ON THE MOVE

Reimagining Milan's Central Station as cultural hub

Fabio Sala



2024 - 2025

COMPLEX PROJECTS
Bodies and Building Milan
AR3CP100

student
Fabio Sala

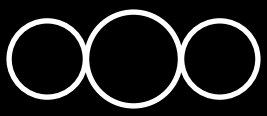
chair
Kees Kaan

CP coordinator
Manuela Triggianese

lab coordinator
Hrvoje Smidihen

mentors
Benjamin Groothuijse
Joost Woertman
Maria Finagina

a nonna Maria,
per tutto l'amore e la forza
che mi hai dato



“in motu vita”

THE ASSIGMENT

This thesis and its research are part of a broader investigation led by the Chair of Complex Projects and its collaborators.

CP: BUILDING & BODIES 2024 - 2025

The Bodies & Building studio guides students in developing their final designs by analysing a **geographical context**, **building typology**, a **specific lens**, and a **personal fascination**. This thoughtful integration informs both thematic exploration and the final design outcomes.

For the 2024 Graduation Studio: Building & Bodies, a group of 24 students and 16 professors will explore the following topics:

01 Geographical Context
This year, students are invited to investigate Milan, a city recognized for its legacy as Italy's economic and industrial powerhouse.

02 Building Typology
The research focuses on nine building typologies categorized into **space**, **area**, and **flows**. Each group emphasizes its unique spatial features:

- Space: Museum, Courthouse, Opera
- Area: Library, University
- Flow: Airport, Train Station, Hospital

Each student selects one building typology; for this thesis, the focus is on the **Train Station**.

03 Targeted Lens
In addition to a building typology, a collective theme is provided by professors, enabling students to engage in group research that evolves into both individual and collaborative strategies. Together, these form a city-scale approach that each student applies individually.

In this case, the lens for group 2, guided by Benjamin Groothuijse and Maria Finagina is **Culture**.

04 Personal Fascination
Rapid changes have inspired my research in transportation and mobility in the field. Initially sparked by a fascination with future mobility types and their design implications, this interest has since evolved to focus on the role of train stations within Milan's cultural context.

This thesis will examine the changing role of train stations in Milan, emphasizing programmatic layout, flow efficiency, and the station's relationship to the expanding city.

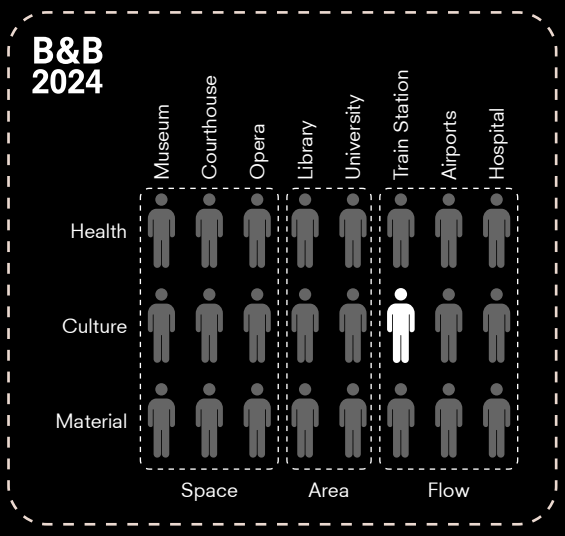


Figure 1: Visual Representation of the Building and Bodies 2024 Graduation Studio

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01



INTRODUCTION

THESIS TOPIC

This thesis explores the redesign of Milan's Central Station as a flexible, responsive, and scalable urban hub that integrates transportation with cultural experiences.

Titled "On the Move," the project aligns with the European Union's 2050 agenda for sustainable urban development and efficient mobility. It proposes a shift from viewing train stations as mere transit nodes to envisioning them as vibrant cultural centers that actively contribute to the city's dynamic identity.

Drawing inspiration from Milanese Futurism and the concept of "In Motu Vita" (Life is in Motion), the research investigates how architectural design can balance transportational efficiency and cultural dynamism.

By utilizing Milan's historical trams as "living spaces" for cultural events, the project introduces a "Experience Depot" concept that allows culture to be continuously present throughout the city.

The year-long thesis not only challenges the traditional typology of train stations but also sets a visionary precedent for integrating cultural vitality into urban mobility hubs. Through a thoughtful spatial integration of Milanese culture, the redesigned station will adapt to the city's evolving needs, ensuring it remains a lively and contemporary landmark for generations to come.

Figure 2: Visual intention

LA NUOVA STAZIONE CENTRALE DI MILANO



PROBLEM STATEMENT

The need for a new approach:

Since their inception in the 19th century, train stations have consistently reflected the technological advancements and cultural aspirations of their respective eras. These grand edifices, often monumental in scale and design, became symbols of progress and national pride. As Europe's nation-states emerged, train stations transcended their functional roles, embodying modernity and offering architects a unique platform to express cultural narratives and aesthetic ideals. They slowly became more than transitional spaces, standing as enduring testaments to architectural and engineering innovation while striving to meet the evolving needs of modern travelers.

Milan's Central Station, designed by Ulisse Stacchini and inaugurated in 1931, is a prime example of this evolution. Initially constructed to address infrastructural inadequacies, the station quickly became an iconic symbol of movement and modernity, embodying the spirit of "In Motu Vita" (Life is in Motion).

As urban demands evolved, Milan's Central Station underwent several renovations to improve functionality and adapt to changing needs. These updates included enhancing accessibility, expanding transport connections, modernizing infrastructure, and introducing commercial spaces, ensuring the station remained a vital part of the city's mobility network.

Despite these efforts, a pivotal question remains:

Have these changes been sufficient to maintain the relevance of train stations in today's changing urban landscape?

Many renovations, including those at Milan's Central Station, have primarily focused on functionality and commercial potential rather than cultural integration or adaptability to future urban needs. The station's history of reactive changes, rather than proactive evolution, underscores the need for a new approach to train station design: one that embraces adaptability, resposiveness and integrates cultural functions.

This thesis, titled "On the Move," proposes a visionary transformation of Milan's Central Station into a dynamic hub.

The project aims to shift the station's role from a static architectural icon to a dynamic urban hub that not only enhances mobility but also enriches Milan's cultural fabric.

By repurposing Milan's historical trams as "living spaces" for cultural events, the project introduces a continuous cultural experience throughout the city. This forward-thinking approach envisions a train station that evolves with the city's changing needs, ensuring it remains a resilient, adaptive, andlandmark for generations to come.

“Built to last, not to evolve”

RESEARCH QUESTION

To address the challenges posed by the evolving urban landscape and the need for train stations to adapt as multifunctional hubs, this research focuses on a set of critical questions aimed at exploring the transformation of traditional train station typologies. The main research question guiding this design investigation is:

How can Milan's Central Station be into a flexible, responsive, scalable and scalable hub that addresses the evolving cultural demands?

SUB QUESTIONS

This question is complemented by several sub-questions that focus into specific aspects of this transformation.
These include:

» “How can the layout of a train station transform from a rigid model to a versatile organisation that effectively accommodates both existing and emerging modes of transportation?”

» “How can the design of a train station respond to fluctuations generated by daily routine commutes and weekly cultural events while maintaining passenger and visitor flow efficiency?

» “How can design principles be utilized to enhance the scalability of the train stations in response to Milan’s increasing cultural, societal and transportation demand?”

» “How can cultural activities such as temporary venues and exhibitions impact the operational organisation of the train station?”

Together, these questions provide a comprehensive framework for reimagining train stations as vital components of urban infrastructure that foster community engagement and adapt to the complexities of contemporary Milanese urban and cultural life.


02



RESEARCH FRAMEWORK

RESEARCH FRAMEWORK

The upcoming chapter will contextualize the main research question within the framework of current academic literature and studies to develop a theoretical foundation. It will also highlight the relevance of this research by discussing existing theories and concluding with its significance.

TRAIN STATIONS AS CIVIC MIRRORS

Milan Centrale's Legacy and Limitations Throughout history, train stations have served as potent symbols of progress and national identity, reflecting the technological advancements and cultural values of their respective eras. In the early days of rail travel, these facilities were little more than utilitarian sheds—basic structures that merely provided shelter for steam locomotives and their passengers.

However, as railways became the lifeblood of industrializing nations, stations evolved into monumental landmarks, embodying engineering prowess, political power, and architectural ambition.

Milan's Central Station stands as a example of this transformation. Inaugurated in 1931 and designed by the architect Ulisse Stacchini, the building was conceived as a lasting emblem of modern Italy—both technologically advanced and imperially grand. Commissioned under the fascist regime, its monumental scale and eclectic decorative language—blending Liberty, Art Deco, and neo-Assyrian motifs—were deliberately meant to impress and to project national confidence.

Stacchini himself envisioned the station as an "urban gateway" that would stand the test of time, both structurally and symbolically.

Yet, despite its architectural grandeur and centrality in Italy's transport network, Milan Centrale has struggled to keep pace with the demands of contemporary urban life. Over the decades, changes to the station have tended to be reactive rather than visionary—limited to isolated renovations rather than comprehensive planning.

While restorations in the early 2000s improved some structural and aesthetic elements, they did not fundamentally reconfigure the station's ability to meet modern expectations. As a result, Milan Centrale today finds itself constrained—visually iconic but functionally rigid—at a time when transportation systems and urban life are evolving rapidly in complexity and scale.





Figure 6: Inter-modal Hubs

FROM GATE TO HUB

In its current state, Milan's Central Station sits at the convergence of multiple and often competing demands—each of which reflects the city's dynamic evolution.

1. Mobility Challenges

Originally built for the orderly flow of trains and passengers, the station now faces the much more complex task of coordinating a vast array of mobility systems. High-speed trains, regional rail services, underground metro lines, trams, taxis, bicycles, ride-sharing vehicles, e-scooters, and, soon, autonomous vehicles all need to be integrated within and around the station's footprint. This multiplicity of modes brings new spatial and logistical requirements, from designated drop-off points and charging stations to flexible infrastructure capable of adapting to emerging technologies. The rigidity of the original layout, focused almost exclusively on train traffic, makes such integration increasingly difficult.

2. Cultural and Social Demands

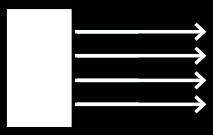
Milan is not only a transport hub but also a global cultural capital. The city hosts more than 200 major events each year—ranging from fashion and design fairs to literature festivals and international conferences. Events like Salone del Mobile or Milan Fashion Week lead to massive, temporary surges in the station's use, both by visitors and logistical operations. However, the current station layout lacks the flexibility and spatial diversity needed to support these short-term but high-intensity demands. Public areas remain largely dedicated to transit and retail, with limited space for cultural programming, exhibitions, or spontaneous gatherings. This creates a disconnect between the station's potential as a civic forum and its current functionality.

Together, these pressures call for a radical rethinking of what a central station can and should be in the 21st century. The challenge is not merely to restore or expand existing facilities but to redefine Milan Centrale as a multifunctional urban hub—a place that supports diverse flows of people, information, and culture with flexibility and resilience.

This leads directly to the central inquiry guiding this thesis:

How can Milan's Central Station be transformed from a traditionally rigid and mono-functional transport facility into a flexible, responsive, and scalable urban infrastructure that reflects and supports Milan's evolving cultural and mobility demands?

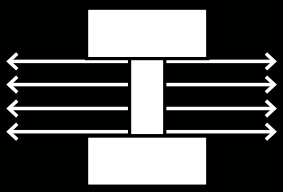
INTEGRATING LAYERS OF MOBILITY



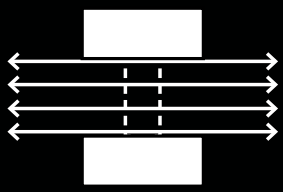
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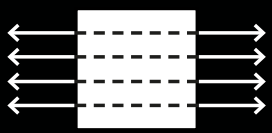
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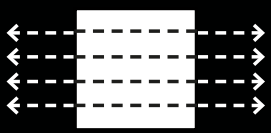
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04. BOTH SIDES + TUNNEL



**05. STATION ON TOP +
TRACKS AT GROUND LEVEL**

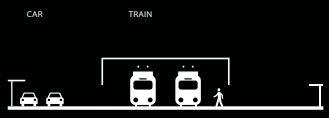


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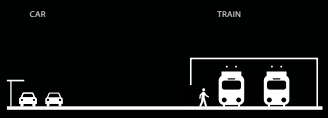
The typological evolution of train stations over time mirrors the growing complexity of urban mobility systems. Originally designed as single-function infrastructures catering solely to rail transit—either as terminus or side stations—station typologies have gradually adapted to accommodate an expanding range of transportation modes.

The diagrams trace this shift, illustrating how traditional configurations like the end station or side station have evolved into more complex hybrids: stations flanked by platforms on both sides, stations elevated above ground-level tracks, and those integrating underground tunnels. These layouts respond to spatial constraints and operational needs, but also to the imperative of accessibility and multi-directional flow.

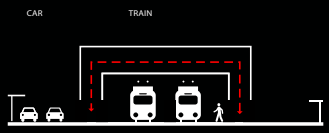
Simultaneously, the vertical section diagrams demonstrate how stations are increasingly



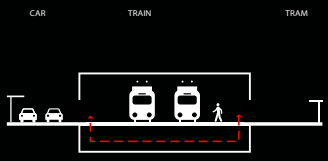
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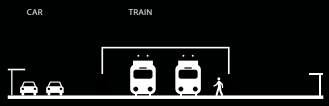
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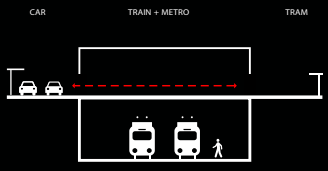
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**05. STATION ON TOP +
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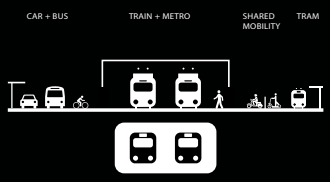
**06. STATION ON TOP +
UNDERGROUND TRACKS**

layered, with public functions and circulation routes stacked above or below the tracks.

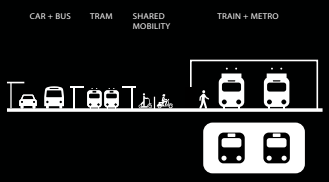
This reflects a broader transformation of the station from a mere stopover into a spatial node embedded within a multi-modal transport network. The accompanying timeline reinforces this by showing the increasing number of transport types—steam locomotives, trams, subways, bicycles, buses, trucks, electric vehicles, hybrid and autonomous cars—that now intersect at or near train stations. As the diagram illustrates, the modern station must act as a connective tissue, integrating more than ten distinct transportation systems and enabling seamless inter-modality across scales and speeds.

This evolution is not just technical but spatial, demanding greater architectural flexibility and urban integration.

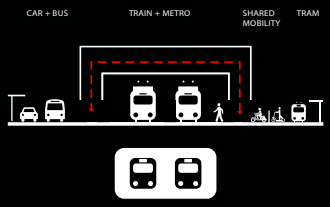
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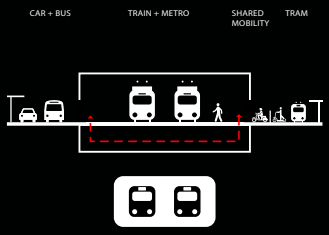
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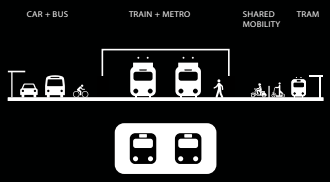
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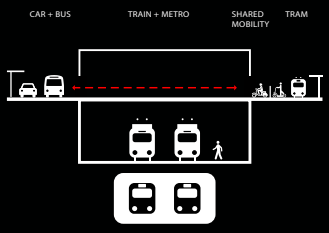
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04. BOTH SIDES + TUNNEL



05. STATION ON TOP + TRACKS AT GROUND LEVEL

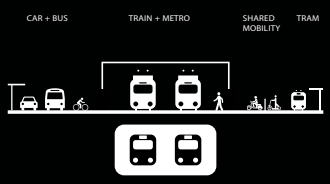


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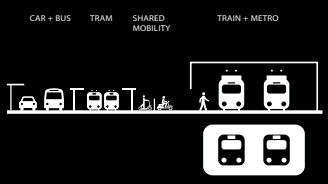
Complementing this chronological evolution is a comparative breakdown of six fundamental station typologies, each representing a spatial response to increasing mobility complexity.

The diagrams you developed visualize how urban rail infrastructures have evolved not only horizontally in terms of track layout (e.g., side vs. central access) but also vertically—introducing bridges, tunnels, and stacked functions to optimize land use and user flow.

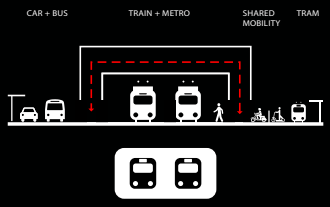
The most basic typologies, such as the end station and side station, offer limited access and interaction between modes, often creating bottlenecks and pedestrian barriers. More advanced configurations, such as both-sides with bridge or tunnel solutions, enable cross-platform movement and better distribute flows. The final two types—station-on-top with ground-level tracks and station-



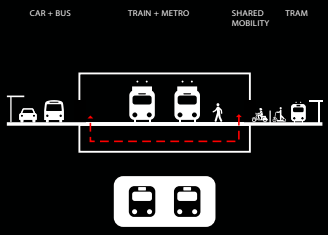
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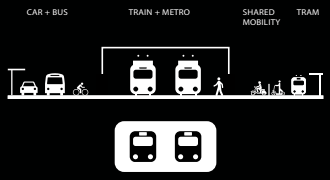
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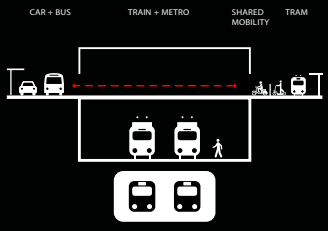
03. BOTH SIDES + BRIDGE



04. BOTH SIDES + TUNNEL



05. STATION ON TOP + TRACKS AT GROUND LEVEL



06. STATION ON TOP + UNDERGROUND TRACKS

on-top with underground tracks—represent a paradigm shift: the station becomes an elevated or buried civic structure capable of integrating multiple layers of mobility, from cars and buses to metro lines, shared micromobility, and pedestrian circulation.

These typologies demonstrate how architectural sectionality and spatial layering are increasingly leveraged to accommodate growing demand for accessibility, efficiency, and multimodal connection.

They highligh that the modern station is not merely a transit point but a highly choreographed urban node requiring both infrastructural clarity and architectural flexibility.

AN EVOLVING URBAN ROLE

Historically, train stations functioned as monumental gateways to cities—points of arrival and departure that concentrated movement and projected civic identity. As urbanization accelerated and transportation technologies evolved—from steam engines to electric trains, high-speed rail, and now micromobility—the function of stations began to shift. No longer limited to single-mode rail terminals, they are increasingly expected to act as multi-modal interchanges, integrating diverse forms of movement and anchoring vibrant urban districts.

The **Node-Place model**, developed by Luca Bertolini in 1996, offers a conceptual framework to understand this duality. In this model:

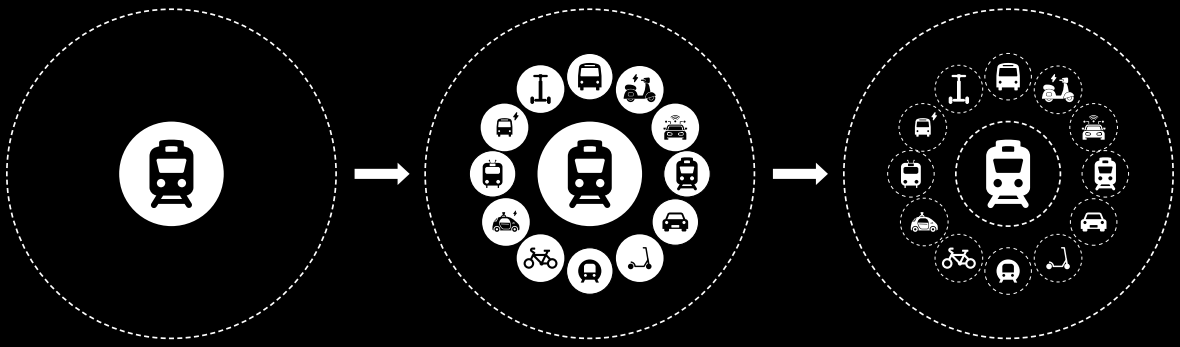
The "**node**" refers to a station's role within wider transportation networks—its capacity to link local, regional, and national systems efficiently.

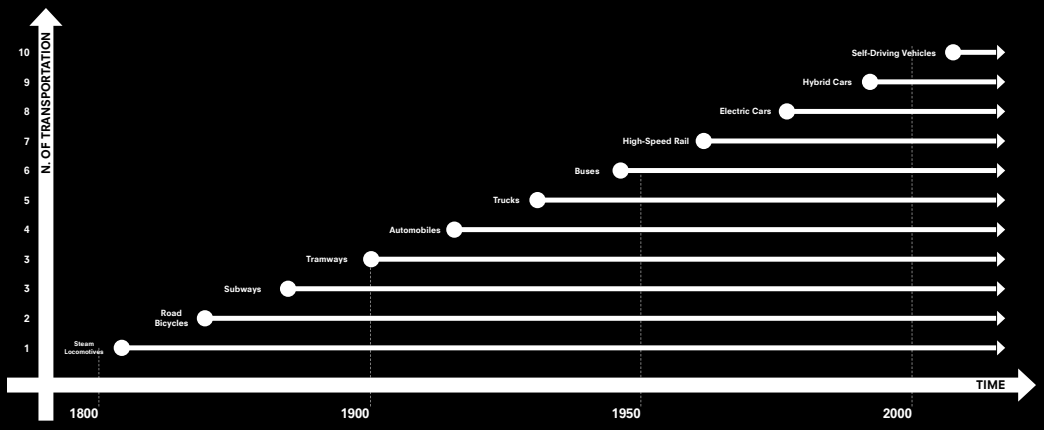
The "**place**" aspect emphasizes the station's role within the urban fabric—as a destination, a meeting point, a space for commercial, social, and cultural activity.

Milan Centrale, historically, has prioritized its node function—emphasizing rail capacity and monumental architectural scale over localized urban integration. Commercial additions like shops and cafes have incrementally introduced place elements, but these remain secondary in spatial hierarchy and design intent.

The rapid rise of new mobility patterns—shared micro-vehicles, app-based transport, and smart infrastructure—demands a far more adaptive station typology. Rather than merely adding services, a holistic shift is needed to reimagine the station as a civic ecosystem: one that facilitates smooth transitions between modes while enriching the social and cultural life of the city.

FROM ONE TO MANY





Source: Transportation Geography

AN AVANT-GARDE VISION

As Milan continues its transformation into a dynamic, globally connected urban center, its central station must evolve from a single-purpose transit facility into a rich, civic ecosystem. Increasingly, the station is expected to act as a cultural and social venue, hosting events, exhibitions, and informal encounters that reflect the city's identity. However, these expectations remain difficult to meet within the constraints of historically rigid architectural models. Most traditional station layouts are ill-equipped to accommodate unpredictable visitor flows, pop-up programming, or new types of civic use.

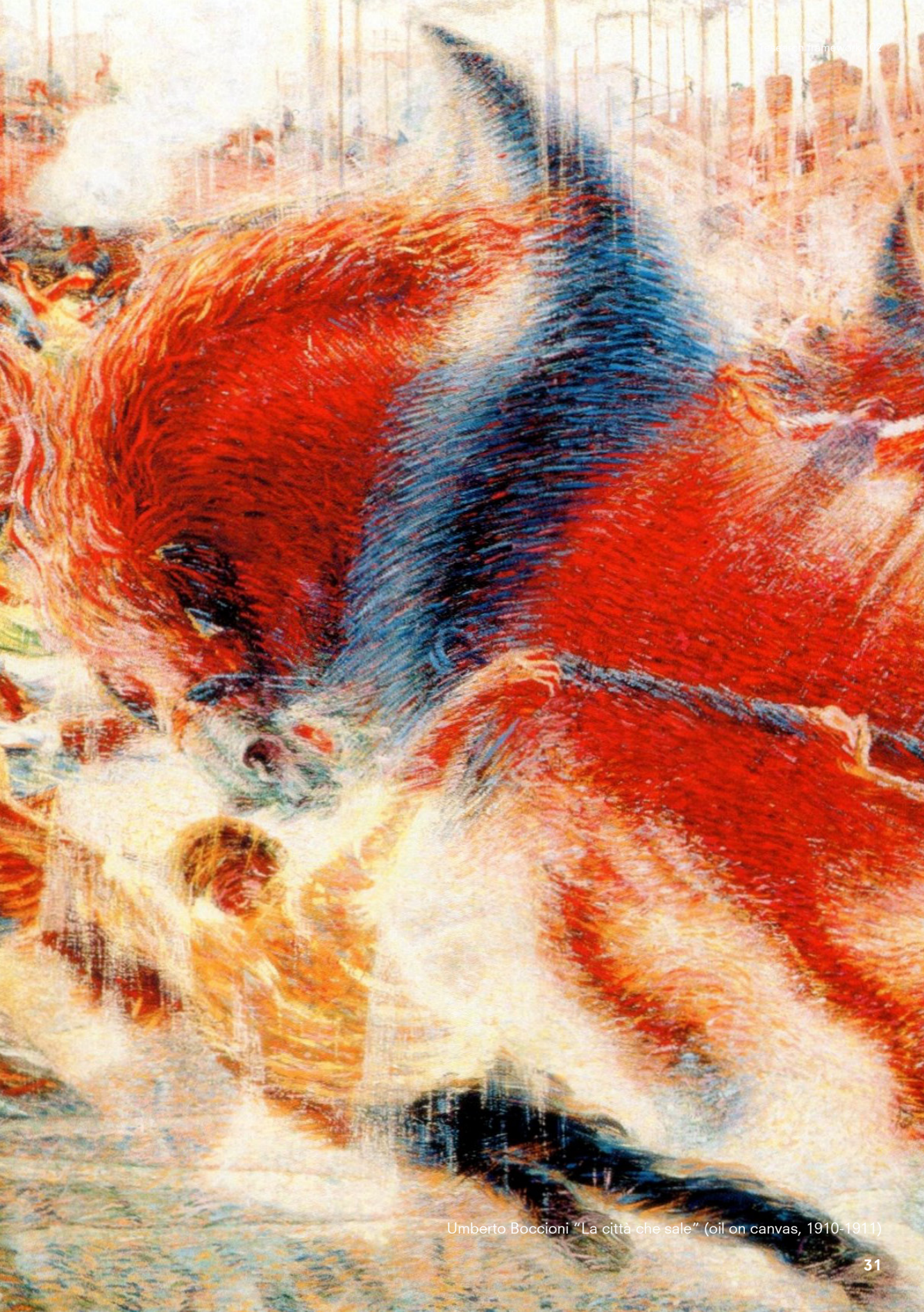
Moreover, the very nature of mobility is shifting. Alongside trains and subways, stations must now integrate e-scooters, bike-sharing, car-pooling, and app-based logistics. These forms of mobility are lightweight, decentralized, and fast-changing—placing entirely new demands on public space, digital infrastructure, and station governance.

In response, the future mobility hub must reject static design. Instead, it must be conceived as a flexible, modular, and future-ready environment—capable of quick upgrades and spatial reconfiguration. As noted in ARUP's Mobility Hubs of the Future (2020), the ability to plan for the unknown—to anticipate infrastructure that does not yet exist—is crucial. Designing for value over time becomes a key strategy: rather than fixating on immediate function, architects and planners must prioritize adaptability, lifecycle resilience, and continuous usability.

This design approach means building stations that accommodate change from the start. Modular structures, flexible public spaces, smart digital layers, and reversible materials ensure that the building's lifespan is extended and its social value is sustained. Unlike past models, which became obsolete when technologies or flows changed, the future station is incrementally upgradeable. It thrives by evolving.

In this vision, the future train station evokes the spirit of La città che sale (The City Rises, 1910–1911) by Umberto Boccioni. A seminal work of Italian Futurism, the painting captures the energetic transformation of the modern city—where human figures, horses, buildings, and scaffolding are interwoven in a swirling choreography of movement, construction, and force. Rather than depicting a finished urban form, Boccioni renders a city in flux—a space defined by simultaneity, where physical labor, infrastructure, and human aspiration coexist and overlap in real time. His concept of dynamism—the portrayal of motion, energy, and multiplicity within a single frame—perfectly mirrors what the contemporary mobility hub must become. Like Boccioni's Futurist metropolis, the 21st-century train station is not static or monumental but alive, fluid, and in perpetual negotiation between modes, rhythms, and publics.

Thus, the station is no longer merely a point of transit. It becomes a living urban machine, operating 24 hours a day, responding to the pulse of the city, and blurring boundaries between infrastructure and culture, service and space, permanence and change.



Umberto Boccioni "La città che sale" (oil on canvas, 1910-1911)

EUROPEAN RELEVANCE

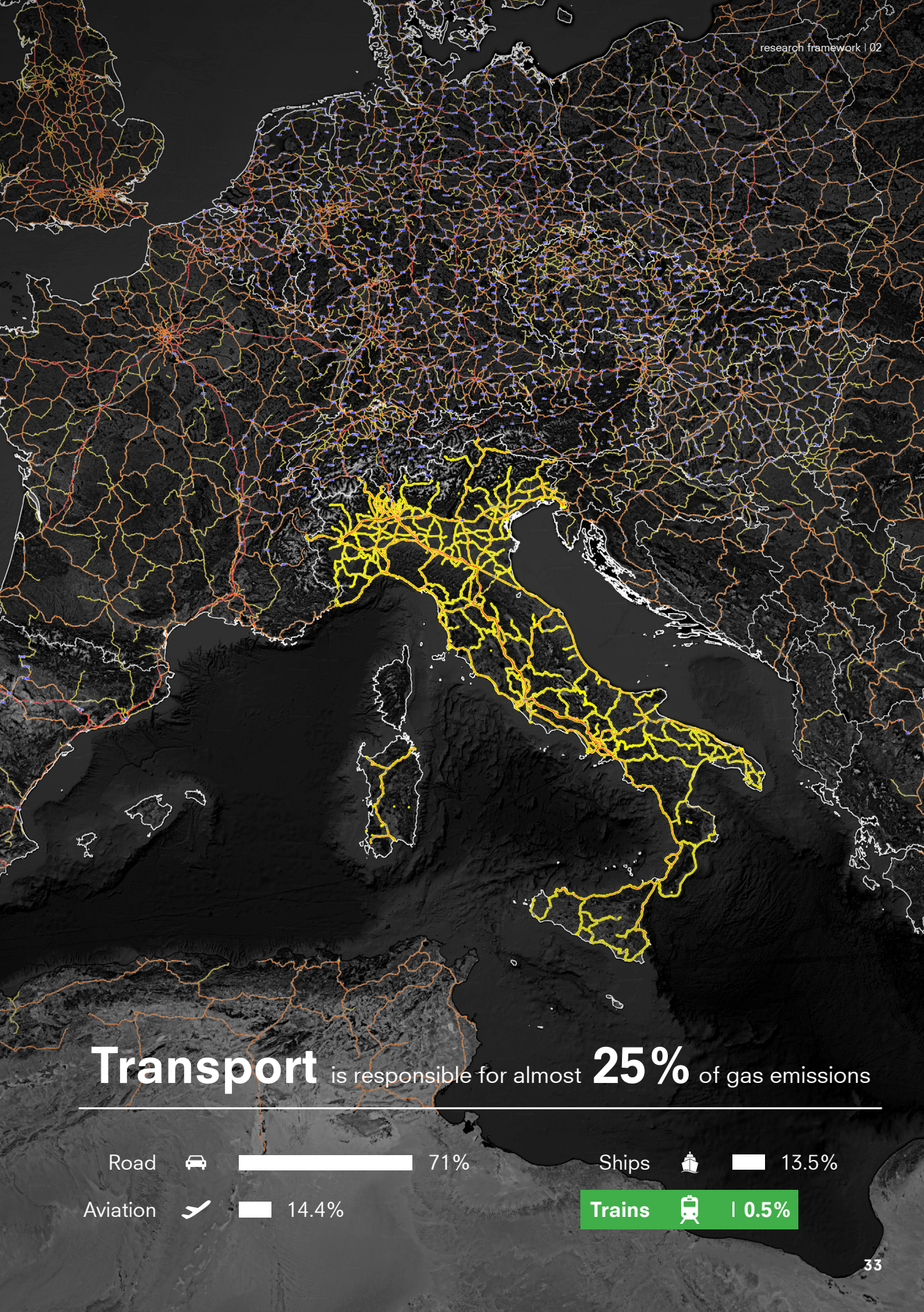
The transition to greener mobility is a central pillar of the European Union's climate strategy, reflecting both environmental urgency and socio-economic ambition. In alignment with the **European Green Deal**, the EU has committed to reducing greenhouse gas emissions from transport by 90% by 2050. This ambitious target addresses the fact that transport alone is responsible for nearly a quarter of Europe's total emissions, with road transport making up a dominant 71%, followed by aviation at 14.4% and maritime transport at 13.5%.

In contrast, rail—one of the most energy-efficient modes—accounts for just 0.5%, underscoring its potential role in achieving a more sustainable and low-carbon future.

The EU's roadmap toward this 90% reduction is structured around a combination of short-term and long-term measures. By 2030, the goal is to double the use of high-speed rail across Europe, significantly reduce short-haul flights under 2.5 hours by offering competitive rail alternatives, and ensure widespread access to new, sustainable modes of transport. In parallel, the creation of at least 100 carbon-neutral cities by 2030 will act as testbeds for integrated and inclusive mobility systems. These initiatives aim not only to reduce emissions but also to make alternative transport choices more appealing, accessible, and affordable for all Europeans.

At the heart of this strategy is the expansion and modernization of rail lines and the integration of various mobility solutions, designed to reduce dependence on fossil fuels and reinforce the resilience of the transportation system. The focus is not only on carbon reduction, but on rethinking mobility as a public good—one that supports territorial cohesion, economic competitiveness, and social inclusion.

The diagrams clearly visualize this systemic approach, linking each intervention to concrete climate and infrastructure goals. In this context, the relevance of the topic extends beyond environmental concerns: it speaks to a broader European vision of connectivity, sustainability, and equity across regions and generations.



Transport is responsible for almost **25%** of gas emissions

Road	71%
Aviation	14.4%
Ships	13.5%
Trains	**0.5%**

A TIMELINE FOR SUSTAINABLE TRANSPORT

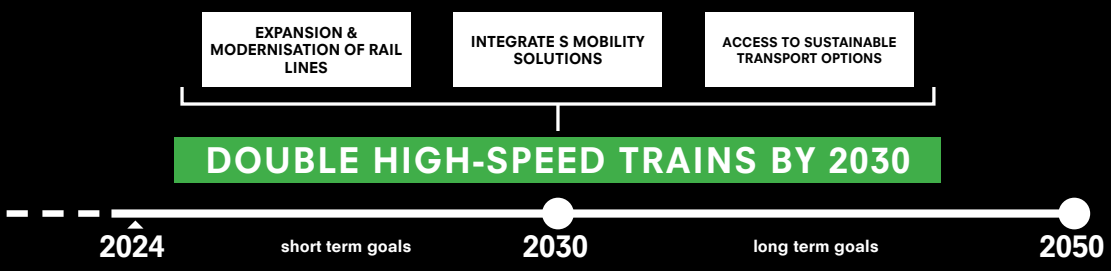


The diagram illustrates the EU's multi-pronged strategy for decarbonizing its transportation sector, presenting a clear yet dynamic vision for sustainable mobility.

On one side, the focus is on reducing reliance on high-emission modes: by 2030, the aim is to curb all short-haul flights under 2.5 hours—encouraging travelers to choose faster and cleaner rail options instead—and to establish at least 100 carbon-neutral cities across Europe. These initiatives are designed to significantly curb emissions, drive supply toward low-carbon systems, and scale up sustainable infrastructure.

On the other side, the EU is actively expanding alternatives: it seeks to double high-speed rail traffic, ensuring its reach and efficiency span transit across the continent. At the same time, the strategy promotes widespread availability of clean options—like electric buses, micromobility services, and active travel—and integrates them into everyday transport options.

This dual-track approach not only aims to reduce greenhouse gases from transport—which, after all, make up nearly a quarter of Europe's emissions—but also enhances equity, regional connectivity, and resilience, transforming mobility from a private concern into a shared, publicly owned ecosystem that delivers both environmental and societal benefits .



A key milestone in this transformation is the EU's commitment to doubling high-speed rail traffic by 2030—a target that serves as both a technical objective and a symbol of broader systemic change.

The diagram outlines the roadmap to achieving this, starting with short-term goals such as the expansion and modernization of existing rail lines. Upgrading infrastructure is not only about speed, but also about increasing capacity, improving energy efficiency, and reducing regional disparities in access.

Midway through the timeline, the focus shifts to integration: creating seamless multimodal systems that link high-speed rail with urban and regional mobility networks—metro lines, shared mobility, active travel, and digital ticketing platforms. By 2030, the aim is for high-speed rail to become a backbone of European transport, offering a competitive, sustainable alternative to short-haul flights and car dependency.

Long-term, this infrastructure will underpin the broader 2050 vision of accessible, low-emission mobility for all. The timeline doesn't just mark deadlines—it reflects a phased approach that balances immediate infrastructure needs with long-term social and environmental transformation.

IN THE NEWS:

MILANO TODAY:



CAOS PENDOLARI

Treni cancellati o in ritardo anche di 70 minuti: caos sulla Milano Bologna

A causa di lavori di manutenzione notturni che si sono prolungati oltre

St. Me. Pa.
04 novembre 2024 06:51

Si parla di
lavori
ritardi
treni

Sullo stesso argomento

CRONACA
Atm conferma lo sciopero di metro e bus: orari garantiti parzialmente a Milano

Foto di repertorio

IL POST:

Perché in Lombardia i treni s… quasi sempre in ritardo

È il risultato di un conflitto di interessi tra la Regione e l'aziend… Trenord, di una gestione poco organica e scelte sbagliate

di Isaia Invernizzi

Condividi



(Claudio Furlan/LaPresse)

CORRIERE DELLA SERA:

Il record del 9304, il treno Frecciarossa che viaggia sempre in ritardo

di Iacopo Gori

Nei giorni feriali del mese di ottobre 2024 questo treno che collega Napoli Centrale a Torino Porta Nuova ha sempre portato ritardo: da un minimo di 15 minuti a un massimo di 200 (con cancellazione)





Come chiedere il rimborso se il treno è in ritardo per lo sciopero del 5 novembre: la videoscheda

Sciopero di 8 ore dalle 9 alle 17 per l'accoltellamento di un ferroviere su un regionale nei pressi di Genova

L'ARENA:

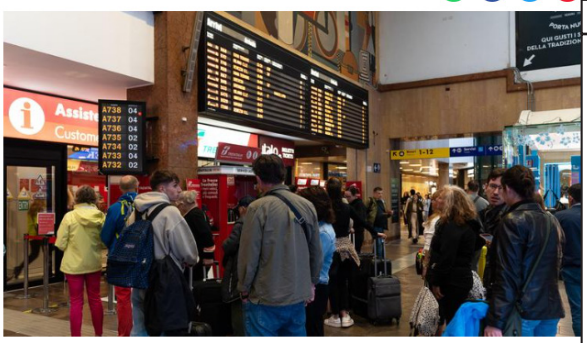
/// CIRCOLAZIONE SOSPESA ALL'ALBA

Guasto sulla linea Milano-Venezia, in ritardo e disagi a Porta Nuova

Redazione Web

Il guasto all'altezza di Peschiera. Dalle 8.15 la circolazione è in graduale ripresa, nel frattempo i convogli hanno accumulato ritardi fino a 100 minuti

16 ottobre 2024



Disagi anche alla stazione di Porta Nuova per intervnti di manutenzione sulla Milano-Venezia

L'ECO DI BERGAMO:

«Sui treni un affollamento disumano E non funziona il servizio reclami»

«Viaggiamo in un affollamento al limite della disumanità»: lo scrive un pendolare bergamasco che manda la foto scattata lunedì mattina, 4 novembre. E aggiunge: «Ho provato a mandare un reclamo, ma il servizio non funziona».



NATIONAL RELEVANCE

While the European framework sets a long-term vision for sustainable and integrated transport, Italy's current situation highlights the urgent need for systemic improvement.

The country's rail network, particularly in northern regions like Lombardy, is often plagued by inefficiencies, delays, overcrowding, and service disruptions—as regularly reported in national and regional news.

Headlines from outlets such as Milano Today, Il Post, and Corriere della Sera point to chronic issues: from high-speed trains like the Frecciarossa 9304 frequently running late, to technical failures on the Milan-Venice line causing delays of up to 100 minutes. Even local services face persistent challenges, with poor coordination, aging infrastructure, and a lack of reliable communication with passengers.

These recurring breakdowns and delays undermine public trust in the railway system and highlight the critical need to rethink the role and design of central hubs like Milano Centrale. Rather than simply expanding capacity, there is a pressing need to enhance resilience, ensure operational fluidity, and accommodate multimodal solutions that can absorb surges, prevent bottlenecks, and guarantee a more equitable and efficient travel experience across the country.

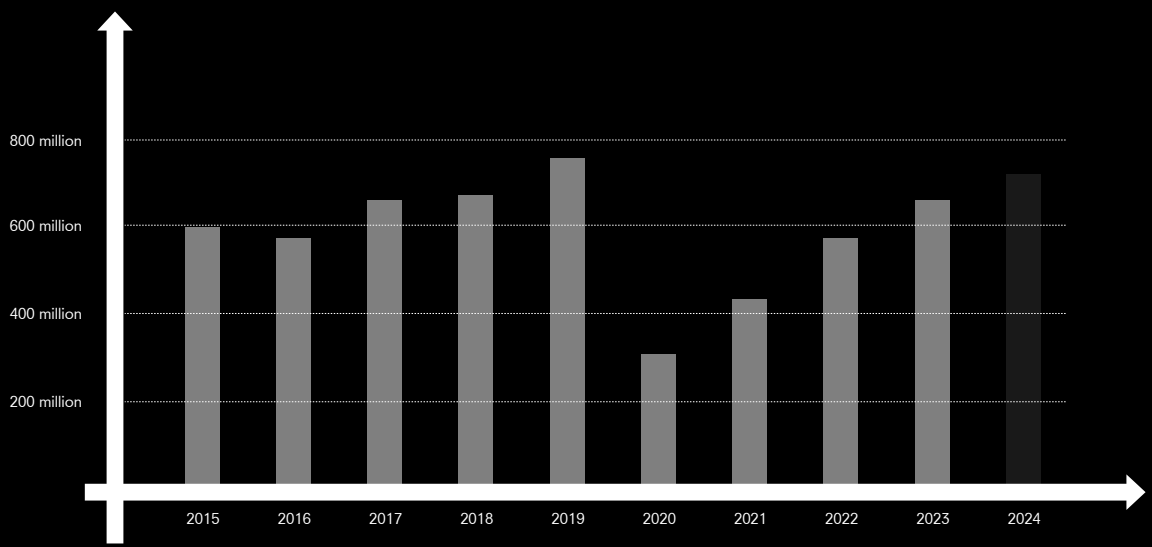
URBAN RELEVANCE

At the metropolitan scale, the urgency for a reimagined and resilient mobility system in Milan becomes even more evident. While the national rail network continues to suffer from delays and inefficiencies, data shows a steadily rising demand for reliable and integrated transport within the city. Public transportation usage in Milan has bounced back strongly from the COVID-19 disruption, with passenger volumes approaching pre-pandemic levels and expected to surpass 700 million rides in 2024.

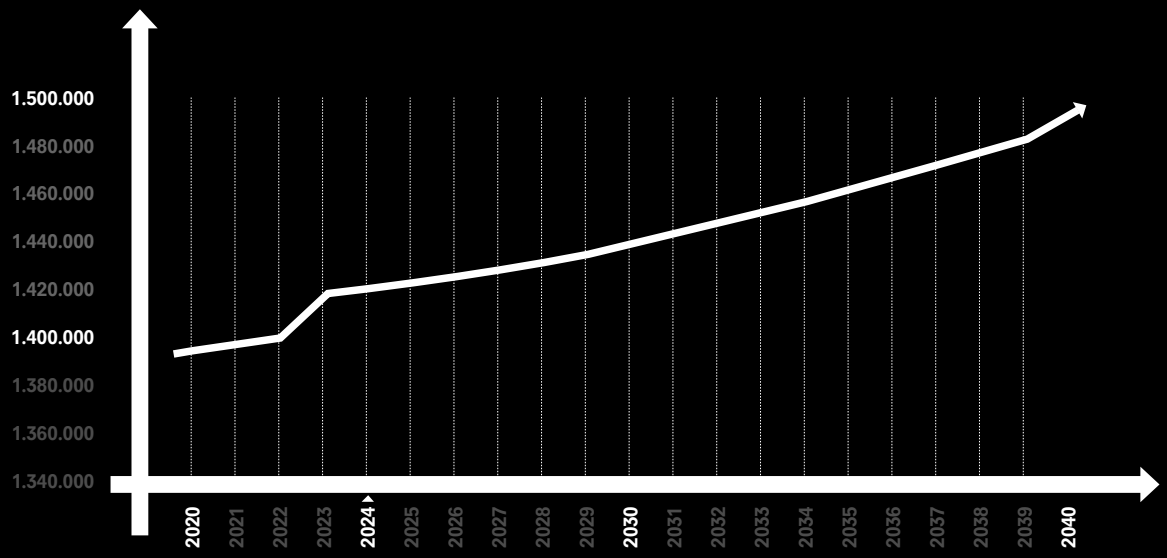
At the same time, the city is experiencing consistent demographic growth, with the population projected to rise from approximately 1.39 million in 2020 to over 1.5 million by 2040. Parallel to this, tourism has made a full recovery, with annual visitors increasing sharply from just over 2 million in 2021 to more than 8.5 million in 2023—surpassing even pre-COVID highs. These intersecting pressures—growing resident needs, surging tourism, and intensified transit usage—place enormous strain on an already fragile infrastructure. In this context, relying on outdated rail systems and fragmented mobility planning is no longer viable. The data underscores a clear mandate:

Milan must move swiftly toward a systemic transformation of its mobility hubs, embracing adaptability, integration, and capacity expansion to serve a city that is not only growing, but evolving in complexity and pace.

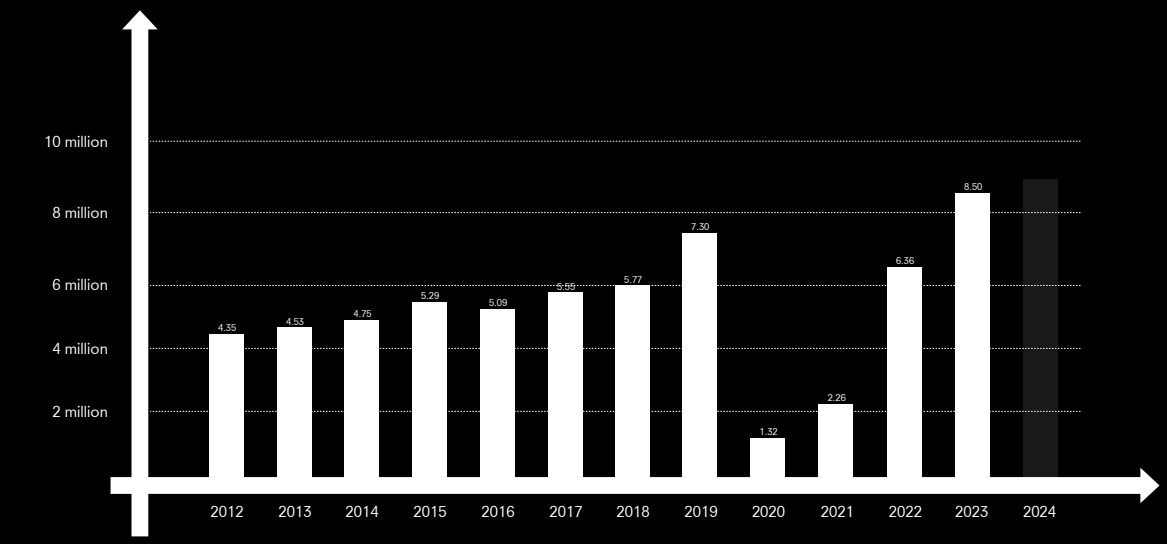
Passenger volume on public transportation in Milan



Prevision of population growth in Milan



Amount of visitors per year in Milan



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03



MILANESE CULTURE

MILANESE CULTURE

Group work developed with 7 fellow students:
» Geert Reinders Muñoz
» Matijn Kroes
» Galia Tomsen
» Roos Broeksma
» Evi Tacken
» Justin Tjon Kie Sim
» Ana Nistor

As a group of eight, we embarked on an in-depth investigation into the concept of culture in Milan and its implications for the city's built environment. Our research aimed to understand how Milan's rich cultural landscape—shaped by its history, traditions, contemporary artistic expressions, and socio-economic dynamics—interacts with and influences architectural and urban developments. Through research, the site visit in November and grorup discussions, we examined the role of cultural traditions, public spaces, and the identity of Milanese Culture that shaped the city.

We also explored how Milan's cultural evolution responds to global trends while maintaining its distinct character. This chapter presents our findings, highlighting key observations and critical reflections on the ways in which culture manifests in Milan's physical and spatial fabric.

The research ultimately will inform the development of the design brief, drawing connections between the broader cultural forces at play and specific design strategies that respond to them. By analyzing these relationships, we aim to demonstrate how architecture can serve as both a reflection of and a catalyst for cultural expression in Milan.

Defining Culture

Our research began with a fundamental question: **what is culture?**

To establish a clear foundation for our investigation, we adopted the definition that culture is "*the set of values, norms, beliefs, traditions, and symbols shared by a group of people that shapes their behaviour, communication, and perception of the world.*"

This broad yet precise understanding of culture guided our inquiry, prompting us to explore how these intangible aspects translate into the physical and spatial dimensions of Milan. By dissecting how cultural values influence architectural expression, urban development, and the use of space, we were able to identify patterns that connect Milan's built environment with its evolving identity. This theoretical framework not only provided direction for our study but also shaped the way we analyzed our 8 case studies and historical developments, leading us to a deeper understanding of the city's cultural and architectural fabric.

Culture:

“Set of values, norms, beliefs, traditions, and symbols shared by a group of people that shapes their behaviour, communication, and perception of the world.”

XXX



MILAN: A CULTURAL CAPITAL

Milan stands as a dynamic crossroads of culture, economy, and design, showcasing Italy's rich heritage to the world. Renowned for its status as a UNESCO Creative City of Literature and as the custodian of Leonardo da Vinci's iconic "The Last Supper," Milan seamlessly blends historical legacy with modern innovation.

As a global fashion and design capital, the city influences international trends through events like Milan Fashion Week and Salone del Mobile. Its thriving economy, artistic landmarks, and vibrant sports culture, highlighted by its role as a host city for the 2026 Winter Olympics, make Milan a powerful symbol of how architecture, public spaces, and cultural initiatives can shape a city's global identity and enrich the lives of its residents and visitors alike.

UNESCO

Designated as a UNESCO **Creative City of Literature** and home to Leonardo da Vinci's **'The Last Supper'** a UNESCO World Heritage site.

ECONOMY

Financial hub of Italy, home to the **Borsa Italiana** and major international businesses driving international trade and business.

FASHION

One of the '**Big Four**' fashion capitals, hosting the prestigious Milan Fashion Week influencing the style and culture of people worldwide.

ART

Features iconic landmarks such as the **Duomo di Milano** and has a rich artistic heritage with works like **'The Last Supper'** and modern art.

DESIGN

Global design capital, known for the annual **Salone del Mobile**, a leading furniture and design fair, making it a global hub for creativity.

SPORTS

Hosts both football clubs **AC Milan** and **Inter Milan** uniting people worldwide, and is a key venue for the **2026 Winter Olympics.**

EUROPEAN CONNECTIONS OF MILAN



Milan - Zurich
Financial Sector
Geographical Proximity

Milan - Munich
Automotive Industry
Technological
Economic

Milan - Paris
Fashion and Design
Art and Culture

Milan - London
Financial Business Sectors
Fashion and Design

MILAN'S CULTURAL BORDERS

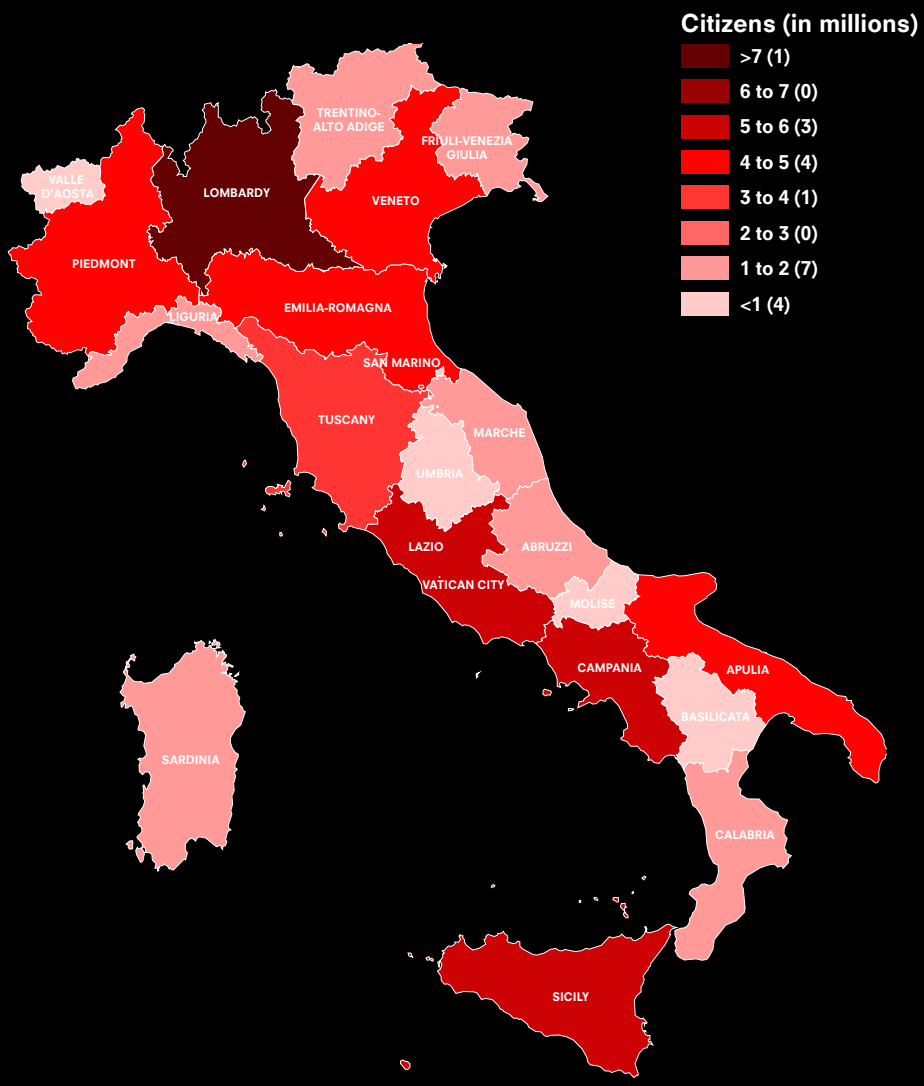


Milan's strategic international connections elevate its status as a global hub, fostering cultural diversity, economic growth, and innovation.

Its well-established national connections reinforce strong regional ties, enhancing Italy's cultural cohesion and promoting the exchange of ideas and opportunities. By balancing its global influence with deep local roots,

Milan not only drives economic progress but also enriches Italy's cultural landscape, showcasing how a city can thrive on both international and national stages.

REGION POPULATION

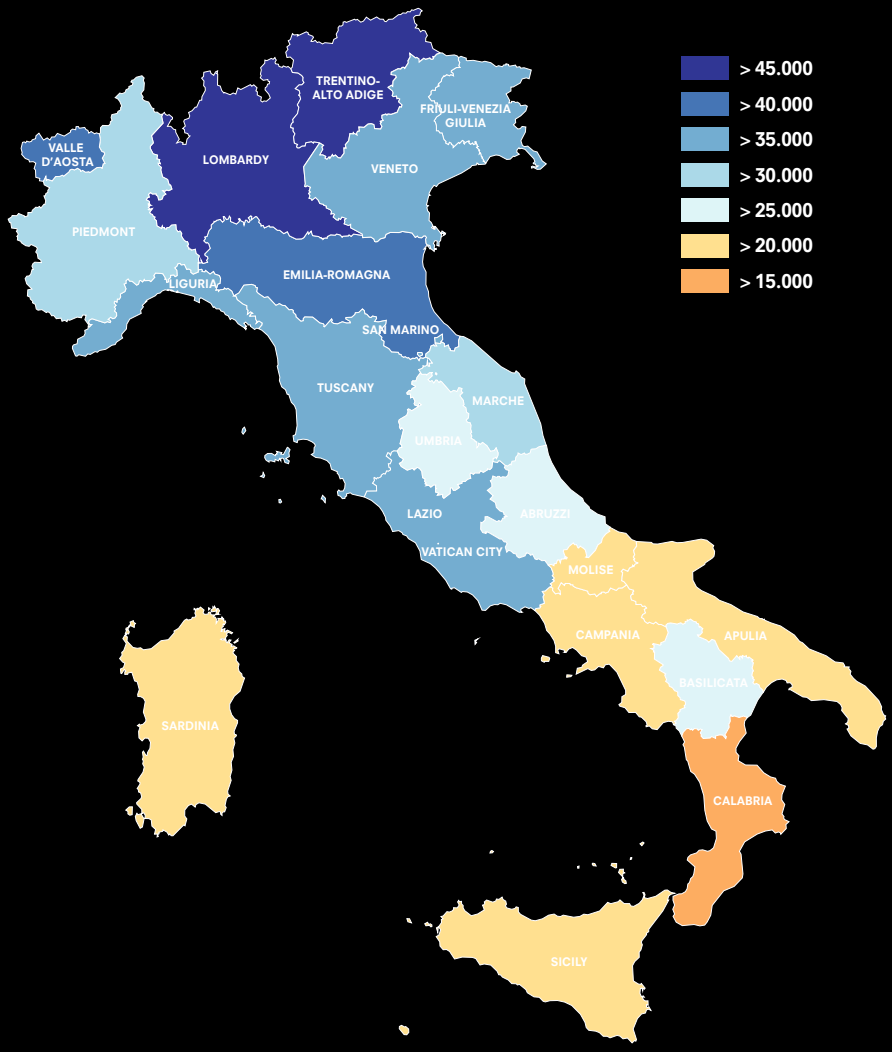


The map highlights Lombardy as Italy's most populated region, driven by its economic and industrial strength, especially in Milan.

The north, particularly Lombardy and Emilia-Romagna, attracts both internal and foreign migration due to job opportunities. In contrast, the south and islands have lower populations, likely due to economic stagnation. With 5.1 million foreign residents (8.71% of Italy's total population), immigration is a key factor, with Lombardy being a primary destination for foreign workers and professionals.

This exemplifies the region's role as Italy's economic powerhouse.

GDP PER CAPITA IN EUROS



The map highlights Lombardy as one of Italy's wealthiest regions, with a high GDP per capita, reflecting its industrial and financial dominance, particularly in Milan.

Northern regions like Trentino-Alto Adige, Veneto, and Emilia-Romagna also show strong economic performance, while the south and islands have significantly lower GDP per capita, indicating economic disparities.

This reinforces the divide between Italy's industrialized north and less developed south, with Lombardy as the country's economic engine

TOURIST AMOUNT

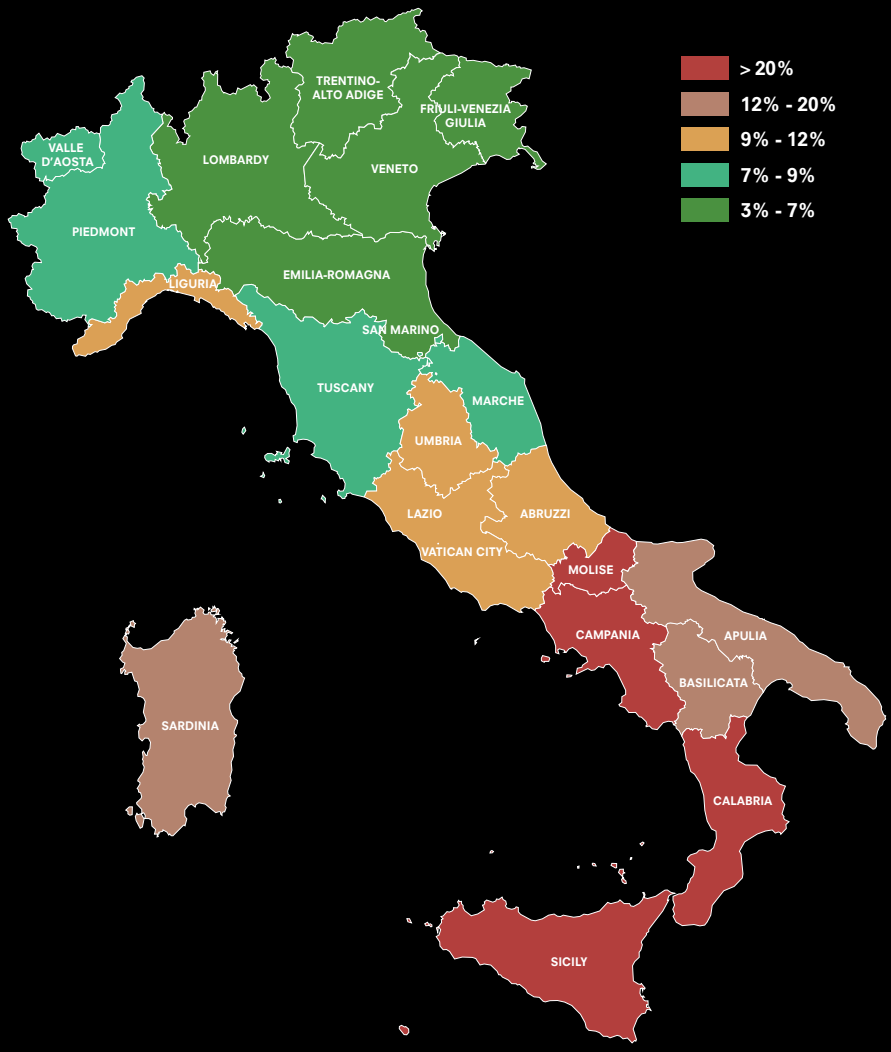


The map highlights Lombardy as one of Italy's top tourist destinations, driven by its cultural and economic magnetism, particularly in Milan.

Lombardy, and especially Milan, attracts millions of visitors annually through its blend of historic landmarks, vibrant fashion and design events, and dynamic business environment. In contrast, regions in the south and islands, such as Sardinia and Calabria, see lower tourist numbers, potentially due to less-developed infrastructure and seasonal tourism.

With over 20 million tourists each year, Milan's appeal as a cultural and economic hub reinforces Lombardy's status as a key player in Italy's tourism industry.

UNEMPLOYMENT RATE



The map highlights Lombardy as one of Italy's regions with the lowest unemployment rates, underscoring its robust economy and job market, particularly in Milan.

Northern regions, including Lombardy, Veneto, and Emilia-Romagna, demonstrate strong employment prospects, attracting both domestic and international workers.

In contrast, southern regions like Calabria, Sicily, and Campania face significantly higher unemployment rates, reflecting ongoing economic disparities within the country. Milan's role as a financial and industrial powerhouse not only supports Lombardy's low unemployment but also reinforces the city's position as a key driver of Italy's economic stability and growth.

CULTURE IMPRESSIONS

Our research journey began with a collaborative exercise in creating a visual collage that connected the concept of culture to our eight building typologies: Train Station, Hospital, University, Museum, Courthouse, Opera, Library, and Airport.

This exercise was inspired by our initial analysis of "Milan's Cultural Influence to the World," where we explored how Milan's cultural output through fashion, design, literature, art, and public events shapes its global identity. Each of the eight team members created their own collage, capturing their first impressions of Milanese culture and illustrating how these cultural insights might influence their assigned architectural typology.

These personal interpretations offered diverse perspectives, revealing how elements of Milan's culture could be woven into the architectural and spatial design of each building type. This creative process helped us identify six key topics—Literature, Research, Bureaucracy, Leisure, Fashion, and Design—under the broader umbrella of "culture."

These topics became the foundation for our research, guiding our exploration of how culture is reflected in Milan's architecture and public spaces.

CULTURE +



Library



University



Court Building



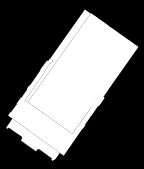
Museum



Opera House



Hospital



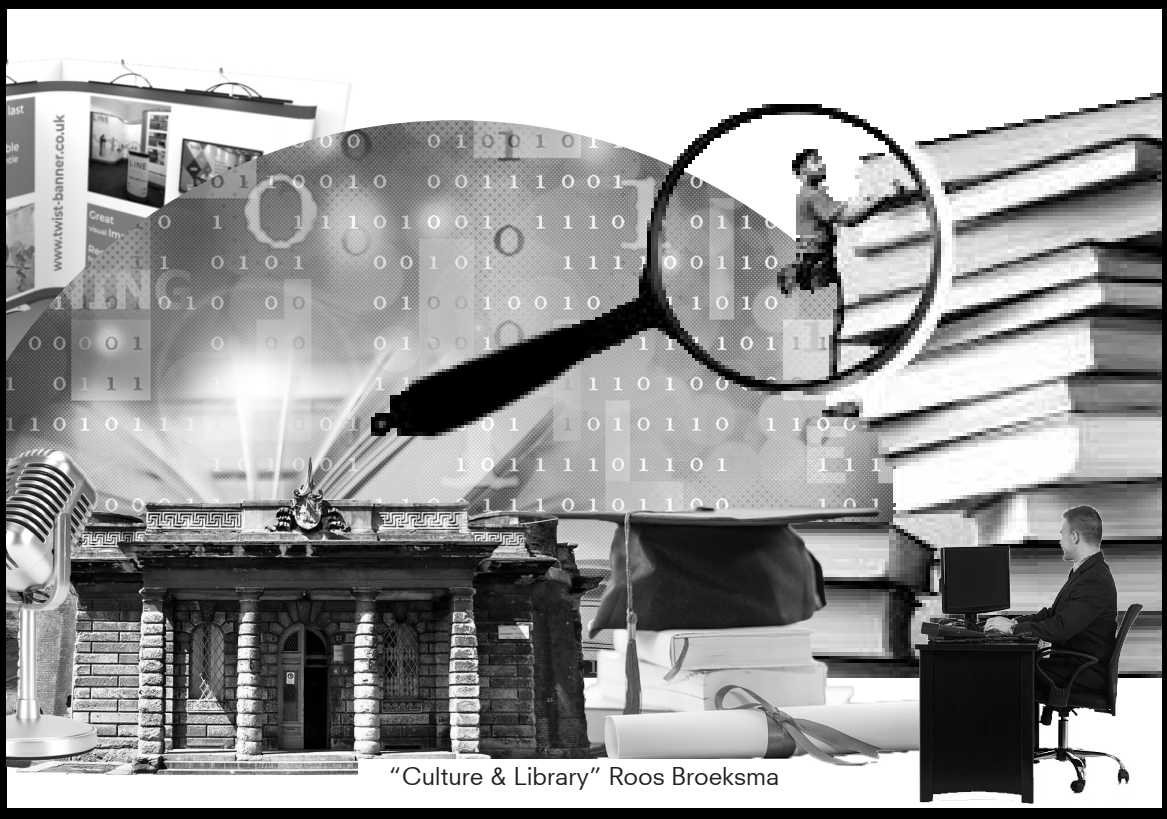
Train Station



Airport



"Culture & Train Station" Fabio Sala



"Culture & Library" Roos Broeksma



"Culture & Hospital" Galia Tomsen



"Culture & Opera" Justin Tjon Kie Sim



"Culture & Airport" Geert Reinders Muñoz



"Culture & Courthouse" Matijn Kroes



"Culture & Fashion Museum" Evi Tacken



"Culture & University" Ana Nistor

CULTURE: KEY CATEGORIES

To explore the cultural fabric of Milan, our research was structured around five key themes: Literature, Research, Bureaucracy, Leisure and Fashion, and Design. These elements were chosen for their significant influence on Milan's cultural identity and their impact on the city's built environment.

By examining these topics, we aimed to understand how cultural practices and events shape public spaces, architecture, and urban development in Milan. Each theme provides a unique perspective on how culture is integrated into the physical landscape of the city, from literary festivals enlivening public squares to design fairs transforming exhibition halls and legal institutions influencing civic architecture.

This holistic approach allowed us to capture the ways in which culture not only enriches Milan's social life but also actively contributes to its architectural and spatial evolution.

The six key themes of our research—**Literature**, **Research**, **Bureaucracy**, **Leisure** and **Fashion**, and **Design**—each contribute distinctively to Milan's cultural landscape.

DESIGN
FASHION
LEISURE

1. Literature in Milan is characterized by its status as a UNESCO Creative City of Literature, boasting a network of over 200 public and private libraries, 400 bookstores, and numerous literary festivals such as BookCity Milano. This cultural richness not only supports Milan's intellectual community but also influences the design and utilization of public spaces, promoting cultural engagement in everyday settings

2. Research plays a pivotal role in Milan's academic and innovative landscape, with institutions like the Politecnico di Milano and Università Bocconi contributing to the city's intellectual capital. Research facilities and academic buildings shape Milan's architectural fabric, creating spaces that support education, collaboration, and innovation

3. Bureaucracy is embodied in Milan through significant legal and financial institutions such as the Palazzo di Giustizia. This sector not only contributes to Milan's economic strength but also impacts the built environment through the design of civic and institutional buildings, which often serve as landmarks and hubs of professional activity.

4. Leisure in Milan is closely associated with outdoor sports and public events that activate the city's open spaces. Milan's vibrant sports culture, including its renowned football clubs AC Milan and Inter Milan, and its upcoming role as a host city for the 2026 Winter Olympics, enhances the use of parks, stadiums, and public plazas. Additionally, large-scale public events contribute to the dynamic use of Milan's urban areas, promoting an active and communal city life.

BUREAUCRACY
RESEARCH
LITERATURE

5. Fashion is a defining element of Milan's cultural identity, with the city being one of the "Big Four" fashion capitals globally. Milan Fashion Week, held biannually, transforms the city into a bustling hub of creativity, with fashion shows and related events often spilling into public squares, historic buildings, and temporary structures. This interplay between fashion and the cityscape showcases how ephemeral events can create lasting impressions on Milan's urban and cultural environment.

6. Design reinforces Milan's identity as a global design capital, with landmark events like Salone del Mobile and Milano Art Week. These events not only draw international attention but also transform the cityscape through exhibitions, installations, and the temporary reimagining of public and private spaces. Design culture in Milan exemplifies how creativity and architecture intersect to continually redefine the city's aesthetic and functional qualities.

CULTURE EVENTSCAPE

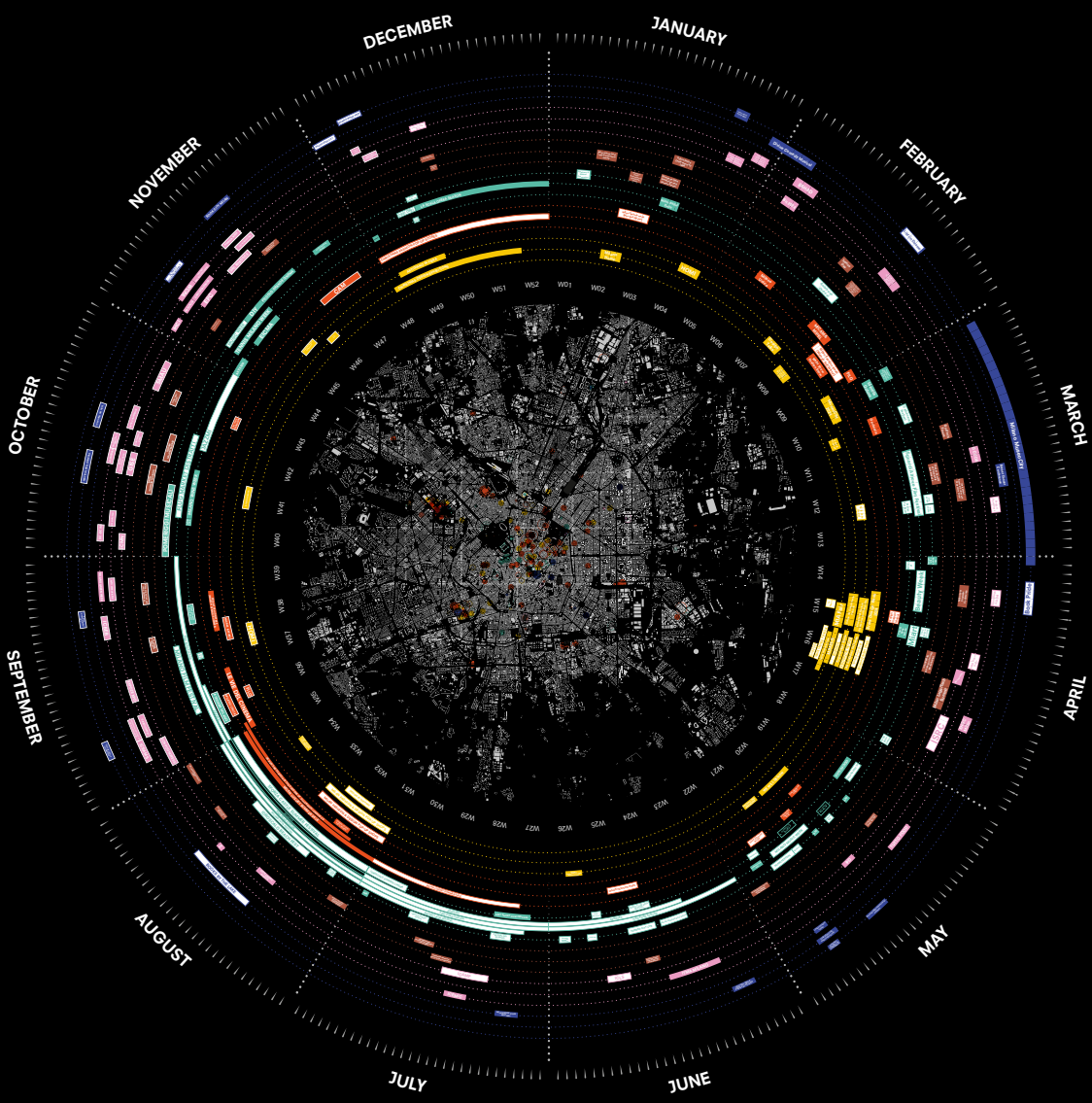
To understand how the six key elements of Milanese culture—Literature, Research, Bureaucracy, Leisure, Fashion, and Design—manifest in the city, we investigated the multitude of events that Milan hosts annually.

Our research identified and mapped over 220 events, showcasing the diverse and vibrant cultural landscape of Milan. We categorized these events under our six cultural themes, mapping them both geographically across the city's districts and temporally throughout the year.

This approach allowed us to visualize how cultural activities are distributed within Milan's urban fabric and to identify cultural hotspots and temporal peaks of activity. By understanding where and when these events occur, we gained valuable insights into the dynamic rhythm of the city and how its built environment adapts to cultural expressions.

This comprehensive mapping exercise provided a solid foundation for exploring how architecture and public spaces can support Milan's cultural life, contributing to its global reputation while preserving its unique local character.

YEAR IN CULTURE



DESIGN

FASHION

LEISURE

BUREAUCRACY

RESEARCH

LITERATURE

EVENTSCAPE BY MONTH

JANUARY



FASHION WEEK
Milan Fashion Week is one of the most prestigious and influential fashion events in the world, showcasing innovative designs and trends from both established and emerging designers. The event features a series of runway shows and presentations, attracting celebrities, industry insiders, and fashion enthusiasts. It's a celebration of Italian craftsmanship and international fashion creativity.

Mid January (men), late February (women), mid June (men) late Sept (women)
Brera, Historical Center, Quadrilatero della Moda, Porta Nuova Districts, Milan



HOMI
HOMI is focused on interior design and upscale home décor, showcasing a variety of products including textiles, tableware, cookware, and fragrances. The fair aims to connect suppliers with key buyers and features workshops, seminars, and special projects to highlight the latest trends in the home and lifestyle sector.

Annual, mid January
Fiera Milano Rho, Milan



MILANO PADEL EXPO
The Padel Trend Expo is an immersive event dedicated to the sport of padel. It features a wide range of activities including entertainment, exhibitions, and educational conferences.

Annual, mid January.
MiCo FieraMilanoCity, Milan

FEBRUARY



MICAM & MIPEL
Are two international trade fairs held together, showcasing footwear (MICAM) and leather goods (MIPEL) from top global brands.

Twice a year, February and September.
Fiera Milano Rho, Milan



FILO
Is an international trade fair dedicated to high-quality yarns and fibers for the textile industry, focusing on innovation and sustainability.

Twice a year, February and September.
Milano Convention Centre, Milan



JUSTICE DAY
The event focuses on commemorating those who have exhibited courage and integrity in the fight for justice and human rights. It includes ceremonies to honor new inductees into the "Giardino dei Giusti" (Garden of the Righteous), recognizing their efforts against injustice and oppression.

Annual, mid March
Monte Stella Garden, Milan

MARCH



FA' LA COSA GIUSTA!
Is Italy's largest fair focused on sustainable living and conscious consumption. The 2024 edition, themed "Rendere visibile l'essenziale," celebrates the 20th anniversary of the event with discussions on sustainability, education, and global peace. The event features exhibitions, cultural programs, workshops, and debates.

Annual, mid March
Allianz MiCo, Milan



GCCOR
The GCCOR (Global Congress on Cardiology) in Milan focuses on advancements in cardiology and cardiovascular medicine. It brings together professionals from various sectors, including clinicians, researchers, and industry experts, to share knowledge, discuss new research, and collaborate on advancements in cardiovascular health.

Annual, mid March
Hilton Garden Inn, Milan



STRA WOMEN
STRA Women is part of the larger Stramilano event, focusing on women's participation in running. The event includes a 10 km run and a shorter 5 km run, both designed to promote health, fitness, and community among women of all ages.

Annual, late March
Piazza Duomo, Piazza Castello, Milan

APRIL



POLIMI OPEN DAYS
Politecnico di Milano's Open Days provide an opportunity for prospective students to explore the university's academic offerings, including bachelor's and master's programs. Participants can attend presentations, meet professors, and learn about student life, admissions, and career services. The event targets students interested in architecture, design, and engineering.

Annual, early to mid April
Faculties at Politecnico di Milano, Milan



EAHAD
(Annual Congress of the European Association for Haemophilia and Allied Disorders) This congress gathers healthcare professionals involved in the care of individuals with haemophilia and other bleeding disorders. It aims to improve clinical care, educate medical practitioners, and promote scientific research related to these conditions.

Annual, early February
Milano Convention Centre, Milan



SALONE DEL MOBILE
The Salone del Mobile is an internationally renowned furniture and design fair that showcases the latest innovations in furniture, lighting, and interior design.

Annual, mid April
Milano Fiera Rho, Milan

MAY



MUSIC WEEK
Milano Music Week is a vibrant celebration of music in Milan, featuring concerts, workshops, and events that showcase both emerging and established artists across various genres.

Twice a year, late May & late November
Various venues throughout Milan, including the Teatro degli Arcimboldi



TUTTO FOOD
TUTTOFOOD is Italy's largest international food exhibition, focusing on the agri-food industry. It provides a platform for networking among stakeholders, showcasing innovative food products, and discussing industry trends and challenges. The event features exhibitions, educational sessions, and competitions aimed at professionals in the food sector.

Anural, early May
Milano Fiera Rho, Milan



EHGC
This conference is organized by the European Society of Human Genetics and focuses on advancements and research in human genetics, attracting experts and professionals from around the world.

One-time, late May
Not disclosed yet, Milan

JUNE



UNIMI OPEN DAYS
The Unimi Open Day is an event dedicated to prospective students, featuring presentations of undergraduate programs (Bachelor's and single-cycle Master's degrees) offered by the University of Milan. Attendees can gather information about academic offerings, student services, and participate in workshops and mock lectures.

Annual, early to mid June
Faculties at UNIMI, Milan



LEGAL COMMUNITY WEEK
Legal Community Week is a premier global event aimed at professionals in the legal, tax, and finance sectors. It brings together a diverse group of lawyers, general counsel, and financial professionals for a series of conferences, discussions, and networking events.

Anural, mid June
Hotel Principe di Savoia, Milan



ISDH
The International Symposium on Dental Hygiene (ISDH) brings together dental hygiene professionals to discuss current research, practices, and innovations in the field. It aims to enhance knowledge and promote effective dental hygiene practices globally.

Biennal, early June
Not disclosed yet, Milan

JULY



MILANO UNICA
Is a prestigious international trade fair showcasing high-end textiles and accessories for fashion professionals.

Twice a year, February & July
Fiera Milano Rho



APE AL PARCO
Is an outdoor event that combines music, food, and socializing in a relaxed park setting.

Sundays during the summer months, from June to September.
Parco Sempione

AUGUST



CARDIO MEET
The International Meet on Cardiology (CARDIOMEET) serves as a premier interdisciplinary platform for professionals in the field of cardiology, including researchers, healthcare practitioners, and industry leaders. The event focuses on the latest innovations, trends, and collaborative solutions in cardiology, fostering discussions and knowledge exchange among attendees.

Biennal, late August
Not disclosed yet, Milan



PHARMAMEET
Is a significant interdisciplinary conference that aims to bring together professionals from various fields including pharmacy, healthcare, and research. It will cover the latest innovations and trends in pharmacy and pharmaceutical research, fostering collaboration and discussions among experts.

One-time event, late August
Not disclosed yet, Milan



ICEMIC
This conference will address various critical topics in emergency medicine and intensive care, including pre-hospital care, critical care nursing, pharmacology, sepsis management, and more. It aims to gather healthcare professionals to discuss innovations and advancements in the field.

One-time event, mid August
Hilton Garden Inn, Milan

SEPTEMBER



BOCCONI OPEN DAYS
The Bocconi University Open Days offer prospective Master of Science students a chance to explore various programs, admissions processes, and campus facilities. Participants can engage with faculty, current students, and alumni to gain insights into academic offerings and student life.

Annual, end of September
University Bocconi, Milan



FASHION WEEK
Milan Fashion Week is one of the most prestigious and influential fashion events in the world, showcasing innovative designs and trends from both established and emerging designers. The event features a series of runway shows and presentations, attracting celebrities, industry insiders, and fashion enthusiasts. It's a celebration of Italian craftsmanship and international fashion creativity.

Mid January (men), late February (women), mid June (men) late Sept (women)
Brera, Historical Center, Quadrilatero della Moda, Porta Nuova Districts, Milan



WCPA
The 17th World Congress on Polyphenols Applications aims to bridge scientific research on polyphenols with their health benefits. The event will cover various topics including the impact of polyphenols on health, interactions with gut microbiota, and applications in food and agriculture. It will feature discussions on translating research findings into practical health benefits.

Biennal, late September
Università Statale, Milan

OKTOBER



POMERIGGI MUSICALI
Pomeriggi Musicali is an Italian classical music orchestra, renowned for its concerts and performances. Founded in 1945, it features a wide range of orchestral works, opera productions, and concerts, often highlighting both classical and contemporary pieces.

Annual, runs from October to June
Teatro Dal Verme, Milan



ICAMP
The congress focuses on advancements in aesthetic medicine, dermatology, and anti-aging treatments. It features over 300 scientific contributions, including studies, workshops, and video presentations on various procedures and cosmetic developments.

Annual, early October
Centro Congressi Stella Polare, Milan



EBHC Conference
The EBHC Conference focuses on "Artificial Intelligence and Digital Transformation in Research and Healthcare." It aims to explore the integration of AI technologies in evidence generation, synthesis, and translation to improve healthcare outcomes. The conference features discussions on the latest advancements in these fields from leading international experts.

Annual, mid October
NH Milano Congress Centre, Milan

NOVEMBER



ISRC
This symposium brings together researchers and clinicians to discuss recent advancements in various fields of research and clinical practice. It provides a platform for networking and sharing insights.

One-time, mid November
Università Vita-Salute San Raffaele, Milan



EPC
The European Pharmacovigilance Congress is a prominent event that focuses on drug safety, risk management, and pharmacovigilance practices. It gathers professionals from the pharmaceutical, biotechnology, and clinical research sectors to discuss the latest advancements, share insights, and network with industry experts.

Annual, late November
Milan Marriott Hotel, Milan



TENNIS MILANO INDOOR
The Tennis Milano Indoor event is part of the ATP Next Gen Finals, showcasing the top 21-and-under players from the ATP Tour. It features an innovative format designed to engage younger audiences and highlights rising stars in tenni.

Annual, mid November
Allianz Cloud, Milan

DECEMBER



ICMN
This conference focuses on the latest advancements and research in material science and nanotechnology. Topics include smart materials, nanotoxicology, nanomedicine, and applications of nanostructured materials across various fields. It aims to bring together researchers, scientists, and industry professionals to share their insights and innovations.

Annual, early October
Hilton Hotel, Milan



MBN AESTHETIC BREAST MEETING
His conference focuses on aesthetic and oncoplastic surgery, featuring discussions on contemporary topics and techniques in breast surgery. It aims to foster knowledge sharing among professionals in the field.

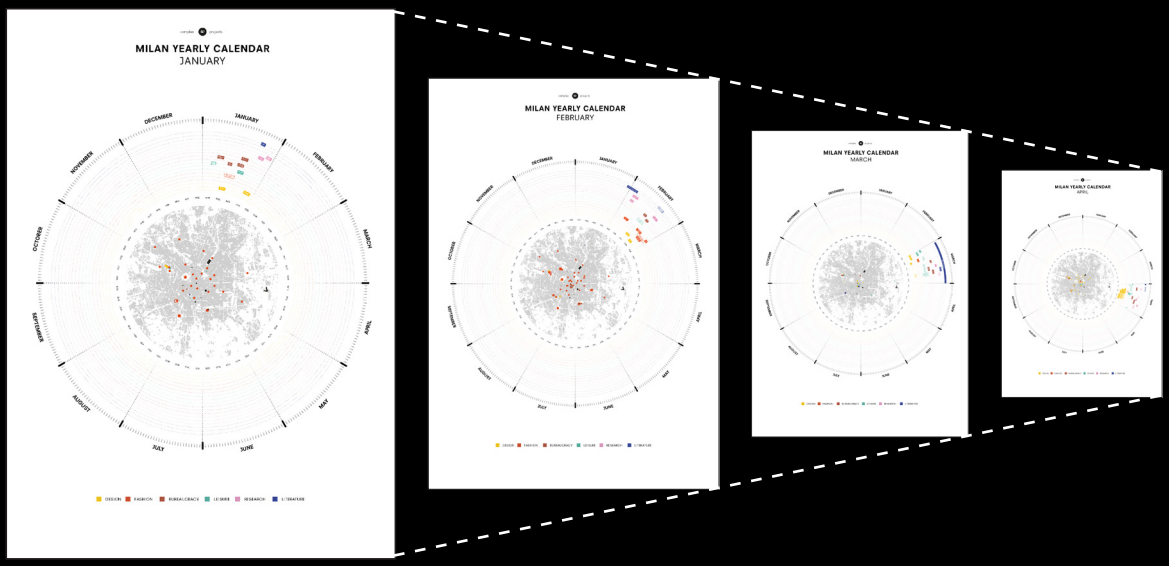
Annual, mid December
MiCo Milano Congress, Milan



GRC Robotics
The Gordon Research Conference (GRC) on Robotics will focus on various aspects of robotics, featuring discussions and presentations on innovative topics such as intelligent systems, sensors, actuators, and collective intelligence. This event aims to bring together researchers and practitioners from academia and industry to share cutting-edge developments in the field of robotics.

One-time, early December
Four Points Sheraton, Milan

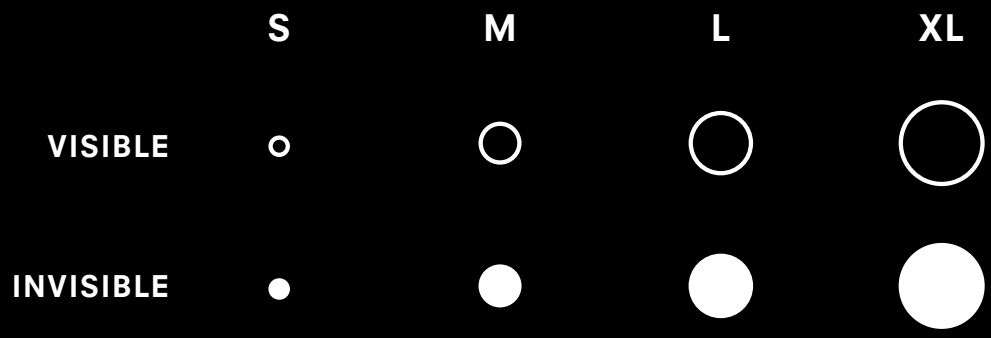
APPLICATION OF THE CALENDAR



The calendar served as a crucial tool in our research, helping us analyze the eventscape dynamics of Milan. By mapping over 220 events across the year, we examined not only their geographical spread but also their temporal distribution. This approach allowed us to identify cultural hotspots and understand which areas of the city are most impacted by events. A monthly analysis revealed distinct patterns: April and September are peak months, bustling with major events like Salone del Mobile and Milan Fashion Week, which draw international attention.

In contrast, the summer months, especially August, are marked by a slowdown in cultural activities, with a shift toward outdoor and leisure-oriented events that make the most of Milan's public spaces. This seasonal ebb and flow of events highlighted how Milan's built environment adapts to support different cultural expressions, from high-profile international gatherings to more relaxed, community-focused activities.

EVENTS CATEGORISATION

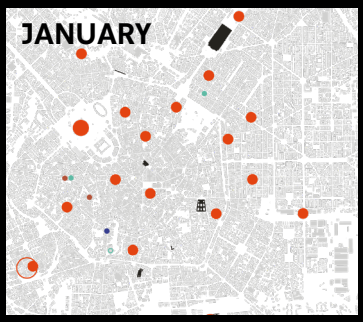


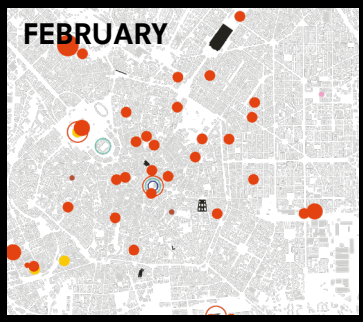
To gain a deeper understanding of Milan's cultural eventscape, we organized the events by scale, ranging from small (S) to extra-large (XL).

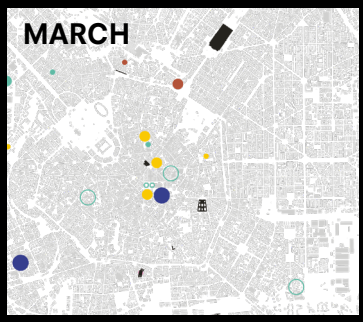
- Small-scale events (S) include intimate workshops and niche gatherings, often confined to single venues.
- Medium-scale events (M), such as conferences and symposiums, attract broader audiences and are typically hosted in dedicated event spaces like convention centers.
- Large-scale events (L), including city-wide festivals such as Milan Music Week, engage diverse audiences and utilize multiple venues across the city.
- Extra-large events (XL), such as Milan Fashion Week, span several days and involve numerous locations, transforming the city's urban fabric into a vibrant cultural stage.

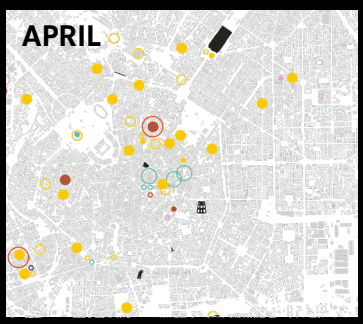
After categorizing events by scale, we mapped them geographically to visualize how different event types activate Milan's districts. This approach allowed us to identify cultural hotspots, assess the spatial impact of events, understand how the city's built environment supports a wide range of cultural activities throughout the year and define a strategy.

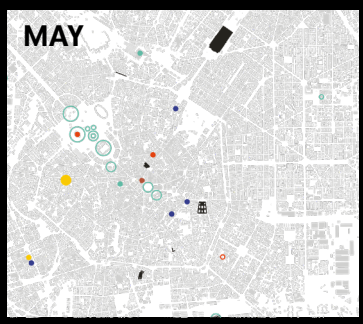
MAPS OF THE CALENDAR

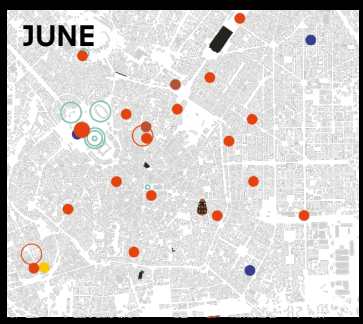


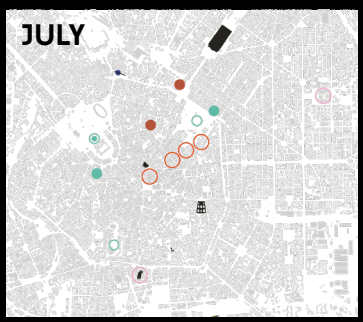


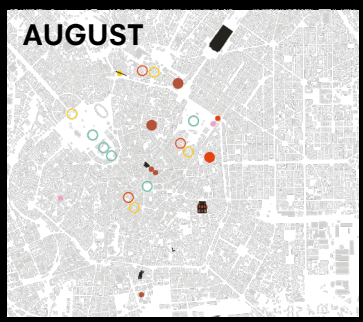


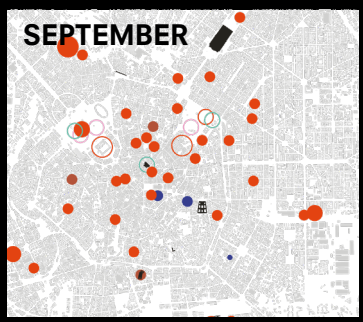


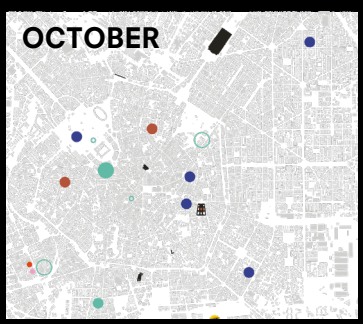


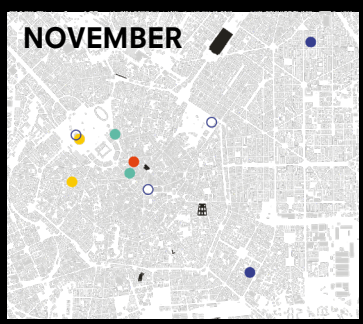


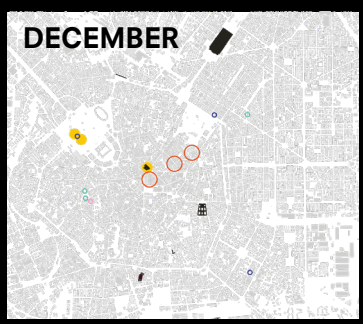












INVISIBLE EVENTS

JANUARY ● S S S S M M M M

FEBRUARY S S S S S S S S M M M M M M

MARCH S S S S S S M M M M L

APRIL S S S S S S S S S M M M M M M

MAY S S S S S S S S S S S S S S M M M

JUNE S S M M M M

JULY S S S S S M M M

AUGUST S S S S S S M M

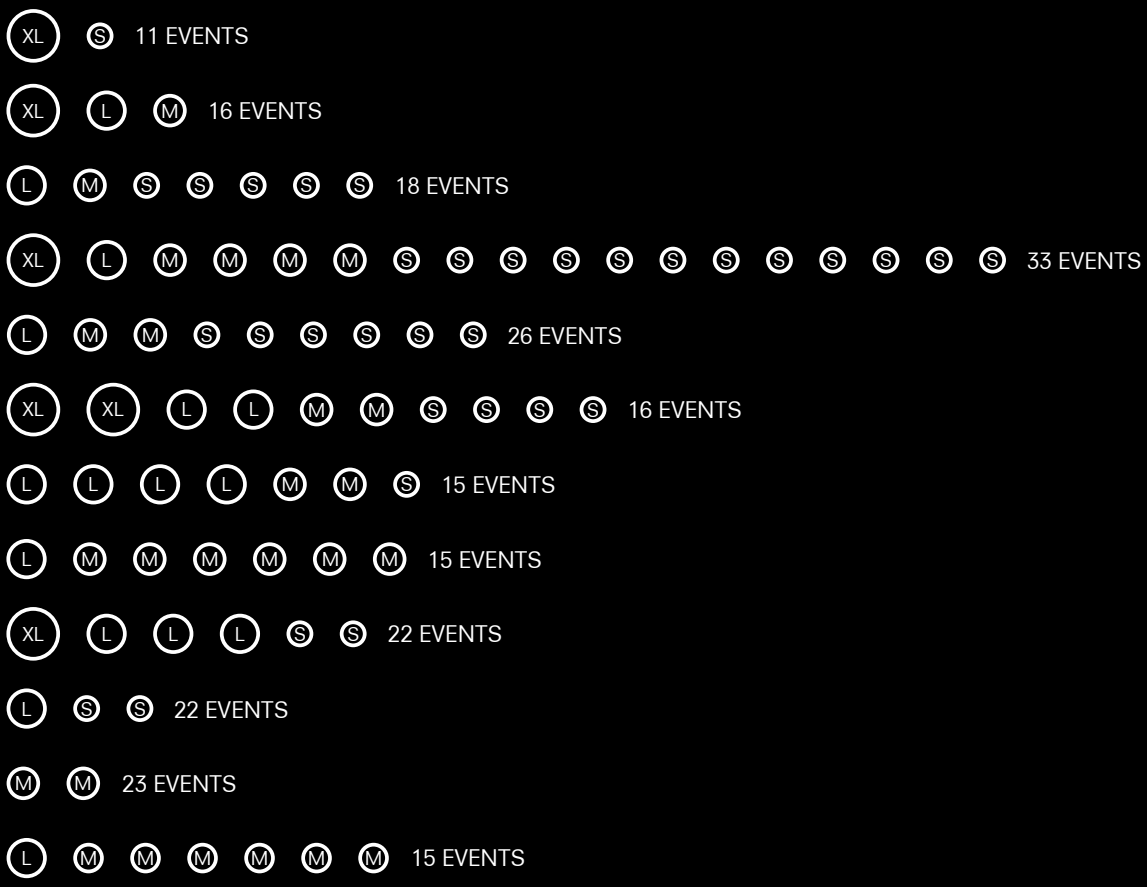
SEPTEMBER S S S S S S S S S S M M M M M M

OCTOBER S S S S S S S S S S S M M M M M M M L

NOVEMBER S S S S S S S S S S M M M M M M M M M

DECEMBER S S S S M M M M

VISIBLE EVENTS





CITY OF TEMPORALITY

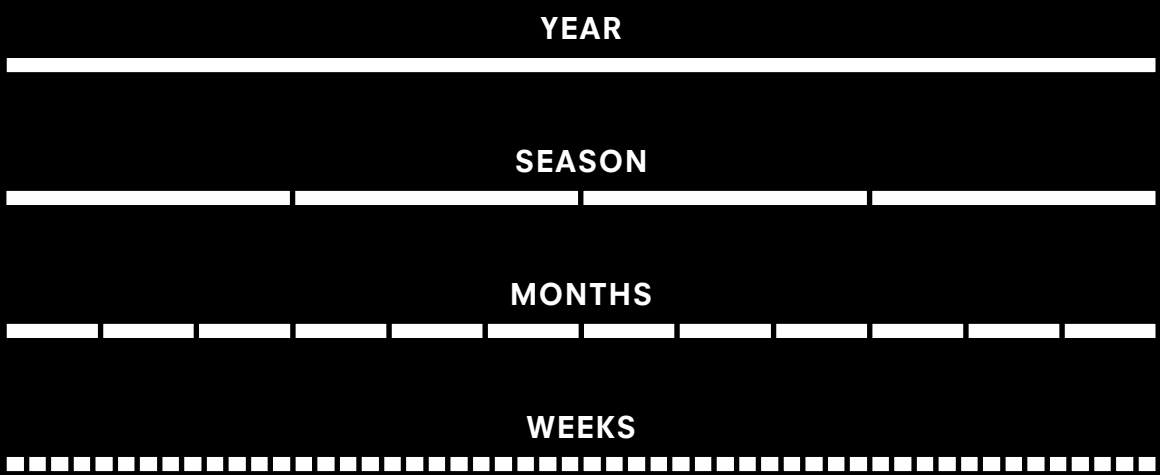
An Ever-Changing Urban Landscape

The concept of the "City of Temporality" refers to the dynamic and fluid nature of urban environments, where spaces and functions transform over time to accommodate evolving cultural, social, and economic needs.

In Milan, this concept is vividly illustrated through its robust calendar of events, from globally renowned fashion weeks and design fairs to localized community festivals and outdoor leisure activities. The city's ability to adapt its public and private spaces—shifting between daily functionality and temporary cultural stages—demonstrates a profound flexibility in urban design.

Temporary installations, pop-up venues, and adaptive reuse of historical sites contribute to a vibrant, ever-changing cityscape.

This temporal approach not only maximizes the use of space but also enriches the urban experience for residents and visitors alike, fostering a resilient and responsive city that thrives on its cultural calendar and seasonal rhythms.



PROBLEM STATEMENT

Over-Tourism and Its Impact on Milan

Milan, as a global cultural and economic hub, attracts millions of tourists annually, contributing significantly to the local economy and reinforcing its international reputation. However, this success also brings challenges, with over-tourism emerging as a critical issue affecting the city's urban fabric, cultural authenticity, and quality of life for residents.

Over-tourism is defined as the "*overcrowding of tourist destinations, where the volume of visitors exceeds the capacity of the infrastructure, leading to negative impacts on both the physical environment and the social dynamics of the area*".

In Milan, this phenomenon is particularly evident in iconic locations such as the Milan Cathedral, Galleria Vittorio Emanuele II, and the historic city center, where the influx of tourists often creates congestion, disrupts local life, and strains public services.

The effects of over-tourism in Milan are multifaceted. Economically, while tourism generates substantial revenue—approximately 8.8 billion euros in 2023—it also contributes to rising costs of living and commercial rents, often pushing out local businesses in favor of tourist-oriented enterprises.

Culturally, the "**Disneyfication**" of historic areas, where authentic local culture is replaced by commercialized, generic experiences, risks eroding Milan's unique identity. Socially, residents may feel alienated from their own city as public spaces become dominated by transient visitors. Furthermore, the environmental impact cannot be overlooked, with increased waste, higher energy consumption, and wear and tear on historic sites.

Addressing over-tourism requires a balanced approach that maintains Milan's appeal as a cultural destination while preserving its liveability for residents. Strategies might include promoting lesser-known attractions, implementing visitor management systems, and encouraging sustainable tourism practices. For architects and urban planners, this challenge presents an opportunity to rethink public spaces and cultural venues to accommodate both locals and tourists, ensuring that Milan remains a dynamic yet sustainable city.

CULTURE



THE CHALLENGE

Balancing Growth and Preserving Milan's Character

As Milan continues to thrive as a cultural and economic hub, the challenge lies in expanding its event landscape without overwhelming the city's infrastructure or diluting its vibrant identity.

Milan hosts a myriad of high-profile events, from Fashion Week to Salone del Mobile, which attract international attention but often concentrate activity within central areas such as the Duomo and Brera districts. This clustering of events not only contributes to issues of over-tourism but also limits the exposure of other equally valuable yet underrepresented neighborhoods.

The central question is how to support the growth of Milan's event scene while ensuring that the city remains livable, authentic, and welcoming to both residents and visitors.

Our group's strategy aims to address this challenge by proposing a more balanced and distributed approach to event planning and cultural activation. Rather than continuing to overload central Milan, we advocate for a model that spreads events across the city, bringing cultural activities to new areas and engaging a broader audience. This approach involves leveraging existing but underutilized spaces, such as peripheral neighborhoods and transitional zones, to host events that are traditionally concentrated in the city center.

By diversifying the geographical footprint of events, we can alleviate pressure on heavily trafficked areas, reduce congestion, and create opportunities for cultural and economic revitalization throughout the city.

The strategy is deeply rooted in respecting Milan's identity, aiming to make the city more visible, adaptable, and responsive to change.

It involves creating flexible and multifunctional spaces that can accommodate a range of cultural activities, from large-scale festivals to smaller, community-driven events.

This adaptability ensures that spaces remain active and relevant throughout the year, contributing to a resilient urban fabric. Additionally, by promoting events that highlight local culture, history, and traditions, we can enhance Milan's authenticity and provide visitors with a deeper, more meaningful experience.

Conclusevely, our vision can be summarised with **"managing growth while maintaining the city's character."**

This means not only enhancing Milan's status as a cultural capital but also preserving the elements that make it unique. By carefully balancing the expansion of events with thoughtful urban planning and cultural stewardship, Milan can continue to grow sustainably, offering a rich and dynamic environment that benefits both its residents and the global community.

1. MANAGE GROWTH

2. MAINTAIN CITY CHARACTER

3. SPREAD EVENTS

4. IMPROVE VISIBILITY OF EVENTS

VEHICLE AS A LIVING SPACE



PERSONAL STRATEGY

Vehicles as a Living Spaces

My strategy within the broader group vision focuses on transforming Milan into a "City of Temporality" by introducing a continuous cultural experience through the city's historical trams.

Embracing the concept of "On the Move," my project aims to reimagine Milan's Central Station as a dynamic hub that integrates transportation with cultural vibrancy. The strategy involves utilizing Milan's iconic historical trams not only as a means of efficient transportation but as dynamic cultural spaces where art, literature, music, and design come alive, embodying the Futurist ideal of "In Motu Vita" — Life is in Motion.

Drawing inspiration from Milanese Futurism, which celebrated movement, dynamism, and innovation, this project aims to make culture a continuous and evolving experience in the city. The historical trams will serve as mobile cultural hubs, hosting pop-up events, exhibitions, and performances that align with Milan's rich event calendar. By enabling cultural activities inside the trams, the project aims to extend the reach of major events, allowing visitors and residents to experience culture even during transit.

This approach not only improves connectivity between dispersed event locations but also transforms everyday commutes into engaging cultural experiences. The trams will act as an extension of cultural venues, offering an adaptable platform for festivals, temporary installations, and interactive experiences.

Additionally, by housing 300 "Culture" trams as part of a "Mobile Experience Centre," the project will allow cultural events to occur at any time of day, maximizing the use of infrastructure and avoiding dead spaces within the tram depots.

Ultimately, this strategy aligns with the group's ambition to manage growth while preserving Milan's cultural identity. By integrating cultural experiences into public transportation, the project contributes to a more visible, adaptable, and responsive urban environment. It fosters a resilient city that not only accommodates its vibrant cultural calendar but also ensures that culture remains an integral part of everyday life in Milan.

Through this innovative approach, the trams will not only facilitate mobility but also act as living, breathing spaces that celebrate Milan's heritage, adaptability, and dynamic future.


04



RESEARCH METHODS

RESEARCH METHODS

To address the research question—How can Milan's Central Station be transformed into a flexible, responsive, and scalable hub that addresses evolving cultural demands?—this chapter outlines a structured methodology that informs the development of the Design Brief.

The investigation is organized around three interconnected research axes: client, site, and program. Each is explored through a dedicated section of research, offering a layered and critical understanding of the project's complexity.

This tripartite framework grounds the proposal in real-world dynamics while remaining open to experimental strategies. The goal is to develop a design brief rooted in contextual sensitivity, cultural relevance, and spatial adaptability.

CLIENT

Institutional and private investors are being considered as potential clients for this project.

Given the relevance and scale of the topic, client research spans both European and local levels. The aim is to better understand the visions, motives, target users, and potential partnerships of relevant stakeholders.

To support this, precedents of successful public-private collaborations in similar projects will be studied. This analysis will help define strategic objectives and establish a framework for aligning architectural intentions with institutional agendas.

SITE

The chosen site lies within the Centrale neighborhood, with a focus on Milan's Central Station and its surrounding urban fabric. The site research is grounded in a combination of historical analysis, fieldwork, and collaborative inputs.

A preliminary investigation into the historical layers of the station and neighborhood has provided essential insights into their evolution, architectural significance, and infrastructural transformations over time.

This research will be expanded through on-site documentation during the group field visit to Milan. Photographs, mappings, and observational studies will be collected and used to produce spatial analyses and diagrams.

These will support a critical reading of flows, uses, voids, and interfaces. Integration with the surroundings—both architecturally and socially—will be a key focus, informed by the broader strategies of the Lens "Culture" and the urban-spatial lenses of the Typology "Train Station" Group.



PROGRAM

The programmatic research operates across two parallel strands: transportation hubs and cultural centers. The first strand focuses on the typological evolution of the train station, investigating how this infrastructural model has changed over time in response to shifting social, economic, and spatial conditions. This research is grounded in the comparative study of seven key case studies:

1. **Milano Centrale (existing)**
2. **Nuova Città di Milano – Carlo Moretti**
3. **Madrid Atocha Station**
4. **Gare Montparnasse (Paris)**
5. **Berlin Hauptbahnhof**
6. **Zürich Hauptbahnhof**

Each case is subjected to a five-step analytical process:

» Redrawing the station to understand spatial layout and architectural language

» Programmatic analysis to identify functions, usage types, and their relationships

» Circulation diagrams to trace the flow of people through different spaces and levels

» Mobility analysis to understand how each station connects to the broader urban system

» Program bar construction to quantify and visualize the spatial distribution of functions.

This structured approach allows for a deep reading of how station typologies respond to user needs, spatial complexity, and cultural context.

At the end of the case study series, a benchmarking exercise has been conducted to compare the stations across shared metrics—such as program distribution, circulation complexity, adaptability, and integration with the urban fabric.

The results of this comparison directly inform the strategic definition of the future program for Milan's Central Station.

In parallel, a second strand of research investigates cultural hubs as complementary typologies. Three relevant examples are analyzed to explore how public, flexible, and socially engaging spaces can be integrated into infrastructure-led environments. These studies help shape the project's ambition to move beyond transit, positioning the station as a civic and cultural anchor.

Finally, a focused study on adaptability and scalability principles supports the programmatic definition. Extracted from precedents and theoretical frameworks, these principles are diagrammatically tested within speculative scenarios, ensuring that the design can accommodate future transformations without losing coherence or identity.

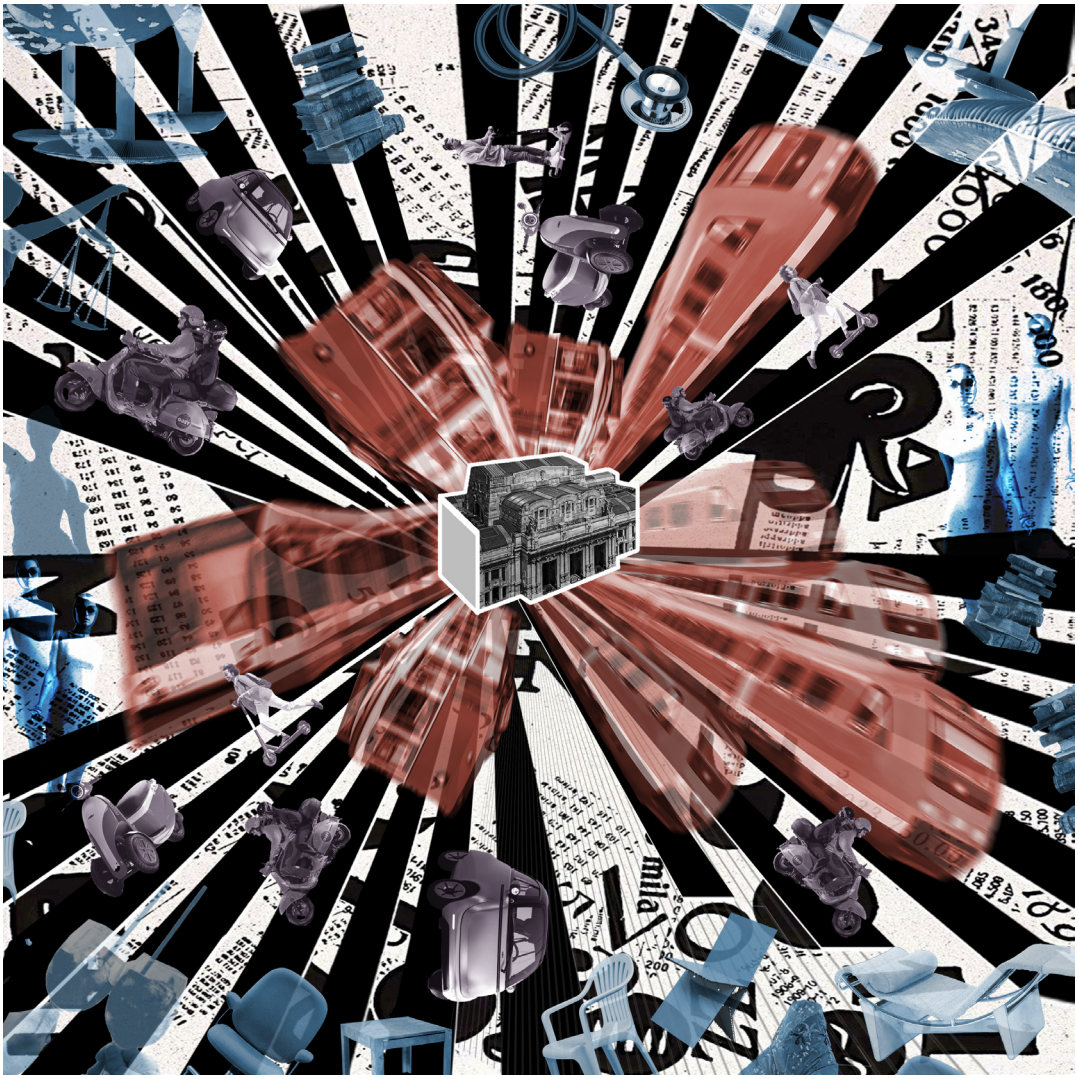

05


AZIONE
DI MILANO
DESIGN
BRIEF

“from gate to hub”

DESIGN BRIEF

The goal of this project is to redefine the concept of a train station by introducing a speculative and innovative typology. By integrating efficiency with a dynamic cultural program and designing for adaptability, the proposal envisions a station that is not only future-proof but also deeply connected to the community. It aspires to transform the train station from a mere transit hub into a vibrant, multi cultural space where the Milanese community can engage with events, fostering a sense of identity and belonging.



CLIENT GROUP

The client group consists of eight partners, divided into two main categories: the transportation hub and the mobility experience center. The primary focus is on the ATM Group, whose mission to enhance sustainable mobility and improve the overall user experience in Milan directly aligns with the project's goals.

The ATM Group, a leading public transport company in Milan, is dedicated to fostering an integrated transportation network that not only addresses the mobility needs of the city but also promotes a higher quality of life for its residents and visitors. This collaboration shapes the direction of the project, with the goal of creating a transport hub that reflects the city's evolving demands for greater connectivity and cultural vibrancy.

To guide the design process, the project identifies eight key objectives that focus on improving both the operational efficiency of the station and its cultural relevance. These goals include reducing congestion, increasing comfort, enhancing the overall passenger experience, and positioning the station as a central cultural destination in Milan.

TRANSPORTATION HUB

1. Land Owners: Comune di Milano

As the municipal authority, the Comune di Milano owns and manages the land where the project is being developed.
Their interest lies in the project's potential to revitalize public space, reduce congestion, and reinforce Milan's position as a forward-thinking European city through integrated, accessible infrastructure.
The city is invested in ensuring that the station becomes a true urban catalyst.

2. Railway Operator: TreniItalia

Trenitalia, Italy's national railway operator, brings operational expertise and logistical efficiency to the transportation core of the project.
Their focus is on optimizing train connectivity, punctuality, and inter-modality, ensuring that the station functions seamlessly within the national rail network. Their participation also strengthens the hub's capacity to attract long-distance travelers and enhance regional mobility.

3. Commercial Organisation: Grandi Stazioni Retail

This commercial body manages and curates retail experiences within Italy's major train stations. Their interest lies in the economic potential of high-footfall areas within the hub, where cultural activity and transport converge to create attractive spaces for consumption and leisure.
Through their presence, the project gains an important commercial layer, making it financially sustainable.

4. Shared Mobility Provider: Enjoy

Enjoy is one of Italy's leading car- and scooter-sharing services, with a strong focus on flexible urban mobility. Their role in the project is to support last-mile connectivity and ensure seamless transitions between public and shared transport.

Their involvement also aligns with the project's broader goal of encouraging multi-modal, low-emission travel throughout the city.

MOBILE EXPERIENCE CENTRE

5. Cultural Investors: Ministero della Cultura

The Italian Ministry of Culture provides institutional support and funding for initiatives that expand public access to culture and the arts.

Their investment in this project is aligned with the ambition to embed cultural programming within everyday infrastructure, bringing exhibitions, performances, and education closer to people's daily lives.

6. Event Organiser: Salone del Mobile

As the world's most renowned design fair, Salone del Mobile brings with it an international audience and creative vision.
Their involvement transforms the Mobile Experience Centre into a flexible event platform, capable of adapting to yearly design events as well as smaller, ongoing exhibitions. This collaboration ensures the project remains connected to global design discourse while supporting local creative ecosystems.

7. Brands: Gruppo Mondadori

Mondadori, one of Italy's largest media and publishing companies, adds a strong editorial and cultural voice to the project.

Their participation highlights the role of the Mobile Experience Centre as a space for literature, communication, and storytelling, encouraging a richer engagement with media in public space.

8. Tram Provider: ATM Group

ATM is Milan's public transport operator, responsible for managing the city's tram, metro, and bus services. As a lead collaborator, ATM's mission to advance sustainable, smart, and inclusive mobility directly supports the development of the Experience Tram Line, which integrates cultural content into moving infrastructure. Their technical expertise and vision make them essential to the project's ambition of turning transit into an active civic and cultural experience.

THE ATM GROUP

ATM (Azienda Trasporti Milanesi) is a global leader in public transportation, managing urban and suburban mobility systems in Milan, Copenhagen, and Thessaloniki. The company operates a wide range of services, including metro lines—both conventional and fully automated—buses, trams, trolleybuses, and bike sharing.

ATM is recognized for its expertise in automated metro systems, currently managing seven driverless lines across Europe. It handles the full mobility value chain, from planning and operations to maintenance and innovation, serving over 5.7 million people daily.

With a strong focus on sustainability, ATM is advancing a full electrification plan for its bus fleet and continues to modernize urban transport infrastructure to build cleaner, smarter cities.





ATM Group operates advanced public transport systems in three key cities. In Milan, it manages metro, tram, bus, and trolleybus services, including two fully automated metro lines.

In Copenhagen, ATM runs the city's automated metro network, offering 24/7 service across four lines.

In Thessaloniki, it launched Greece's first automated metro in 2024, blending modern mobility with archaeological heritage. Together, these cities reflect ATM's expertise in sustainable, high-tech urban transport.

THE VALUES

In an era where public transport must respond not only to technical challenges but also to social, environmental, and cultural shifts, ATM Group stands out by grounding its operations in a clear set of core values. This subchapter explores three foundational principles that shape ATM's identity and guide its strategy across Milan, Copenhagen, and Thessaloniki: Customer First, Sustainable Development, and Thinking Innovation.

Each value reflects more than a slogan—it encapsulates a commitment embedded in both daily operations and long-term planning. From prioritizing passenger needs and ensuring a seamless travel experience, to leading the charge in sustainable urban transformation and advancing bold, future-oriented solutions, ATM's approach goes beyond mobility. It reimagines public transportation as a catalyst for inclusive, resilient, and forward-looking cities.

Through this lens, I examine how these values not only inform ATM's service design and infrastructure development but also help shape a broader cultural and urban evolution, particularly in a city like Milan.

1. CUSTOMER, ALWAYS FIRST

ATM places the customer at the heart of every service and operational decision, recognizing that user satisfaction is the foundation of successful public mobility.

By prioritizing ease of access, clarity of information, and reliability, the company aims to create a seamless and inclusive transport experience.

This value reflects ATM's belief that mobility is not just about moving people—it's about improving their daily lives through thoughtful, human-centered service.



"Ensure the centrality of the customer in all services and operations, offering an experience that prioritizes their needs"

2. SUSTAINABLE DEVELOPMENT

ATM actively drives Milan's transformation into a greener, smarter, and more livable city. With its "Full Electric Plan," the company leads the shift toward zero-emission mobility, aiming to fully electrify its bus fleet and integrate sustainable practices across its operations.

This commitment goes beyond infrastructure, embedding sustainability into urban regeneration efforts that align transport with climate goals and quality of life improvements.



"Promoter of the change and revival of Milan, of its evolution in a more livable, sustainable, secure and smart city"

3. THINKING INNOVATION

ATM embraces innovation not as a trend, but as a mindset that fuels its evolution as a mobility leader. With a vision fixed on the future, the company invests in advanced technologies—from contactless payment systems to intelligent transport infrastructure—and seeks bold, creative solutions to urban challenges.

This commitment to innovation is visible in projects that blend design, sustainability, and smart operations, reaffirming ATM's role as a pioneer ready to redefine the boundaries of public transport.



"Always to keep the gaze pointed towards new horizons,
with the audacity to be able to go beyond defined boundaries"

4. INTEGRATED URBAN VISION

ATM approaches transportation not as an isolated service, but as an integral part of the urban fabric. By aligning mobility planning with broader urban regeneration efforts, the company helps design cities that are more connected, inclusive, and efficient.

Whether developing metro lines that catalyze neighborhood revitalization or integrating green spaces and infrastructure in depot projects, ATM plays an active role in reimagining urban life. This integrated vision makes mobility a driver of positive spatial and social transformation, not just a means of transit.



"Facilitating urban development through our operational excellence
and strategic transport planning."

USERS

At its core, the project acknowledges the dynamic nature of Milan's transportation landscape, particularly focusing on Milano Centrale railway station, which accommodates over 320,000 passengers daily.

This immense daily flow underscores the necessity for a transportation hub that not only manages high volumes efficiently but also enriches the travel experience. By integrating cultural and civic programs into the mobility infrastructure, the project aims to transform transit spaces into vibrant public realms.

This approach ensures that the station serves not just as a point of departure or arrival but as a destination in itself, fostering engagement and interaction among diverse user groups throughout the day.

320.000 VISITORS DAILY

PASS-THROUGH PASSENGERS



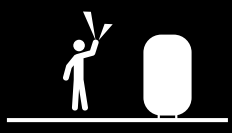
Pass-through passengers are daily commuters or long-distance travelers who experience the building as a transitional node—one efficient step in a broader journey.

DESTINATION PASSENGERS



Destination passengers treat the station as their endpoint, drawn by cultural events, public services, or spaces for work, leisure, and social interaction.

HOP-ON HOP-OFF USERS



Destination passengers treat the station as their endpoint, drawn by cultural events, public services, or spaces for work, leisure, and social interaction.

USER JOURNEY

To inform the design strategies of the On the Move project, I conducted a detailed study of the user journey within the train station.

By mapping the spatial and emotional rhythm of a typical travel sequence—from arrival to train departure—I aimed to better understand users' needs, behaviors, and moments of friction.

This analysis revealed how flow intensity fluctuates across different phases, offering critical insights into when and where passengers require clarity, comfort, or engagement. These findings form the foundation for design solutions that respond to real user dynamics, turning the station into an adaptive and responsive urban environment.

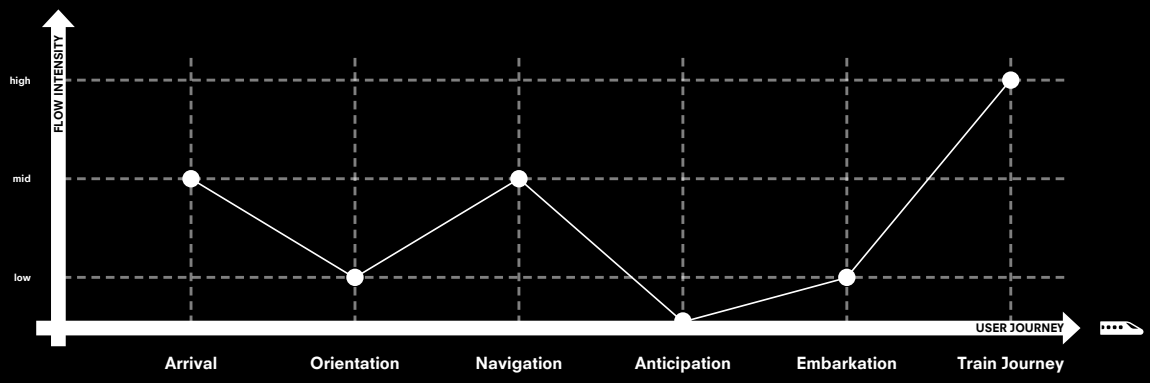


Image: own production

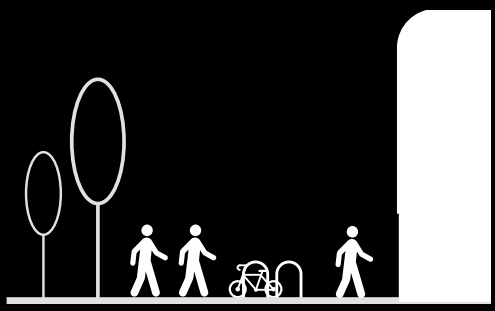
This diagram visualizes the user journey through a transit space, mapping the intensity of flow at each stage leading up to the train journey. It identifies six key moments: Arrival, Orientation, Navigation, Anticipation, Embarkation, and finally, the Train Journey itself.

At Arrival, flow intensity is moderate, as passengers enter the space and begin to engage with their surroundings. Orientation sees a dip in intensity, reflecting a slower pace as users pause to gather information and locate themselves. During Navigation, movement picks up again as users make purposeful progress through the space toward their platform. This is followed by a notable drop during Anticipation, when passengers slow down again while waiting. Embarkation marks a slight increase as users prepare to board. The peak of movement happens during the Train Journey, representing both the culmination of the station experience and the transition to another urban or regional space.

The diagram highlights how different spatial zones within a station must accommodate varied rhythms and densities, helping designers align architectural and service interventions with real user behaviors.

USER JOURNEY

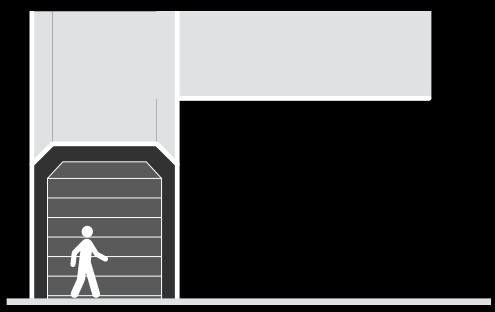
1. ARRIVAL
Upon entering the station, users encounter the Main Hall, which serves as both a threshold and a first impression.
At this point, the user seeks visual clarity and accessible cues to guide their next steps, making clear signage and real-time information essential.



2. ORIENTATION
In this slower-paced phase, users pause to understand where they are and where they need to go. Attention shifts toward navigation tools—wayfinding systems, digital displays, and staff assistance. and their stress level may rise if information is unclear. Strategic placement of amenities and visibility is essential to ease decision-making.

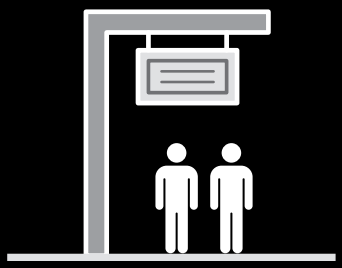


3. NAVIGATION
With a route in mind, users begin to move deliberately through the station. Transitions between the Main Hall and corridors or staircases should feel intuitive. Signage and floor patterns guide flow, while opportunities for incidental engagement—like pop-up services or cultural content—can add value without distraction.



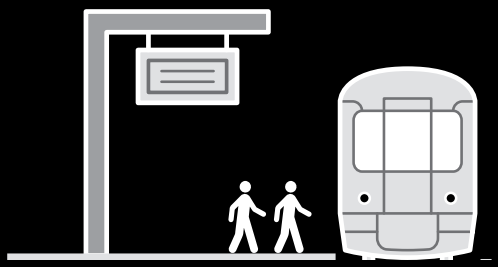
4. ANTICIPATION

Once on the platform, movement slows dramatically and users are in a state of waiting. Shelter, seating, visibility of trains, and audio-visual clarity all impact comfort.
The environment should support a sense of safety, readiness, and temporal awareness—ensuring users don't miss their train and feel at ease while waiting.



5. EMBARKATION

Passengers converge at doors, and congestion can occur. Spatial design must accommodate smooth boarding, aided by platform markings, boarding signals, and train staff coordination. Embarkation is a moment of convergence: design solutions should focus on crowd flow, minimizing confusion, and facilitating access for all mobility levels.



6. TRAIN DEPARTURE

The station experience fades, and the user enters a new rhythm of movement. While no longer physically in the station, the memory of the previous experience—whether chaotic or seamless—can influence future behaviors and trust in the system. Its architectural and operational coherence continues to shape how users perceive the train mobility network.

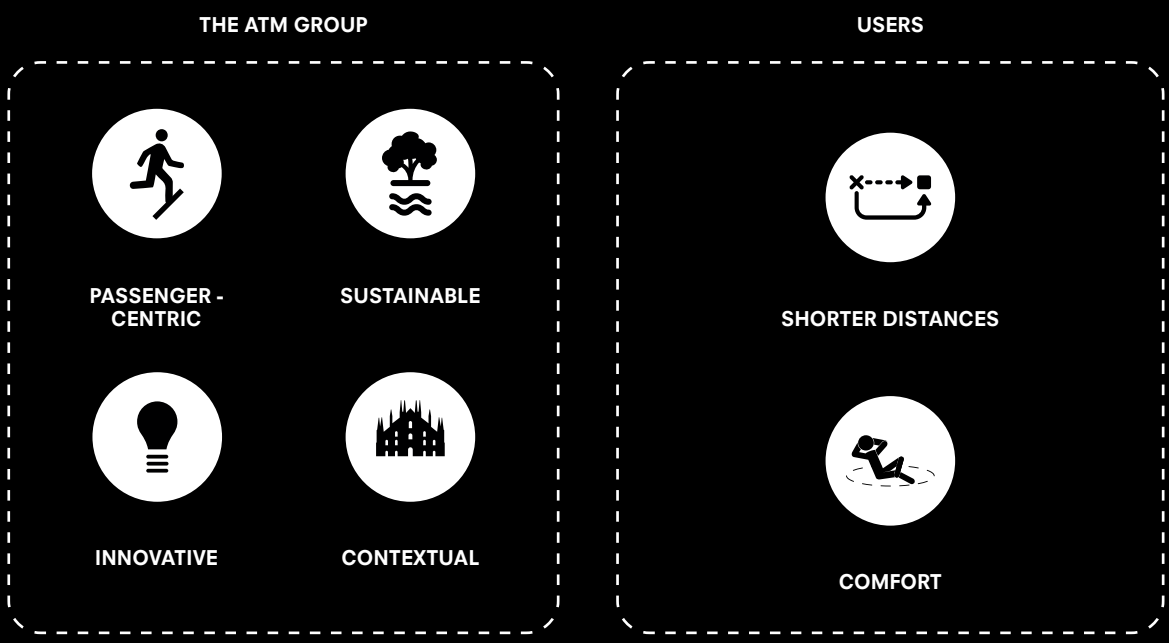



TRANSFER TIME
COMFORT

CLIENT & USER AMBITIONS

The ambitions of both the client and the users focus on creating a passenger-centric experience, where the needs and comfort of travellers take priority in every aspect of the design. This includes a sustainable design approach that minimizes environmental impact while fostering a green and efficient urban mobility system.

By aiming for shorter distances and streamlined layouts, the project seeks to reduce interchange time, enhancing the station's overall functionality and ease of use. An innovative and contextual design ensures that the station aligns with Milan's cultural and urban identity. Additionally, the ambition to provide greater comfort for users highlights a commitment to creating a space that is not only practical but also inviting, ensuring an elevated experience for all types of passengers.

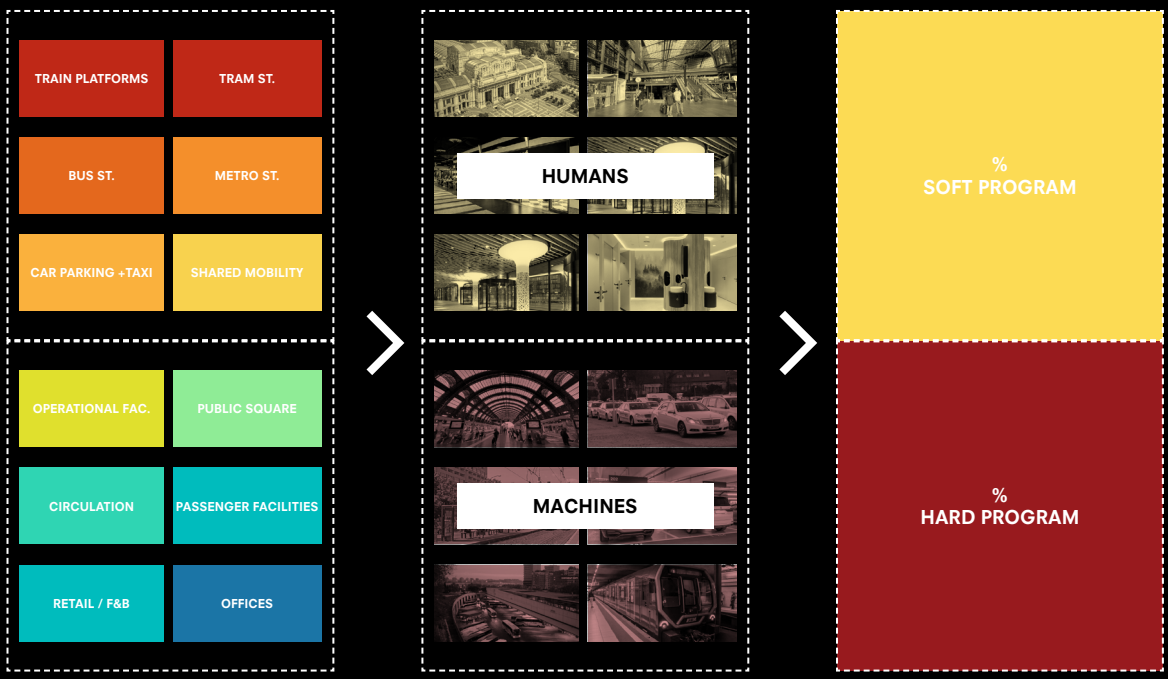


The On the Move project brings together the shared ambitions of both the ATM Group and its users to redefine the train station as a human-centered, efficient, and meaningful urban space.

Rooted in passenger-centricity, the design prioritizes user comfort and accessibility, while embracing sustainable strategies that minimize environmental impact. Guided by innovation and a contextual sensitivity to Milan's cultural identity, the station becomes more than infrastructure—it becomes a public space that reflects the city itself.

For users, the project delivers shorter distances and streamlined layouts, reducing interchange time and simplifying navigation. By enhancing comfort at every step of the journey, the design creates an inviting, inclusive environment that supports all types of passengers—from commuters to tourists—while advancing the broader goal of a green and integrated mobility system.

PROGRAM RESEARCH - TRAIN STATION



The research conducted on the train station typology is grounded in the program division illustrated in the diagram above. As a first step, each selected station was redrawn to better understand its spatial layout and internal organization.

Following this, all functions were classified into two main categories: those designed for **machines** (infrastructure, transport systems, and technical operations) and those designed for humans (social spaces, services, and cultural or commercial functions). This binary categorization formed the basis for defining Hard Program (infrastructural) and Soft Program (human-centered), allowing for a comparative and quantitative analysis of each case.

These two categories—hard and soft—serve as the foundation for understanding how space is allocated and prioritized in contemporary transportation hubs. The Hard Program includes elements such as platforms, tram and metro stations, parking, and shared mobility infrastructure, while the Soft Program includes retail, food and beverage spaces, offices, waiting areas, public squares, and passenger services. Each station is translated into a program bar, summarizing the proportion between the two programs in visual and measurable terms.

This methodology has been applied to six case studies, selected for their architectural quality, functional complexity, and urban significance:

1. Gare du Montparnasse (Paris),
2. Milan Central Station,
3. Zürich Hauptbahnhof,
4. Berlin Hauptbahnhof,
5. Madrid Atocha Station,
6. "New City of Milan" project by Carlo Moretti.

These examples span a range of historical periods and planning approaches, from monumental 20th-century stations to visionary unbuilt proposals.

To conclude the analysis, these program bars are used in a benchmarking exercise, offering a comparative view of how each station balances movement, service, and public life.

This allows for a deeper understanding of how contemporary and historical train stations negotiate infrastructure and human experience within a single urban system.

GARE DU MONTPARNASSE



MILAN CENTRAL STATION



ZÜRICH HAUPTBAHNHOF



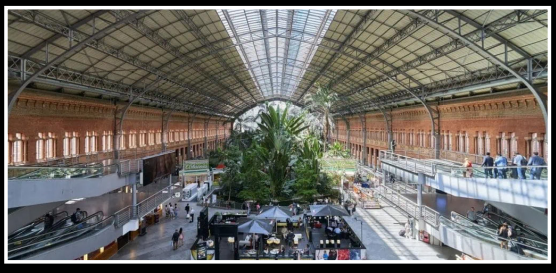
BERLIN HAUPTBAHNHOF



NEW "CITY" OF MILAN



MADRID ATOCHA STATION




GARE MONTPARNASSE
SNCF
Hall 4
Île-de-France
BIENVENIDOS • BEM-VINDO • ようこそ
BIENVENUE • WELKOM • 欢迎
BENVENUTI • WILLKOMMEN
VIGI360 VOUS ENTREZ DANS UN ESPACE VIDÉO PROTÉGÉ.
VIGI360 VOUS ENTREZ DANS UN ESPACE VIDÉO PROTÉGÉ.
VIGI360 VOUS ENTREZ DANS UN ESPACE VIDÉO PROTÉGÉ.
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BIENVENUE

GARE MONTPARNASSE

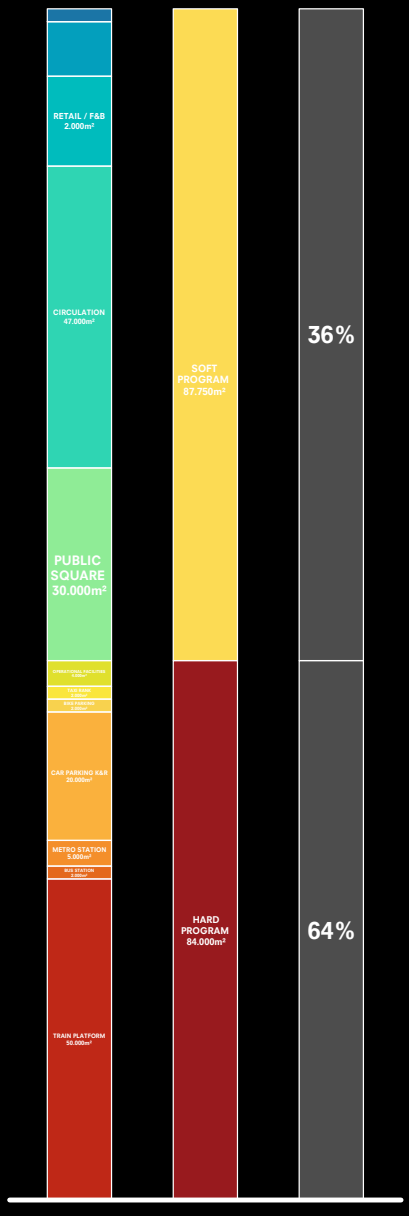
DATA:

» Arch: Eugène Beaudouin
» Year: 1969
» Footprint: 60.000m2
» Total GFA: 185.000m2
» Traffic: 320.000 p/day
» Platforms: 28

Gare Montparnasse is one of the six major railway stations in Paris, located in the city's 15th arrondissement. Originally opened in the 19th century and completely rebuilt in the 1960s, the station is known for its integration within a modernist urban fabric, blending rail infrastructure with large-scale office and commercial developments.

Unlike Paris' more classical termini, Montparnasse reflects the ambitions of post-war urban planning, particularly with its position beneath the Montparnasse Tower and its role in linking Paris to the Atlantic regions via TGV high-speed lines.

Over time, it has evolved into a layered, multifunctional hub, balancing heavy rail operations with shopping, public services, and metro access across multiple levels. The station is currently undergoing renovations to improve its spatial clarity, accessibility, and environmental performance.



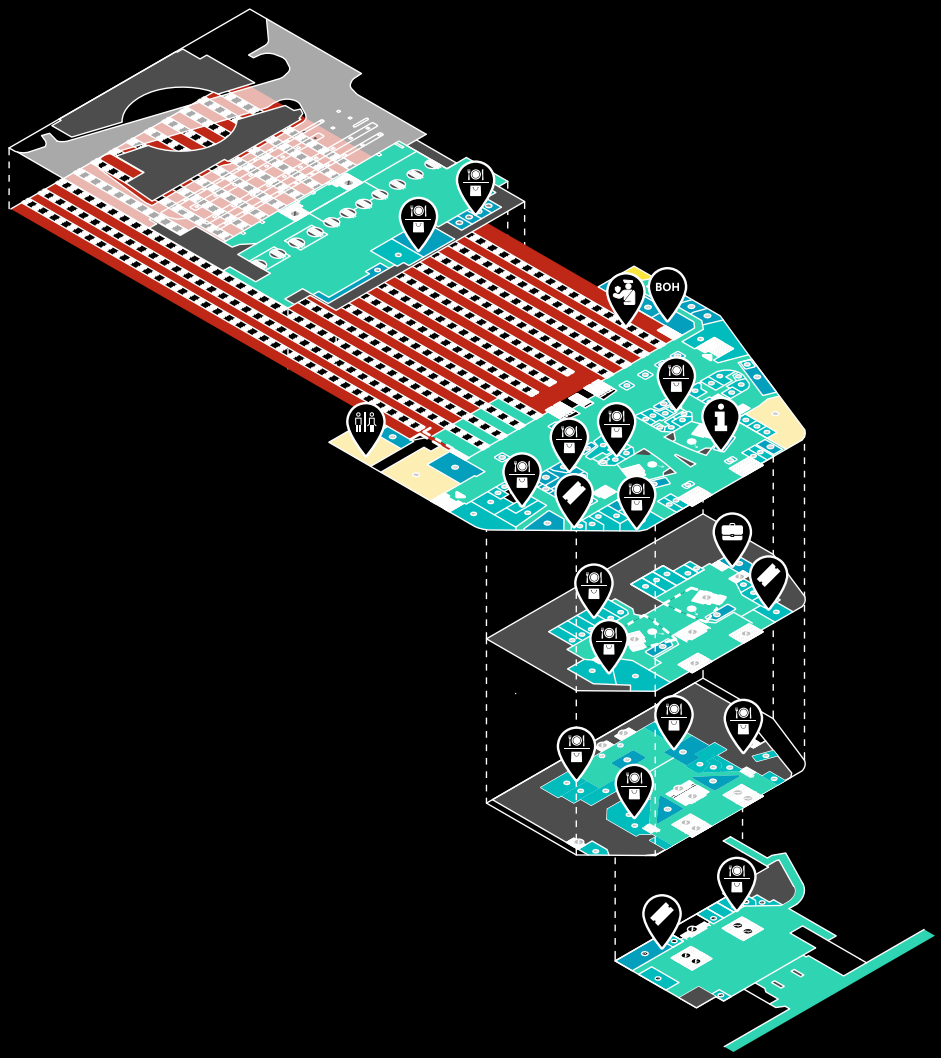
STATION TYPE:
END STATION



INTEREST:
PLATFORM ACCESSES



PROGRAM

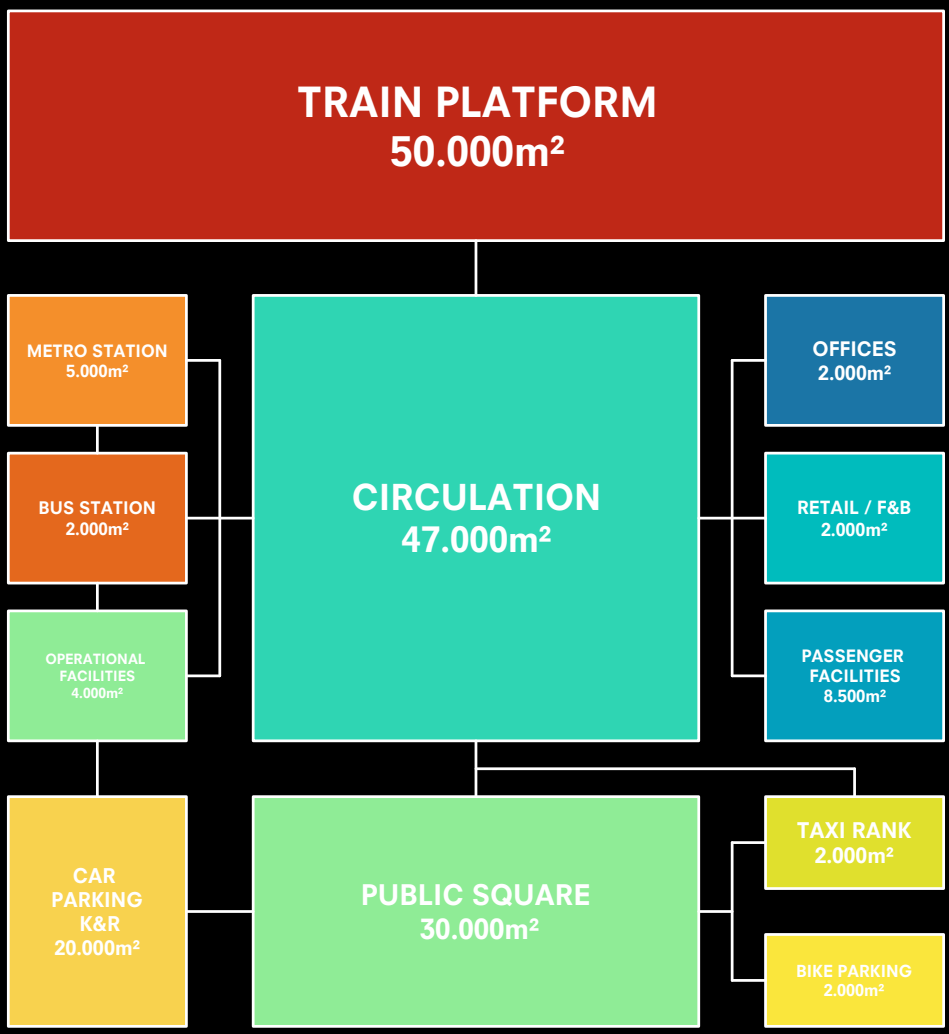


Services at Gare Montparnasse are distributed across several interconnected levels, supporting both travel-related needs and everyday urban activity.

The main concourse includes ticket counters, automated machines, information points, restrooms, and a growing range of food and beverage outlets. Retail services—especially fashion, newsstands, and travel essentials—are integrated into circulation paths, making them easily accessible without disrupting flow.

The station also includes business lounges, waiting areas, and baggage services tailored to both high-speed and commuter rail passengers.

ORGANISATION

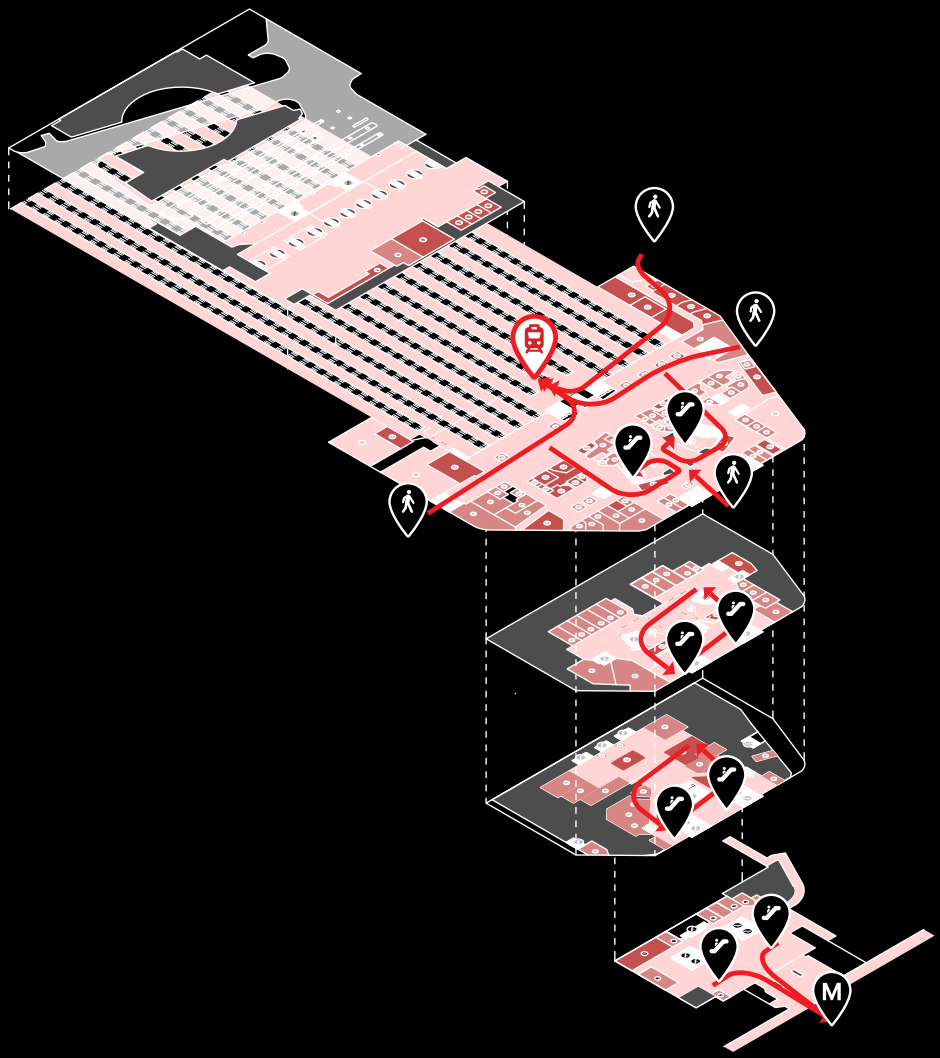


The program organization of Gare Montparnasse train station is centered around a large circulation space that connects the primary functional areas of the station. The train platform is the most significant element, with direct links to offices, retail and F&B spaces, passenger facilities, and a public square.

The station integrates multimodal transport options, including a metro station, taxi rank, and a substantial car parking area.

Operational facilities support the station's functionality, ensuring smooth connections between transportation modes.

CIRCULATION

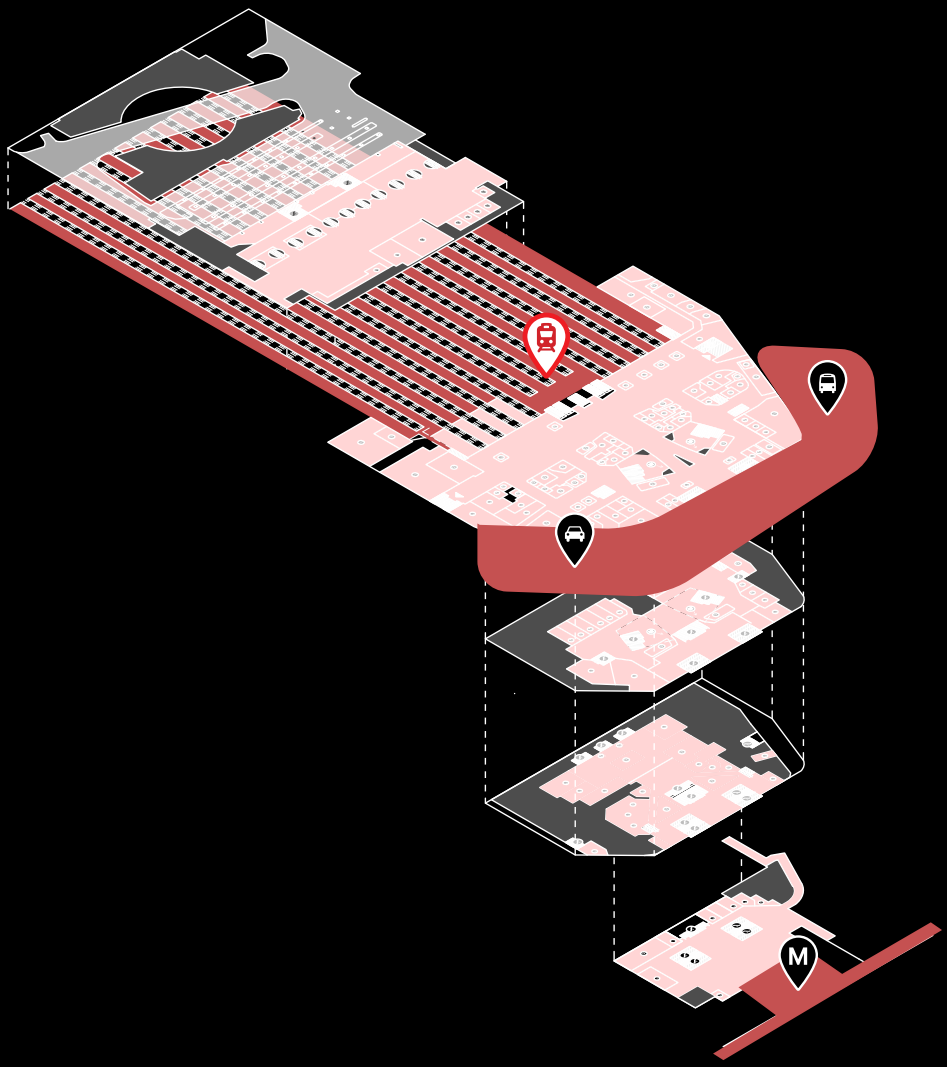


At the Main Hall level—closest to the train platforms—key services include ticketing counters, information points, toilets, and back-of-house (BOH) areas, all strategically placed to support immediate passenger needs upon arrival or before departure.

Moving vertically through the lower levels, services such as retail, food and beverage, seating, and waiting areas are evenly distributed.

The even spread of services helps avoid congestion at key points and ensures that users can access amenities regardless of their entry or exit path, enhancing comfort and usability throughout the station.

MOBILITY



Cars and buses arrive at the main level, where they are placed just outside the station building, allowing for direct and convenient drop-off and pick-up access. This level also houses the train platforms, enabling a fast and seamless transition between street-level transport and long-distance rail services. The metro system is located two levels below the main hall, connected by a series of vertical circulation elements such as escalators and elevators. This configuration separates high-frequency local transit from intercity and regional travel, while maintaining efficient vertical connections.

The result is a well-layered, multi-modal hub where interchanges between car, bus, train, and metro are optimized for clarity, flow, and ease of use.


ROBERTO FVLTON
GIORGIO STEPHENSON
Meet.
Shop.
Eat.

MILANO CENTRALE

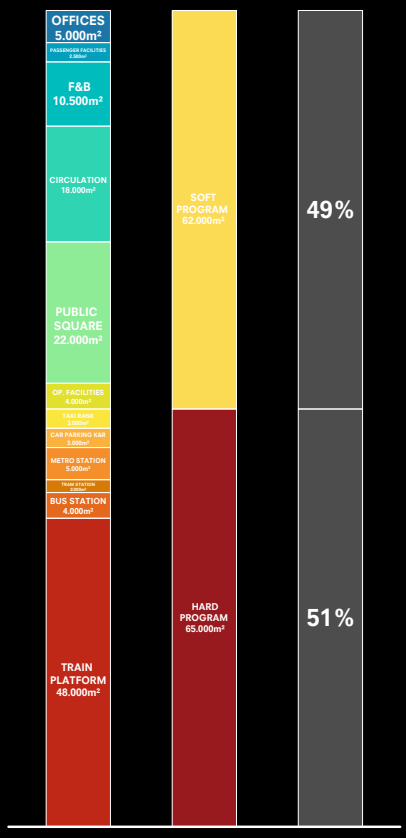
DATA:

» Arch: Ulisse Stacchini
» Year: 1931
» Footprint: 93.000m2
» Total GFA: 286.000m2
» Traffic: 320.000 p/day
» Platforms: 24

Milan Central Station is one of Italy's largest and most iconic railway terminals, located just northeast of the city center. Inaugurated in 1931, the station was designed to reflect the power and ambition of the Fascist regime, blending monumental scale with an eclectic mix of architectural styles, including Art Deco, Liberty, and Rationalism.

Over time, it has evolved into a critical hub for high-speed trains (Frecciarossa and Italo), regional connections, metro lines, and airport shuttles. The station is organized around a vast central hall and multiple platform levels, with commercial services, waiting areas, and circulation paths layered throughout.

Recent renovations have aimed to modernize passenger services and improve connectivity while preserving the building's historical identity. Milan Central today functions not only as a transport node but also as a civic landmark, linking the city to both national and international networks.



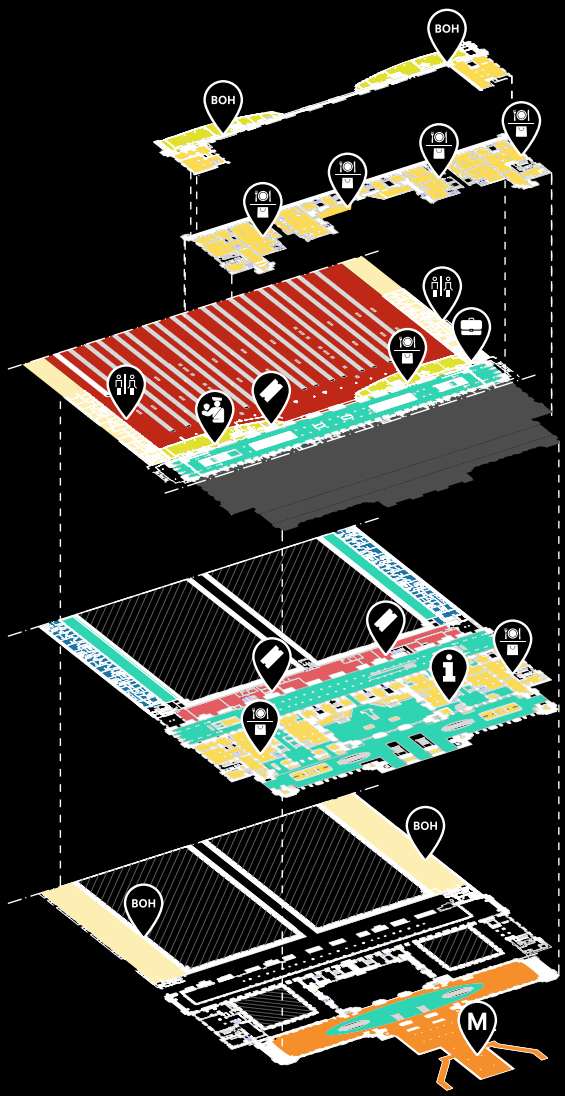
STATION TYPE:
END STATION



INTEREST:
MONUMENTALITY



PROGRAM

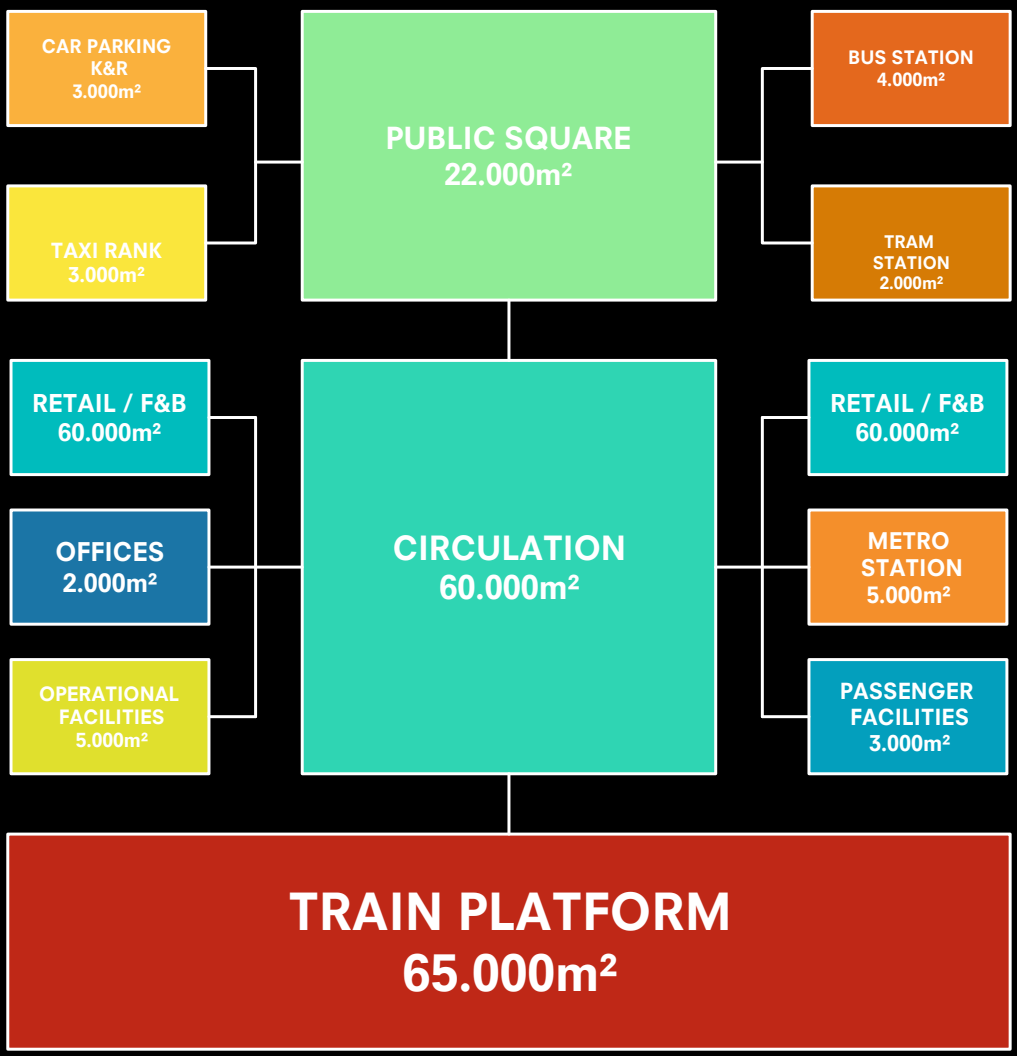


Inside the main hall and along the platforms, passengers have access to ticket counters, automated machines, information points, luggage services, and restrooms.

In recent years, the addition of a multi-level shopping gallery has brought in a mix of retail stores, cafes, restaurants, and travel services, making the station a functional space not only for transit but also for daily use.

Services are distributed across both the ground and mezzanine levels.

ORGANISATION

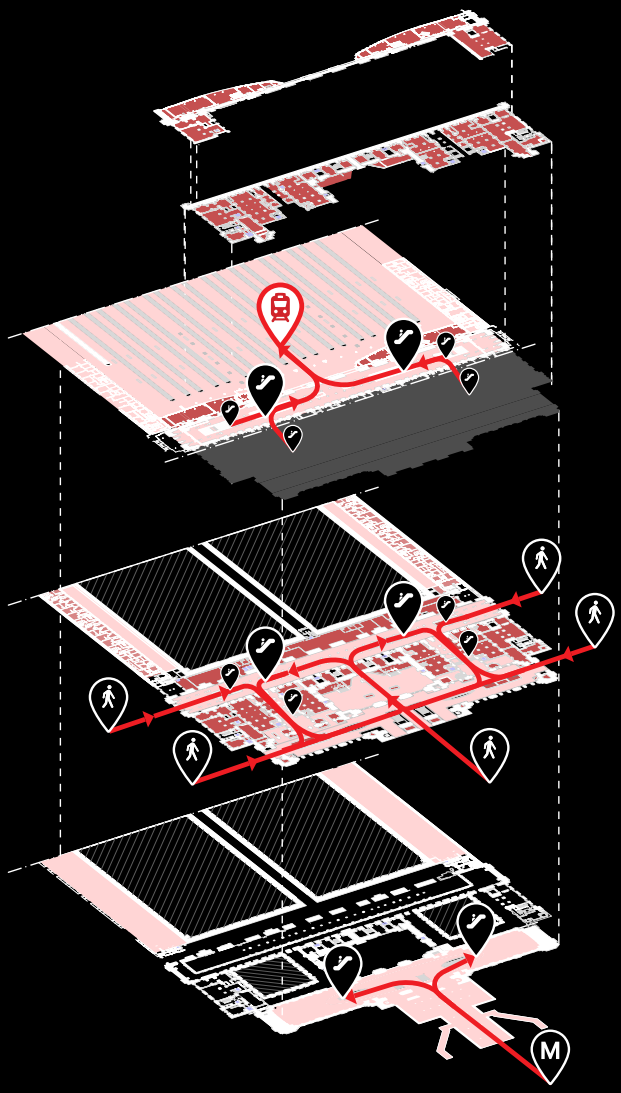


The train platforms, occupying the largest single area, are directly connected to the circulation zone, which acts as the main distributor for all other programs.

Retail and food services are placed symmetrically on both sides of this core, suggesting an emphasis on accessibility and commercial integration. Public spaces, such as the square, metro station, tram and bus terminals, and taxi ranks, are arranged around the perimeter to support multimodal access.

Supporting functions like operational facilities, offices, and passenger services are embedded within this network, ensuring logistical efficiency without disrupting the flow.

CIRCULATION

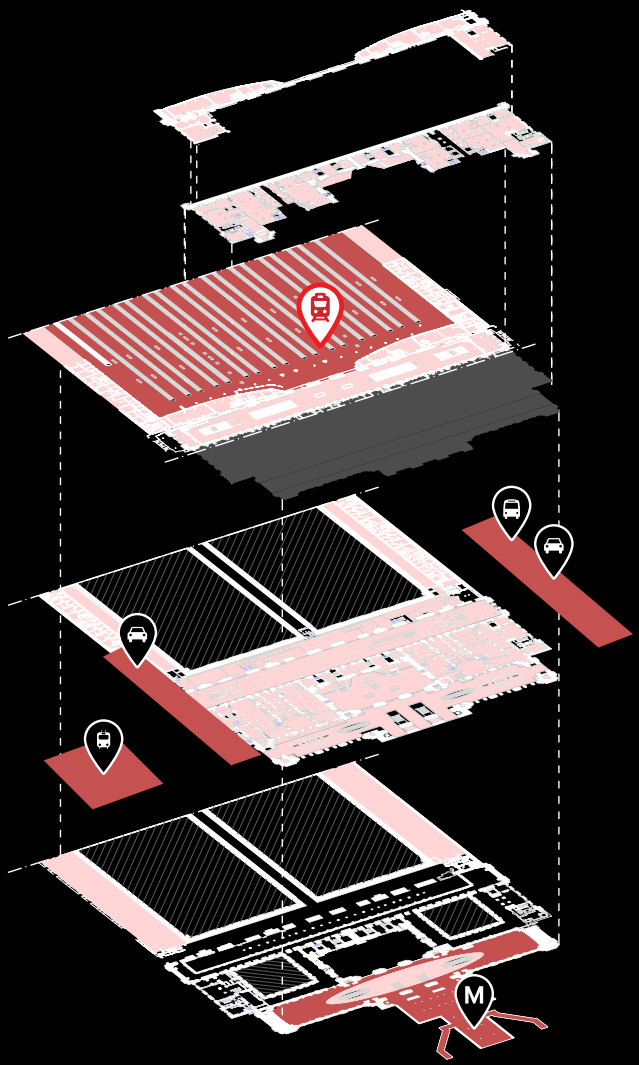


Circulation within Milan Central Station is shaped by its monumental architecture and layered layout. Passengers enter through the main façade and pass through a grand vaulted hall, which serves as a primary point of orientation.

From there, access to platforms, ticketing areas, and commercial spaces is provided through escalators, staircases, and long passageways that guide movement across different levels.

Recent refurbishments have improved signage, lighting, and vertical connections, making it easier for users to navigate between the entry level, mezzanines, and platforms.

MOBILITY



Milan Central is one of Italy's most important intermodal hubs, connecting high-speed rail, regional trains, metro lines, buses, and airport shuttles.

High-speed services such as Frecciarossa and Italo depart from upper-level platforms, while regional and suburban trains operate from adjacent tracks. Beneath the main concourse, two metro lines (M2 and M3) provide underground connectivity to the wider city.

At street level, bus terminals and taxi ranks are positioned on both sides of the station, along with designated areas for airport coaches and private car drop-offs.



ZÜRICH HAUPTBAHNHOF

DATA:

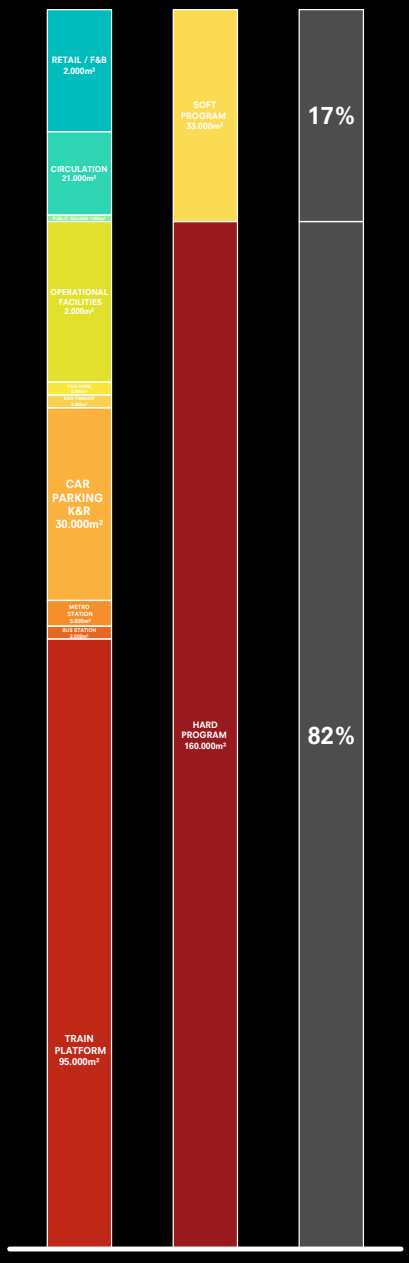
» Arch: J. Friedrich Wanner
» Year: 1871
» Footprint: 95.000m2
» Total GFA: 74.000m2
» Traffic: 470,000 p/day
» Platforms: 26

Zürich Hauptbahnhof, one of the oldest and busiest railway stations in Europe, serves as a central node in Switzerland's national and international transportation network. Originally opened in 1847 and repeatedly expanded over the decades, the station reflects the layered evolution of Zürich as both a city and a transit hub. Its most significant transformation came with the addition of the Löwenstrasse through-station platforms and the underground ShopVille level, which redefined the Hauptbahnhof as a vertical interchange capable of handling complex flows of passengers, services, and mobility. Trains arriving from different directions—regional, long-distance, and international—are now distributed across surface and subterranean levels, connected by an intricate network of escalators, lifts, and underpasses that maintain clear separation of flows while offering intuitive wayfinding.

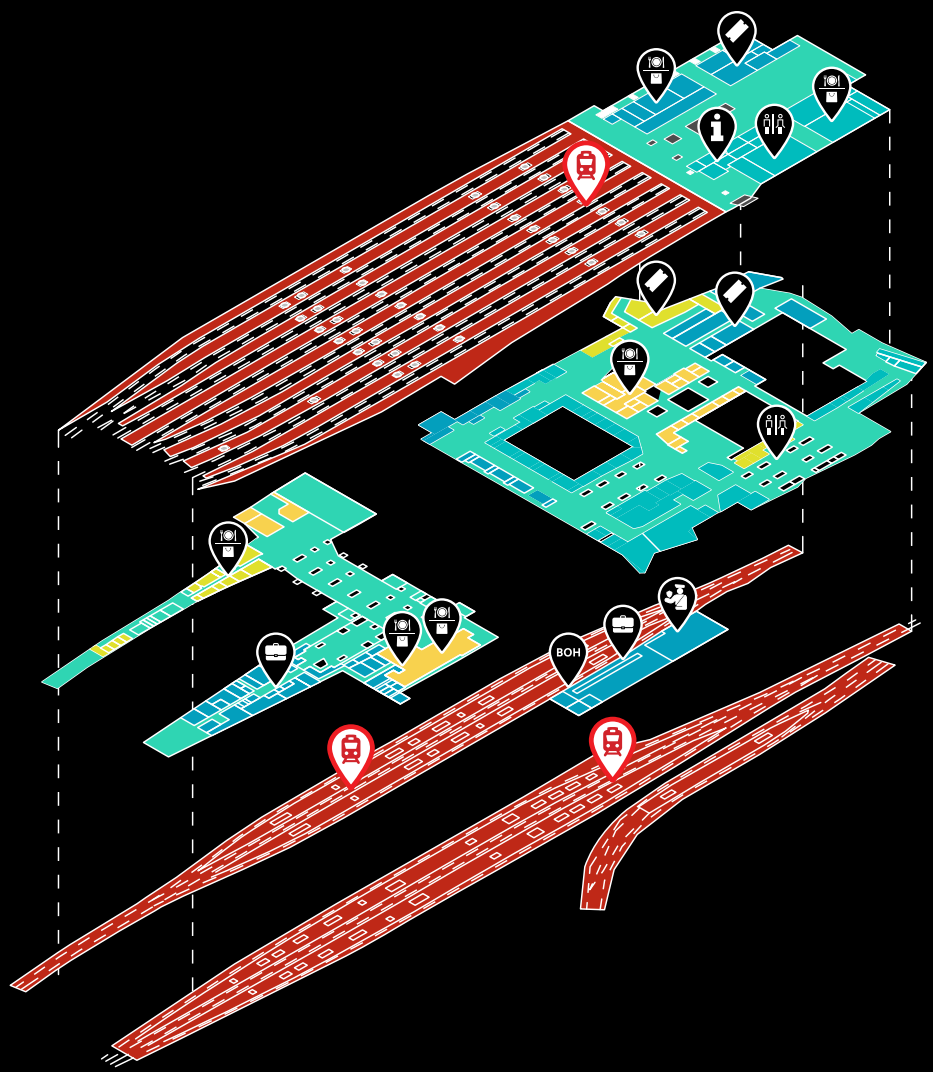
Public amenities, commercial spaces, and cultural venues are woven throughout the structure, especially in the underground layers, making the station more than a point of transit—it becomes a place of encounter, commerce, and social life.

STATION TYPE:
END STATION

INTEREST:
RETAIL



PROGRAM

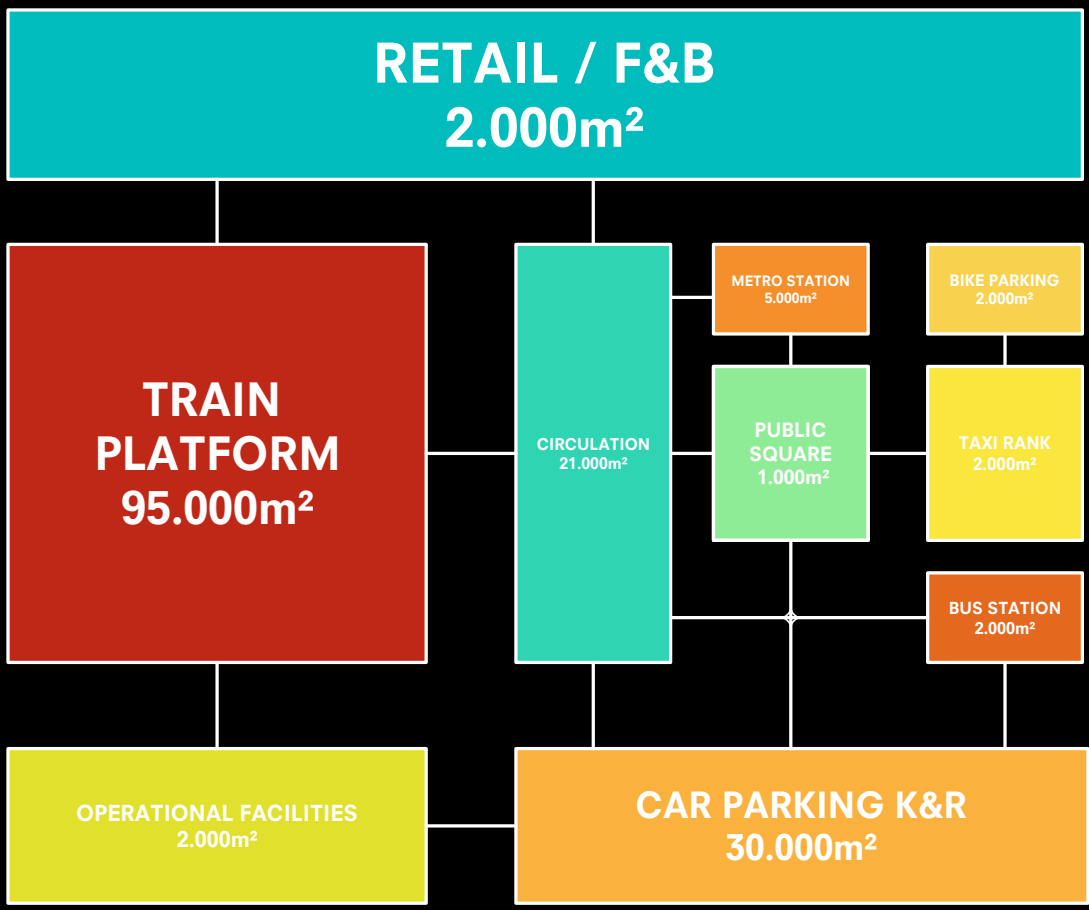


Services are distributed across several vertical layers, most notably within the underground complex known as ShopVille.

Located beneath the station's historical concourse, this retail area includes shops, restaurants, supermarkets, pharmacies, and other daily-use services that cater not only to passengers but also to city residents and commuters.

Public amenities such as restrooms, information points, and back-of-house (BOH) areas are spread across different levels and concentrated near key transfer nodes, ensuring accessibility and convenience at every stage of the journey.

ORGANISATION

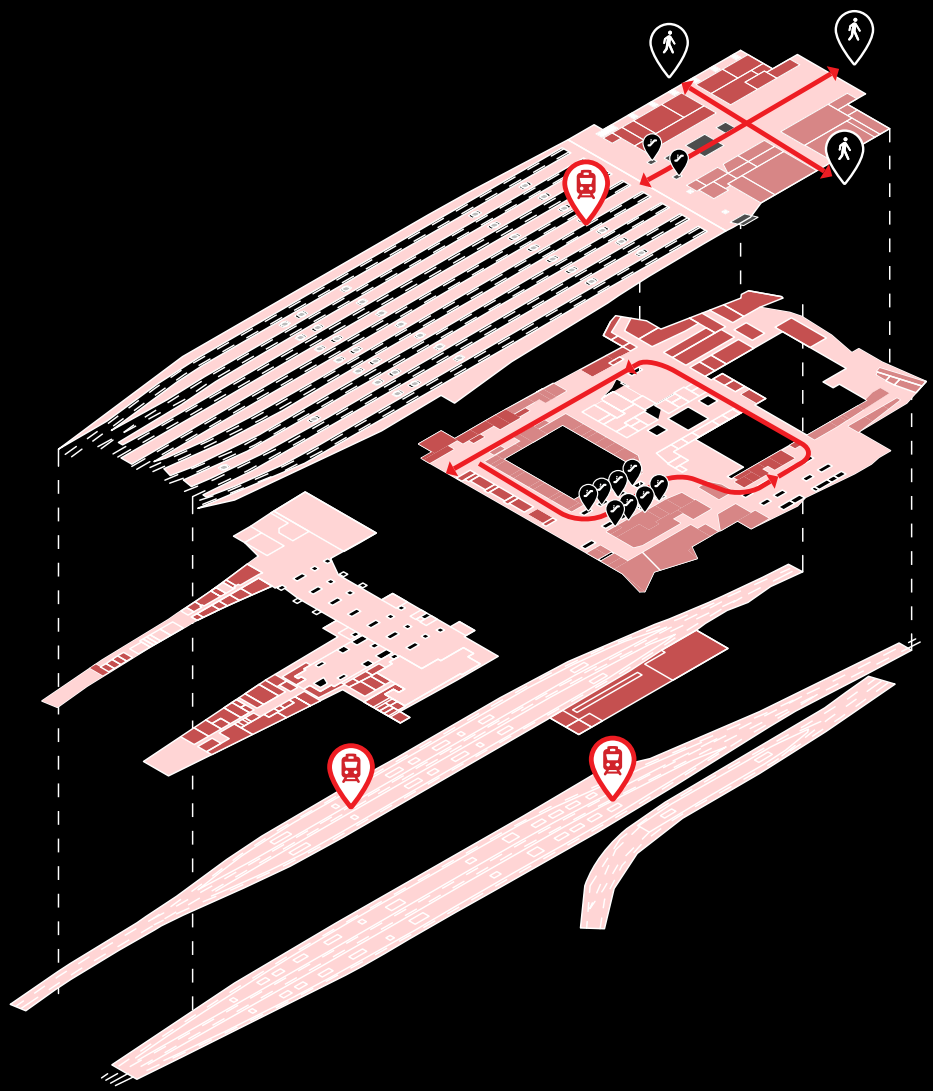


This diagram shows the spatial organization of Zürich Hauptbahnhof, emphasizing how different functions are distributed and interconnected.

Circulation spaces link the platforms with retail and food services, as well as with operational facilities. Around this core, various access points support multi-modal mobility: a metro station, public square, and equally sized zones for bus, taxi, and bike access.

A car parking and Kiss & Ride area anchors private transport connections, completing the station's function as a highly integrated urban and transit node.

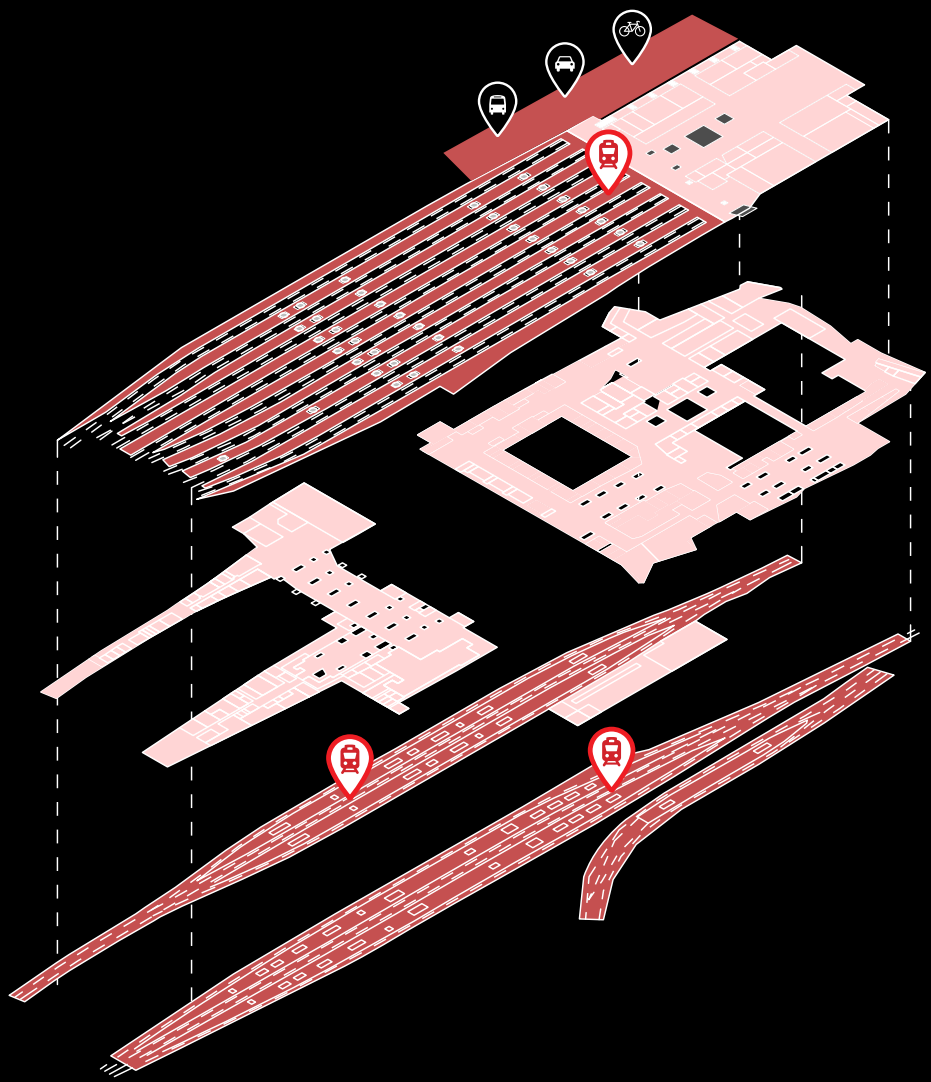
CIRCULATION



The station connects surface-level terminal platforms with the underground Löwenstrasse and Museumstrasse through-stations via a network of escalators, elevators, and corridors.

This arrangement separates arriving and departing flows, reduces congestion, and allows passengers to navigate easily between different types of trains. Intermediate levels act as transition zones, combining circulation paths with access to services and retail, allowing users to pause or redirect their route without exiting the controlled environment of the station.

MOBILITY



Long-distance trains arrive and depart from the surface-level terminal platforms, while underground levels host the Löwenstrasse and Museumstrasse through-platforms for intercity and regional traffic. These lower levels were added in recent expansions to improve capacity and allow trains to pass through the city without reversing.

Above ground, the station is bordered by tram and bus stops, providing frequent connections to the wider Zürich area. Taxis, bikes, and pedestrian flows are accommodated in surrounding public spaces and adjacent infrastructure.



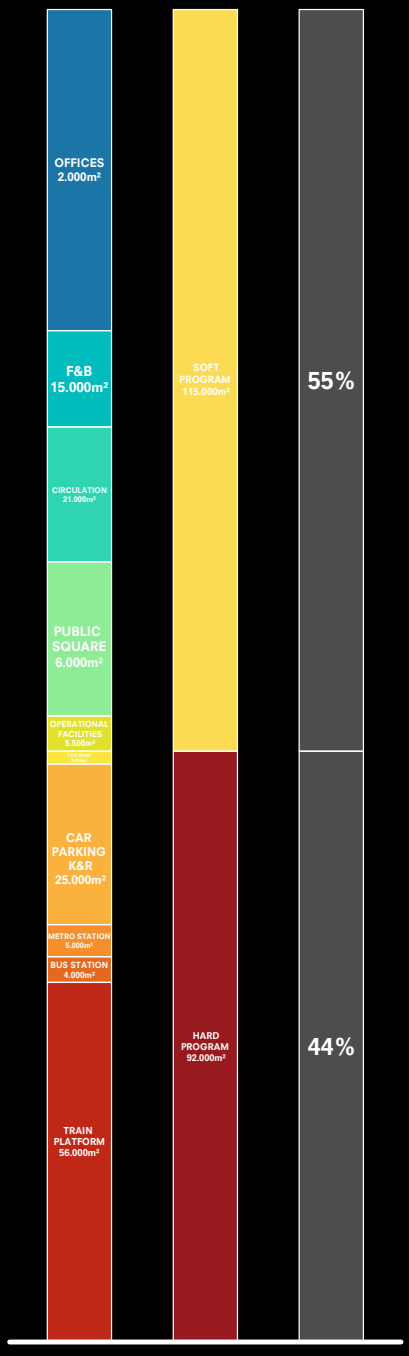
BERLIN HAUPTBAHNHOF

DATA:

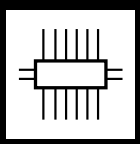
» Arch: GMP Architects
» Year: 1871
» Footprint: 45.000mm2
» Total GFA: 207.500m2
» Traffic: 470,000 p/day
» Platforms: 26

Inaugurated in 2006, Berlin Hauptbahnhof is the city's main railway station and one of the most complex infrastructural projects realized in post-reunification Germany. Designed by Meinhard von Gerkan and gmp Architekten, it stands just north of the Spree River on the former site of the Lehrter Bahnhof, strategically positioned between East and West Berlin. The project was conceived not only as a transport hub, but also as a symbol of the unified capital, reconnecting fragmented parts of the city and establishing a new point of convergence for long-distance, regional, and urban mobility.

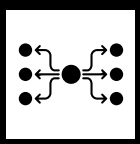
Its distinctive multi-level layout allows trains to run on two intersecting axes—long-distance services on elevated east-west platforms and regional and S-Bahn lines underground on a north-south path—enabling seamless transfers between systems while minimizing conflicts in circulation. Between these rail levels, a series of intermediate floors accommodate shops, cafes, and public walkways, transforming the station into an active, vertical public space.



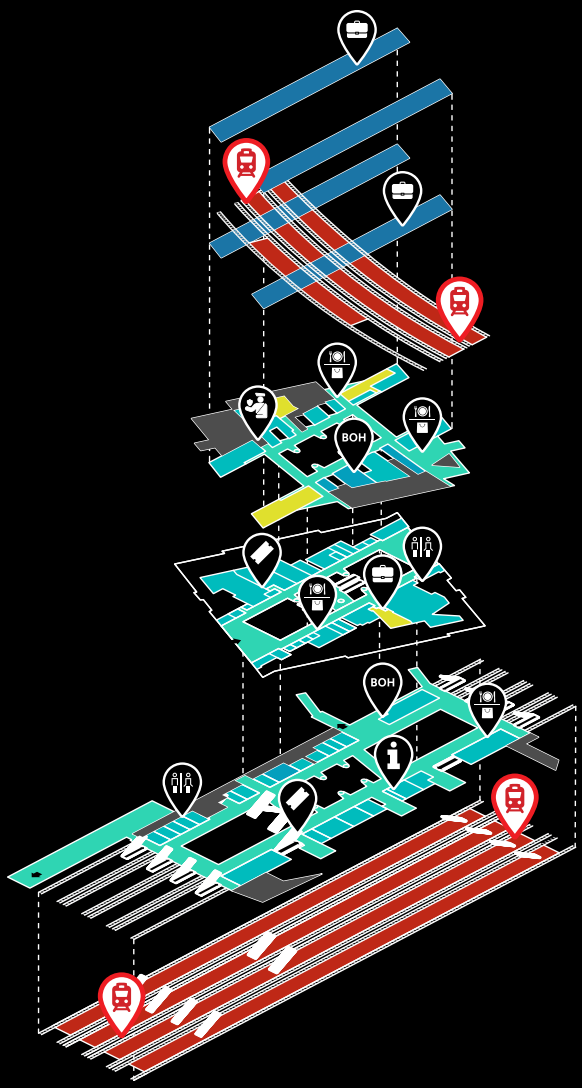
STATION TYPE:
CROSS STATION



INTEREST:
FLOWS



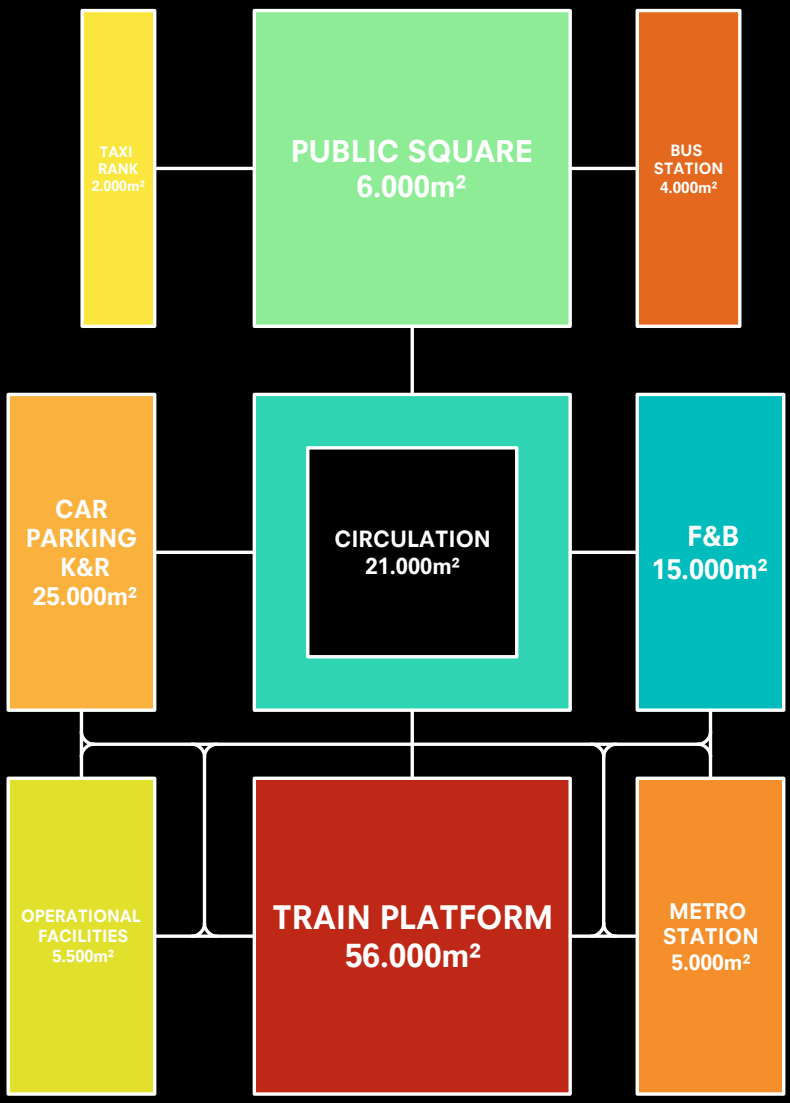
PROGRAM



This diagram maps the way services are distributed vertically throughout Berlin Hauptbahnhof. Amenities such as retail shops, food and beverage outlets, information points, and restrooms are not confined to a single level but are spread across multiple floors, particularly in the central concourse and intermediate zones.
These levels act as both commercial hubs and connective tissue, offering access to everyday conveniences regardless of the user's route or destination.

The inclusion of back-of-house (BOH) areas, especially on levels near the platforms, ensures that logistical and operational needs are met without disrupting passenger experience.

ORGANISATION

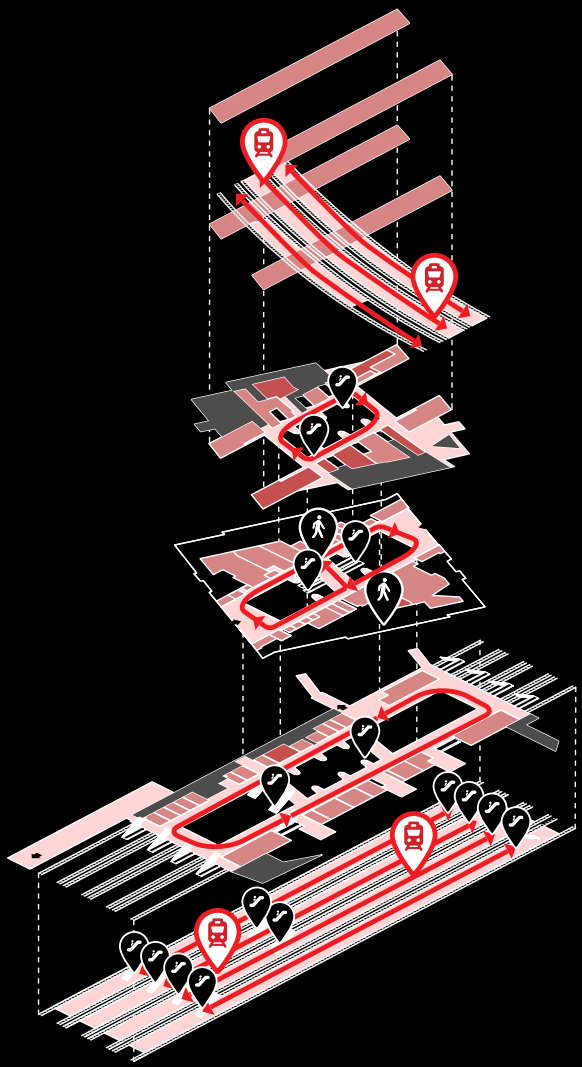


At the heart of the station is a large circulation area that connects all surrounding programs, ensuring smooth transitions between different levels and modes of transport. Directly adjacent are key public functions such as food and beverage areas, retail, and access to the metro station.

On the outer edges, complementary services like a public square, car parking with drop-off zones, operational facilities, and dedicated taxi and bus areas help integrate the station into the wider urban context.

This configuration reinforces Berlin Station role not only as a transport interchange but also as a civic and commercial node within the city.

CIRCULATION

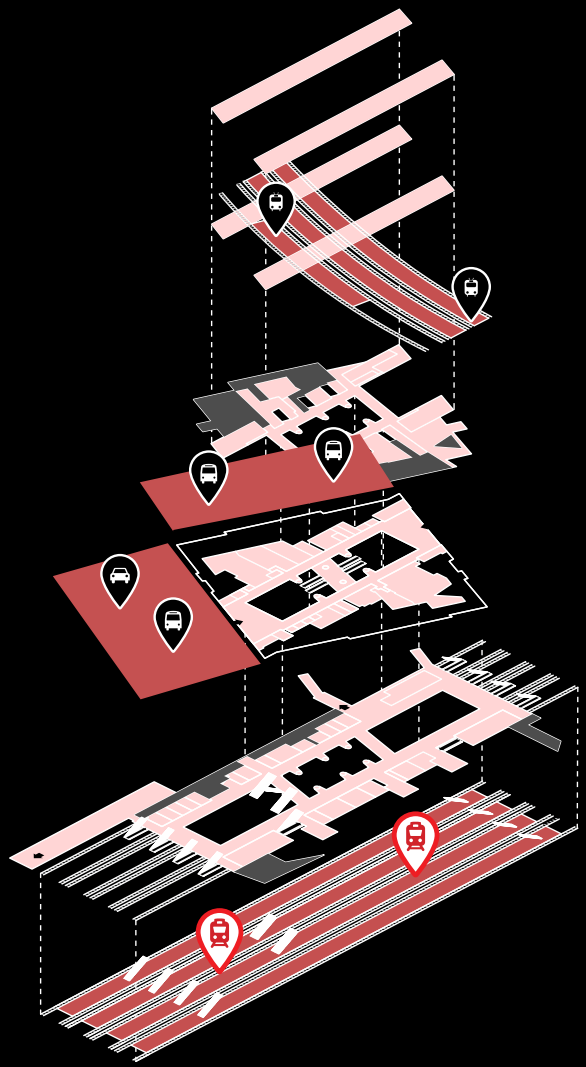


User circulation in Berlin Hauptbahnhof is organized around a clear vertical hierarchy. The station's multi-level design separates different flows, helping reduce congestion and improve orientation.

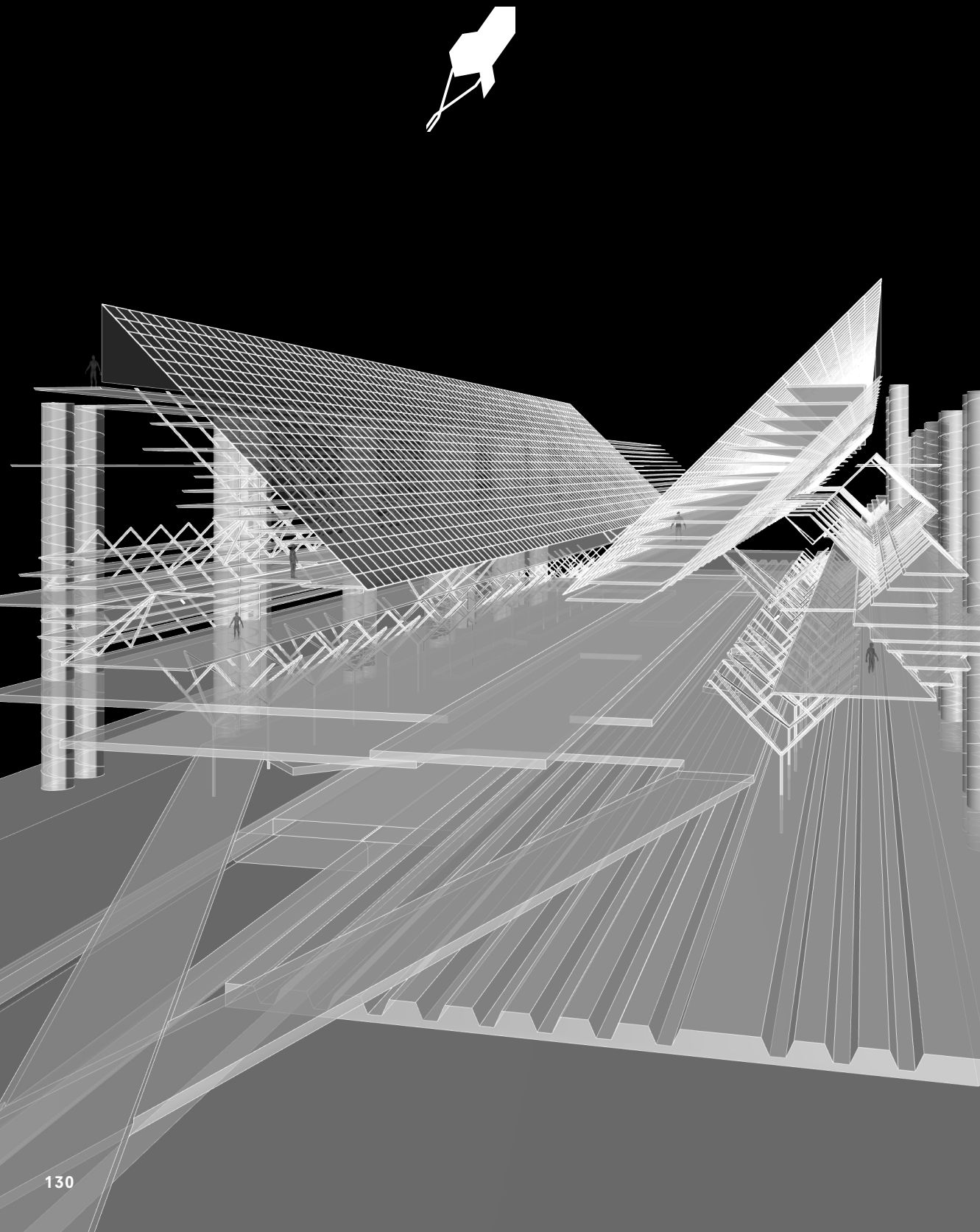
Vertical movement is made intuitive through a dense network of escalators, elevators, and stairways that connect all levels—from the underground S-Bahn platforms to the elevated long-distance tracks. Intermediate retail levels act as transitions between rail levels, allowing people to pause, shop, or reorient.

The main concourse at street level acts as the primary distribution zone, where most cross-movements occur.

MOBILITY



Berlin Hauptbahnhof integrates several modes of transportation, each assigned to specific spatial zones to maintain clarity and efficiency. Long-distance and regional trains are split across two rail levels: east-west high-speed services are located on the uppermost platforms, while north-south regional and S-Bahn lines run underground. Tram lines are placed on elevated tracks adjacent to the upper levels, making them accessible from intermediate concourses. Buses, taxis, and private vehicles are located outside the station, at street level, with designated drop-off and pick-up zones. This spatial separation ensures that each mode operates without overlapping or interfering with others, while vertical and horizontal connections allow users to move easily between systems.



“NEW CITY” OF MILAN

DATA:

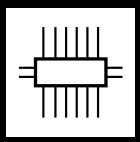
» Arch: Carlo Moretti
» Year: 1871
» Footprint: 93.000mm2
» Total GFA: 201.000m2
» Traffic: ?????? p/day
» Platforms: ??

In 1976, architect Carlo Moretti proposed a transformative vision for Milan’s Central Station, aiming to replace the existing structure with a vast megastructure that would serve as a new administrative and infrastructural hub for the Lombardy region.

This ambitious project sought to demolish the monumental station building, inaugurated in 1931, while retaining the underlying railway lines. Above these tracks, Moretti envisioned constructing a multi-level complex housing offices, services, and transportation terminals, effectively creating a bridge between Milan’s historical core and its expanding urban periphery. The design drew inspiration from contemporaneous architectural movements, notably the Japanese Metabolist visions and Paul Rudolph’s megastructural concepts, reflecting a desire to integrate various modes of transport—rail, air, bus, and underground—into a cohesive urban framework.

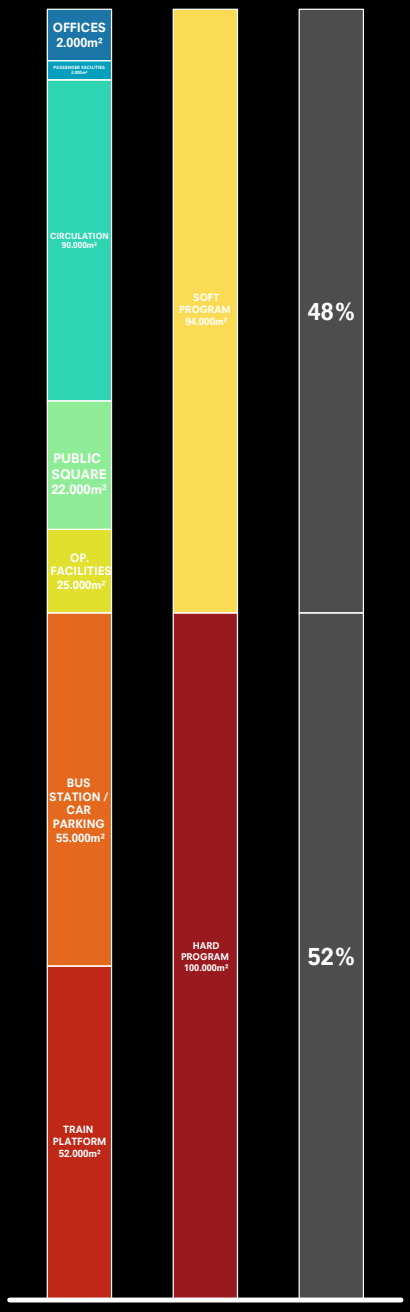
As Moretti articulated, the proposal aimed to establish “a nerve-centre for the meeting and exchanging of the new city-region’s vital interests,” thereby redefining the station’s role from a mere transit point to a dynamic catalyst for regional connectivity and growth

STATION TYPE:
CROSS STATION



INTEREST:
ITALIAN FUTURISM





LA NUOVA «CITY» DI MILANO
MILAN'S NEW CITY
LA NOUVELLE CITY DE MILAN





PER UNA NUOVA CITY DI MILANO
PROGETTO:
CARLO MORETTI, ARCH.
ASSISTENTE:
DANIELE GELTRUDI, ST. ARCH.
COORDINATORE:
ADRIANO AGOSTINI, ING.
1975

Carlo Moretti: - Questo studio (come quello precedente) non vuole essere solo un contributo di idee al Piano Regolatore Generale di Milano, e tanto meno una proposta di piano particolareggiato destinata più o meno ad aggiornare un settore della città, ma vuole essere più impegnativamente l'invito a valutare la dimensione della città in ordine di grandezza territoriale (ed ove la nuova scala urbana a chiamata a risolvere l'immediato e drammatico futuro delle grandi concentrazioni urbane.
Facendo salvi i principi esposti nelle pagine precedenti, questo studio è ad un tempo la logica conseguenza e la molla che ne fa scattare le premesse: ove urbanistica, architettura, previsioni di sviluppo economico, commerciale e sociale obbediscano alla logica serrata ed alla evidenza dei numeri. È la proposta di un "ponte" lanciato dal vecchio nucleo (Milano) verso i nuclei futuri, luogo tecnologico di incontro e di interscambio degli interessi vitali della città-regione.
L'operazione — tecnicamente possibile, economicamente vantaggiosa, urbanisticamente indispensabile — è affidata al coraggio ed all'intraprendenza di una società in lotta per la propria evolutiva sopravvivenza.

La scala ferroviaria della Stazione Centrale di Milano oggi si protende come una grossa spina verso il centro della città... Penetra nel centro senza alcuna contropartita: il viaggio, infatti, non si conclude (è una continua avventurosamente. La Stazione Centrale, che occupa un'area di 250×2.000 m, termina in modo bizzarro con un enorme "monumento", ingombrante e scomodo, non funzionale per eccellenza, dall'aspetto insulso e tronfio di un lottatore da baraccone.

IL PROGETTO PROPONE
1. di eliminare l'inutile sovrastruttura del mausoleo-stazione, lasciando inalterata la scala ferroviaria;
2. di costruire una nuova stazione passeggeri, sotterranea, a 30 m di profondità, con 24 binari ed i marciapiedi attuali, e prevista la riorganizzazione di tutti i servizi per i viaggiatori.
Quota +15,00: terminal autobus in tangenza alla corsia dell'autostrada: 38 banchine per gli autobus; terminal per bagagli e merci; parcheggio per 500 macchine ogni 100 m di sviluppo longitudinale.
Quota +21,00: parcheggi e stazione passeggeri per eventuale elporto (sovrastante).

LE MACROSTRUTTURE PREVISTE ALLE QUOTE SUPERIORI
Le macrostrutture sono organismi complessi che racchiudono in un unico volume tutte le varie soluzioni richieste per la razionale costruzione

gione Lombardia, nella scala, nella dimensione e con l'architettura che l'epoca nostra consentono. Parallelamente alla "city" si svilupperà l'autostrada che, partendo dalla stazione, si proietterà verso l'esterno, sino ad allacciarsi alla autostrada.

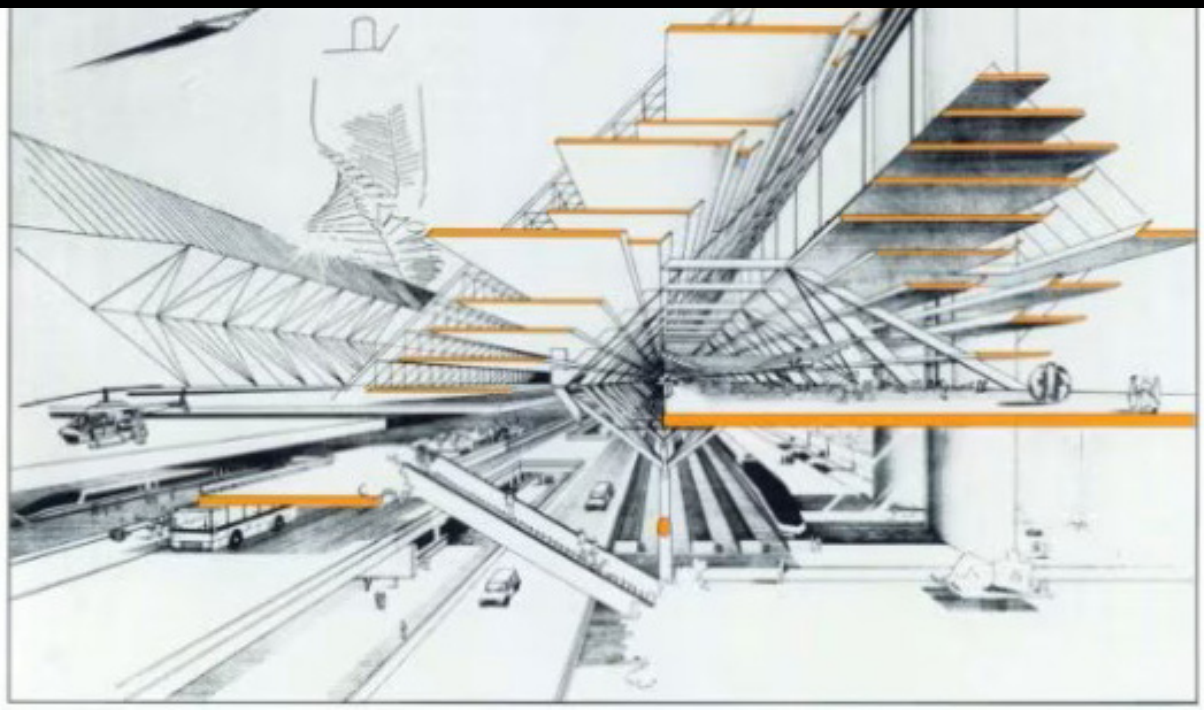
IL PROGETTO VUOLE RAGGIUNGERE I SEGUENTI OBIETTIVI
1. nuovo centro direzionale (economico-commerciale-rappresentativo), direttamente collegato;
2. terminal ferroviario-aereo-autobus-metropolitana;
3. autostrada cittadina.
Tutto ciò costituirà un "ponte" che allaccerà il vecchio nucleo di Milano alla città-regione, città-regione intesa non solo come l'hinterland esistente, ma come somma delle nuove concentrazioni urbane.

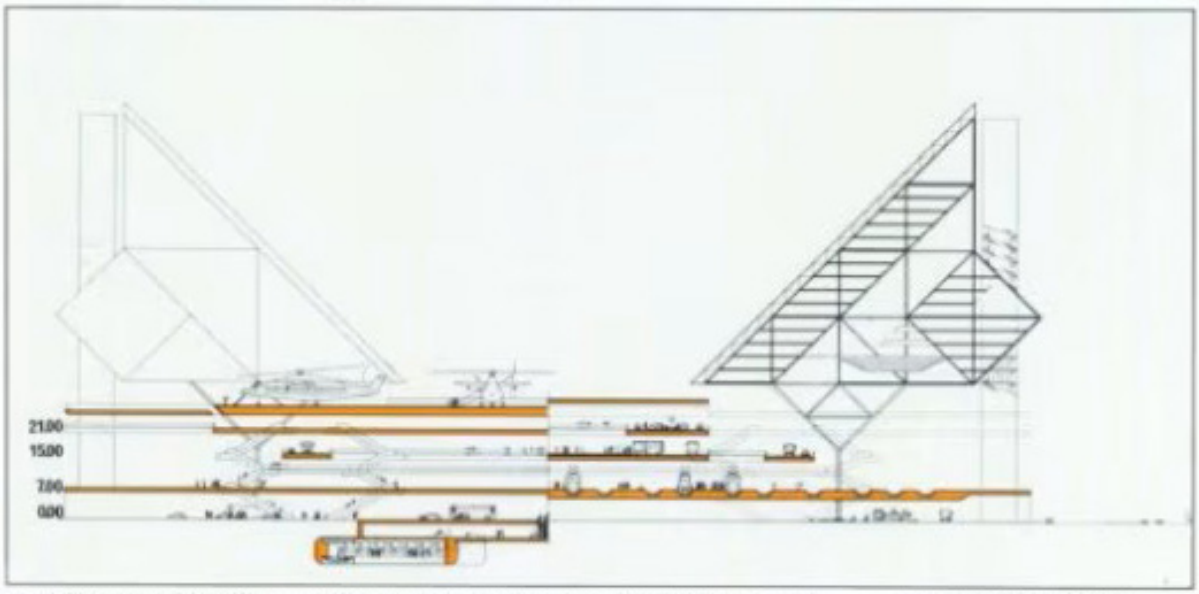
DESCRIZIONE SINTETICA DEL PROGETTO
Quota ±0,00: razionalizzare il traffico per consentire la fluida circolazione (qualunque ne sia la provenienza o la destinazione) da e per la Stazione Centrale, e razionalizzare il traffico di transito che con la Stazione non

scorrerà del traffico locale, e costruire la partenza delle corsie della superstrada che, scavalcando le linee ferroviarie, raggiungono l'autostrada Est.
Sistemare gli arrivi alla Stazione con ampie banchine di sosta e di parcheggio per il carico e lo scarico dei passeggeri e dei bagagli.
Installare batteria di scale mobili e di ascensori per i sovrastanti terminals ferroviari-autobus-aerei.
Quota +7,00: stazione ferroviaria: invertiti i binari ed i marciapiedi attuali, è prevista la riorganizzazione di tutti i servizi per i viaggiatori.
Quota +15,00: terminal autobus in tangenza alla corsia dell'autostrada: 38 banchine per gli autobus; terminal per bagagli e merci; parcheggio per 500 macchine ogni 100 m di sviluppo longitudinale.
Quota +21,00: parcheggi e stazione passeggeri per eventuale elporto (sovrastante).

LE MACROSTRUTTURE PREVISTE ALLE QUOTE SUPERIORI
Le macrostrutture sono organismi complessi che racchiudono in un unico volume tutte le varie soluzioni richieste per la razionale costruzione

nano la sede i grandi e piccoli uffici, privati o pubblici (uffici comunali e regionali, direzioni di istituti di credito, direzioni ed uffici dei [illegible] sport, ecc.), di tutti quegli enti che possono far capo al centro direzionale della città-regione.
La vicinanza di tante attività concentrate in un unico organismo e [illegible] loro interrelazione, costituiranno [illegible] formazione del grande organismo, convinti che il moderno assetto della Regione Lombardia richiede con [illegible] indispensabile struttura.
Le comunicazioni verticali, distribuite lungo i percorsi delle strade interne principali, saranno assicurate [illegible] batterie di ascensori e di montacarichi (intervallati di 90 m), oltre che da scale mobili collegate ai percorsi orizzontali meccanizzati.
La proposta è economica, razionale, stimolante. Infatti, l'area è "trasformata" — lunga 250 m e lunga circa 1,6 km; l'area sopra lo scalo ferroviario è completamente disimpegnata, dato il suo livello già sopraelevato sulla città; non occorrono espropri, esodi (che rendono onerosa e lenta l'operazione); occorre solo demolire la stazione.





urbanistiquement indispensable — s'appuie sur le courage et la détermination d'une société qui lutte pour sa survivance évolutive.
Le complexe ferroviaire de la Gare Centrale de Milan s'élend aujourd'hui comme une grosse épine vers le centre de la ville, pénétrant dans le centre sans aucune contrepartie. La Gare Centrale, qui occupe une surface de 250×2.000 m, se termine d'une façon bizarre par un énorme "monument", encombrant et incommode, non fonctionnel.

LE PROJET PROPOSE
1. d'éliminer la superstructure inutile du mausolée-gare;
2. de construire — au-dessus des lignes de chemin de fer — la nouvelle "city" de la Région Lombarde à l'échelle, dans la dimension et

projeter vers l'extérieur jusqu'à se relier aux autoroutes extra-urbaines.

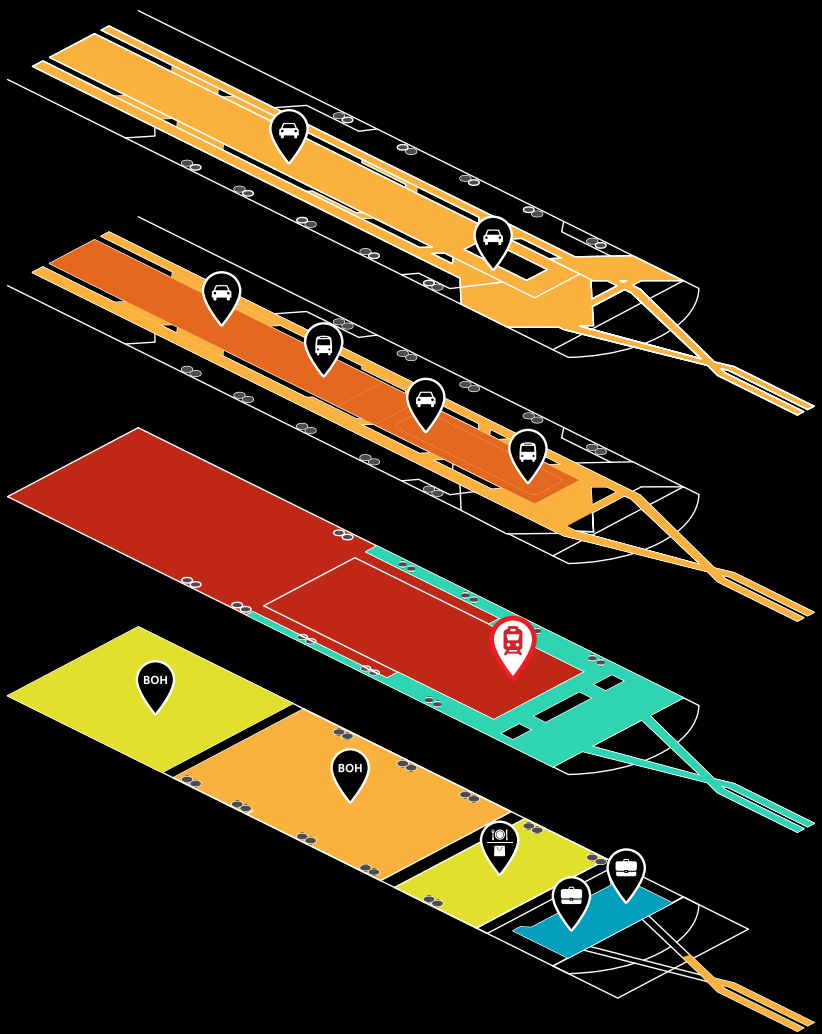
LE PROJET SE PROPOSE
LES OBJECTIFS SUIVANTS
1. un nouveau centre affaires (économique, commercial, représentatif) extensible, sans aucune limite;
2. un terminus polifonctionnel: chemin de fer-autobus-métro-aérogare;
3. une autoroute urbaine.
Tout ça constituera un "pont" pour relier le vieux centre de Milan à la ville-région.

DESCRIPTION SOMMAIRE
DU PROJET
Niveau ±0,00: rationaliser la circulation de la gare et vers la gare, afin de la rendre plus fluide, et rationaliser la circulation de passage. Construire un passage souterrain

gnent l'autoroute de l'est.
Aménager de vastes quais de débarquement et d'embarquement des passagers et de la marchandise.
Prévoir des batteries d'escalateurs et d'ascenseurs desservant les terminus de chemin de fer et d'autobus et aérogare, qui sont au-dessus des lignes de chemin de fer.
Niveau + 7,00: gare de chemin de fer: sans changer les rails et les quais actuels, on prévoit la réorganisation de tous les services pour les voyageurs.
Niveau +15,00: terminus autobus, tangent aux pistes de l'autoroute: 38 quais pour autobus; gare des bagages et des marchandises; parking pour 500 voitures, tous les 100 m de développement longitudinal.
Niveau +21,00: parkings et gare de

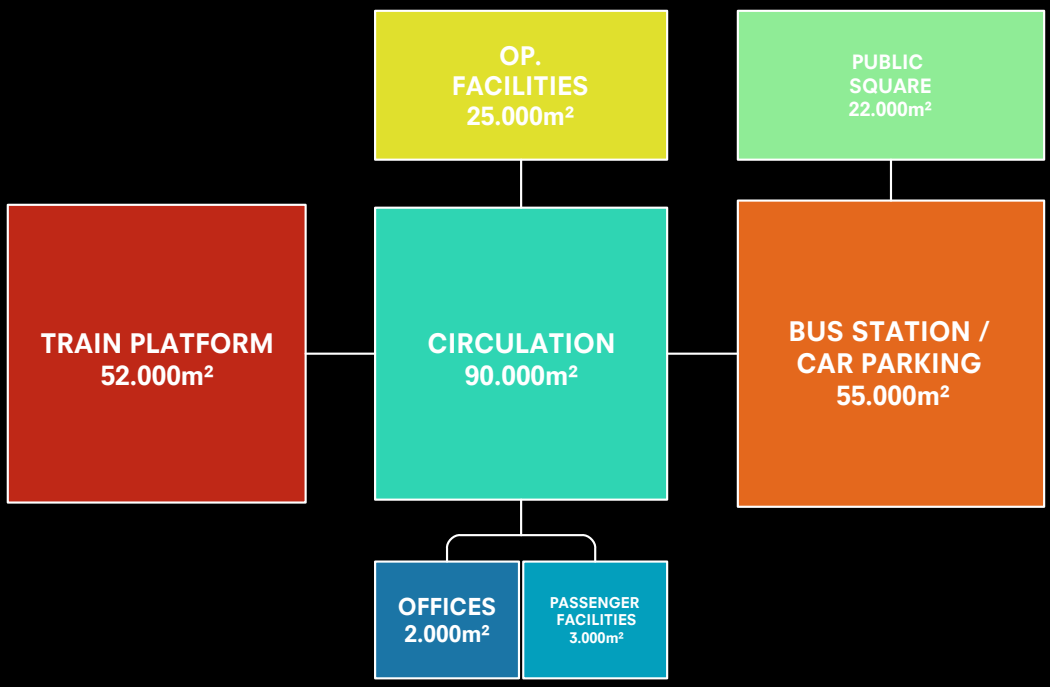
LES MARCOSTRUCTURES
PREVUES AUX
NIVEAUX SUPERIEURS
Les macrostructures sont des complexes qui renferment dans un seul volume tous les organismes nécessaire à une évolution rationnelle des activités directionnelles et commerciales d'une ville moderne. Y trouveront leur siège les grands et petits bureaux, privés et publics (bureaux municipaux, régionaux, directions d'établissements de crédit, directions et bureaux de transports, etc.), de tous les organismes se rattachent au centre affaires de la ville-région.
Le voisinage de tant d'activités concentrées dans un seul complexe et leur interconnexion constitueront le grand "cerveau" dont l'organisation

PROGRAM



Carlo Moretti's vision reimagined Milan's Central Station as a comprehensive administrative and infrastructural hub.
The proposed megastructure was designed to house a wide array of services, including offices for city and regional councils, bank management departments, and transport authorities. These facilities were to be integrated into a single, cohesive volume, promoting interconnectivity and efficiency.
The design emphasized the concentration of diverse activities within one organism, aiming to create a "great brain-body" essential for the Lombardy Region's administrative functions. This consolidation was intended to decongest the city center by relocating offices, thereby freeing up historic buildings for cultural and educational purposes.

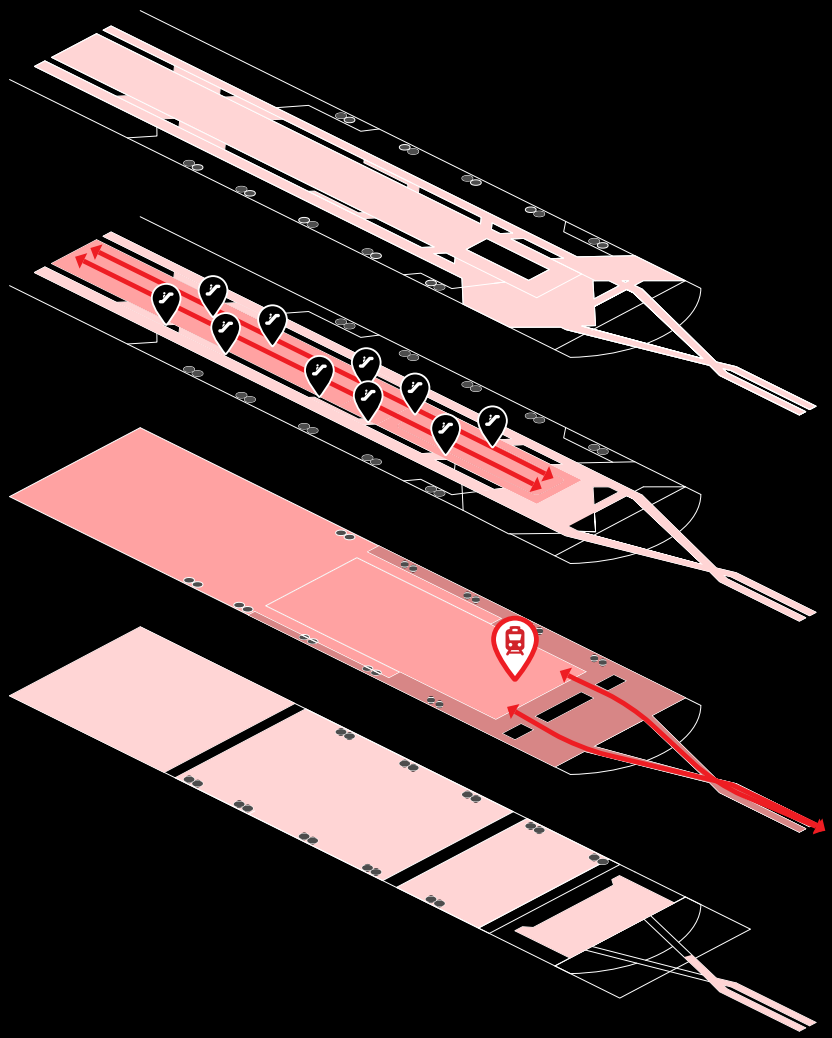
ORGANISATION



At the top of the hierarchy are the office spaces, representing the administrative backbone of the project, including regional and municipal government departments. These connect directly to specialized service areas such as the council hall and bank management offices, which are integrated within the administrative program. All these functions are anchored by a large central circulation zone, which serves as the main connector between public, institutional, and transport-related components.

From this central core, users access the train platforms as well as the transportation authority offices, emphasizing the link between administrative activity and multimodal mobility.

CIRCULATION

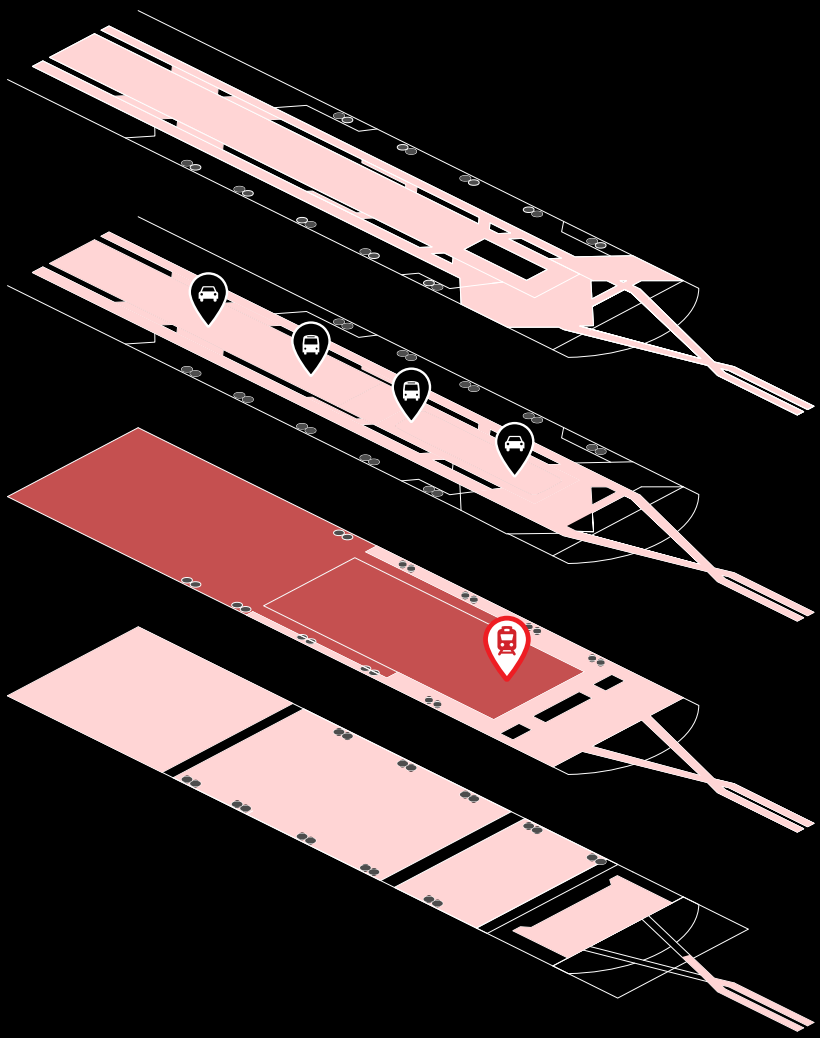


The project's circulation strategy focused on vertical and horizontal integration to facilitate seamless movement throughout the structure.

Vertical services, such as lifts, goods-lifts, and moving stairs, were to be distributed along main internal roadways, linking various levels efficiently. At the ground level (±0.00), the plan included rationalizing traffic flow to and from the station, constructing underpasses for local traffic, and organizing extensive waiting and parking platforms for passengers.

The design also proposed escalators and lifts to connect passengers to the overhead railbus-air terminals, ensuring smooth transitions between different transportation modes.

MOBILITY



Moretti's proposal aimed to transform the station into a multimodal transportation nexus. The existing railway lines and platforms were to remain unchanged but reorganized to enhance passenger services.

Above the railway lines, the design included a bus terminal with 38 bays, terminals for luggage and goods, and parking facilities for 500 cars every 100 meters of longitudinal development. A motorway was to be developed parallel to the new "city," connecting the station to the main motorway arteries.

At the highest level, plans included parking lots and a passenger station for a potential future heliport.


LaBurrita

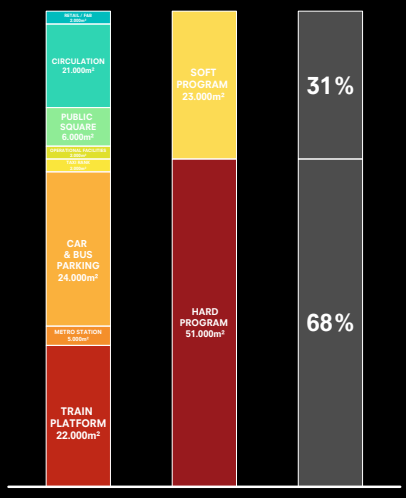
MADRID ATOCHA

DATA:
» Arch: A. de Palacio
» Year: 1992
» Footprint: 93.000m2
» Total GFA: 286.000m2
» Traffic: 100.000 p/day
» Platforms: 25

Located just south of the city center, the station has grown from its original 19th-century structure—an iconic iron-and-glass hall designed by Alberto de Palacio and opened in 1892—into a complex, multi-modal transport hub.

The historic terminal now functions as a public space, complete with a tropical garden and amenities, while the active rail operations have been reorganized into newer sections of the station.

A major expansion by Rafael Moneo in the early 1990s introduced a clear separation between long-distance AVE high-speed trains, regional services, and commuter lines (Cercanías), streamlining passenger flows and enhancing spatial clarity. Atocha is also closely linked to Madrid's metro and bus systems, reinforcing its role as an intermodal interchange. The station's layered design—combining historic preservation with infrastructural modernization—has made it not only a transport node but also a civic landmark in the fabric of the capital.



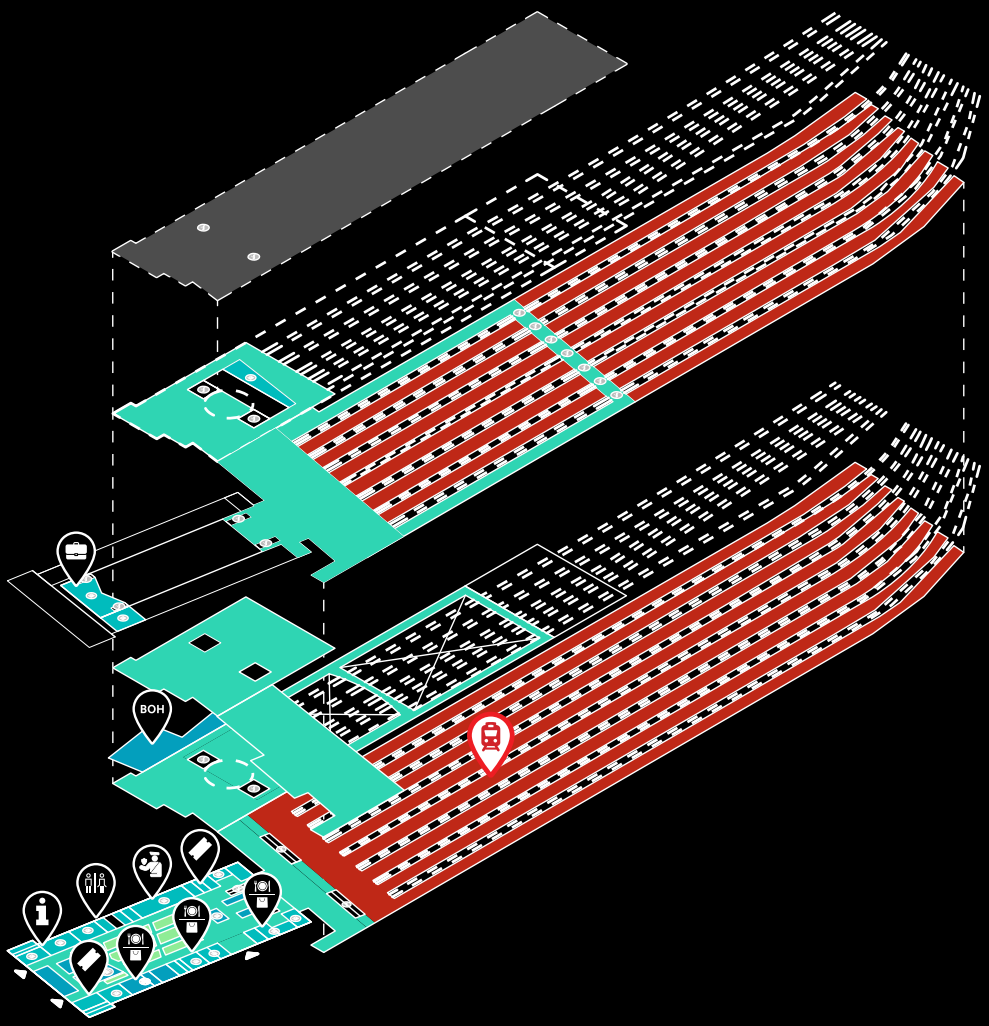
STATION TYPE:
END STATION



INTEREST:
ADDED PROGRAM



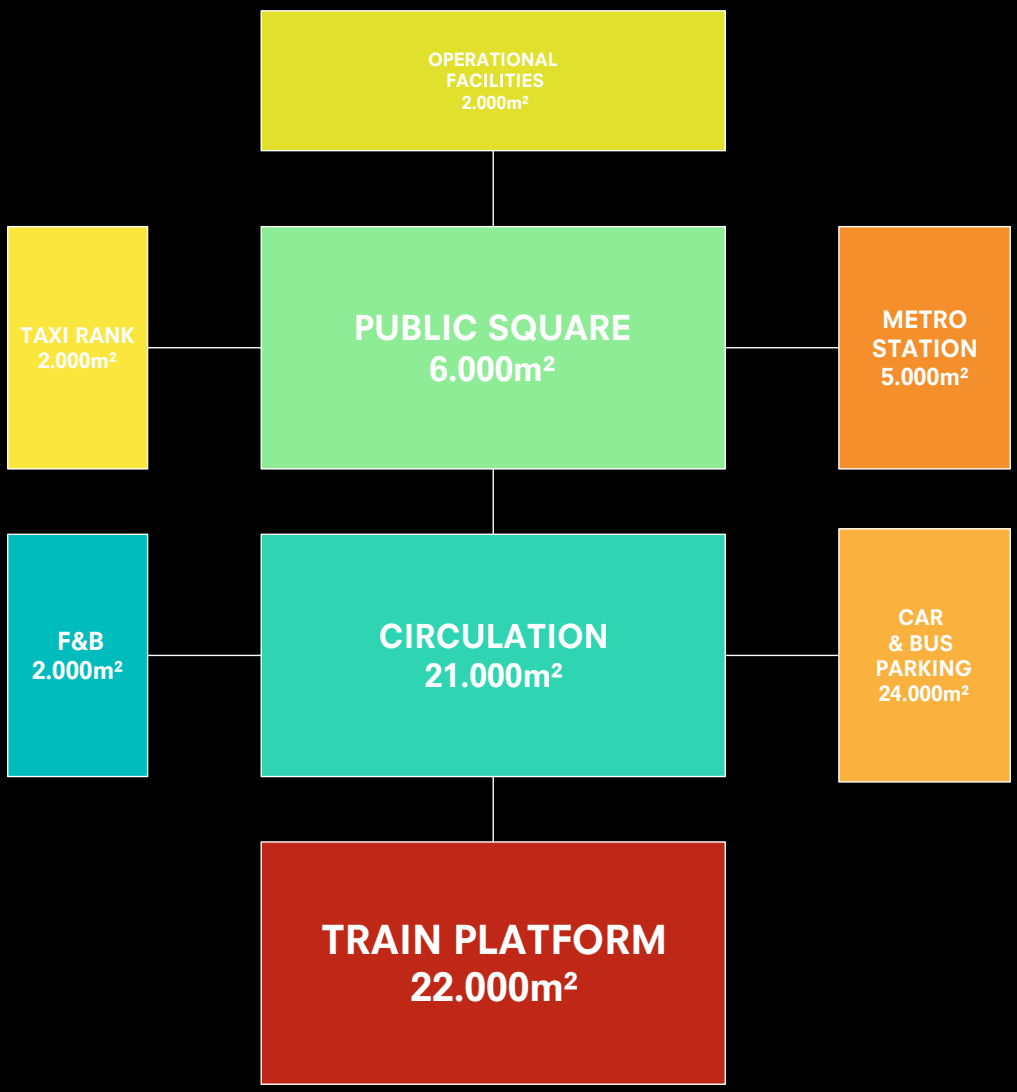
PROGRAM



The original 19th-century train shed, no longer used for rail operations, has been transformed into a public atrium featuring a tropical garden, cafes, shops, and waiting areas—creating a welcoming, almost civic interior space.

In the newer parts of the station, amenities are concentrated around passenger needs: ticket counters, security checkpoints for AVE trains, luggage services, retail outlets, and food and beverage zones are strategically placed to support long-distance and commuter passengers alike. The integration of services into both circulation areas and quieter waiting zones makes the station more than a point of transit; it becomes an accessible, multi-use space for both travelers and city residents.

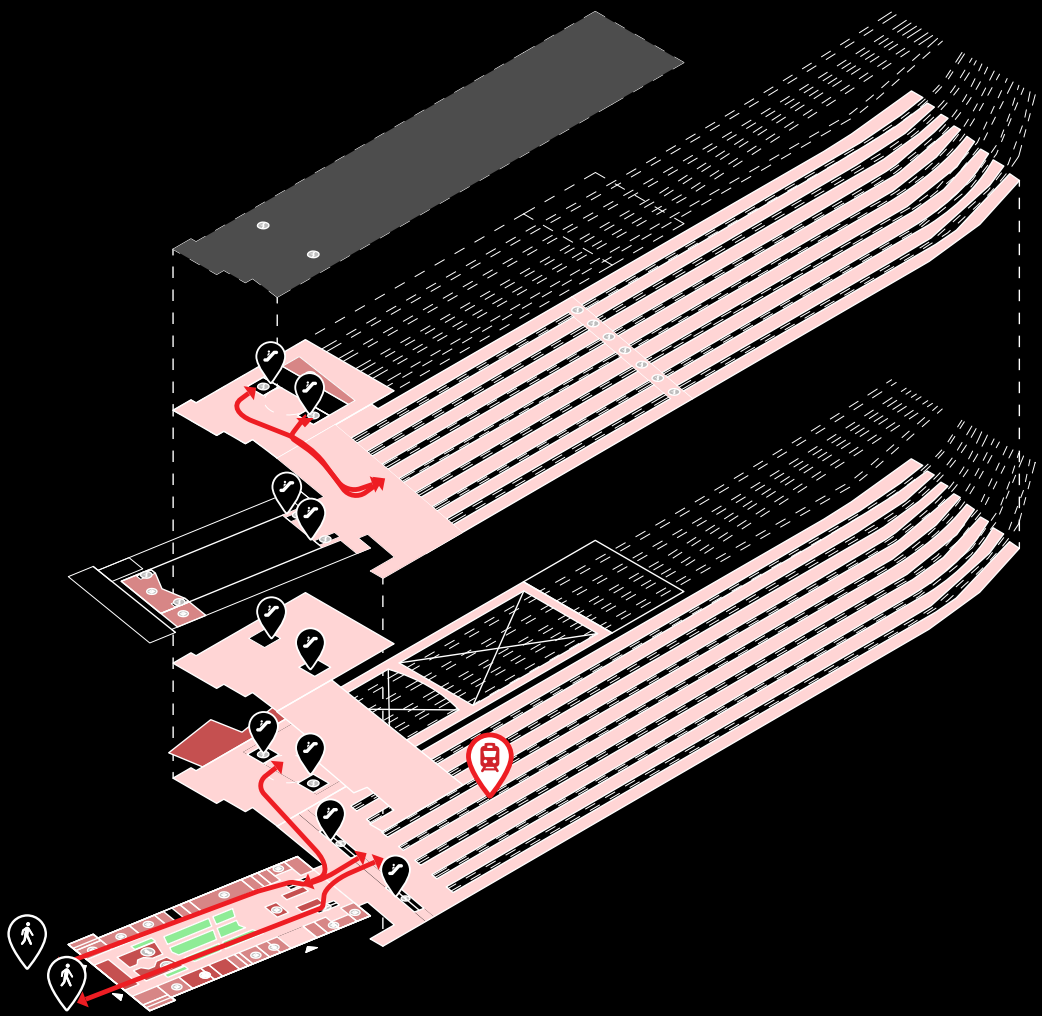
ORGANISATION



The train platforms form the core transport infrastructure, directly linked to a large circulation area that organizes passenger flows.

Around this core, secondary functions such as food and beverage zones, metro access, and car and bus parking are positioned to support ease of movement and intermodal transition. Above the circulation zone, a public square connects to operational facilities, the taxi rank, and the metro station, reinforcing the station's role as both a mobility hub and an urban gathering space.

CIRCULATION

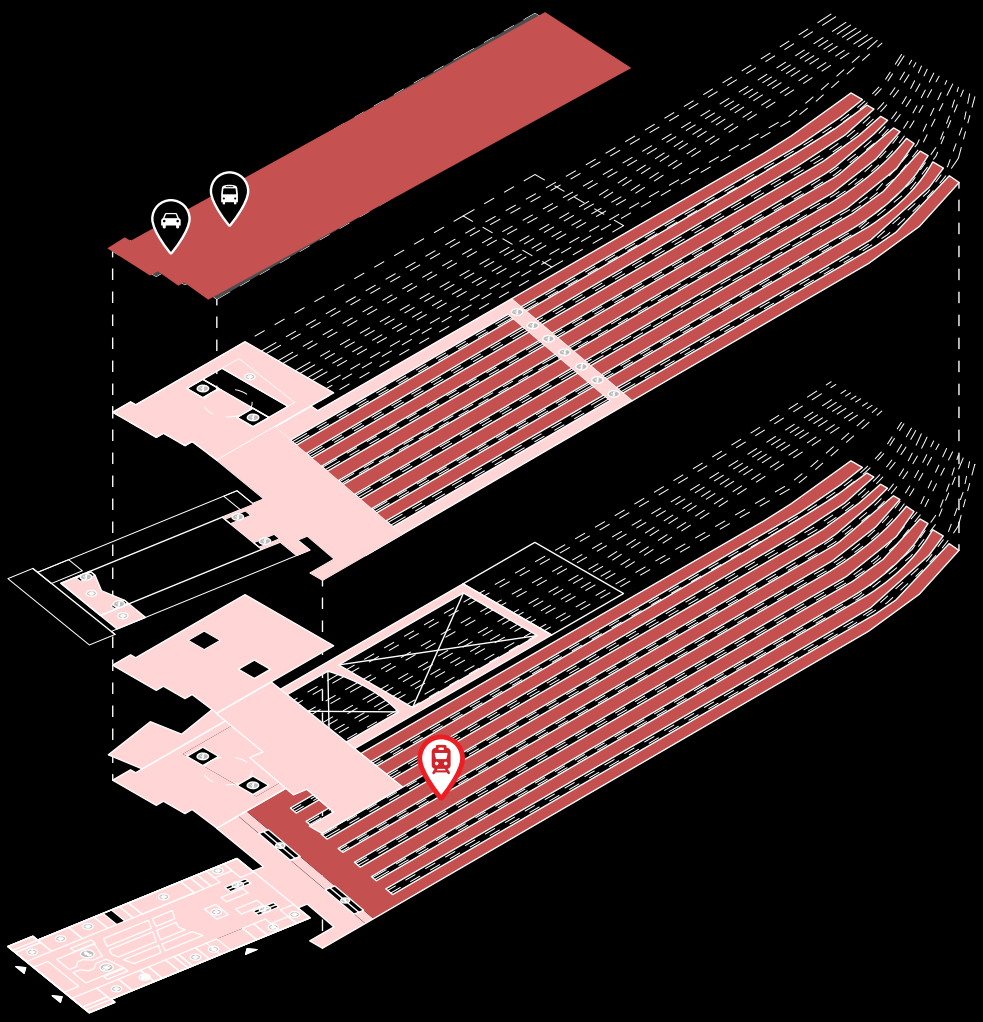


Circulation within Madrid Atocha is organized through a clear spatial hierarchy, largely defined by Rafael Moneo's 1990s intervention.

The design separates different flows—long-distance AVE passengers, regional train users, and suburban Cercanías commuters—through distinct access points, ticket halls, and vertical connections. AVE passengers are routed through secure areas with controlled entry, while local and regional services are more freely accessed.

A system of underground corridors, escalators, and large concourses ensures smooth transitions between levels and modes.

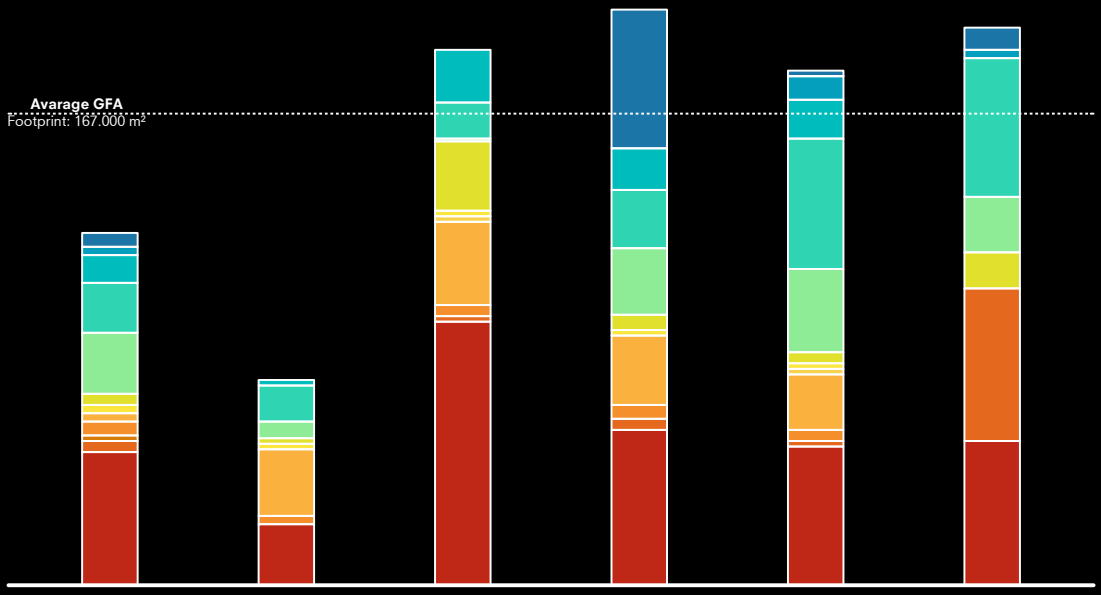
MOBILITY



The station connects directly to Line 1 of the Madrid Metro and is served by a large surface bus terminal and nearby urban taxi stands.

The underground Cercanías network provides frequent suburban access, while the AVE platforms connect Madrid with major cities such as Barcelona, Seville, and Valencia. Long-distance platforms are separated from other services to manage security and crowding, while intermodal transitions are supported by clear signage and direct vertical circulation.

BENCHMARKING - PROGRAM BARS



MILANO CENTRALE
Total GFA: 142.000 m²
Flux: 320.000 p/day

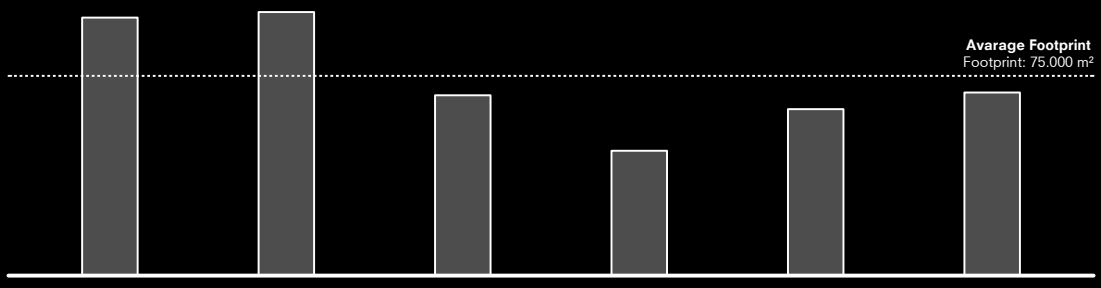
MADRID STATION
Total GFA: 74.000 m²
Flux: 100.000 p/day

ZURICH HB
Total GFA: 193.000 m²
Flux: 500.000 p/day

BERLIN HBT
Total GFA: 207.500 m²
Flux: 300.000 p/day

GARE MONTPARNASSE
Total GFA: 185.000 m²
Flux: 320.000 p/day

C. MORETTI
Total GFA: 201.000 m²
Flux: //



MILANO CENTRALE
Footprint: 93.000 m²

MADRID STATION
Footprint: 95.000 m²

ZURICH HB
Footprint: 65.000 m²

BERLIN HBT
Footprint: 45.000 m²

GARE MONTPARNASSE
Footprint: 60.000 m²

C. MORETTI
Footprint: 93.000 m²

The benchmarking exercise compares the six case studies across two main dimensions: program composition and spatial footprint.

The upper diagram visualizes the total Gross Floor Area (GFA) of each station, broken down into specific functional categories, allowing a detailed view of how space is allocated to different programs—such as platforms, circulation, services, and public amenities.

This comparative bar chart reveals varying approaches to balancing infrastructure and user-centered spaces. For example, Berlin HBF and Gare Montparnasse allocate significant space to circulation and mixed-use programs, while Milan Centrale and Madrid Atocha are more compact and infrastructure-heavy.

Below, the footprint chart highlights the surface area each station occupies on the ground.

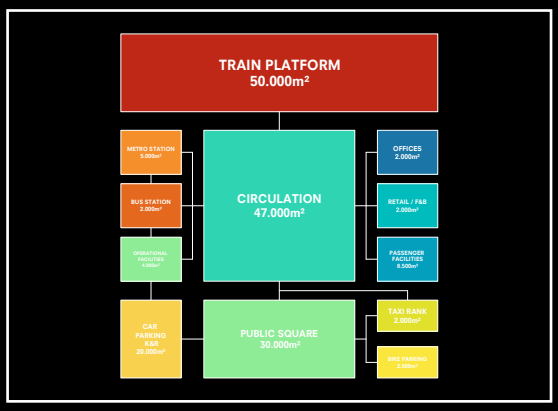
Stations like Madrid and Milan have relatively large footprints compared to their total GFA, suggesting a more horizontal distribution of functions. In contrast, Berlin HBF and Zürich HB, with smaller footprints and higher total GFA, demonstrate a more vertical and layered organization.

The speculative "New City of Milan" project by Carlo Moretti stands out for its ambitious GFA despite having a footprint close to the average, reflecting a dense and multifunctional megastructure.

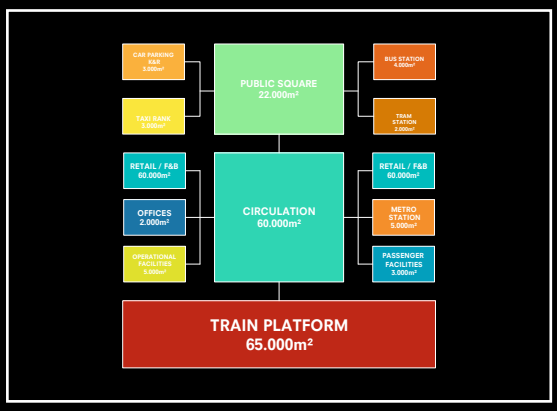
Together, these diagrams offer a comparative framework for understanding not only how much space is used, but how it is structured and prioritized within each station.

BENCHMARKING - PROGRAM ORGANISATION

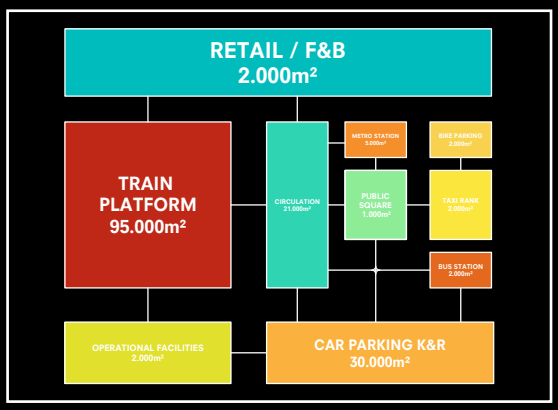
GARE DU MONTPARNASSE



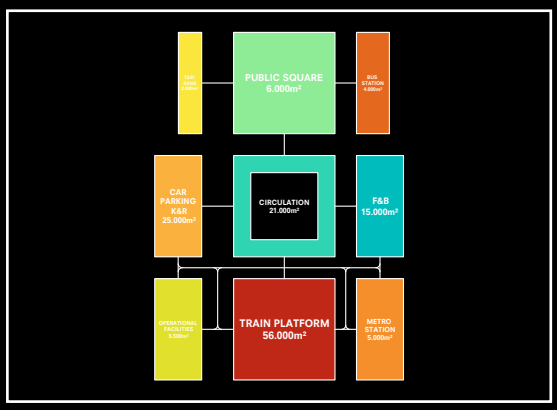
MILAN CENTRAL STATION



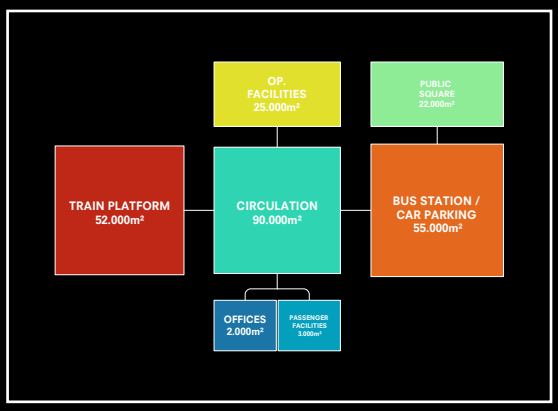
ZÜRICH HAUPTBAHNHOF



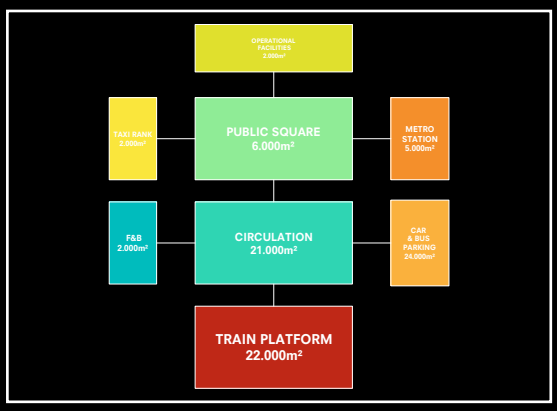
BERLIN HAUPTBAHNHOF



NEW “CITY” OF MILAN



MADRID ATOCHA STATION



This benchmarking diagram presents a comparative look at how internal programs are spatially arranged across the six selected train stations.

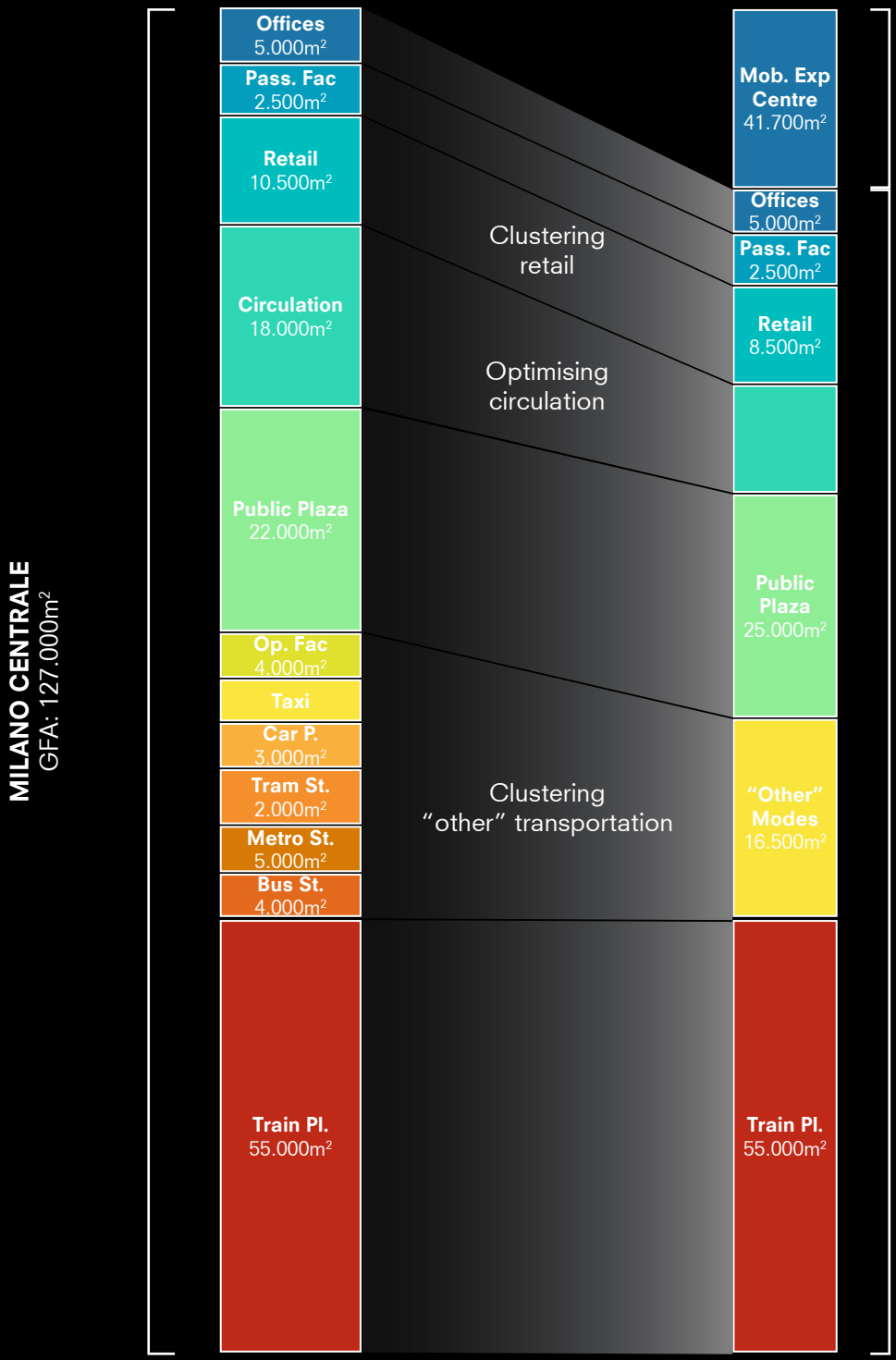
Each diagram illustrates the way space is allocated to key components such as platforms, movement areas, public space, commercial services, and mobility infrastructure. While the functional elements are generally consistent across all stations, their size, proportion, and placement vary, reflecting different architectural approaches and planning priorities.

For example, Zürich Hauptbahnhof dedicates a significant portion of its layout to rail infrastructure and vehicular access, while public and commercial services remain secondary. Berlin Hauptbahnhof and Gare du Montparnasse, on the other hand, show a more distributed use of space, where circulation and service zones play a central role in shaping user experience. Milan Central Station is structured along a strong axis, with clear zoning between transport, public access, and services. Madrid Atocha follows a more compact and centralized model, prioritizing clarity and ease of navigation between platforms and shared public areas.

The conceptual New City of Milan proposal introduces a more linear and infrastructurally integrated layout, suggesting a high-density model that unifies various transport and administrative functions under one roof.

Together, these program maps reveal how each station responds to its own context—balancing movement, comfort, and urban integration in distinct ways. This comparison provides insight into the diverse design strategies used to manage complex transit environments.

CONCLUSIVE PROGRAM BAR



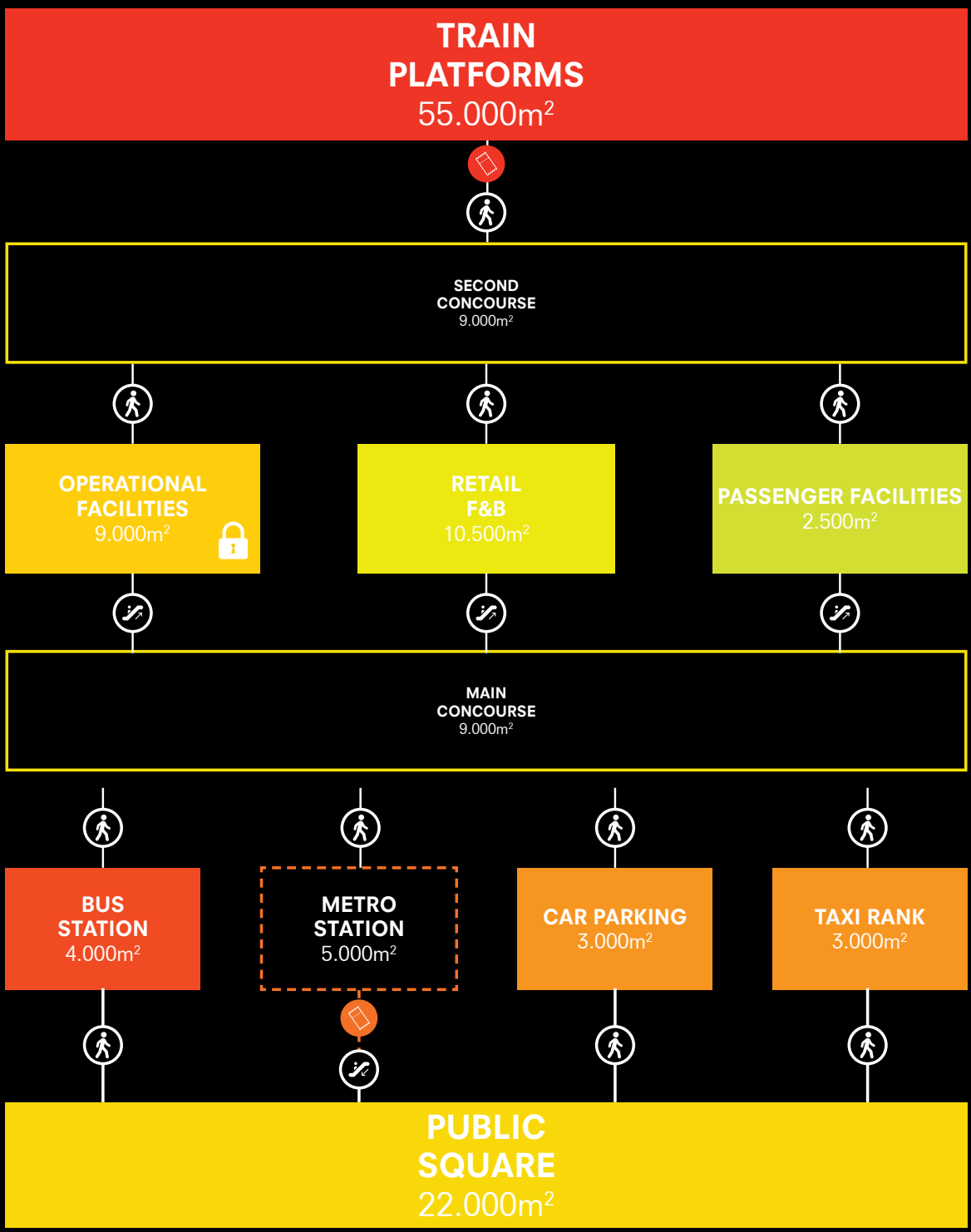
This final program bar visualizes the complete spatial breakdown of Milano Centrale, comparing its current organization with a proposed hybrid model that merges a Transportation Hub and a Mobile Experience Centre.

Each vertical segment represents a specific programmatic category—ranging from rail platforms and mobility systems to retail, public space, and services—mapped against total Gross Floor Area. The diagram illustrates a gradual reconfiguration of space, where functions are no longer isolated but instead grouped into thematic clusters: movement, access, services, and experience.

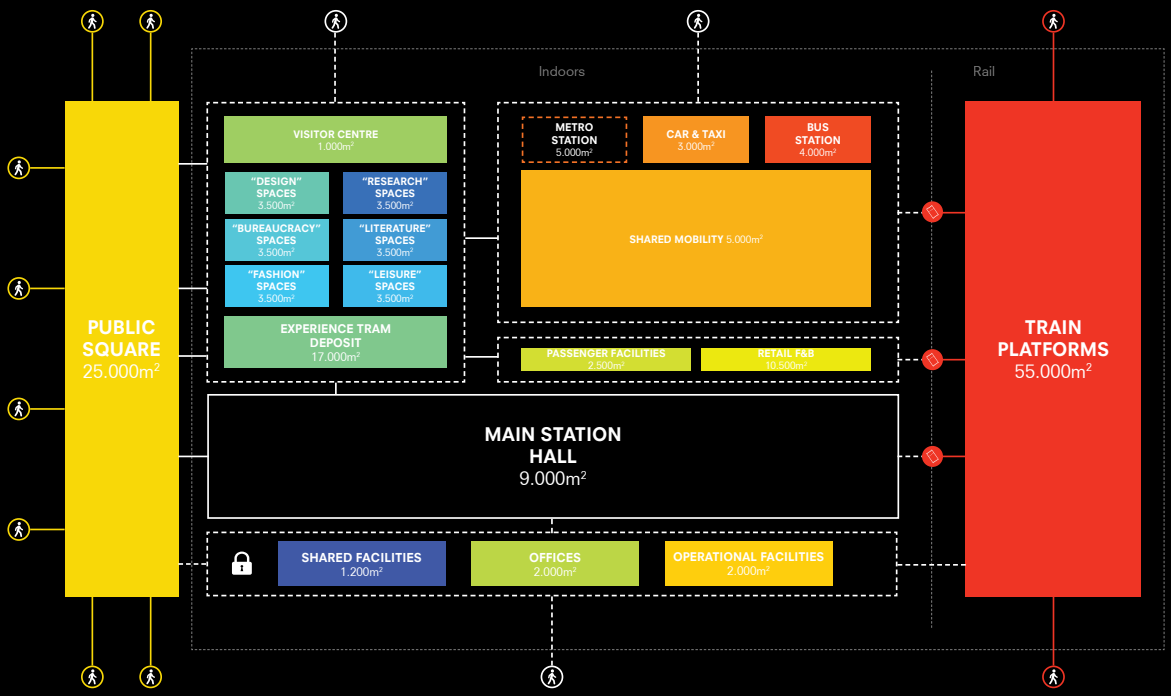
In the conclusive program bar for "On The Move", circulation and commercial zones are strategically concentrated to enhance flow and usability, while the integration of public amenities and shared mobility is more clearly structured. Functions such as metro, bus, and tram terminals are consolidated to improve interchange, while retail and user services are relocated for visibility and convenience.

The right side of the diagram emphasizes a rebalancing of priorities—maintaining infrastructure efficiency while amplifying cultural and experiential dimensions. This comparison reflects a shift toward a more dynamic and engaging urban node, redefining the station as both a connector and a destination.

PROGRAM ORGANISATION - MILANO CENTRALE



PROGRAM ORGANISATION - ON THE MOVE

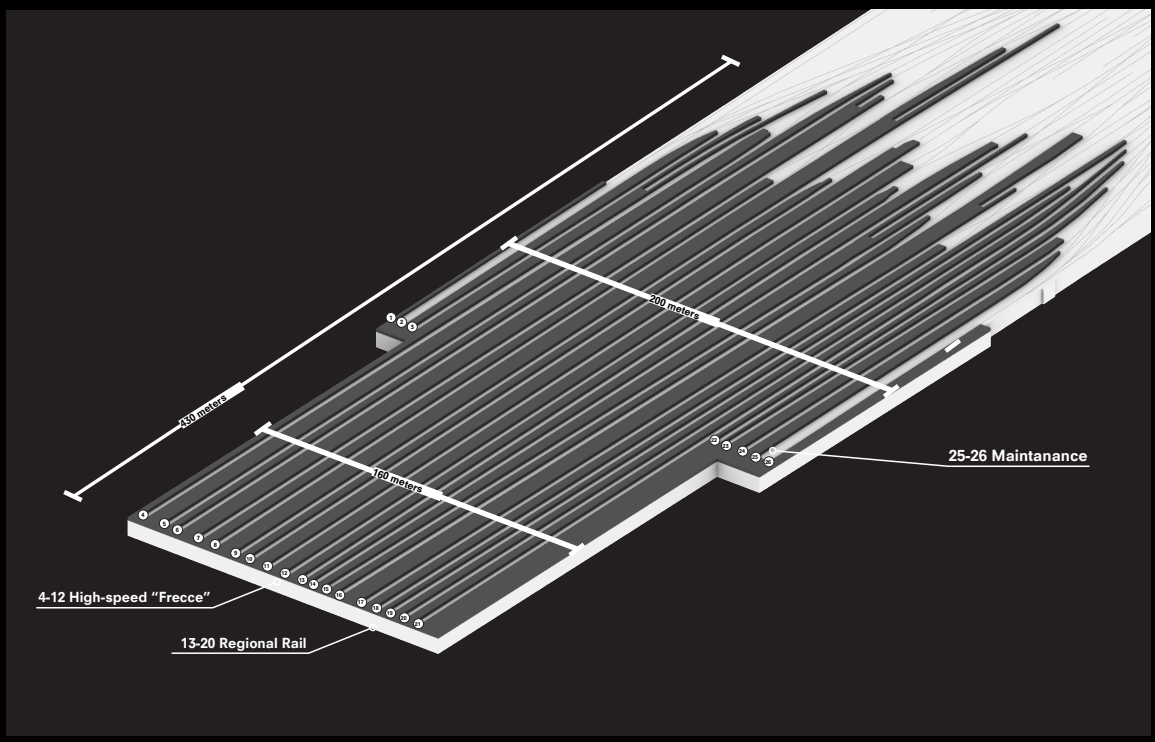


The comparison between the current spatial organization of Milano Centrale and the proposed layout of the "On the Move" project reveals a shift from a vertically stacked, functionally separated layout to a more horizontally integrated and interconnected system. In the existing station (left), programs are layered along a downward path from train platforms to public square, with multiple concourses separating retail, services, and mobility elements like the metro or bus stations. While effective in managing flow, this structure creates a fragmented experience, with limited interaction between uses and scattered support spaces.

The "On the Move" proposal (right) reimagines the station as a more cohesive and engaging urban system. By reorganizing key programs—such as shared mobility, metro, and bus stations—into a compact, central zone adjacent to the main station hall, the design simplifies access and strengthens intermodality. Functions like offices, operational spaces, and shared facilities are placed along the same level, improving transparency and functional overlap. Additionally, the introduction of new cultural and thematic spaces within the "Experience Tram Depot" fosters flexibility, learning, and public engagement—something entirely missing from the current setup.

Retail and service areas are no longer isolated within a concourse but instead integrated into the station's core, promoting better flow and visibility. The overall effect is a more intuitive and accessible spatial experience, where circulation is optimized and programmatic clusters support both movement and interaction. This reorganization positions the station not just as a place of transit, but as a civic platform—more legible, interconnected, and culturally alive.

KEY SPACES - 26 PLATFORMS

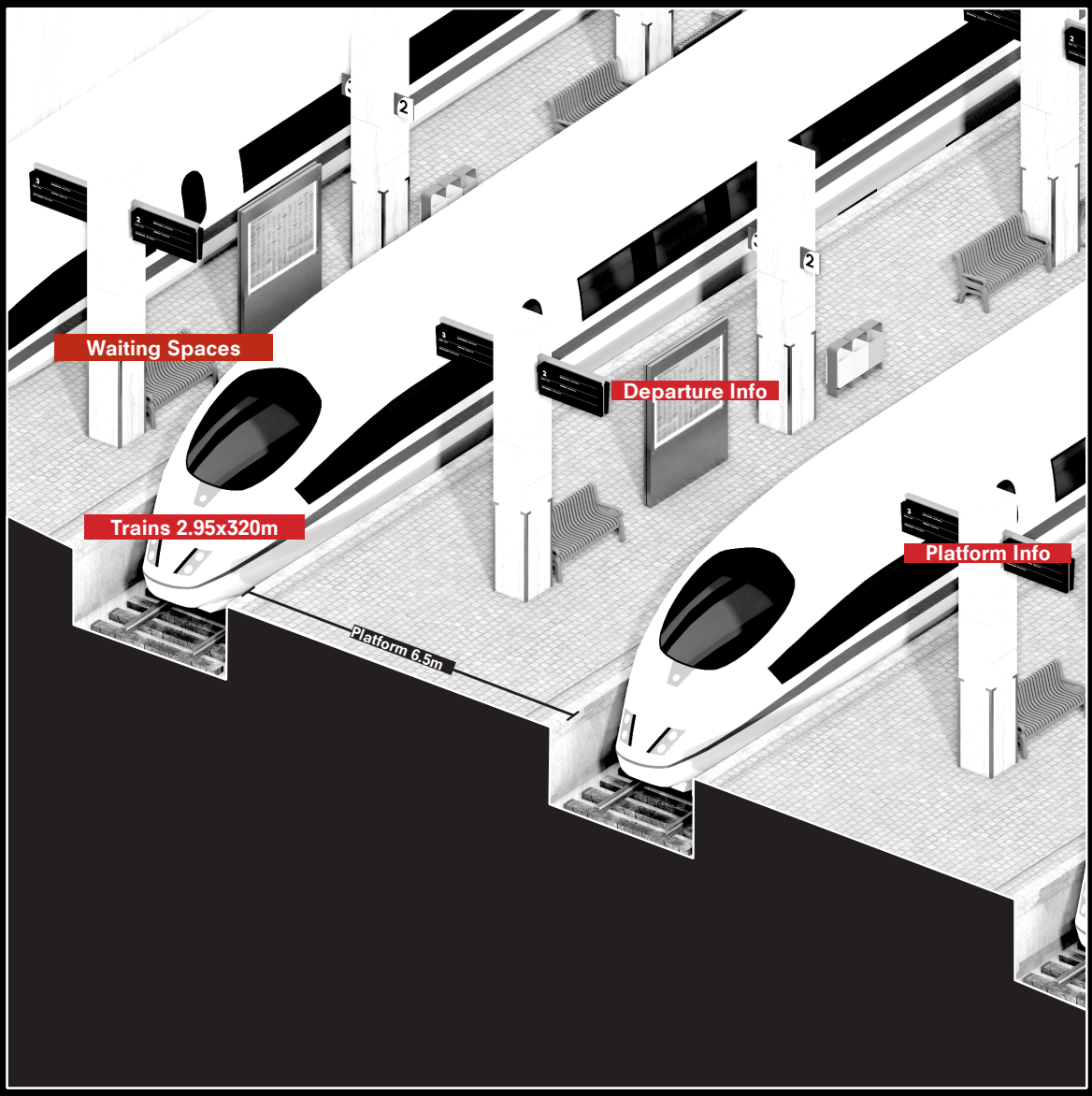


The platform layout proposed in the "On the Move" project includes a total of 26 tracks, organized to optimize functionality, accessibility, and operational clarity.

The configuration is divided into distinct zones based on train type and service frequency. Platforms 4 to 12 are designated for high-speed Frecce services, accommodating long-distance national and international routes with streamlined boarding and minimal interference from other modes. Regional rail services are allocated to platforms 13 to 20, positioned centrally to enable quick interchange with metro and shared mobility systems.

At the easternmost edge, platforms 25 and 26 are reserved for train maintenance and operational logistics, ensuring service continuity without disrupting passenger flows. Spanning a total width of 200 meters and a depth of 139 meters, the platform area is structured to support simultaneous operations, allowing the station to serve as a high-capacity, multimodal hub at the core of the project.

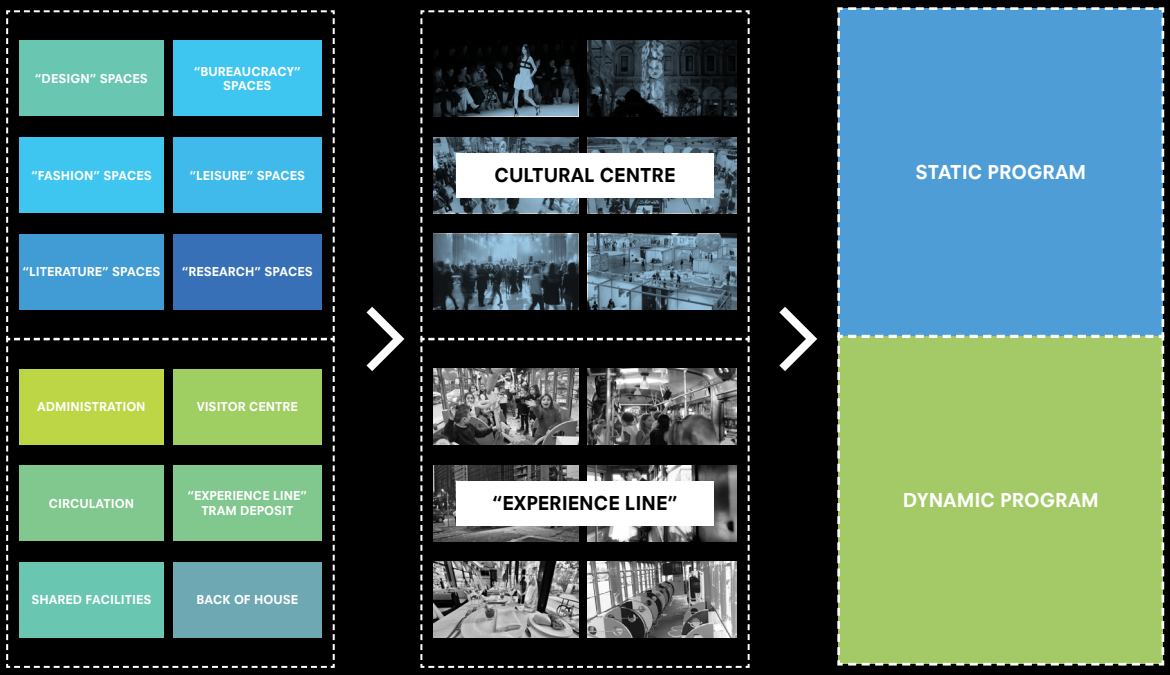
PLATFORM IN DETAIL



This image presents a detailed view of the proposed platform design, illustrating the spatial arrangement and passenger amenities.

Each platform measures 6.5 meters in width, accommodating trains up to 320 meters long and 2.95 meters wide. Key features include dedicated waiting areas, clear departure and platform information signage, and seating distributed along the length of the platform, ensuring comfort and clarity for travelers during boarding.

PROGRAM RESEARCH - MOBILE EXPERIENCE CENTRE



The analysis of the Baggio ATM Depot serves as a foundation for understanding how a tram infrastructure can be repurposed to support a broader cultural and experiential agenda.

With a total area of 8,000 m² and a capacity of 100 trams, the depot is not only a logistical facility but also a potential incubator for programmatic innovation. In Milan, a selection of "special trams" already operates as mobile venues—hosting weddings, pop-up restaurants, exhibitions, and themed parties—demonstrating how mobility infrastructure can double as a cultural platform. These trams blend movement with curated experiences, creating a unique format that extends the public realm into the transport system itself.

This transformation is further clarified in the program division diagram shown in the first image. Here, the Mobile Experience Centre is broken down into two major categories: static and dynamic programs.

The static component includes essential support functions such as administration, visitor centers, circulation, shared facilities, and the tram depot itself. These elements provide the organizational and spatial backbone necessary for the system to function.

On the other hand, the dynamic program consists of various thematic spaces—like design, fashion, literature, and leisure—intended to occupy the moving trams, forming what is referred to as the Experience Line. These programs evolve continuously, activating the trams as roaming cultural capsules that link the station to the city through content, not just transit.

The result is a hybrid infrastructure that merges civic life with mobility, making the depot a critical anchor for both operations and cultural production.

TRAMS AS LIVING SPACES

This vision is deeply rooted in Milan's own evolving relationship with its historical tram system, where the city has already begun to explore the transformative potential of the tram as a living space. The iconic "Carrelli" trams—symbols of Milanese identity since the 1920s—have been creatively reimagined not just as modes of transport, but as moving environments for public life.

From the wedding tram, to the ristotram offering onboard dining, the school tram for educational tours, the mystery tram staging immersive performances, and the Christmas tram that turns festive tradition into motion, Milan has already tapped into the narrative and spatial possibilities of its mobility heritage.

What remains innovative, however, is the shift from isolated novelty to a systematic use of trams as inhabitable, evolving cultural spaces—places where learning, gathering, celebrating, and storytelling unfold in motion.

In a city shaped by strong architectural formality and institutional boundaries, this approach introduces a flexible, mobile, and public domesticity, challenging static notions of civic space and proposing a new model of urban engagement that is both everyday and extraordinary.



ATMOSFERA: RESTAURANT TRAM



TRAMITO: SCHOOL TRAM



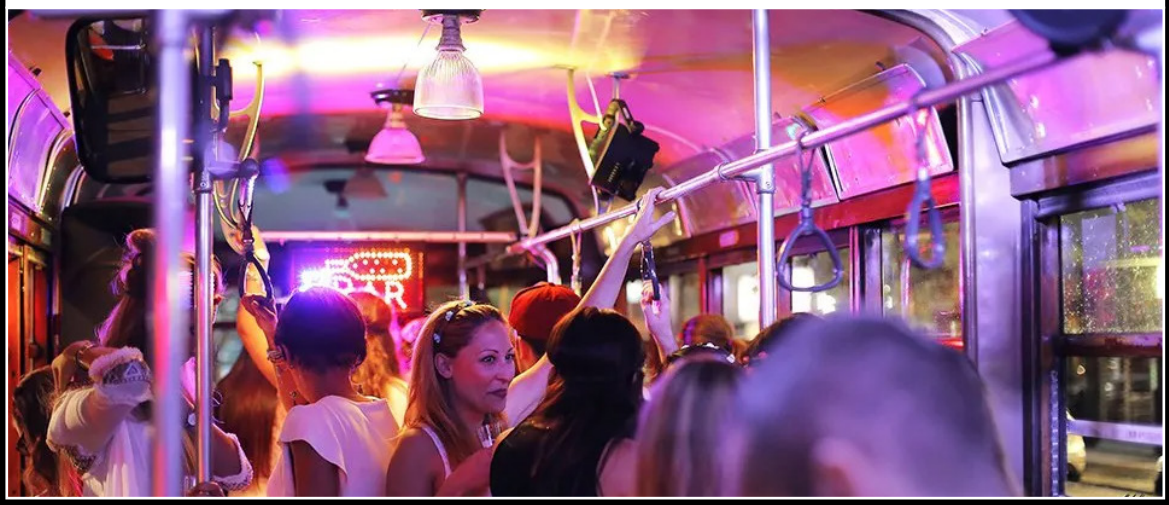
MYSTERY TRAM



WEDDING TRAM



DISCO TRAM



TRAM LUCE




5
6
7
30
1957
5137

BAGGIO ATM DEPOT



In this context, the Baggio ATM Depot, marked in red, functions not as the project's site, but as a reference model that informs the use of tram infrastructures. As one of Milan's oldest and largest tram depots, Baggio offers valuable insight into the spatial and logistical capacities required to support both static and mobile programs. Its inclusion in the map helps to ground the proposal in existing infrastructural realities while suggesting how such nodes might be reimagined as launch points for cultural circulation. The mapping serves to explore how the city's mobility grid can double as a distributed cultural platform, transforming tram routes into active connectors of public life.

DEAD INFRASTRUCTURE



Yet while the trams themselves have been reimagined as vibrant cultural capsules, their supporting infrastructure—the depots—remains largely invisible and underutilized within the urban fabric.

These spaces, often located at the edges of neighborhoods or tucked away behind walls, operate purely as logistical backstages: functional, static, and disconnected from the everyday life of the city.

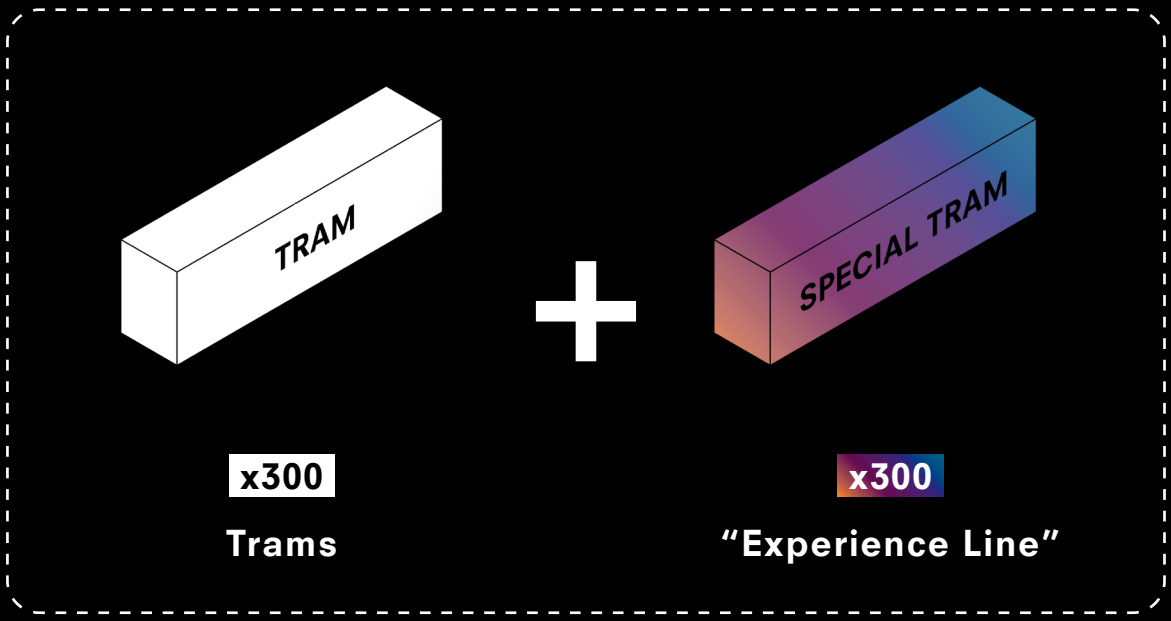
In this condition, they risk becoming dead infrastructure—monofunctional zones with little to no civic presence. This disconnect prompts a critical question: what if we extended the cultural activation beyond the vehicles and into the depots themselves?

Could these expansive, underused spaces be reimagined as hybrid platforms—hosting exhibitions, workshops, performances, or labs that blend mobility with cultural production?

By treating the depot not only as a place of maintenance but as a cultural anchor, we unlock the potential for a new type of civic space—one that repositions infrastructure as part of the public realm, rooted in both movement and memory.


WHAT IF WE USE THESE SPACES?


x600
Existing Units



One of the long-term goals of the project is to support the integration of at least 300 special trams—the “Experience Line”—into the future mobility landscape of Milan.

Building on the city’s existing fleet of 600 units, the plan envisions a 50/50 split between conventional transport vehicles and reprogrammed trams designed to host cultural, social, and experiential events. This expanded tram typology positions Milan not only as a leader in sustainable urban transit, but also as a pioneer in mobile public culture.

PROGRAM RESEARCH - MOBILE EXPERIENCE CENTRE



“DESIGN” SPACES
3.500m²

Design Fair
Art Galleries
Workshops



“BUREAUCRACY” SPACES
3.500m²

Assembly Rooms
Gathering Areas
Discussion Panels



“RESEARCH” SPACES
3.500m²

Auditoriums
Green Rooms
Foyer



“FASHION” SPACES
3.500m²

Stages
Fitting Rooms
Inventory



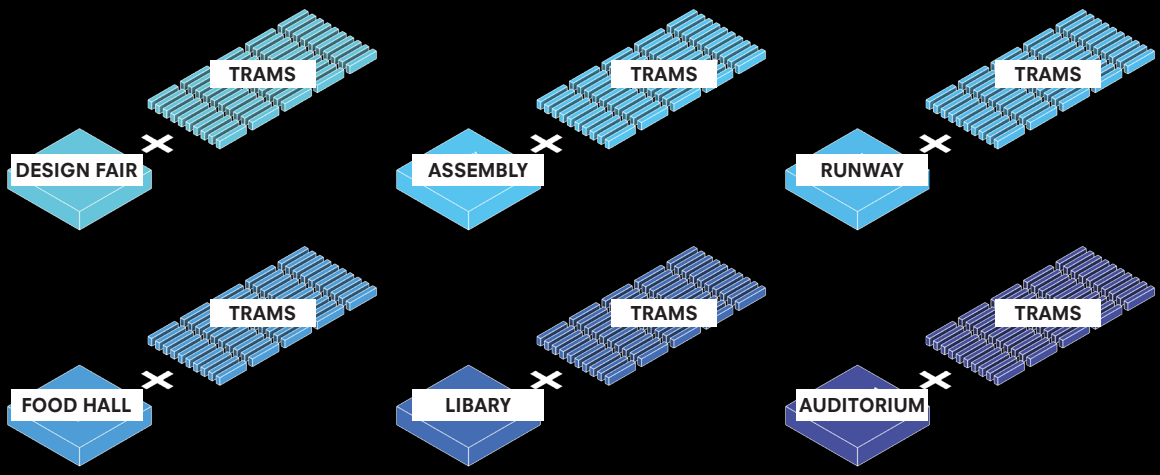
“LEISURE” SPACES
3.500m²

Food Hall
Vendors Units
Services



“LITERATURE” SPACES
3.500m²

Library
Archives
Bookstores



The Mobile Experience Centre introduces a diverse and flexible set of cultural programs directly into the fabric of the station, reframing it as a space of encounter, education, and creativity.

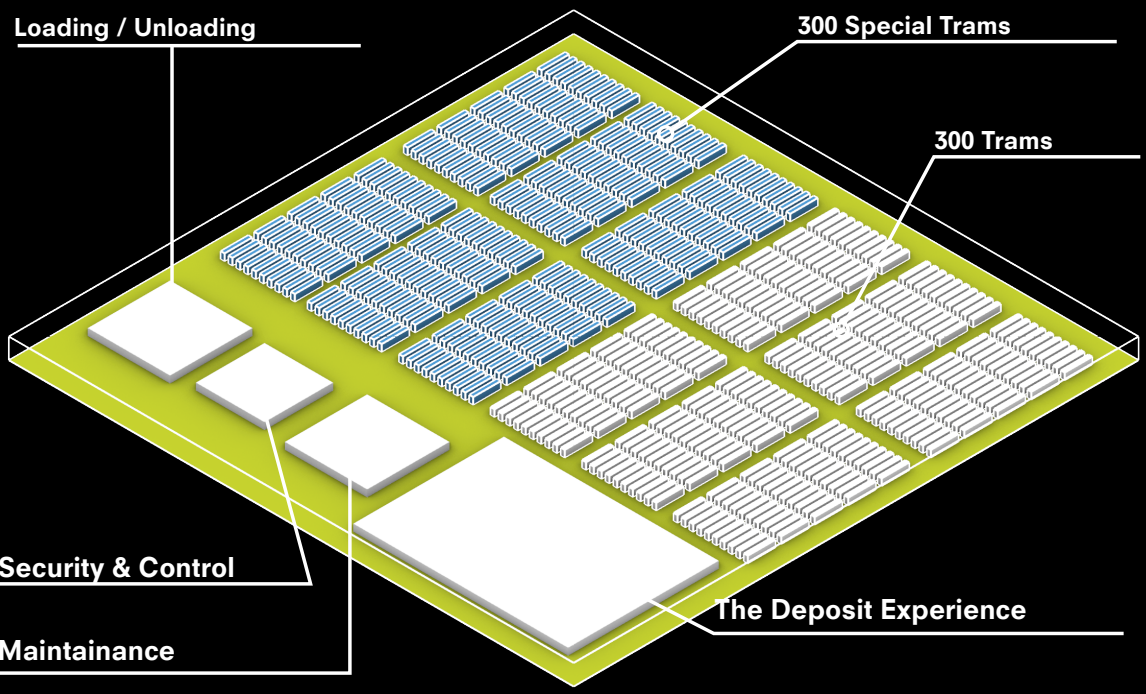
Rather than isolating cultural functions in separate buildings, the project embeds them within the mobility infrastructure, making them accessible to a wider public.

The program includes a variety of specialized spaces: design studios that host workshops and exhibitions, fashion labs showcasing emerging talent, literature and research rooms offering quiet zones for reading, writing, and debate, and leisure areas for informal gathering, rest, or reflection. In addition, bureaucracy spaces are included to serve as active civic counters—places where citizens can interact with public institutions in more accessible, human-centered environments.

These spaces are envisioned as part of a rotating and evolving program, reinforcing the idea that the station is not a static building, but a cultural platform in motion. Their placement within the station, and in some cases within the "Experience Line" trams themselves, allows cultural activity to be both situated and mobile, engaging commuters, visitors, and residents in different ways and at different moments.

By integrating these uses, the station moves beyond its traditional role as a node of passage, becoming a place that encourages people to stay, explore, and return. Ultimately, the Mobile Experience Centre acts as a generator of civic energy, bridging infrastructure and imagination, and offering a vision of public space that is both functional and culturally rich.

PROGRAM RESEARCH - INTERACTIVE TRAM DEPOT



This image presents the program of the Interactive Tram Depot, a key part of the Mobile Experience Centre.

The depot is more than just a place for storing and maintaining trams—it includes specific zones for loading and unloading, maintenance, security and control, and a special area called The Deposit Experience, where cultural programs are integrated directly into the station's fabric. The depot hosts 300 regular trams and 300 special trams, making it a space where mobility and culture meet.

On the right, the full program is shown as a vertical bar, split into two main parts: static spaces and the dynamic tram program. The static section includes a range of cultural and civic spaces—such as research, literature, leisure, fashion, bureaucracy, and design studios. Additional facilities like shared spaces, admin offices, circulation areas, and a visitor center complete the station's internal functions. Together with the tram depot and the 300 special trams that travel through the city, the project reimagines the station as a constantly evolving public platform for creativity, education, and civic life.

"RESEARCH" SPACES
3.500m²

"LITERATURE" SPACES
3.500m²

"LEISURE" SPACES
3.500m²

"FASHION" SPACES
3.500m²²

BUREAUCRACY" SPACES
3.500m²

"DESIGN" SPACES
3.500m²

SHARED FACILITIES
1.200m²

ADMIN. OFFICES
400m²

CIRCULATION
1.500m²

VISITOR CENTRE

STATIC PROGRAM

"EXPERIENCE" TRAM DEPOSIT
17.000m²

DYNAMIC PROGRAM

+

x300

SPECIAL TRAM

THE "EXPERIENCE LINE" DEPOT

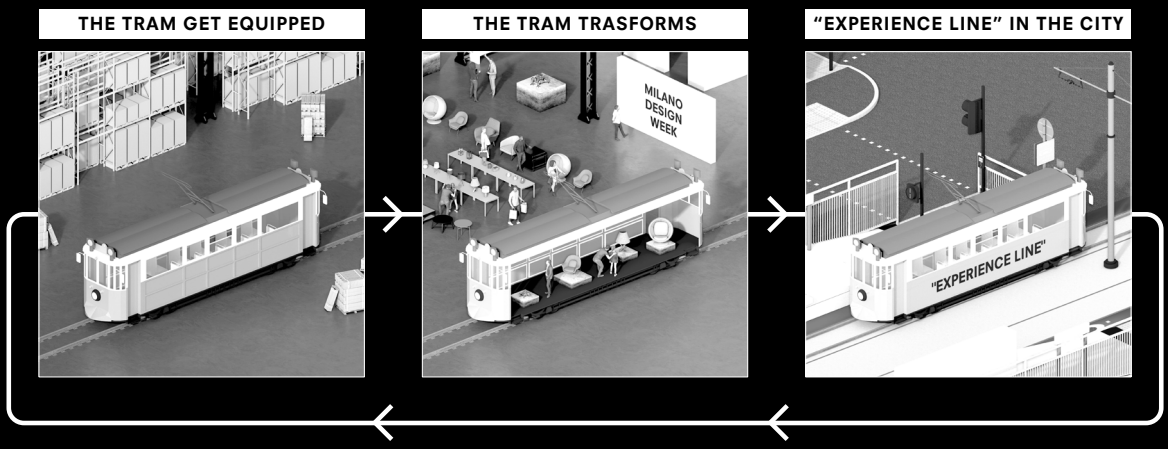
The Experience Line Depot is envisioned as a new typology of tram depot—one that redefines the relationship between infrastructure and culture by allowing mobility systems and civic life to coexist within the same architectural framework.

While its primary function remains operational, ensuring the daily maintenance, servicing, and preparation of the special trams that make up the Experience Line, the depot is also designed to operate as a flexible cultural venue. This dual identity challenges the traditional separation between technical and public spaces, proposing instead a hybrid environment where vehicles and people, logistics and events, share the same space.

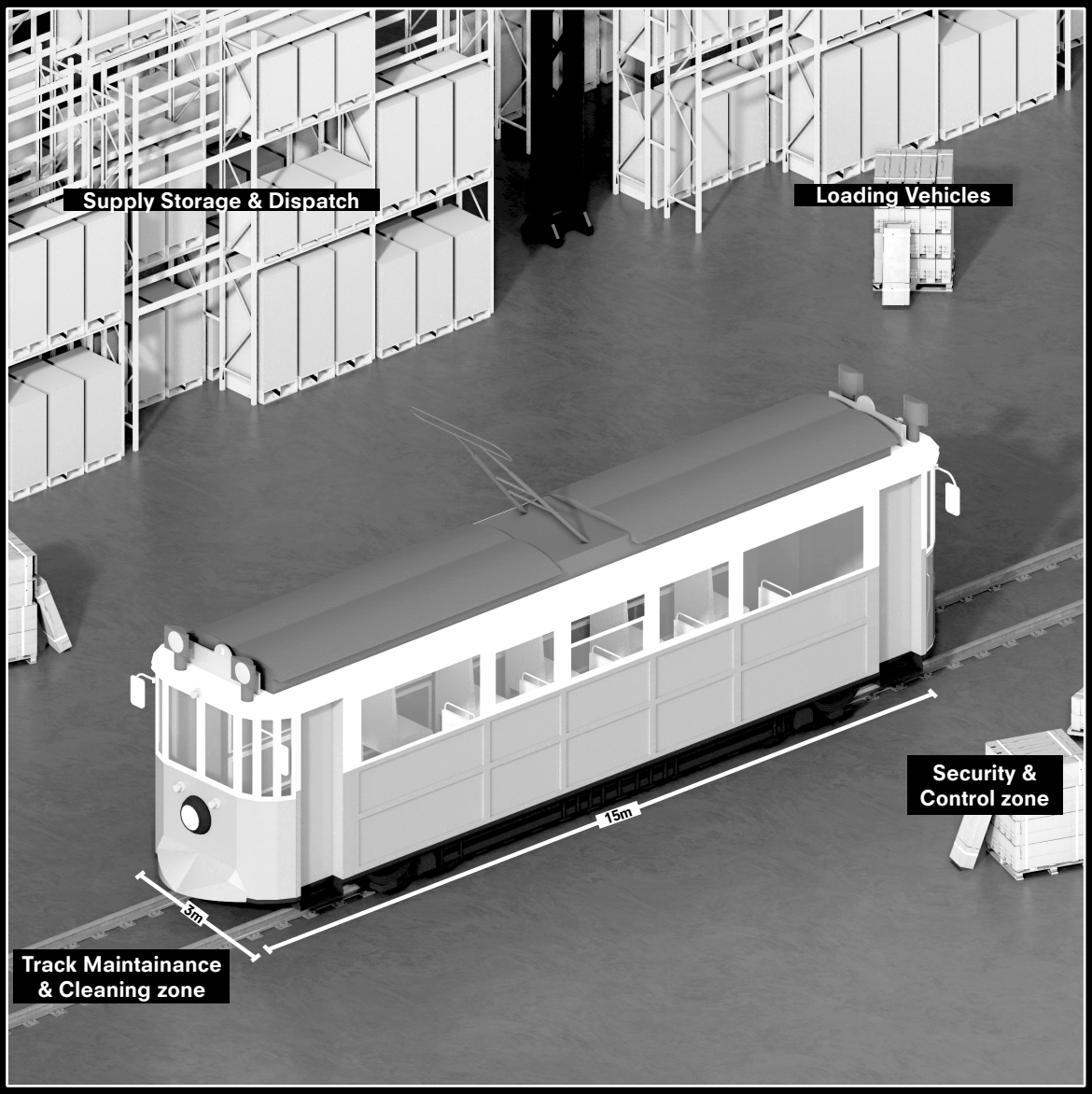
During everyday operations, the depot functions as an efficient support hub, organizing workflows for up to 300 specially outfitted trams that serve as mobile venues across Milan. However, during major city-wide happenings—such as Salone del Mobile, Design Week, or institutional festivals—the depot transforms into an open, adaptable platform for exhibitions, performances, workshops, and interactive installations. Its spatial layout is designed for this kind of transformation, allowing cultural programs to temporarily take over while maintaining basic infrastructural performance.

Most importantly, the project extends the idea of the depot beyond its physical footprint. Once prepared, the trams themselves become mobile cultural carriers, bringing curated experiences directly into the city.

Through this approach, the depot acts as both the heart and launchpad of a broader urban cultural network, blurring the line between transportation and programming. In doing so, it proposes a new model of civic infrastructure—one where movement, culture, and public engagement are integrated within the same operational system.



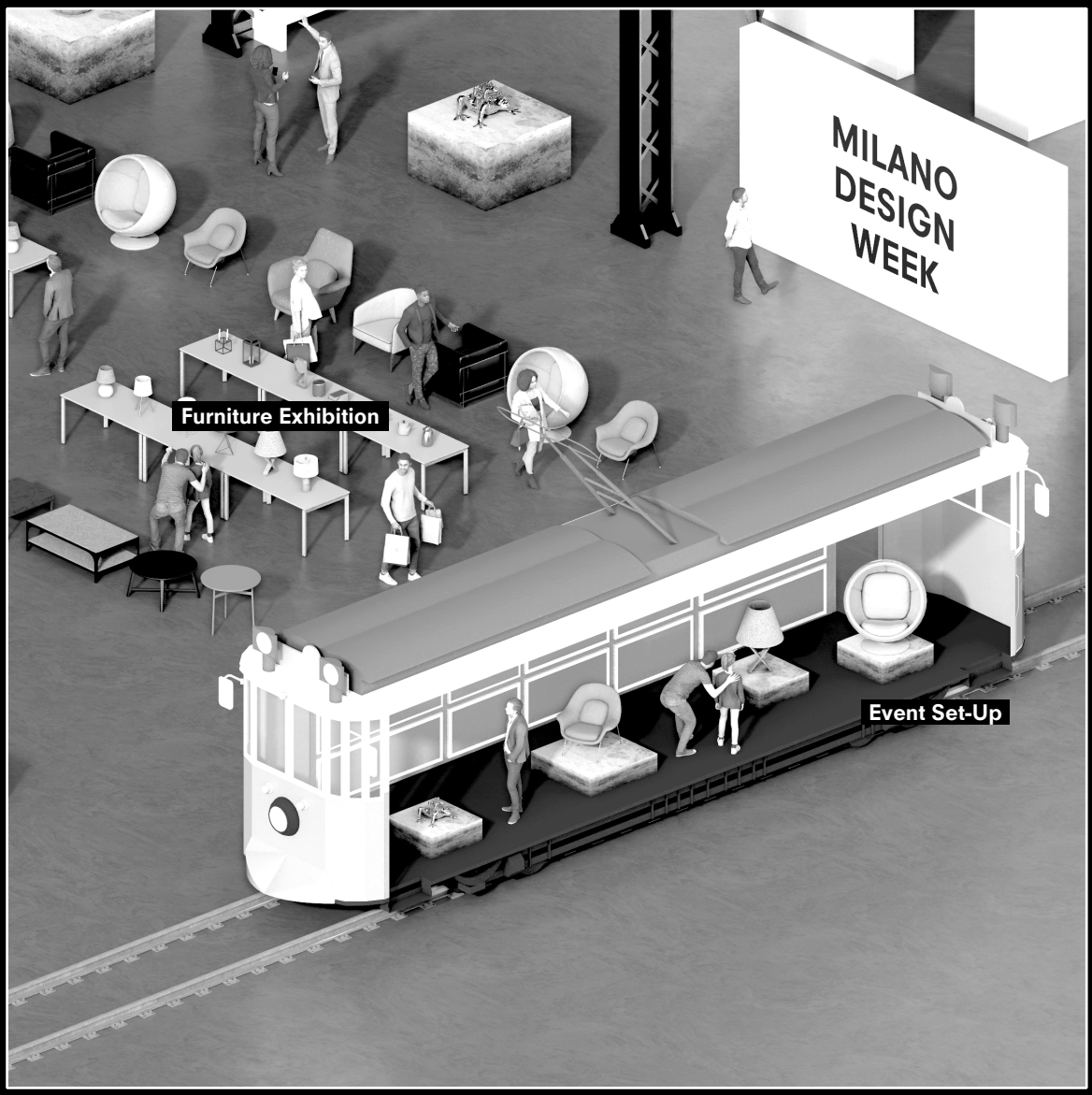
LOGISTICS



This image shows the possible layout of the Tram Experience Depot. The first step in the depot is equipping the tram—this means getting it ready with everything it needs before it starts its journey.

This includes loading supplies, checking safety features, and making sure the tram is clean and working properly. Different areas in the depot serve different purposes: there's a zone for supply storage and dispatch, a place to load vehicles, a space for track maintenance and cleaning, and a security and control area to make sure everything runs smoothly and safely.

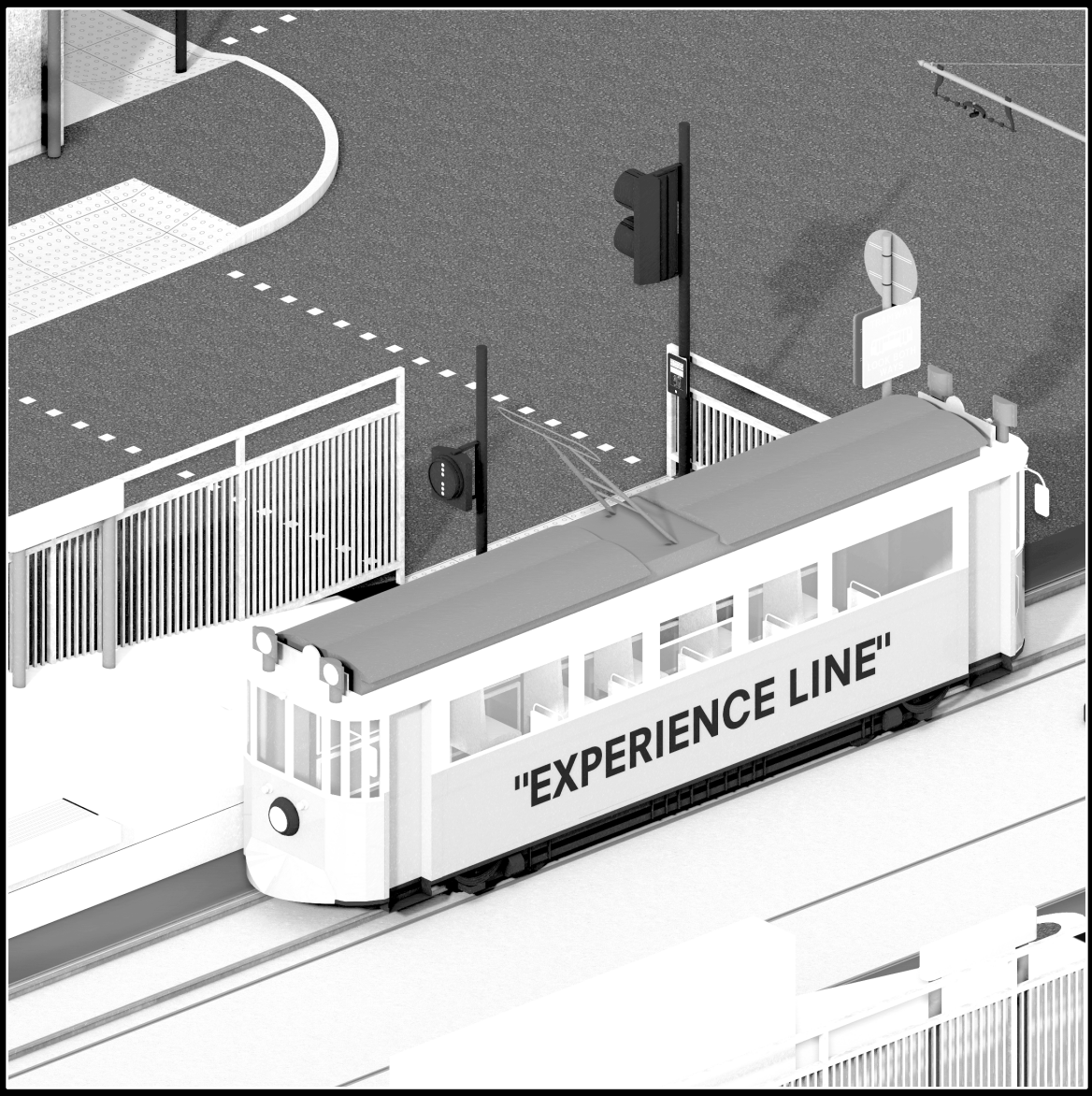
TRAM DESIGN FAIR



This image shows how the same tram space can be transformed into a design exhibition, like during Milan Design Week.

Here, the tram becomes part of the event, with furniture pieces displayed inside and around it. People can walk through, try out the designs, and interact with the setup. It's not just a tram anymore—it becomes a moving gallery where design and public space come together in a fun and creative way.

THE “EXPERIENCE LINE”



In this image, we see the tram leaving the depot and heading into the city as part of the “Experience Line.”

Once it’s fully equipped and set up, the tram becomes a moving exhibition, bringing the event directly to the streets. Instead of staying in one place, the experience now travels, reaching different neighborhoods and people across the city.

It turns the whole city into a venue, making design and creativity more accessible and part of everyday urban life.

CONCLUSIVE PROGRAM BAR

This conclusive program bar defines the final configuration for the "On the Move" project, emerging from a detailed research process that examined both the Transportation Hub and the Mobile Experience Centre.

Rather than treating mobility and culture as separate domains, the project proposes a hybrid typology that merges the two into a single, integrated system. This hybridization is not simply a matter of coexistence, but of active overlap—where infrastructure and cultural programming begin to share space, function, and meaning. The program bar captures this by showing how traditional mobility functions such as tram platforms, metro stations, and shared mobility units are interwoven with cultural and civic components like design studios, research zones, leisure areas, and fashion spaces.

The result is a blurry threshold between what is usually seen as purely functional (movement, transit, circulation) and what is usually seen as static or reflective (education, creation, interaction). These overlaps are not incidental—they are central to the project's aim of transforming the station into a dynamic urban platform. Cultural programs are embedded directly within the flow of everyday movement, allowing moments of encounter, learning, and participation to occur in transit rather than being confined to separate, static institutions.

The final program bar becomes a design brief for a new kind of civic architecture, one that is flexible, inclusive, and able to adapt to shifting urban rhythms. It sets the stage for a station that is no longer just a place of passage, but a generator of urban life—one that is constantly evolving, mobile, and deeply embedded in the public realm.

TRANSPORTATION HUB
GFA: 122.500m^2

+

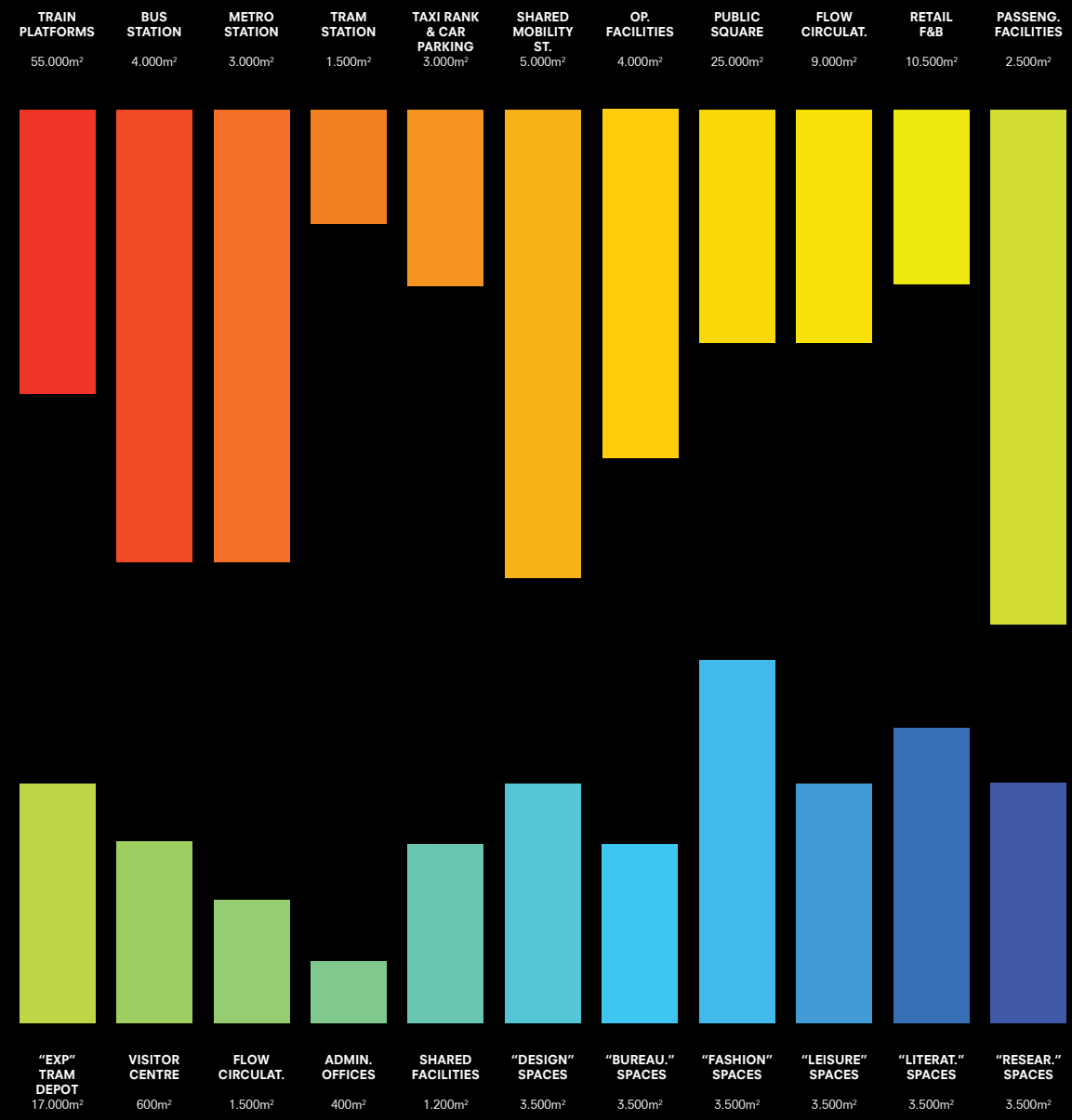
MOBILE EXPERIENCE CENTRE
GFA**:** 41.700m^2

=

"ON THE MOVE"
GFA: 164.200m^2

TRANSPORTATION HUB

GFA: 122.500m²



MOBILE EXPERIENCE CENTRE

GFA**:** 41.700m²

CONCLUSIVE PROGRAM BOXES

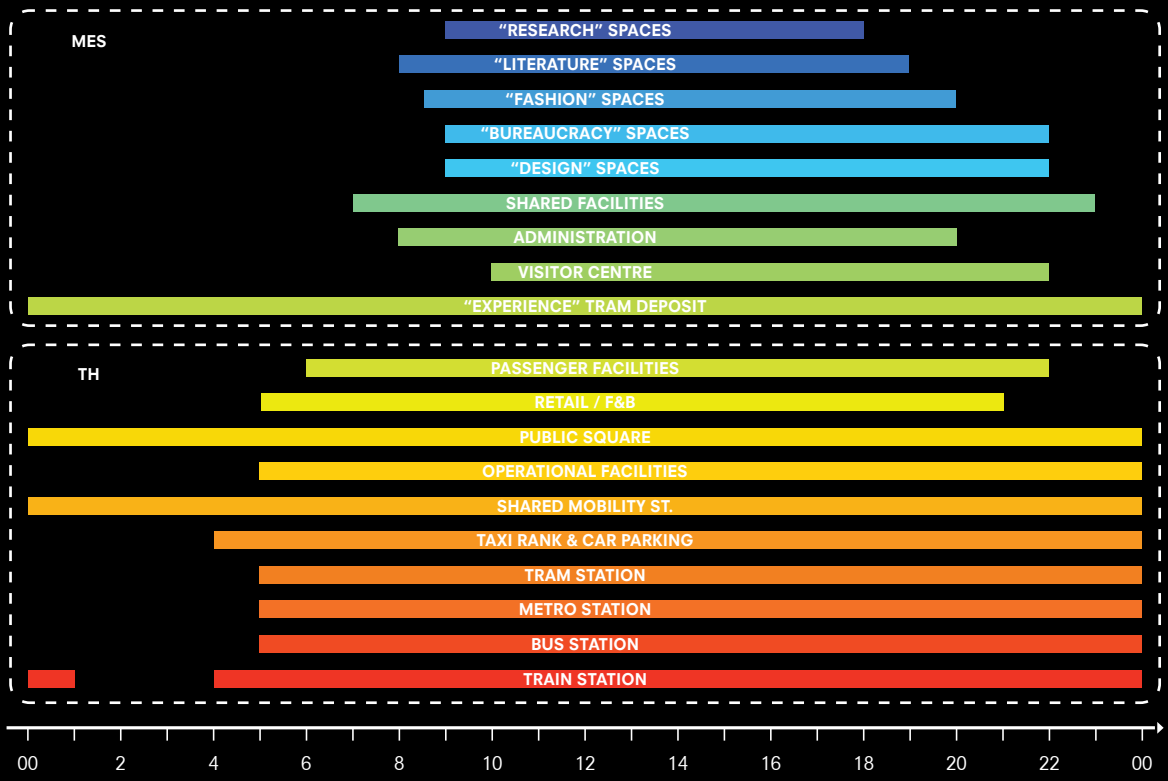
This diagram shows the final arrangement of the program boxes, which will be organized across multiple floors to optimize space and functionality.

Each box is sized and positioned according to its specific spatial needs—whether it requires direct access to transport flows, public engagement, or quieter, more controlled environments. This setup will serve as the base for massing exploration, allowing for multiple combinations and configurations to be tested.

Through this process, the most effective and integrated spatial relationships between mobility and cultural programs can be discovered and refined.



CONCLUSIVE PROGRAM USE



This diagram presents the final outcome of my research into program use, illustrating how the combination of the Mobile Experience Centre (MES) and the Transportation Hub (TH) creates a more layered and continuous spatial experience.

One of the key findings is the value of embedding cultural programs not only within the static spaces of the station but also on board the moving trams. While many of the MES spaces—such as research areas, design studios, and literature zones—are primarily active during the day, the integration of cultural content into the "Experience" trams ensures that these activities can extend beyond the traditional opening hours.

As the diagram shows, cultural life doesn't need to stop when the building closes—instead, it moves through the city, carried by the tram network. This continuous presence of culture in motion allows for a more vibrant and accessible public realm, where exhibitions, performances, and workshops can happen at different times and places, including the evening and night hours, reaching wider and more diverse audiences.

It turns the station into a platform that never fully shuts down, offering a 24-hour cultural infrastructure that complements the rhythms of urban life.

TRANSPORTATION HUB

TRAIN PLATFORMS
55.000m²

- 26 Railway Tracks (300x3x26)
- 26 Unobstructed Space
- Boarding Area 650m²
- Platforms Kiosks
- Heated & Closed

BUS STATION
4.000m²

- 8 Unobstructed Platforms
- 8 Sheltered Waiting Areas 1000m²
- Malpensa Airport Shuttle Platform
- Bergamo Airport Shuttle
- Linate Airport Shuttle
- 7 Flixbus Platforms 350m²
- Vehicle Circulation 1000m²
- Ticketing Kiosk 50m²

METRO STATION
3.000m²

- 4 Metro Platforms 4000m²
- Unobstructed Space 500m²
- Ticketing Area 200m²
- Gates 50m²
- Transfer Areas 100m²
- Control Rooms 100m²
- Maintenance Rooms
- Lost & Found 15m²

TRAM STATION
1.500m²

- Tram Platforms 500m²
- Tram Parking & Infrastructure

TAXI RANK & CAR PARKING
3.000m²

- Taxi Drop-Off 500m²
- Taxi Parking 500m²
- Car Parking 2000m²

SHARED MOBILITY ST.
5.000m²

- 10.000 Bike Parking Racks 1000m²
- Bike Repair Shop & Tool Box
- Control Rooms 80m²
- 40 Car Rental Spots (2.3x5m) 460m²
- Parking Op. Rooms 525m²
- Vehicles Parking 3000m²
- Vehicles Maintenance 200m²
- Staff Facilities 200m²

OPERATIONAL FACILITIES
4.000m²

- Technical Facilities 1000m²
- Logistics (Storage & Delivery)
- Staff Facilities 150m²
- Security Rooms 150m²
- First Aid Rooms 100m²
- Rail Operator Offices 1500m²

PUBLIC SQUARE
25.000m²

- Urban Green 19000m²
- Waiting Area 500m²
- Drop-Off (K&R) 500m²
- Plaza 5000m²

FLOW CIRCULATION
9.000m²

- Main Concourse 5000m²
- Passages 2000m²
- Passages 1000m²
- Stairs, Escalators & Elevators

RETAIL F&B
10.500m²

- Lifestyle & Wellness Stores
- Kiosk / Edicola 500m²
- Café 500m²

PASSENGER FACILITIES
2.500m²

- Info Points 150m²
- Toilets 200m²
- Bank ATM 100m²
- Luggage Deposit 450m²
- Ticketing Office & Machines
- Service Desk 200m²
- Lockers 300m²
- Seating Areas 1000m²
- Lounges 1300m²

"EXPERIENCE" TRAM DEPOSIT
17.000m²

- Maintanance 1000m²
- Loading / Unloading
- Circulation Space
- 600 Tram Units 12.000m²

VISITOR CENTRE
600m²

- Waiting Areas 100m²
- Foyer 500m²
- Reception 100m²

FLOW CIRCULATION
1.500m²

- Stairs & Elevators 500m²

ADMIN. OFFICES
400m²

- Offices 400m²

SHARED FACILITIES
1.200m²

- BOH 500m²
- Op. acilities 500m²
- Toilets 200m²

"DESIGN" SPACES
3.500m²

- Storage 50m²
- Workshop 450m²
- Gallery 1000m²
- Design Fair 2000m²

"BUREAU." SPACES
3.500m²

- Canteen 1000m²
- Gathering 1000m²
- Assembly 2500m²

"FASHION" SPACES
3.500m²

- Foyer 500m²
- Technical 500m²
- Stages 1500m²
- Fitting 500m²
- Inventory 500m²
- Seating 500m²

"LEISURE" SPACES
3.500m²

- Staff 500m²
- Garbage 500m²
- BOH 1000m²
- Food Hall 2000m²

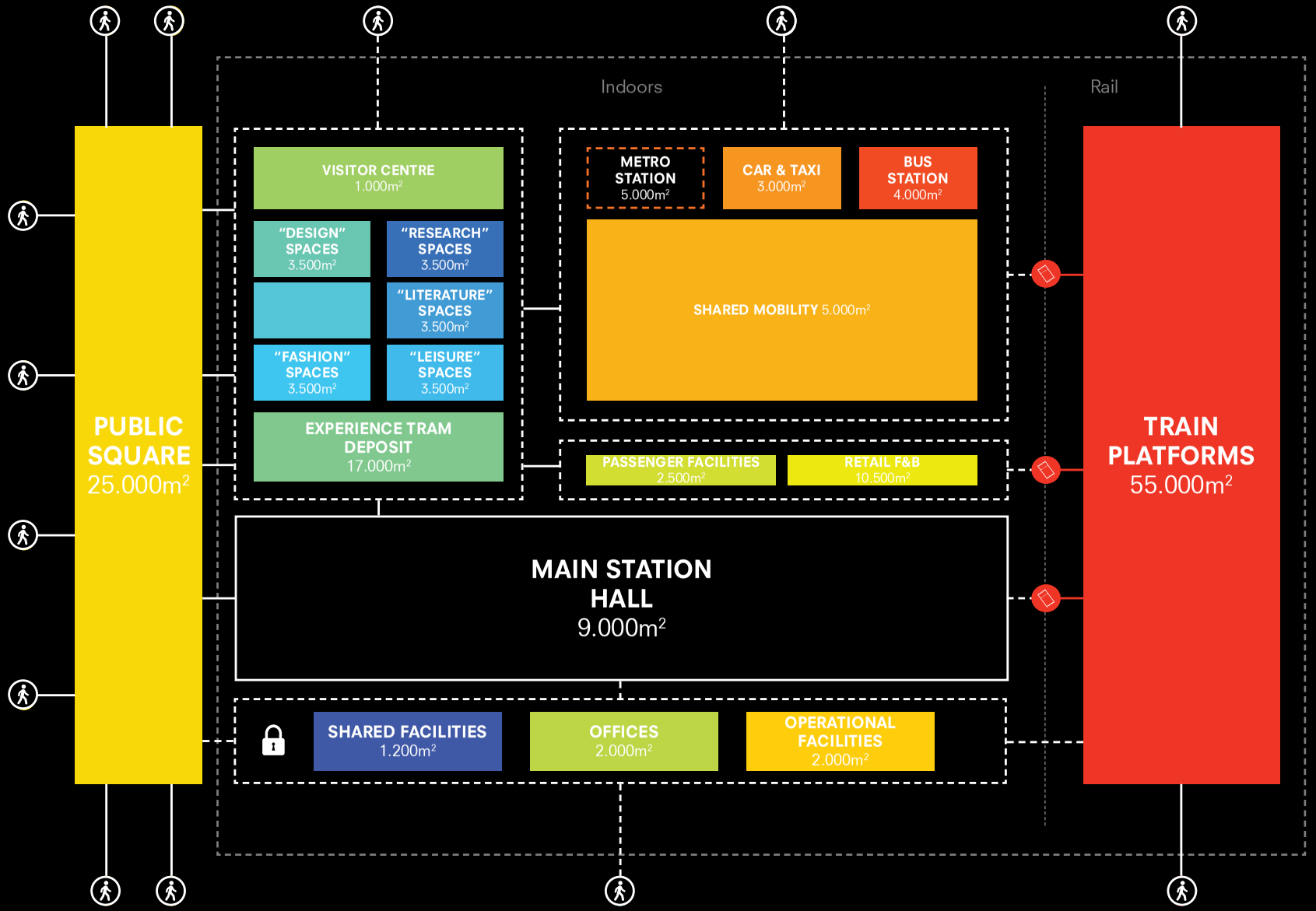
"LITERATURE" SPACES
3.500m²

- Storage 500m²
- Bookstore 500m²
- Archives 500m²
- Co-working 500m²
- Library 1500m²

"RESEARCH" SPACES
3.500m²

- Open-Air Theatre
- Foyer 500m²
- Green Room 500m²
- Auditoriums 1500m²

MOBILE EXPERIENCE CENTRE


Indoors
Rail
PUBLIC SQUARE 25.000m²
VISITOR CENTRE 1.000m²
"DESIGN" SPACES 3.500m²
"RESEARCH" SPACES 3.500m²
"LITERATURE" SPACES 3.500m²
"FASHION" SPACES 3.500m²
"LEISURE" SPACES 3.500m²
EXPERIENCE TRAM DEPOSIT 17.000m²
METRO STATION 5.000m²
CAR & TAXI 3.000m²
BUS STATION 4.000m²
SHARED MOBILITY 5.000m²
PASSENGER FACILITIES 2.500m²
RETAIL F&B 10.500m²
TRAIN PLATFORMS 55.000m²
MAIN STATION HALL 9.000m²
SHARED FACILITIES 1.200m²
OFFICES 2.000m²
OPERATIONAL FACILITIES 2.000m²

PROGRAM AMBITIONS

The programmatic ambitions of the "On the Move" project aim to rethink the relationship between infrastructure, public space, and cultural life through a set of key spatial principles.

These ambitions guide the design of the station not only as a transportation hub but also as a civic and cultural platform.

Each of the following strategies responds to specific programmatic needs, helping to shape a space that is more connected, accessible, and meaningful in its urban context.



UNIFIED MOBILITY CENTER

The goal is to integrate all transportation systems—train, bus, metro, tram, shared mobility, and pedestrian access—into a single cohesive structure. Instead of separating platforms and services into disconnected buildings, the program merges them into one interconnected mobility center.

In the context of "On the Move," this allows cultural and civic functions from the Mobile Experience Centre to seamlessly blend with the infrastructure of the Transportation Hub, supporting cross-programming and spatial continuity across the building.



FLOW-CENTRIC DESIGN

This principle focuses on the experience of movement through the space. By studying the different rhythms and patterns of users—commuters, visitors, staff, and cultural participants—the program organizes spaces to support intuitive circulation. Vertical and horizontal flows are designed around peaks in use and transitions between mobility and cultural activities. This ensures that people can naturally move from a train platform to an exhibition, from a tram to a workshop, reinforcing the project's goal of transforming the station into an active urban corridor rather than just a point of transit.



ZERO - THRESHOLD DESIGN

Accessibility is central to the project's program. All areas within the station—whether mobility-related or cultural—are designed to be barrier-free, removing physical, sensory, and spatial obstacles. The zero-threshold approach also applies symbolically: the project avoids rigid boundaries between infrastructure and culture, creating fluid transitions from platforms to gathering spaces, from transport to learning.

This allows every user, regardless of ability or background, to fully access and engage with the station's diverse offerings.



INCREASE PLOT CONNECTIVITY

Rather than functioning as an isolated mega-structure, the program activates the edges of the site and opens the station up to its surroundings. Strategically placed entries, public squares, and event zones strengthen connections with the urban fabric, encouraging foot traffic and fostering relationships with nearby neighborhoods. This is especially important for the Experience Tram Depot and its cultural components, which rely on high visibility and permeability to invite ongoing interaction with the city. It's not just a destination—it becomes part of the city's continuous network of public space.

SITE

This chapter is dedicated to the investigation of the site, Milan Central Station and its surrounding urban fabric. The research unfolds across multiple scales—European, national, regional, and urban—to position the station within broader infrastructural and territorial networks.

From this wide lens, the focus then narrows to a detailed analysis of the local context, exploring spatial conditions at the architectural and pedestrian scale. Particular attention is given to the interaction between slow and fast mobility, the hierarchy of access points, and the distribution of land uses within and around the station.

To complement this analytical framework, a site visit conducted in November provided a first-hand understanding of the area's complexity. Through photographic documentation, the visit focused on the coexistence and overlapping of different modes of transport—train, tram, metro, taxi, and bus—highlighting how these systems intersect and shape the station's role as a multi-modal urban node.





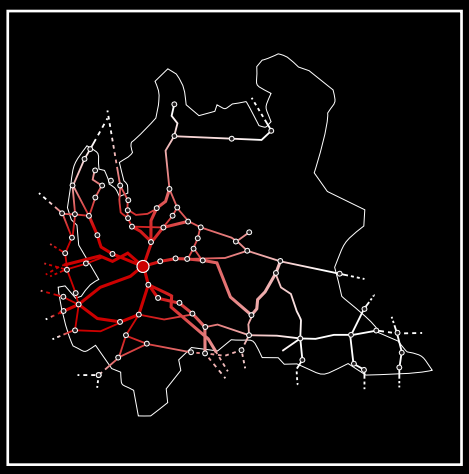
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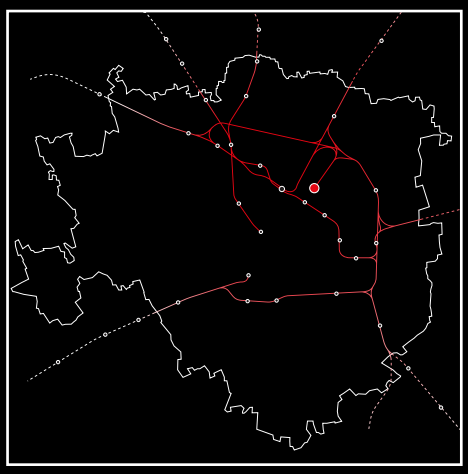
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A MATTER OF SCALE

To fully grasp the role of Milano Centrale, the research begins with a multi-scalar mapping strategy that moves from the European to the national, regional, and finally the city scale.

This layered approach reveals the station's strategic importance across territorial hierarchies, uncovering how it functions not only as a major urban landmark, but as a central node within a vast mobility system. Mapping exercises at each scale focused on the structure and density of the rail network, the station's relational centrality, and the speed and intensity of connections.

At the European scale, Milano Centrale is connected to key international destinations such as Zurich, Geneva, and Paris via high-speed and intercity rail, positioning the station within the broader European transport corridor. These links affirm its role as a continental gateway that connects Italy to the heart of Europe in just a few hours.

At the national scale, Milano Centrale stands as a primary hub in Italy's Alta Velocità network. It links Rome in under three hours, and connects seamlessly with Turin, Bologna, Florence, and Venice, all within two hours. These connections support high-frequency, high-capacity flows that make the station a critical infrastructure for national mobility, both for business and leisure.

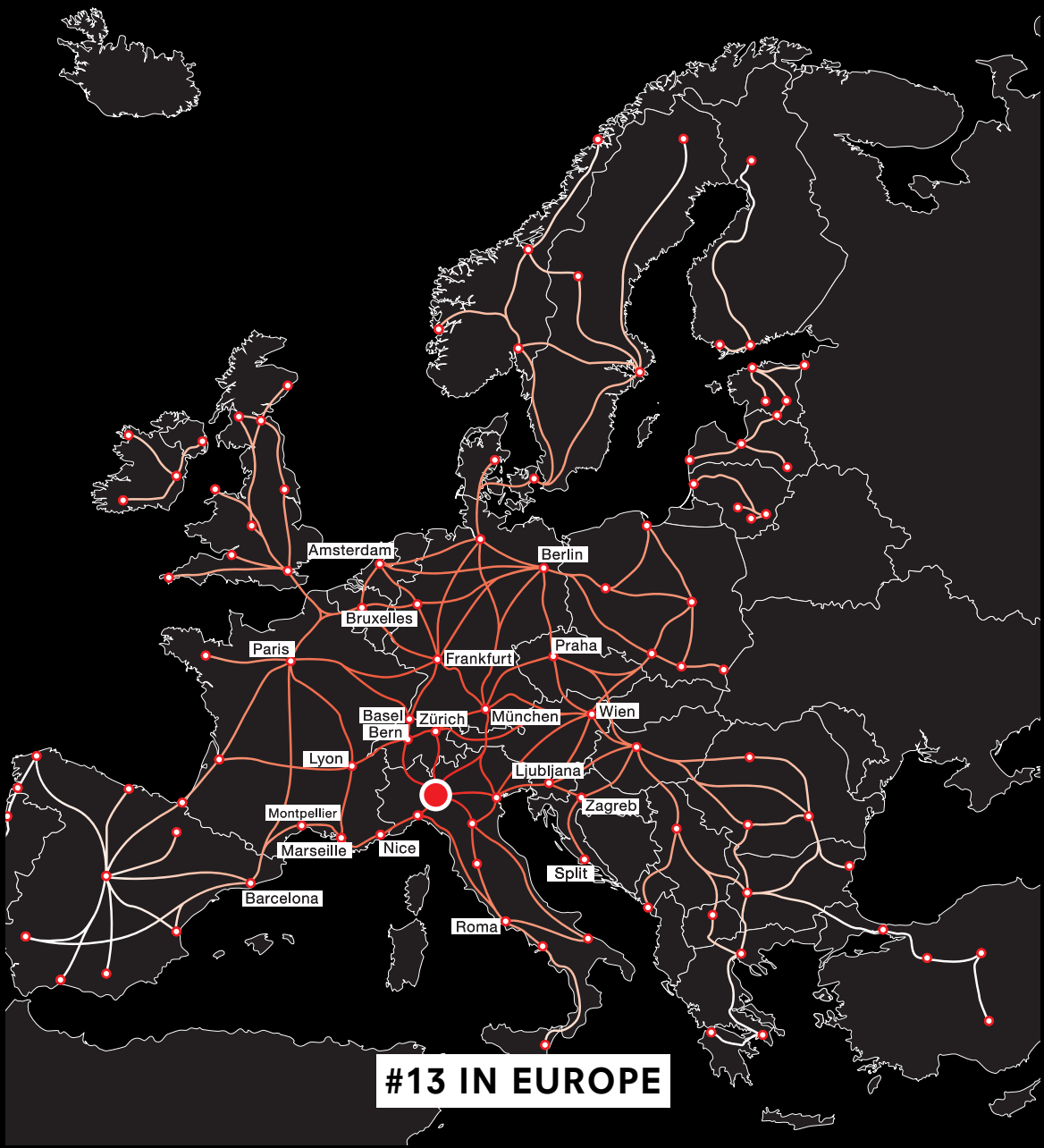
Zooming into the regional scale, the station anchors Lombardy's rail system, connecting Milan with nearby cities like Bergamo, Brescia, Pavia, and Como in less than one hour. These fast regional links support the daily rhythms of commuters and students, reinforcing the station's role as an economic and social engine within Italy's most populous and productive region.

At the city scale, Milano Centrale operates as a multimodal interchange, integrating two metro lines (M2 and M3), trams, buses, airport shuttles, taxis, and bike-sharing systems. Its reach extends beyond the train tracks, shaping how people move through Milan every day and influencing the rhythms of local life.

By reading Milano Centrale across these four scales—European, national, regional, and urban—the research reveals its function as a connector of territories, economies, and cultures.

This understanding of scale not only situates the station within a larger system of flows, but also informs the design process with insights into how flexibility, connectivity, and responsiveness must be embedded in the project from the outset.

EUROPE



Milano Centrale ranks as the 13th busiest railway station in Europe in terms of passenger flow. This highlights its strategic importance not only within Italy but also in the broader European transit network. The station acts as a key node connecting northern Italy with major European cities, supporting international high-speed rail services and serving as a critical interchange point for both long-distance and regional travel.

ITALY

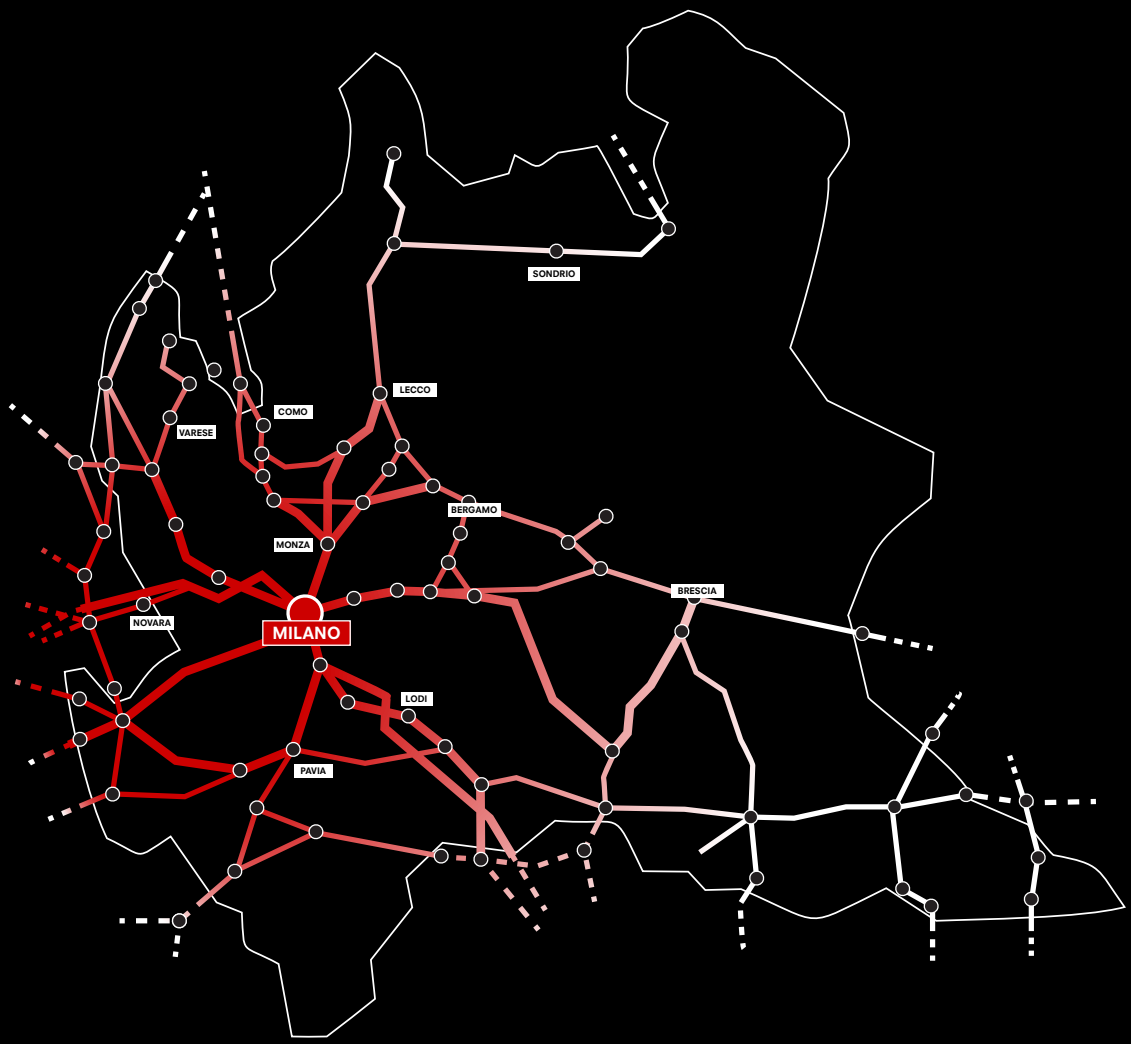


#2 IN ITALY

Nationally, Milano Centrale is the second busiest station in Italy, following Roma Termini. It manages an immense volume of daily commuters, tourists, and long-distance travelers.

This ranking underlines its central role in Italy's rail infrastructure, acting as a vital north-south connector and supporting high-speed lines that link Milan to Rome, Naples, Venice, and Turin.

LOMBARDY

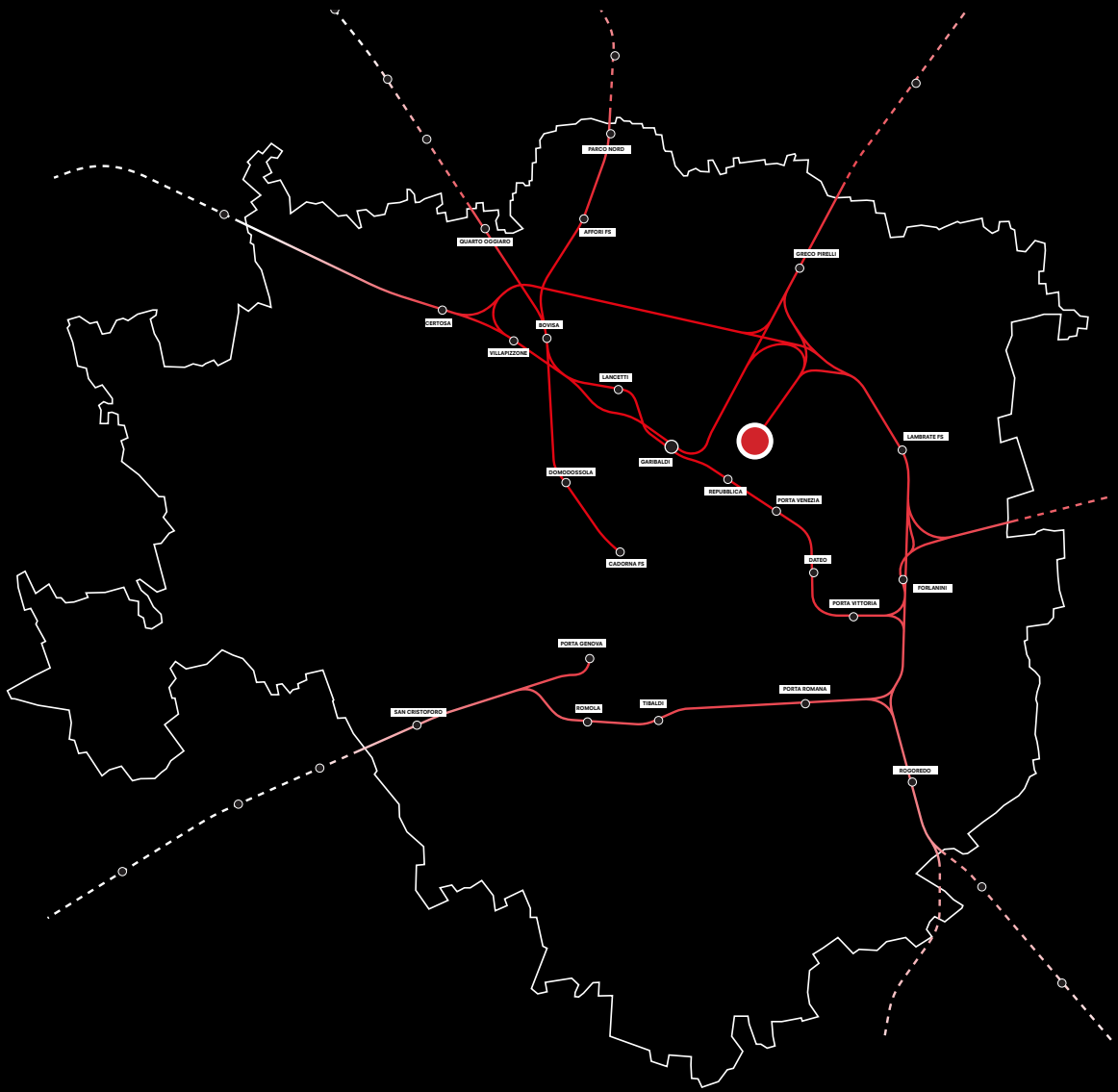


#1 IN LOMBARDY

Within the region of Lombardy—Italy's most populous and economically productive region—Milano Centrale stands as the busiest railway station.

It functions as the primary transit gateway for millions of people moving between urban centers, industrial areas, and peripheral towns.

MILAN



#1 IN MILAN

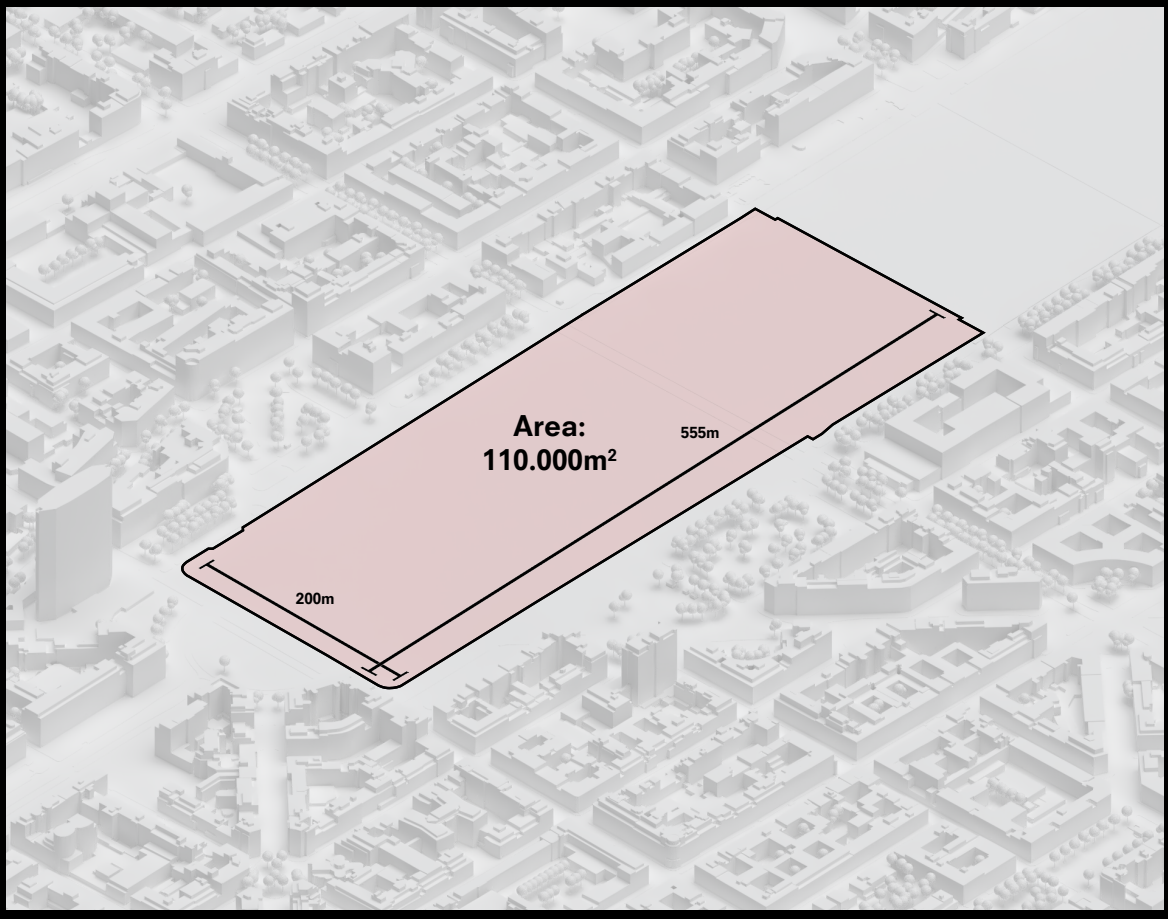
As the busiest station in Milan, Milano Centrale anchors the city's vast mobility network. It not only serves as a major rail hub but also integrates multiple modes of urban transport, including metro lines, buses, trams, and airport shuttles. Its prominence reflects the city's status as a global financial and cultural capital, making it a daily point of convergence for both local residents and international visitors.

THE SITE

The site visit to Milan Central Station took place in November and provided an opportunity to closely observe and document the dynamics of mobility in and around the station.

Particular attention was given to photographing and mapping the diverse modes of transport—train, tram, taxi, metro, and bus—and how they interact across the station's edges and neighbouring plots.

This focus aimed to capture the fragmented yet overlapping systems of movement that define the site's everyday rhythms, revealing critical spatial tensions and opportunities for reconfiguration. The collected material forms the basis for a deeper analysis of the site's infrastructural complexity and its potential as a multi-modal civic hub.





SITE VISIT

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PALAZZO DEI LAVORO

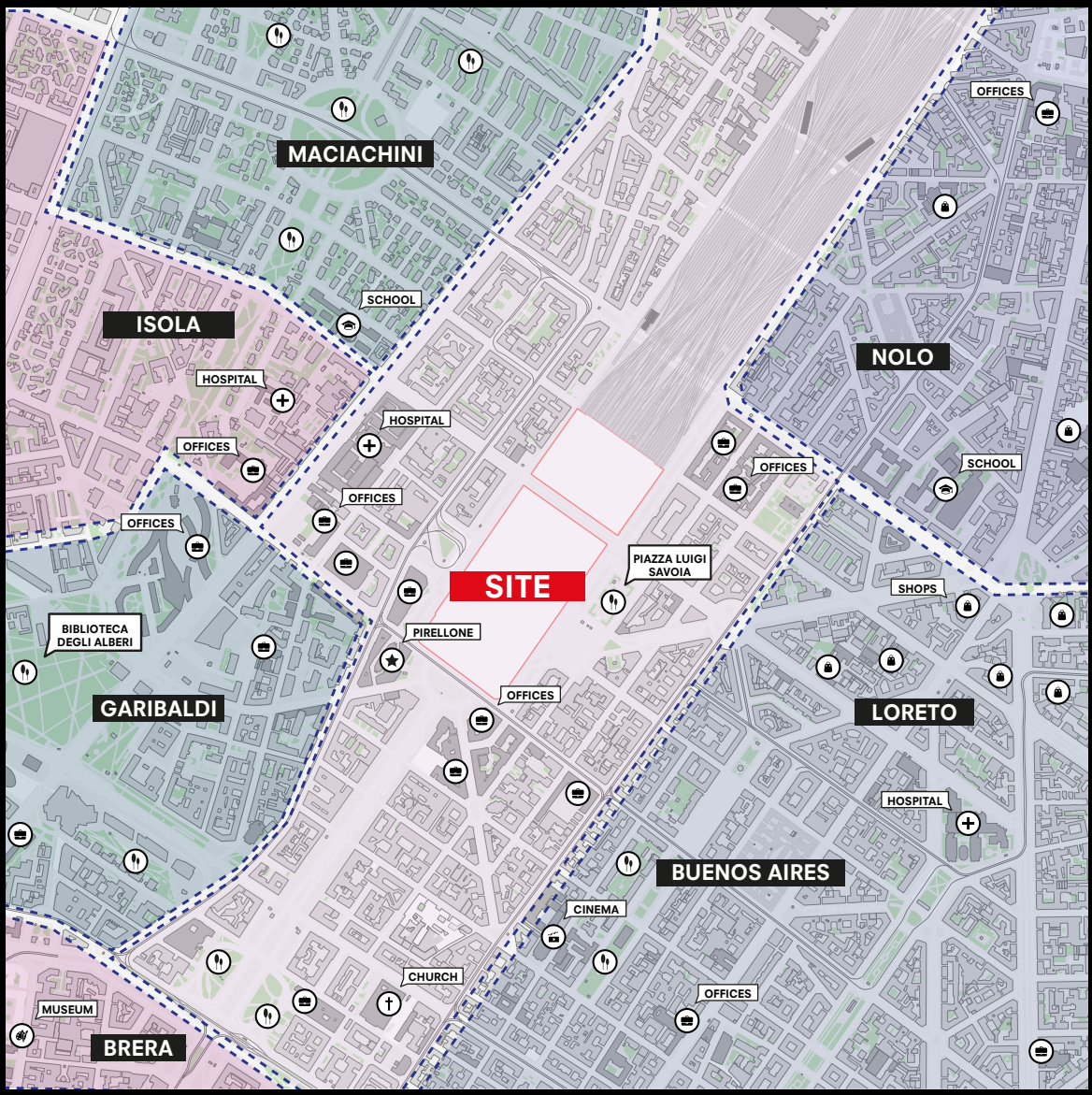








LAND USE

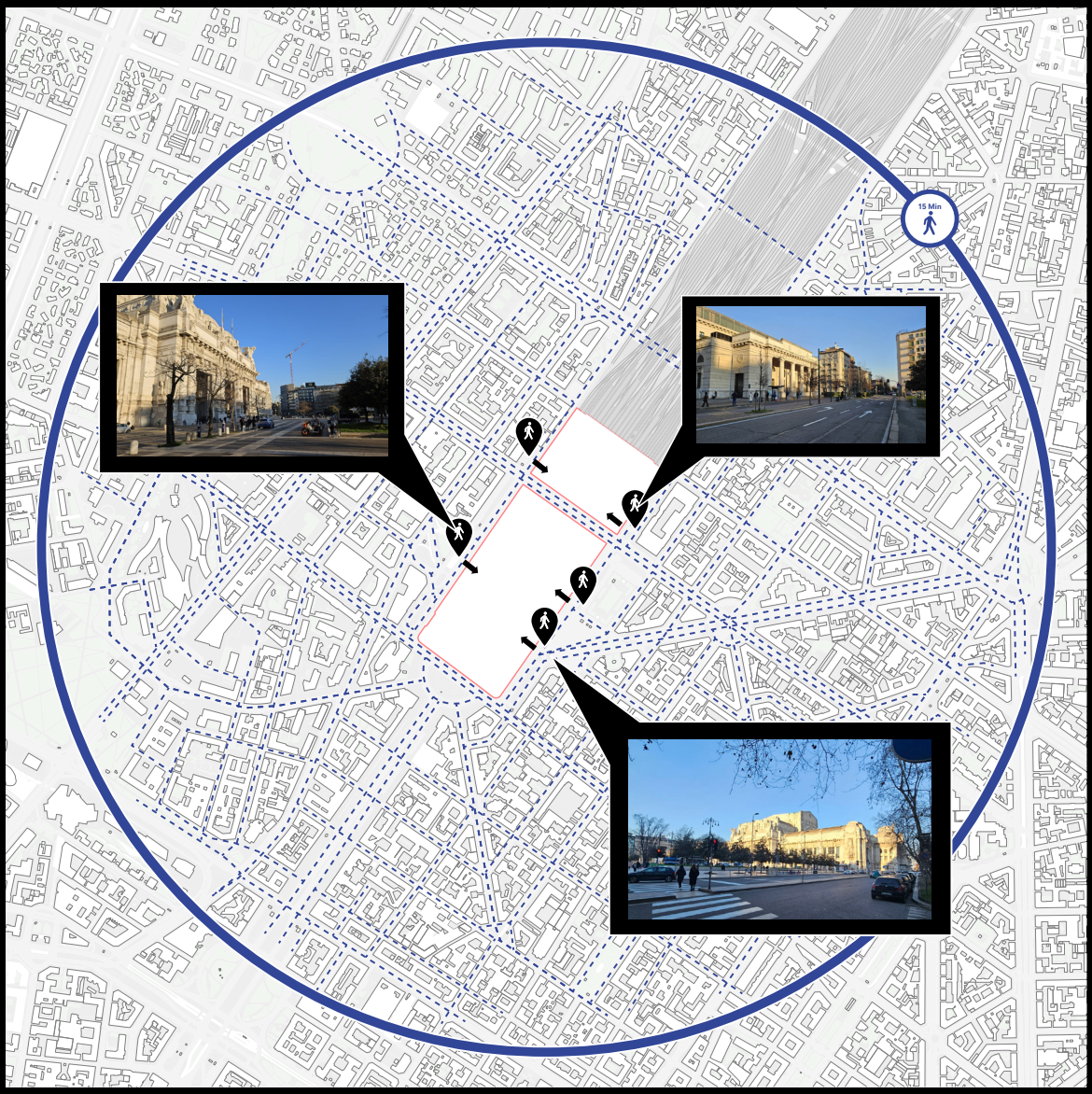


This map highlights the land use distribution around the site, dividing the surrounding neighborhoods and identifying public and private services. It shows concentrations of offices, hospitals, schools, cultural institutions, and commercial areas that interact with the station's urban presence.

Legend:

- Residential
- Public Buildings
- Urban Greenery

PEDESTRIAN ACCESS

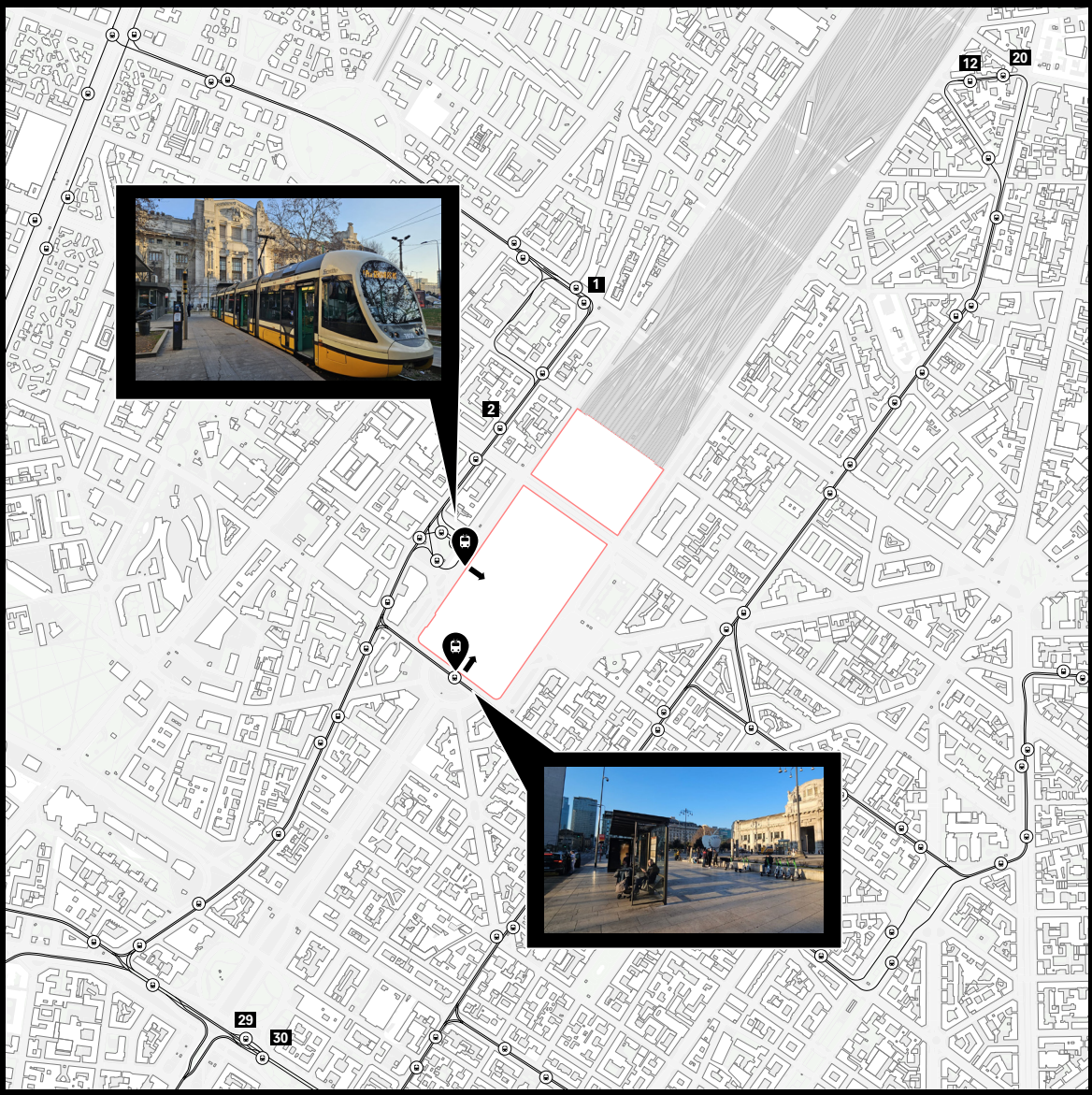


This map emphasizes the network of pedestrian streets and access points surrounding the site. It reveals how pedestrian flows are organized across the site and its edges, identifying entry nodes and connections between the station and adjacent urban areas,

Legend:

Pedestrian Streets

TRAM ACCESS

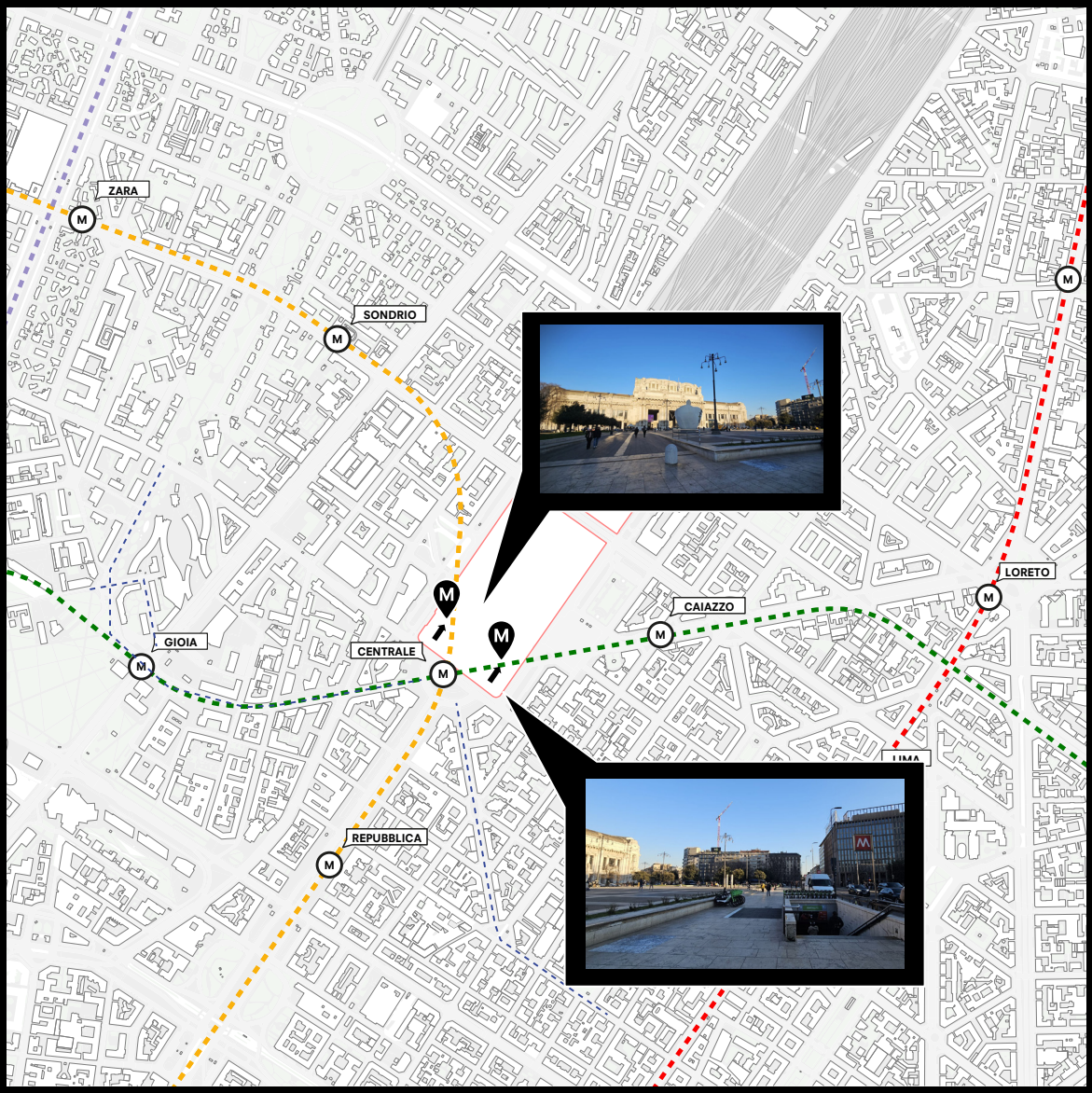


This map highlights the tram lines and stops surrounding the site, revealing how surface mobility interacts with the urban fabric. It emphasizes the distribution and accessibility of tram routes. Tram 29, 30, 12 and 20 directly pass next to the site.

Legend:

Tramway Roads

METRO ACCESS

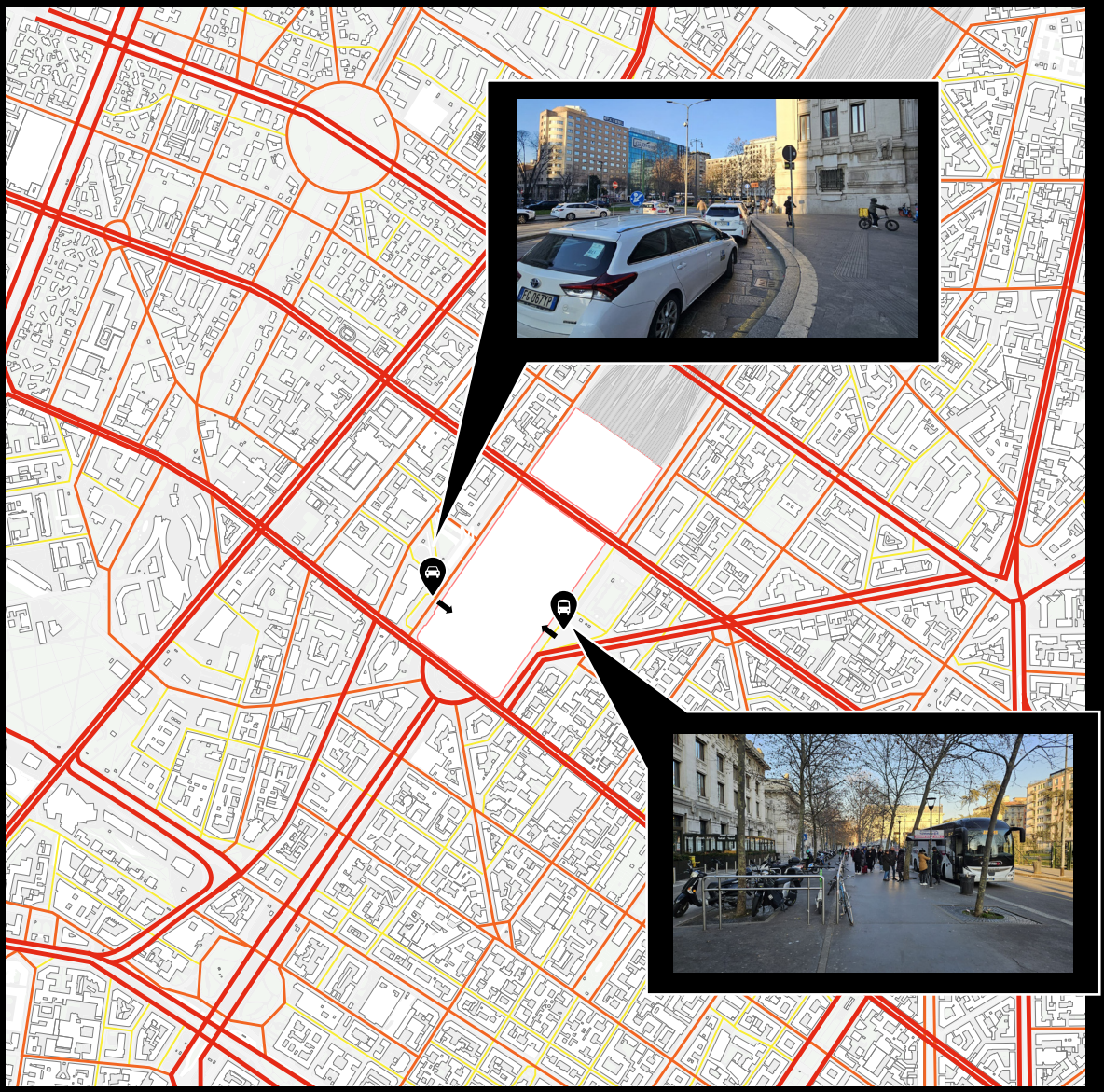


This map shows the metro network surrounding the site, highlighting the presence of three intersecting lines (M1, M2, M3). Key nearby stations—including Gioia, Repubblica, Caiazzo, Lima, and Loreto—demonstrate the site's high strategic role in connecting different parts of the city.

Legend:

- M1 Metro Line
- M2 Metro Line
- M3 Metro Line
- M5 Metro Line

ROAD NETWORK

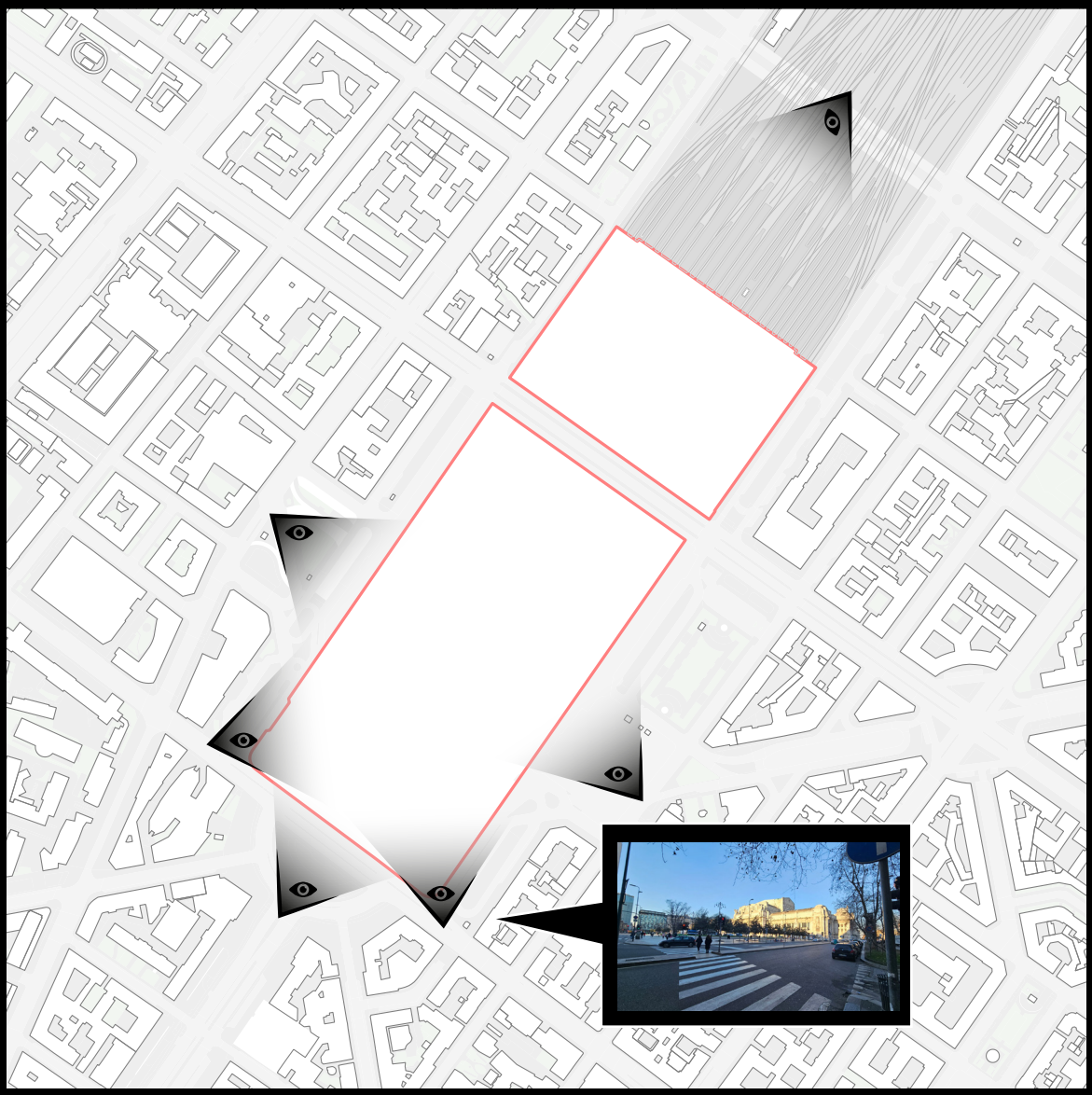


This map illustrates the road hierarchy surrounding the site, distinguishing between primary, secondary, and tertiary roads. It reveals how vehicular access is structured around the station, helping to identify the main axes of circulation, service roads, and local streets.

Legend:

- Primary Roads
- Secondary Roads
- Tertiary Roads

MAIN VIEWS



This map highlights the main visual corridors and framed views leading toward the site. By identifying the most prominent vantage points and approach routes, the map offers insight into how the site is perceived from its surroundings.

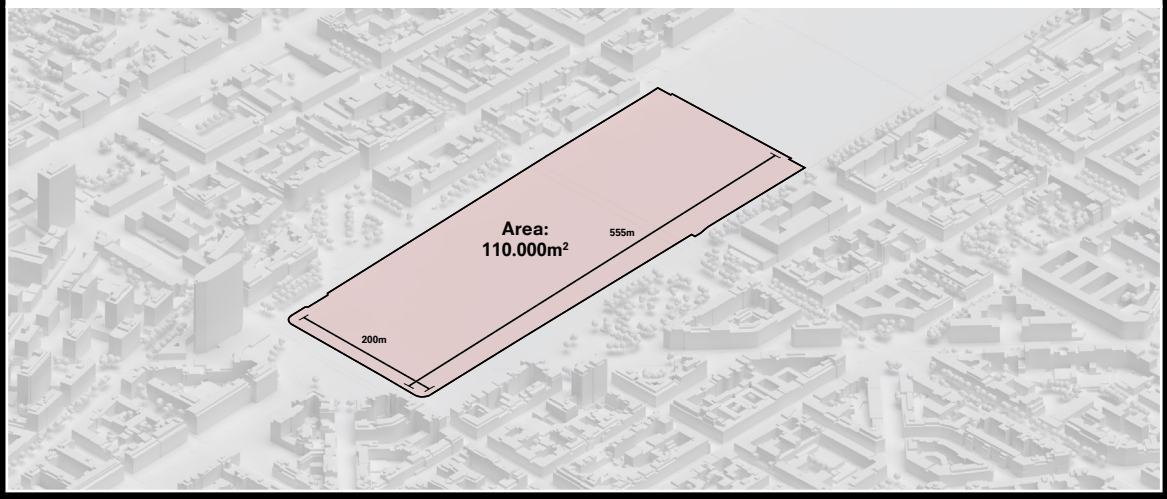
Legend:

Visual Corridor

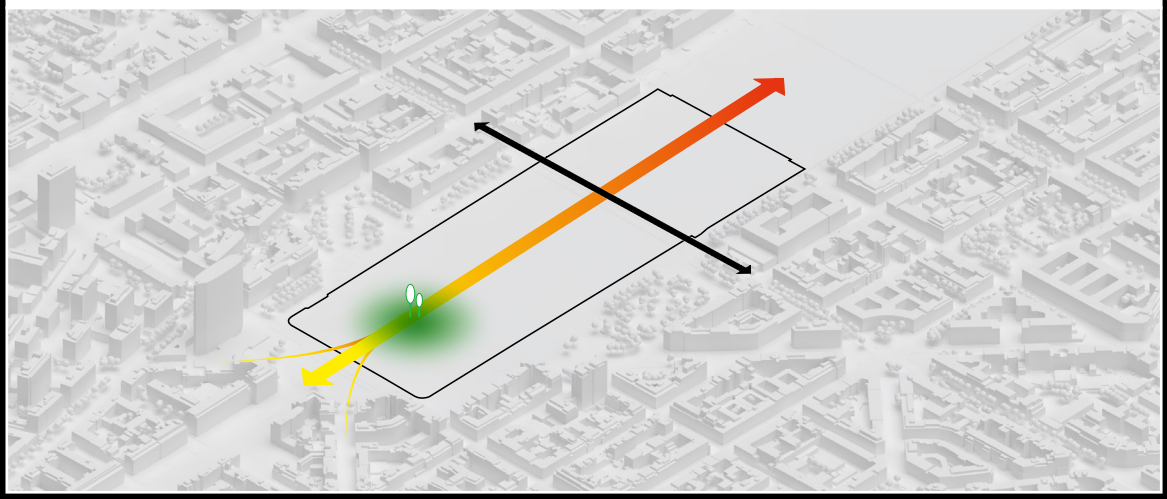
EXISTING



SITE SPECS



OPPORTUNITIES



THE NODE OF INTERACTION

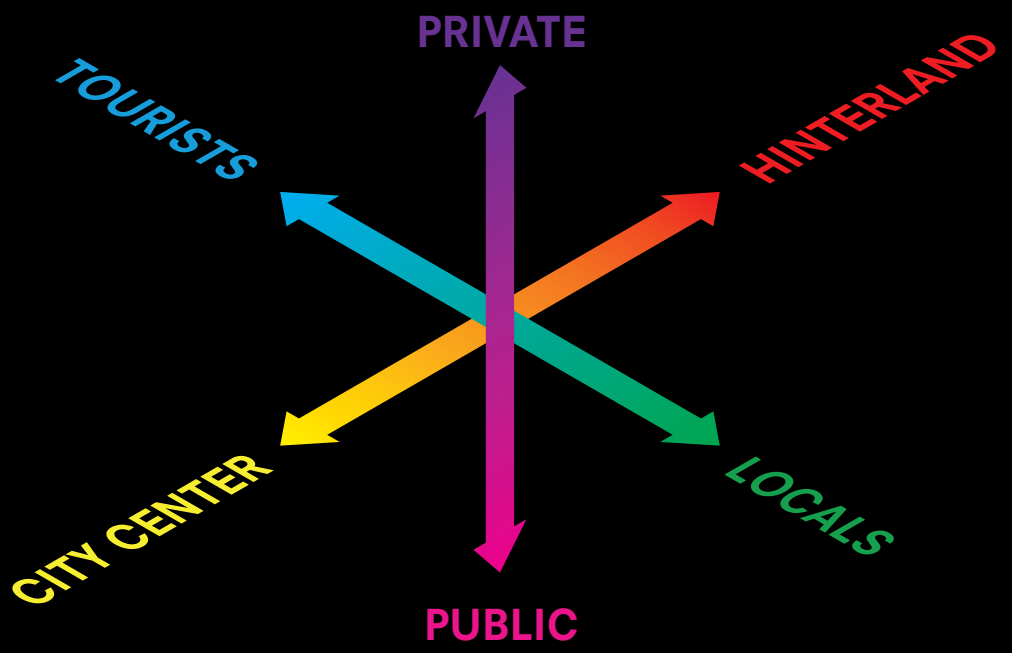
To conclude the site analysis, the diagram titled "Node of Interaction" synthesizes the site's spatial and relational dynamics. Positioned at the crossroads between the city center and the Milanese hinterland, the site is not only a strategic point of infrastructural convergence but also a place where tourists and locals, public and private interests, and fast and slow mobilities intersect.

When read alongside the Opportunities diagram, this framework reveals the site's capacity to operate at multiple scales: managing high-intensity traffic while simultaneously becoming a more porous, accessible, and green urban space.

The station's central location and size offer the opportunity to redefine its role beyond transit, transforming it into a civic platform that mediates between flows and fosters interaction. The nature of these axes positions the site as a catalyst for a new kind of urban experience—one that integrates movement, encounter, and environmental quality within a single adaptive landscape.

Legend:

- Longitidinal Axis: urban to regional
- Diagonal Axis: external to internal users
- Vertical Axis: exclusive to inclusive spaces



DESIGN BRIEF CONCLUSIONS

In conclusion, "On the Move" reimagines Milan's Central Station as a transformative space that blends the site's historical significance with the evolving needs of the city. The strategic location in the Centrale neighborhood positions the station as a vital urban connector, bridging the outer districts of Milan with its dynamic city center. Situated at the intersection of the inner city and outer areas, the site enhances connectivity for both locals and tourists.

This unique location facilitates a balance between public and private functions, ensuring that the station caters to the diverse needs of commuters, residents, and visitors. By optimizing the flow of transportation modes and incorporating flexible, cultural spaces, the project enhances the station's functionality while creating a destination that engages both locals and visitors.

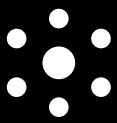
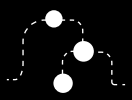
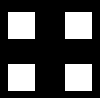
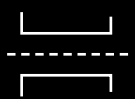
The program, which combines a transportation hub with a Mobile Experience Center, carefully balances operational efficiency with cultural enrichment. The integration of the 26 platforms, multi-modal transport options, and the dynamic Mobile Experience Center ensures that the station serves not only as a transit point but also as a platform for cultural exchange and public engagement.

By incorporating key spaces such as the logistical area for the "experience line," the project turns functional spaces into cultural assets, enhancing the overall user experience.

The client, particularly the ATM Group, plays a central role in shaping this vision, aligning the project with their mission to improve mobility and foster a higher quality of life for Milan's residents and visitors. Through collaboration with various stakeholders, the design meets both operational goals and cultural aspirations, creating a station that reflects Milan's identity as a global leader in culture, design, and urban innovation.

This approach aims to not only serve the practical needs of the city but will also become a dynamic cultural landmark, embracing the future of mobility and urban connectivity.

MATRIX OF AMBITIONS

CLIENT	PROGRAM	SITE
 passenger-centric	 unified mobility centre	 interconnected
 sustainable	 flow-centric	 aligned
 innovative	 zero-threshold	 directional

CLIENT



PASSENGER - CENTRIC

ATM Group is prioritising "Passenger Experience":

1. Max 5-minute walking distances between arrivals, departures, and inter-modal transfers. Multi-purpose platforms are preferred.
2. Passenger services need to be at accessible from Main Hall
3. Platforms needs to be accessible from neighbouring plots



CONTEXTUAL

Municipality of Milan is prioritizing "Contextuality":

1. Volumetric shape needs to preserve the Italian and Milanese historical identity.
2. Shape needs a simple modern icon to be added to the skyline of Milan



SUSTAINABLE

ATM Group is prioritizing "Sustainability" :

1. "On the move" will aim to become a carbon positive building. Focusing on energy making tiles and photovoltaic glass.



INNOVATIVE

Ministry of Culture is prioritising "Innovation":

1. "Experience Line" needs to be well integrated with the design and must not disturb the efficiency of the train station

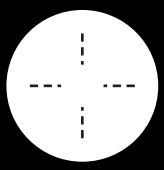


COMFORTABLE

Users are prioritising "Comfort":

1. Services must be accessible from the Main Hall and from Platforms
2. Waiting Areas must be filled with cultural activities

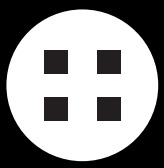
SITE



DIRECTIONAL

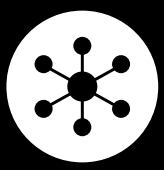
The site is located at the end of one of the main roads of Milan (via Pisani):

1. The building needs to consider this axis
2. The building needs to consider the vehicular street of Via Perluigi Da Palestrina



ALIGNED

1. The building needs to consider the alignments with the neighbouring plots



CONNECTED

1. The building needs to facilitate access to Main Hall from the ngithbouring plots, making it easier to access the building

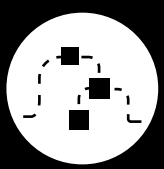
PROGRAM



UNIFIED MOBILITY CENTRE

Program is prioritising "Adjacency":

1. Modes of transportation needs to be combined in one overarching building
2. Platforms can be overlapping
3. Faster / Vertical distribution is preferred over long horizontal distances



FLOW - CENTRIC DESIGN

Program is prioritising "Separate Circulation":

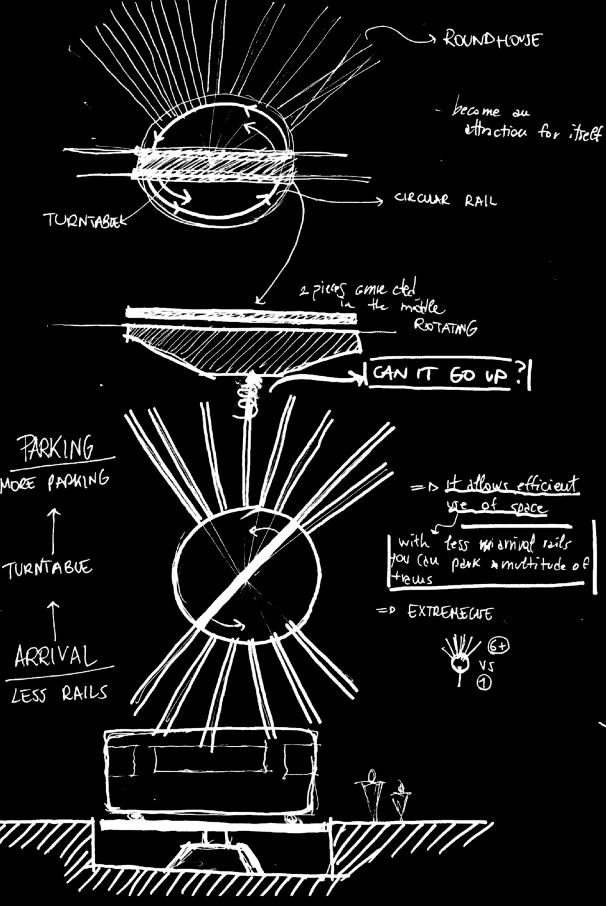
1. Separation between flows is key for efficient functioning of the project
2. Distinct accesses needs to be pointed out for train platforms and tram depot



ZERO - THRESHOLD DESIGN

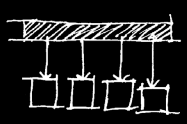
Program is prioritising "Zero-threshold Design":

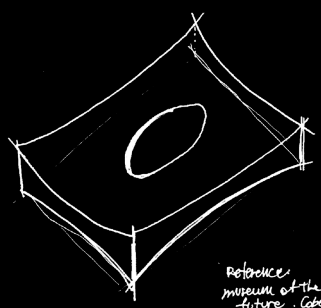
1. No physical barriers between platforms
2. Travellers journey will be as uninterrupted as possible

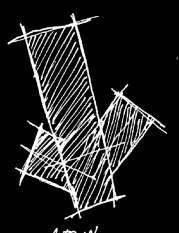


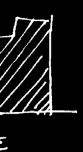










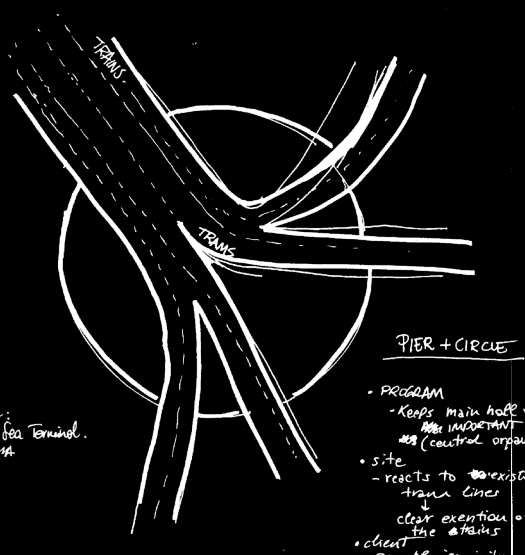




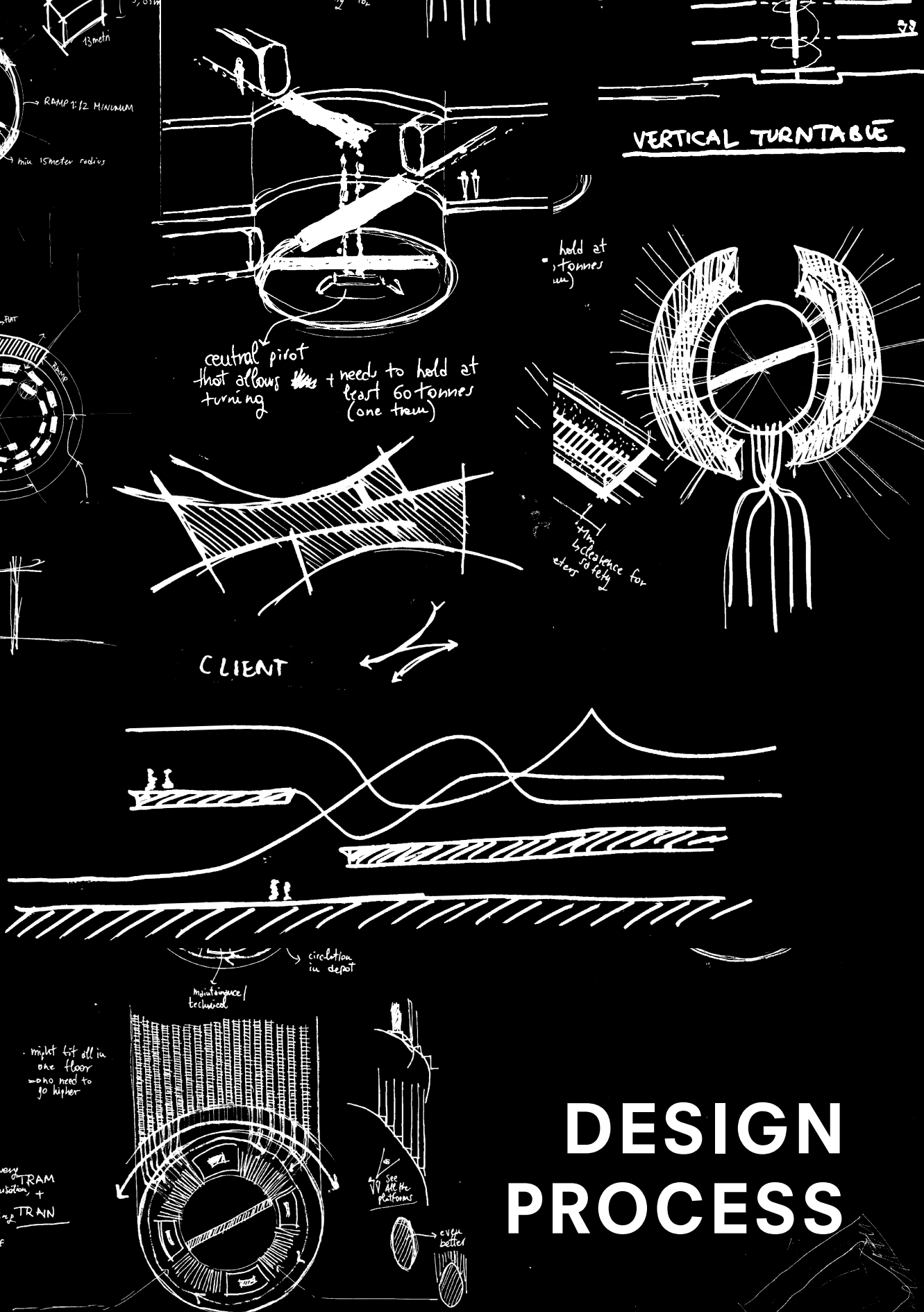




06

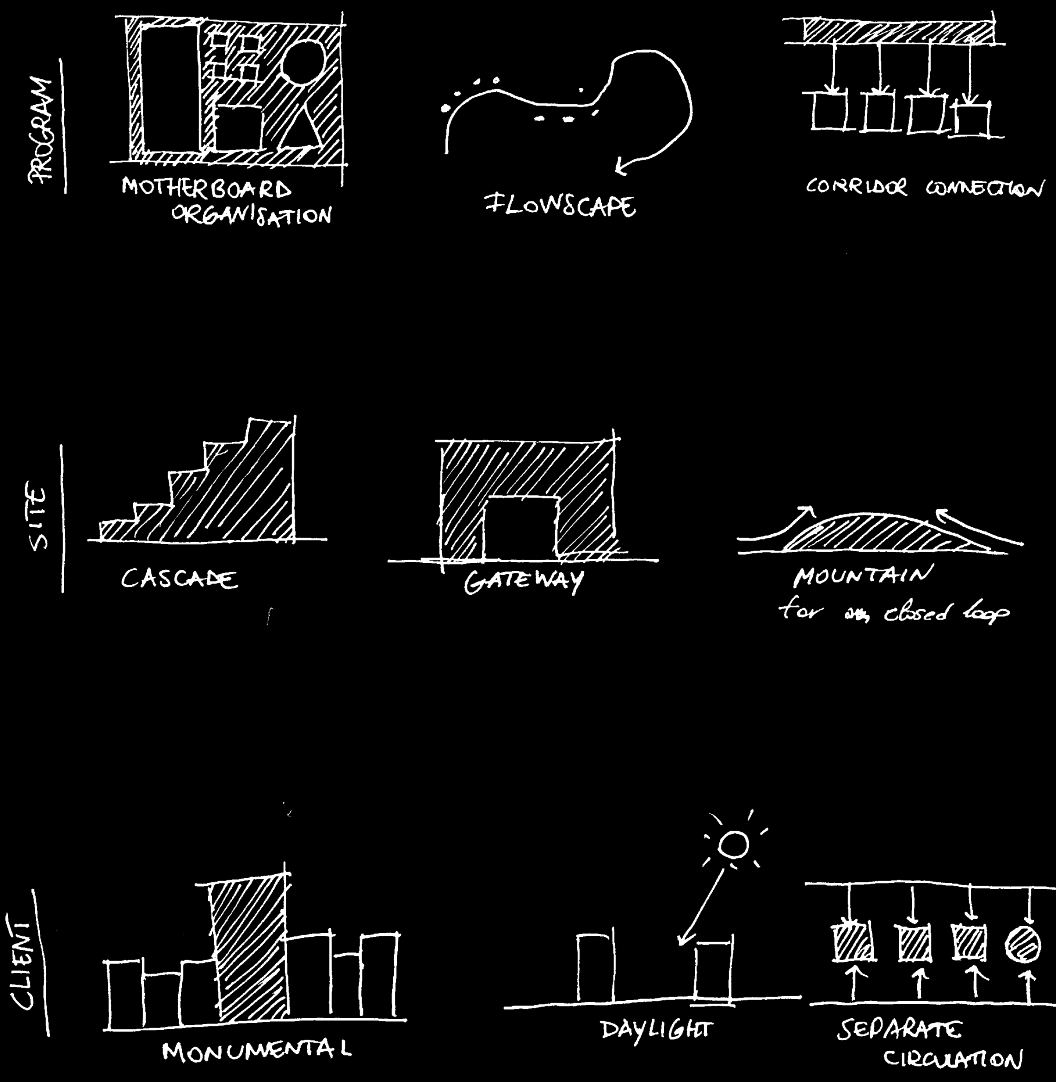


terrace:
brugge sea Terminal.
OMA



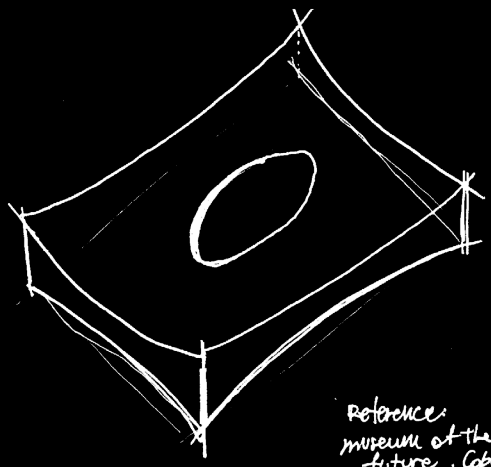
DESIGN PROCESS

SPATIAL TYPOLOGIES

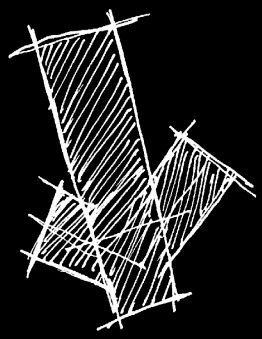


The initial ideas and massing explorations for On the Move were developed through hand-drawn sketches and physical studies, allowing for an intuitive and iterative design process. Working by hand enabled a direct engagement with spatial relationships, flow dynamics, and programmatic layering, laying the foundation for a project that is both conceptually fluid and contextually grounded.

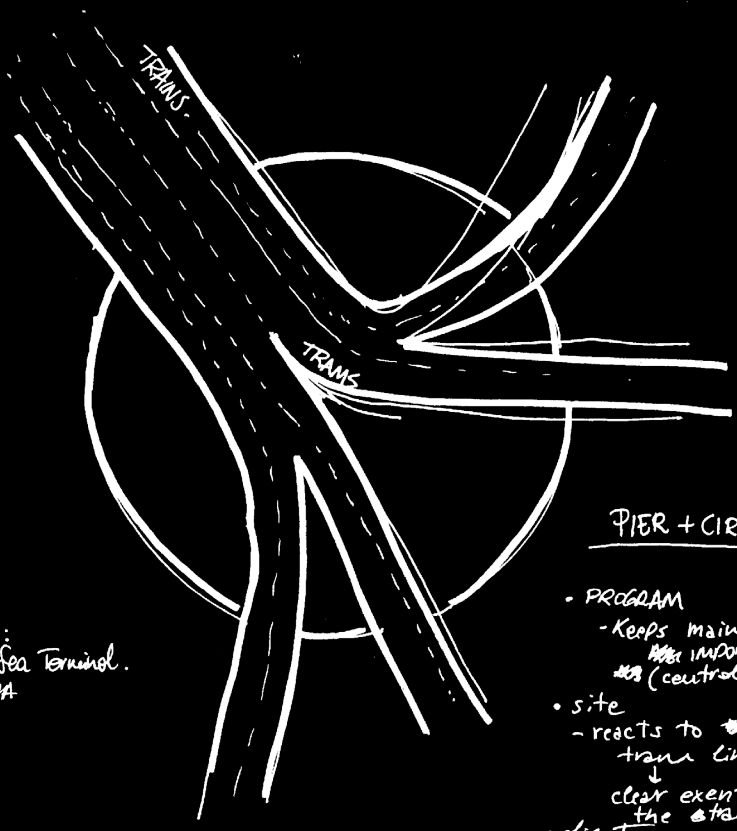
These early drawings helped to visualize how movement, culture, and infrastructure could intersect within a flexible architectural system.



Reference:
museum of the future . Cobe



ARROW

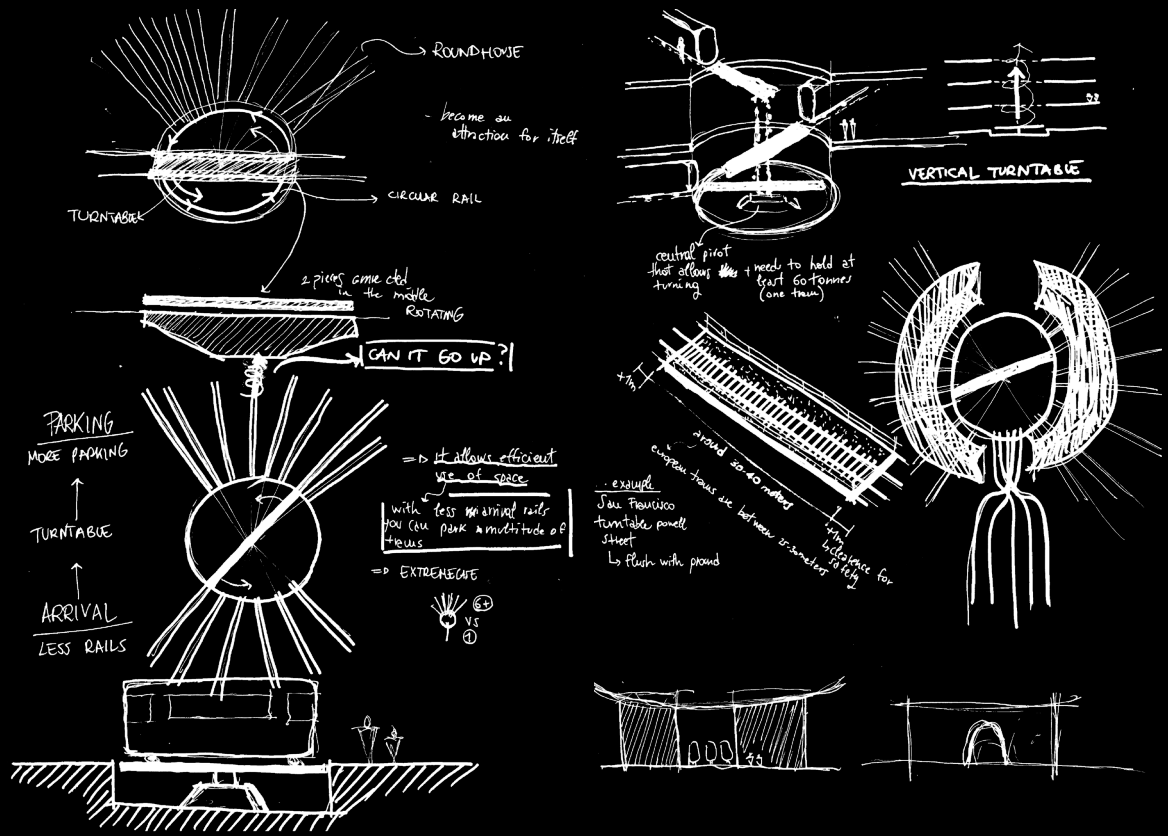


Reference:
Zeebrugge Sea Terminal.
OMA

PIER + CIRCLE

- PROGRAM
  - Keeps main hall very IMPORTANT (central organisation)
- site
  - reacts to existing train lines
    ↓
    clear exention of the trains
- client
  - possible iconicity

TRAM DEPOT SKETCHES

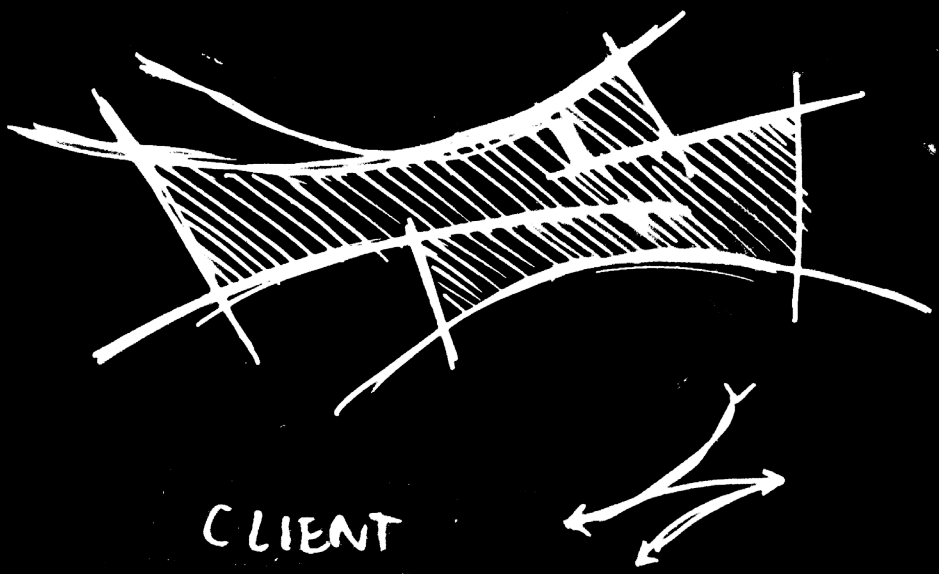


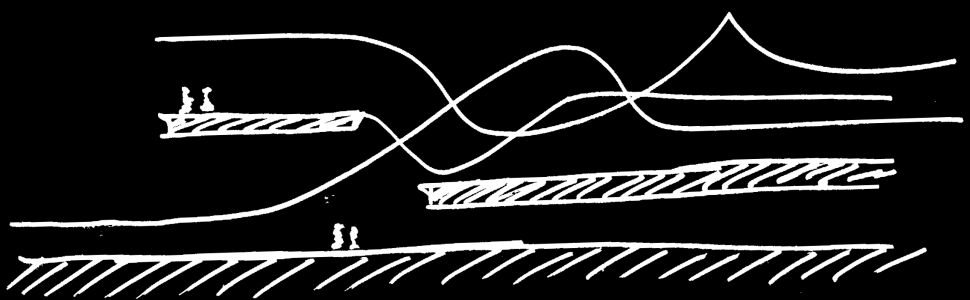
Among the early hand sketches for On the Move, particular attention was given to the design of the tram depot and turntable, exploring how a circular layout could optimize the flow, storage, and activation of the Experience Line.

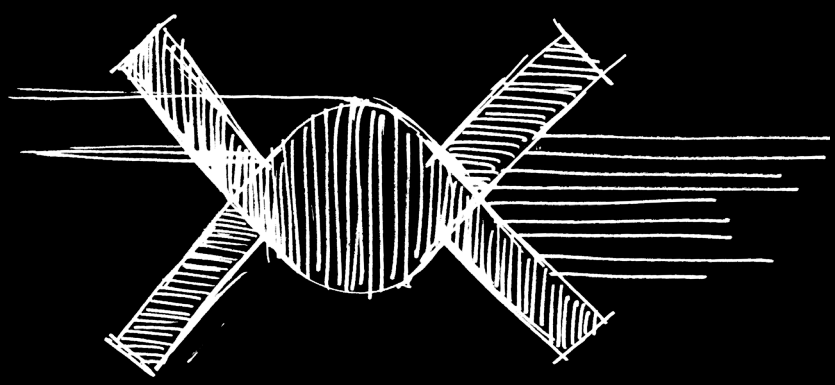
These studies tested multiple spatial configurations—radial parking, looped circulation, centralised versus peripheral maintenance zones—investigating how the geometry could support both operational efficiency and event-based flexibility.

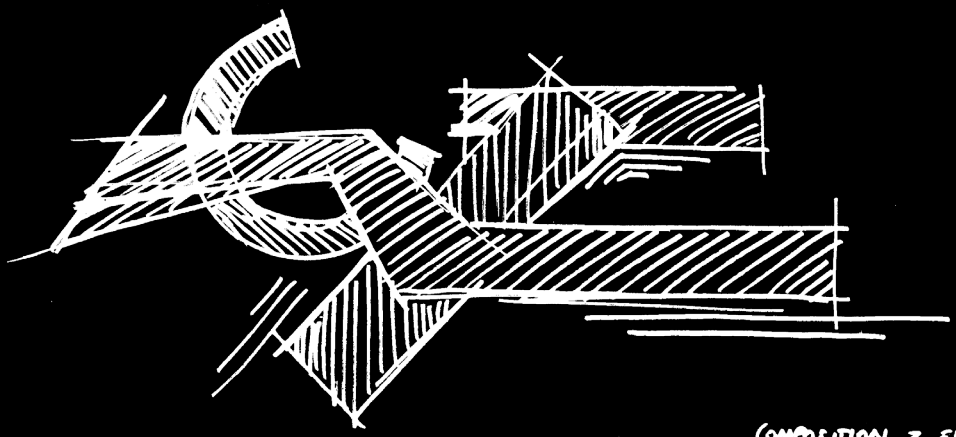
The round format, inspired by historic tram yards, was reinterpreted to accommodate not just vehicle storage but cultural programming, enabling a fluid transition between logistics and public use. These exploratory drawings were essential in shaping a depot typology that is both functional and civic in nature.



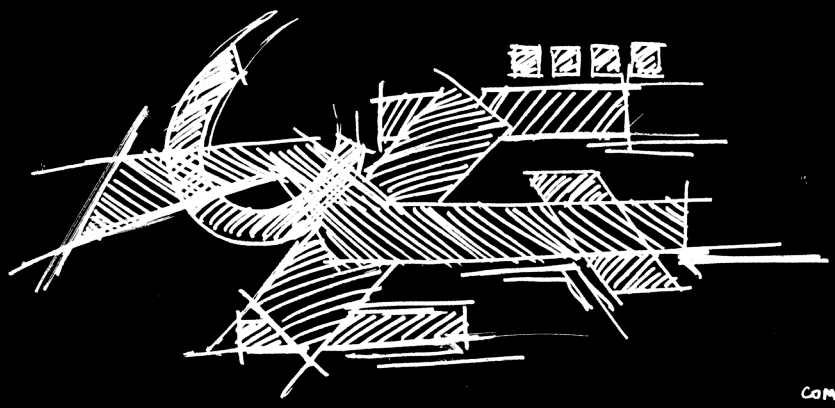

CLIENT



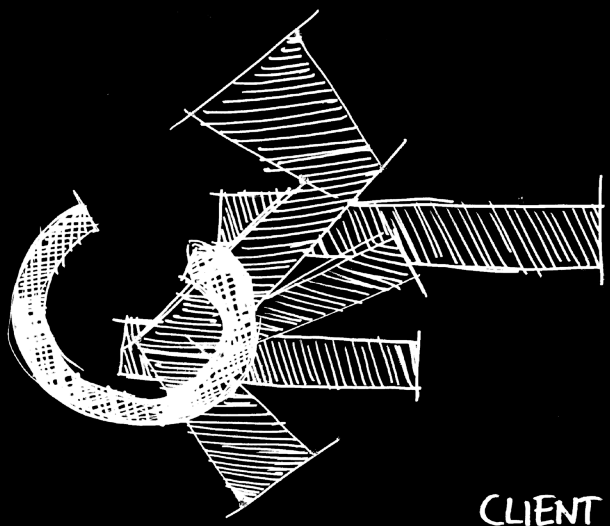




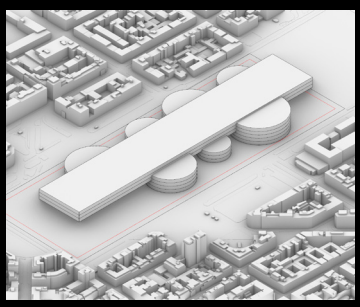
COMPOSITION 3 FLOWS

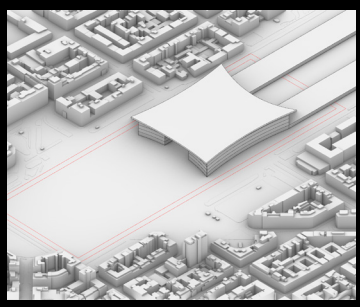
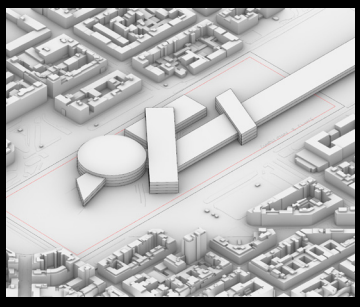
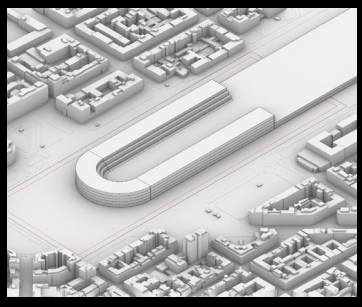
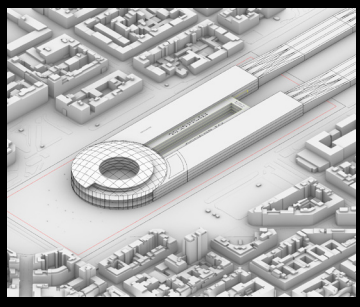
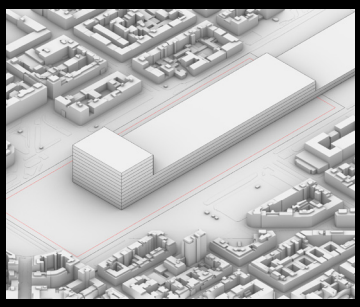
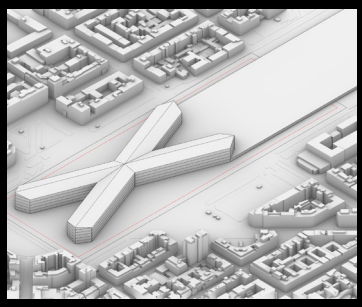
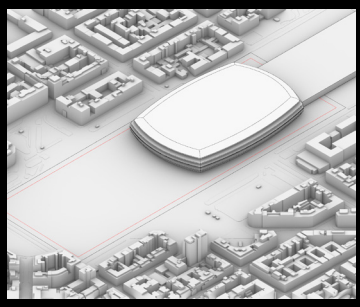
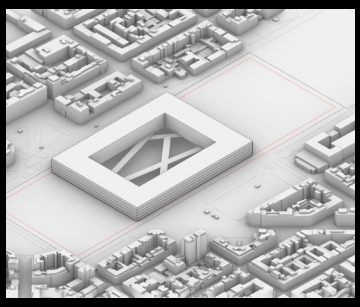
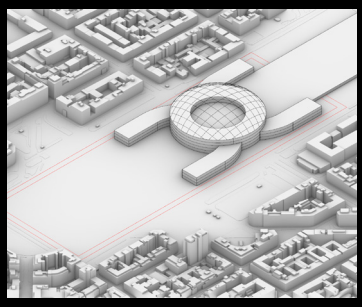
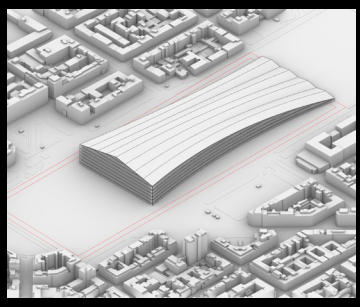
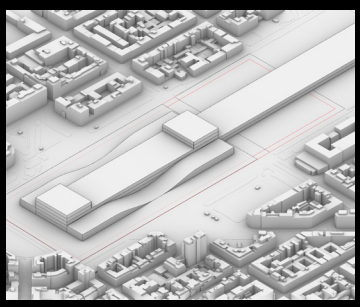
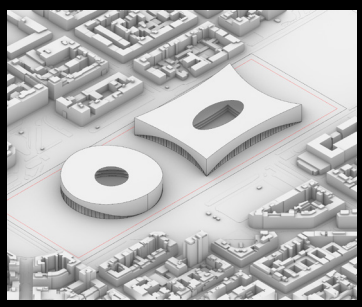
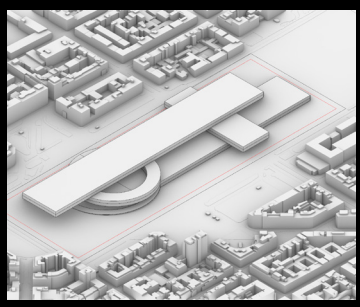


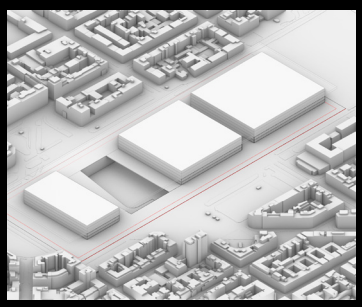
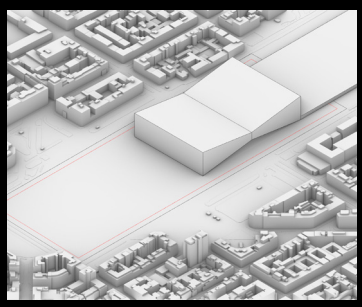
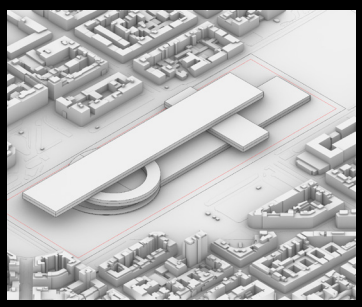
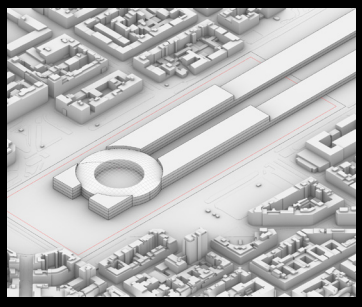
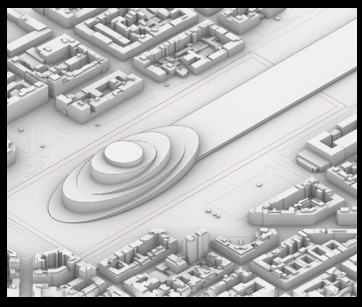
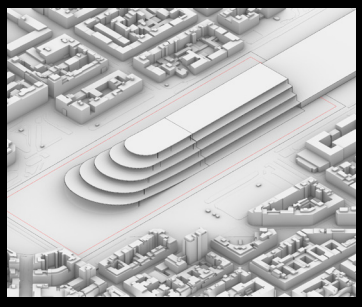
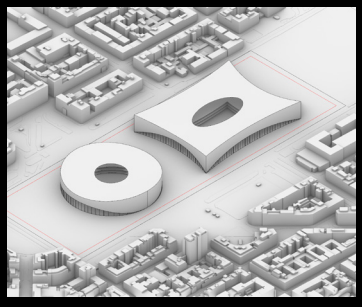
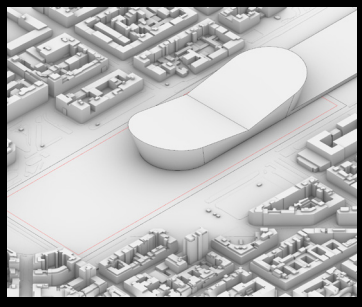
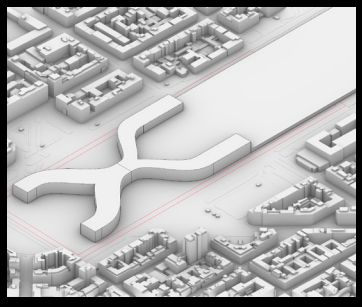
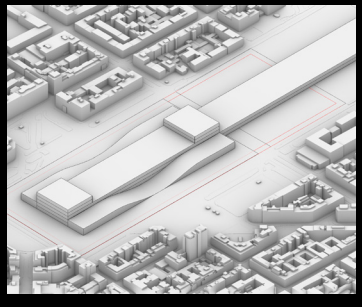
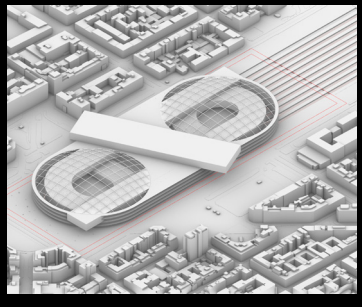
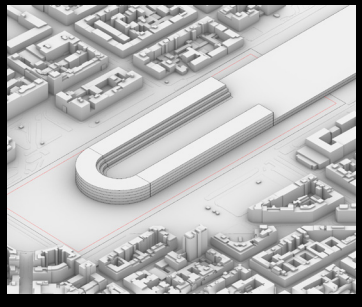
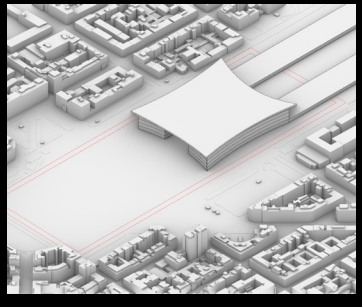
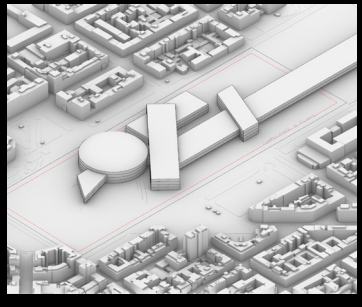
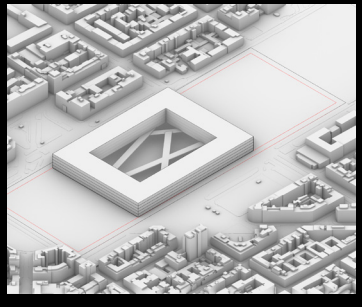
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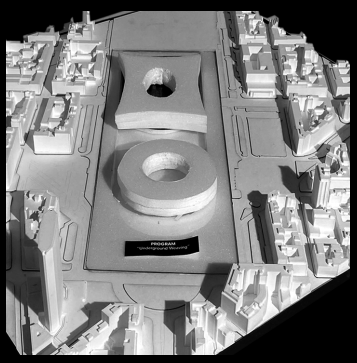
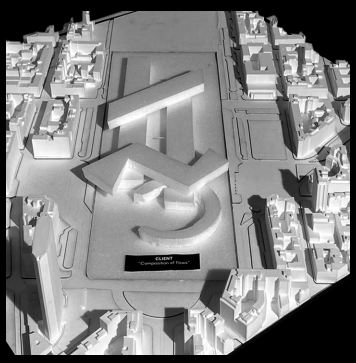
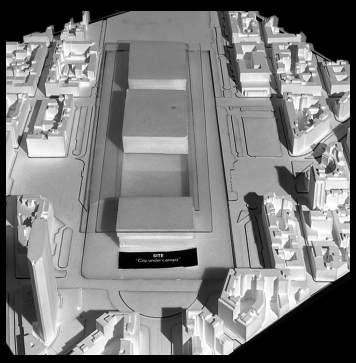
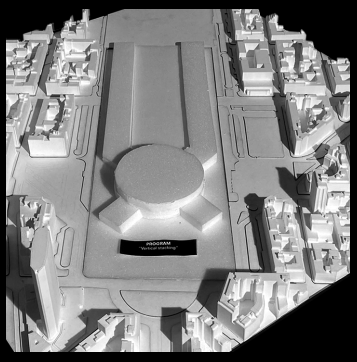
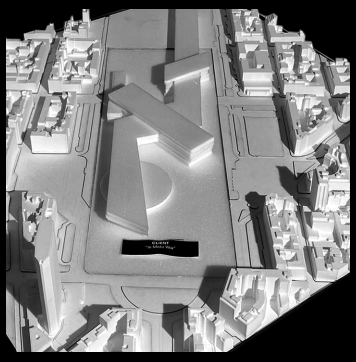
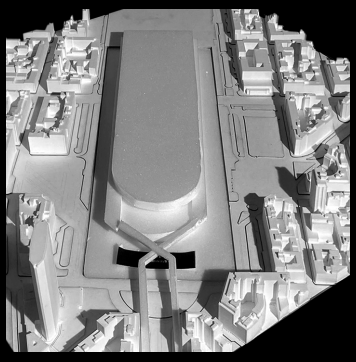
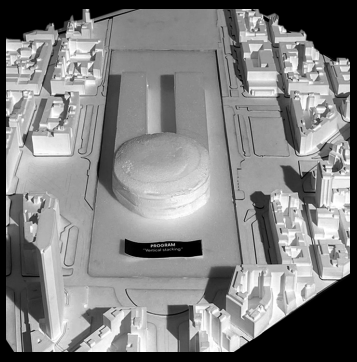
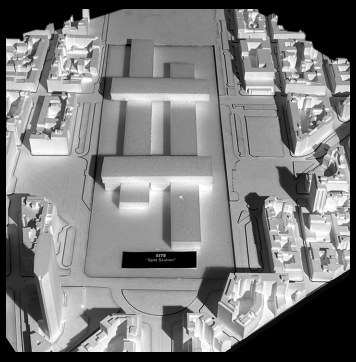
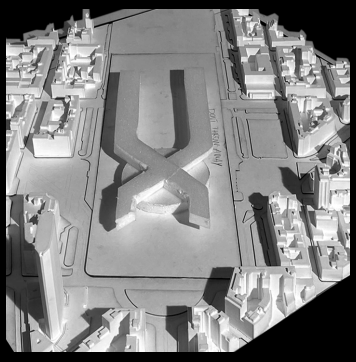


CLIENT

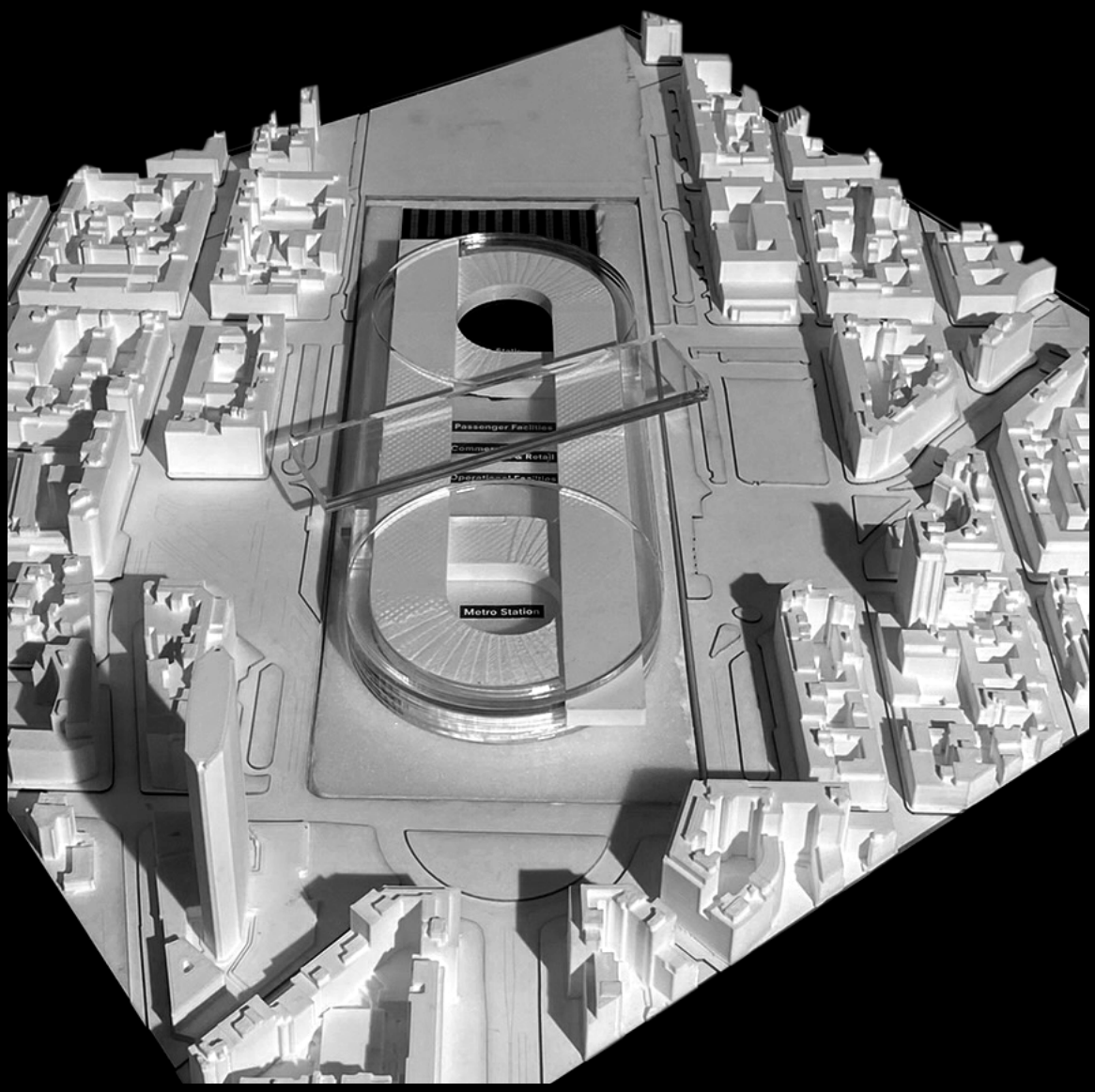


PROGRAM	CLIENT	SITE
		
		
		

MAIN EXPLORATION - NON INTERSECTING LOOPS



ESSENTIAL TRAM DEPOT DESIGN

1. Parking Area:

Dimensions:
» Axial lateral distance between parallel tracks: 4.00 m (including tram width 2.50 m + corridor 1.50 m)

» End-distance from parked trams to track ends: 1.50 m

» Safety distance between trams along the same track: 1.00 m

» Track length: Depends on number of trams parked per track; optimal configuration is usually 4 trams per track to minimize total area.

» Tram length considered: Typically 30, 35, or 40 m.

» The parking area should not accommodate the entire fleet simultaneously, as some vehicles will always be under maintenance.

» Typical minimum space for corridors: 1.50 m between parked trams.

2. Maintenance Hall:

Activities: Heavy or light maintenance, vehicle washing, sanding, electronics, and auxiliary equipment storage.

» Maintenance area typically sized for approximately 10% of the fleet.

» Typical track spacing: 6.00 m between tracks (2.50 m vehicle width + 3.50 m corridor width).

» Maintenance tracks length depends on tram length: one or two trams per track, plus safety margins at both ends (2.50 m each end).

Typical maintenance tracks required:
» Very small depot (15–24 vehicles): minimum 5 tracks.
» Small and Medium (25–64 vehicles): minimum 6 tracks.
» Large depot (>64 vehicles): minimum 7 tracks.

3. Vehicle Cleaning Area:

Positioned between depot entrance and parking area to avoid “dead” mileage. Usually includes automatic washing systems (drive-through or gantry type).

4. Administration and Personnel Facilities:

» Offices, control room, scheduling, changing rooms, restrooms, kitchens, and medical rooms.Typical required office area calculated based on number of employees:

» Each employee requires 5 m² office space. Additional fixed spaces: control office (50 m²), scheduling office (30 m²), changing rooms, toilets, showers, kitchen, restaurant, medical room, relaxation area, and reception (each ranging between 50-150 m²).

» mployees estimated at about 3 per tram vehicle (50% administrative, 50% maintenance).

5. Warehouse Area:

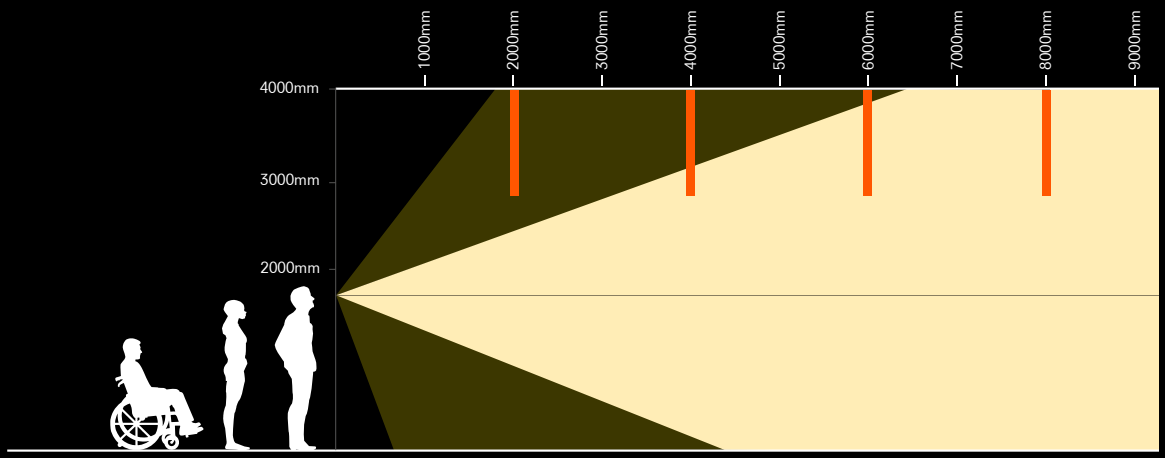
» Typically requires 30 m² per vehicle. 4. Administration and Personnel Buildings: Often constructed on multiple floors to save ground area, typically 2 or 3 floors.

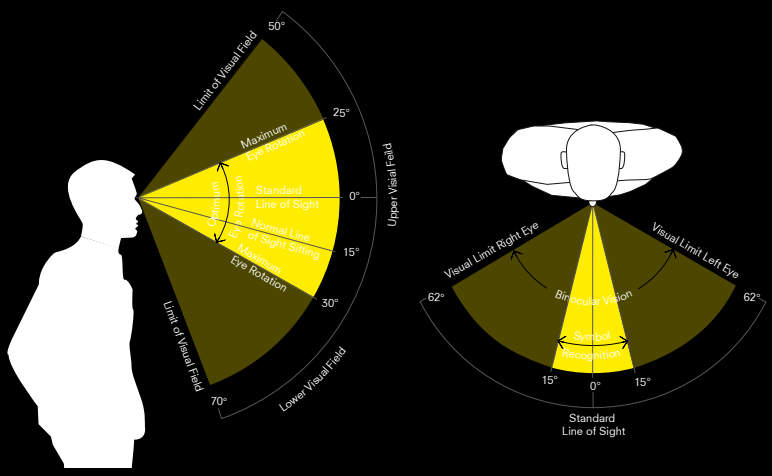
6. Additional Considerations for Optimal Depot Design:

» Recommended to have two separate entry/exit points for resilience and ease of operation.

» Inclusion of a ring (loop) track around depot for easy movement between facilities without crossing occupied tracks.

» Tracks connecting various areas (maintenance, parking, cleaning) should avoid intersecting routes.


1000mm
2000mm
3000mm
4000mm
5000mm
6000mm
7000mm
8000mm
9000mm
4000mm
3000mm
2000mm


50°
Limit of Visual Field
25°
Maximum
Eye Rotation
Upper Visual Field
0°
Standard
Line of Sight
Maximum
Eye Rotation
15°
Normal Line
of Sight Sitting
30°
Maximum
Eye Rotation
Limit of Visual Field
70°
Lower Visual Field
Visual Limit Right Eye
Visual Limit Left Eye
62°
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15°
0°
15°
Standard
Line of Sight

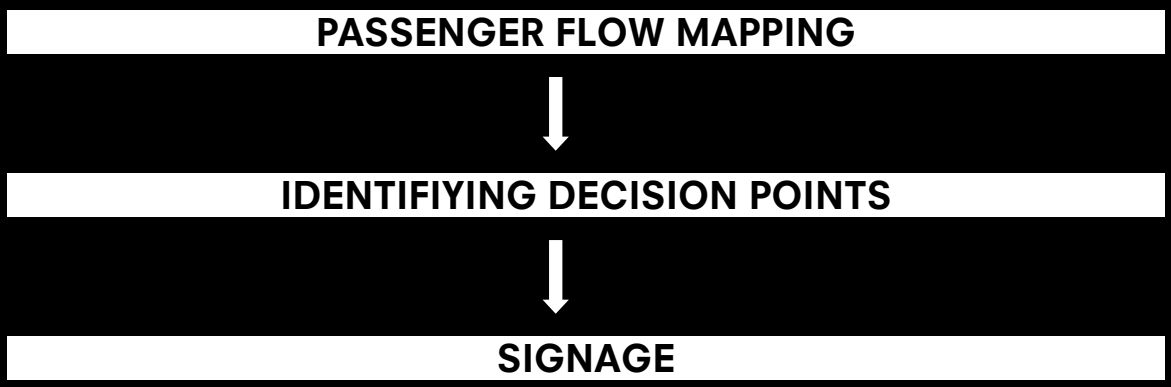
WAY-FINDING

Effective way finding is critical in a busy train station, ensuring that passengers can navigate easily and safe ly. A station in Milan, Italy, must balance general best practices in signage design with local regulations and needs, including multi-language communication for international travellers.

Way finding encompasses:
- static signs (directional arrows, station names, etc.),
- dynamic information displays (arrival/ departure boards),
- environmental cues (maps, pictograms),
- digital navigation aids (mobile apps, interactive kiosks).

In stations, it is critical that there are clear lines of sight between the passenger decision-making points and the signage which is providing information for that decision to be made. Signs should be located with a common rationale, considering how they will be read, by whom, from which direction, at which height, and in relation to other elements that exist or will exist within the space.

The location of signage should always follow from the passenger circulation mapping and decision point analysis, and not the other way around. Signs should be placed perpendicular to the main paths of movement, so that they can be seen by flows of passengers while moving.



07

ENVIRONMENTAL ANALYSIS

INTRODUCTION

This chapter gathers a year's worth of meteorological data—temperature, humidity, wind, solar radiation, and shadowing—and translates it into design intelligence.

Hour-by-hour heat-maps, wind roses, radiation domes, and solstice-specific shadow studies reveal a city of sharp seasonal contrasts: damp, fog-prone winters that hover around freezing; long, humid summers pushing past 30 °C; predominantly moderate winds that can be harnessed for passive cooling; and a solar cycle that floods south-west façades with energy just when ambient temperatures peak.

» Each section that follows converts these raw patterns into actionable guidance for the mobility hub:

» Thermal profiles identify when heating or cooling loads dominate and pinpoint façades that need the most solar control.

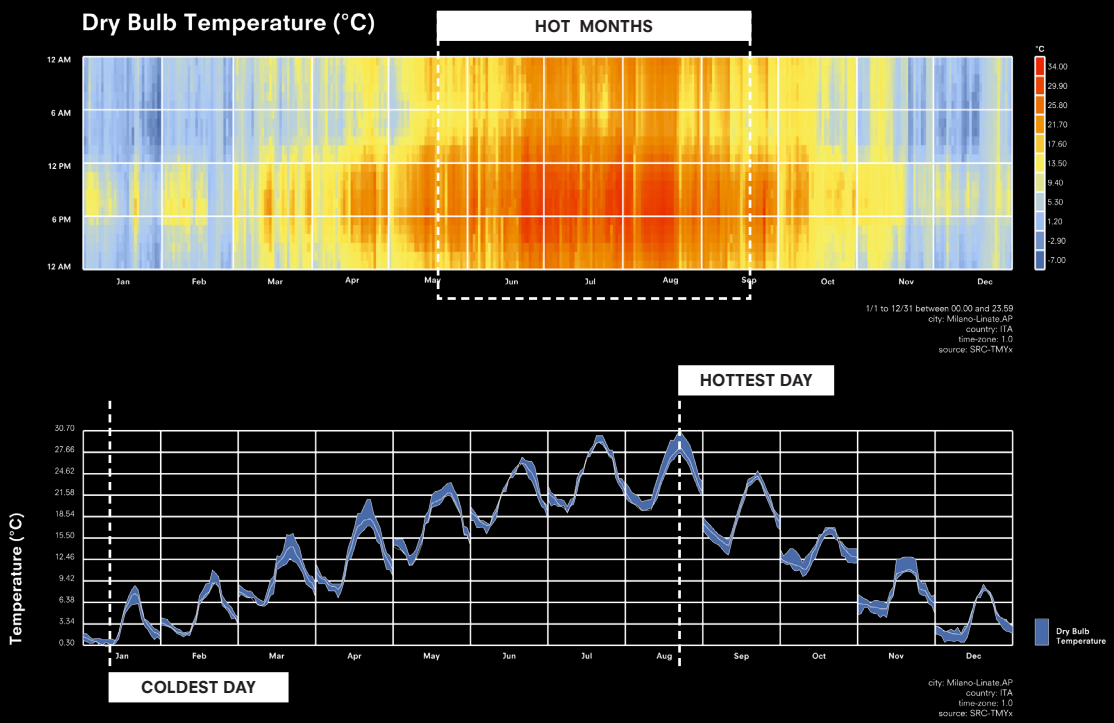
» Moisture mapping highlights periods of high dew point and night-time humidity spikes, informing envelope detailing and ventilation rates.

» Wind analysis shows how often, and from which directions, breezes can be captured—or calmed—to improve comfort on platforms and plazas.

» Solar and shadow studies expose opportunities for daylight harvesting, photovoltaic placement, and seasonal shading strategies that keep the concourse bright in winter yet temper the summer sun.

» Together, these investigations build the environmental brief against which every architectural, structural, and systems decision will be tested. They ensure the hub is not merely in Milan, but actively tuned to Milan—prepared to shelter commuters from biting January fog, to vent the July heat, and to harvest the generous afternoon sun that powers the city's daily rhythm.

DRY BULB TEMPERATURE

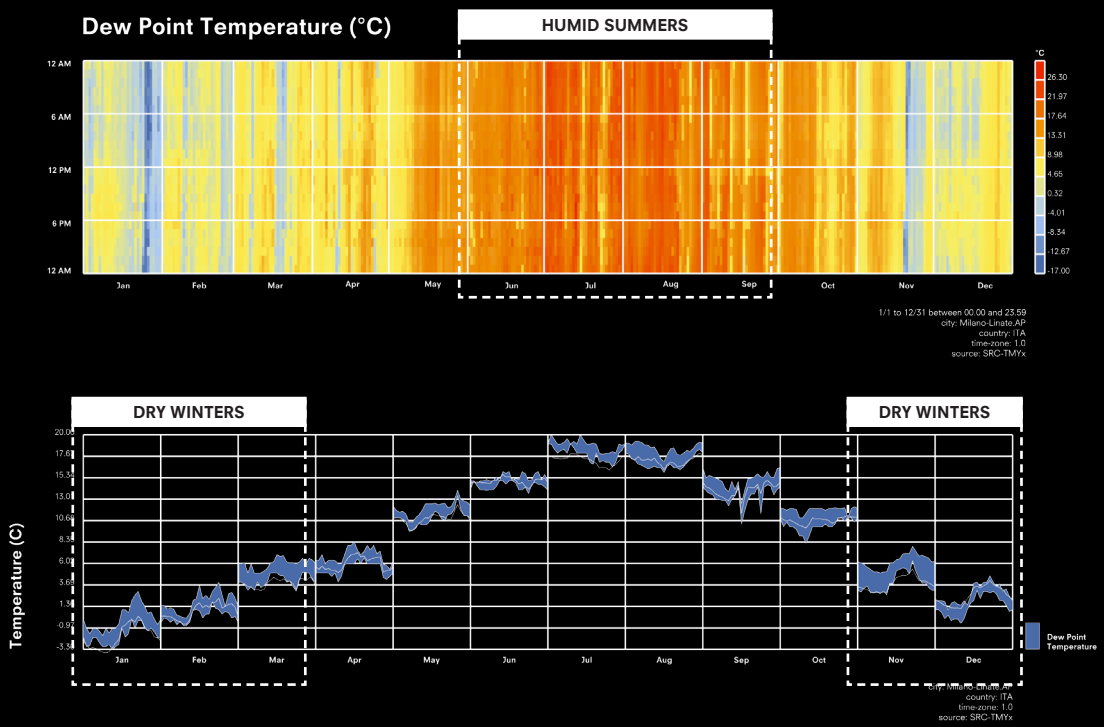


Seasonal Shift:
The chart demonstrates a clear progression from cold winters, with temperatures often around or slightly below 0 °C, to warmer summers, where midday readings can reach or exceed 30 °C.

Daily swing:
Even in winter, nights are notably colder (often shown in deeper blues), and days only warm up modestly. Meanwhile, summer days can be quite hot (reds/oranges) but typically cool down to more comfortable levels (yellows/blues) overnight.

Design considerations:
These swings underscore the need for both sufficient heating in winter and cooling or ventilation strategies in the warmer months.

DEW POINT TEMPERATURE

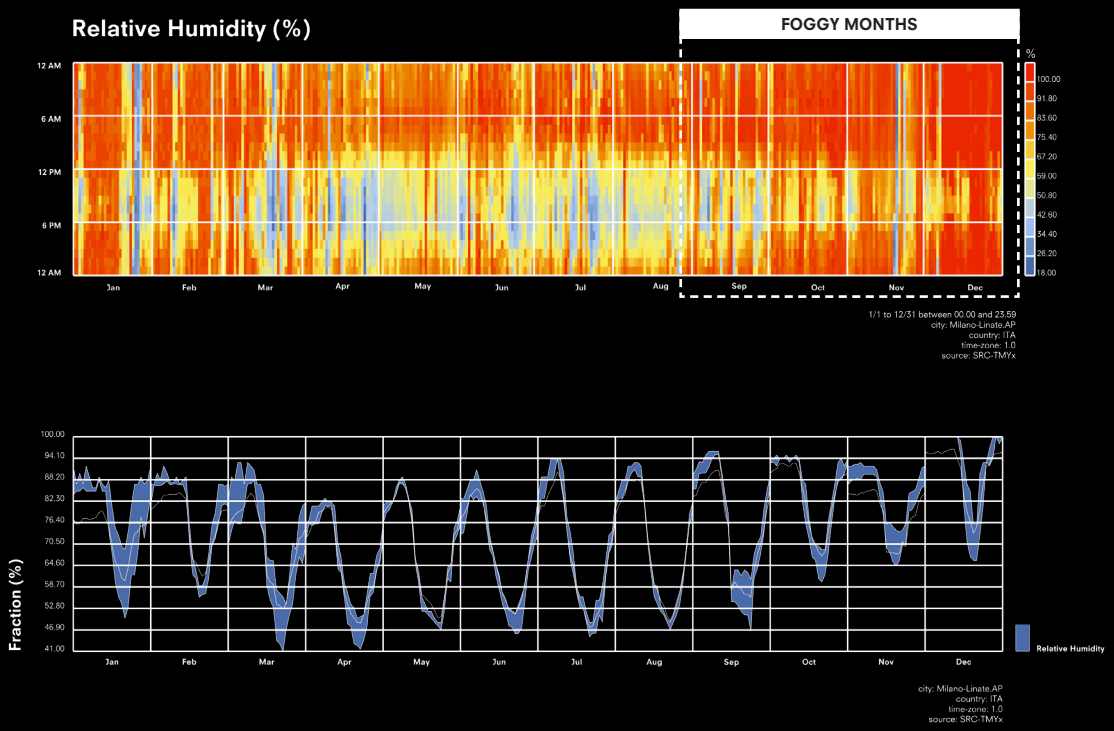


Winter Dryness:
Dew point values are relatively low during the colder months, indicating drier air, though fog or other moisture events can temporarily raise the dew point.

Increasing Moisture:
As temperatures climb in spring and summer, dew points also rise, leading to a more humid feel—particularly in mid-summer.

Design considerations:
A higher dew point in summer can make conditions feel muggy, emphasizing the importance of dehumidification or adequate ventilation. In winter, even if relative humidity can be high, the absolute moisture content (dew point) may still be low, impacting comfort and interior moisture needs.

RELATIVE HUMIDITY

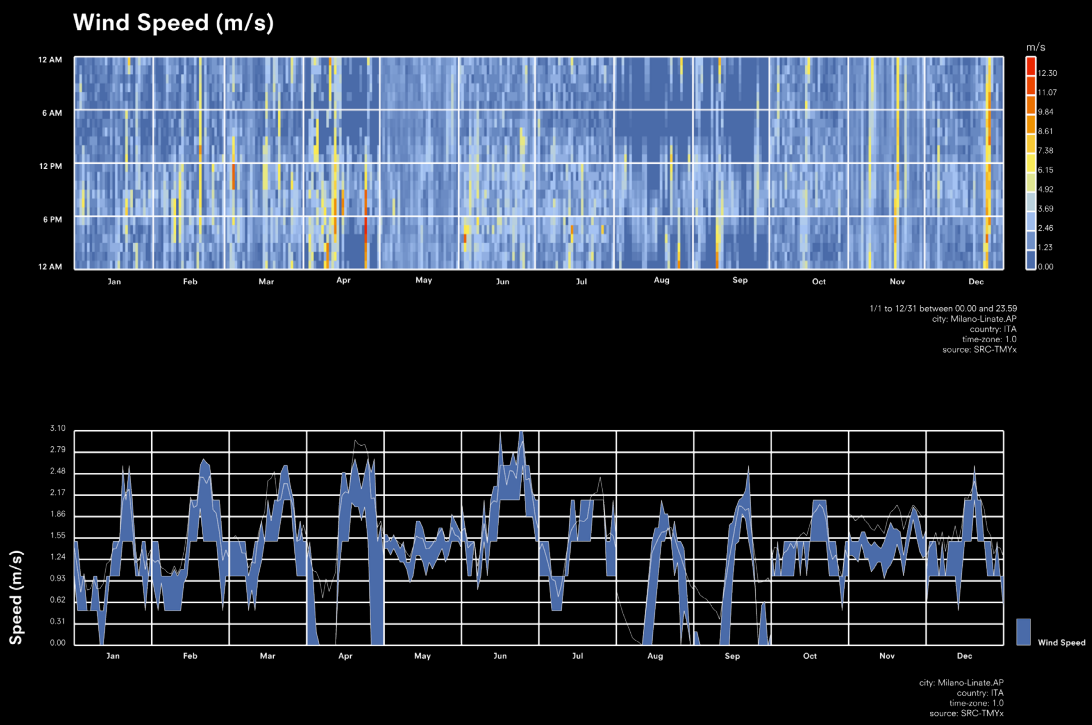


Night vs. Day Patterns:
Overnight humidity often spikes, especially in cooler months, contributing to fog and damp morning conditions. Daytime sees noticeable dips, particularly during warmer seasons.

Seasonal Changes:
Winter humidity can remain quite high (even if dew point is relatively low), reflecting Milan's tendency for foggy or damp conditions. Summer typically brings both higher temperatures and a relatively moderate to high humidity level.

Building Envelope Consideration:
The consistent presence of higher humidity at certain times of day or year calls for proper vapor management in walls, roofing, and insulation.

WIND SPEED - INTENSITY

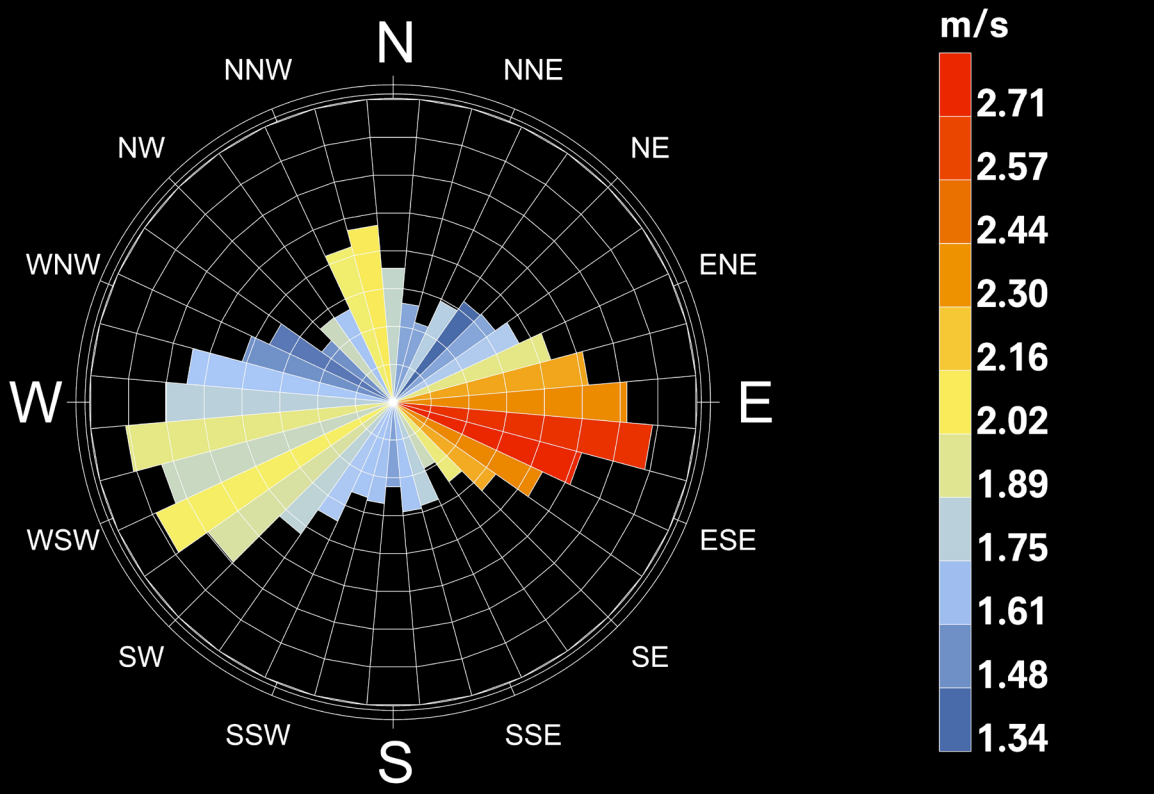


Generally Moderate:
Wind speeds appear to be neither extremely strong nor extremely weak on a regular basis, suggesting moderate breezes throughout much of the year.

Seasonal Variations:
There may be periods of calmer conditions, often in winter, and slightly higher speeds in transitional seasons, though no pronounced spikes are evident.

Ventilation & Outdoor Comfort:
While strong winds do not seem to be a major concern, designing for cross□ventilation or exploiting breezes could improve summer comfort without relying solely on mechanical cooling.

WIND SPEED - YEARLY DIRECTION



ANNUAL WIND ROSE

Overall Calm Percentage (≈17.7%):
On an annual basis, roughly one-fifth of the time is calm, suggesting extended periods where wind is minimal.

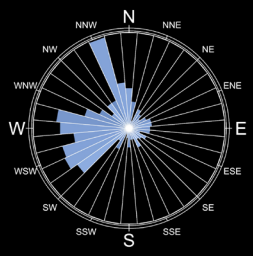
Dominant Directions and Speed Bands:
The coloured wedges indicate that easterly or south-easterly winds can reach the higher speed brackets (over 2 m/s). Meanwhile, the westerly sector also shows moderate frequencies but often at slightly lower speeds.

Design Considerations:
Ventilation/Orientation: Buildings or outdoor spaces might benefit from capturing breezes from the more frequent or slightly stronger directions (often from the east or southeast).

Windbreaks:
Because calm conditions are not uncommon, strategies for enhancing airflow might be important. However, where winds are stronger (particularly from the east/southeast), protective features or plantings could improve comfort.

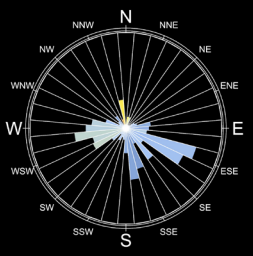
WIND SPEED - MONTHLY DIRECTION

JAN



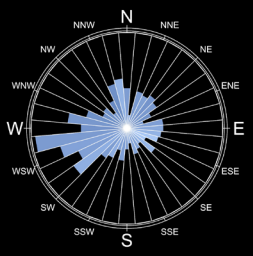
Calm for 22.04% of the time
= 164 hours.
Each closed polyline shows
frequency of 8.6% = 50 hours.

FEB



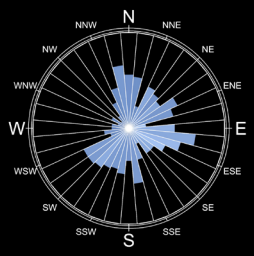
Calm for 41.11% of the time
= 296 hours.
Each closed polyline shows
frequency of 11.8% = 50 hours.

MAR

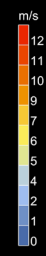


Calm for 8.6% of the time
= 64 hours.
Each closed polyline shows
frequency of 7.4% = 50 hours.

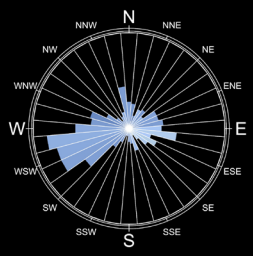
APR



Calm for 6.99% of the time
= 52 hours.
Each closed polyline shows
frequency of 7.2% = 50 hours.

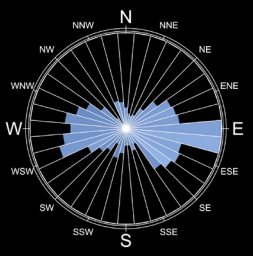


MAY



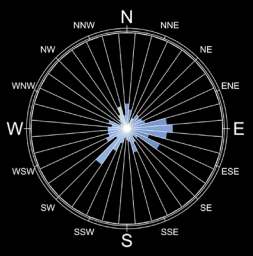
Calm for 18.75% of the time
= 126 hours.
Each closed polyline shows
frequency of 9.2% = 50 hours.

JUN



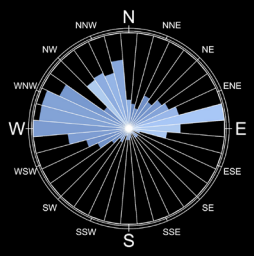
Calm for 0.0% of the time
= 0 hours.
Each closed polyline shows
frequency of 6.9% = 50 hours.

JUL

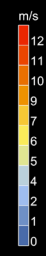


Calm for 50.54% of the time
= 376 hours.
Each closed polyline shows
frequency of 13.6% = 50 hours.

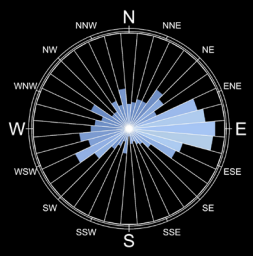
AUG



Calm for 0.14% of the time
= 1 hours.
Each closed polyline shows
frequency of 7.0% = 50 hours.

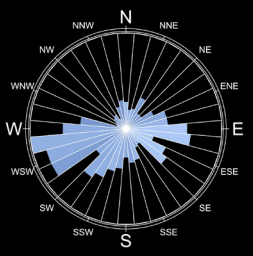


SEP



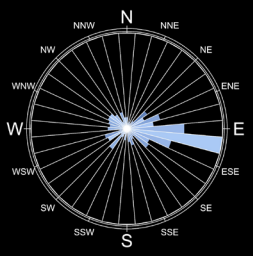
Calm for 7.66% of the time
= 57 hours.
Each closed polyline shows
frequency of 7.3% = 50 hours.

OCT



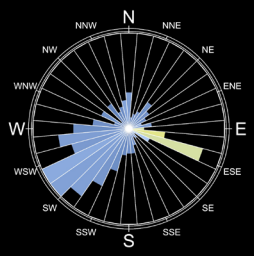
Calm for 1.11% of the time
= 8 hours.
Each closed polyline shows
frequency of 7.0% = 50 hours.

NOV

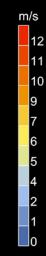


Calm for 48.33% of the time
= 348 hours.
Each closed polyline shows
frequency of 13.4% = 50 hours.

DEC



Calm for 7.39% of the time
= 55 hours.
Each closed polyline shows
frequency of 7.8% = 50 hours.

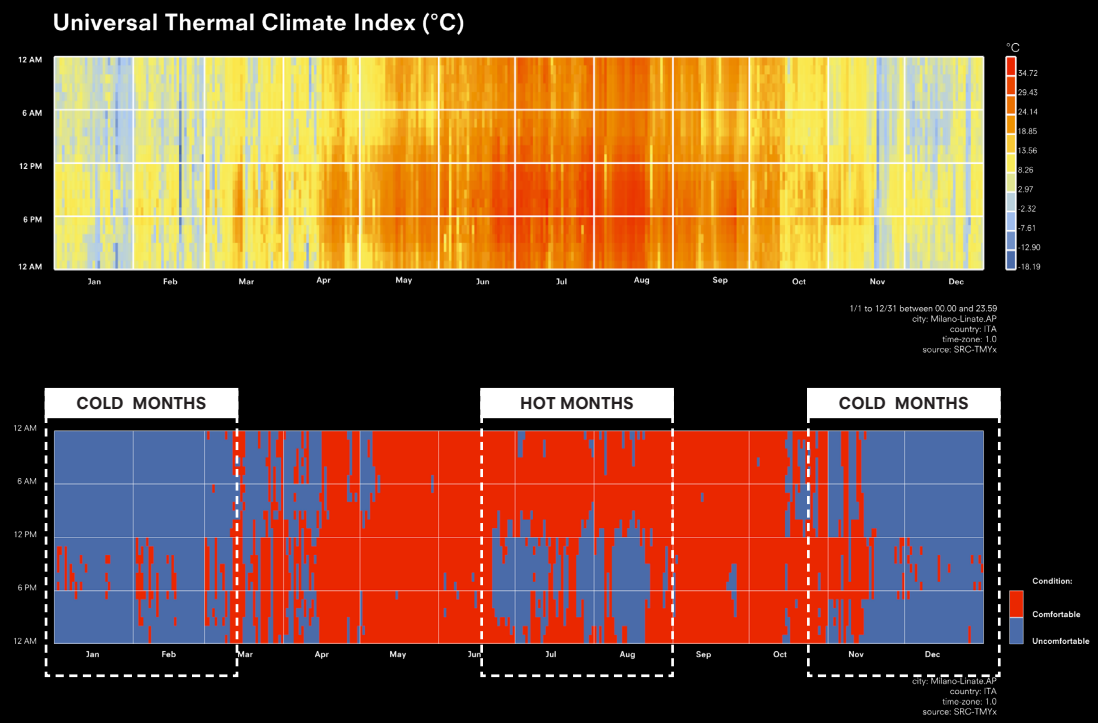


MONTHLY WIND ROSE :

Calm Conditions: Vary significantly across the year, from notable percentages in January and February (over 20%–40% calm) down to very low levels in mid-summer (June and July), meaning there are periods of near stillness in winter and consistently light-to-moderate winds in the warmer months.

Primary Wind Directions: While the direction shifts by season, certain months show a dominant flow from easterly or westerly quadrants.

UNIVERSAL THERMAL CLIMATE INDEX



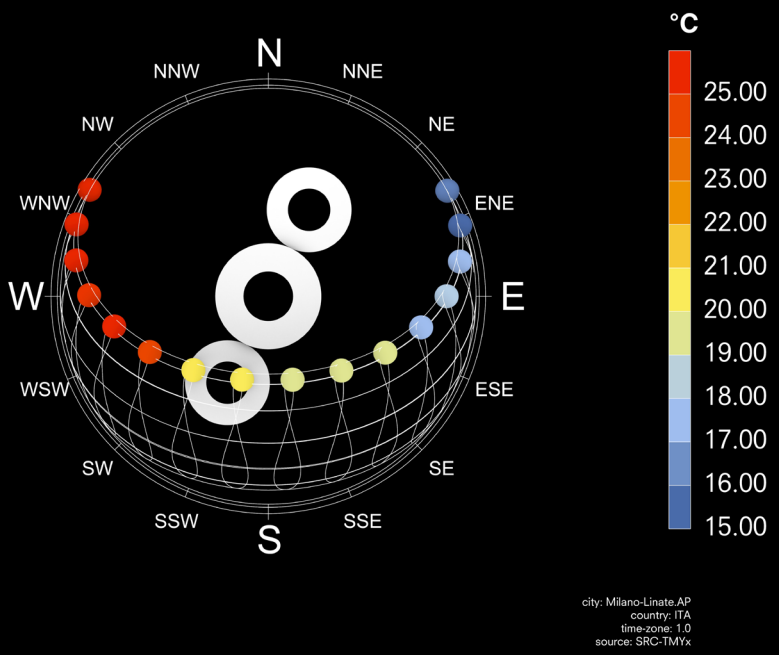
Composite Measure:
The UTCI combines temperature, humidity, wind, and other factors to gauge overall comfort or thermal stress.

Winter Stress:
Milan's winter can lead to cold stress, especially on days that dip below freezing. Adequate heating and wind protection (e.g., sheltered outdoor areas) help maintain comfort.

Summer Heat Load:
During summer, higher temperatures and elevated humidity drive the UTCI into moderate or higher heat□stress categories, reinforcing the need for shading, ventilation, or cooling strategies.

Transition Months:
Spring and autumn likely offer more comfortable conditions overall, with the UTCI showing mild or neutral categories, although occasional chilly or warm spells can still occur.

ANNUAL RADIATION DOME



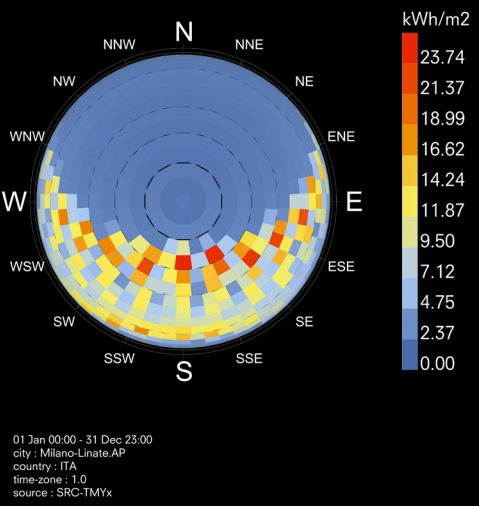
Sky Dome with Temperature:

Afternoon Heating:
By the time the sun reaches the west/ southwest, ambient temperatures tend to be higher (typical daily warming cycle).

Design Implication:
South-to-west orientations may need extra shading or cooling measures to offset both direct sun and higher ambient temperatures. Conversely, eastern exposures can be cooler—potentially beneficial for morning light without as much afternoon heat build-up.

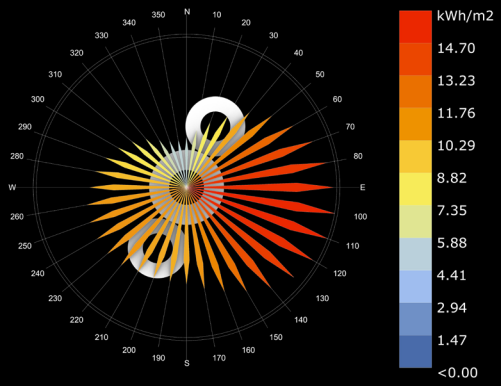
ANNUAL RADIATION DOME

Total Radiation



01 Jan 00:00 - 31 Dec 23:00
city : Milano-Linate.AP
country : ITA
time-zone : 1.0
source : SRC-TMYx

Total Radiation



Total Radiation(kWh/m2)
Milano_Linate_AP_LM_ITA_2013
1 JUN 1:00 - 4 JUN 24:00

Annual Radiation Dome:

Orienting major glazing or solar panels toward south to southwest can maximize energy gain over the year, while northern exposures receive significantly less direct sun.

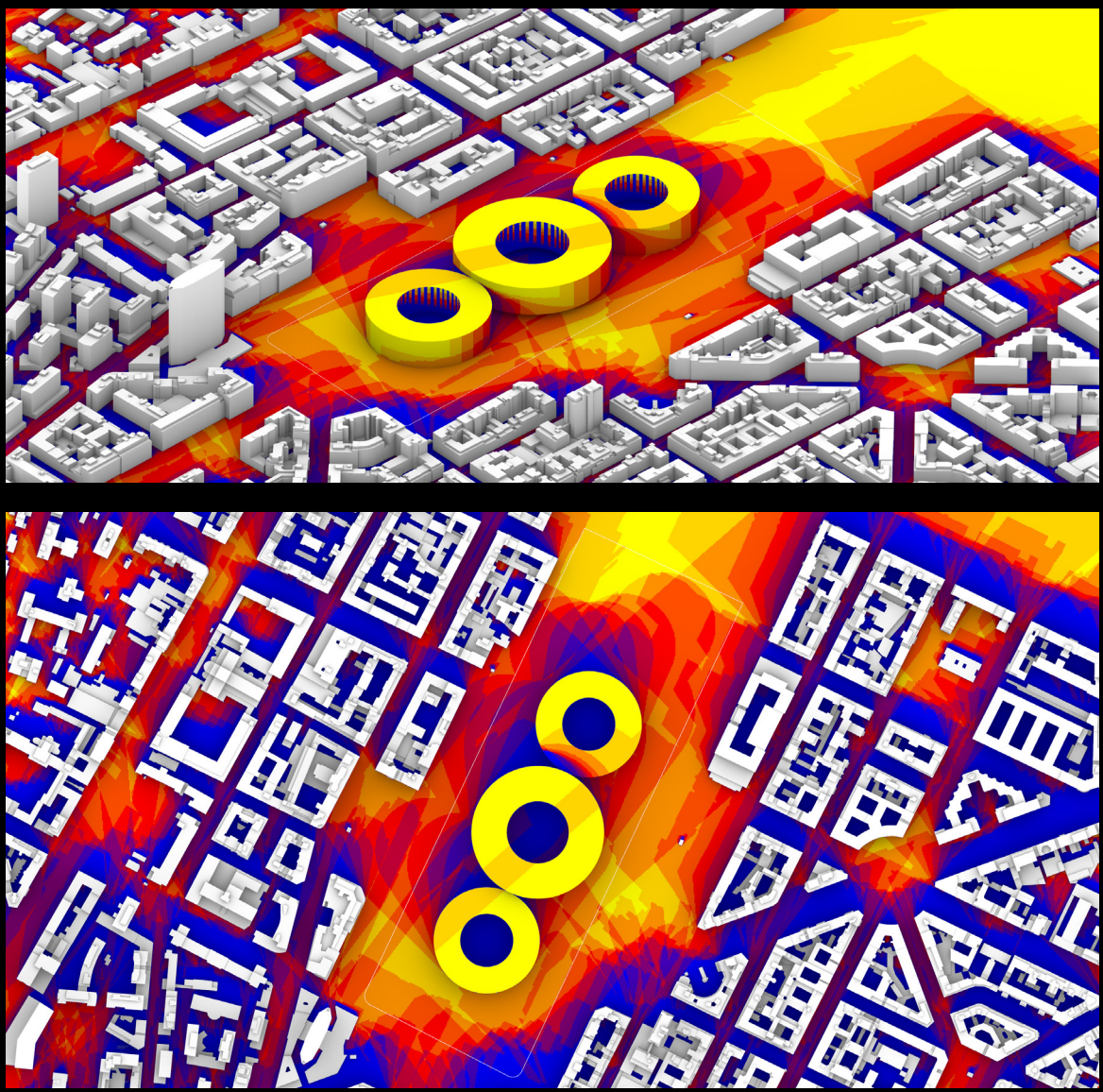
Polar Radiation Rose:

During early summer, the sun rises and sets more to the northeast/northwest, producing high radiation in both morning and late-afternoon directions. This helps identify when and from which directions strong solar gains occur in summer—informing shading or solar control needs for specific times of day.

Design Considerations:

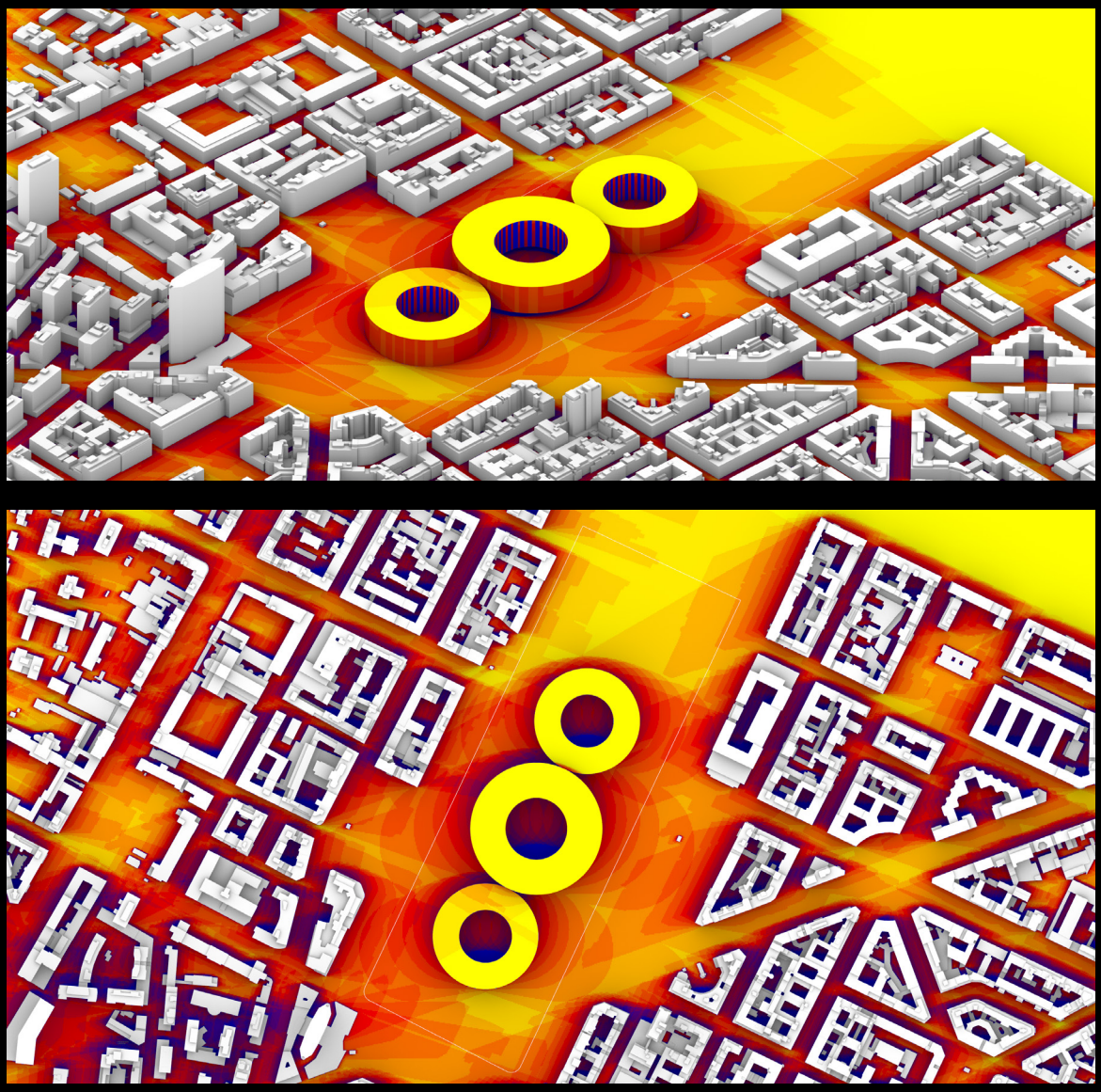
1. The south to southwest sky sectors receive the greatest annual solar radiation, aligning with the warmest ambient air in afternoon hours.
2. Eastern exposures see less cumulative radiation and typically lower temperatures (especially in the morning).
3. **Facade Orientation:** Maximize south or southwest exposure if aiming to harness passive solar heating in cooler months, but ensure shading or ventilation to handle summer heat.
4. **Shading Strategies:** Particularly crucial for west and southwest faces, where peak solar gains coincide with higher air temperatures.

DIRECT SUN EXPOSURE - 21 DECEMBER



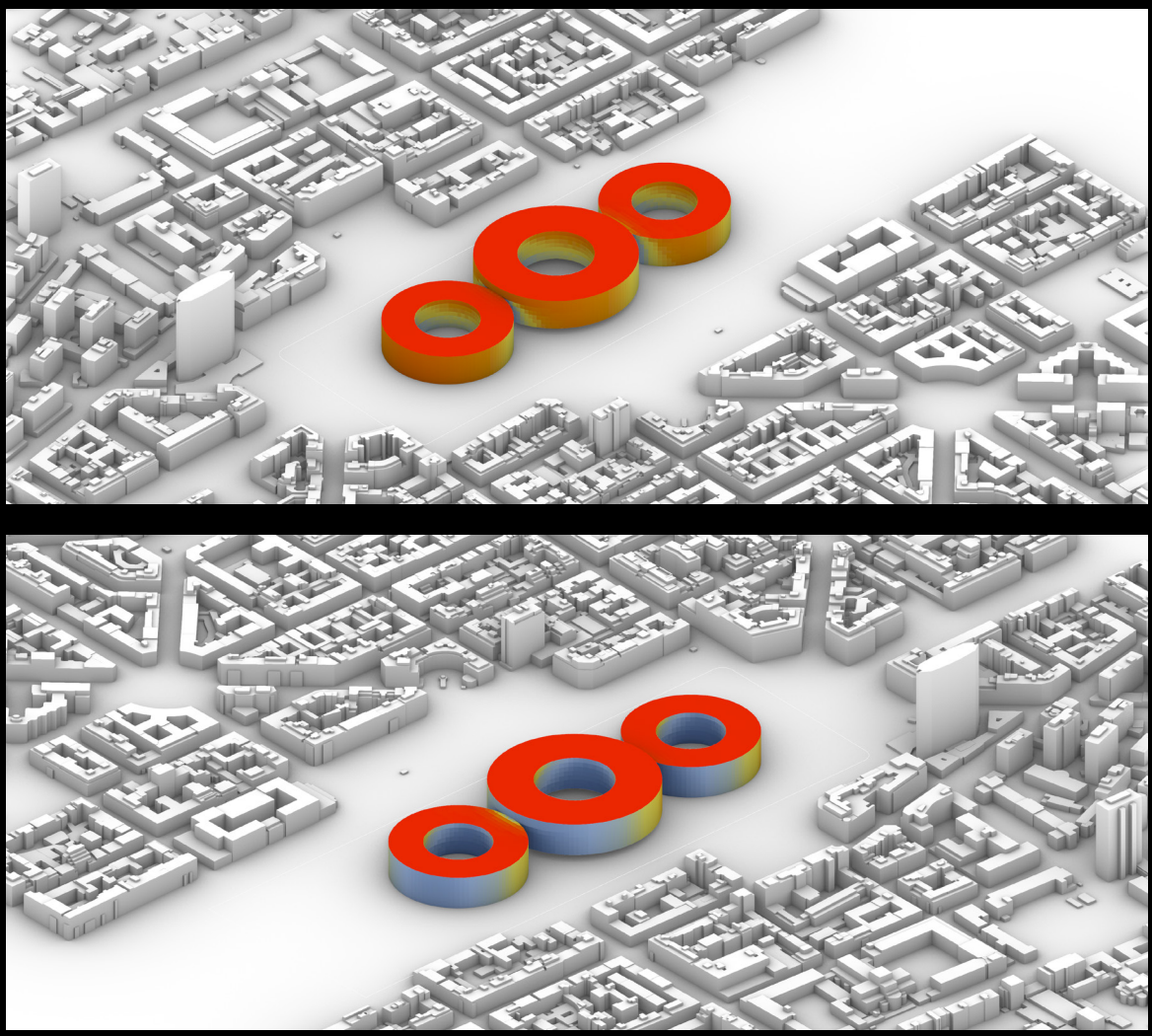
The diagrams show the solar radiation on the winter solstice.
On the 21 of December it reveals the significant overshadowing and lower overall radiation typical of winter, underscoring the need to carefully shape and orient built forms to capture scarce winter sun while limiting heat loss.

DIRECT SUN EXPOSURE - 21 JUNE



These diagrams show the solar radiation intensity across an urban context on June 21—the summer solstice, when the sun is at its highest and days are longest.
Warmer colors (reds/oranges) indicate greater solar exposure, while cooler colors (yellows/light tones) reflect lower irradiation due to shading or a lower angle of incidence.

ANNUAL FACADE RADIATION



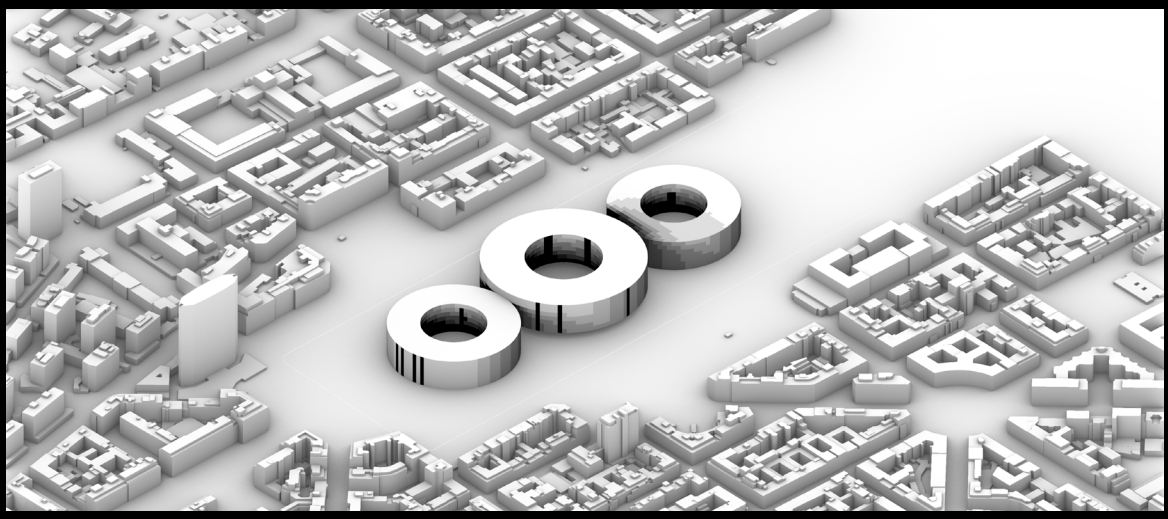
From this year-round (Jan 1–Dec 31) facade solar radiation analysis, we can see clear distinctions in how much sunlight each portion of the cylinders receives over the course of a full year.

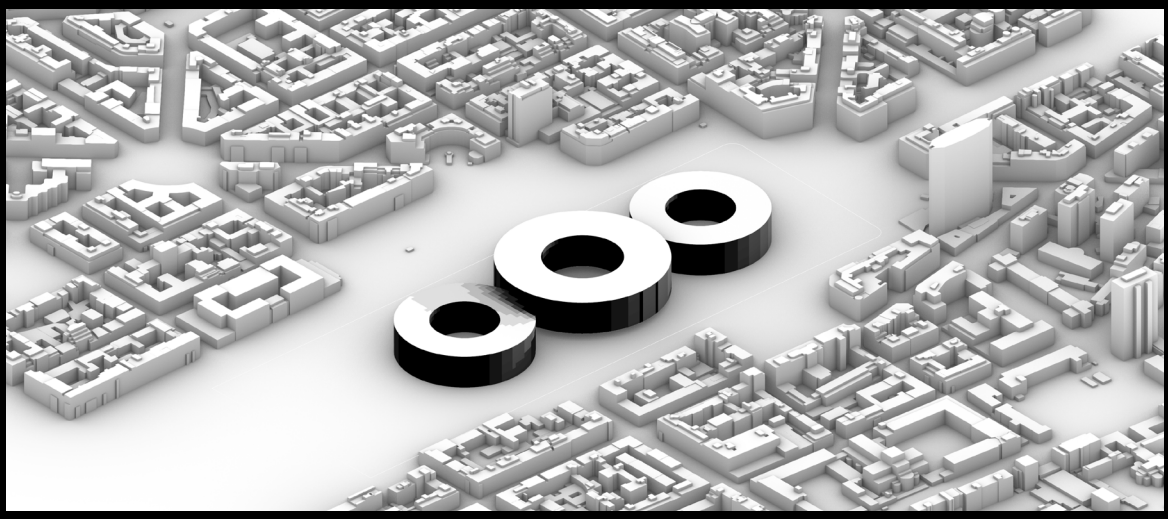
Design Considerations:

High-Radiance Facade:
Ideal for integrating solar technologies (PV panels or solar thermal systems), or requiring additional shading devices to control heat gain.

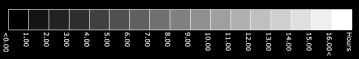
Thermal Comfort & Daylighting:
Knowing which façades receive the most sunlight can guide window sizing, shading elements, and interior layouts that balance light and heat ingress.

SHADOW ANALYSIS - 12 DECEMBER





Shadow Analysis – December 12:



Shorter Daylight Hours:
Facades and open spaces facing south still receive some sunlight, but many areas more north remain in shade for much of the day.

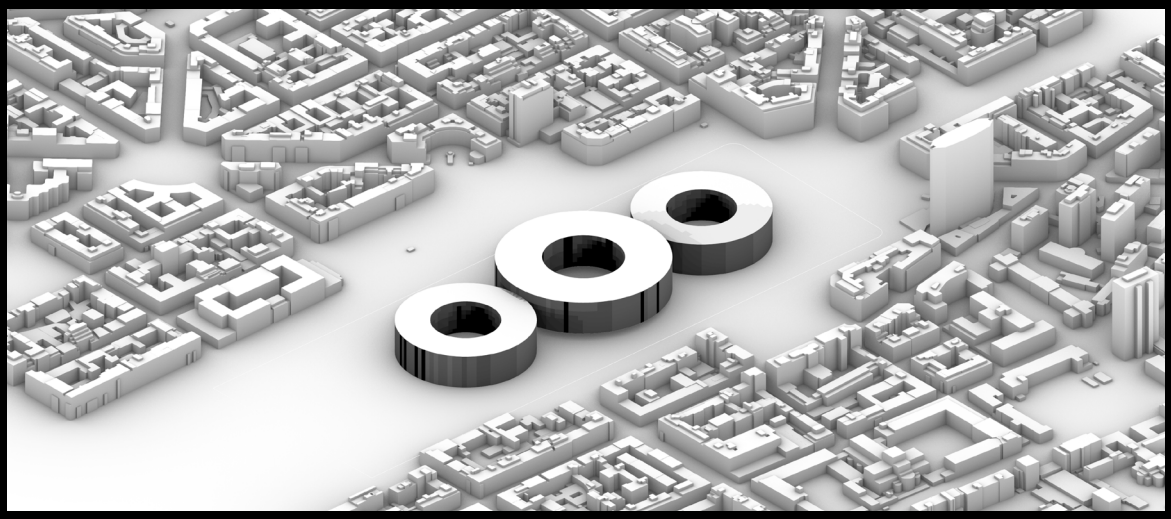
Design Implications:

Passive Solar Gain:
Maximizing sunlight on south□oriented facades is crucial when the sun angle is low.

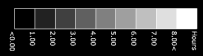
Thermal Comfort:
Interiors may feel cooler without direct sunlight, driving higher heating requirements.

SHADOW ANALYSIS - 21 JUNE





Shadow Analysis – June 21:



Extended Daylight: Longer daylight hours allow more consistent sun exposure on building rooftops and upper facades.

Design Implications:

Overheating Potential:
With strong midday sun and warmer ambient temperatures, south-to-west orientations can overheat unless mitigated by shading or cooling strategies.

Morning vs. Afternoon:
East-facing elements receive gentler morning light, while west-facing surfaces are hit by strong afternoon sun when ambient temperatures typically peak.

CONCLUSIONS

These analyses span temperature fluctuations, humidity and moisture content, wind regimes, solar radiation levels, and seasonal shadow patterns—factors critical for shaping both the architectural and operational strategies of the project.

TEMPERATURE PROFILES

Dry-Bulb Temperatures:
Milan's climate exhibits cold winters (often near or below 0 °C) and warm to hot summers (reaching or exceeding 30 °C), with a noticeable diurnal swing in all seasons. This variation underscores the need for effective winter heating and summer cooling/ventilation strategies.

Dew Point & Humidity:
Winters are generally drier in absolute terms (though relative humidity can still be high due to colder temperatures), whereas summer dew points rise significantly, creating muggy conditions. Any building envelope or interior design must account for moisture management—particularly in humid summer months.

Humidity Considerations:
Relative Humidity Patterns: Overnight spikes are common, contributing to fog and damp mornings in cooler seasons. Daytime levels fluctuate more in warmer periods. High humidity during portions of the day or year calls for adequate ventilation, vapour barriers, and other moisture-control measures in the design.

Wind Regimes
Wind Speed & Direction:
Overall, wind speeds are moderate, with occasional calmer periods in winter and more consistent breezes in transitional seasons. Annual wind roses show that calm conditions occupy nearly one-fifth of the time, while easterly or southeast winds can reach higher speeds.
These data suggest incorporating cross-ventilation where possible and possibly using landscaping or built elements as windbreaks to enhance outdoor comfort.

Monthly Variations:
Calmer winter months may require mechanical ventilation strategies, whereas summer's slightly stronger breezes can be harnessed for natural cooling.

Universal Thermal Climate Index (UTCI)
A composite measure reflecting temperature, humidity, wind, and other factors shows cold stress during Milan's winter (freezing temperatures and damp conditions), transitioning to heat stress in summer when humidity and temperature peak. This highlights the importance of thermal comfort measures year-round—such as sheltering outdoor spaces in winter and providing shading/ventilation in summer.

SOLAR RADIATION & SUN PATHS

Annual Radiation Dome:
Demonstrates that southern and south-western exposures receive the greatest solar gain over the year, while northern exposures see limited direct sunlight. This distribution informs facade orientation for optimal daylighting, passive solar heating, or photovoltaic placement.

Polar Radiation Rose:
Early-summer data pinpoints morning (NE/SE) and late-afternoon (W/NW) radiation peaks, indicating a need for carefully placed shading devices to manage high solar angles.

Facade Radiation Analysis:
Certain building faces accumulate significantly higher solar energy, warranting solar control or even solar energy capture (e.g., PV arrays, solar thermal). Meanwhile, shaded

façades may need less cooling but would benefit from strategic daylighting solutions.

SEASONAL EXPOSURE & SHADOWING

21 June (Summer Solstice):
With longer daylight hours and a higher solar altitude, rooftops and upper facade areas experience intense sunlight. Overheating can be a concern on west/southwest façades, reinforcing the need for sun-control devices or natural ventilation strategies.

21 December (Winter Solstice):
The sun's lower angle produces extended shadows and fewer daylight hours. South-facing openings are crucial for maximizing limited winter solar gain, while overshadowed areas may see increased heating demands.

Shadow Analyses:
The contrast in shadow lengths and sun coverage between seasons underscores how adjacency to taller buildings or narrower streets can affect access to daylight. This is vital for planning public spaces, ensuring comfortable outdoor waiting areas, and informing façade treatments that balance winter sun access with summer shading.

OVERALL CONCLUSIONS AND DESIGN IMPLICATIONS

1. **Balancing Heat and Cold:** Milan's climate requires robust winter heating provisions due to cold temperatures and damp conditions, combined with cooling and dehumidification measures for hot, humid summers.

2. **Moisture Management:** The presence of fog, humidity spikes, and higher summer dew points emphasizes the need for careful envelope detailing, ventilation design, and potential dehumidification in interior spaces.

3. **Wind Utilization:** While wind speeds are generally moderate, cross-ventilation can improve summer comfort, especially during peak heat, and might reduce reliance on mechanical cooling systems.

4. **Solar Gain Optimization:** South-to-west façades provide abundant solar potential, ideal for passive solar heating in cooler months or photovoltaic installations. However, these same surfaces risk overheating in summer, necessitating shading or adjustable solar controls.

5. **Seasonal Shadow Strategies:** Winter overshadowing can significantly limit solar access, reinforcing the importance of strategic building massing and window orientation to maximize low angle sun while reducing winter heat loss. In summer, effective shading devices or vegetation can mitigate solar intensity and lower cooling loads.

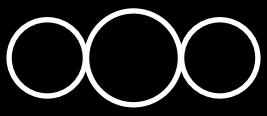


08

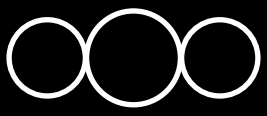


ON THE MOVE

ON THE MOVE



ON THE MOVE




BUILD TO LAST
EVOLVE

ON THE MOVE

On the Move is a thesis project rooted in transition design, using architectural thinking to reshape Milan's urban mobility system as an adaptive, future-proof, and culturally engaged network. Instead of treating Milan's Central Station as a static monument to the past, the project repositions it as a multifunctional mobility hub that can evolve alongside changing urban dynamics. It responds to the urgent need to shift from mono-functional infrastructure towards resilient systems that integrate transportation, and cultural expression.

Central to the proposal is the concept of designing for transition—not by predicting a fixed future, but by building in the capacity to adapt. This is achieved through spatial strategies that allow for programmatic flexibility, modular transformation, and multi-modal connectivity. The station becomes a platform, not a terminus—capable of hosting cultural events, supporting new forms of transport, and accommodating both routine flows and exceptional surges driven by Milan's dynamic eventscape. Trains, metro lines, buses, trams, bicycles, and shared mobility services are brought together into a unified, legible, and scalable framework.

A key innovation lies in the repurposing of Milan's historic trams as mobile cultural capsules—part of a new "Experience Line" that distributes exhibitions, performances, and public programs across the city. These trams extend the station's influence into everyday life, transforming commutes into moments of engagement, and spreading cultural infrastructure beyond central districts. The supporting depot—reimagined as a hybrid space for logistics, maintenance, and public events—becomes a physical and symbolic anchor for this mobile civic infrastructure.

The project also addresses the temporal and spatial unevenness of Milan's cultural production, redistributing activity beyond its overloaded city center and ensuring that different parts of the city can host and support public life. By creating a system that is both mobile and distributed, it challenges traditional boundaries between infrastructure and culture, and between center and periphery. Culture is no longer something fixed in a building—it moves with people, responding to rhythms of everyday life and shifting urban conditions.

At the architectural scale, the station is designed to support future modes of transport, adaptive reuse of space, and layered mobility flows. Its section, plan, and material systems are imagined to change over time, accommodating growth, obsolescence, and transformation without erasure. This approach turns maintenance and transformation into design tools, allowing the infrastructure to remain relevant even as the city and its mobility needs evolve.

Ultimately, On the Move offers a flexible framework for urban transformation. Rather than proposing a fixed solution, it introduces a system designed to evolve with shifting mobility patterns, cultural demands, and societal change. It shows how architecture can support transition by enabling adaptability, fostering civic engagement, and embedding long-term resilience into the urban fabric.

FLEXIBLE	RESPONSIVE	SCALABLE
in program	to its enviroment	over time

THE NEXT EVOLUTION

The typology of the train station has always evolved alongside technological and societal shifts—transforming from utilitarian sheds into monumental gateways, and more recently into complex, multi-modal infrastructures. Milan's Centrale station embodies this trajectory, having adapted over time to accommodate growing flows, new transport modes, and commercial functions. Yet these adaptations have largely been reactive, focused on functionality rather than vision.

On the Move proposes itself as a prototype for the next stage in this evolution: one in which the train station becomes a civic and cultural platform, not just a transit hub. Situated in a city defined by its rich cultural production—across design, fashion, literature, research, and public events—the project reimagines Milan Centrale as an infrastructure that both supports and amplifies these dynamics.

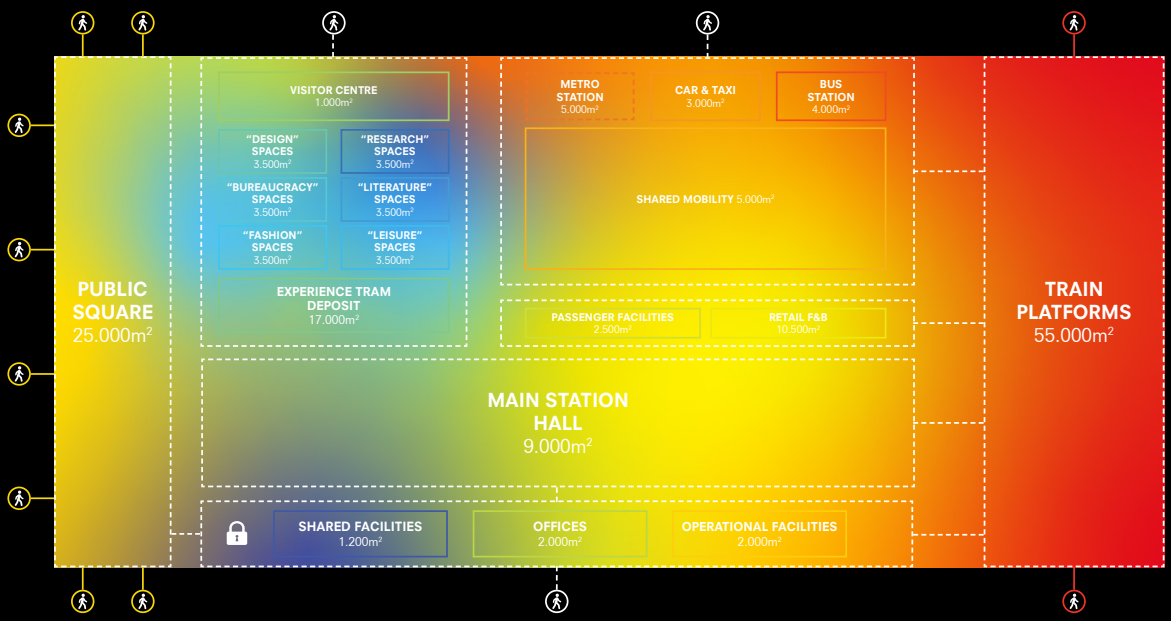
Through the creation of a Mobile Experience Centre, On the Move uses Milan's historic trams as mobile cultural venues, extending the reach of the station across the city. Simultaneously, the station itself is restructured to accommodate flexible programs—exhibitions, performances, workshops—that respond to the rhythms of Milan's cultural calendar. In doing so, the project merges mobility and culture into a single, adaptive system. I

t not only reflects the identity of its context, but actively shapes how that identity is experienced and distributed. As such, On the Move offers a site-specific yet scalable model for how future train stations can evolve—not by adding more infrastructure, but by transforming existing systems into responsive, civic engines for public life.



CULTURE AS A MEDIUM



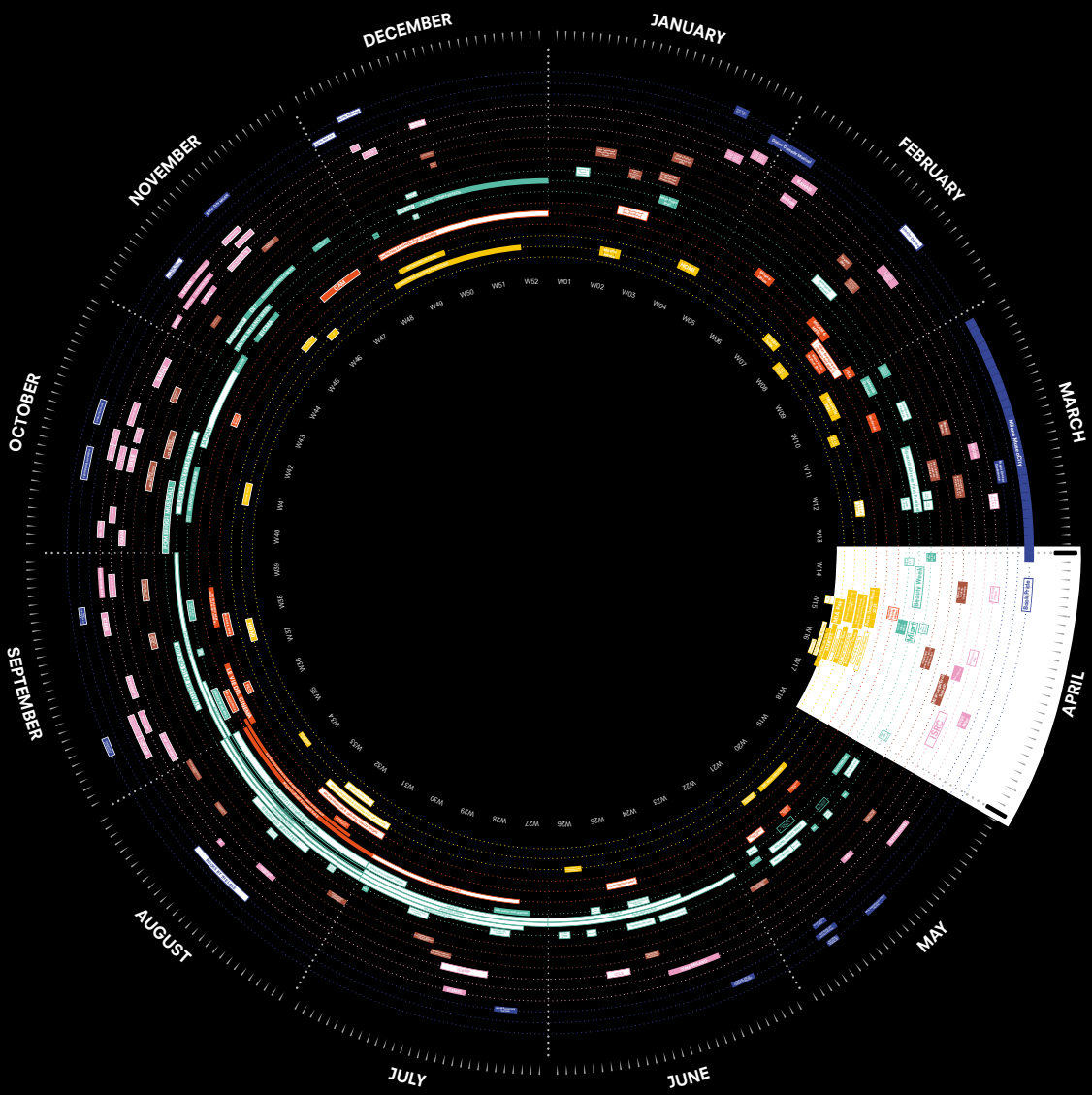


In On the Move, culture becomes the medium through which the station is redefined, not as an added layer but as a structuring force that informs both the layout and function of the building. Rather than treating cultural programs as discrete zones within the infrastructure, the project weaves them into the very logic of the station—blurring the boundaries between transit, leisure, and civic engagement.

Waiting areas become reading rooms, circulation paths become exhibition routes, and tram depots transform into production spaces for mobile events. This spatial overlap allows the building to operate fluidly across time and use, accommodating both the intensity of daily commutes and the slower rhythms of cultural life. By designing for ambiguity—between infrastructure and event, between arrival and occupation—On the Move ensures the station remains open-ended and adaptable, capable of hosting multiple publics simultaneously.

Culture, in this context, is not a decorative afterthought but a strategic tool to diversify experience, activate overlooked spaces, and generate new forms of collective urban life.

A TEMPORAL CITY



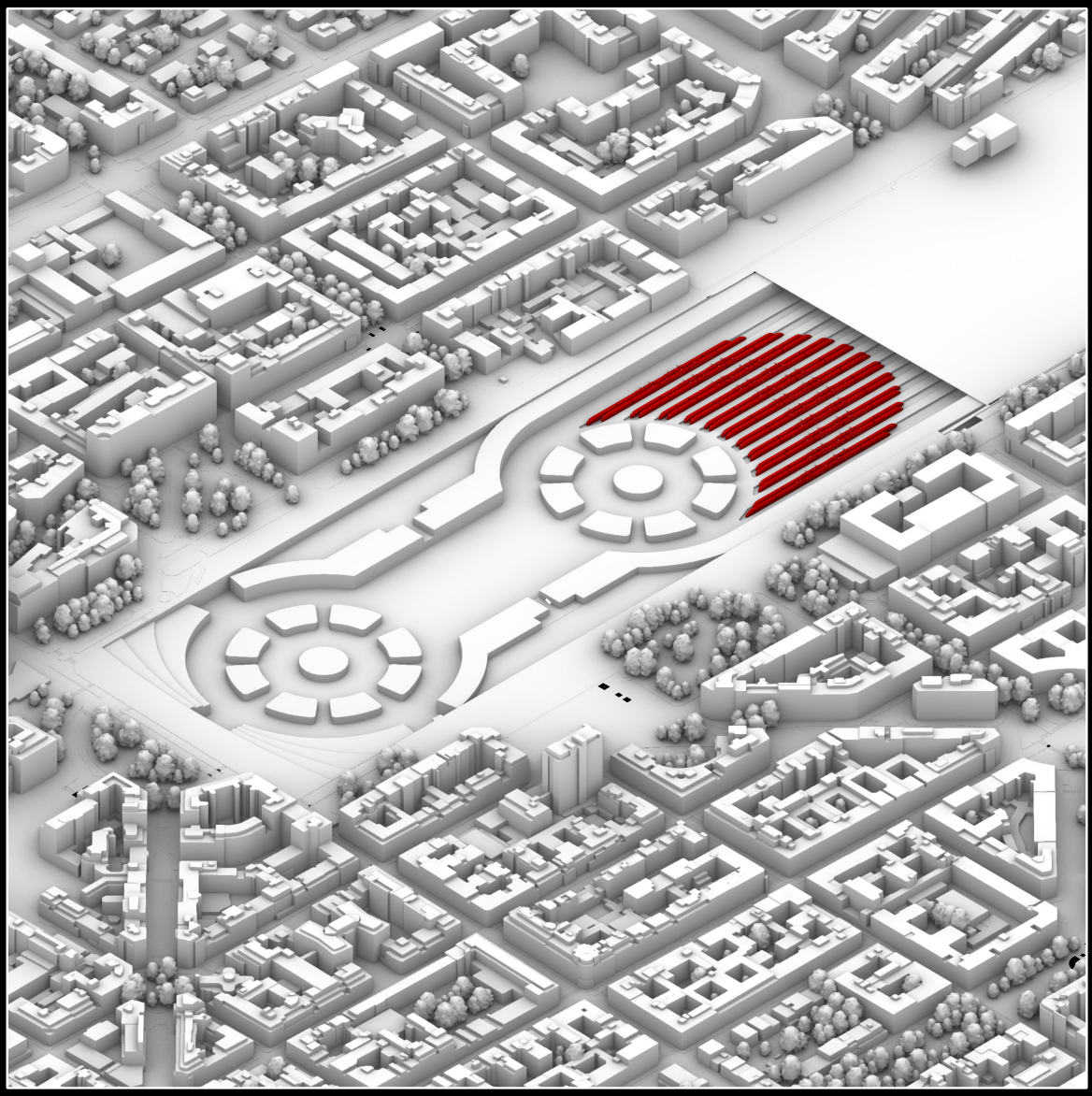
On the Move integrates Milan Centrale into the city's cultural calendar, transforming it into a venue that responds to the temporal nature of urban life. Designed to adapt with seasonal events like Design Week, the station's spaces can host exhibitions, talks, and installations, while the tram network extends these events across the city. In doing so, the project turns the station into an active cultural participant, not just a point of transit but a flexible platform within Milan's evolving eventscape.

It becomes an infrastructure that not only adapts to time, but amplifies it through design.

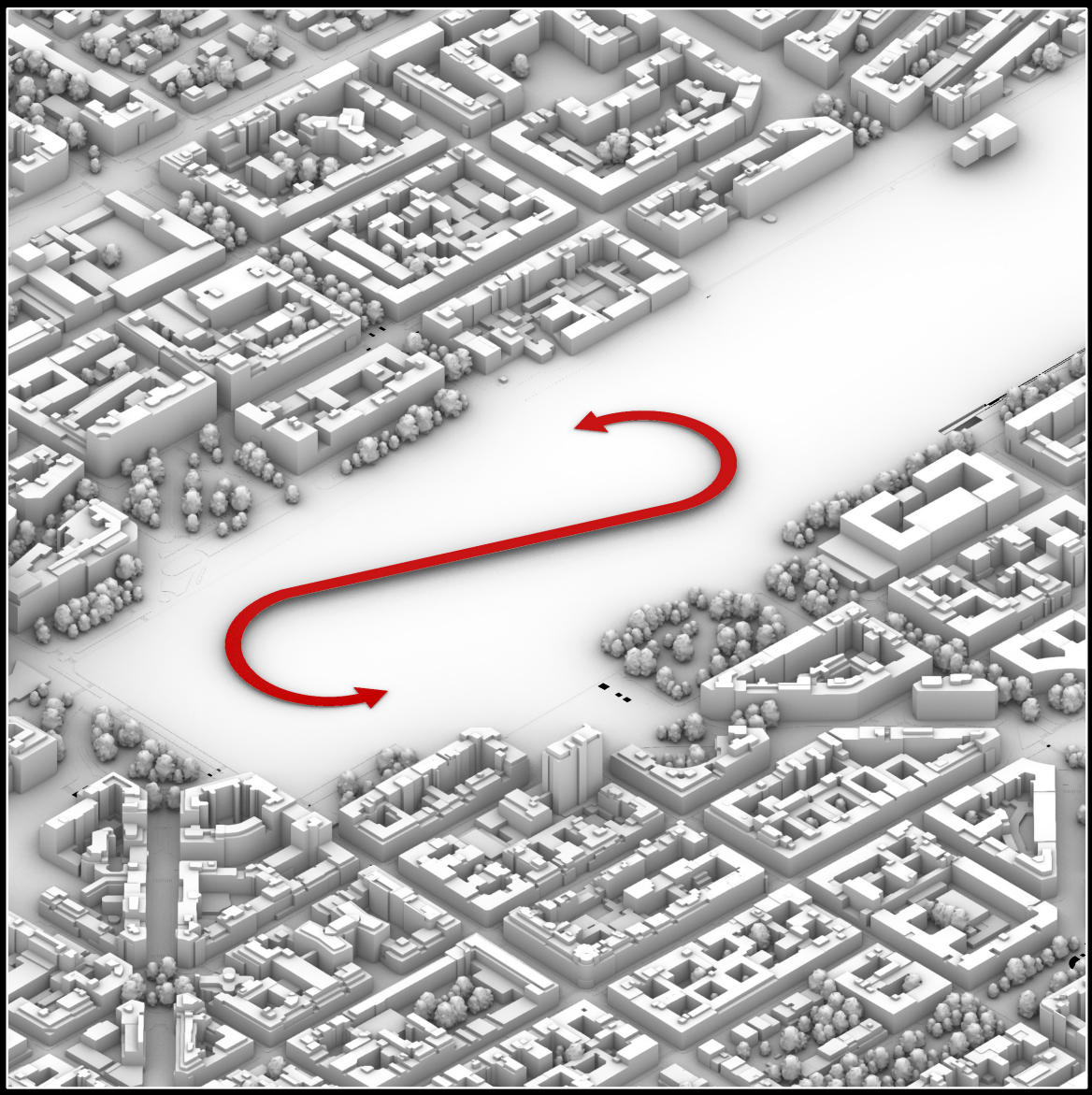
“ON THE MOVE” IN MILANO



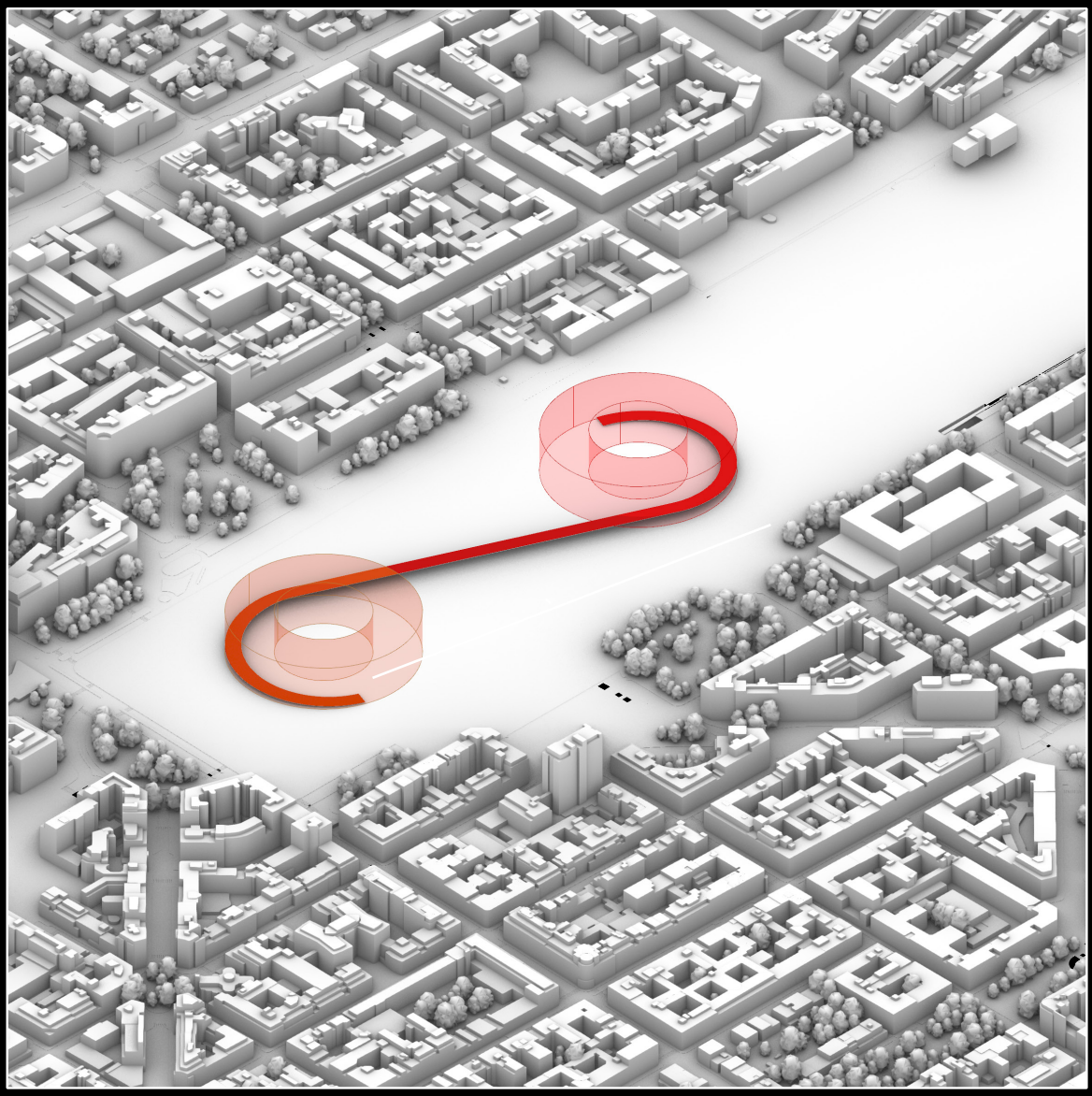
TRAIN AND METRO UNDERGROUND



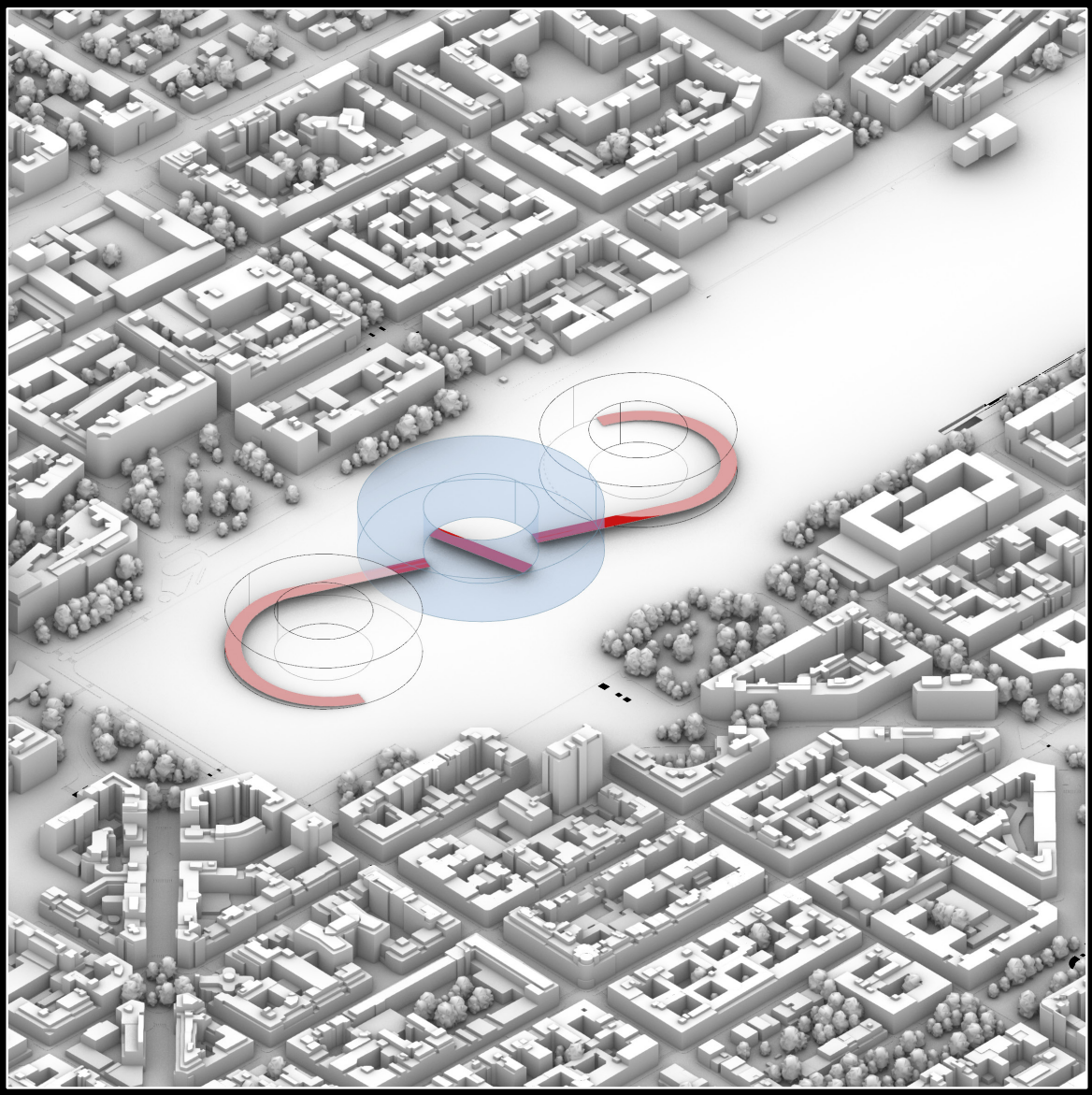
LOOP



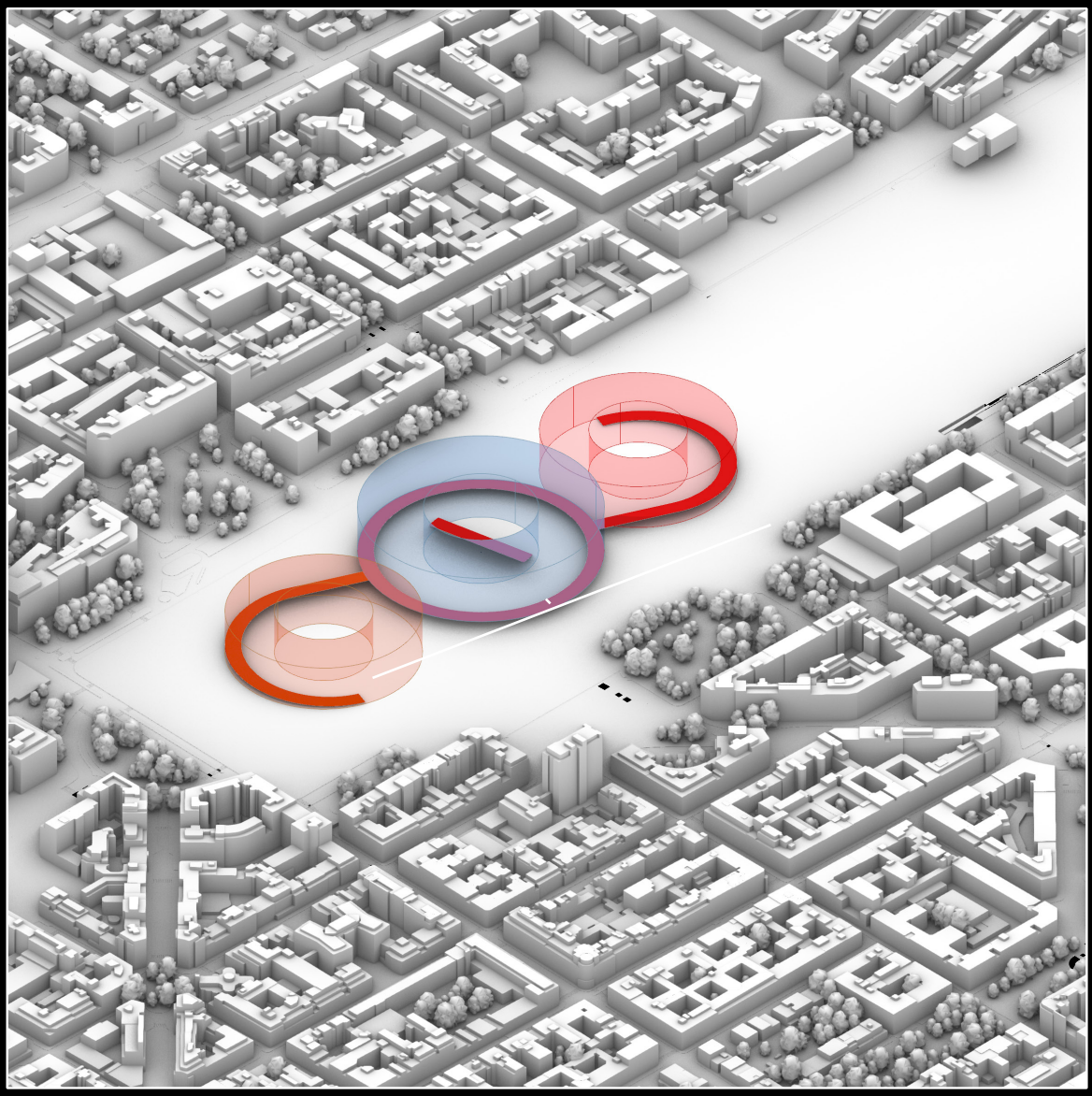
CONNECTING



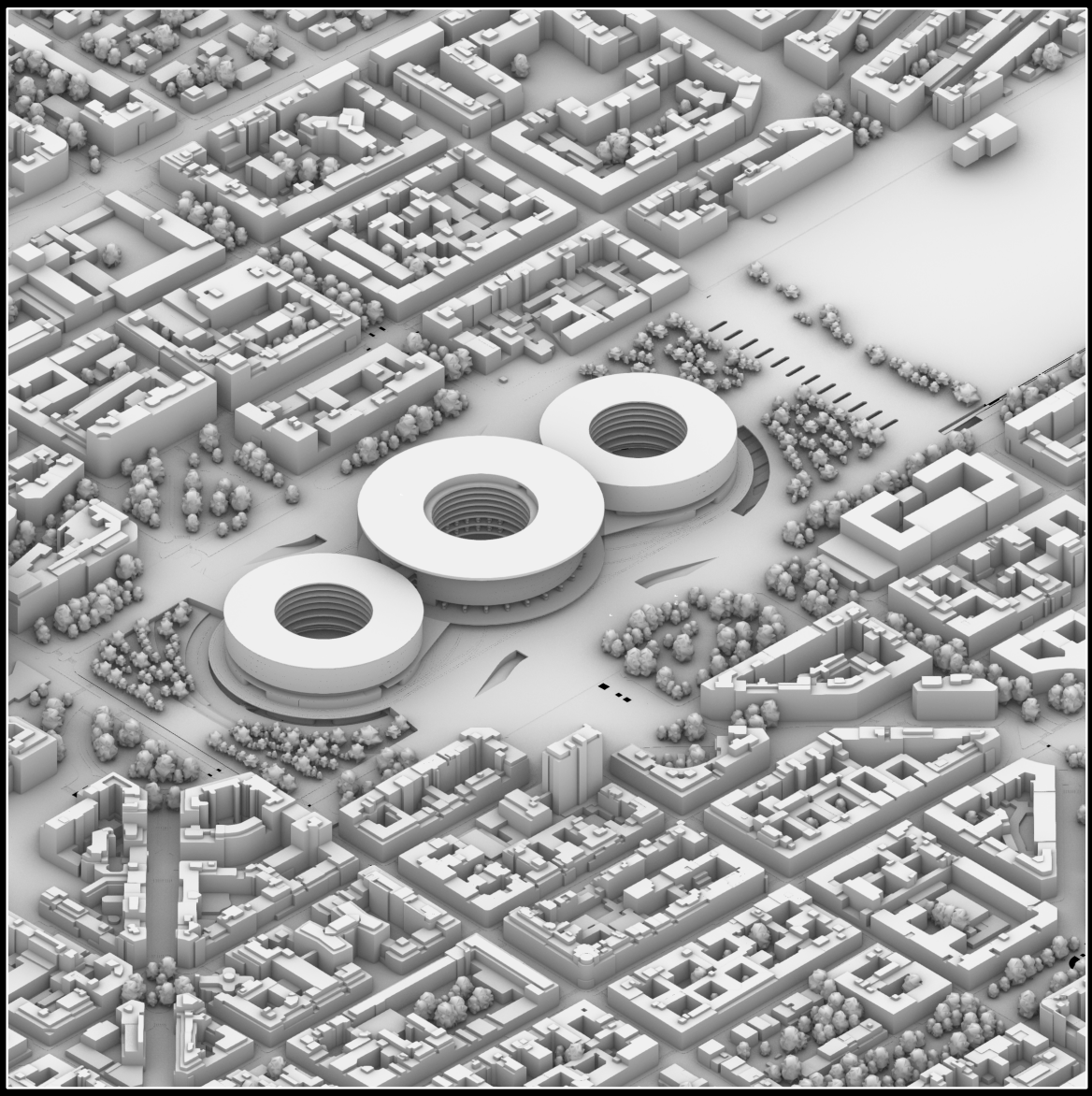
TRAM DEPOT



CONNECTING THE LOOPS



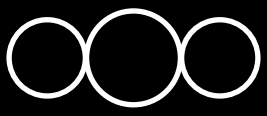
ON THE MOVE



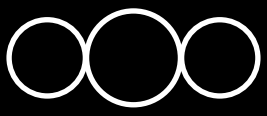


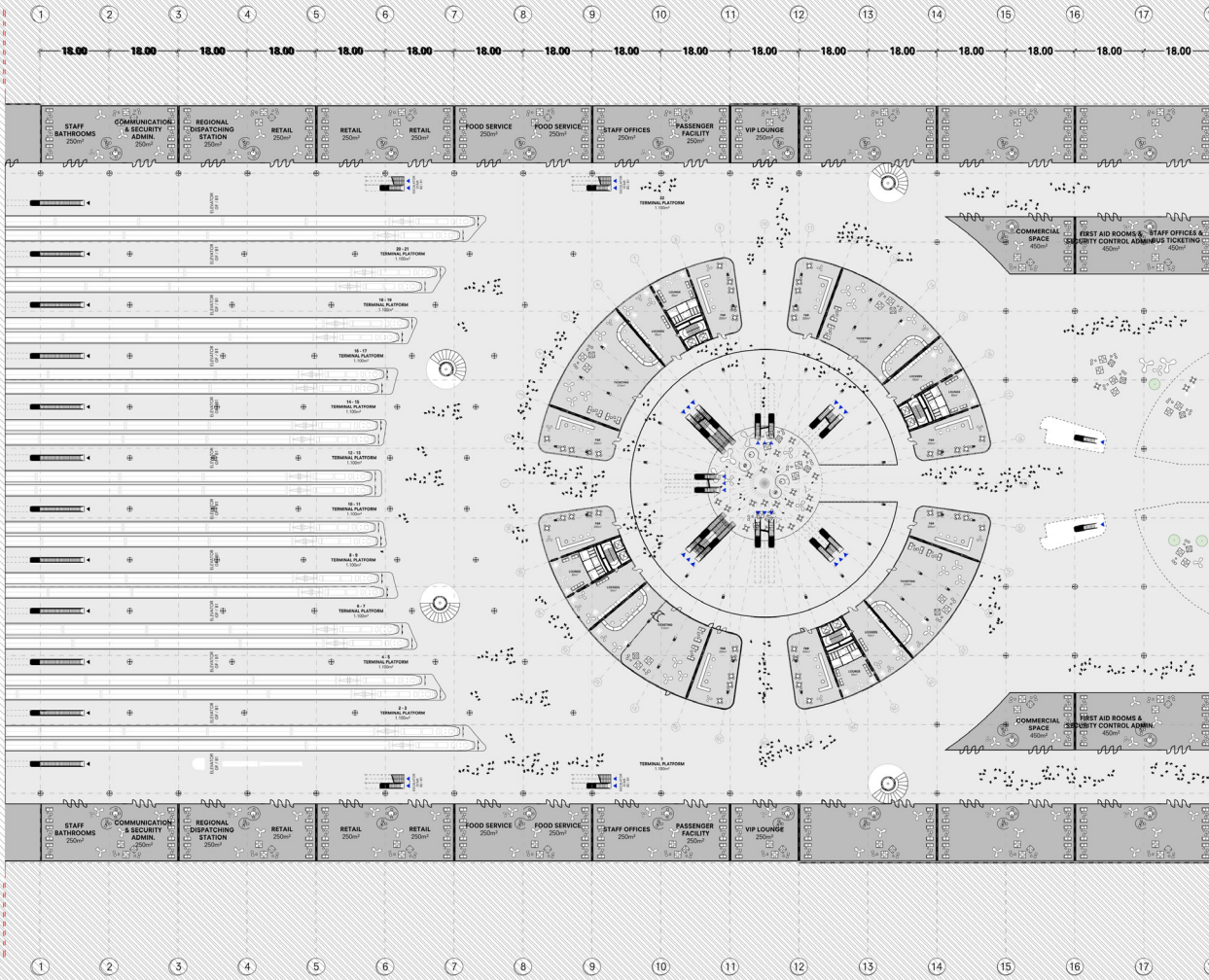


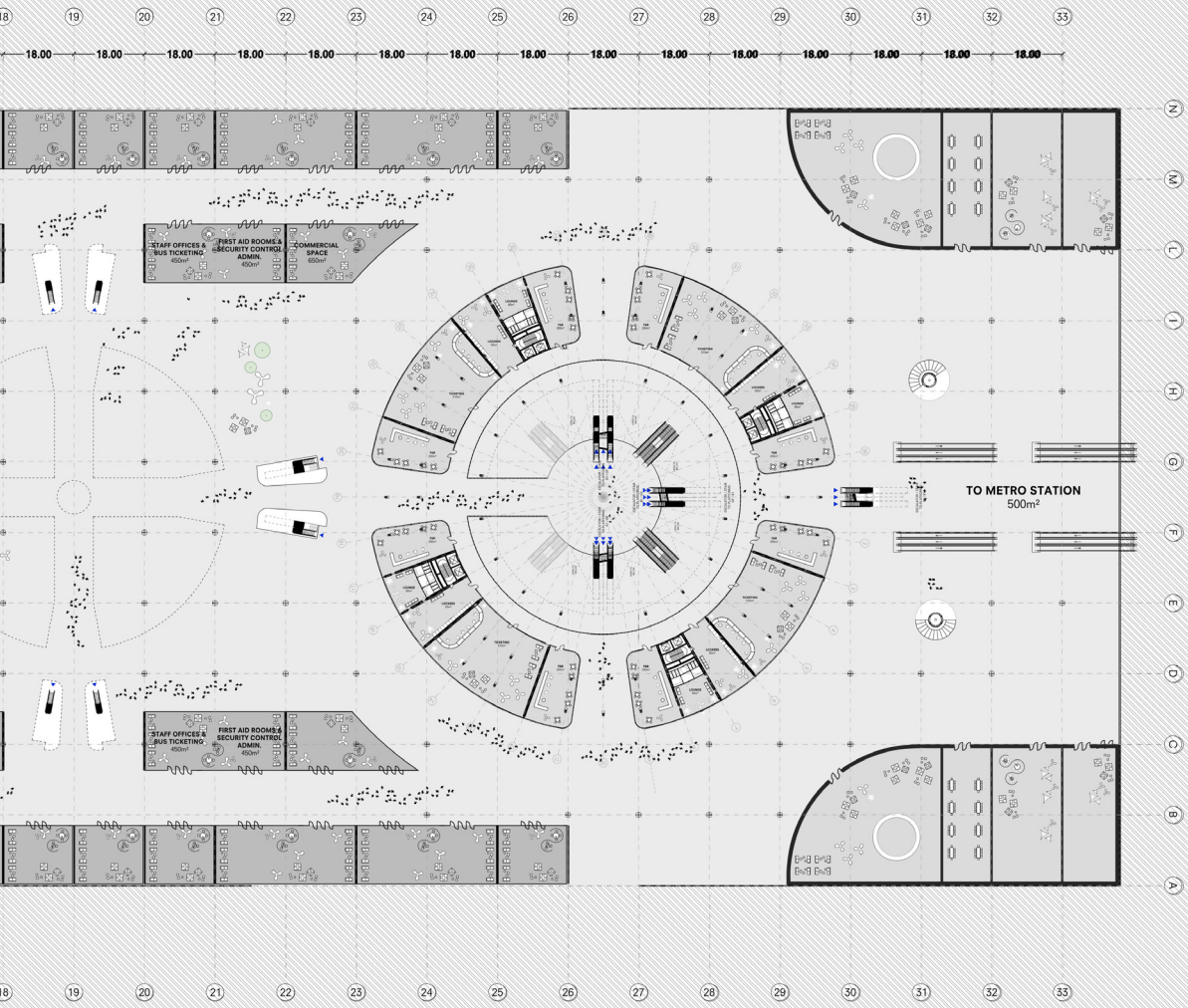
DRAWING SET



DRAWING SET

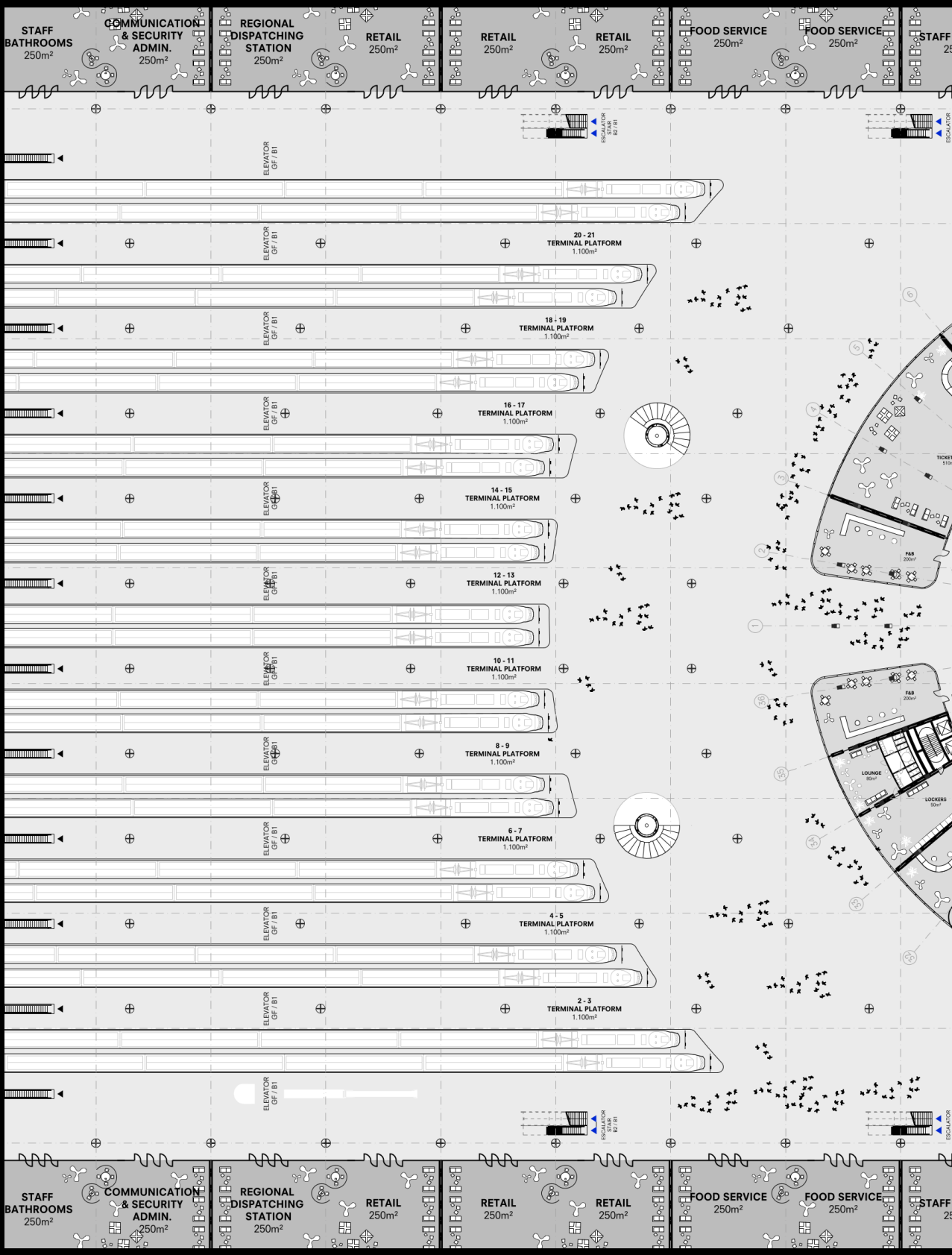


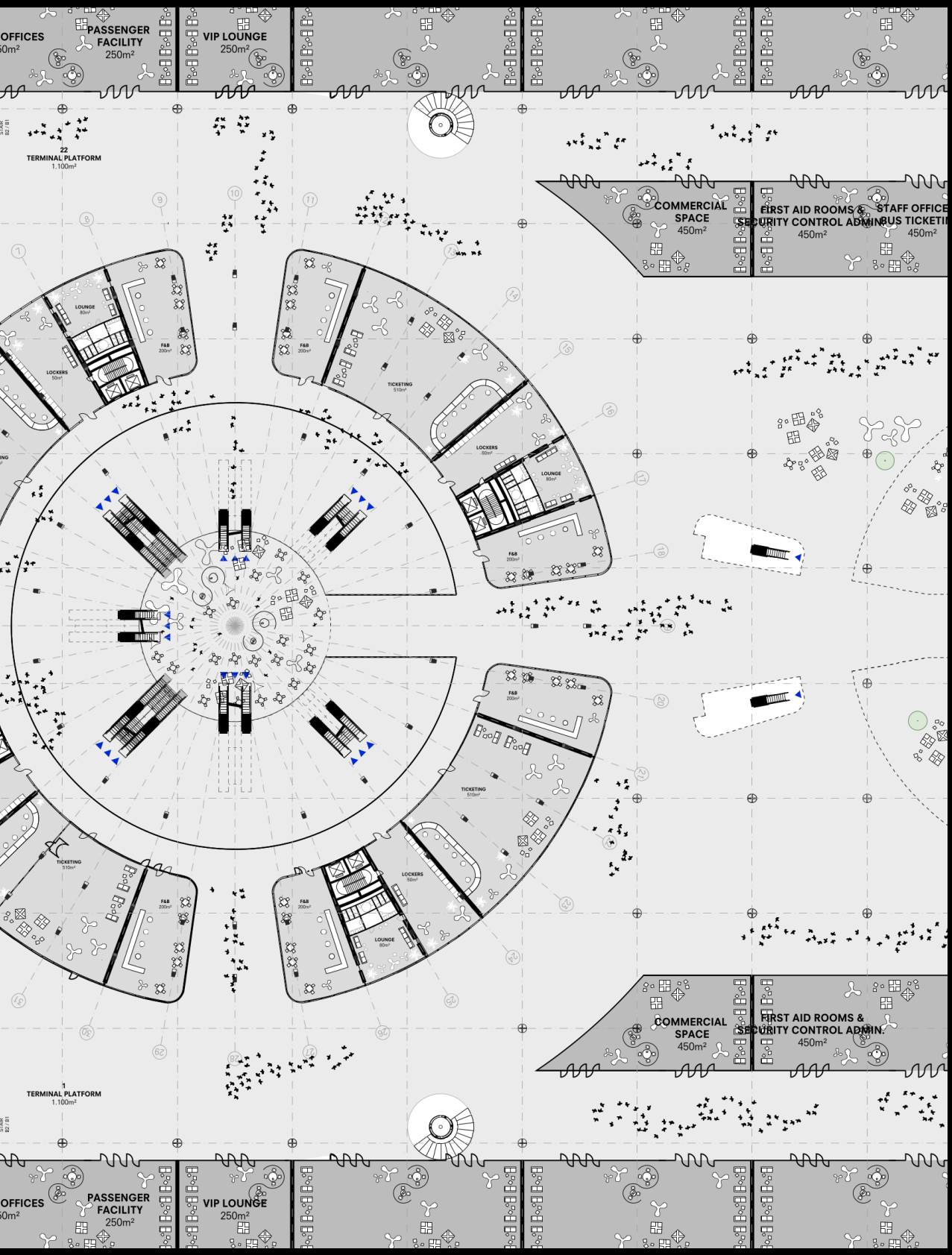

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18.00
STAFF BATHROOMS 250m²
COMMUNICATION & SECURITY ADMIN. 250m²
REGIONAL DISPATCHING STATION 250m²
RETAIL 250m²
FOOD SERVICE 250m²
STAFF OFFICES 250m²
PASSENGER FACILITY 250m²
VIP LOUNGE 250m²
COMMERCIAL SPACE 450m²
FIRST AID ROOMS & SECURITY CONTROL ADMIN. 450m²
STAFF OFFICES & BUS TICKETING 450m²
TERMINAL PLATFORM

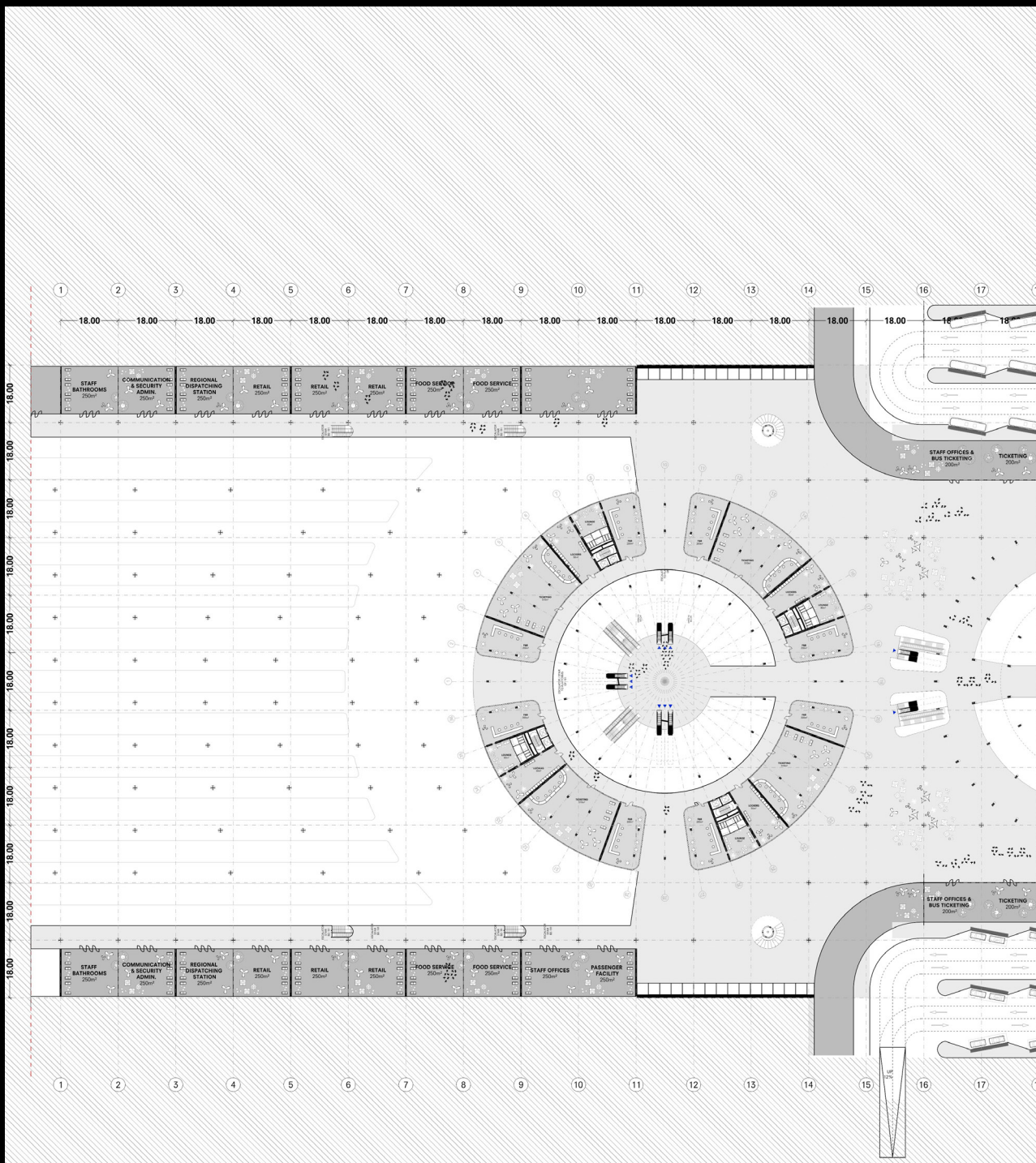


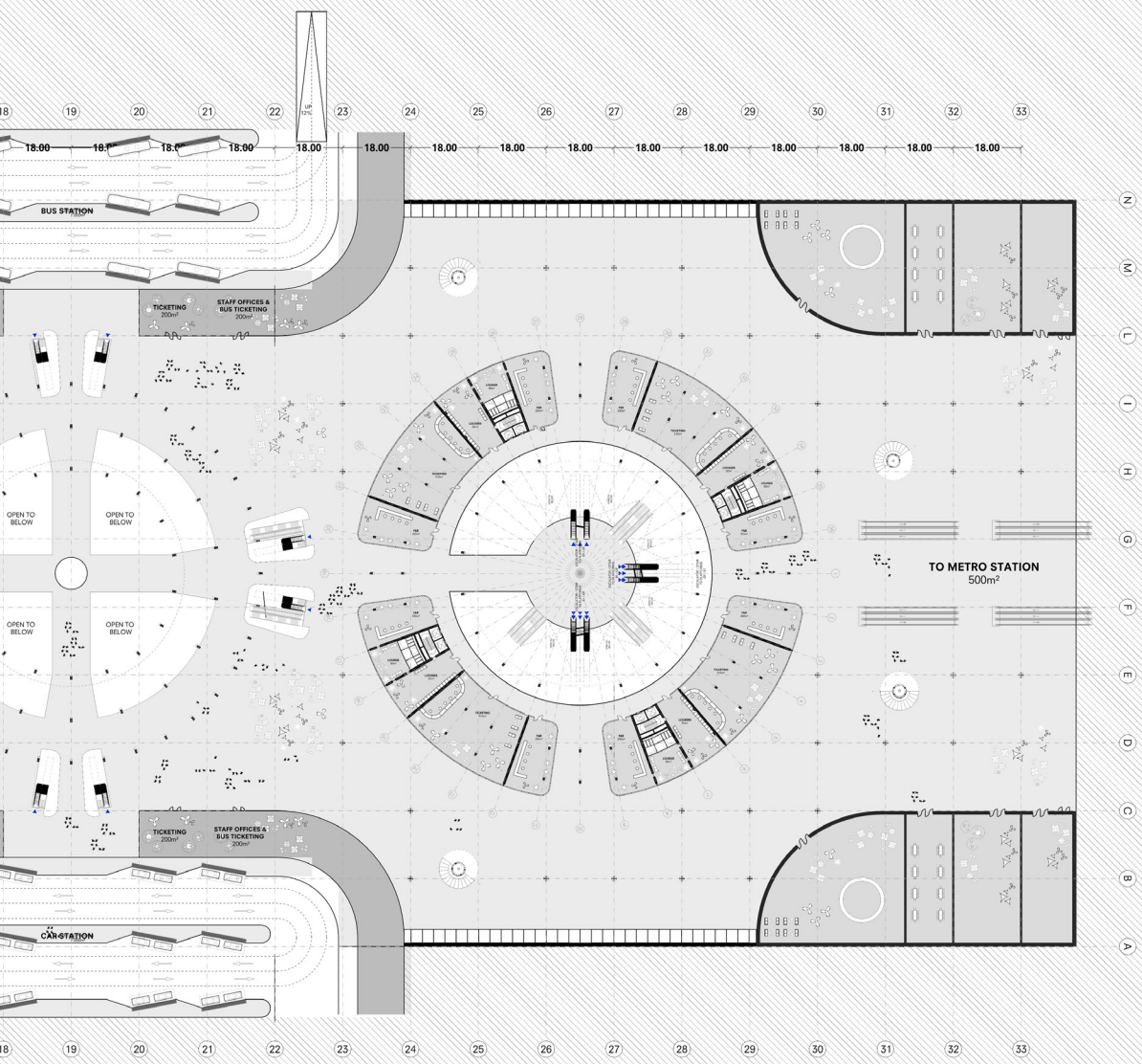
BASEMENT B2 -12.00m
1:1000

0 10 20 50 100m


STAFF BATHROOMS 250m²
COMMUNICATION & SECURITY ADMIN. 250m²
REGIONAL DISPATCHING STATION 250m²
RETAIL 250m²
RETAIL 250m²
RETAIL 250m²
FOOD SERVICE 250m²
FOOD SERVICE 250m²
STAFF
ESCALATOR STAIR SZ / B1
ESCALATOR
ELEVATOR GF / B1
20 - 21 TERMINAL PLATFORM 1.100m²
18 - 19 TERMINAL PLATFORM 1.100m²
16 - 17 TERMINAL PLATFORM 1.100m²
14 - 15 TERMINAL PLATFORM 1.100m²
12 - 13 TERMINAL PLATFORM 1.100m²
10 - 11 TERMINAL PLATFORM 1.100m²
8 - 9 TERMINAL PLATFORM 1.100m²
6 - 7 TERMINAL PLATFORM 1.100m²
4 - 5 TERMINAL PLATFORM 1.100m²
2 - 3 TERMINAL PLATFORM 1.100m²
TICKET
F&B 200m²
LOUNGE 80m²
LOCKERS 50m²


OFFICES
50m²
PASSENGER FACILITY
250m²
VIP LOUNGE
250m²
22
TERMINAL PLATFORM
1.100m²
COMMERCIAL SPACE
450m²
FIRST AID ROOMS & SECURITY CONTROL ADMIN.
450m²
STAFF OFFICE
BUS TICKETI
450m²
LOUNGE
80m²
F&B
200m²
LOCKERS
50m²
TICKETING
510m²
1
TERMINAL PLATFORM
1.100m²
OFFICES
50m²
PASSENGER FACILITY
250m²
VIP LOUNGE
250m²
COMMERCIAL SPACE
450m²
FIRST AID ROOMS & SECURITY CONTROL ADMIN.
450m²

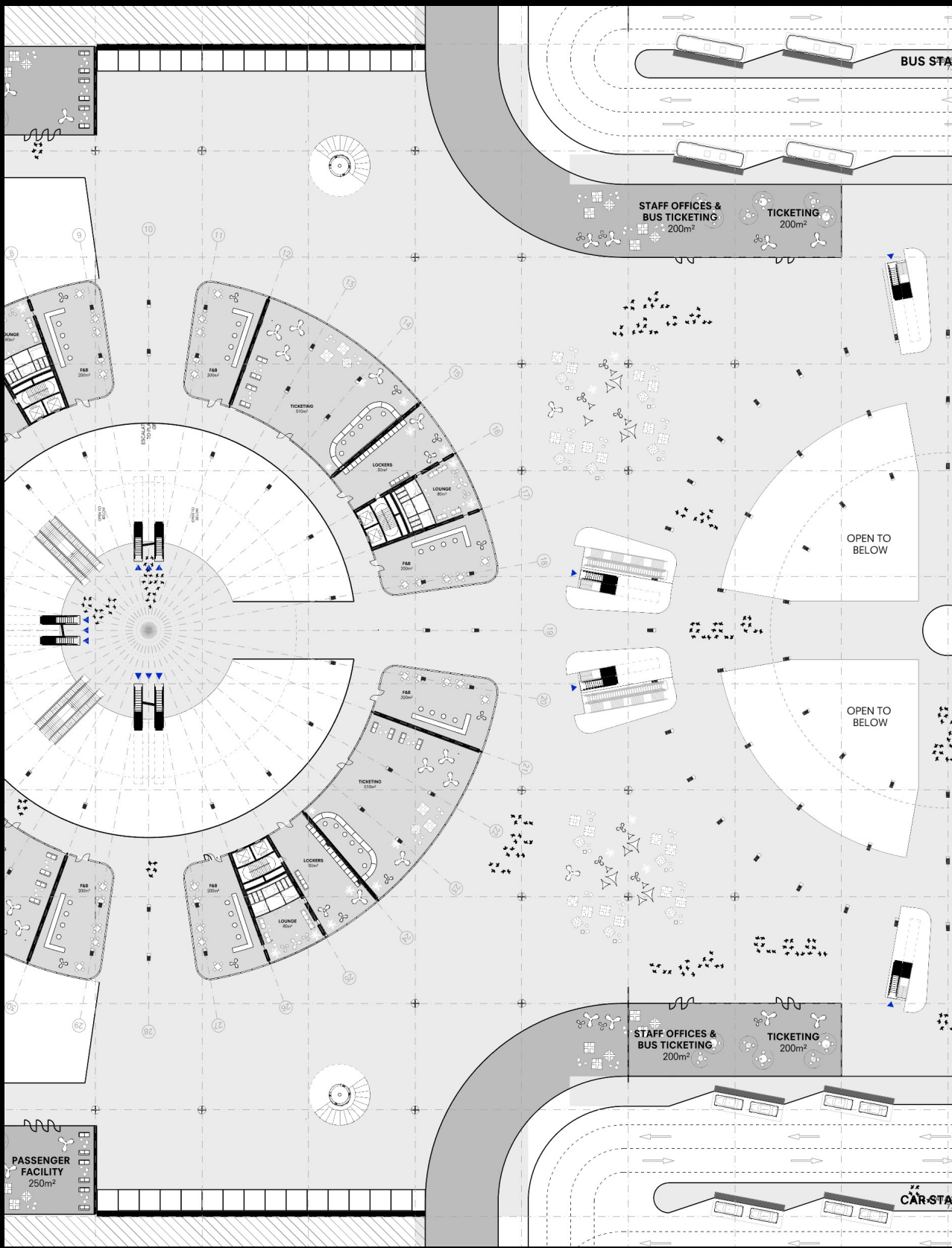

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17
18.00
STAFF BATHROOMS 250m²
COMMUNICATIONS & SECURITY ADMIN. 250m²
REGIONAL DISPATCHING STATION 250m²
RETAIL 250m²
FOOD SERVICE 250m²
STAFF OFFICES 250m²
PASSENGER FACILITY 250m²
STAFF OFFICES & BUS TICKETING 200m²
TICKETING 200m²

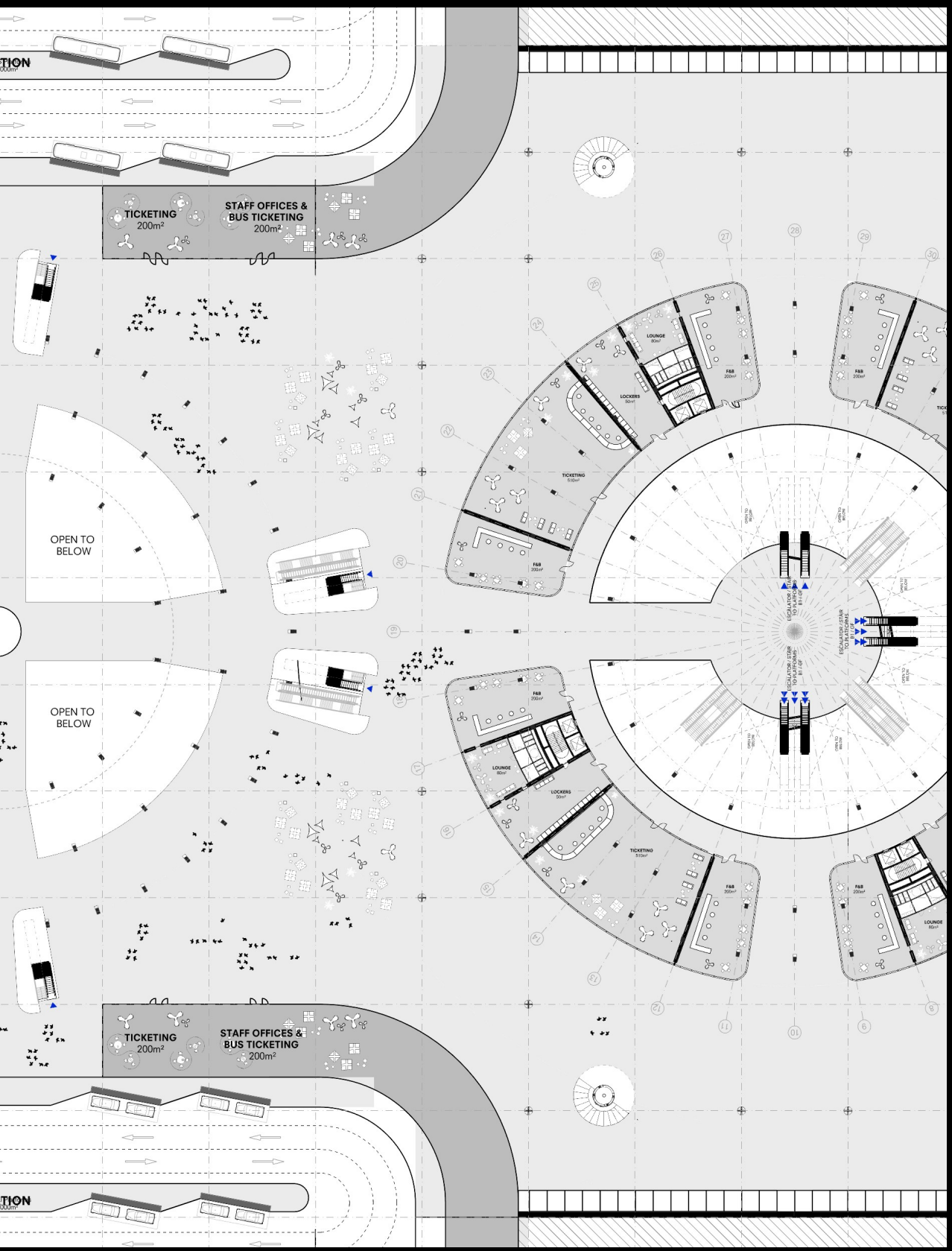


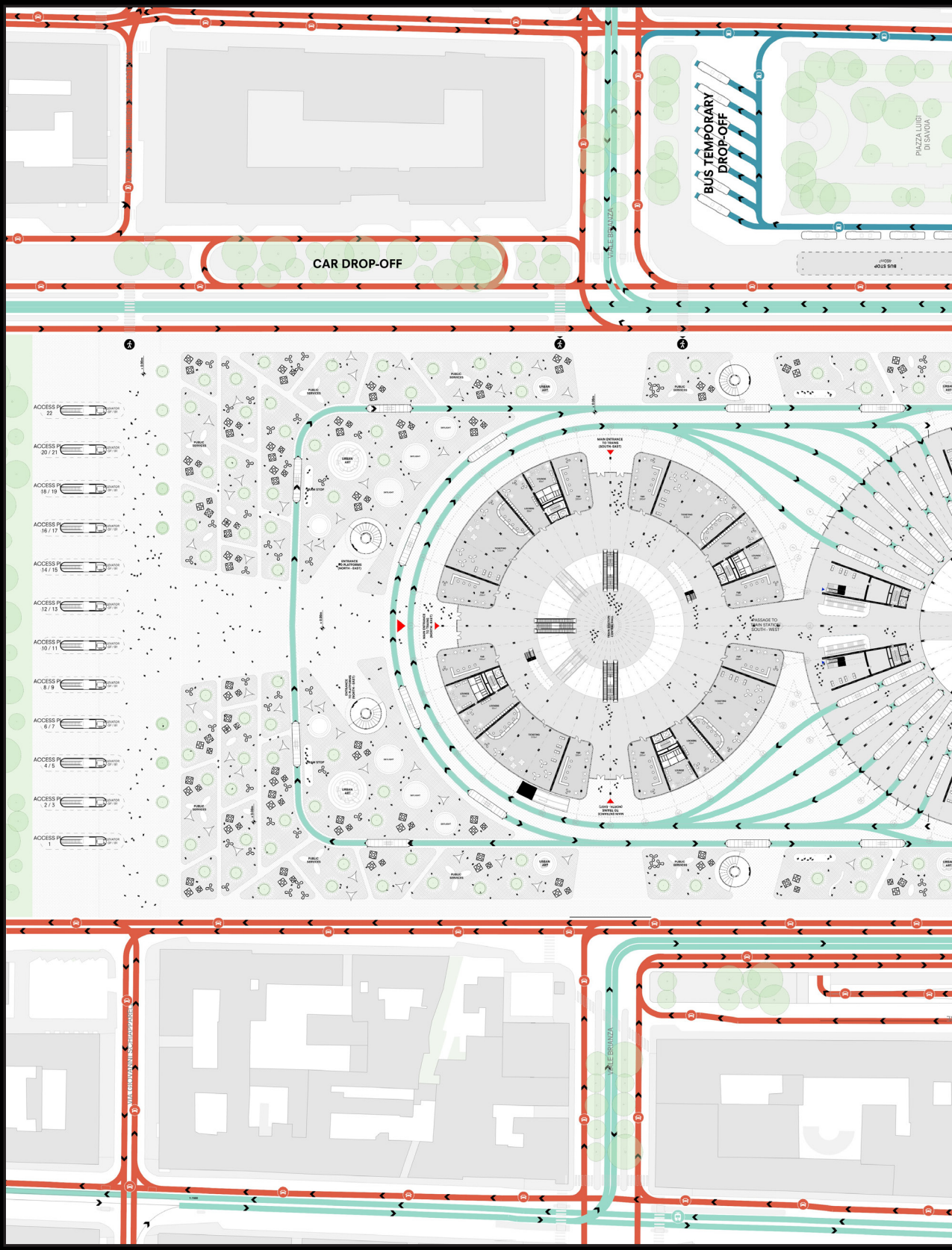
BASEMENT B1 -6.00m

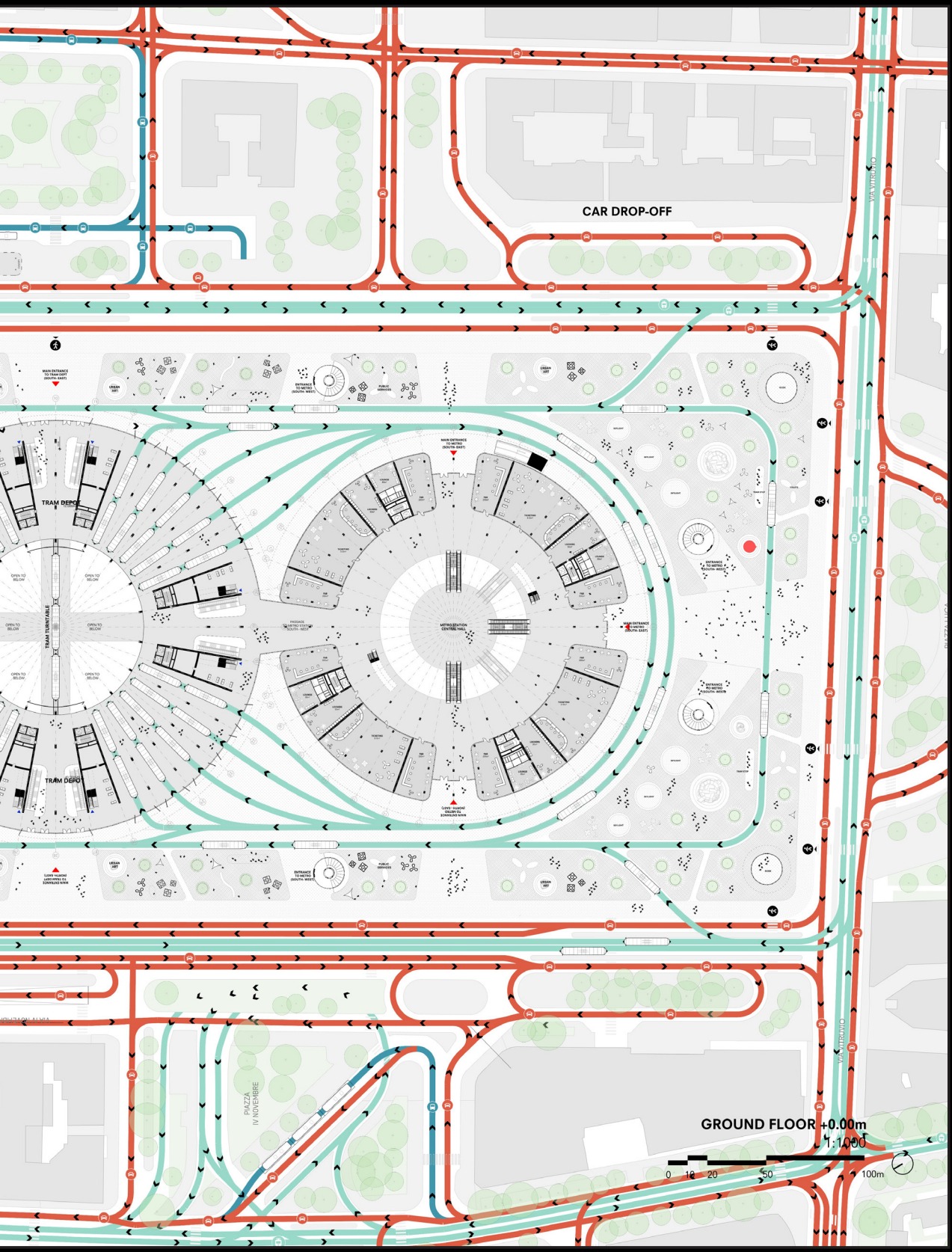
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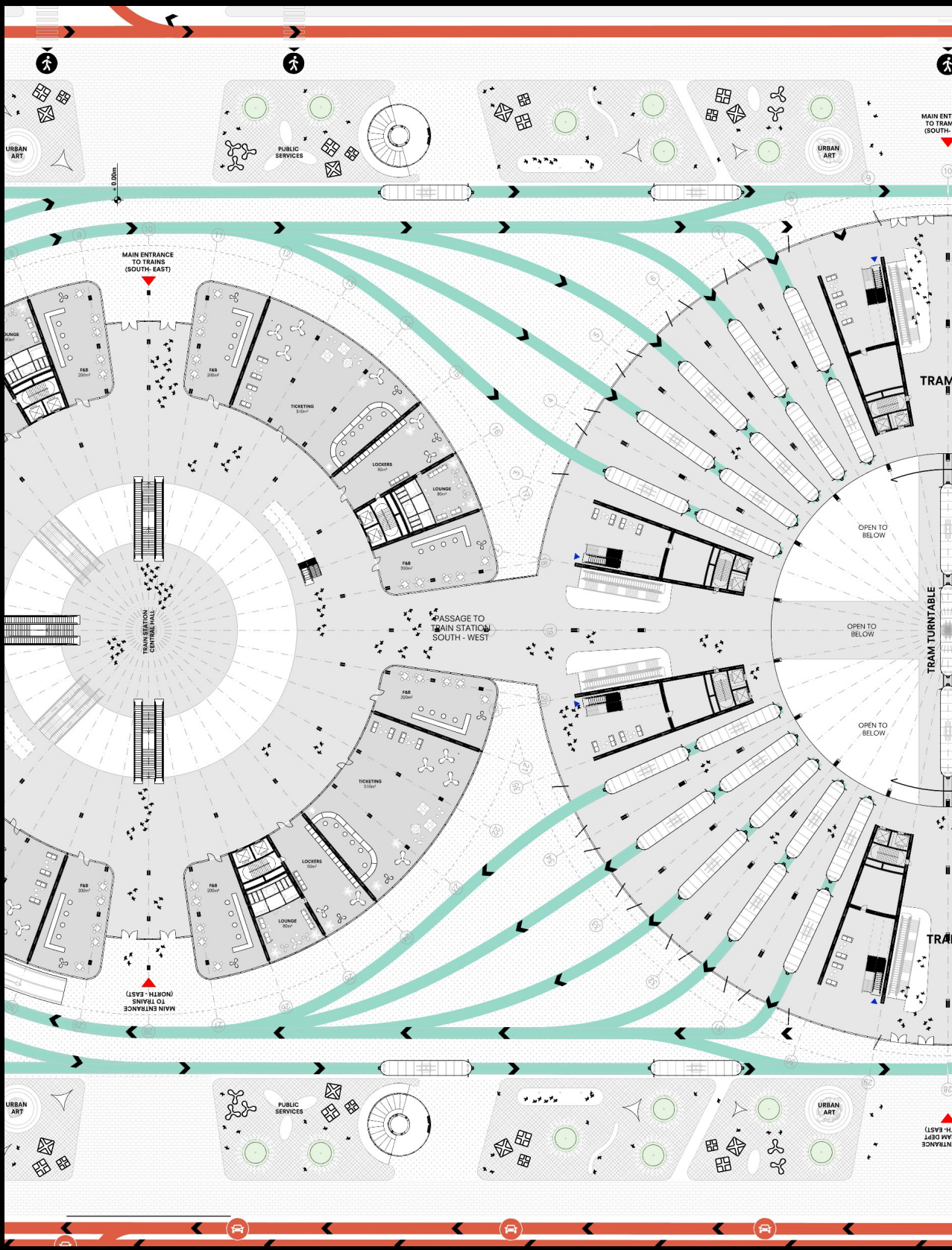
0 10 20 50 100m

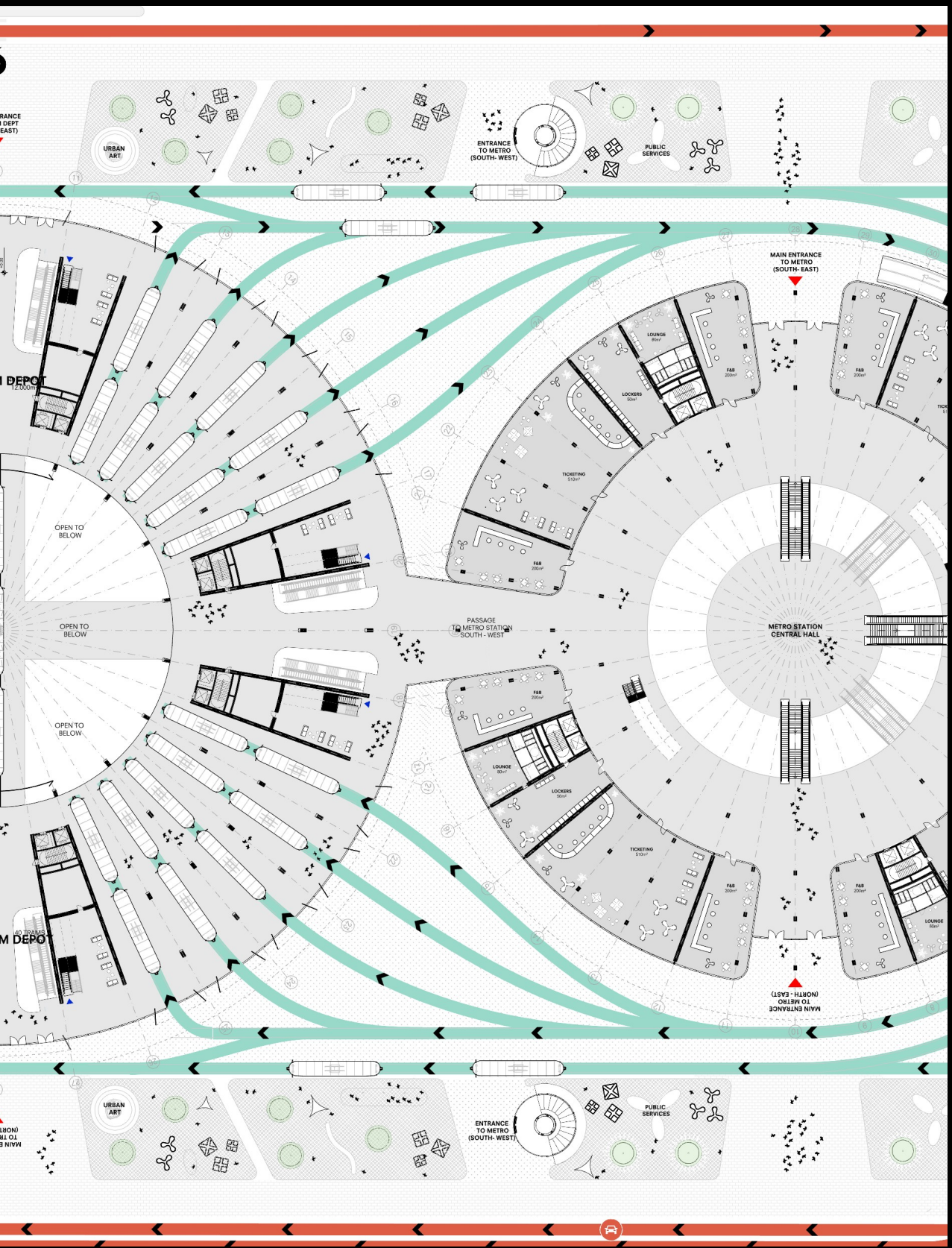

BUS STA
STAFF OFFICES & BUS TICKETING 200m²
TICKETING 200m²
F&B 200m²
TICKETING 510m²
LOCKERS 80m²
LOUNGE 80m²
OPEN TO BELOW
OPEN TO BELOW
STAFF OFFICES & BUS TICKETING 200m²
TICKETING 200m²
PASSENGER FACILITY 250m²
CAR STA

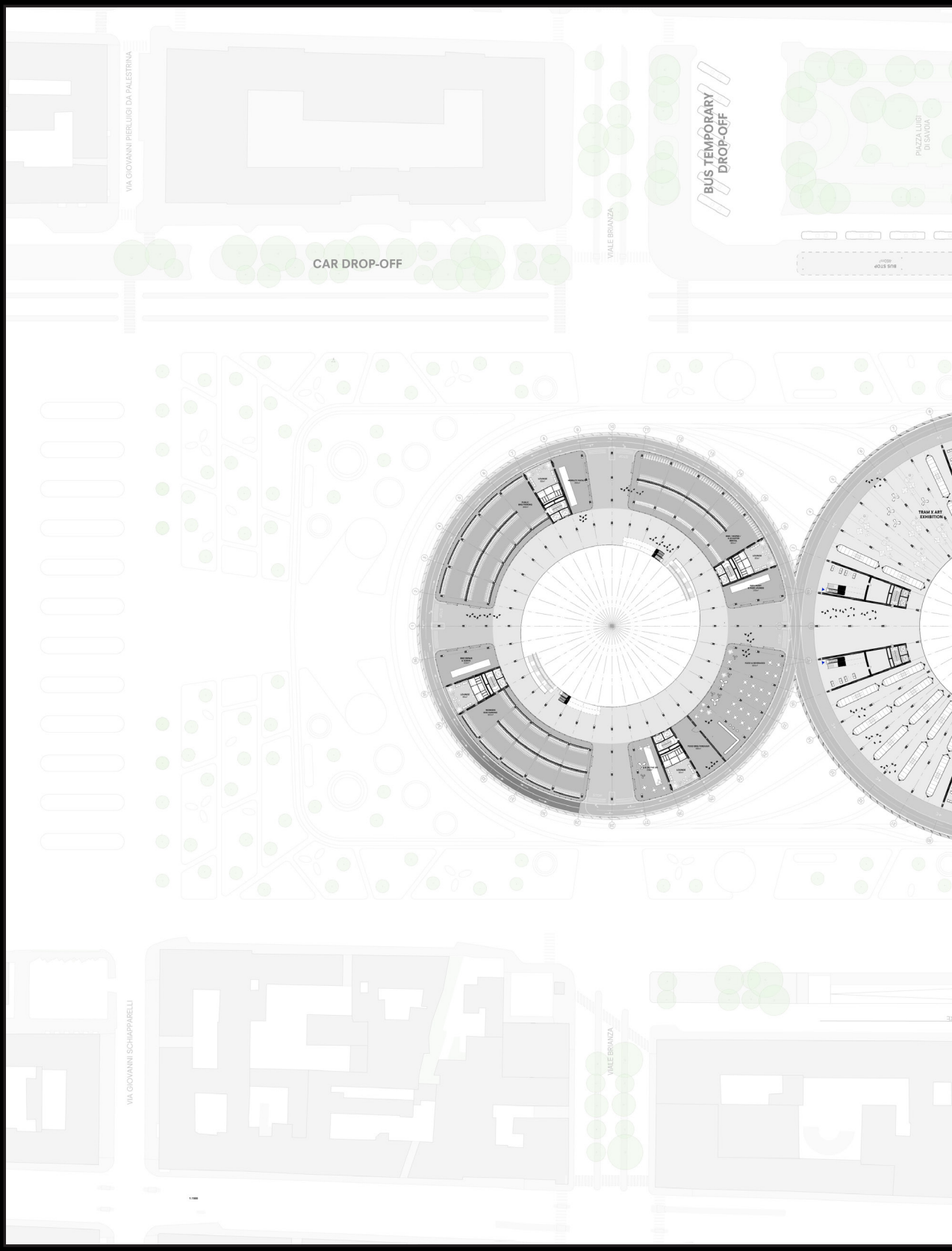

TICKETING
200m²
STAFF OFFICES &
BUS TICKETING
200m²
OPEN TO
BELOW
OPEN TO
BELOW
TICKETING
200m²
STAFF OFFICES &
BUS TICKETING
200m²
LOUNGE
LOCKERS
TICKETING
F&B
ESCALATOR / STAIR
TO PLATFORMS

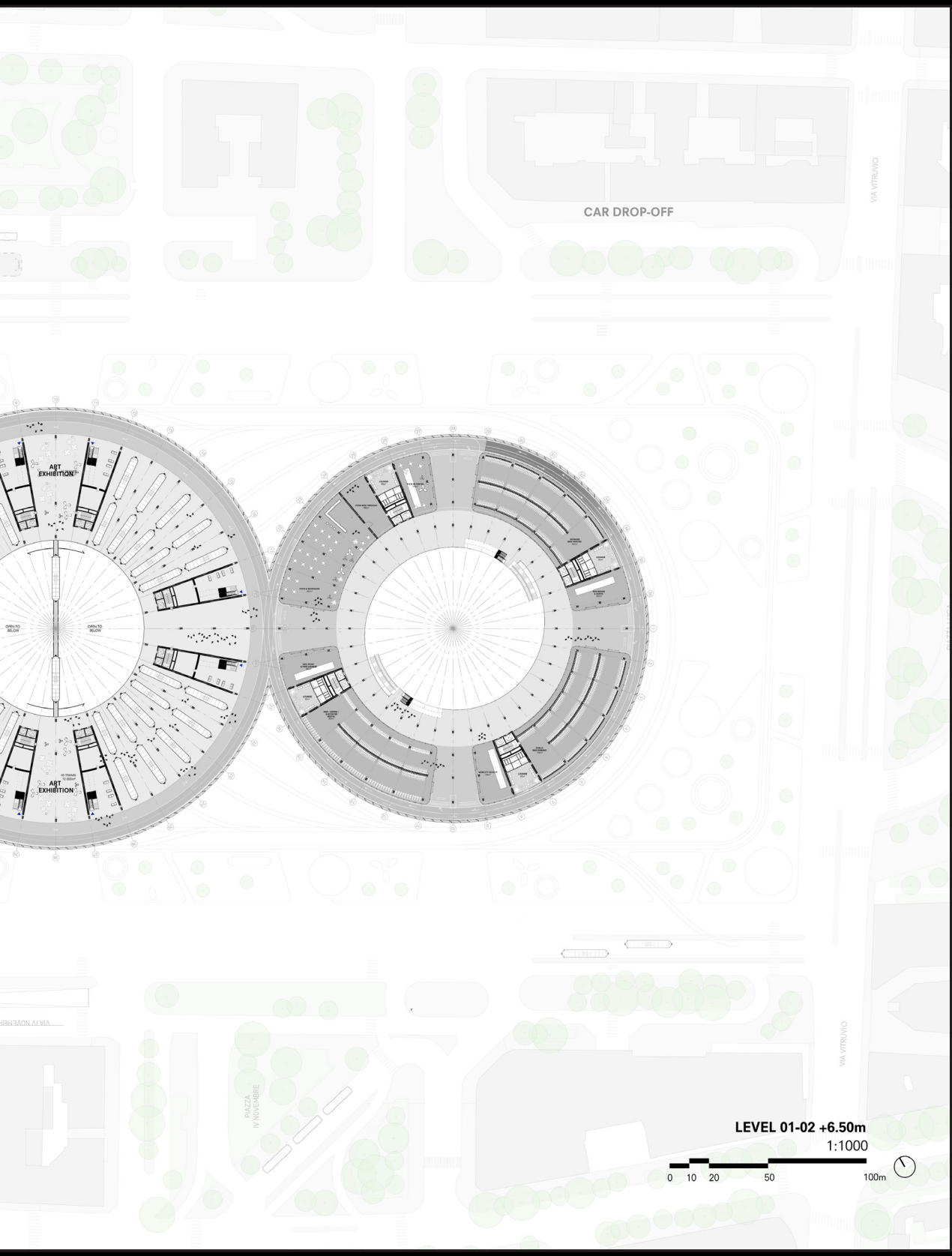

CAR DROP-OFF
BUS TEMPORARY DROP-OFF
PIAZZA LUIGI DI SAVOIA
VIA LE BRIANZA
BUS STOP
ACCESS P 22
ACCESS P 20 / 21
ACCESS P 18 / 19
ACCESS P 16 / 17
ACCESS P 14 / 15
ACCESS P 12 / 13
ACCESS P 10 / 11
ACCESS P 8 / 9
ACCESS P 6 / 7
ACCESS P 4 / 5
ACCESS P 2 / 3
ACCESS P 1
MAIN ENTRANCE TO TRAINS (SOUTH-EAST)
ENTRANCE #5 PLATFORMS (NORTH - EAST)
PASSAGE TO MAIN STATION (SOUTH - WEST)
CLIVIO - THONO SYSTEM (TO DOWNLOAD DOWN)
VIA LE BRIANZA

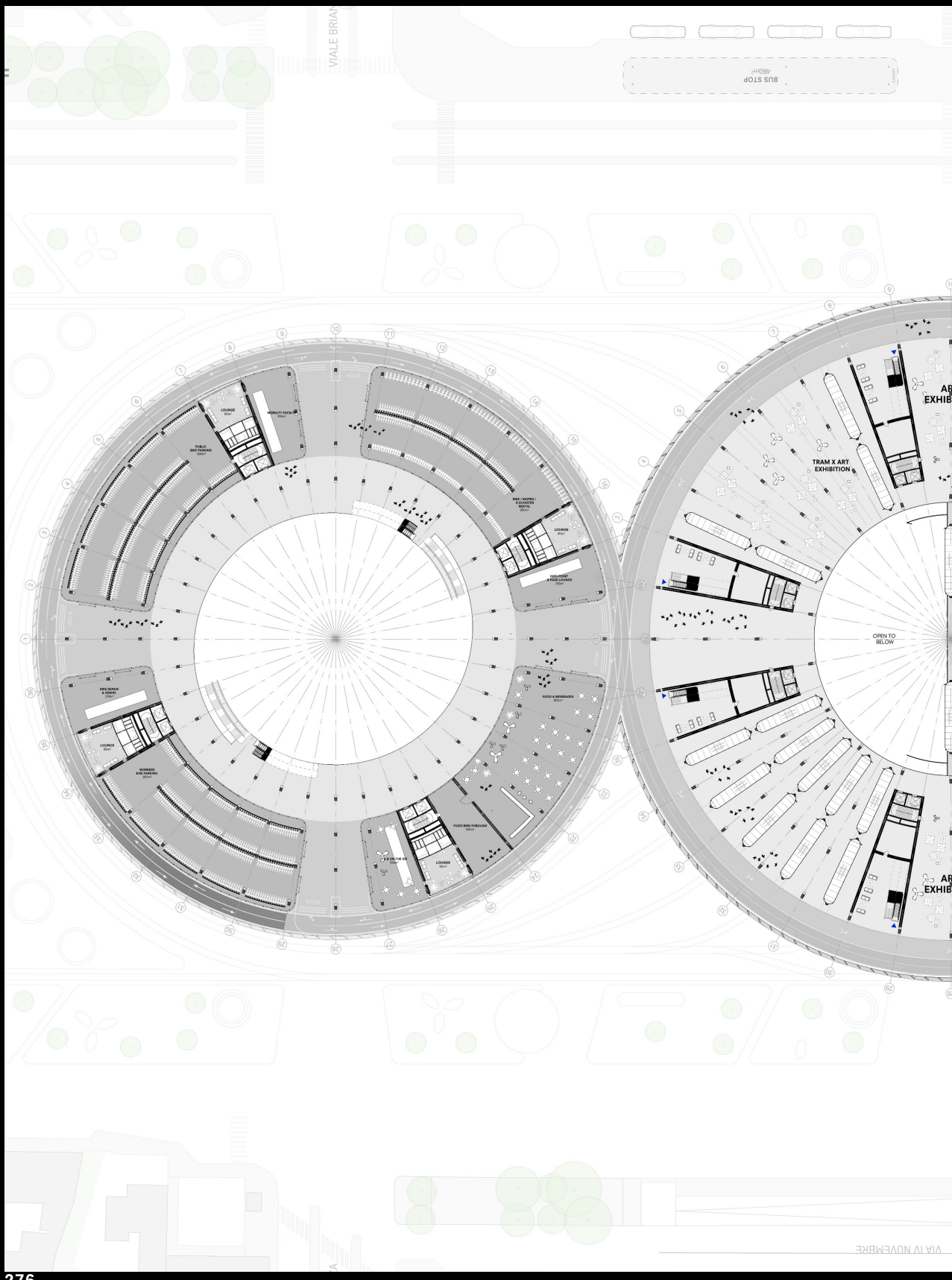

CAR DROP-OFF
TRAM DEPOT
TRAM TURNTABLE
TRAM DEPOT
VIA VIRGILIO
PIAZZA IV NOVEMBRE
GROUND FLOOR +0.00m
1:1000
0
10
20
50
100m

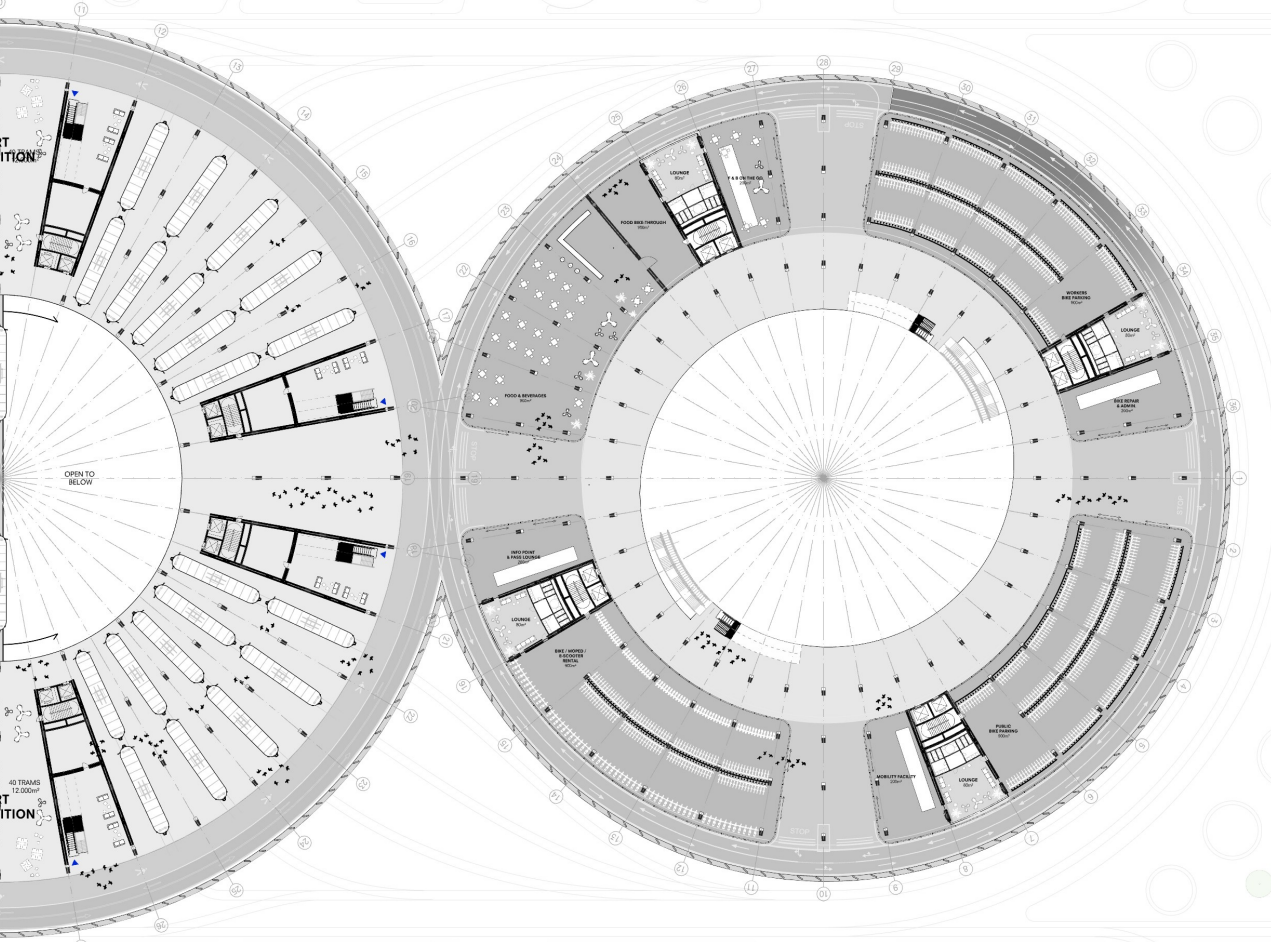

URBAN ART
PUBLIC SERVICES
+ 0.00m
MAIN ENTRANCE TO TRAINS (SOUTH- EAST)
F&B 200m²
TICKETING 510m²
LOCKERS 50m²
LOUNGE 80m²
F&B 300m²
TRAIN STATION CENTRAL HALL
PASSAGE TO TRAIN STATION SOUTH - WEST
OPEN TO BELOW
TRAM TURNTABLE
MAIN ENTRANCE TO TRAINS (NORTH - EAST)

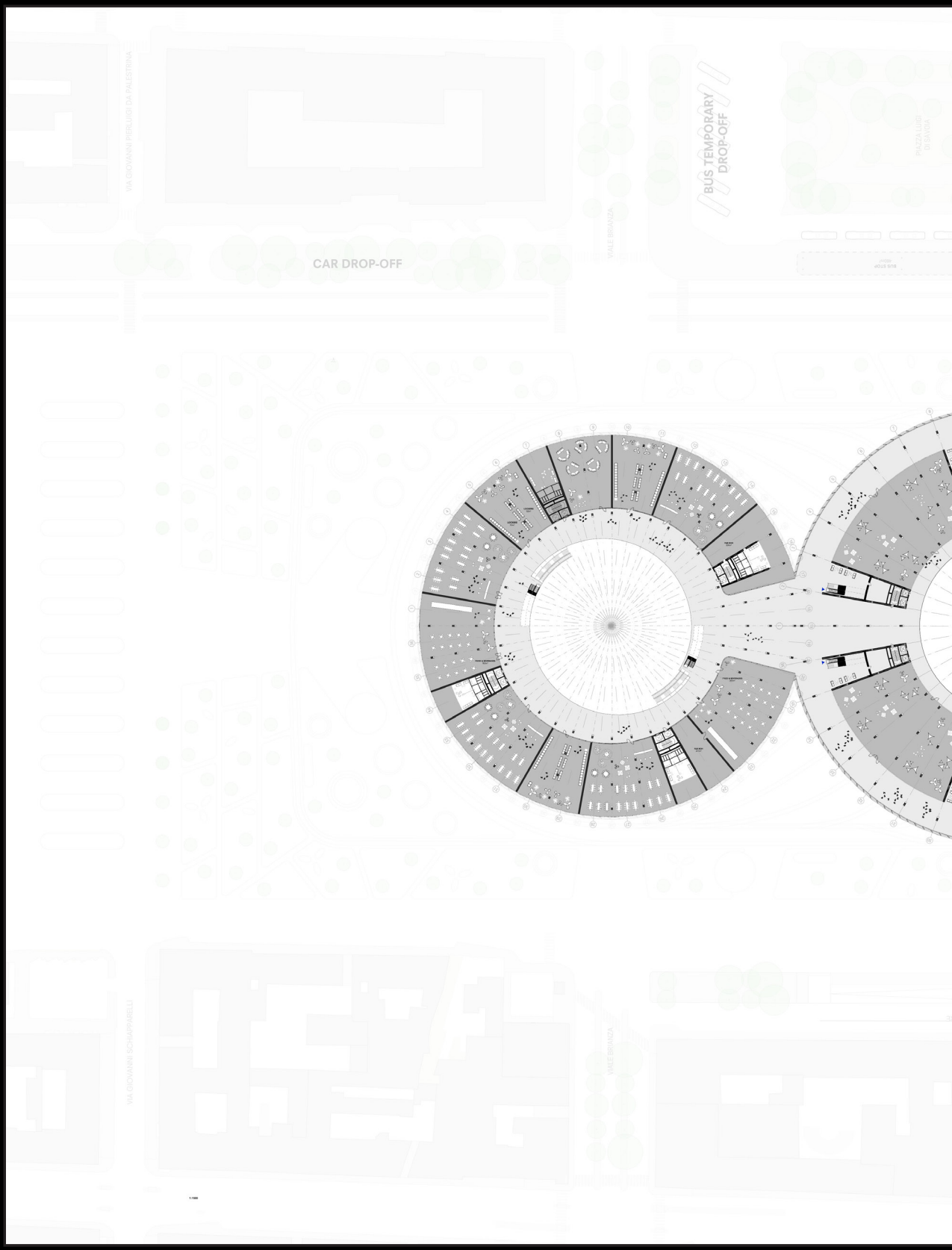

URBAN ART
ENTRANCE TO METRO (SOUTH- WEST)
PUBLIC SERVICES
MAIN ENTRANCE TO METRO (SOUTH- EAST)
LOUNGE
F&B
LOCKERS
TICKETING
OPEN TO BELOW
PASSAGE TO METRO STATION SOUTH - WEST
METRO STATION CENTRAL HALL
MAIN ENTRANCE TO METRO (NORTH - EAST)

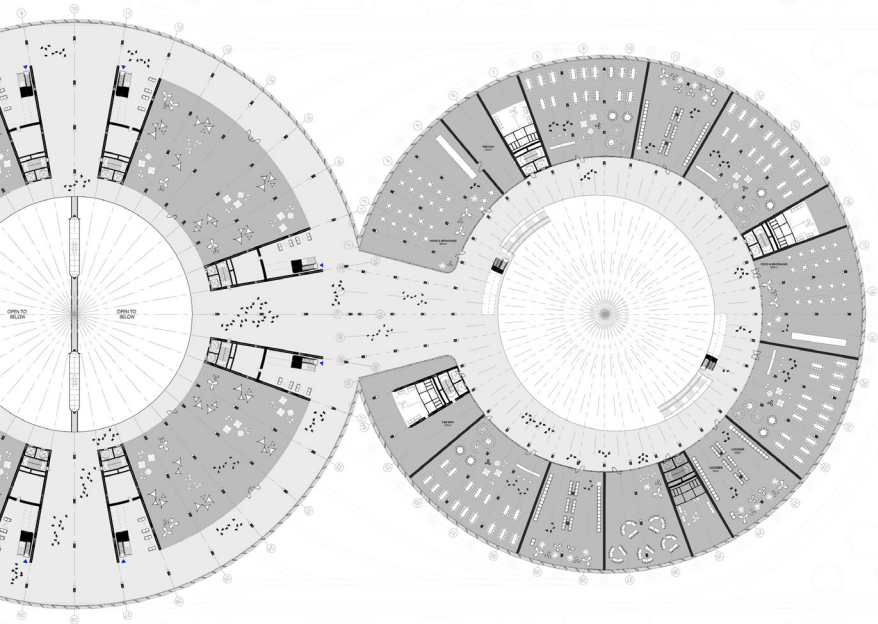

VIA GIOVANNI PIERLUIGI DA PALESTRINA
CAR DROP-OFF
VIALE BRIANZA
BUS TEMPORARY DROP-OFF
PIAZZA LUIGI DI SAVOIA
BUS STOP
TRAM X ART EXHIBITION
VIA GIOVANNI SCHIAPPARELLI
VIALE BRIANZA


CAR DROP-OFF
VIA VITRUVIO
ART EXHIBITION
ART EXHIBITION
OPEN TO BELOW
OPEN TO BELOW
PIAZZA IV NOVEMBRE
VIA VITRUVIO
LEVEL 01-02 +6.50m
1:1000
0 10 20 50 100m


BUS STOP
LOUNGE
MOBILITY FACILITIES
PUBLIC BIKE PARKING
BIKE / MOPED / E-SCOOTER RENTAL
LOUNGE
INFO POINT & PASS LOUNGE
BIKE REPAIR & ADMIN
LOUNGE
WORKERS BIKE PARKING
FOOD & BEVERAGES
FOOD BIKE-THROUGH
LOUNGE
TRAM X ART EXHIBITION
OPEN TO BELOW
VIA IV NOVEMBRE

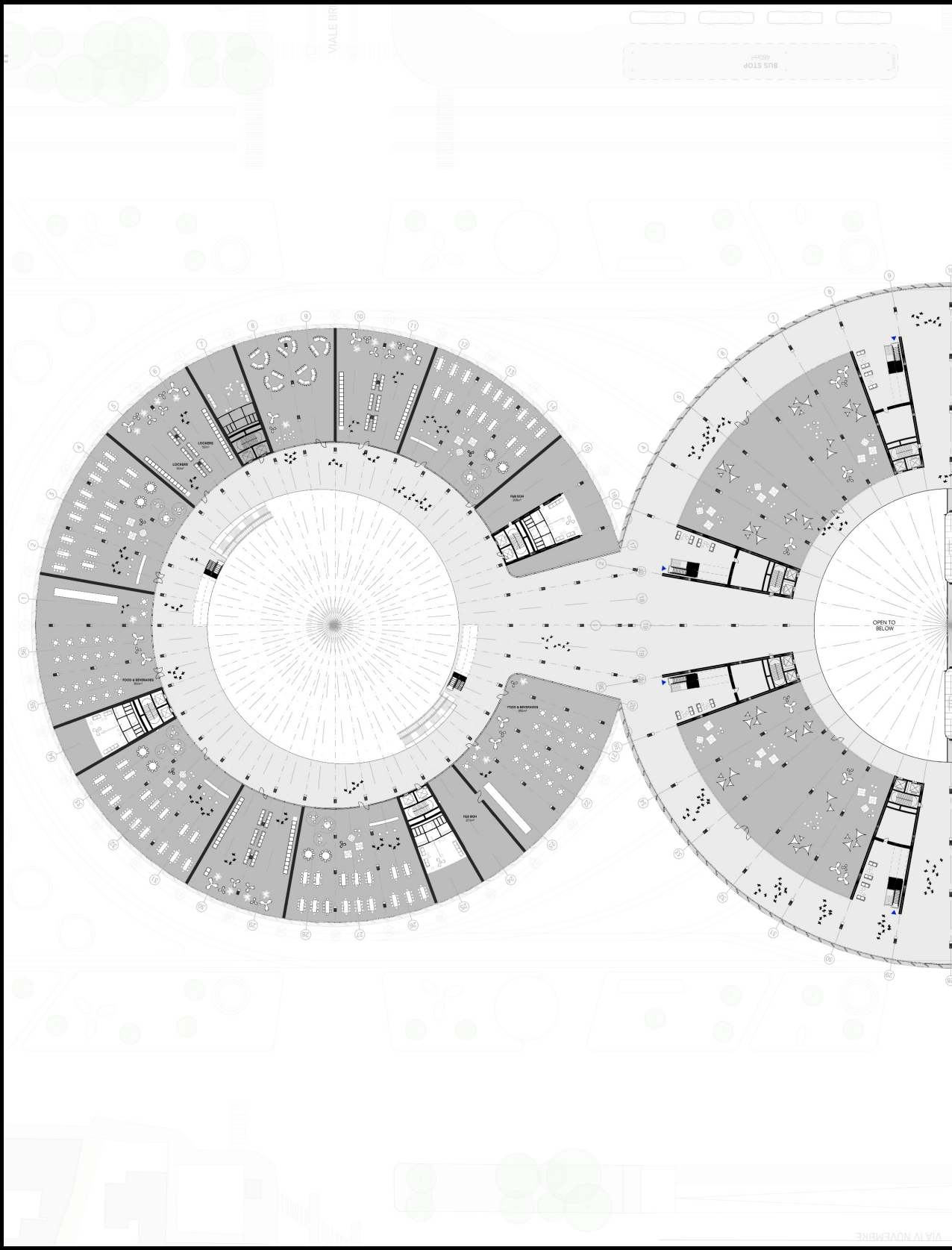

OPEN TO
BELOW
40 TRAMS
12.000m²
LOUNGE
90m²
FOOD BIKE THROUGH
FOOD & BEVERAGES
INFO POINT
& PASS LOUNGE
LOUNGE
BIKE / MOPED
& SCOOTER
RENTAL
WORKERS
BIKE PARKING
LOUNGE
BIKE REPAIR
& ADMIN
MOBILITY FACILITY
PUBLIC
BIKE PARKING
LOUNGE

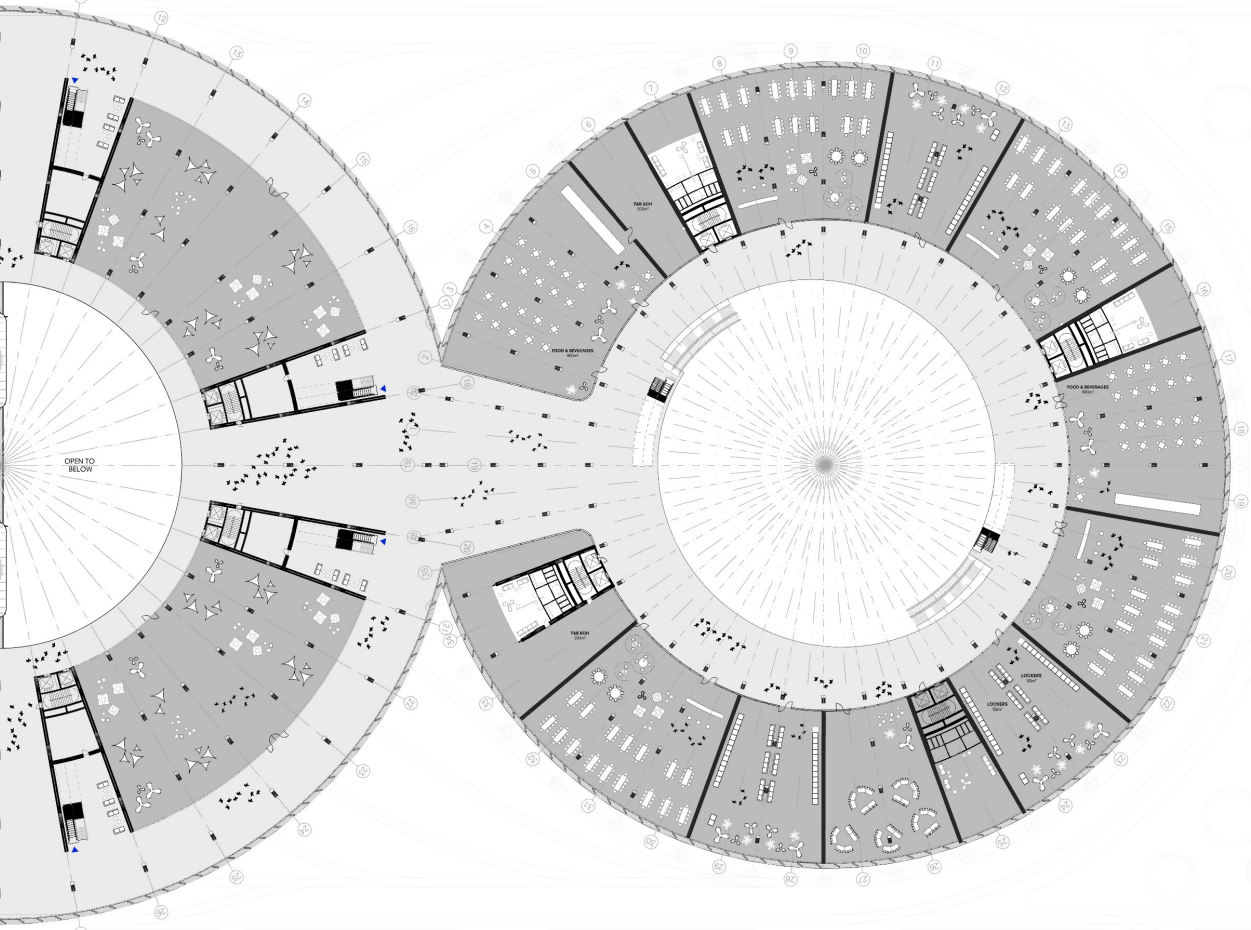

BUS TEMPORARY
DROP-OFF
CAR DROP-OFF
VIA GIOVANNI PIERLUIGI DA PALESTRINA
VIALE BRIANZA
PIAZZALE UGO DI SAVOIA
VIA GIOVANNI SCHIAPPARELLI
VIALE BRIANZA

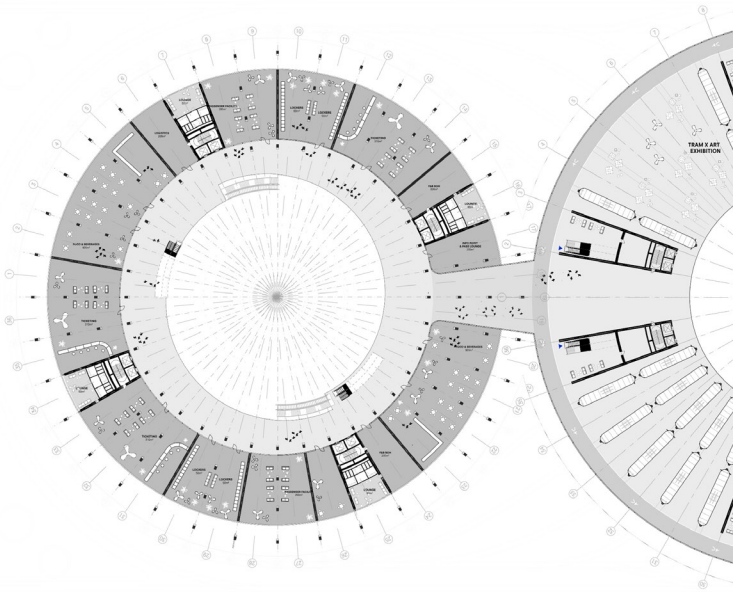


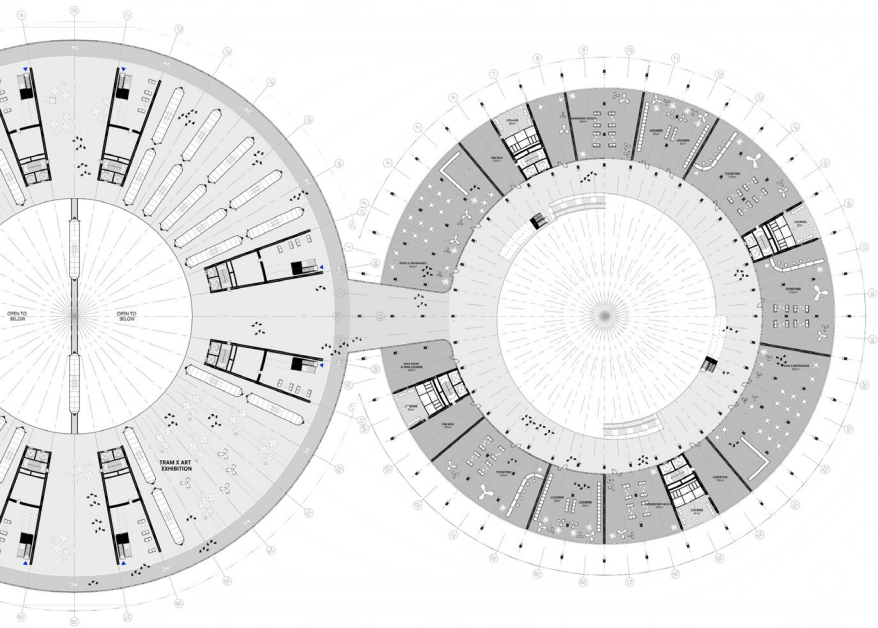
LEVEL FROM 03 TO 04
1:1000

0 10 20 50 100m


LOCKERS
LOCKERS
FOOD & BEVERAGES
FOOD & BEVERAGES
FOOD & BEVERAGES

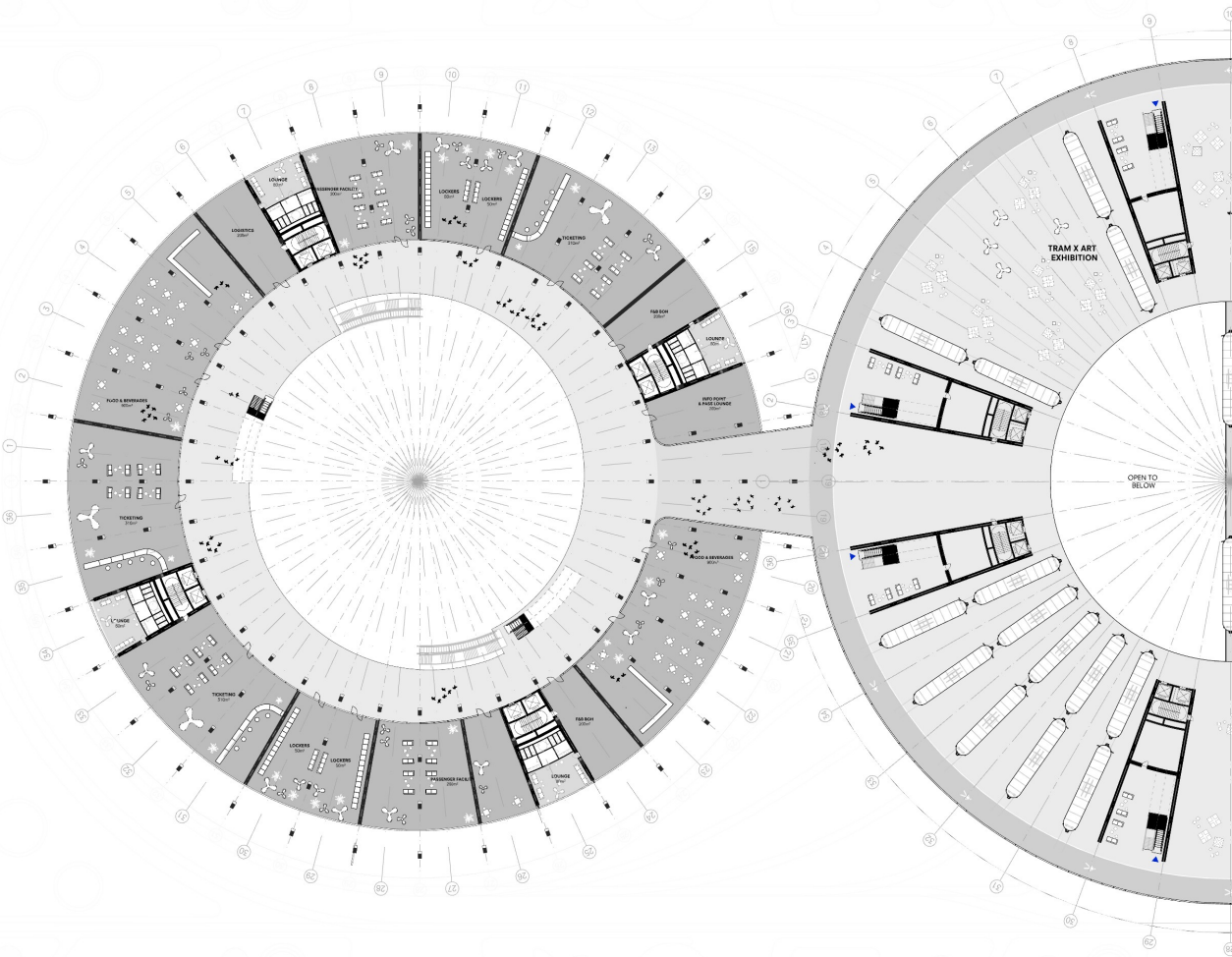

OPEN TO BELOW
FOOD & BEVERAGES
FOOD & BEVERAGES
FAB BOH
FAB BOH
LOCKERS
LOCKERS

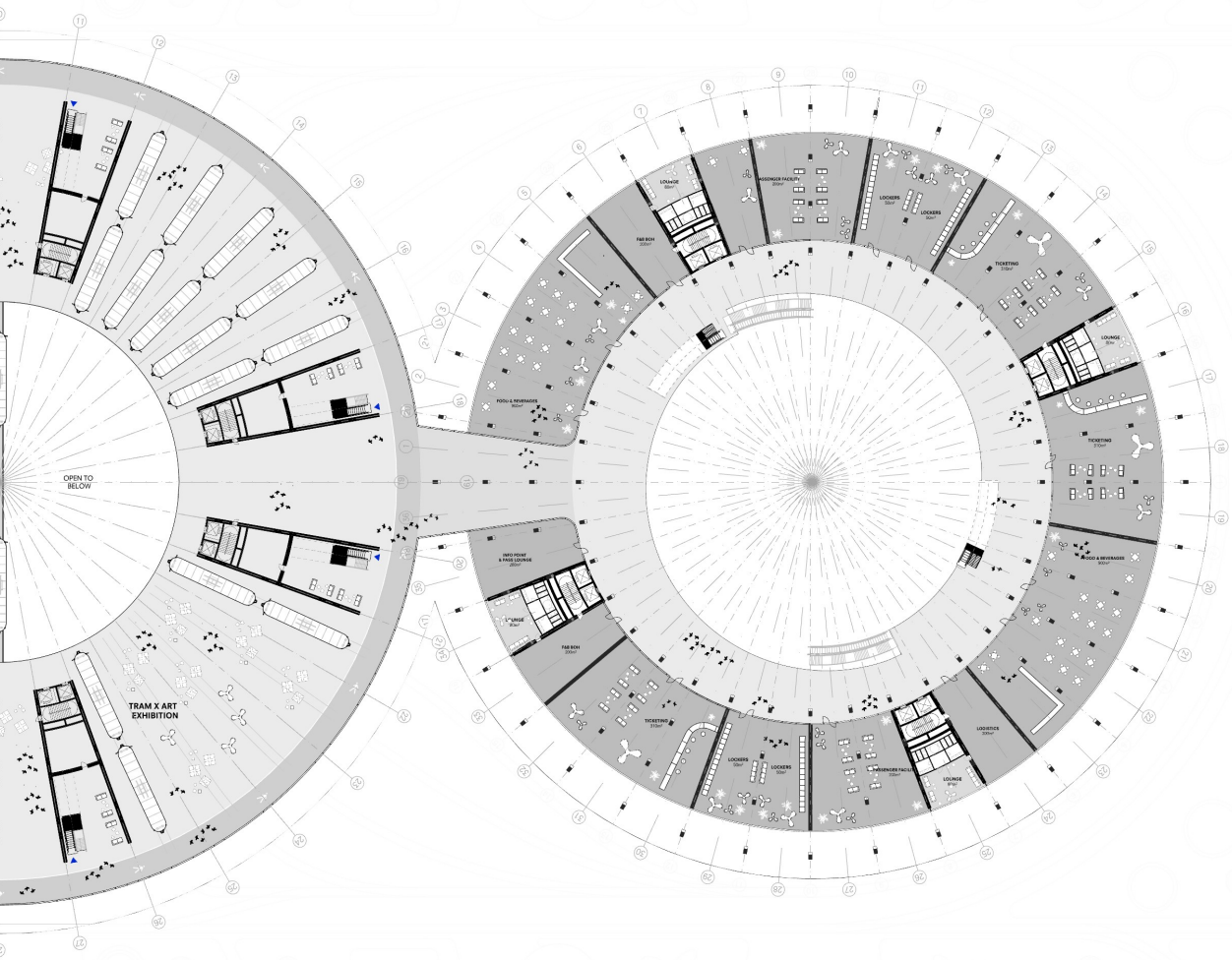

TRAM X ART
EXHIBITION

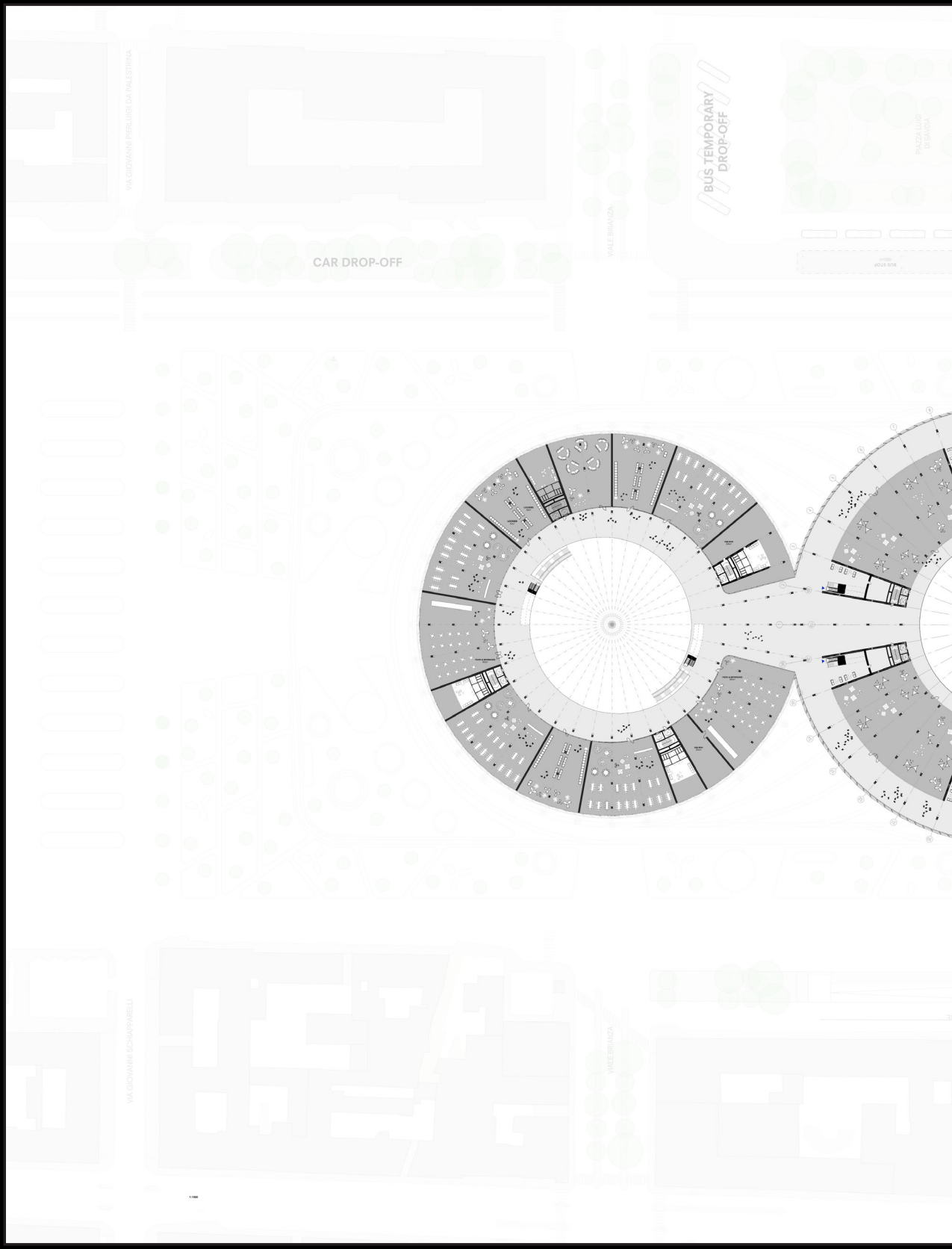


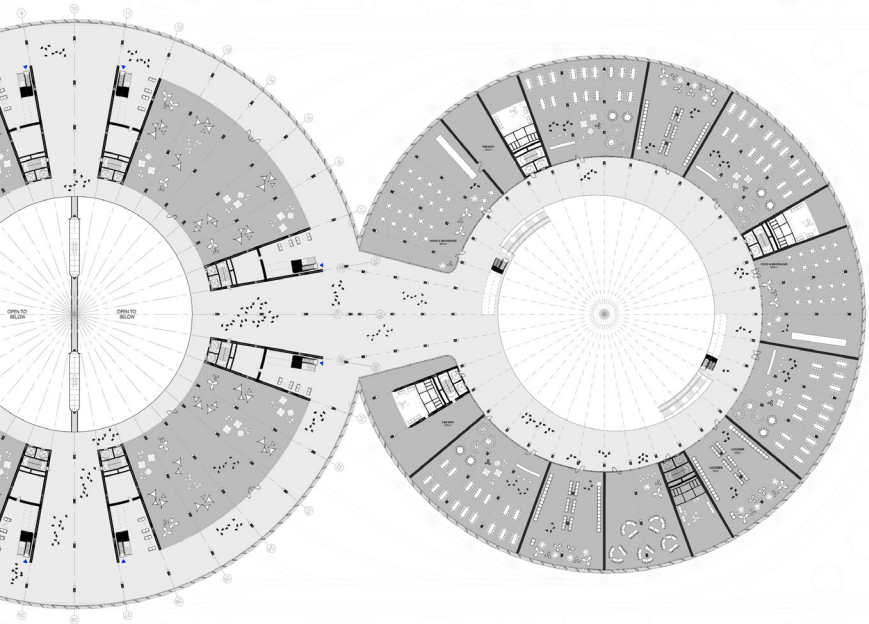
LEVEL 04
1:1000

0 10 20 50 100m


TRAM X ART EXHIBITION
OPEN TO BELOW

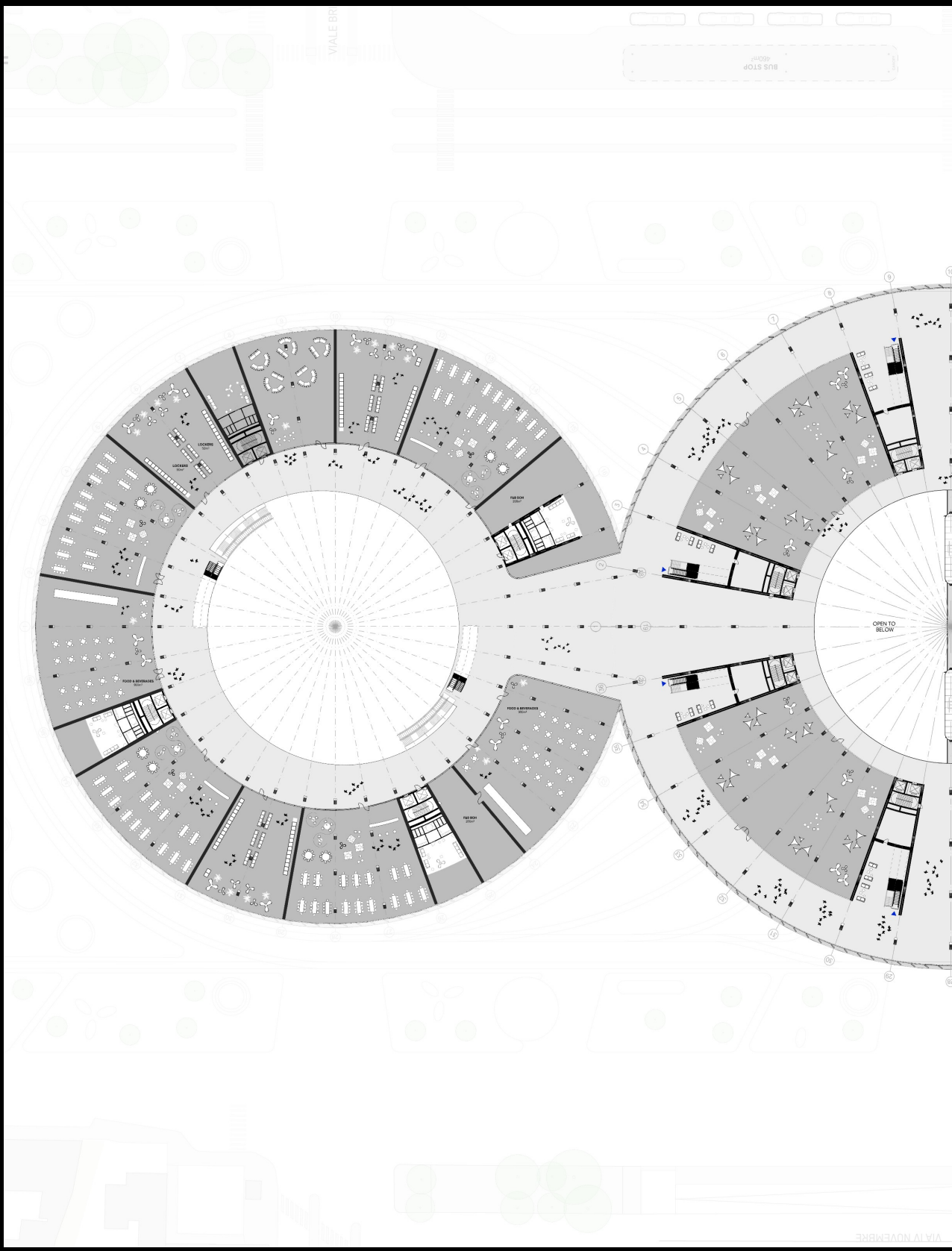

OPEN TO BELOW
TRAM X ART EXHIBITION
INFO POINT & PASS LOUNGE
FAB BOH
TICKETING
LOCKERS
LOUNGE
LOGISTICS
PASSENGER FACILITY
FOOD & BEVERAGES

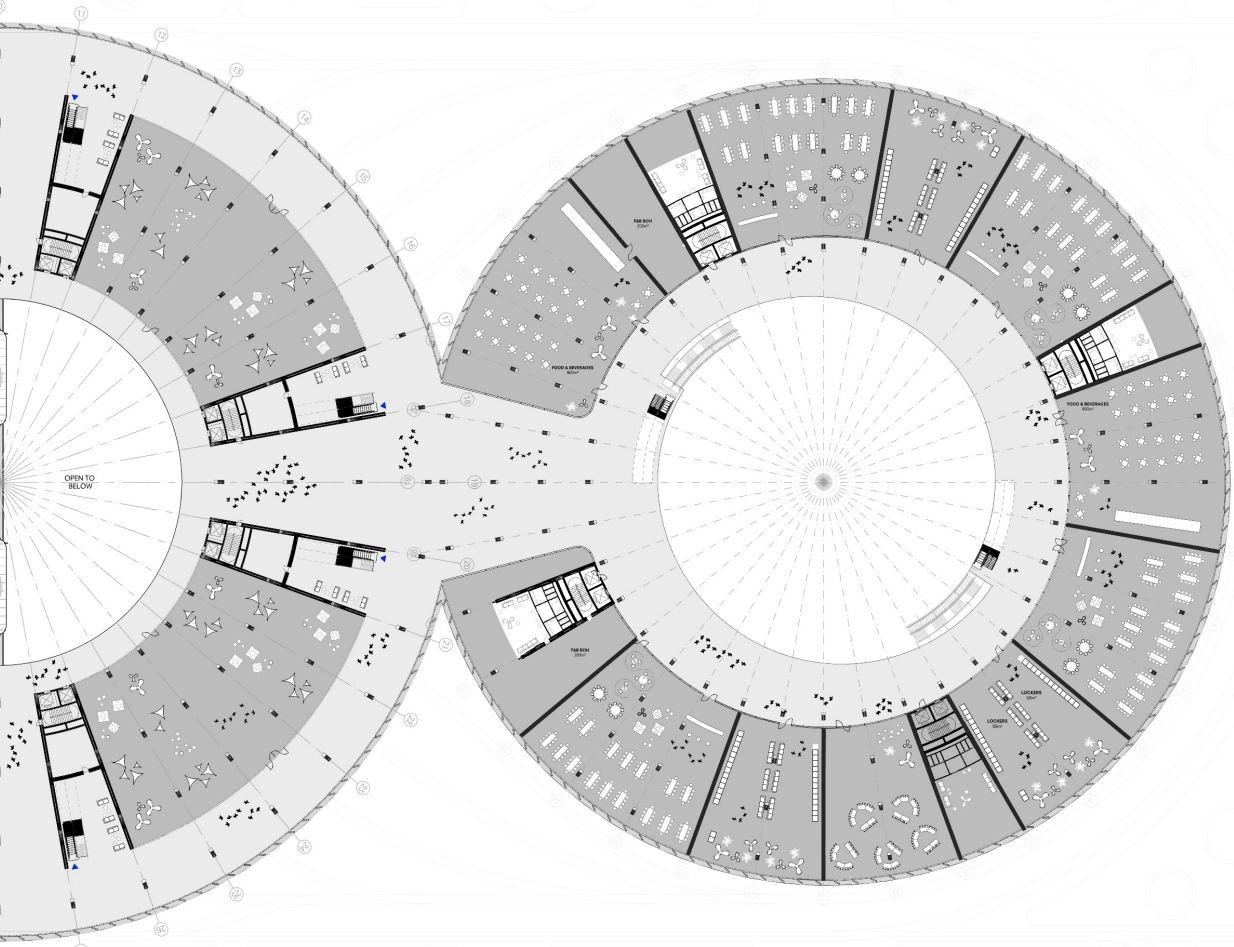

BUS TEMPORARY
DROP-OFF
CAR DROP-OFF
VIA GIOVANNI PIERLUIGI DA PALESTRINA
VIALE BRIANZA
PIAZZALE UGO DI SAVOIA
VIA GIOVANNI SCHIAPPARELLI

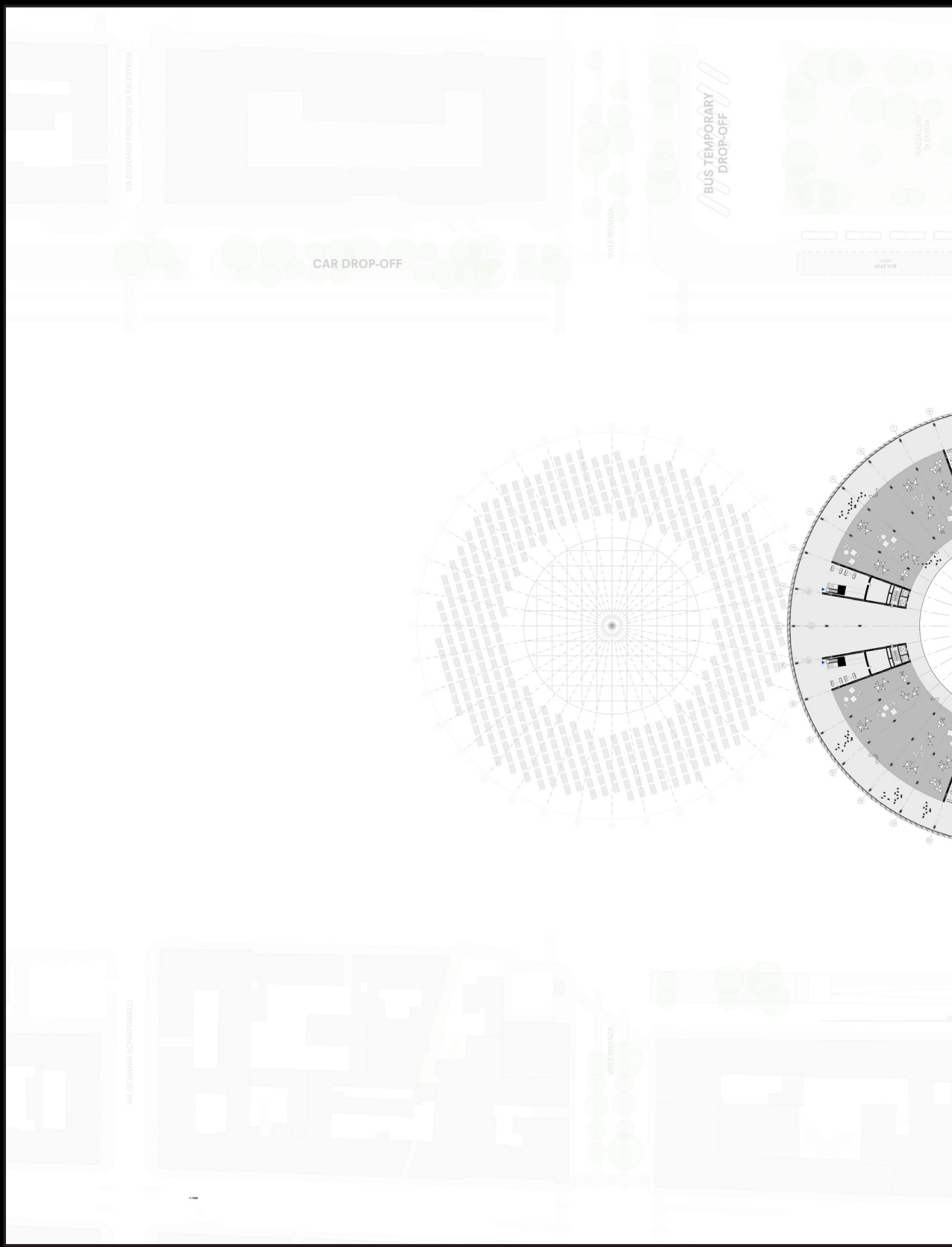


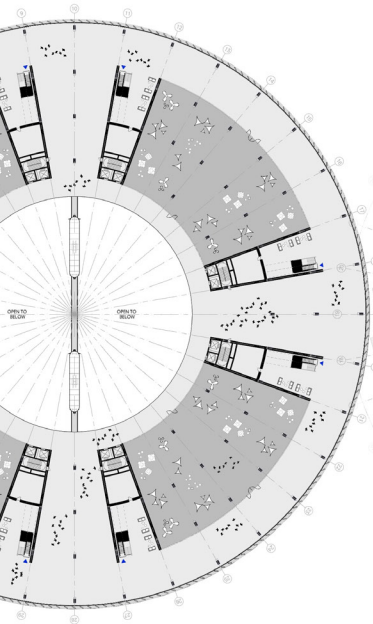
LEVEL 04
1:1000

0 10 20 50 100m


LOCKERS
LOCKERS
F&B BOH
FOOD & BEVERAGES
FOOD & BEVERAGES
F&B BOH
OPEN TO BELOW
BUS STOP
VIA IV NOVEMBRE


OPEN TO BELOW
FOOD & BEVERAGES
FOOD & BEVERAGES
FOH BOH
FOH BOH
LOCKERS
LOCKERS


VIA GIOVANNI PIERLUIGI DA PALESTRINA
CAR DROP-OFF
VIALE BRIANZA
BUS TEMPORARY DROP-OFF
PIAZZALE LUIGI DI SAVOIA
VIA GIOVANNI SCHIAPPARELLI
VIALE BRIANZA

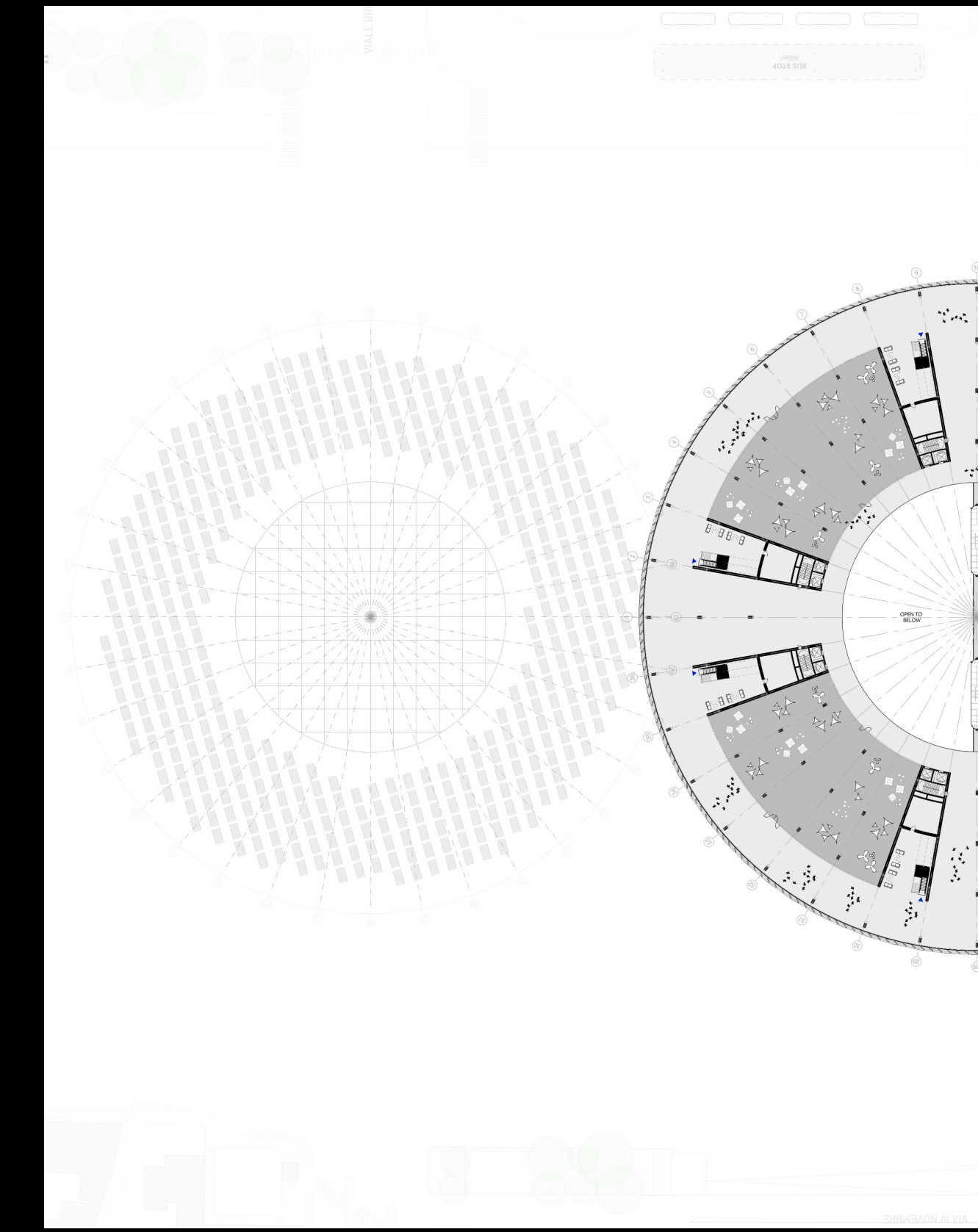


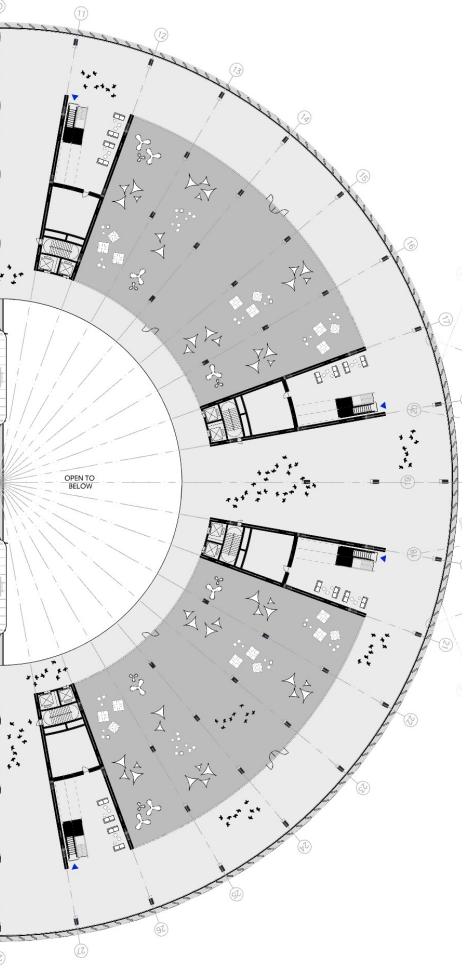
CAR DROP-OFF

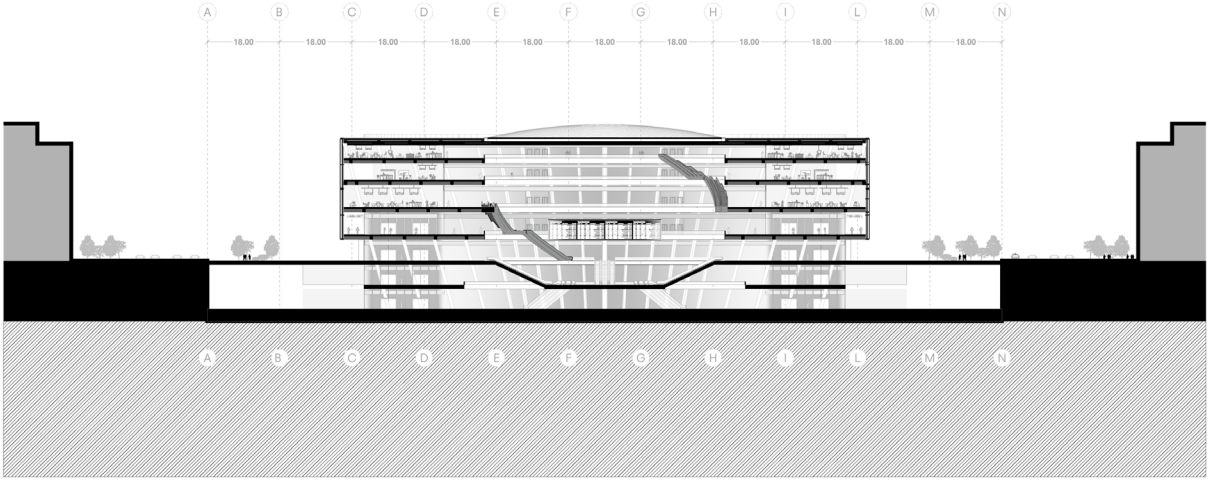
VIA VITRUVIO

LEVEL 05-06
1:1000

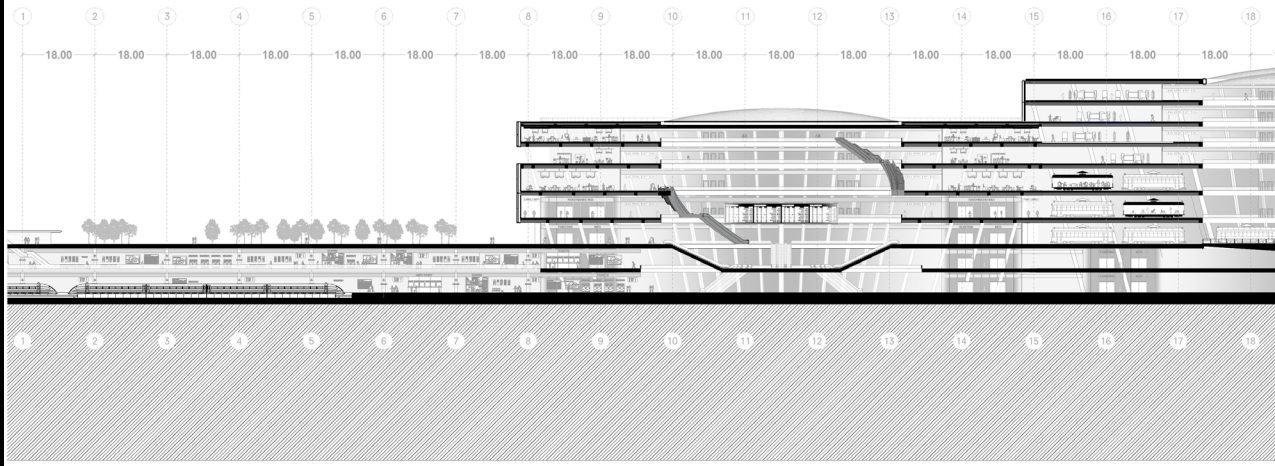
0 10 20 50 100m

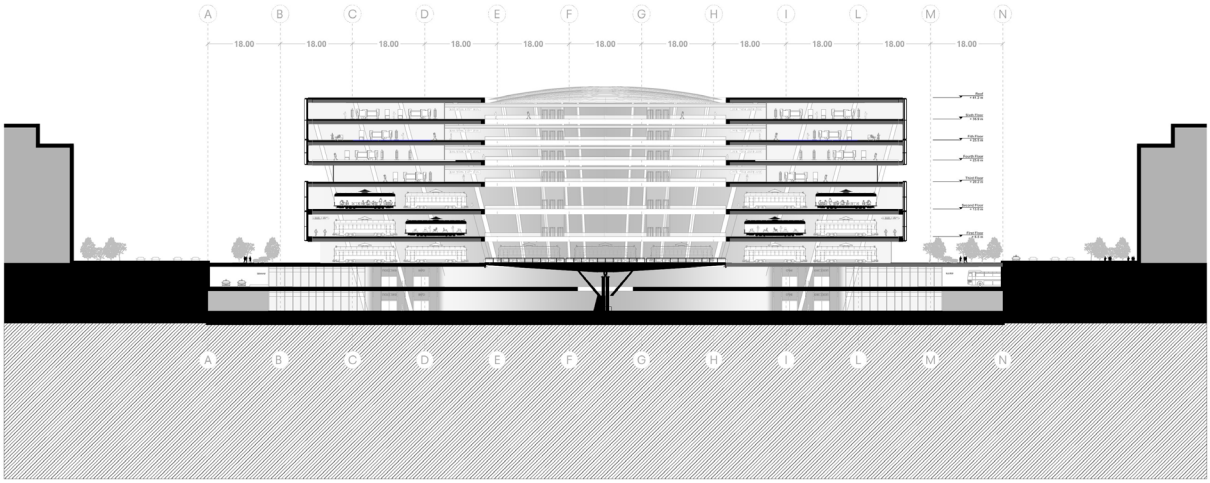

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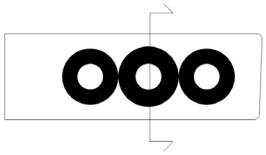

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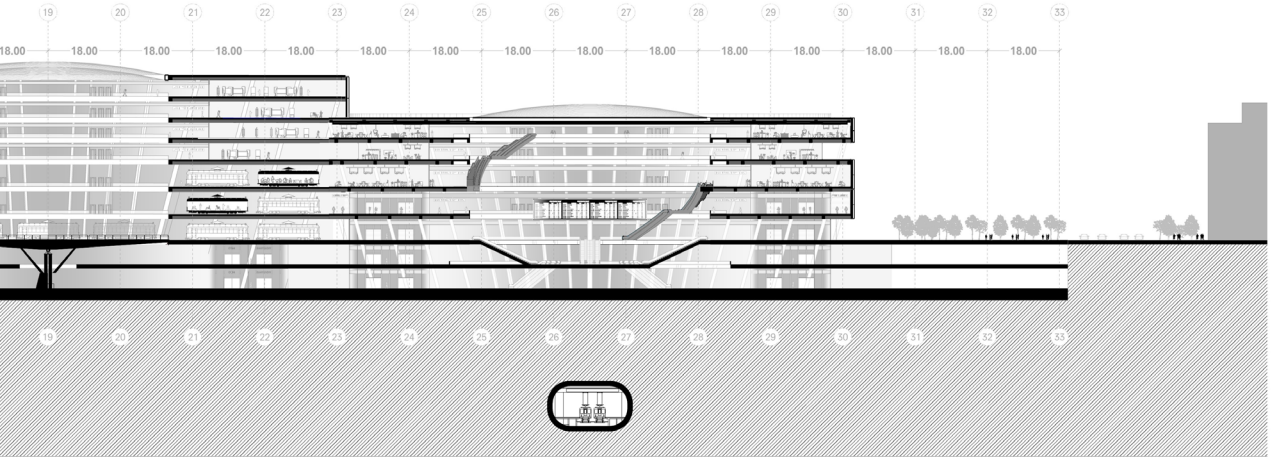






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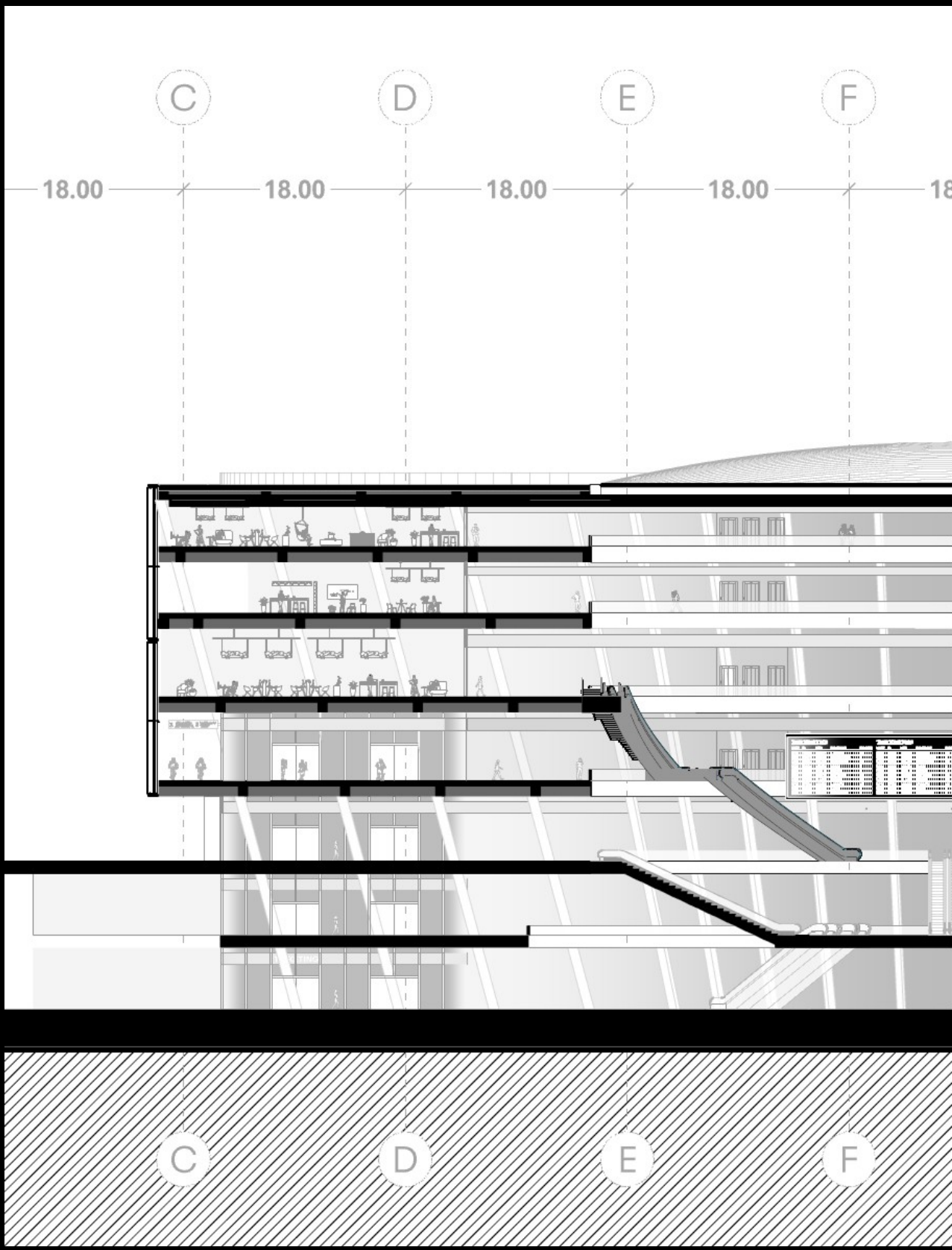
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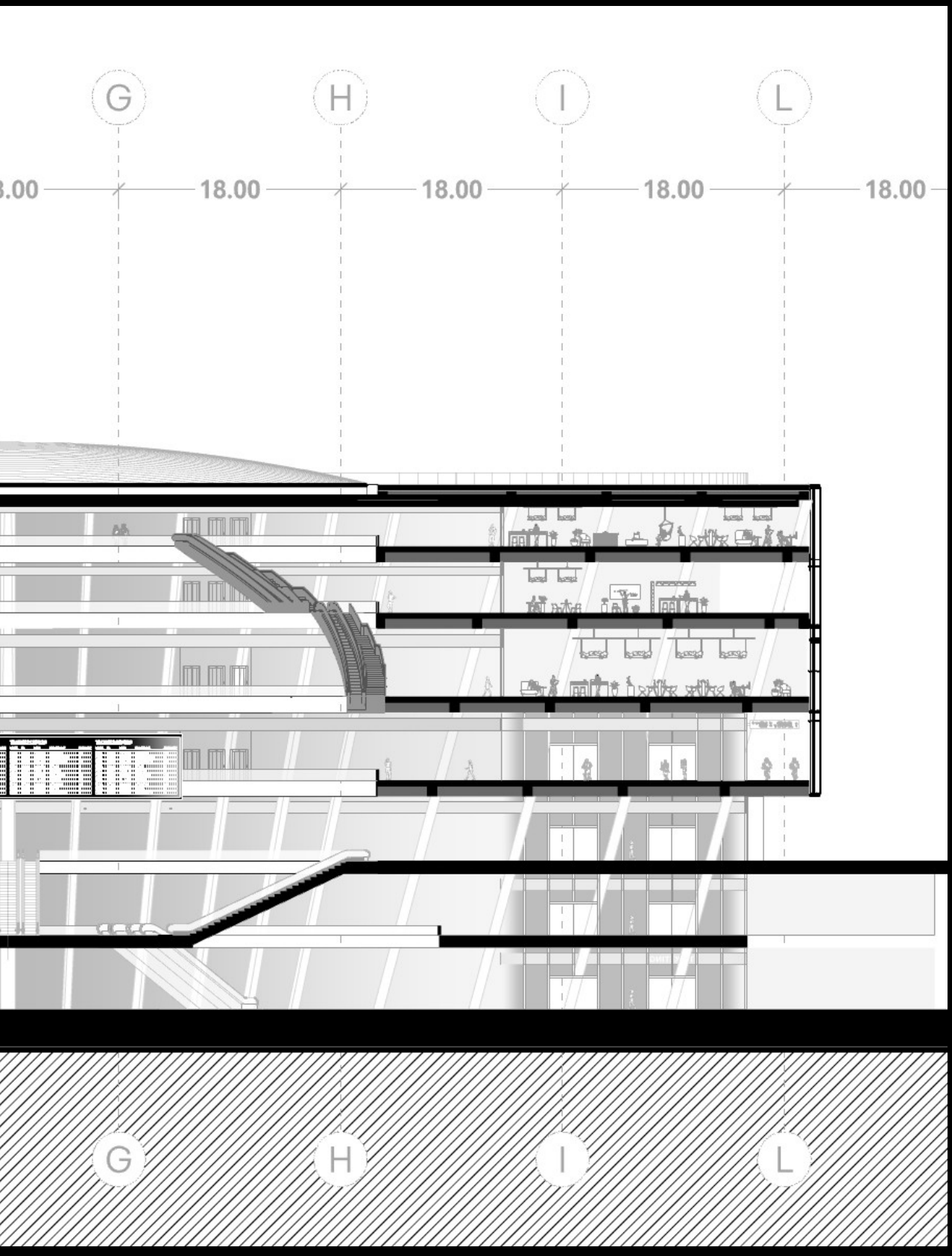


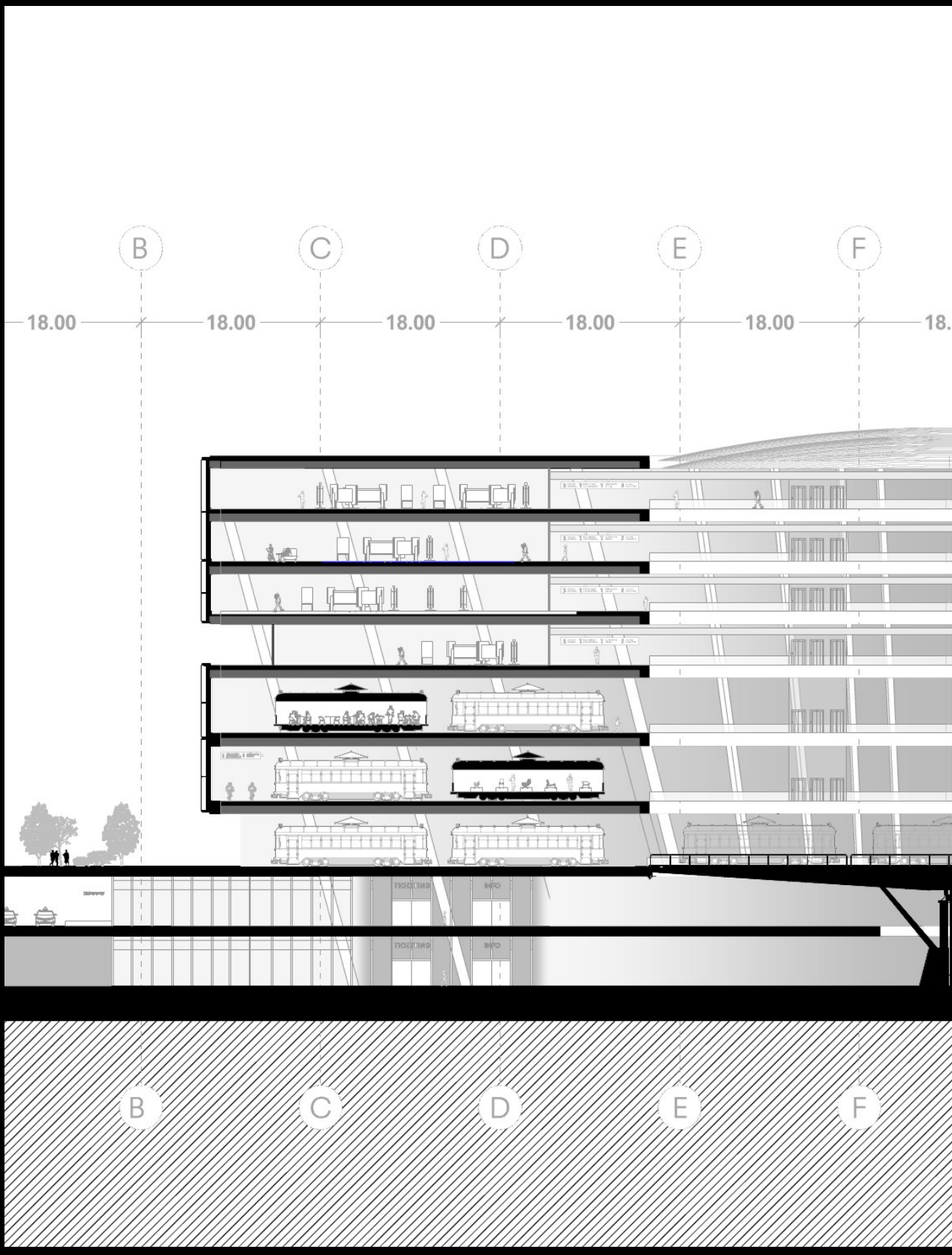


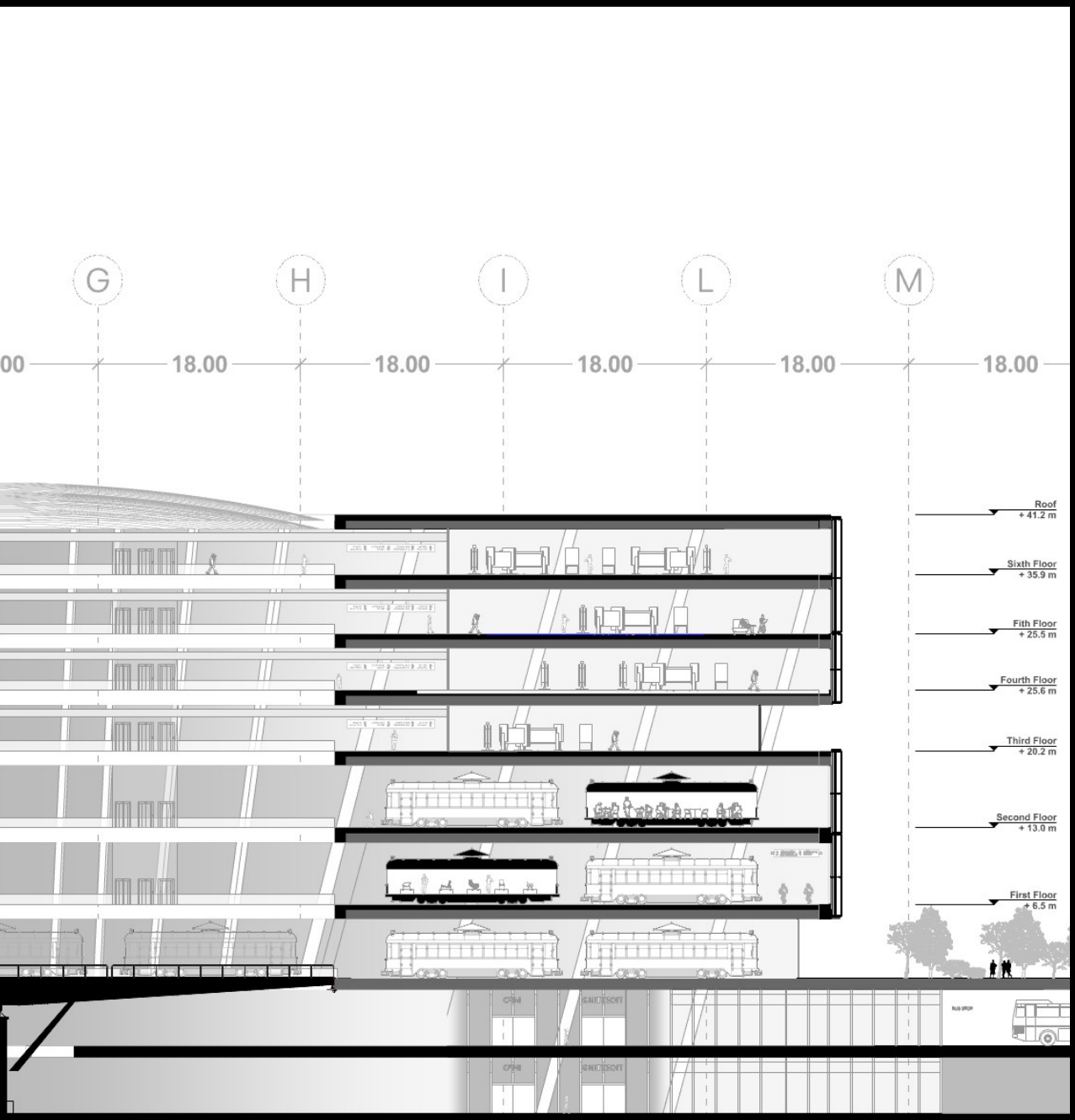
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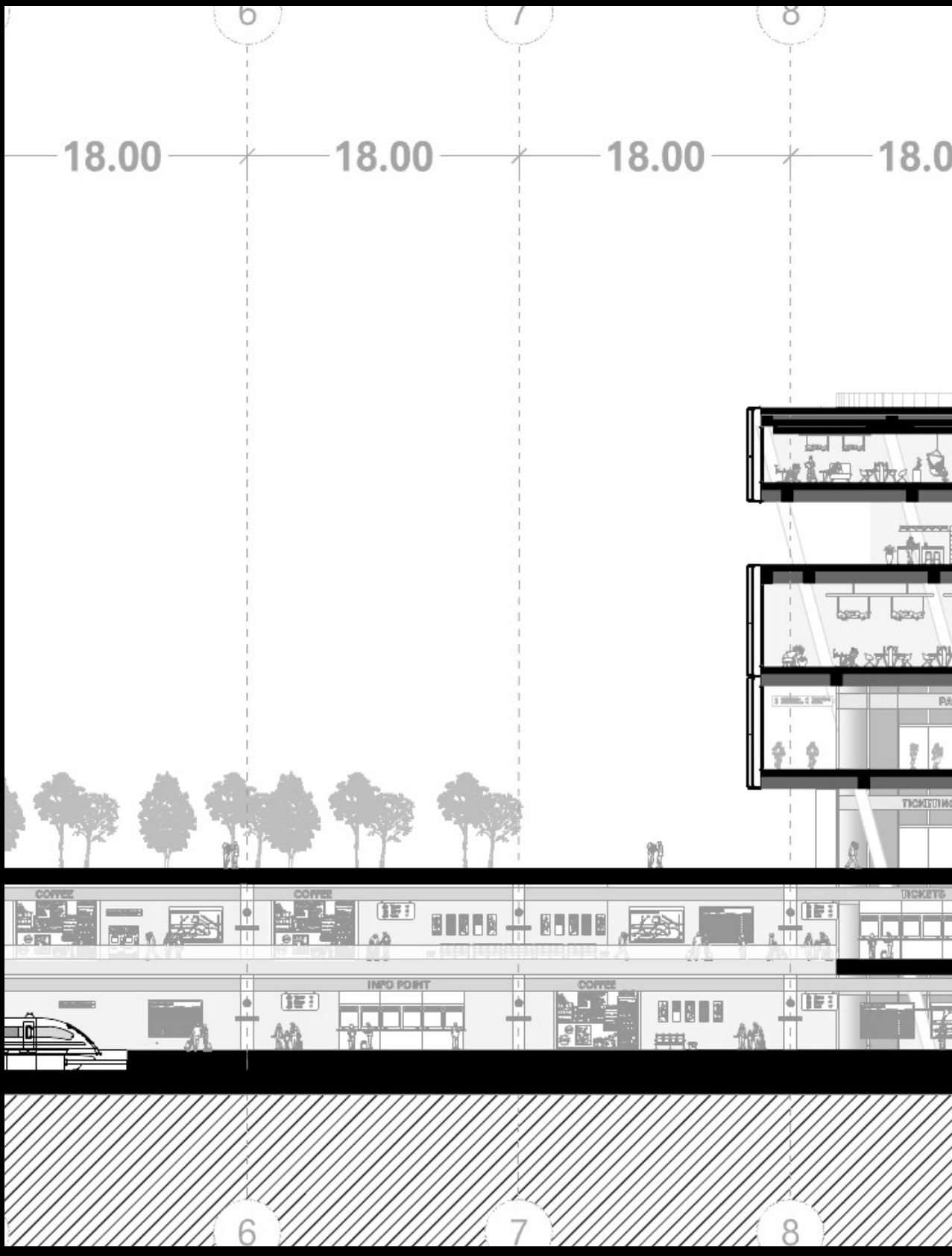
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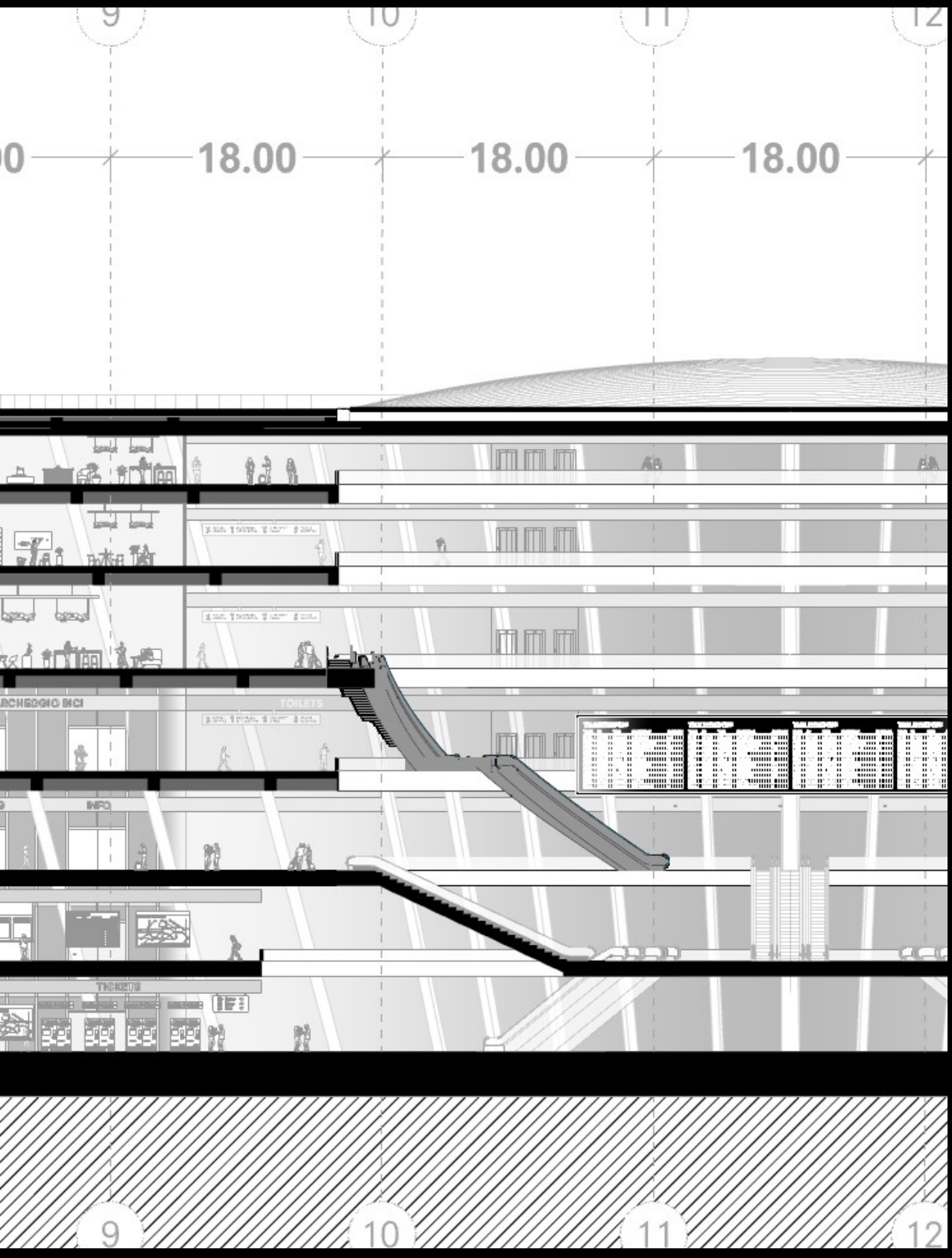

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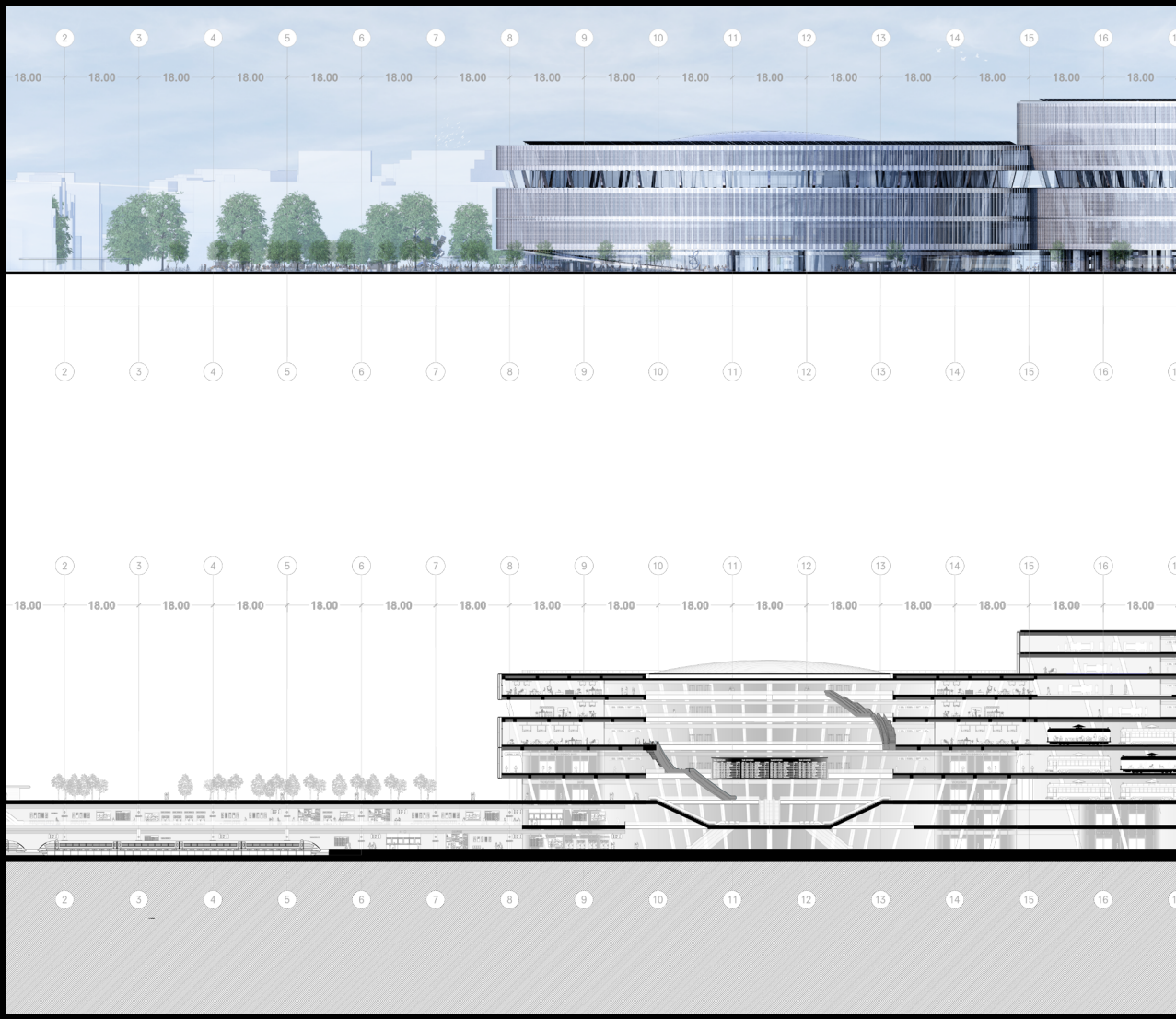

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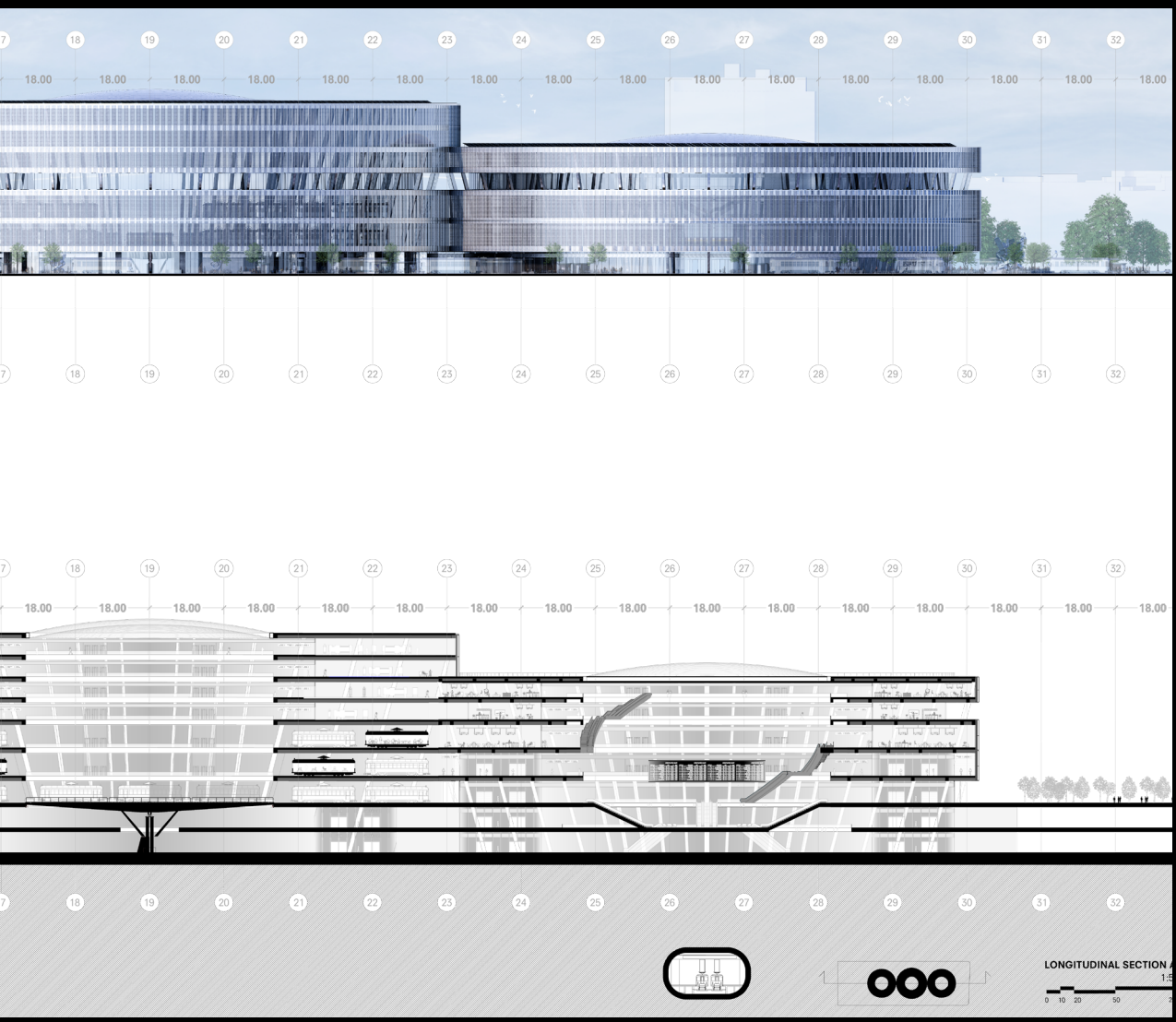

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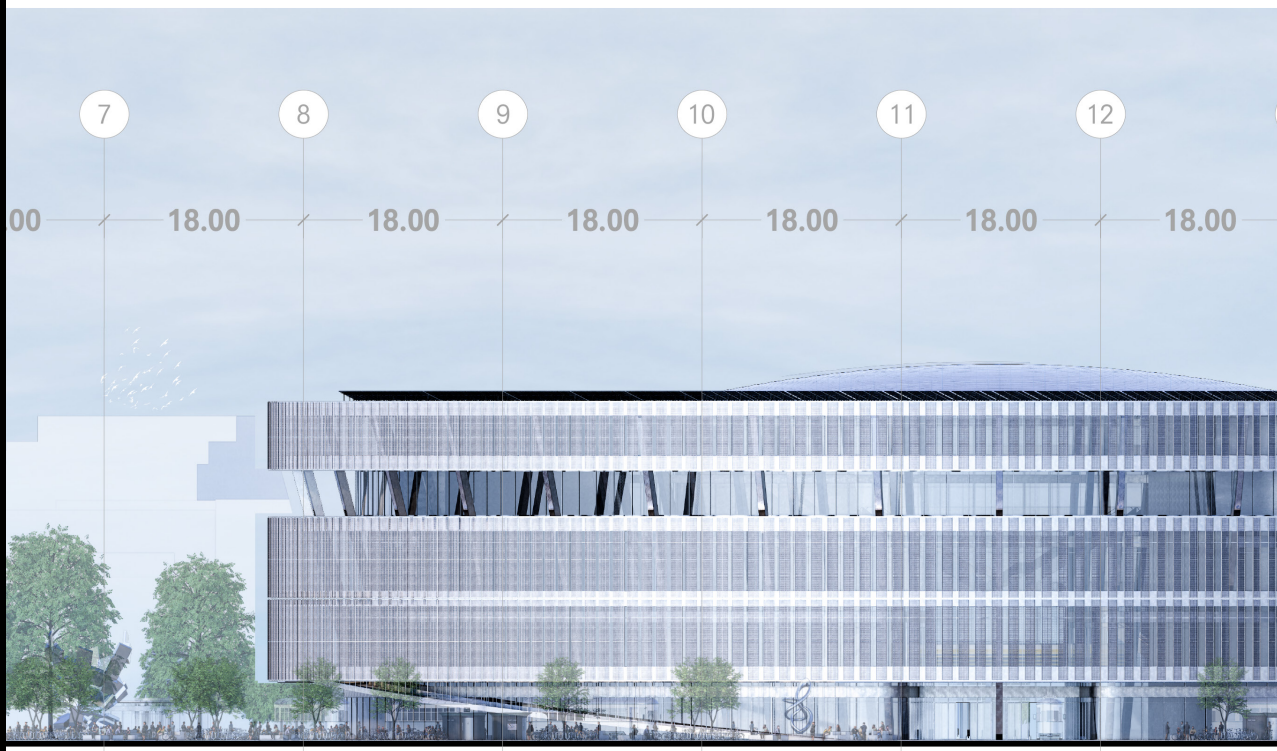

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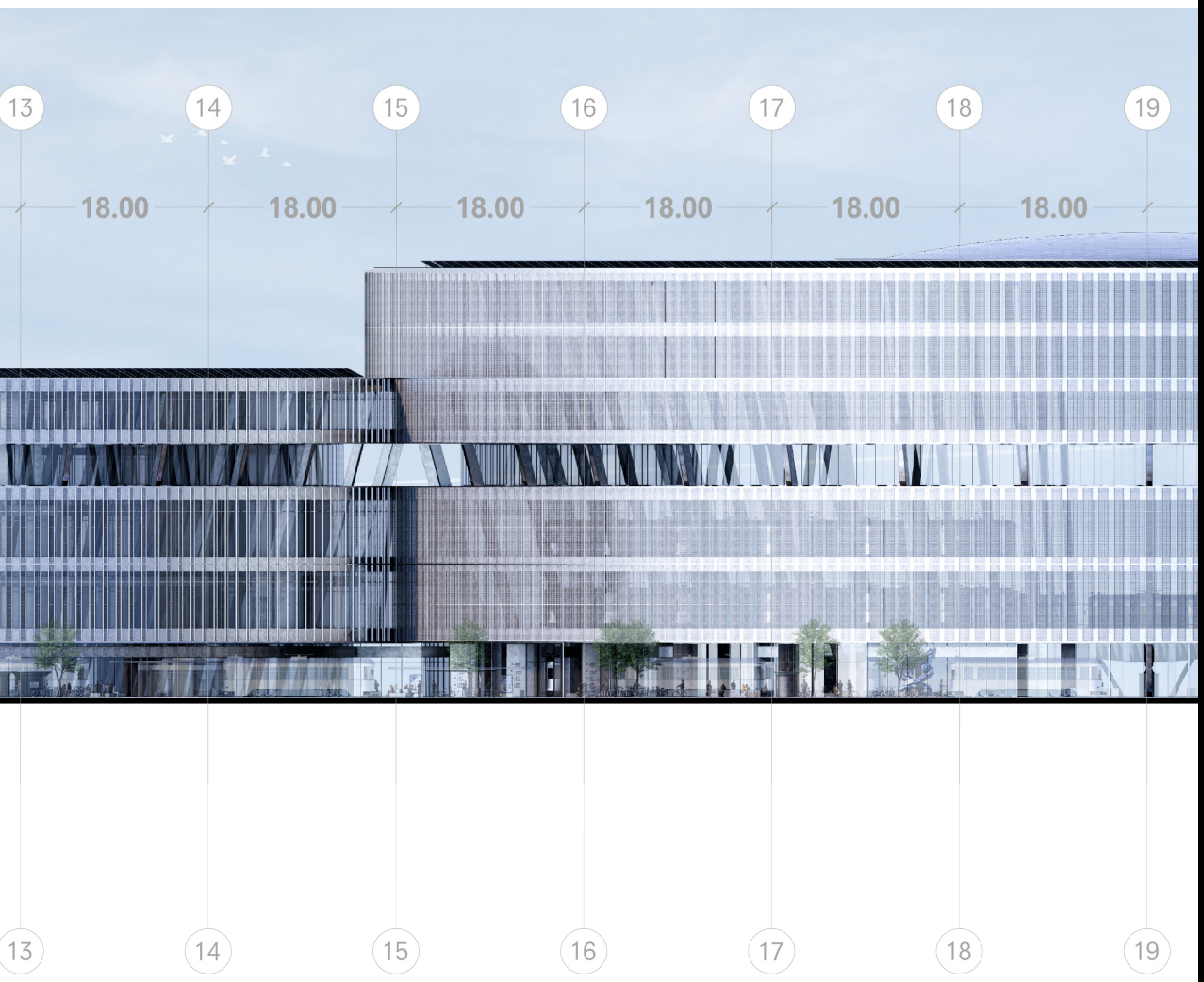
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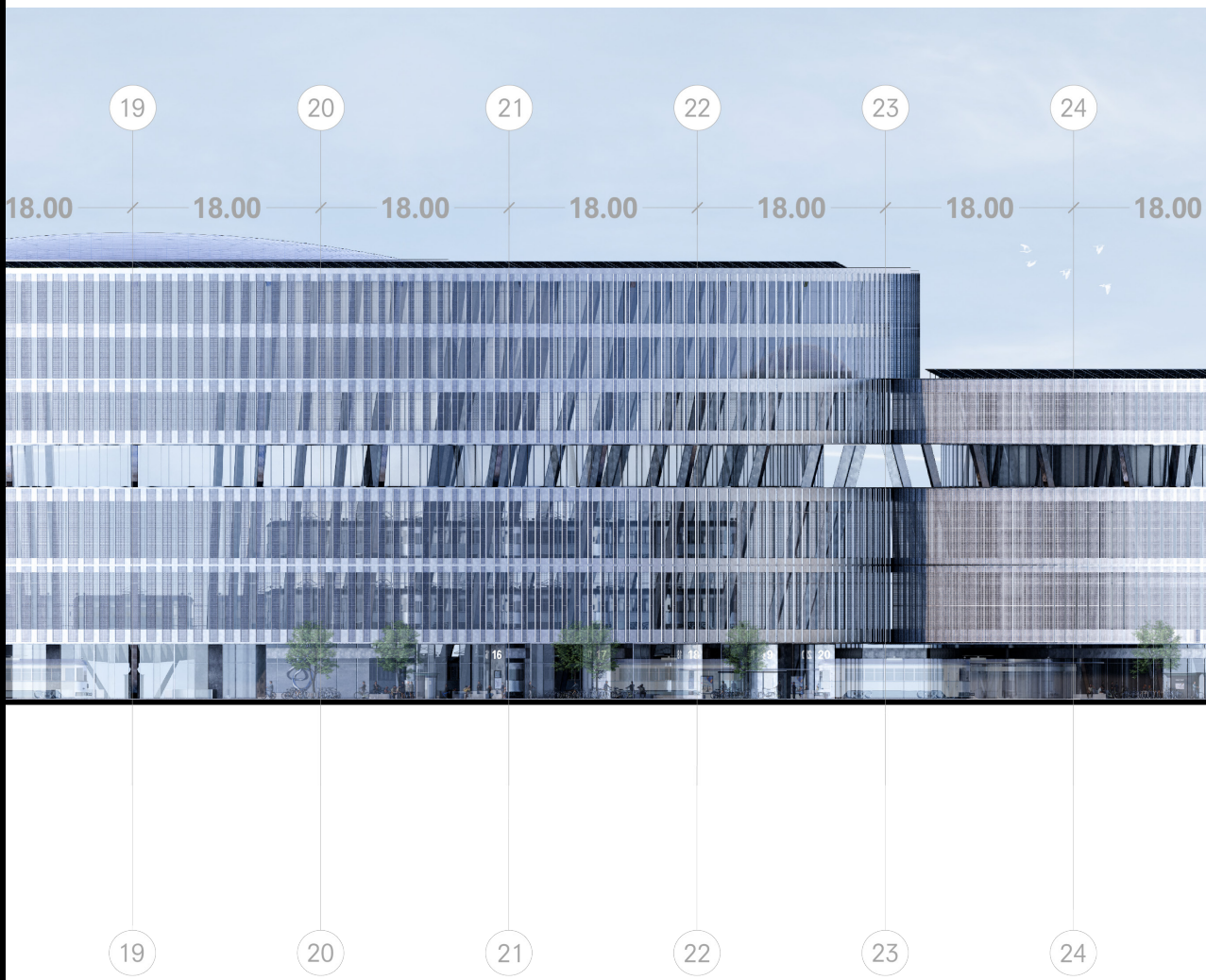

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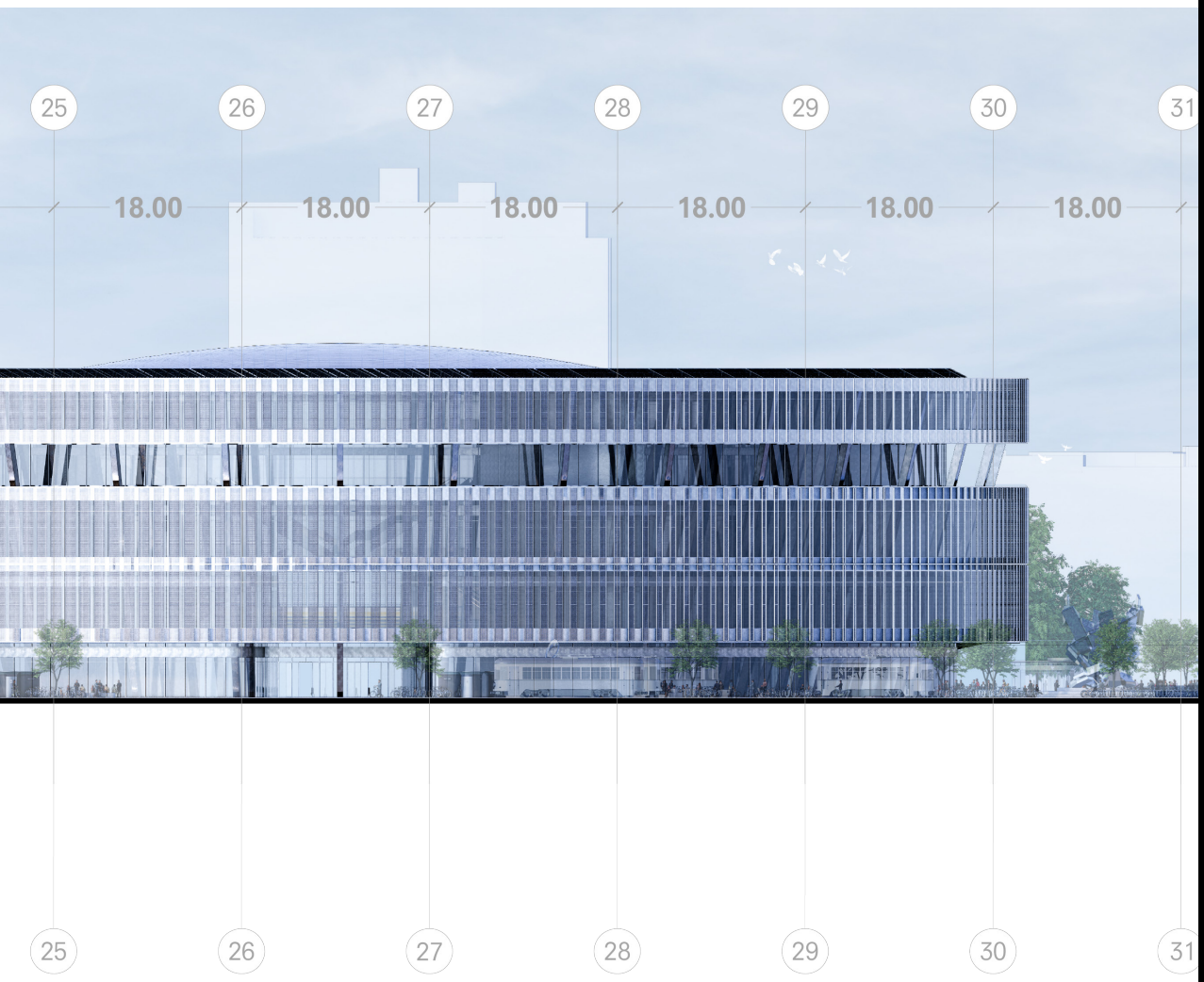
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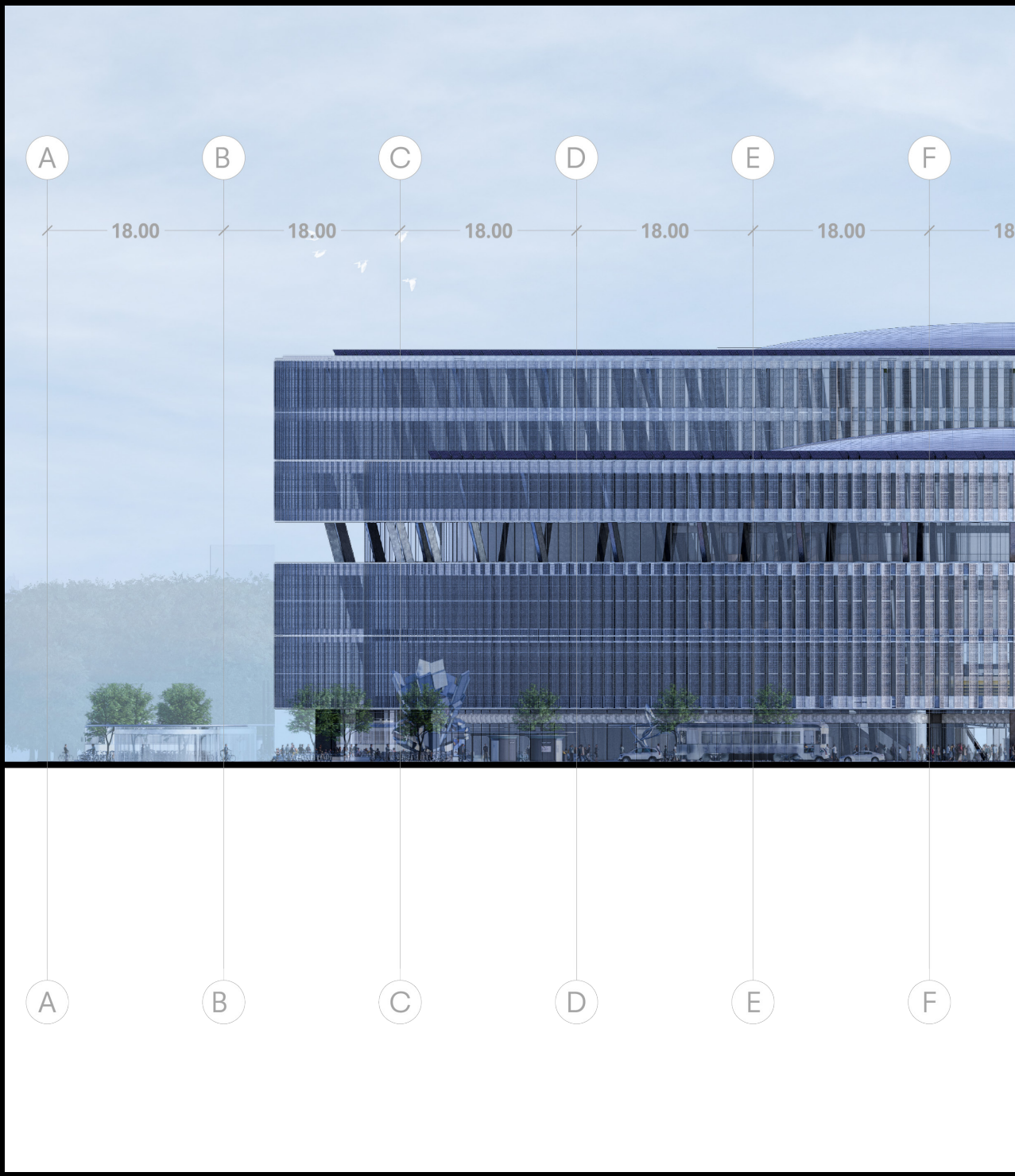

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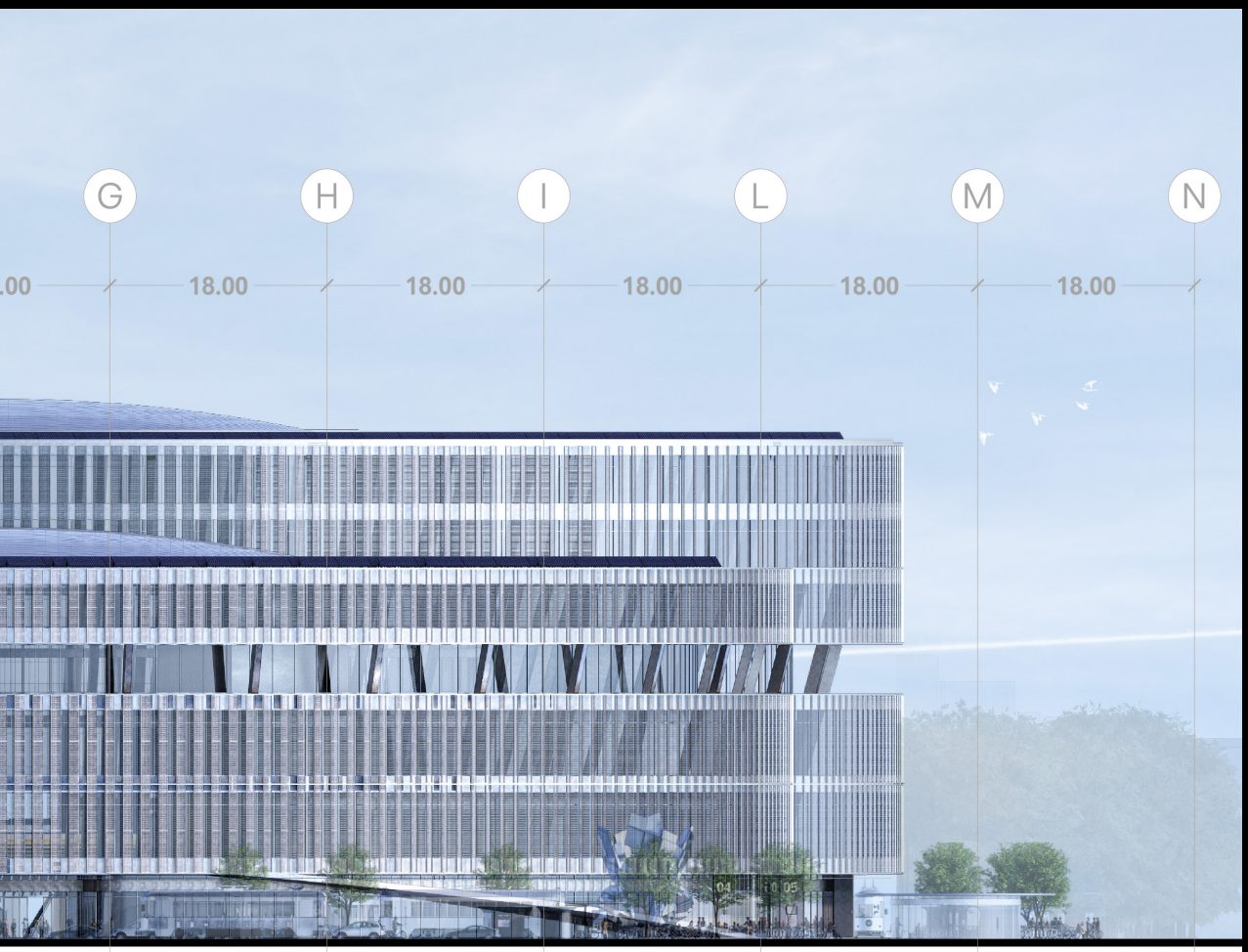
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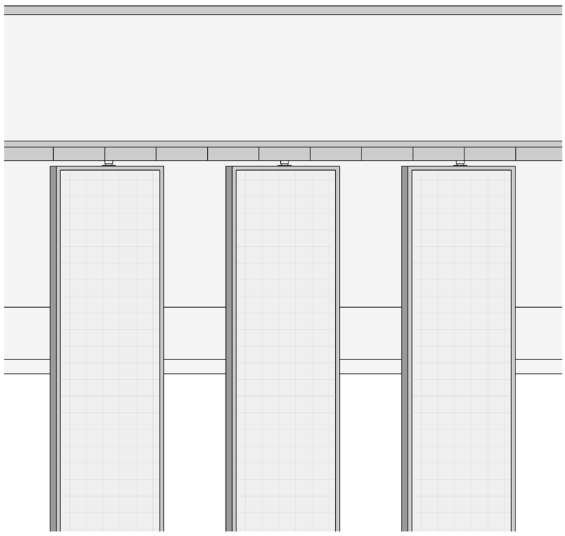

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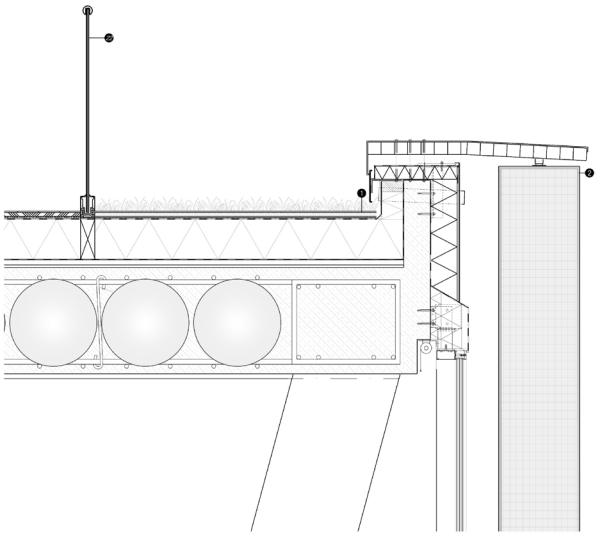

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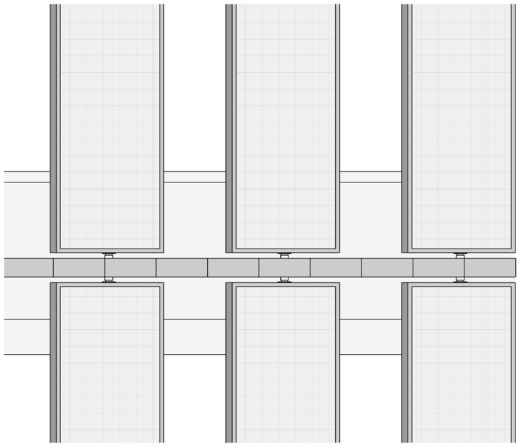
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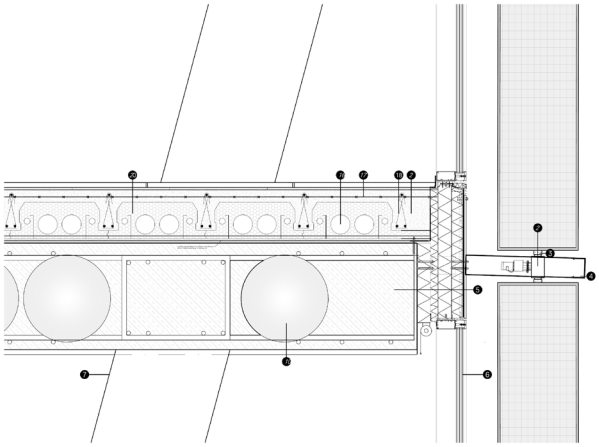


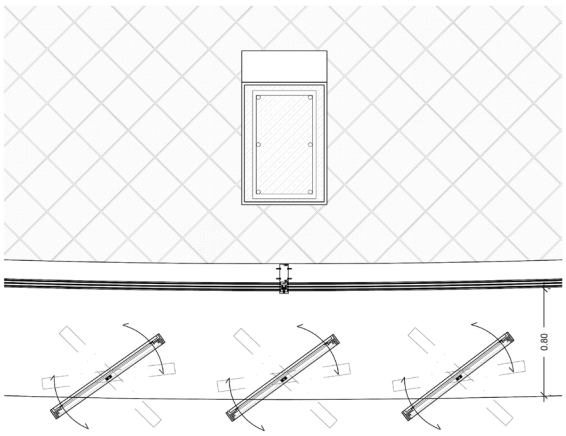

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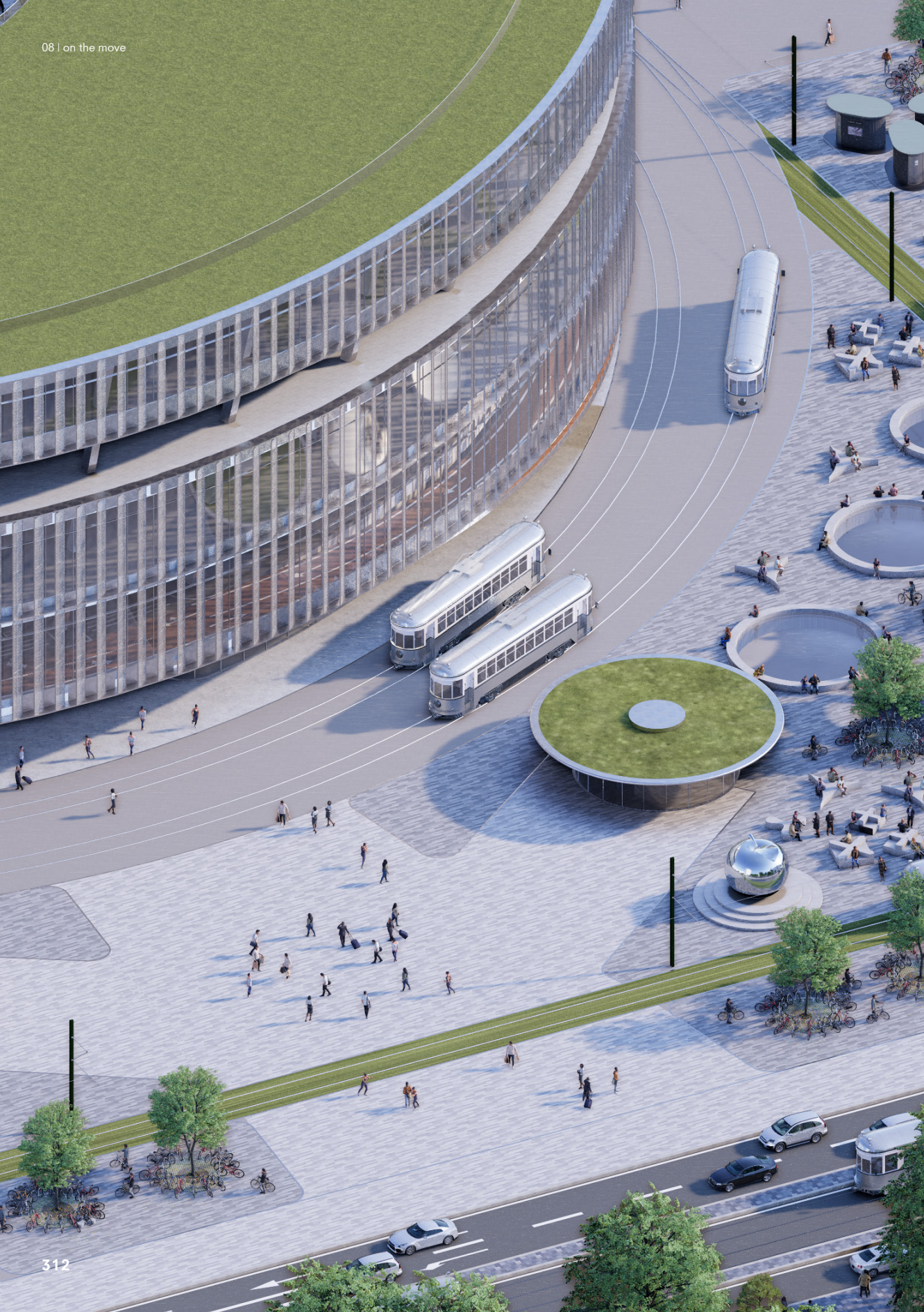




ANNOTATION FACADE FRAGMENT 1:5

1. *70 mm gravel*
   4mm building protection mat
   two-ply elastomeric bitumen membrane
   300 mm PIR thermal insulation
   vapour barrier
   320 mm reinforced concrete slab
2. *80/12 mm aluminium rotating frame*
3. *60/4 mm aluminium tube as sleeve*
4. *extruded section*
   5 mm aluminium sheet, powder-coated + 20 mm air gap
5. *3 mm aluminium sheet cladding*
6. *window: triple glazing with*
   2× 4 mm laminated safety glass
   + 14 mm cavity + 6 mm float glass
   + 14 mm cavity
   + 2× 4 mm laminated safety glass
   130/60 mm aluminium mullion-transom system
7. *800 mm reinforced concrete column*
8. *Plaster Ceiling*
9. *Hook Ø6 c/ 75 x 75 cm*
10. *Spheres Ø32 cm*
11. *Upper Metal Mesh*
12. *Acoustic insulation (expanded polystyrene)*
13. *Subfloor*
14. *Leveling bed*
15. *Concrete Tiling floor 30x30 cm*
16. *Void for Utilities Ø121mm*
17. *Beam Reinforcement*
18. Stirrups Alternate Left to Right
19. Concrete Beam Reinforcement Ø20mm
20. Expanded Polysyrene (EPS)
21. Redi-Set Pivotal Motor
22. GLASS MOUNT HANDRAIL







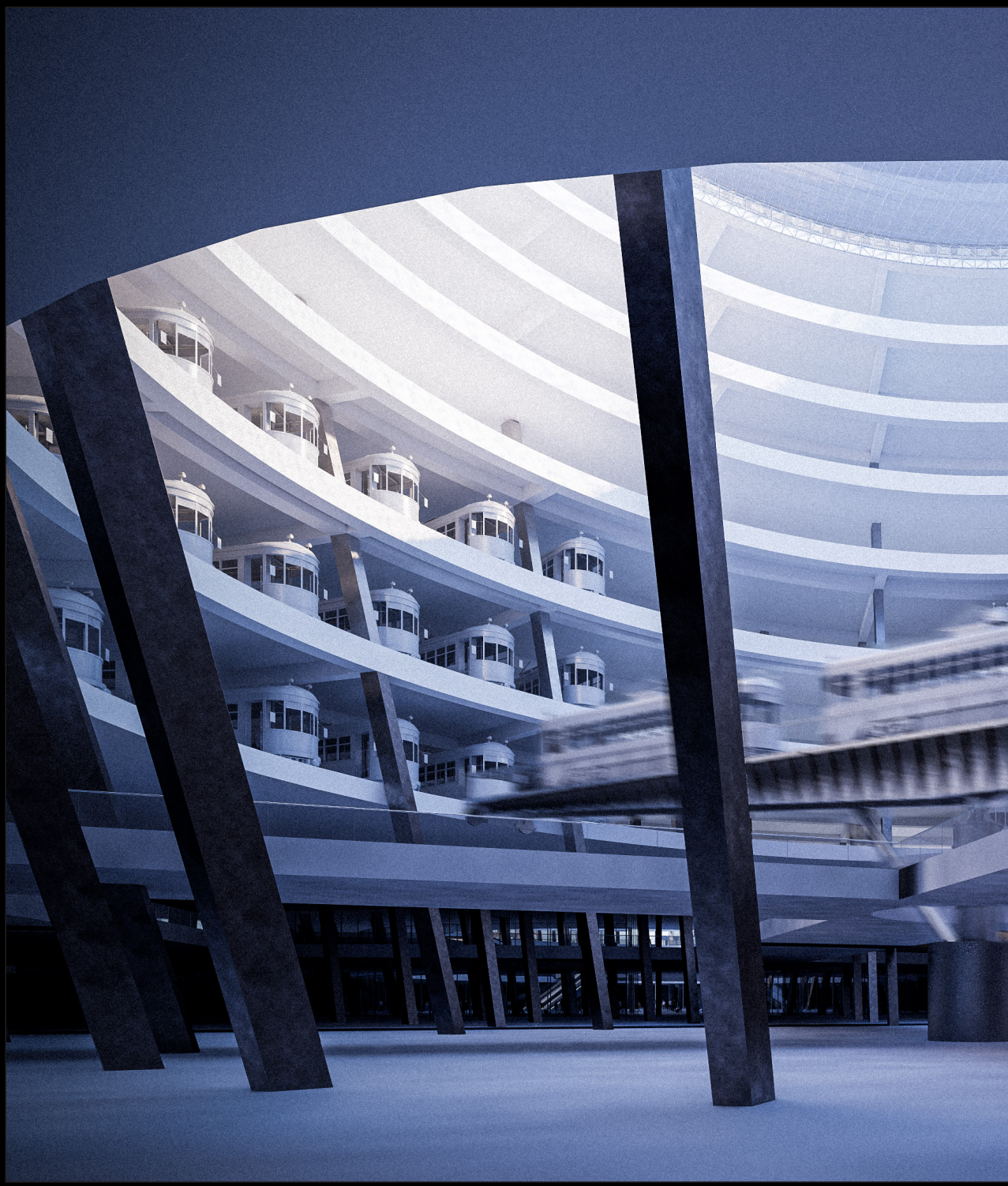


Approaching on foot, the building reveals itself with a bold circular form that breaks the continuity of the surrounding urban fabric. Its metallic façade sets it apart from the typical Milanese context, making it immediately recognizable. Visitors are welcomed by a reinterpretation of a classic Italian piazza—a lively public space that brings together art,

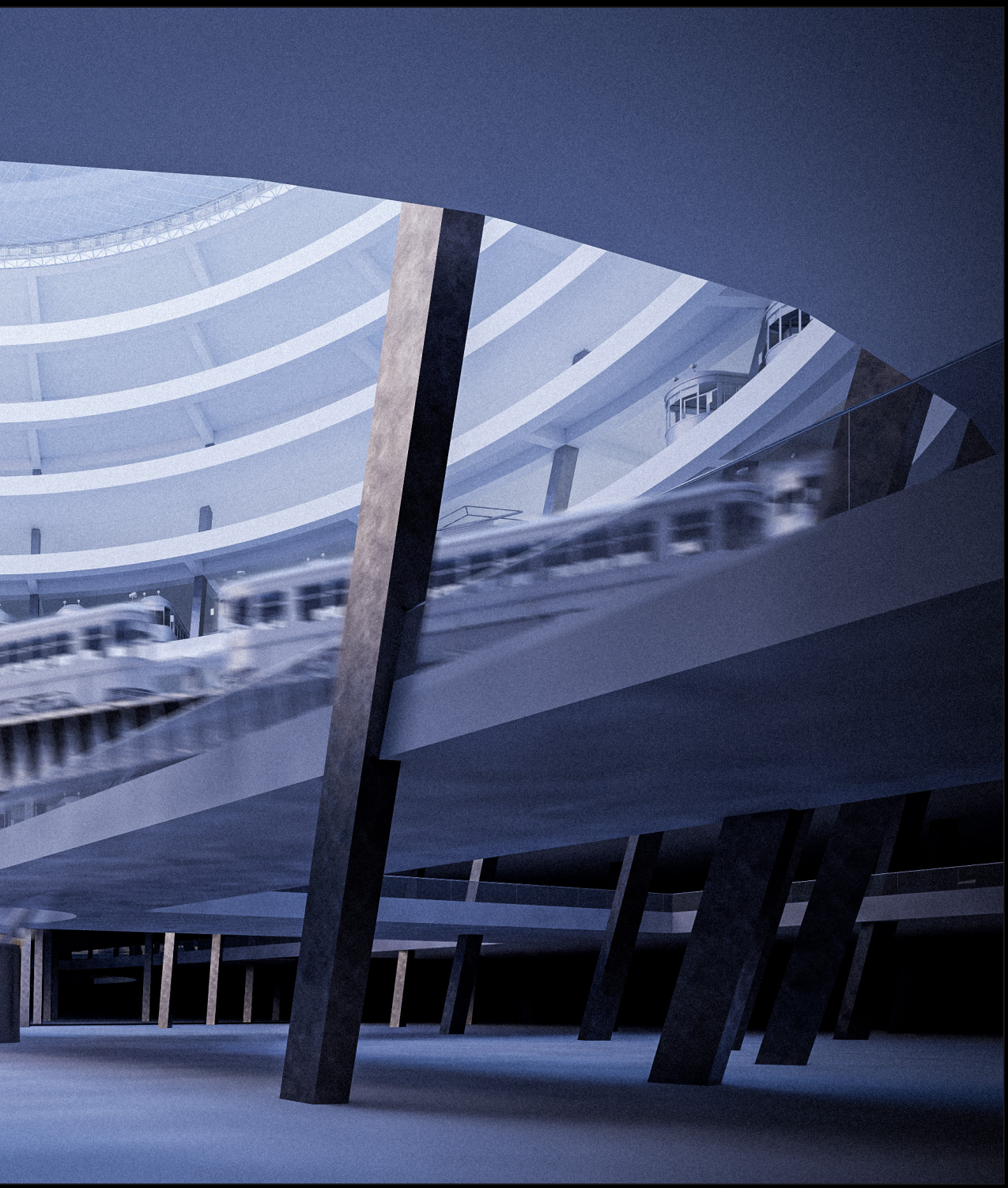


essential services, tram stops, and direct pedestrian access to the building.

This space acts as a threshold between city and architecture, encouraging both spontaneous encounters and intentional use.



The tram depot is organized in a circular layout, where a central rotating turntable enables the movement of trams both vertically and horizontally. This mechanism transforms the central void into the functional and spatial core of the building, making the turntable the protagonist of its dynamic circulation. Powered by a hydraulic pump



system, the turntable operates smoothly and efficiently, coordinating the flow of vehicles with precision.

The choreography of motion becomes a defining feature of the space, offering a new and unique experience of what a depot can be.



The “Experience Trams” arrive at the building by following their looping path and enter through numbered gates that guide their arrival. At these entry points, visitors find information about other transportation connections, ongoing exhibitions, and clear orientation signage to support intuitive navigation. These gates act as both thresholds and interfaces,

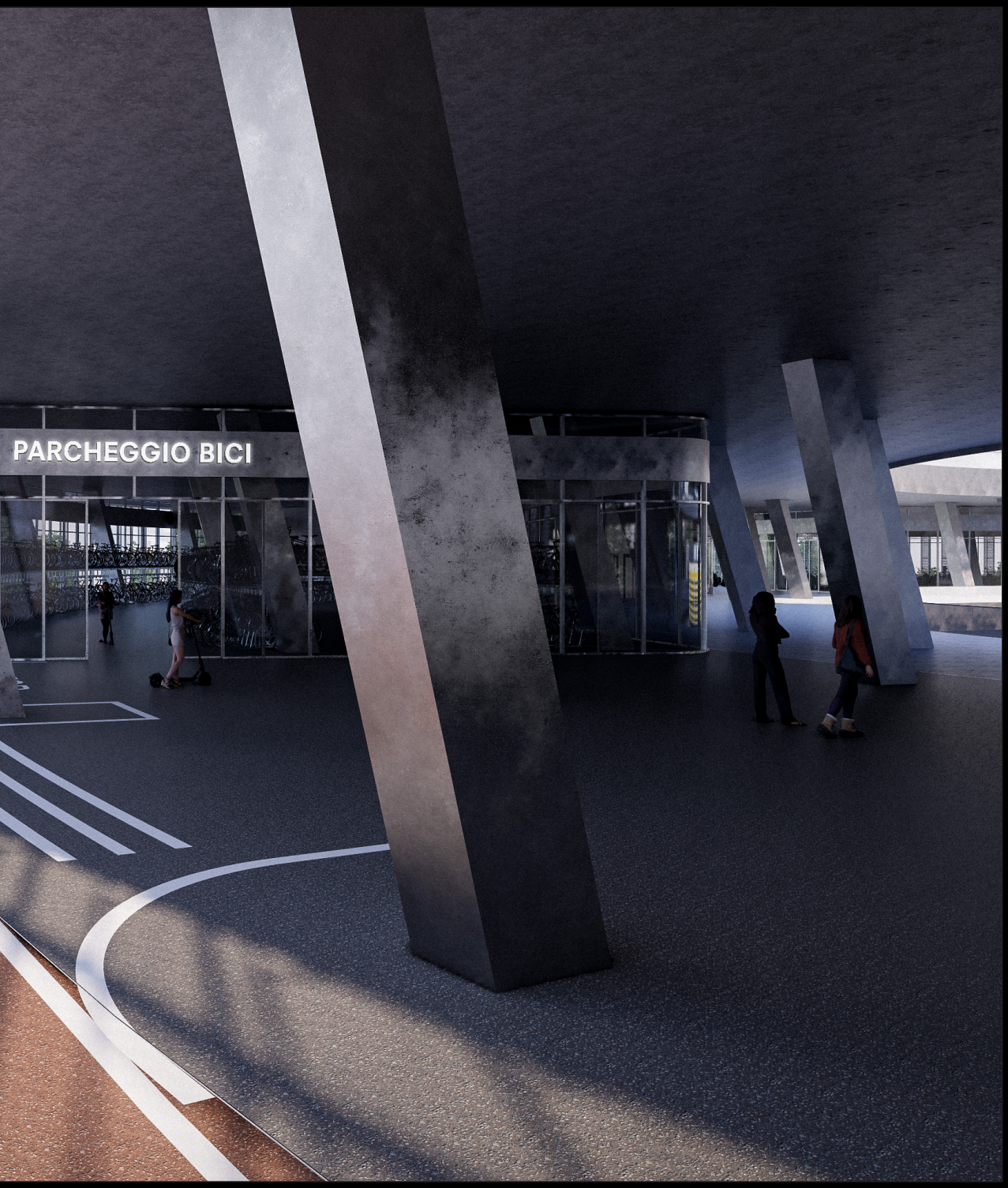


enhancing the overall user experience and creating a seamless transition between the city and the interior of the building.

The arrival sequence is designed to be both functional and ceremonial, highlighting the unique role of the tram as part of the architectural journey.



The arrival for cyclists, after following the ramp leading to Level 01, welcomes them with dedicated parking areas designed for different user groups—building employees, the general public, and visitors. In addition to secure bike parking, the area also offers passenger services such as e-scooter and bike rentals, supporting last-mile mobility.



This integrated hub completes the multimodal experience, encouraging sustainable transportation and ensuring smooth connectivity across different modes of travel.

Clear wayfinding and open sightlines further enhance accessibility, making the arrival intuitive and welcoming for all users.



The outdoor space is thoughtfully organized with a combination of urban furniture, public art installations, and essential services such as ticketing totems, an information kiosk, cafés, and tram stops.

This arrangement creates a vibrant and functional public realm that encourages



gathering, interaction, and smooth transitions between transportation and leisure.

Designed to support both everyday routines and moments of pause, the space enhances the building's civic presence and its integration into the urban fabric.



In the train arrival space, the tracks are arranged along a gentle curve, allowing clear sightlines to most platforms, elevators, and staircases. This layout facilitates quick orientation and efficient exiting from the trains, directing passengers seamlessly toward the plaza above. From there, travelers can easily connect to other modes of mobility,



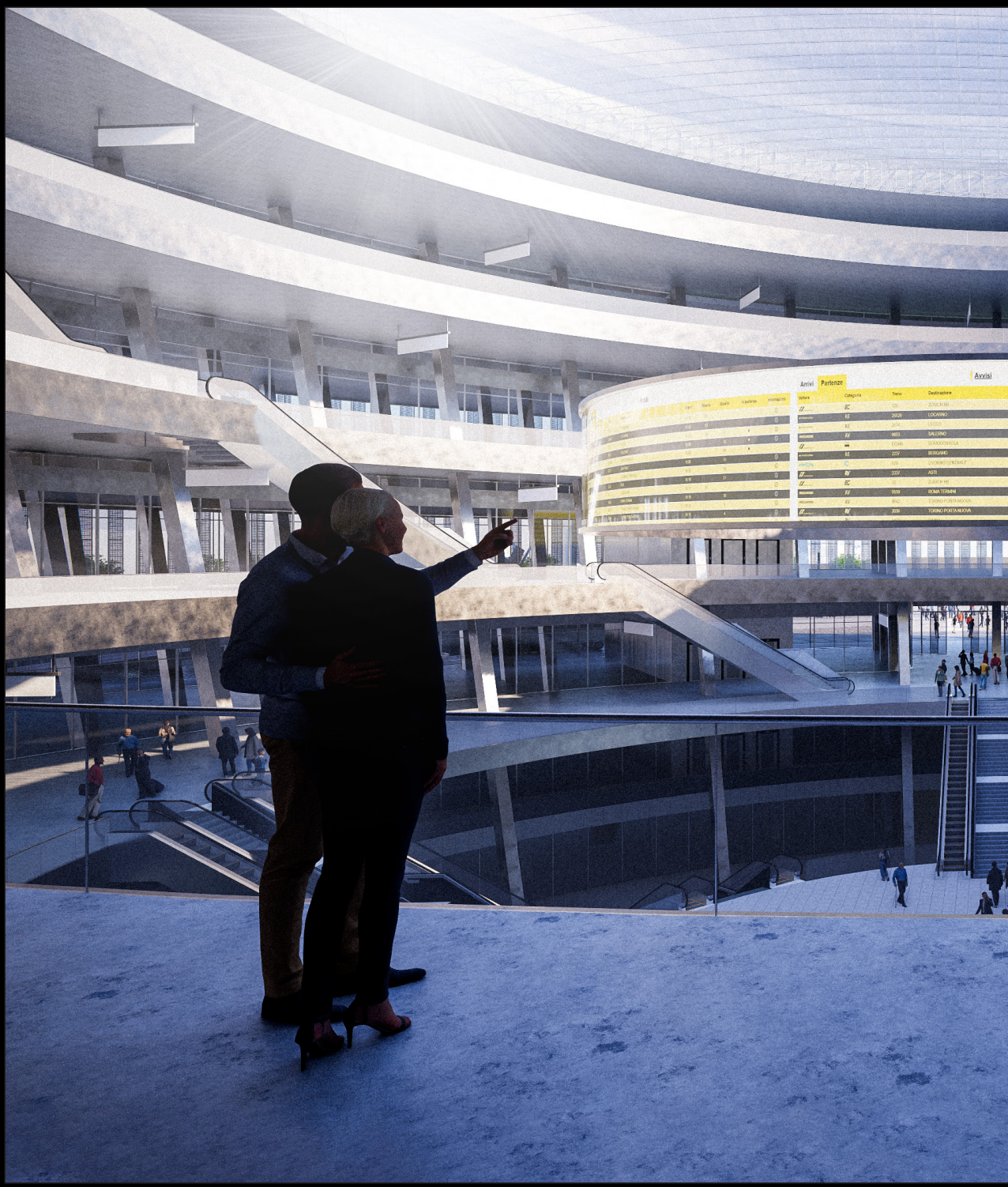
including trams, bikes, and pedestrian routes, reinforcing the building's role as a multimodal transportation hub.

The curved configuration not only optimizes flow but also enhances the spatial experience of arrival and transition.

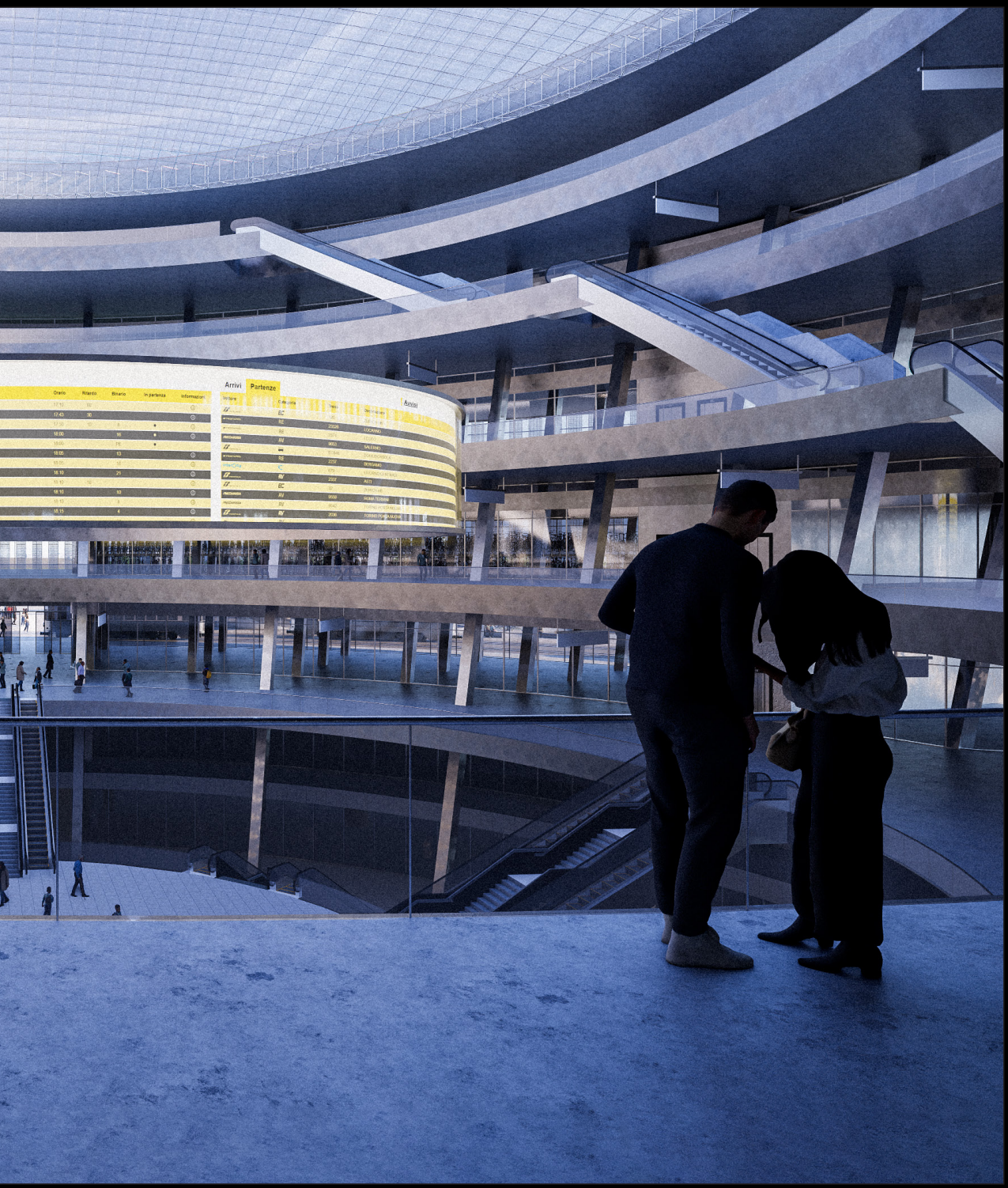




View from Via Giovanni Battista Sammarini



Pedestrians entering the building are welcomed by a central circular void that immediately orients and engages them. Wayfinding elements and signage are carefully integrated into this space, guiding movement and enhancing spatial clarity. At the heart of the void stands the circular timetable—a prominent, dynamic element



visible from every floor of the building.

It serves not only as an informational tool but also as a symbolic centerpiece, connecting the different levels and functions of the structure through a shared visual and experiential anchor.





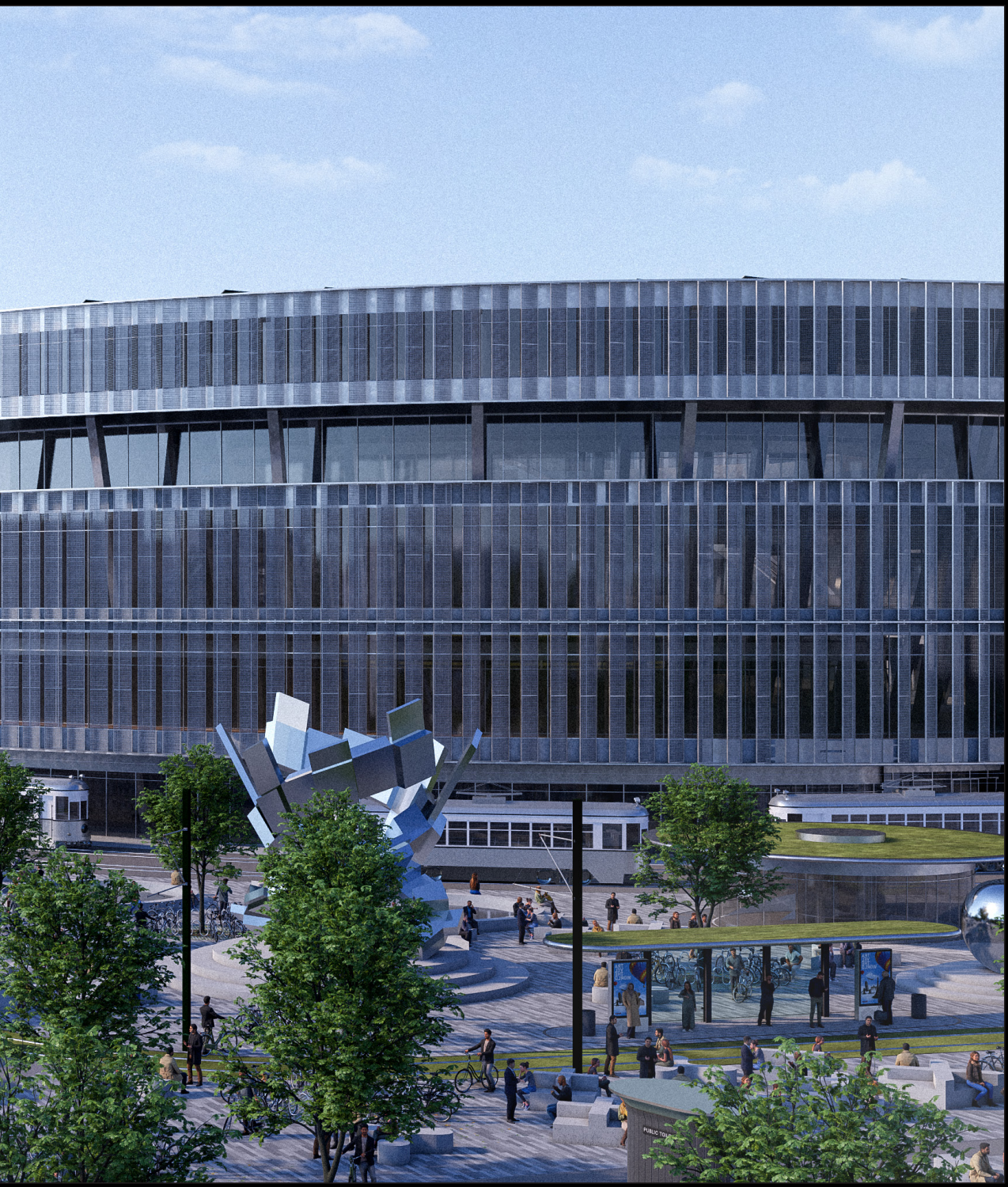
View from Via Giovanni Battista Sammarini





Bike journey through “Experience” Tram Depot


PUBLIC TOILET

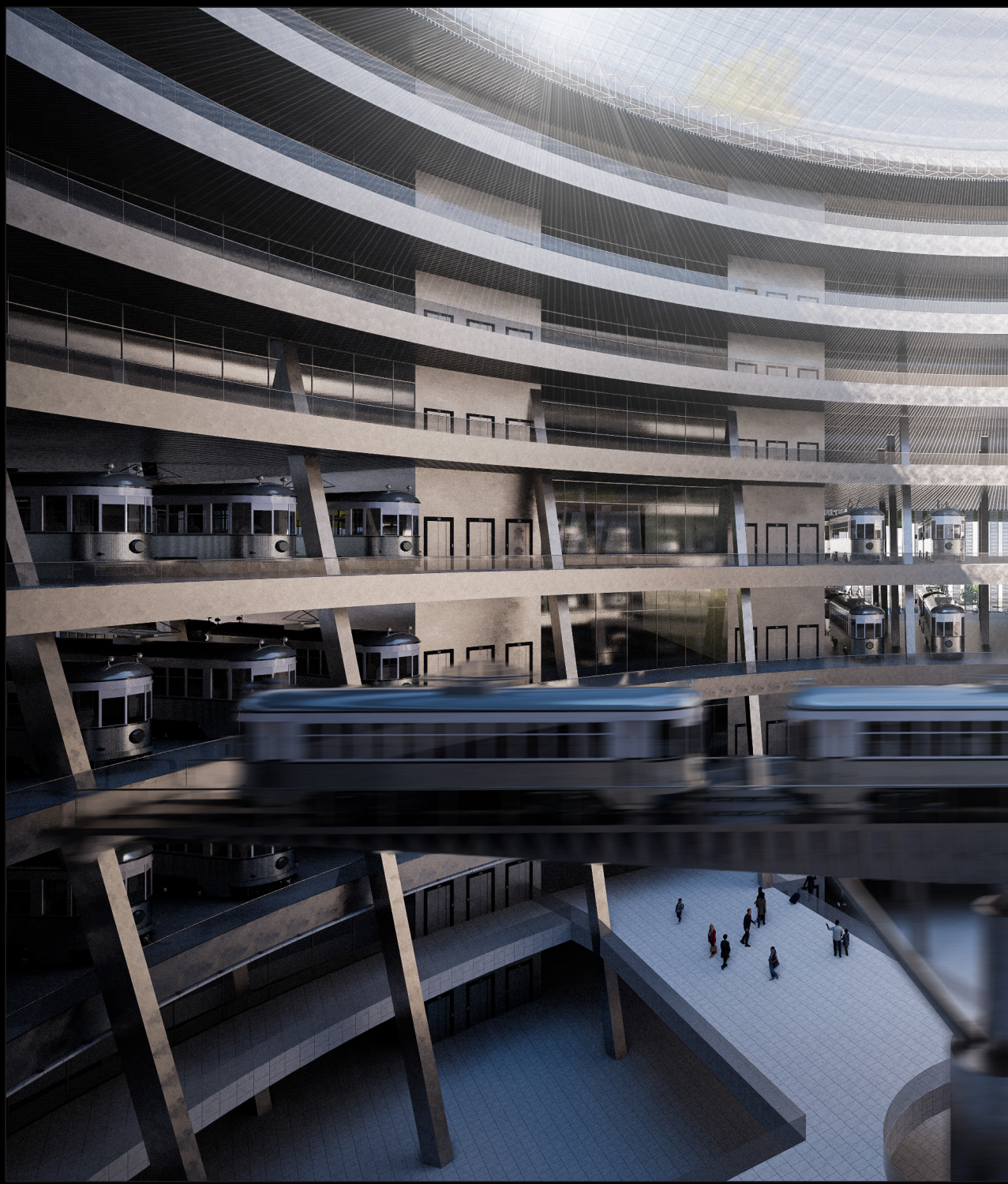


Aerial View





Entrance to “Experience” Tram Depot





The rotating turntable becomes key element
of the building experience



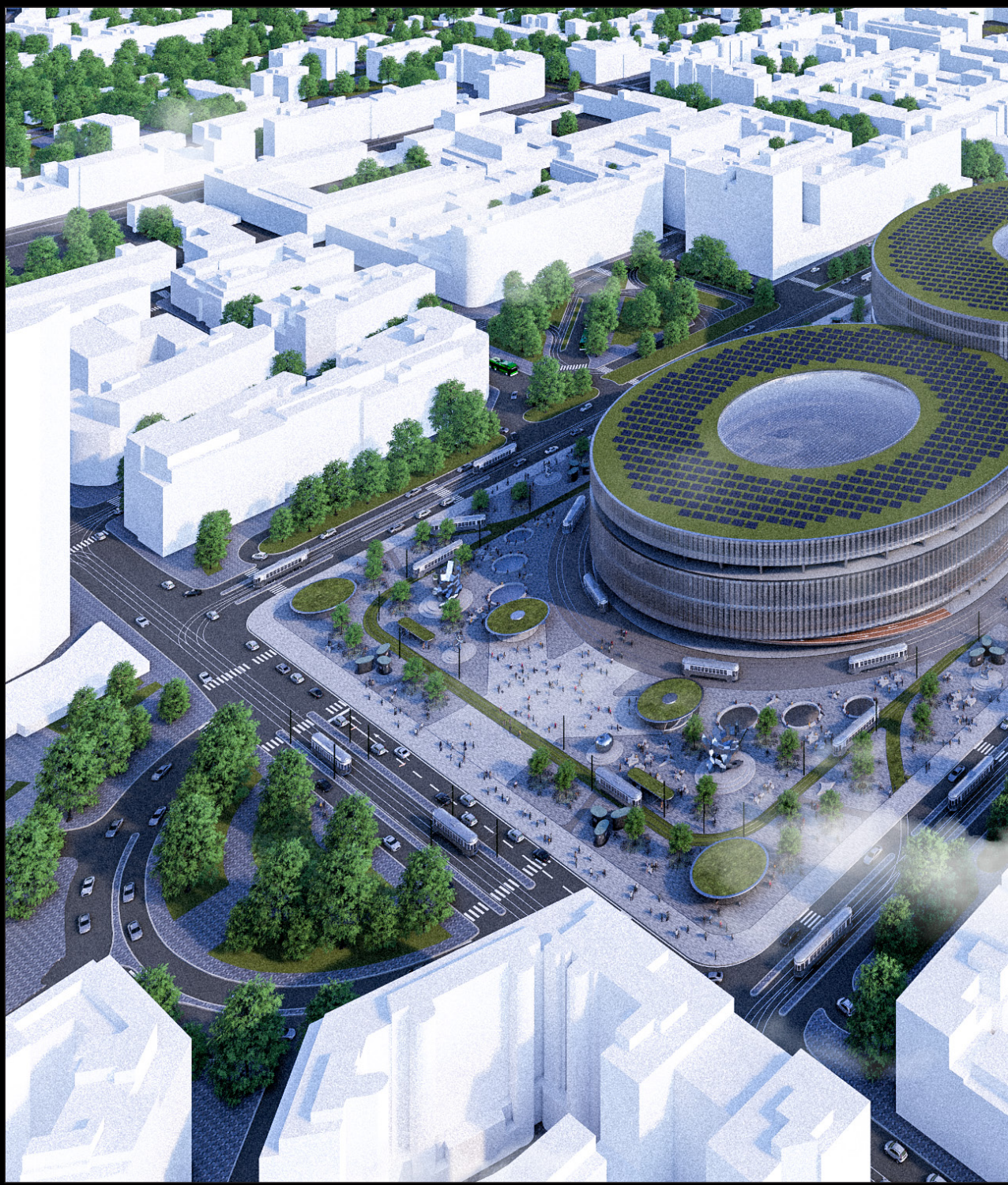


View from Piazza Luca D'Aosta





Cycle ramp leads to bike parking, e-scooters and bike rentals





Aerial view

09

REFLECTION

INTRODUCTION

My graduation project, titled On the Move, emerged from a curiosity about the future of mobility and the cultural potential of large-scale transportation infrastructure.

Initially driven by an interest and inspiration by the Italian Futurism and its rhythms of movement that shape cities, the project quickly became a personal exploration of how architecture can mediate between functionality and identity. Centered on Milan's Central Station—an iconic yet often impersonal node in the city's urban system—the proposal seeks to transform the station from a place of mere transit into an active civic agent.

The project investigates how infrastructure, particularly one as monumental and symbolic as Milan Centrale, can host not just flows of passengers, but also **flows of culture**, **memory**, and **experience**. By integrating a new layer of public programming, including the reuse of Milan's historic ATM trams as mobile cultural units, the proposal envisions a hybrid station that extends its presence beyond its physical boundaries, activating the city in sync with its cultural calendar.

These tram units become instruments of connection and continuity, allowing events to circulate through the city while maintaining a dialogue with the station as their anchor. In this way, the design reflects a belief that mobility should not only move people physically, but emotionally and culturally as well. Throughout the development process, I was challenged to rethink questions of temporality, adaptability, and urban presence—shifting the project from a conventional infrastructural brief to a broader inquiry into how architectural design can contribute to a city's cultural metabolism.

RESEARCH & DESIGN

The relationship between research and design in my graduation project was one of continuous exchange—each phase testing, refining, and expanding the other. Guided by the central research question, "How can Milan's Central Station be transformed into a flexible, responsive, and scalable urban hub that addresses evolving cultural demands?", the thesis began by identifying a conceptual and spatial gap in current station design: while infrastructural updates have prioritized mobility and commerce, the integration of cultural programming remains marginal and underdeveloped.

This recognition framed my research not as a search for immediate solutions, but as a process of opening possibilities—exploring how culture could be spatially embedded in a typology that has traditionally resisted flexibility or civic intimacy.

The absence of clear precedents for this kind of cultural-mobility hybridization did not hinder the design process; on the contrary, it activated it. The theoretical ambiguity became fertile ground for iterative and speculative design testing. Early on, I realized that the research raised more questions than it resolved, particularly around program definition, spatial organization, and temporal adaptability. For instance, while the idea of activating historical trams as mobile cultural venues emerged from cultural mapping and stakeholder analysis, it was only through successive spatial experiments that their architectural and urban role could be fully understood. These mobile interventions—trams as traveling stages, restaurants, or workshops—allowed the project to bridge the static monumental scale of the station with the dispersed rhythms of Milan's event calendar.

At the same time, the act of designing revealed limitations in the original research framework. Some assumptions about user flows, program sizing, and depot logistics had to be revisited and re-validated. This prompted a back-and-forth dynamic where speculative massings tested the feasibility of cultural adaptability, and research recalibrated the scope and operational logic of the design.

As a result, the process was not a linear translation of theory into form, but a layered and responsive development, where the design brief itself evolved alongside the architecture. Ultimately, it was this productive tension—between grounded investigation and open-ended speculation—that gave the project its critical depth and conceptual coherence.

THESIS TOPIC & STUDIO TOPIC

The relationship between my thesis topic and the studio theme Bodies and Buildings: Milan is rooted in a shared ambition to reimagine public architecture as a medium for social, cultural, and urban transformation. Within the studio's structured framework—comprising typology, context, and thematic lens—my work emerged at the intersection of the Flow typology (train station), the city of Milan, and the research lens of Culture. The Culture group, explored how Milan's cultural landscape—ranging from literature to fashion, from research to leisure—manifests spatially in its public and private spaces.

This thematic lens prompted us to critically reflect on how cultural identity shapes, and is shaped by, the built environment.

My graduation project, On the Move, builds directly on these foundations by proposing a transformation of Milan's Central Station from a mono-functional transit hub into a responsive cultural infrastructure. In particular, I investigated how culture—understood not only as static content but as dynamic practice—can travel across the city, occupy underused temporal gaps in infrastructure, and activate civic life in new ways. By incorporating Milan's historic trams as mobile cultural venues and embedding a Mobile Experience Centre into the station fabric, the project engages with the Culture group's broader ambition to make Milan's identity more visible, adaptable, and responsive to global trends while preserving its unique local character.

The studio's methodological structure—anchored in collaborative research on program, site, and client—also supported the transition from theoretical inquiry to spatial proposition.

Our group's comparative study of building typologies and cultural manifestations in Milan revealed recurring tensions between monumental form and ephemeral activity, between fixed architecture and moving culture. My project responded to this by proposing not only a spatial reorganization of the station, but also a new kind of urban rhythm—one that accommodates both the flows of people and the pulses of Milan's cultural calendar. In doing so, the project does not treat "culture" as a decorative or secondary layer, but as a structuring principle that informs layout, materiality, and the experience of movement itself.

Ultimately, the synergy between my thesis and the studio theme lies in a shared belief: that public architecture must be both infrastructural and imaginative, grounded in real urban conditions but open to redefinition.

The Culture lens enabled my thesis to become not just a speculative redesign of Milan Centrale, but a **critical proposition for how infrastructure can become an active participant in the cultural life of a city.**

STUDENT & STUDIO RESEARCH METHODS

The research approach adopted in my graduation project was shaped by the multi-scalar framework of the Complex Projects: Bodies and Buildings 2025 studio, structured across three levels—thematic group, typological group, and individual.

At the thematic level, I was part of the Culture cluster, which explored how Milan's public architecture could respond to and reflect its complex cultural identity. Led by Benjamin Groothuijse and Maria Finagina, our group examined how spaces for literature, leisure, fashion, design, bureaucracy and research collectively shape the city's image, while also identifying emerging tensions between institutional narratives and more dynamic, event-based cultural practices. To capture these layers, we collectively built a temporal and geographical mapping of Milan and assembled a shared analytical framework that examined the spatial implications of different cultural sectors. This collaborative work not only provided a contextual foundation for our individual projects, but also encouraged us to imagine new architectural responses to cultural fragmentation, temporality, and mobility.

At the typological level, and through comparative case study models and typological diagrams, explored how circulation, access, and spatial hierarchy operate within major rail hubs, with a particular focus on how stations negotiate their dual identity as both infrastructural machines and public spaces.

This typological research deepened my understanding of spatial sequences, programmatic adjacencies, and multimodal transitions—knowledge that later informed how I reorganized the flows and layers of Milan's Central Station. The typological evolution research also served as a space for method sharing, where we critically assessed not only station architecture, but also how its monumental scale could be rethought to host softer, more civic-oriented programs.

Individually, I built upon this collective foundation by focusing my research on three pillars: site, program, and client. My design brief, developed for the P2 presentation, was grounded in historical & typological research, Site mapping, Client visions, and programming.

Inspired by Milan's cultural calendar and decentralized cultural venues, I proposed to increase the use o tram lines and repurpose historic tram units as mobile cultural devices.

This idea evolved through mapping, temporal implications, and feedback sessions, and became a central speculative element of the project. This cyclical method of testing theory through form, and refining theory through design, allowed the final proposal to embody both analytical precision and imaginative flexibility.

SOCIAL, PROFESSIONAL AND SCIENTIFIC RELEVANCE

This graduation project responds to a broader societal need to rethink the role of large-scale infrastructure in contemporary cities—not only as technical systems for movement, but as meaningful public spaces that actively participate in urban life. In many metropolitan contexts, train stations remain underutilized outside of transit hours, and their monumental nature often creates a spatial and symbolic disconnect from the everyday cultural practices of the city.

On the Move engages this gap by proposing a model of flexible infrastructure that can accommodate evolving social demands, cultural rhythms, and spatial reconfigurations over time. At its core, the project advocates for a more sustainable and culturally sensitive approach to urban architecture—one that resists the logic of demolition and replacement, and instead embraces transformation and coexistence. By reusing Milan's historic tram network as a distributed cultural platform, the design taps into an underexplored layer of mobility, suggesting how lightweight, adaptive structures can amplify the civic role of existing urban systems.

From a professional perspective, the project contributes to ongoing architectural discussions around adaptive reuse, temporality in public buildings, and programmatic hybridity. It questions the conventional one-building-one-function model and proposes a station that is not merely an infrastructural container, but a node of cultural activation, civic encounter, and urban storytelling.
This aligns with current professional trends that value resilient, multipurpose, and experience-driven public architecture, while also pushing those ideas further through speculative design. For planners and policymakers, the project offers a conceptual blueprint for how large-scale infrastructures can evolve without losing their heritage value or operational integrity.

Scientifically, the project provides a methodology for embedding qualitative cultural narratives into the design of transit-oriented developments. Through cultural mapping, scenario testing, and programmatic layering, the project demonstrates how intangible cultural heritage and urban rituals can be translated into spatial strategies that go beyond symbolic gestures.

The combination of user-centered flows, flexible programming, and cultural layering offers a case study in how to bridge urban infrastructure with cultural production in a way that is both imaginative and grounded.

As cities grapple with climate imperatives, social fragmentation, and cultural displacement, On the Move proposes an infrastructural model that is not only efficient and sustainable, but also tailored to its context, inclusive, and deeply connected to the evolving identity of the city of Milan.

ETHICAL ISSUES & DILEMMAS

Throughout the development of my graduation project, several ethical dilemmas emerged—primarily revolving around the tension between innovation and preservation, freedom and regulation, and inclusivity and control. One of the most critical questions I encountered was how to reconcile the rigid, institutional identity of Milan's Central Station with the more informal, unregulated character of cultural practices I sought to accommodate. In proposing a hybrid infrastructure that integrates cultural programming into a highly regulated transit node, I was confronted with a fundamental contradiction: while the station is a space governed by formal protocols, surveillance, and logistical efficiency, the kinds of cultural events I envisioned—rooted in spontaneity and collective expression—often thrive in conditions of informality and freedom. This raised an ethical question about whether such a proposal might inadvertently instrumentalize cultural expression, particularly when working with symbols such as Milan's historic trams, which carry their own layered histories.

On a broader ethical level, the project implicitly engages with the politics of cultural visibility and urban inclusivity. By proposing a distributed cultural infrastructure that extends beyond the limits of the station, the project seeks to democratize access to cultural experiences across Milan. Yet this ambition also brings with it the risk of selective appropriation—of favoring highly curated or institutionally approved forms of culture at the expense of grassroots initiatives. Navigating this ethical terrain required careful consideration of how programmatic flexibility could be embedded without imposing aesthetic or ideological constraints. In this sense, the most persistent dilemma was how to design for openness—both functionally and symbolically—without over-determining the kinds of publics and practices the space could accommodate.

Ultimately, these dilemmas sharpened the project's architectural ambitions and deepened its sense of responsibility. Rather than offering clean solutions, they served as productive tensions that shaped both the design process and its outcomes.

The result is a proposal that acknowledges its own limitations while striving to create a framework where infrastructure, heritage, and culture can coexist—not without friction, but with a generative and intentional dialogue.

A DESIGN MANIFESTO

This graduation project presents itself not as a final answer, but as a prototype—an open framework for rethinking the relationship between Infrastructure and Culture. On the Move proposes a shift in how we conceive and design public architecture: no longer as static, mono-functional buildings, but as dynamic systems capable of responding to the evolving rhythms of the city. Rooted in a fascination with movement and inspired by early 20th-century Italian Futurism, the project adopts some of its core provocations—not in the glorification of speed or rupture, but in its belief that architecture must evolve with the times, must interpret change, and must participate in shaping new urban conditions.

Rather than framing mobility solely as an engineering problem or a logistical challenge, the project embraces it as a cultural condition. It invites architects to design for flows that are not only physical, but temporal, symbolic, and collective. The integration of mobile cultural units—repurposed historic trams—signals a broader design attitude that prioritizes adaptability, context, and layered meaning.
These elements are not merely architectural gestures but part of a wider call to expand the definition of infrastructure to include emotional, social, and cultural dimensions.

This **design manifesto** acknowledges that architecture cannot operate in isolation from its civic responsibility. As such, the project positions itself as a starting point for future explorations—designs that are informed by cultural practices, attuned to urban complexity, and capable of negotiating between permanence and change. By using a highly regulated and infrastructural space as the testing ground for cultural experimentation, On the Move opens a conversation on how design can support multiplicity rather than singularity, flexibility rather than fixity.

Ultimately, the ambition of this project is to offer a model—both conceptual and operational—that others can build upon. A model that reflects the layered identity of a city like Milan, while remaining open to future reinterpretation.

Architecture, in this view, becomes less about fixed objects and more about systems of interaction and care.

On the Move is not a conclusion, but an invitation to design with movement, culture, and transformation at the center of the architectural imagination.


LA NUOVA STAZIONE CENTRALE DI MILANO
ON THE MOVE



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