. The project deliberately raises the quality and generosity beyond minimal standards. The dwellings are conceived as high-quality living spaces, with large volumes, generous openings, and direct extensions towards exterior terraces. This approach challenges conventional social housing logic, often associated with restriction and standardization. Here, spatial richness and adaptability are emphasized, allowing residents to inhabit environments that approach the comfort and complexity of individual housing while remaining within a collective framework.

ZWHATT HOUSING

Architect/planner:
Date of construction:
Adresse:

Lütjens Padmanabhan Architekten
2016-2019
Regensdorf, Switzerland



Fig.31.Zwhatt housing

Completed in 2019 in Regensdorf, on the outskirts of Zurich, the Zwhatt housing complex by Lütjens Padmanabhan is part of a broader transformation of former industrial land into dense residential environments. Developed for the Baugenossenschaft Zurlinden, the project responds to the growing demand for affordable housing while maintaining a high quality of life within a large-scale development.¹⁹

The project is composed of several articulated volumes organized around a sequence of elevated courtyards. This fragmented composition allows the ensemble to integrate more fluidly into its surroundings, while encouraging circulation and encounters between residents. The façades, defined by a rhythmic arrangement of openings, balconies, and loggias, introduce subtle variations that animate the mass and avoid uniform repetition.²⁰

Particular attention is given to the articulation between private and collective spaces. The ground floor operates as a permeable layer, hosting shared functions and extending domestic life into exterior areas. Circulation routes, intermediate zones, and communal spaces create spatial continuity that fosters social interaction. The project reflects a broader shift in contemporary housing, where emphasis lies on individual units and the quality of shared environments.²¹

The construction system combines prefabrication with a restrained material palette, emphasizing durability and adaptability. Exposed concrete and metal elements define a sober architectural language, while internal layouts are designed to remain flexible over time. This capacity for transformation anticipates changing needs and supports a long-term approach to collective housing.²²

Zwhatt housing thus illustrates a pragmatic response to suburban densification. Through its measured architectural expression and attention to communal life, it proposes a contemporary model balancing efficiency with social and spatial quality.

19 ArchDaily, 2020.
20 Divisare, n.d.
21 Hochparterre, 2024.
22 Lütjens Padmanabhan, n.d.

Fig.32.Plans showing the different apartment's typologies

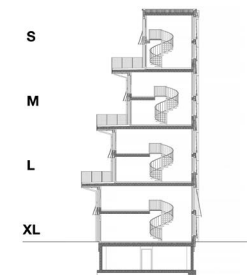
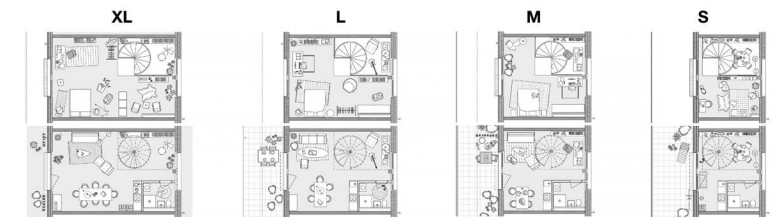


Fig.33.Section

In the context of controlled suburban growth on the Zurich fringe, affordability is approached as an architectural framework. Within the Swiss cooperative tradition, as exemplified by the Baugenossenschaft Zurlinden, “making cheap” is structural clarity and construction efficiency, allowing spatial quality and shared infrastructures to remain central priorities.

This approach aligns with broader Swiss planning policies, where increasing density is concentrated around former industrial zones and transport infrastructures. In Regensdorf, density is achieved through compact volumes and vertical stacking, responding to land scarcity while maintaining a balanced relationship to the landscape. Density is thus treated as a deliberate urban strategy rather than a passive condition.

Within this framework, a shared planning logic is applied across apartment types while allowing a flexible gradation of sizes, from S to XL. This variation enables a wide social mix without compromising structural coherence, adapting typologies to diverse household configurations while maintaining a consistent architectural language. The system balances standardization and adaptability, ensuring both construction efficiency and diversity of occupation.

Within this configuration, circulation and density operate together to produce a porous residential structure, where movement extends domestic life into shared exterior realms. The result reflects a specifically Swiss synthesis of economic restraint, spatial precision, and cooperative planning culture, in which efficiency and collective quality are carefully balanced within a compact urban form.

GIFU KITAGATA APARTMENTS

Architect/planner:
Date of construction:
Adresse:

Sanaa / Kazuyo Sejima
1994 - 2000
Gifu, Japan



Fig.34. *Gifu Kitagata Apartments, photograph from the courtyard*

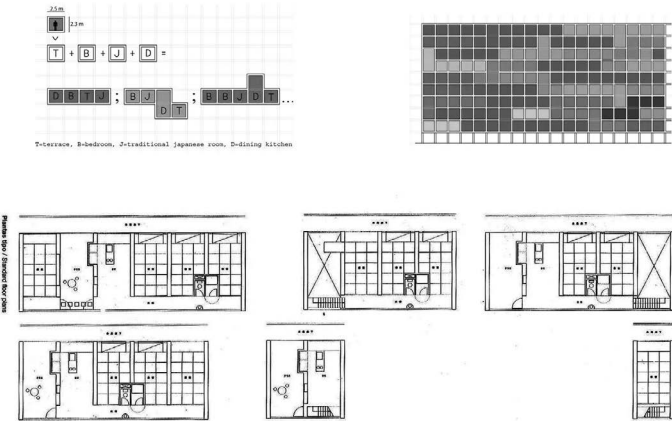
Completed in 2000 in Gifu Prefecture, the Kitagata Apartments by Kazuyo Sejima and SANAA are part of a broader experimental housing development initiated by local authorities in the 1990s. Conceived in response to changing lifestyles and the need for more adaptable domestic environments, the project brought together several architects invited to rethink collective housing. Within this context, Sejima's intervention stands out for its radical simplicity and redefinition of spatial boundaries.

The building appears as a long, narrow slab, marked by a strong sense of lightness. Its thin structure and repetitive grid give it a discreet presence within the landscape. The façade, composed of delicate metal elements and translucent panels, blurs the boundary between interior and exterior. Circulation spaces are minimized, allowing the building to operate as a porous system.

The apartments challenge conventional domestic organization. They are conceived as sequences of spaces separated by movable partitions and light materials. This flexibility allows inhabitants to adapt their environment to changing needs, questioning the fixed hierarchies of traditional layouts. The absence of rigid boundaries encourages a fluid mode of inhabitation, where privacy and openness coexist in a subtle balance.²³

²³ Sejima & Nishizawa, 2008.

Fig.35. *Matrix*



The organization of circulation departs from conventional collective housing typologies, where corridors and stairwells are secondary infrastructural elements. Here, vertical and horizontal movement is absorbed into a continuous spatial field, where circulation becomes an extension of living space. Staircases are reduced to almost diagrammatic elements, while vertical transitions are dispersed across the building, avoiding concentration and reinforcing a sense of lightness. Movement is not interrupted and is gently distributed through the volume.

Horizontally, access is reinterpreted through elongated passages that function as shared thresholds between interior and exterior conditions. These linear paths, often visually open to the landscape, extend the spatial experience beyond the limits of the individual dwelling.

Within this system, the arrangement of apartments follows a subtle matrix logic, where units are positioned according to a rhythmic distribution responding to light, depth, and permeability. This underlying grid does not impose a rigid order and acts as a silent framework guiding variations in spatial depth and openness. Each dwelling is inserted as a calibrated fragment, maintaining autonomy while remaining dependent on the overall compositional logic.

LIMMATWEST

Architect/planner:
Date of construction:
Adresse:

Kuhn / Fischer
1997 - 2002
Zürich, Switzerland



Fig.36. *Limmatwest building, photograph from the Limmat river*

Completed between 1997 and 2000 in Zurich, the Limmatwest development by Kuhn und Fischer emerges from a competitive selection process on a highly stratified site, suspended between the acoustic intensity of Hardturmstrasse and the open landscape of the Limmat river. The project constructs a continuous urban mediator, translating infrastructural pressure and landscape exposure into a calibrated spatial gradient.²⁴

Situated between an industrial-service district and a looser residential fabric, the ensemble operates as a transitional figure within Zurich-West's ongoing transformation, organising density, porosity, and exposure as layered spatial relationships.²⁵

Along Hardturmstrasse, a four-storey continuous volume defines the edge of the project. This infrastructural façade concentrates commercial and office functions, forming an acoustic buffer and establishing a clear urban frontage. Towards the river, the building opens, where a subtly curved façade aligns the composition with the Limmat landscape and ensures spatial continuity along the waterfront. Behind this outer layer, residential life is structured through seven sheltered courtyards. These interior spaces act as micro-environments of light, vegetation, and controlled exposure, mediating density and openness. They operate as porous fields, opening periodically through double- and triple-height "river windows" that frame direct views towards the river horizon.

Circulation is reorganised as an internal residential street, integrating domestic movement and service access for ground-floor commercial units. This shared spine dissolves distinctions between public and private logics, producing a continuous spatial system instead of isolated programmatic zones. Within this framework, most of the 314 apartments are located in the upper river-oriented volume, prioritising orientation, sunlight, and views.²⁶

²⁴ Werk, Bauen + Wohnen, 2000.

²⁵ Primas, 2006.

²⁶ Hochparterre, 1999.

Fig.37. *Plan, Third floor*

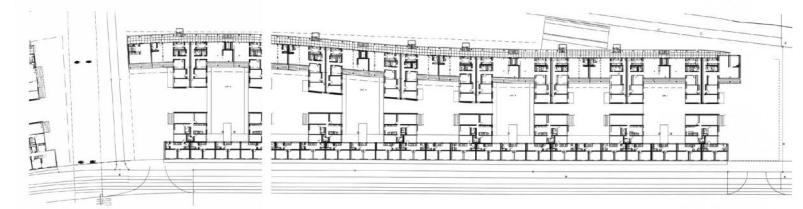
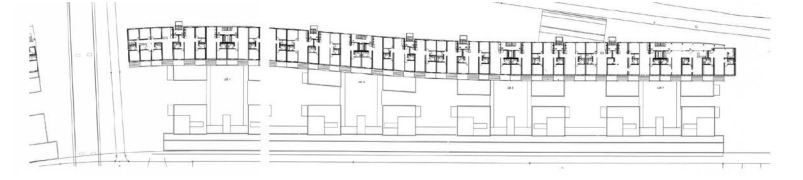


Fig.38. *Plan, Fifth floor*



The Limmatwest project articulates a condition of controlled porosity between heterogeneous urban forces. Neither fully open nor fully closed, the ensemble operates through a calibrated gradation of thresholds, where permeability is carefully structured rather than merely expressed. Porosity becomes an organisational principle shaping how urban intensity is received, filtered, and redistributed. This openness supports the ambition of sustaining a complex social mix within a constrained site. Instead of separation or zoning, domestic, productive, and communal functions are interwoven within a single spatial field. Social diversity emerges from proximity and shared infrastructural frameworks rather than typological segregation.

Circulation plays a central role in this system, functioning as the main device through which coexistence becomes operative. Movement is treated as a continuous interior urban condition, comparable to a dense pedestrian fabric. This internal network distributes flows across multiple levels, linking courtyards, entrances, and programmatic layers, and acting as both connective tissue and social interface.

Within this logic, apartment typologies are developed as variations within a consistent structural matrix instead of isolated units. Dwelling types respond to differences in orientation, depth, and exposure to the river landscape, producing a spectrum of living conditions within a shared architectural framework. Instead of repetition, housing is organised through graded typological shifts, aligning each unit with the broader environmental gradient of the project and reinforcing continuity between individual domestic space and collective order.

HOUSING NEUFRANKENGASSE

Architect/planner:
Date of construction:
Adresse:

EM2N Architects
2013
Zürich, Switzerland



Fig.39. *Housing Neufankengasse, Street façade*

Completed after a competition win in 2008, the project commissioned by SBB Immobilien forms part of Zurich's broader redevelopment of former railway-adjacent land into dense residential fabric. Housing Neufankengasse sits at a threshold condition typical of Zurich's inner-city fabric, where infrastructural and urban housing tissue meet. Developed by EM2N and completed between 2011 and 2013, it occupies a site along Langstrasse, positioned between Kreis 4 and the expansive railway fields defining the city's western edge.

The building intensifies this contrast. The site is treated as a "field condition" stretched between two urban realities: the compressed residential fabric of the neighbourhood and the infrastructural openness of the tracks. This opposition generates the project's internal organisation. Apartments respond to orientation and atmosphere: bedrooms and loggias turn toward a quieter courtyard, while living spaces open toward the rail landscape, where light and distance extend the domestic horizon.²⁷

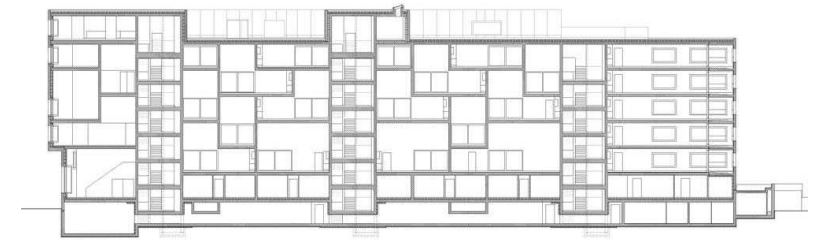
The building's section is carefully layered, concentrating service zones toward the core, while circulation unfolds through multiple staircases accessed from both street and courtyard. This dual access produces a continuous negotiation between public and private thresholds, reinforced by a plinth level that allows movement through the building's base as part of the urban route.

On the exterior, the façade reflects this internal organisation. Toward the railway, large, rhythmically ordered openings articulate an exposed and dynamic surface, responding to the tracks. The courtyard elevation is calmer and more repetitive, establishing a measured domestic condition. The building thus avoids a single architectural expression, presenting two distinct identities depending on urban orientation.²⁸

²⁷ EM2N, n.d.

²⁸ EM2N, 2008–2013.

Fig.40. *Section*



Positioned within the dense infrastructural fabric of Kreis 4, Housing Neufankengasse operates as a direct architectural response to the adjacent railway tracks. The project engages this condition as an active spatial generator. The continuous movement of trains, the rhythmic acoustic presence, and the linear extension of the tracks establish a permanent background condition against which the domestic interior is defined. In response, apartments are carefully oriented: sleeping spaces turn away from the railway edge toward quieter courtyard conditions, while living spaces open toward the tracks, transforming exposure into a controlled form of urban spectacle.

This opposition is reinforced through double-height spaces, which introduce vertical expansion within the domestic section. These voids act as internal amplifiers of light and volume, allowing apartments to extend beyond compact floorplates. At key points, double-height spaces frame oblique views across the railway field, increasing perceptual depth while maintaining acoustic separation through spatial distance rather than heavy enclosure. The section thus becomes a calibrated device, where vertical openness compensates for horizontal intensity.

Within this structural logic, the project also reveals a clear socio-economic stratification that departs from earlier ideals of mixed-use housing. The apartments are predominantly designed for a more affluent residential profile, and internal typological differentiation follows a gradient of spatial refinement and exclusivity. Variations in size, orientation, and spatial generosity are distributed along this hierarchy, with larger units receiving expanded proportions, enhanced light, and more privileged views.

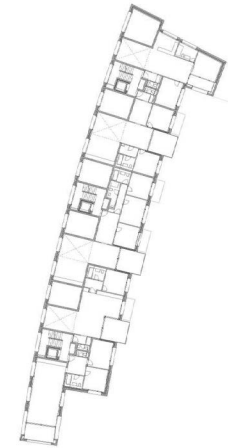


Fig.41. *Plan, Second floor*

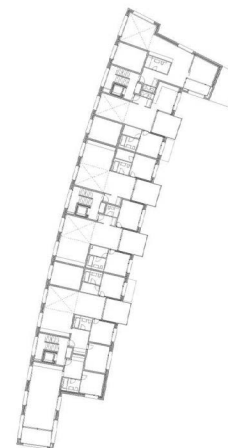


Fig.42. *Plan, Third floor*

ZOLLHAUS

Architect/planner:
Date of construction:
Adresse:

Enzmann Fischer
2015-2023
Zürich, Switzerland



Fig.43.Zollhaus, photograph from the railway tracks

Zollhaus, completed in 2018 by Enzmann Fischer Architekten, occupies a strategic void at the edge of Zurich's District 5, where the former railway industrial belt meets the expanding city. Positioned directly beside the tracks field, the project emerges from a residual infrastructural landscape, historically defined by transit, storage, and customs activity.

The project is conceived as a compact urban block composed of several interconnected volumes, framing a central courtyard that acts as both void and mediator. This interior space, partially open and partially enclosed, establishes a calm counterpoint to the intensity of the surrounding railway infrastructure. Apartments are organised around this courtyard as well as toward the tracks, producing a continuous oscillation between introversion and exposure.²⁹

The building incorporates the proximity to the railway as a defining atmospheric condition. The façades facing the tracks are more closed and rhythmically ordered, filtering noise and motion into a controlled visual field. In contrast, the courtyard façades open generously, structuring domestic life around light, air, and collective space.

At ground level, the project extends the logic of passage. Public and semi-public programs activate the base of the building, allowing circulation through and around the block. This permeability anchors the project within the larger transformation of the railway district into a continuous urban fabric, where former infrastructural barriers are gradually absorbed into pedestrian routes and residential thresholds.³⁰

Positioned at the threshold of Zurich's District 5, Zollhaus engages the adjacency of the railway tracks through a calibrated distribution of orientation conditions across the dwelling stock. The project operates through a broader spatial gradient, where apartments adjust to differing environmental pressures. The presence of the tracks becomes a persistent atmospheric background, shaping how units open, turn, and filter views, without determining a rigid internal zoning of domestic functions.³¹

Fig.44.Section



Within this framework, the diversity of apartment typologies plays a central structuring role. The building develops a range of dwelling formats, differentiated by size, depth, and spatial configuration. Some units extend longitudinally along the façade, others occupy corner positions with multiple exposures, while more compact typologies concentrate spatial efficiency within tighter envelopes. This variation produces a continuous spectrum of domestic conditions, all derived from a shared structural logic and adapted to their specific position within the block.³²

Social mix emerges as a consequence of this typological distribution. By interweaving different apartment categories throughout the building, the project avoids vertical or horizontal segregation of user groups. Larger and smaller units coexist within the same infrastructural and spatial system, allowing for a form of proximity that is structured through architecture rather than prescribed by planning labels. Differences in dwelling size and configuration are absorbed into a coherent whole, where hierarchy is softened by repetition of shared spatial rules.



Fig.45.Plan, Residential floor

29 Enzmann Fischer Architekten, n.d.

30 ArchDaily, n.d.

31 Enzmann Fischer Architekten, n.d.

32 City of Zurich, 2026.

5 POSSIBLE ECONOMIC MODELS

In order to align the project with the site analysis, the investigation extends beyond architectural speculation to engage with the economic and political frameworks that underpin urban development. Land is considered as a field of negotiation, where alternative economic models are examined as a foundation for architectural decision-making in relation to affordable housing in the city centre of Zurich.

Through the study of cooperative housing structures and non-conventional development models, particular attention is given to strategies that enable long-term affordability within high-density urban contexts. A discussion with Sebastian Oswald, head of construction and development at the Genossenschaft Kalkbreite, provides insight into operational and financial frameworks, expanding the understanding of viable economic approaches for housing production.

The first scenario considers the land remaining within the grey zone (Oe5F) status, allowing construction on relatively inexpensive ground without fully converting it into conventional housing land. In this scenario, the site would be designated as a “zone of public interest”, comparable to institutional frameworks such as hospitals or other public infrastructures. This classification would allow the land to remain publicly owned, avoiding privatization and speculative pressure. Development and construction could

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be led by a foundation, potentially linked to a major employer such as Sersa-SBB, forming a closed and non-profitable economic system that ensures long-term affordability and institutional stability.

The second scenario explores an alternative path in which the site is reclassified as formal housing land, enabling the establishment of a cooperative ownership model. While this would allow for a more direct housing typology, it would also significantly increase land value and introduce stronger financial constraints. It would require negotiation with institutional landowners and the implementation of strict regulatory conditions to maintain affordability over time.

However, within this framework, the role of the Cooperative requires careful consideration. While cooperative models often enable lower rents, they do not necessarily guarantee long-term control over accessibility or demographic composition. Historically, many cooperatives, in the 1920's, were formed by industrial actors while still operating within private or semi-private logics. In this sense, if a cooperative model is adopted, it may be crucial to anchor it more explicitly to an employer structure, such as Sersa-SBB, in order to ensure both continuity

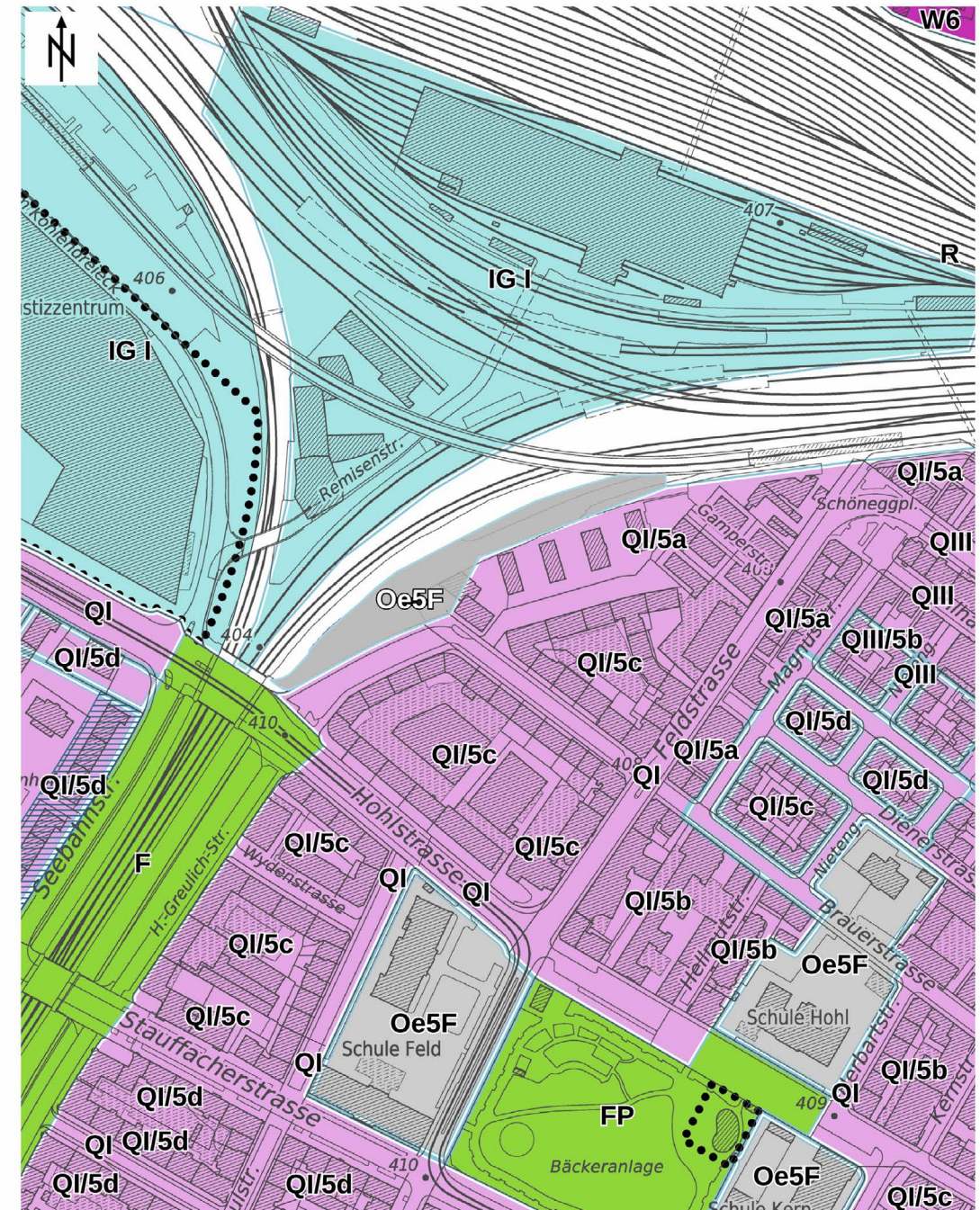
The interpretation of the legally binding Reservezone (R) can be extended beyond its conventional reading as a passive land reserve toward a more operative role within contemporary urban production. The site reveals a threshold condition between infrastructure and housing, where the boundary between territorial support systems and residential development becomes increasingly indistinct. Within this condition, housing ceases to function as an isolated building typology and begins to assume characteristics typically associated with public infrastructure: continuity, systemic dependence, and long-term territorial responsibility. In this sense, the provision of affordable housing in centrally located urban areas such as Zürich is a direct matter of public interest, because it sustains the spatial conditions required for the city to function.

A critical dimension of this argument is the fact that a city does not operate without the people who maintain its everyday functioning : sanitation workers, cleaning staff, logistics workers, maintenance personnel, care workers, service employees. These groups form the infrastructural workforce of the urban system. When housing costs in central areas exceed their income capacity, they are structurally displaced toward peripheral regions. This displacement is not neutral, it directly undermines the operational efficiency of the city by increasing commuting distances, reducing workforce stability, and weakening the proximity between essential labor and the infrastructures they sustain. In this sense, affordable central housing is a precondition for urban continuity, not an external benefit.

The site is formally designated as a Reservezone under binding Swiss planning law. In contrast to residential, mixed-use, or industrial zones, the reserve zone does not predefine parameters such as density, programmatic composition, or building typology. Its regulatory structure is intentionally non-deterministic, establishing a framework of controlled openness in which future development is expected to respond to evolving public-interest priorities rather than fixed zoning prescriptions. This legal indeterminacy reflects a temporal instrument embedded in planning law.



Kanton Zürich
GIS-Browser (<https://maps.zh.ch>)
ÖREB-Kataster



Importantly, the definition of “public interest” itself cannot remain static. It must evolve in response to structural changes in housing markets, labor geography, and urban inequality. In a contemporary Zürich context, where land values and rents have decoupled from median wages, public interest increasingly includes the guarantee of spatial accessibility for lower- and middle-income households, particularly in areas where they are functionally required for the city’s operation. Without this update, planning law risks reproducing a contradiction; public systems depend on workers who are simultaneously excluded from accessing the spaces in which those systems are concentrated.

This temporal dimension is particularly significant given the historical context of the site’s establishment in the early 2000s. At that time, Zürich’s housing demand, demographic growth rates, and land-value escalation were markedly lower than current conditions. Since then, the city has experienced sustained economic expansion, intensified integration into global real estate circuits, and a continuous increase in pressure on centrally located and infrastructure-adjacent land. As a result, sites such as the Reservezone have shifted from peripheral strategic reserves to highly contested urban assets.

Within this changed context, the central question concerns the operationalization of public purpose under present structural conditions. Swiss spatial planning is formally adaptive, it is designed to continuously recalibrate land-use allocation in response to shifting collective needs. However, the current structural imbalance is increasingly defined by the systematic erosion of affordable housing in accessible urban areas. This process produces quantifiable spatial effects: displacement of lower- and middle-income households, increased average commuting distances, progressive separation between housing and employment zones, and a reduction in the overall efficiency of urban infrastructure systems.

From a planning perspective, this condition extends beyond social inequality and becomes a territorial inefficiency. It indicates the emergence of a distinct category of public-interest function that can be described as infrastructural housing; housing that is not only socially necessary but structurally required to maintain the operational coherence of the city.

In this framework, the thresholds of the Reservezone can be interpreted as a strategic site for the deployment of this hybrid function. Its activation for affordable and socially mixed housing would simultaneously support socio-economic diversity and reinforce spatial proximity between key urban functions, thereby reducing systemic friction across mobility, labor, and service infrastructures. Accordingly, the definition of public interest requires an update. It must extend beyond classical infrastructure categories such as schools, hospitals, or administrative buildings to include the socio-spatial conditions that enable these systems to function effectively. Housing, when structurally linked to affordability and central accessibility, becomes part of this enabling infrastructure, because it directly determines whether essential workers can remain spatially integrated within the urban system they sustain.

Within this redefined framework, governance arrangements involving cooperation between public actors and semi-public landowners such as SBB can be understood as instruments for aligning long-term public-interest objectives with financial feasibility constraints. Rather than treating land value as a primarily speculative asset, such configurations allow it to be mobilized as a long-term infrastructure-financing mechanism.

Reactivating the Reservezone under these conditions therefore transforms it into a contemporary operational tool, adapted to a context in which housing accessibility has become a primary determinant of urban functionality, economic equity, and systemic resilience.

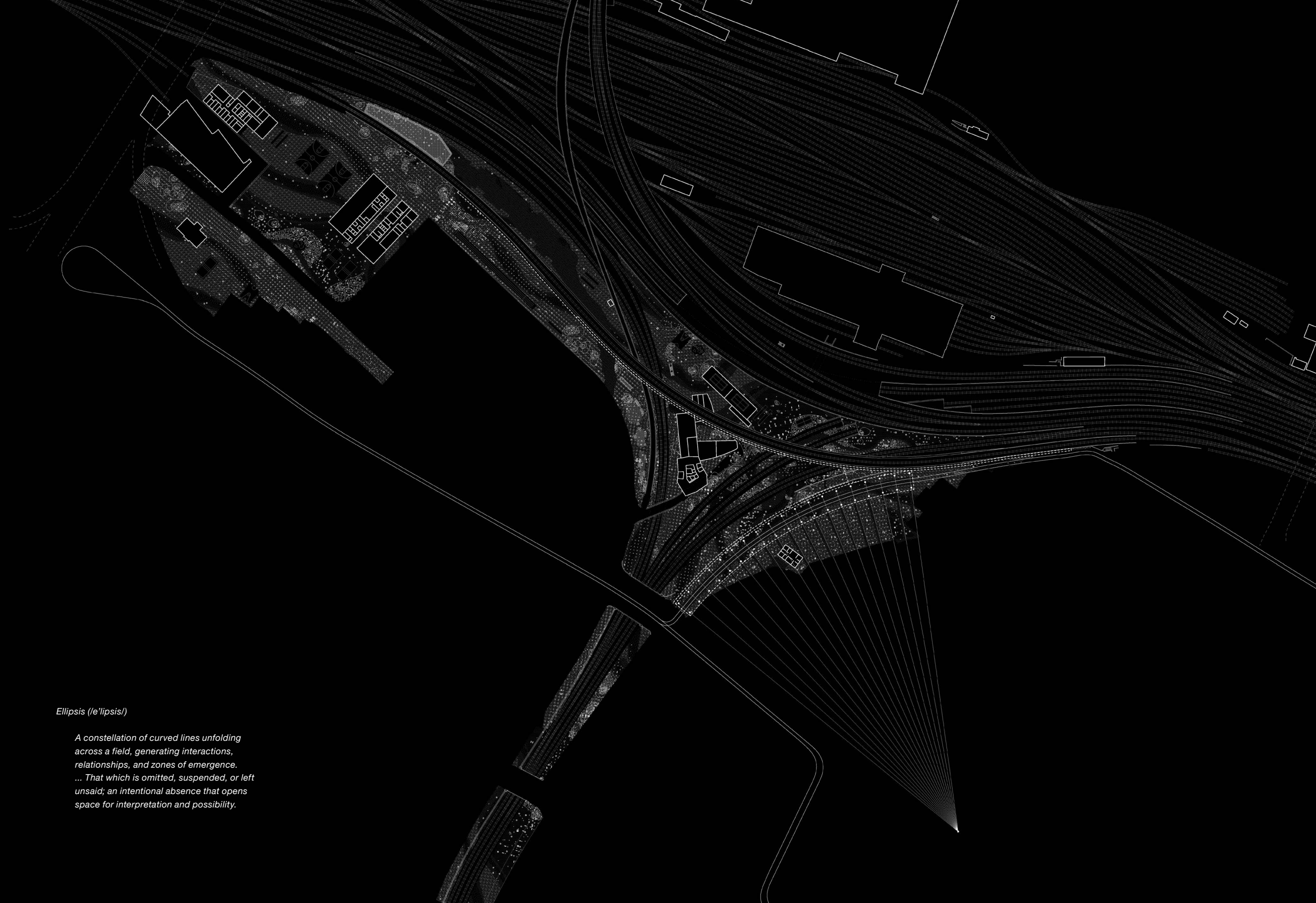
6 ELLIPSIS

Eponymous chapter of the Thesis book, this section develops an architectural projection situated within the latent threshold between infrastructure and housing fabric. It builds on the objective of defining affordable housing within the centre of Zürich, activating a spatial condition that is often overlooked yet structurally present within the urban territory.

This latent layer is made particularly visible through the construction of the Franz-A.-Magnani-Brücke along the north-south axis, and its perpendicular east-west axis revealing a discontinuous edge condition along the southern boundary of the sea of railway tracks.

Through an initial reading extending from Brauerstrasse to the temporary school in Wiedikon, this line of separation is reinterpreted as a thickened threshold. Within this expanded condition, controlled ecological systems are introduced while spontaneous vegetal growth is enhanced, allowing for increased diversity and spatial exploration. Residual and in-between spaces become readable as potential grounds for appropriation, including hidden or informal sports facilities emerging within these marginal territories.

Building on the text developed in the previous chapter, Affordable Housing as a Matter of Public Interest, the railway edge is positioned as a central design field. It becomes a site for rethinking the relationship between infrastructural systems and housing tissue as an overlapping and interdependent condition. Situated within broader economic, political, and social frameworks, this approach frames the threshold as a productive surface through which the question of affordable housing in the center of Zürich can be addressed.



Ellipsis (/e'lipsi/)

*A constellation of curved lines unfolding
across a field, generating interactions,
relationships, and zones of emergence.
... That which is omitted, suspended, or left
unsaid; an intentional absence that opens
space for interpretation and possibility.*



The architectural design reacts directly to the specific condition of the site, where infrastructure, public realm, and housing overlap within a single structural system.

At ground level, the building enters in dialogue with the infrastructural context. Elevated on columns, it allows tram line 1 to pass beneath its footprint while establishing a porous continuation of the landscape between the railway corridor and the neighboring residential fabric. A grid of concrete columns organized on a 12 by 12 meter grid supports a reinforced concrete slab above, creating the large spans necessary to accommodate the passage of the tram while providing a stable deck for activities on top. Beneath this ground layer, the structural rhythm aligns with retention gardens associated to the railway infrastructure, generating a secondary ecological landscape characterized by varying degrees of atmospheres. These differentiated ground conditions support parallel ecologies that respond to distinct environmental intensities. A raised metal-grid walkway traverses these fragile biological zones with minimal impact, while the intersection between the building and the railway infrastructure produces a moment of spatial intensification marked by a shift in speed, movement, and atmosphere. This condition is occupied by a highlighted by a café positioned within a distinctive vertical spatial sequence.

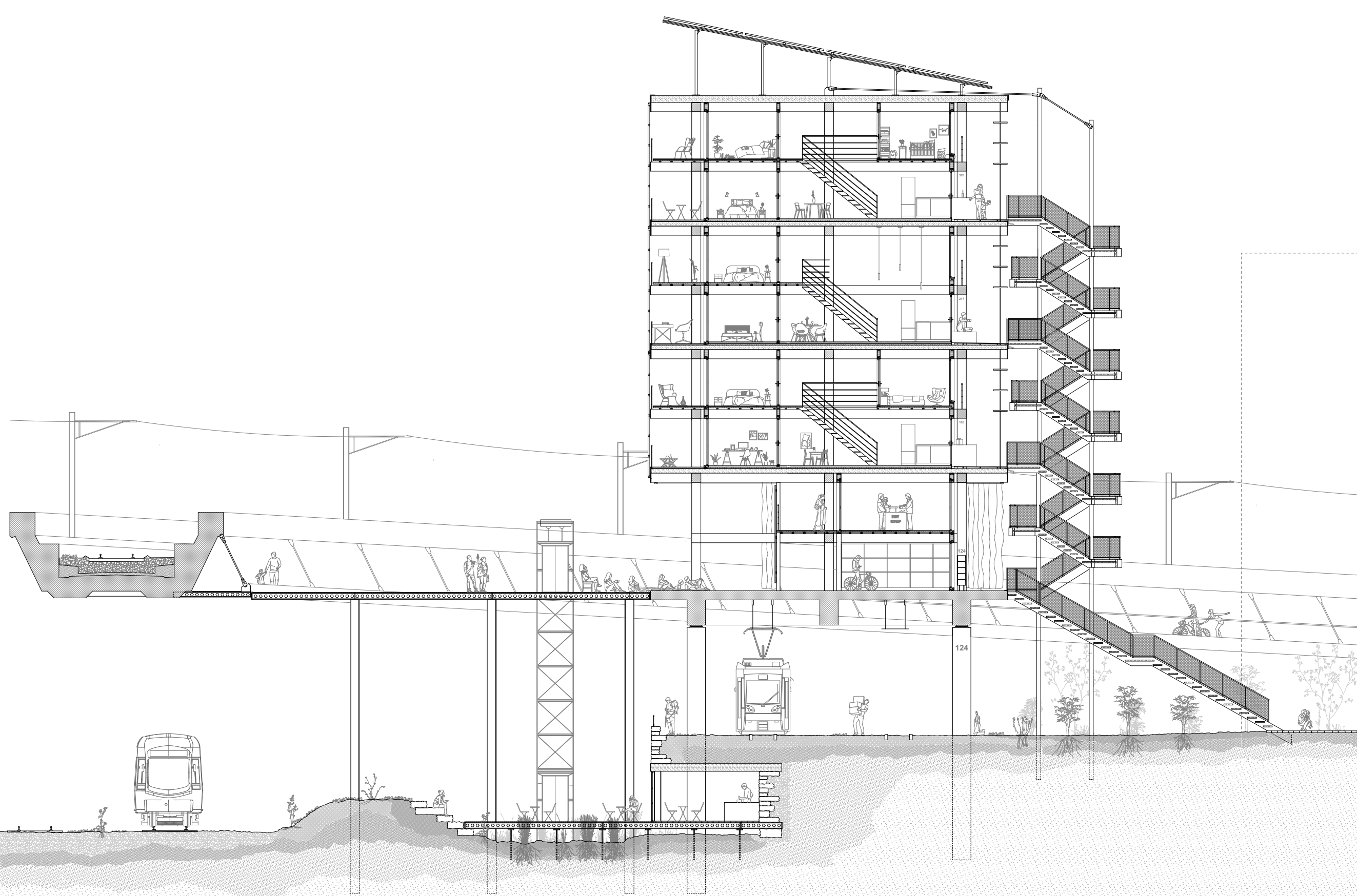
Six meters above the ground, the public floor operates as the project's primary field of social intensities, where circulation and public programs converge. Accessible through multiple trajectories and connections, this level embrace movements and speeds on various scales. While maintaining the repetitive logic established below, the structural system shifts to a 6 by 6 meter grid, reducing spans and enabling a more economical construction system. Porosity defines the spatial organization of the floor,. Along the infrastructural edge, a terrace emerges as a lightweight extension of the public realm. Constructed as a metal-grid structure, this permeable surface establishes visual and physical connections with the level below through a vertical circulation by a lift.

The same 6 by 6 meter structural logic continues throughout the housing levels, which extend from the fourth to the ninth floor. The project approaches affordable housing not only through considerations of land value and density, but also through the logic of construction itself. Particular attention is therefore given to structural rationality,



material efficiency, and the reduction of construction costs, while maintaining spatial quality, adaptability, and a strong relationship to the site's environmental conditions. Lightweight vertical circulation cores are positioned independently from the slabs. Access to the apartments occurs through a continuous external gallery running along the neighborhood façade. Positioned between the slab edge and the structural columns, this two-meter-wide circulation space contributes to the porous character of the facade, while establishing an intermediate condition between collective circulation and domestic life. Service spaces, including kitchens, bathrooms, and sanitary cores, are spanning vertically on the same line.

Each apartment benefits from cross-ventilation and dual orientation, establishing varied relationships to light, atmosphere, and views across both the city and the infrastructural landscape. Along the railway façade, winter gardens extend the domestic space while responding to the specific environmental conditions of the corridor. Enclosed by a lightweight polycarbonate envelope, these spaces operate simultaneously as climatic buffers and acoustic filters against the noise of the tracks. The apartments themselves are conceived as lightweight modular structures composed through a hybrid system of metal construction and wood cladding. Drawing on industrial systems and prefabricated elements, this material approach supports economic efficiency, construction feasibility, and long-term adaptability. Beyond their constructive performance, these materials contribute to the atmosphere of the dwellings and encourage appropriation by their inhabitants.



GROUND FLOOR

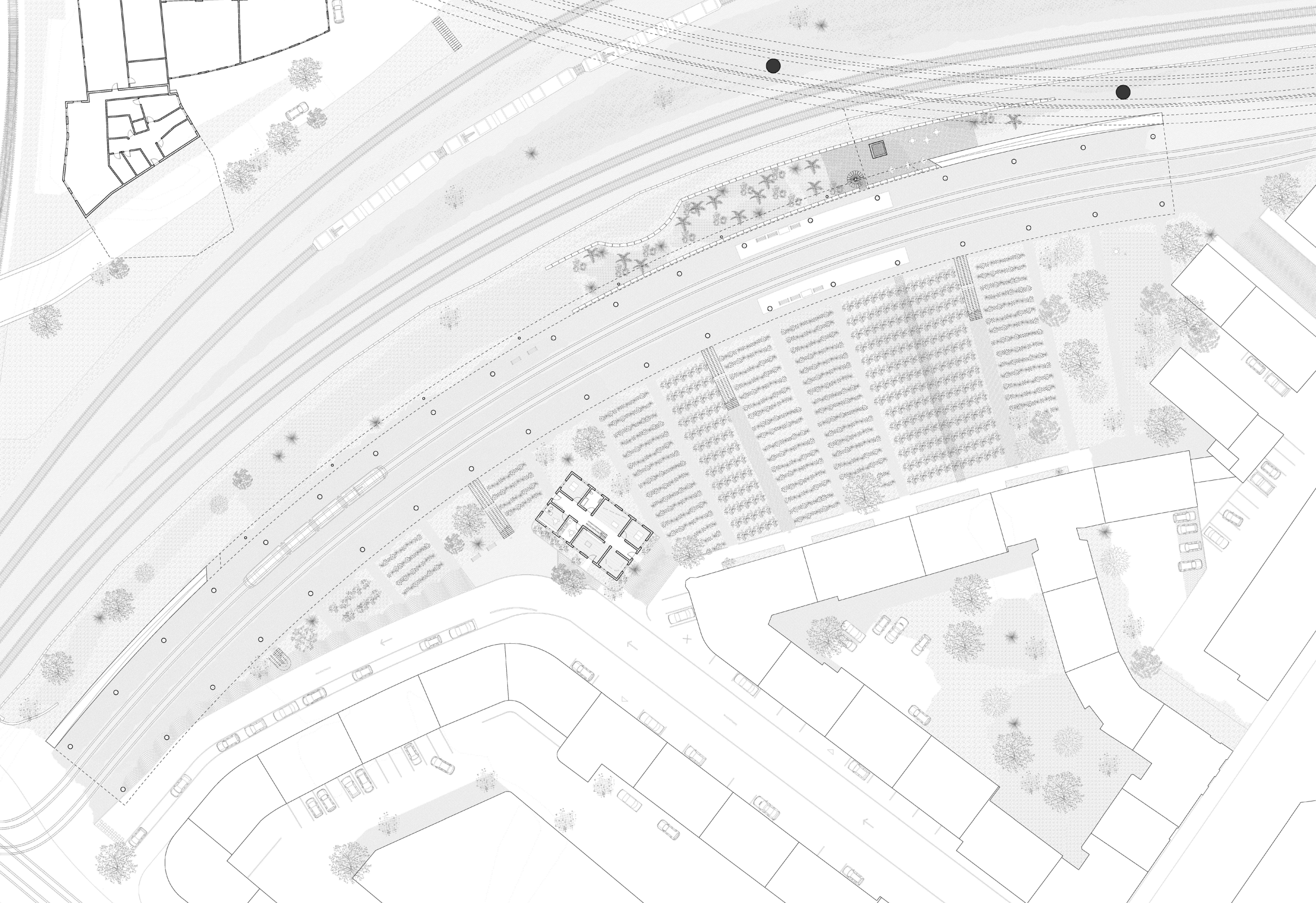


A continuous sequence of spatial situations unfolds across this level. Ramps, staircases, covered passages, and open transitions organise movement into a linear choreography. Along the railway side, generous public ramps extend the public realm and define a continuous interface with the tracks. Towards the residential side, vertical circulation shifts in relation to the context, through light staircases emerging directly from the garden. Hierarchy is introduced in vertical circulation thanks to different dimensions in order to relate to their public accessibility.

The landscape is developed as a continuous field composed of differentiated biological systems responding to site conditions. The neighborhood side is cultivated as a shared garden, forming a collective environment for encounter and informal use. Mineral paths structure access to entrances, while vegetation expands more freely across the site, creating a porous green continuity that encourages wandering and curiosity. Within this field, under the footprint of the building where passes the tram tracks, a tram stop establishes a direct connection with the wider urban network.

The footprint of the new building is carefully positioned in relation to the existing Junggesellenheim houses, introducing a temporal logic of coexistence. In this scenario, during the initial construction phase, residents remain in their dwellings, ensuring continuity of habitation throughout the transformation process. Once the new building is completed, the existing houses are gradually dismantled, leaving behind a residual imprint that allows vegetation and landscape processes to reclaim the ground over time.

Within this transitional sequence, the house at Brauerstrasse 126, typologically closer to the urban fabric, is preserved. In relation to the broader history of seasonal and guest workers in Switzerland, it becomes a space of cultural recognition and memory. The existing structure is reprogrammed as an exhibition space, foregrounding the architectural and social histories embedded in the site and establishing a place of collective remembrance within the evolving landscape.



PUBLIC FLOOR



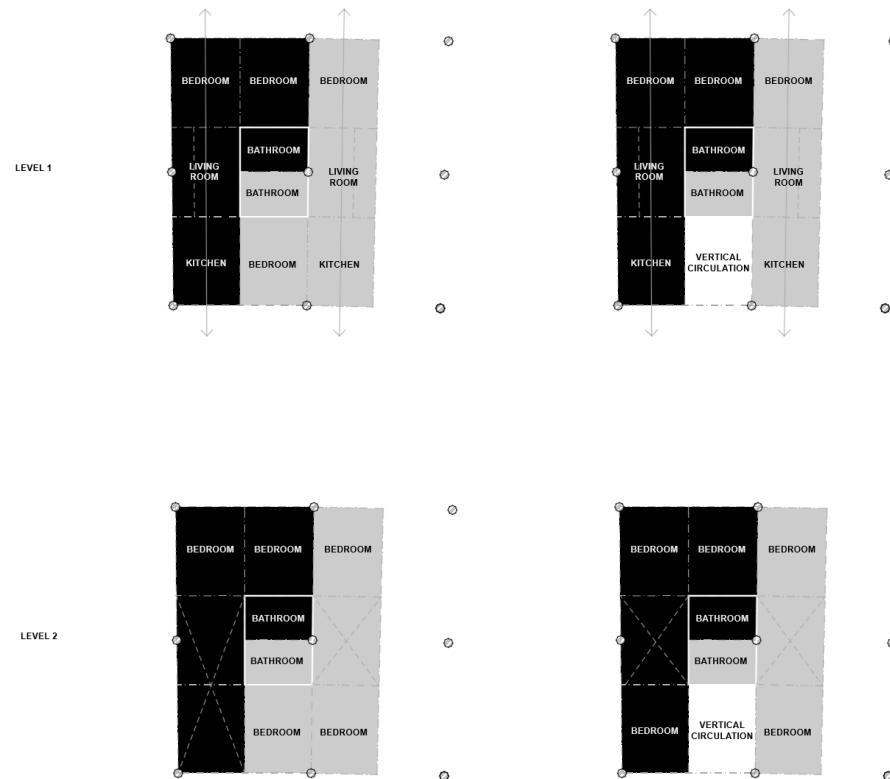
The public floor is structured through a multiplicity of lines emerging from the movements of the tracks. Accesses are created in between these fragments of ellipses to highlight this longitudinal movements of displacement, while moments are created at the point of anchor of the vertical connections. Double height structures and shift in materiality between transparent walls, translucid walls, curtains are producing a continuous negotiation between inside and outside in which boundaries remain blurred and transitions remain open-ended.

The floor plan is organized around a regular 6 by 6 metre structural grid. All partition walls share the same dimensions, while accommodating different spatial configurations and functions. The staircases are conceived as prefabricated elements, and the upper-level circulation is positioned within the grid and supported by the primary structure. This approach enables the use of standardized and industrialized building components, facilitating a rapid construction process while reducing structural complexity and overall construction costs.

On a programmatic level, everyday urban functions are producing moments of interaction : a market hall, an open air screen, a pharmacy, a printer, shops, offices, educational rooms, a hair dresser, a bike shop, a workshop, a dance hall. These programs reinforce the role of the building as an urban point of friction. Interstitial spaces and niches are created in between the functions.

Interwoven with these public functions, a second layer of collective spaces supports the social life of the residents. Communal kitchens, shared workspaces, a laundry room, workshops, and rooms for gathering are created. The floor becomes a continuous environment where social exchange is structurally embedded.





The project approaches affordable housing as both a spatial and social question. Beyond considerations of land value and construction efficiency, the aim is to maintain generous living conditions and spatial dignity within a dense urban structure.

The project reflects broader reflection on the use of inhabitable space.

The estimation of occupancy is based on Swiss cooperative housing practice and its associated allocation principles. In Switzerland, housing cooperatives and other non-profit providers commonly apply occupancy rules (Belegungsvorschriften), which regulate household size in relation to apartment size.

These systems are designed to prevent under-occupation and to promote efficient use of limited urban housing stock. Within architectural and planning discourse in Zurich, this institutional framework is frequently design as: “Zimmerzahl $\approx$ Personenzahl”, particularly for family-oriented housing typologies.³³ This interpretation is further reinforced by contemporary urban discourse on cooperative housing in Zurich. As discussed in the newspaper Tsüri, occupancy regulations in cooperatives reflect broader structural tensions between spatial efficiency, affordability, and the consumption of living space in a highly constrained urban housing market such as Kreis 4.

“There is a fundamental lack of incentives to reduce the use of living space.” Jennifer Duyne³⁴

According to the Statistical Office of the Canton of Zurich, the average occupancy in the City of Zurich is approximately 1.5 rooms per person (≈ 0.67 persons per room), reflecting the entire housing stock including a large share of small apartments occupied by single- and two-person households.³⁵

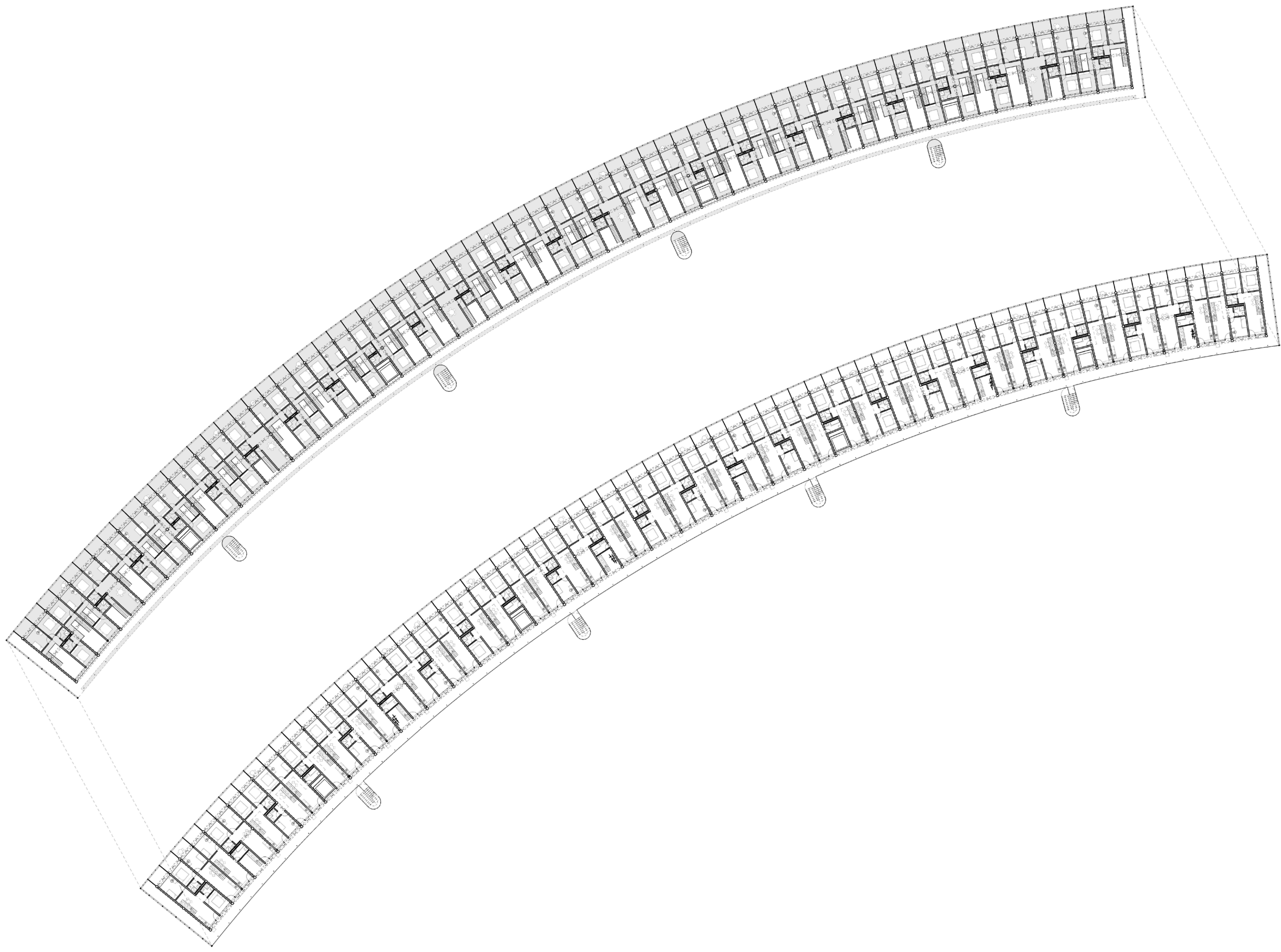
Based on this framework, the design assumes a cooperative-oriented occupancy model of approximately one person per room (Zimmerzahl $\approx$ Personenzahl). With a total of 273 rooms across 54 apartments, this results in an estimated population of approximately 270–275 inhabitants.

In spatial terms, for one slab with double height organisation, corresponding in that case to a total usable area of 6,224 m², it results in an average provision of approximately 22.6 m² per person. This indicator describes a potential model with non-profit housing objectives in central urban districts, pricesly in the District 4, in Zürich.

³³ Bundesamt für Wohnungswesen (BWO)

³⁴ Tsüri (Brun), 2023.

³⁵ Kanton Zürich, n.d.



7 SYNTHESIS

This thesis interprets Zürich's railway corridor as a condition shaping the processes of contemporary urbanization. What initially appears as a fragmented and residual landscape reveals a continuous field of relations, where infrastructure and housing operate as interdependent layers of a single metropolitan system. Within this expanded reading, the southern east–west axis along the railway emerges as a critical threshold: a space of overlap between urban and infrastructural logics, continuously negotiated through shifting temporalities and forms of use.

The project situates itself within a condition of instability, where distinctions between center and periphery, permanence and temporality, production and vacancy dissolve into a more complex territorial continuity. The project engages this ambiguity as a productive spatial framework. The limits of the railway corridor becomes a thickened urban system, in which movement, dwelling, ecological succession, and infrastructural maintenance coexist within a shared spatial field. Continuity here operates as adjacency between heterogeneous systems.

The analysis of the Kohlendreieck and its surrounding territories reveals how infrastructural systems generate both connectivity and residual spatial conditions. The same mechanisms that sustain metropolitan efficiency produce displaced programs, interstitial landscapes, and suspended territorial figures. Within this dynamic, the site of intervention concentrates contemporary urban tensions: housing precarity, infrastructural transformation, and rising pressure on centrally located land. The Junggesellenheim houses embody the persistence of working-class habitation within an urban system shaped by economic selectivity and spatial redistribution.

Through the lens of infrastructural continuity, the project reframes urban thresholds as thick spatial zones where multiple regimes of use intersect. The east–west axis from the Brauerstrasse to the temporary school becomes an operative landscape capable of hosting collective life, ecological processes, and affordable housing. This approach aims to activate latent spatial potentials embedded within the existing territorial structure.

At the scale of design, the building strategy extends infrastructural logic into spatial organization. The structure establishes a dialogue between ground, public interface, circulation, and dwelling. Elevation above the infrastructural plane creates porosity at ground level, allowing ecological systems and mobility networks to coexist within a shared field. The public floor operates as an intermediary terrain where collective programs, circulation routes, and social infrastructures converge, reinforcing the building as an inhabited extension of the city. The housing system extends this logic through repetition, modularity, and structural clarity. It establishes a framework capable of accommodating diverse forms of living. Modularity and structural economy respond simultaneously to economic constraints and to a spatial ambition that links affordability with adaptability and density, while maintaining spatial quality.

Across all scales, the project engages with the understanding that contemporary urban territory is defined by processes of transformation. Residual landscapes, infrastructural corridors, and hybrid ecological systems function as active components of urban production. Their value emerges through openness and responsiveness to evolving conditions. Within this framework, architecture operates as a tool of articulation that reveals and intensifies existing territorial dynamics. The thesis proposes a reorientation of architectural practice toward conditions of uncertainty, where design becomes a mode of negotiation between competing temporalities and spatial logics. The railway corridor of Zürich becomes a field through which new relationships between infrastructure and habitation can be negotiated, suggesting that urban transformation can emerge from thresholds already embedded in the city's most contested territories.

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I hereby certify that this paper, titled:
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has been written independently by me, that no sources or resources other than
those cited have been used, and that any passages in this paper that have been
taken from other works—including electronic media—in terms of wording or
meaning have been clearly identified as quotations with the source cited.

Dumont Hugo

Lucerne, June 16, 2026

