

# From affordable hotel to student housing

----The remodeling of the Rogoredo railway yard in the context of the 2026 Milan Cortina Winter Olympics



Milano  
Rogoredo

Master's Degree Thesis  
Architecture and Urban Design  
2021-2022

Completed by:  
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Supervised by:  
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Prof. Elena Fontanella

Politecnico di Milano  
School of Architecture, Urban Planning  
and Construction Engineering

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# Acknowledgement

## Abstract

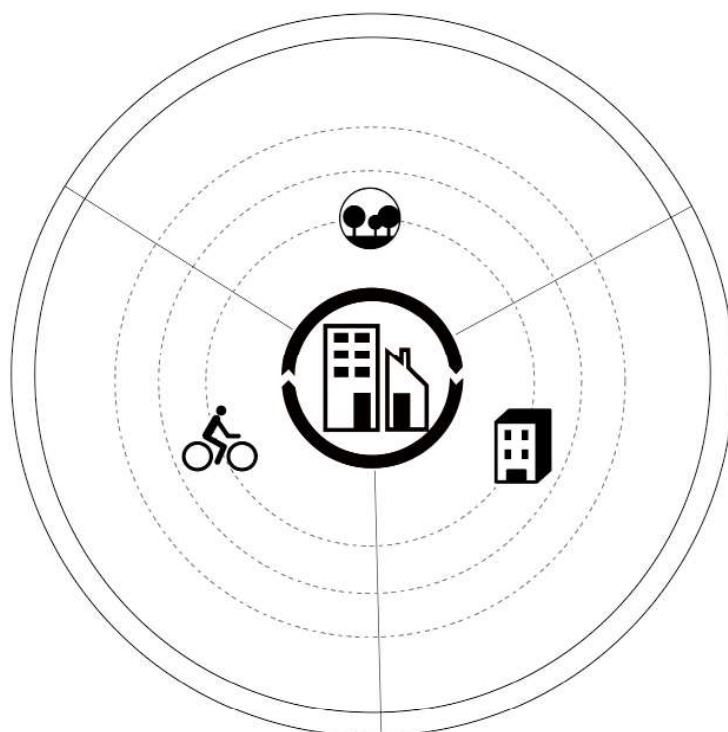
The thesis is about the transformation design of Rogoredo railway yard in the context of the 2026 Milano-Cortina Winter Olympics. The site is Rogoredo railway yard in Milan. The thesis concludes designs of both periods before and after the winter Olympic games, which is from affordable hotel to student housing. It is started in the context of the Olympic Games, investigating the history, policies and competitions related to the railway yards in Milan, and then concluded that an affordable hotel is the most suitable design for Rogoredo railway yard during the Winter Olympics.

After the Winter Olympics, the building will be converted into a student dormitory to solve the shortage of accommodation for students in Milan. The design starts from a series of analysis, comes up with the urban design strategies, and finally down to the specific design of the building. Regarding the conversion, in addition to the function of the building, the building layout can also be transformed within the consideration of structure.

First of all, we would like to thank our thesis advisors, Professor Laura Pogliani and Professor Elena Fontanella. Professor Elena Fontanella gave important suggestions and recommendations on the research direction of the thesis. Professor Elena also put a lot of effort into the graduation design and put forward many suggestions for improvement. At the same time, we would like to thank Professor Laura, under the guidance and support of Professor Laura, we are able to successfully complete this graduation thesis.

In addition, we would also like to thank each other, who completed this graduation project together. During the completion of the graduation project, we learned from each other, helped each other and spent an unforgettable time together. we would also like to thank families and friends for their support and encouragement during this time.

Finally, we would like to thank professors again for their hard work. Our school days will finally draw a bright end, the two years of research and study will be the most precious memories in our heart.



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- 1.3 Sustainability of the Olympic games

### 2. Milan - Cortina 2026

- 2.1 Aims of 2026 Olympic games
- 2.2 Traffic related to 2026 Olympic games in Milan
- 2.3 Venues of 2026 Olympic games in Milan

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# PART I

## Olympic Venues and Legacies in Milan

### **1. Olympic Games**

- 1.1 Mega-Events
- 1.2 The origin of the Summer and Winter Olympics
- 1.3 Sustainability of the Olympic games

### **2. Milan - Cortina 2026**

- 2.1 Aims of 2026 Olympic games
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- 2.3 Venues of 2026 Olympic games in Milan

## 1.1 Mega-Events

The Olympic Games belong to the world's Mega Events, which emerged in the 19th century, in the context of the industrial revolution and have been associated with the rise of modernity. The first uses of the term "mega-event" were associating it with tourism. With this emphasis, to set its definition, scholars looked at tourist numbers, extra spending from a mega-event, and the economic impacts on income and job development, long-term growth paths, image changes, and host city perceptions (Müller M. 2015).

In general, the results suggest that mega-sport events promote tourism but the gain varies depending on the type of mega-event, the participating countries and whether the event is held during the peak season or off-season.(Johan. Fourie 2011). The Summer Olympic Games and Football World Cup are widely considered as the biggest mega events, while the winter edition or the World Expos are often taken as the second-order

event for few reasons.



Figure I.1 2010 World Cup

## 1.2 The origin of the Summer and Winter Olympics

The first modern Olympic Games were held in Athens in 1896. The original principle of the Olympic Games was to promote and disseminate the spirit of Olympic freedom, progress and equality around the world(Grupe O, 1991). The Winter Olympics were not included in the original Olympic concept, and the International Olympic Committee revised its charter in 1925, The Winter Olympics were established, and the Winter Olympics were created to feature ice and snow sports that were not possible during the Summer Olympics. The Summer and Winter Olympics have been held every two years since 1992.

renovate sports facilities, invest in transportation and accommodation and other expenses. However, organizers often ignore the rational thinking of event benefits and investment costs, and budget overruns are common for the Olympic Games.

Compared with the Summer Olympics, the appeal of the Winter Games is limited, which is related to the number of events and the geographic location of the Winter Olympics. However, the difference in infrastructure requirements between the two Olympics is not significant. All need to build or

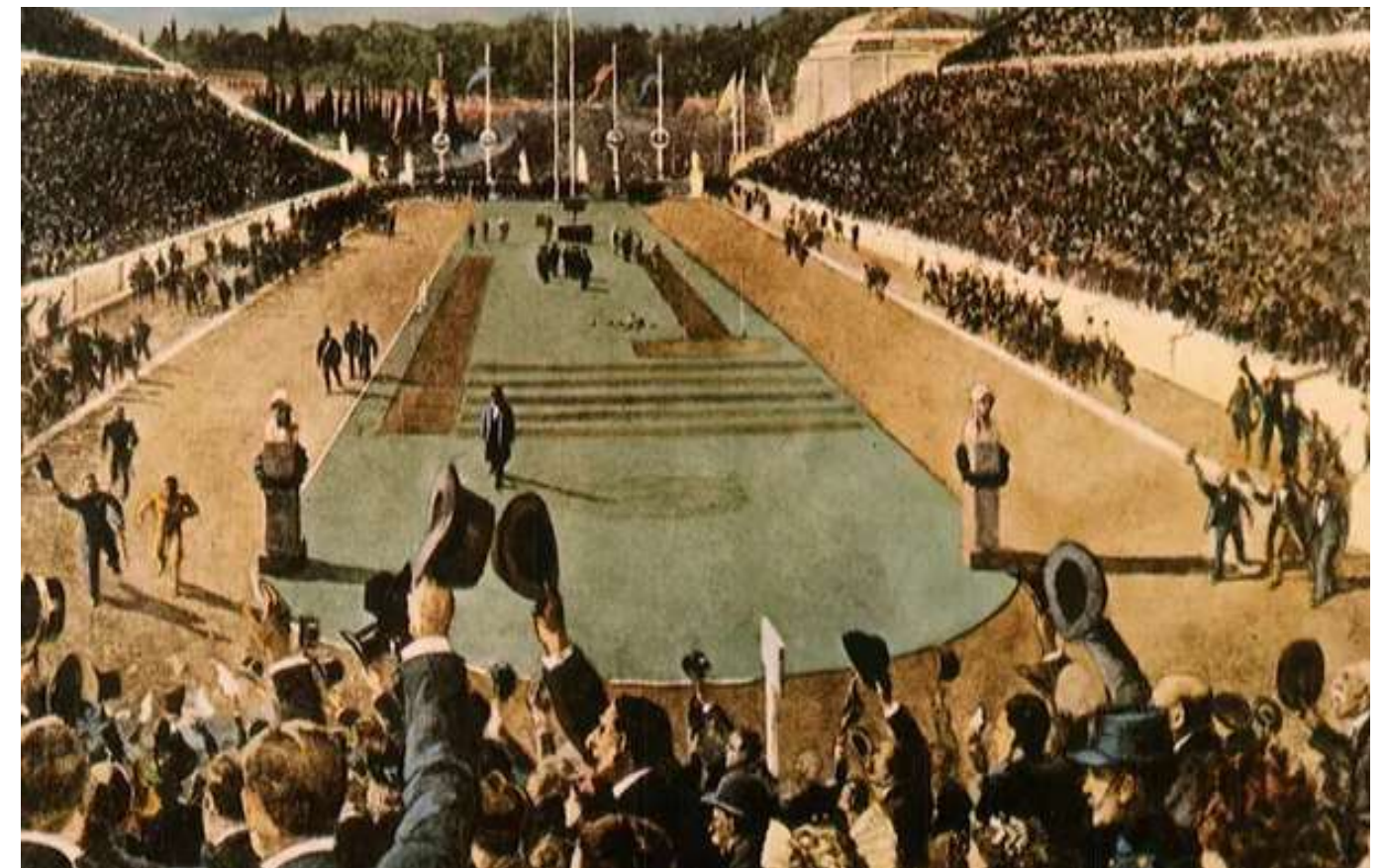


Figure I.2 A painting shows Spiridon Louis of Greece winning the first Olympic marathon, April 1896. Photograph: Getty Images



### 1.3 Sustainability of the Olympic Legacy

The term "Olympic heritage" first appeared in Australia's application for hosting the Olympic Games in 1956, but it did not attract widespread attention at that time. It was not until 1981 that Canada raised the issue of "Olympic heritage" again when it bid to host the 15th Calgary Winter Olympics, mainly aimed at the sustainable use of venue facilities (tangible heritage) after the Winter Olympics. (Xie Jun, Ru Xiuying. 2020) After the Olympic Games, it is possible for the host country to leave more complete sports facilities for its own country, but the maintenance and maintenance of the stadium and the full use of it are not easy. Some infrastructures are designed as multi-purpose buildings with strong adaptability and can be transformed. However, some cities have left a legacy of environmental and spiritual destruction because they did not make full use of the Olympic heritage.

The 2020 Agenda mentions the need to promote **sustainable Olympic Games**, host climate-positive Olympic Games, take into account the governance life cycle of the Olympic legacy, and reduce the amount of new infrastructure built for the Olympic Games. About the sustainable development of the Olympic Games, can be divided into the following categories:

**Environmental aspects:** 1. The snow sports competition venues of the Winter Olympics are mostly built in mountainous areas under the natural ecological environment, and the ecological environment is relatively fragile. Therefore, when arranging the facilities of the Winter Olympics, special attention should be paid to reducing the impact on the local environment. Detachable facilities should be used as much as possible to protect the forest and protect the life cycle of animals and plants. 2. Pay attention to the utilization of renewable resources, and make full use of renewable energy such as solar energy, wind energy, and water energy.

**Economic aspects:** The projected economic revenue for the Olympics comes from revenue from ticket sales, broadcasting rights, sponsorships and marketing, in addition to tax revenue from developed land for retail, hotel, housing, parking, and office space. Investment in building venues and infrastructure, but maintaining the profitability of sports venues after the game, as well as the full use of supporting facilities such as the Olympic Village and hotels, with the help of the Olympic Games, a global event, Bringing positive economic benefits to the host city belongs to economic sustainability.

**Urban aspects:** The sustainable impact of the Olympic Games on the city is reflected in the Olympic heritage, new urban appearance, transportation, etc. The Olympic Games can stimulate sustainable urban transformation to a certain extent and expand the influence of the host city. The construction of infrastructure such as the Olympic Park, Improve the quality of life of citizens, and improve the areas to be developed. Integrate supporting facilities such as the Olympic Village into the community after the games. In terms of transportation, during the Olympic Games, the public transportation network covers the Olympic venues. After the Olympic Games, reform the traffic management strategy to adapt to the Olympic Games and Later urban needs.

**Social aspects:** Among them, the educational value and volunteer spirit are the most significant, and the sustainable development practice of the Olympic Games follows the spiritual core of the Olympic Movement purpose. Build a bridge of international friendship, so that human beings can communicate and understand each other under the goal of creating a better world, so as to promote the benign operation and harmonious development of society.

**Cultural aspects:** The wide spread of sports culture not only leaves advanced sports facilities and new sports venues for the host city, but also increases people's interest in sports to a certain extent, thereby attracting people to actively participate in sports organized activities. The development of sports has laid a good foundation, and the development of sports is in a virtuous cycle. The effective use of the Olympic heritage has enabled the sustainable development of sports and promoted the dissemination and development of Olympic values.

To capitalize on large-scale events for urban development, bidder cities must leverage existing infrastructure and design buildings that are flexible, adaptable, time-sensitive, retrofittable, or multipurpose. Investments must be consistent with sound urban planning for material equality, cultural diversity, democratic participation and ecological sustainability [Eva Kassens-Noor, 2016].

The 1984 Los Angeles Olympics reused the Los Angeles Memorial Coliseum from the 1932 Olympics, and will also serve as the stadium for the 2028 Olympics. Reuse venues during games, and utilize existing stadiums and infrastructure after games to meet the needs of a large number of tourists and athletes. Reduce costs, increase post-game revenue, and crack post-game on the premise of sustainable use of venues and functions success password. The 2004 Athens Olympics, due to its huge cost, had a huge impact on the Greek economy. After the Olympics, a large number of sports facilities and venues were underutilized, leaving a legacy of environmental and spiritual destruction.



Figure 1.3 The IOC Sustainability Strategy



The Winter Olympics have many similarities with the Summer Olympics, but there are some fundamental differences. The Summer Olympics are usually held in the host city for most events, but more Winter Olympics events are held in the mountains or resorts closer to the host city, requiring efficient In addition, the stadiums of the baseball field or beach volleyball field of the Summer Olympics are usually temporary structures and can be dismantled, while the dismantling of the venues of the Winter Olympics is not so flexible, so the investment decision of the Winter Olympics needs to be carefully considered.

In the 2018 PyeongChang Winter Olympics, the government built the new PyeongChang Olympic Stadium specifically for the opening and closing ceremonies of the Winter Olympics/Paralympic Games. Due to unsustainable maintenance costs, after the presentation of the four major cultural and sports ceremonies, the Olympic Games The venue has now been almost completely demolished. The total cost of construction and demolition of the stadium reached nearly \$200 million (Park S,2018).

The Apensia Resort, which was built for the Pyeongchang Winter Olympics, also did not see a significant increase in the number of tourists after the Winter Olympics. This means that maintenance costs greatly outweigh the benefits, placing enormous economic pressure on the provincial government (Lee J. W,2019)

The 2022 Beijing Winter Olympics will use the stadiums of the 2008 Olympic Games to the greatest extent. Among the 25 venues in the Beijing competition area, 14 of them use the 2008 Olympic heritage (10 are venue heritage, 4 are land heritage). In the process of renovation of the venue, it will provide more modes and possibilities for its use after the Winter Olympics. Among them, the National Speed Skating Stadium was rebuilt using the land of the two temporary venues of the 2008 Olympic Games, the hockey field and the archery field.

In the 2008 Beijing Olympic Games, the National Aquatics Center held swimming, diving competitions and water polo finals. During the Winter Olympics, the National Aquatics Center conducted

curling and wheelchair curling competitions by setting up a detachable support structure and an ice-making system. It has creatively realized the sustainable transformation from "Water Cube" to "Ice Cube", and achieved the goal of "repeated, comprehensive and sustainable utilization" of the Winter Olympic venues. In order to move towards the city, the FIS project selected the venue in the Iron and Steel Industry Heritage Park in the capital of Beijing, so that the Beijing Winter Olympics will be closely integrated with the reuse of industrial heritage. Except for the diving platform itself, all the supporting facilities for the event are from the cooling tower area of Shougang Steel. transformation of industrial heritage. The main material of the big diving platform is all steel, which is easy to maintain after the competition and the cost is low. After the Winter Olympics, it will be opened to more ordinary citizens to realize the complete combination of competition venues and industrial heritage reuse and urban renewal.It has been fully affirmed by including IOC President Bach and FIS Secretary-General Sarah. Bach said: "Beijing has transformed a former steel factory

into a training venue for the Winter Olympics. It is incredible. They transformed the old factory there into offices, leisure areas, training grounds, and the office of the Beijing Winter Olympics Organizing Committee. It is an ideal interpretation of the IOC 2020 agenda" (Yumin Liu, Lin Gui, 2021).

Therefore, it is more cost-effective and sustainable to design the bidder city to use the existing infrastructure to design flexible, adaptable, time-sensitive, retrofittable or multi-purpose buildings. Therefore, as a building facility serving the 2026 Winter Olympics , we should also follow the principle of environmental friendliness and take full account of the full use of buildings after the Olympic Games.



Figure I.5 Pyeongchang stadium built for the Opening and Closing Ceremonies of 2018 Winter Olympic and Paralympic Games .Pyeongchang 2018



Figure I.6 The big jumping training venue transformed by the capital steel factory is in the 2022 Beijing Winter Olympics, Vision China

# MILANO CORTINA 2026 CANDIDATURE DOSSIER

Pocket edition



DreamingTogether.

The Games will act as a catalyst for the city/region's long-term development plans:

## **IMPROVE THE LIVES OF ALL WHO LIVE AND VISIT IT**

THE MILANO 2030 URBAN DEVELOPMENT PLAN :

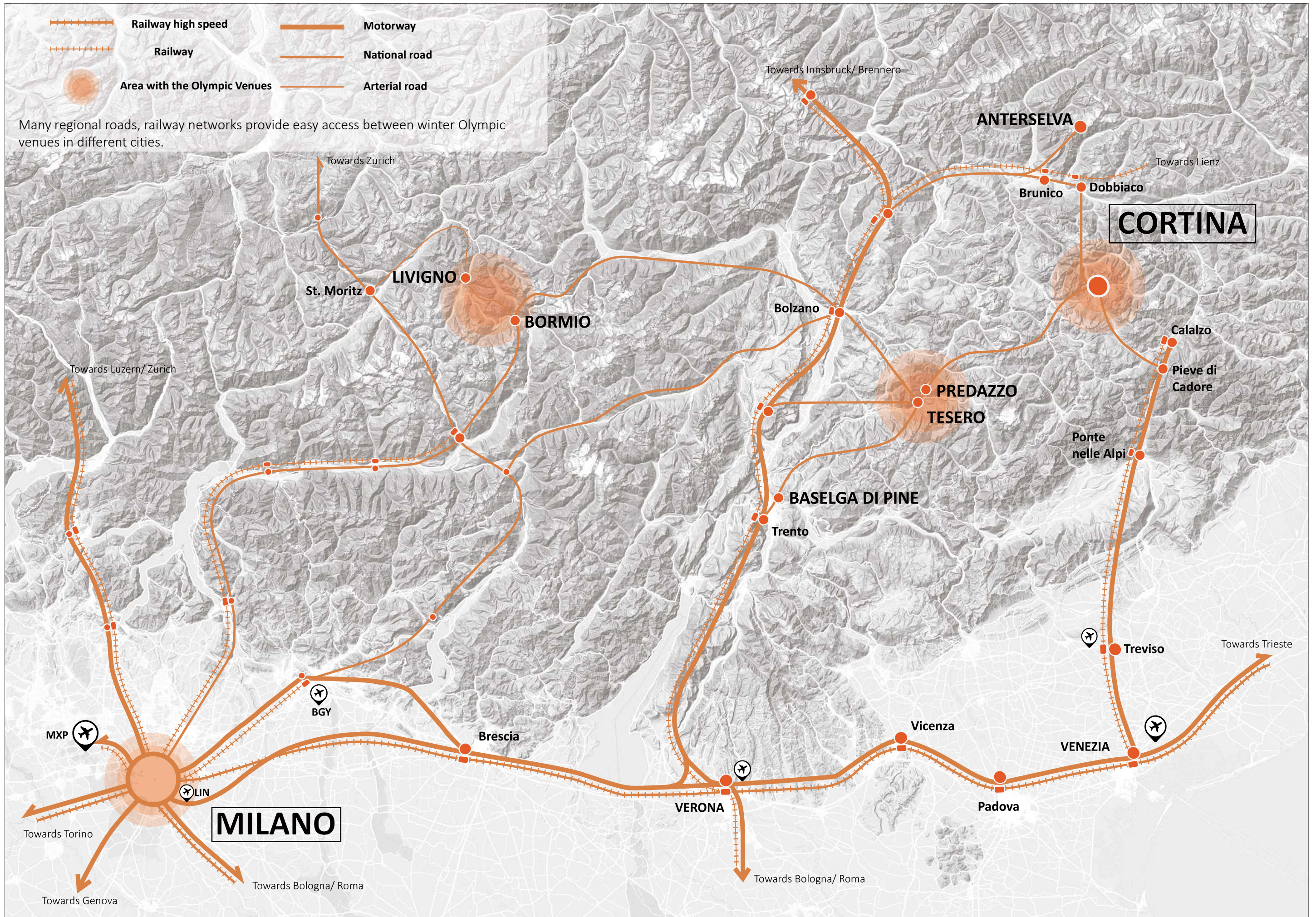
### **A GREEN, LIVEABLE, RESILIENT CITY**

Sustainability takes centre stage in the Milano 2030 Urban Development Plan, which aims to create a city-wide metropolitan park by connecting the Northern and the Southern parks, through the so-called 'Environmental regeneration areas'.

These areas include the seven abandoned railway yards (among which the Porta Romana site hosting the Olympic Village) that will be regenerated to host seven new parks completed with new residential housing and other community services.

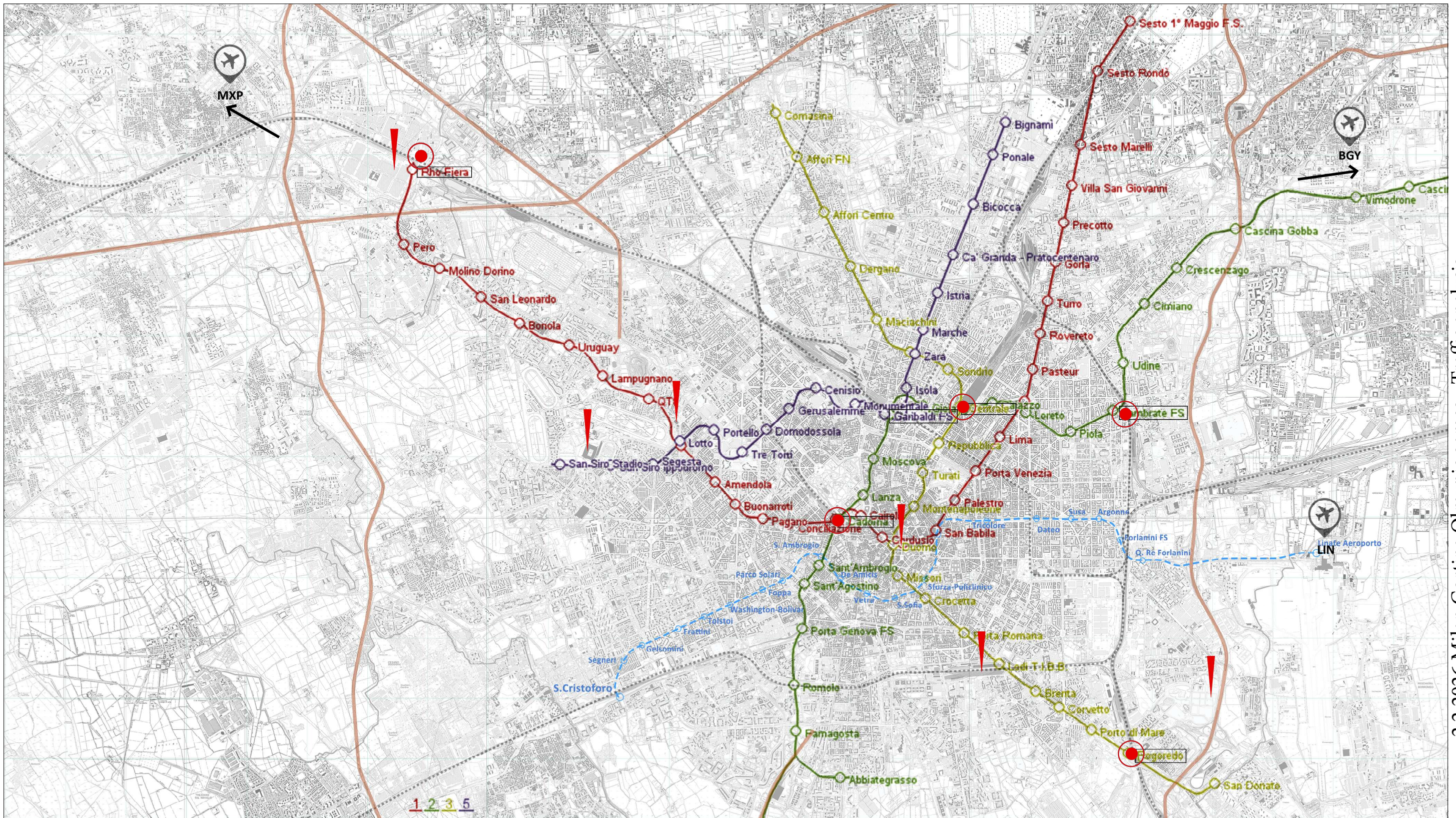
## **GAMES CONCEPT PERFECTLY ALIGNED WITH LONG-TERM LOCAL DEVELOPMENT PLANS**





2.2 2026 Milan Cortina Olympic games - Traffic analysis





Expressways, subways and urban railways connect all the Olympic venues and the city centre, People can get to these places quickly. In addition, some of the Olympic venues are close to train stations, which served by high-speed trains with a few minutes travel times to the other three main stations in Milano (including Rogoredo station, that serves Hockey 1 venue in Santa Giulia).

— M1 
 — M2 
 — M3 
 — M5 
 — Expressway 
 - - - - Urban Railway 
 ● Train station 
 ! Venue 
 - - - - M4 (Full traffic is scheduled for fall 2024)

2.2 2026 Milan Cortina Olympic games - Traffic analysis





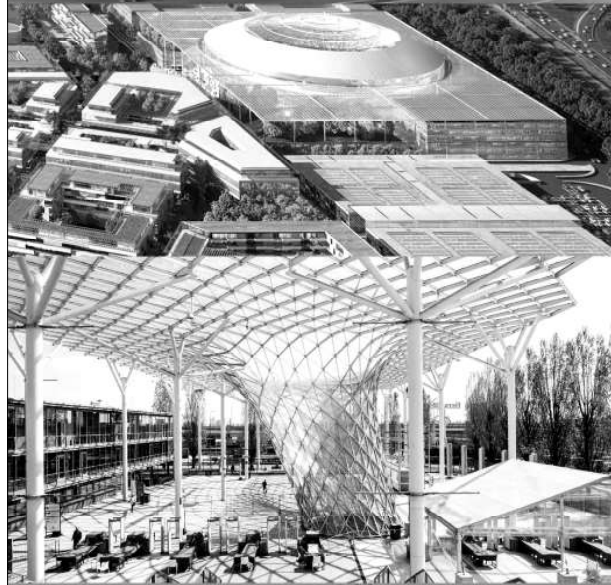
**Venue:** San Siro Stadium  
**Events:** Opening ceremony  
**Status:** Existing  
**Capacity:** 80018  
**Paralympic:**  
**Legacy:** Football Stadium



**Venue:** Mediolanum Forum  
**Events:** Figure skating, Short track  
**Status:** Existing  
**Capacity:** 12000  
**Paralympic:**  
**Legacy:** Multi-purpose area



**Venue:** Milano Hockey Arena  
**Events:** Second ice hockey venue  
**Status:** Existing  
**Capacity:** 7000  
**Paralympic:** Ice Sledge Hockey  
**Legacy:** Multi-purpose area



**Venue:** Palalitalia Santa Giulia  
**Events:** Main ice hockey venue  
**Status:** New  
**Capacity:** 15000  
**Paralympic:**  
**Legacy:** Multi-purpose area



**Venue:** Milano Exhibition Centre of Rho-Fiera  
**Events:** IBC/MPC  
**Status:** Existing  
**Capacity:** 34,000 m2 (IBC) and 15,000 m2(MPC)  
**Paralympic:**  
**Legacy:** Exhibition Centre



**Venue:** Main Olympic Village  
**Events:** Onlympic Village  
**Status:** New  
**Capacity:** 1100 beds  
**Paralympic:** Paralympic Village  
**Legacy:** Student accommodation

**Venue:** Piazza Duomo  
**Events:** Closing Ceremony  
**Status:** Existing  
**Capacity:**  
**Paralympic:**  
**Legacy:**

Milano Exhibition Centre of Rho-Fiera

San Siro Stadium

Milano Hockey Arena

Piazza Duomo

Main Olympic Village

Palalitalia Santa Giulia

Mediolanum Forum



# PART II

Railway yards transformation and 2026  
Milan - Cortina Winter Olympics

## **3. Development of the railway yards in Milan**

- 3.1 History of 7 Railway Yards
- 3.2 Goals and Trends of 7 Railway Yards regeneration

## **4. Mutual benefit between the remodeling of the railway yards and 2026 Milan - Cortina Winter Olympics**

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# DOCUMENTO DI VISIONE STRATEGICA **SCALI FERROVIARI**

QUESTO DOCUMENTO DELINEA UN NUOVO ED IMPORTANTE **PASSAGGIO** NEL PROCESSO CHE L'**AMMINISTRAZIONE COMUNALE** - INSIEME A **REGIONE LOMBARDIA E FERROVIE DELLO STATO ITALIANE** - STA PERCORRENDO PER DEFINIRE ED ORIENTARE LA **TRASFORMAZIONE** DEGLI **SCALI FERROVIARI MILANESI**, DA TEMPO **DISMESSI**.

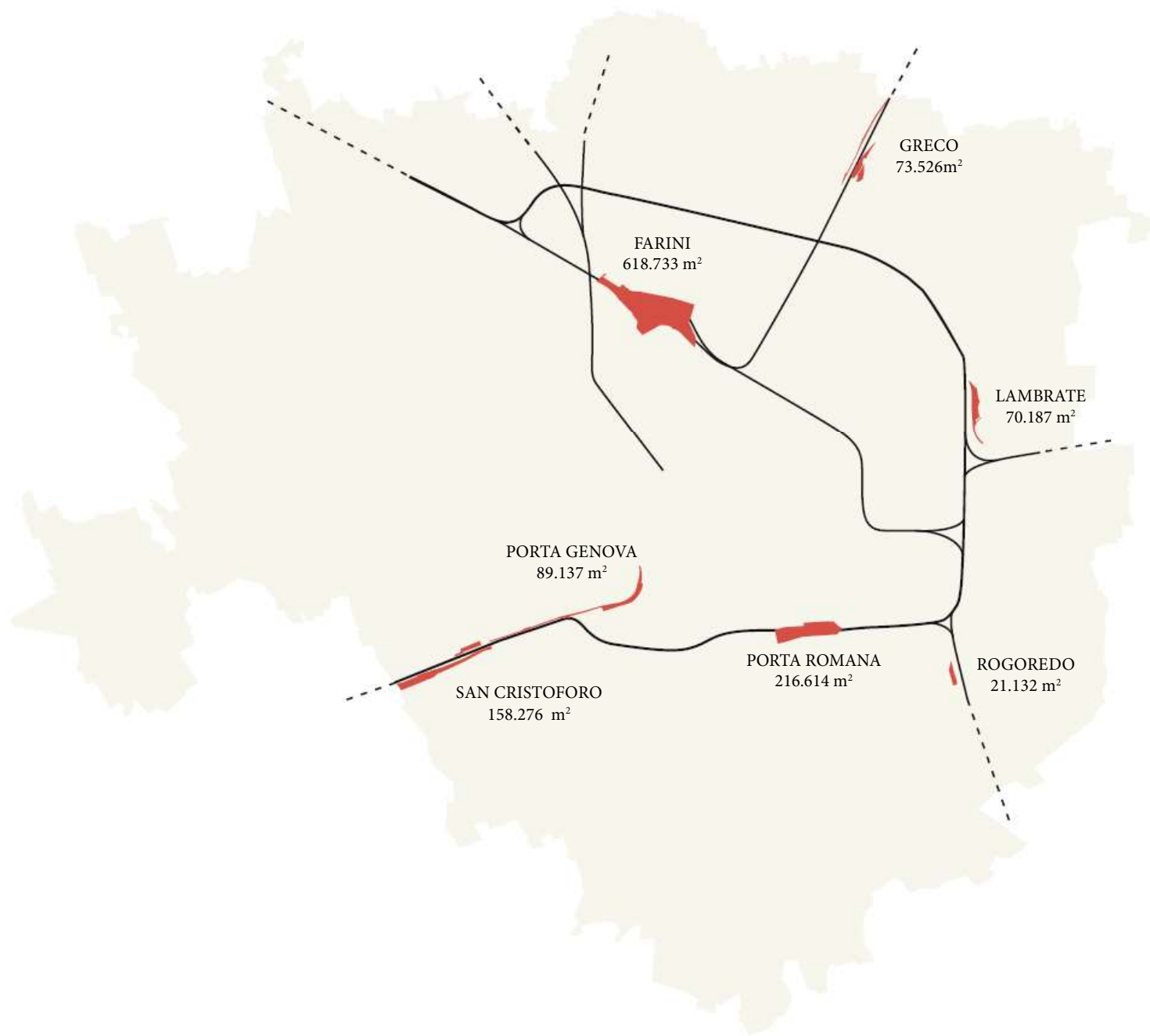


## **HISTORY OF SEVEN STATIONS:**

Starting from the 90s, the technological updating of the railway system, the concentration of logistics activities in large plants, competition of road freight transport, have led to a progressive underutilization and to decommissioning of many railway facilities, in Milan as in the rest of Italy.

Over the years, seven stations in Milan - Farini, Greco, Lambrate, Porta Romana, Rogoredo, Porta Genova and San Cristoforo - representing 120 hectares Abandoned semi-central area, hugely halted in a state of decay.

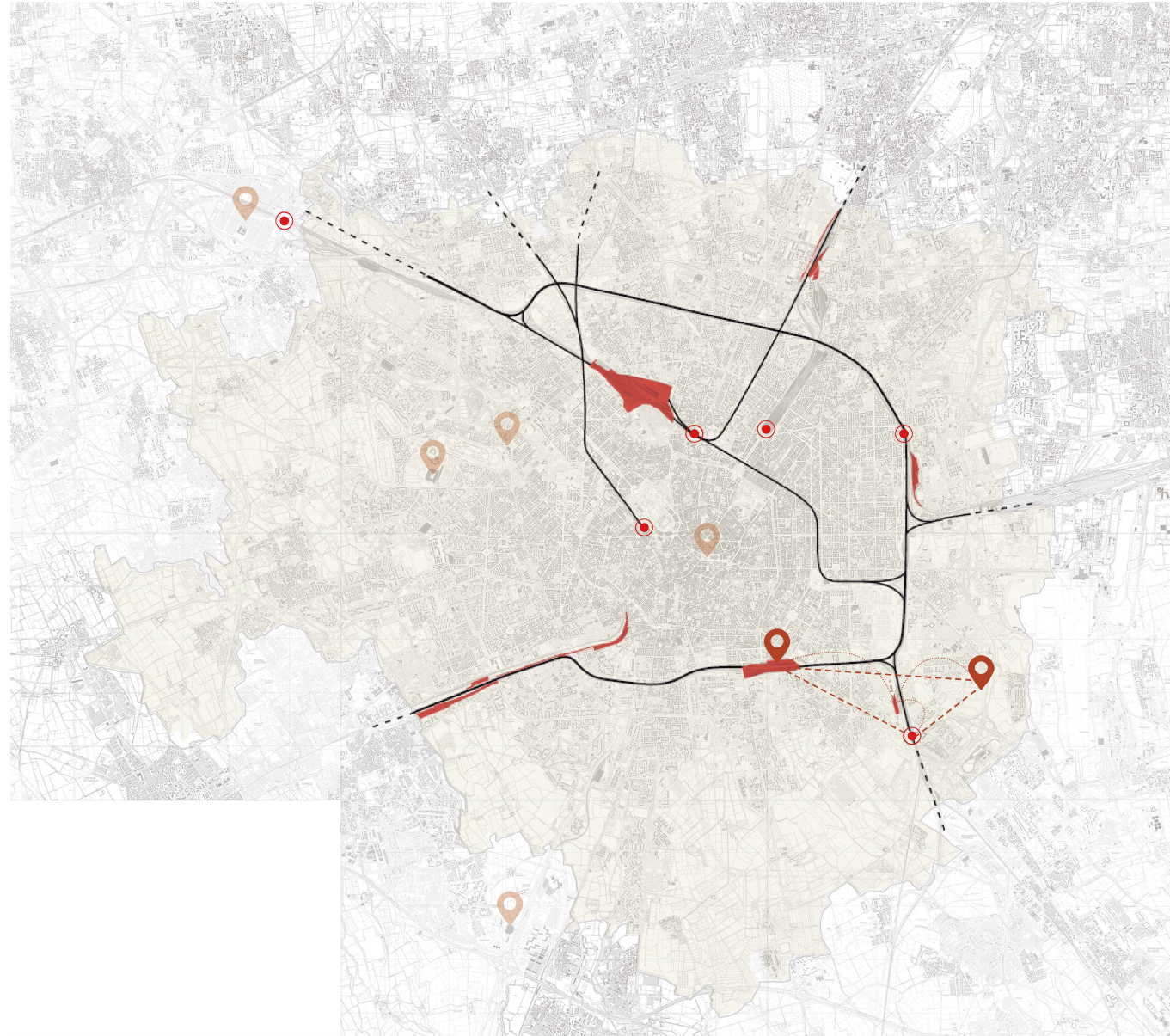
**They are used to be an urban economy, essential elements of social and infrastructural functions are now discontinuous elements of urban development.**



### THE DEVELOPMENT TREND OF RAILWAY STATIONS

1. Promoting sustainable mobility and public **transport** through rail. Support social and productive innovation
2. Promote ecologically sustainable **economic activity** and new employment opportunities
3. Contribute to urban renewal in disadvantaged areas by promoting **social cohesion**
4. Enhancing **environmental rebalancing**, improving air quality and urban soil
5. Creating **new public areas**, parks and services for the city and citizen of all ages
6. Providing services, jobs and housing primarily for **the youngest and most vulnerable**.





Porta Romana railway yard has a direct link to the Winter Olympics. While Rogoredo railway yard located between the two new Olympic venues and next to Rogoredo station, which plays an important role in connecting the winter Olympic venues in different cities. Therefore, the development of Rogoredo railway yard has a strong potential relationship with the Winter Olympics

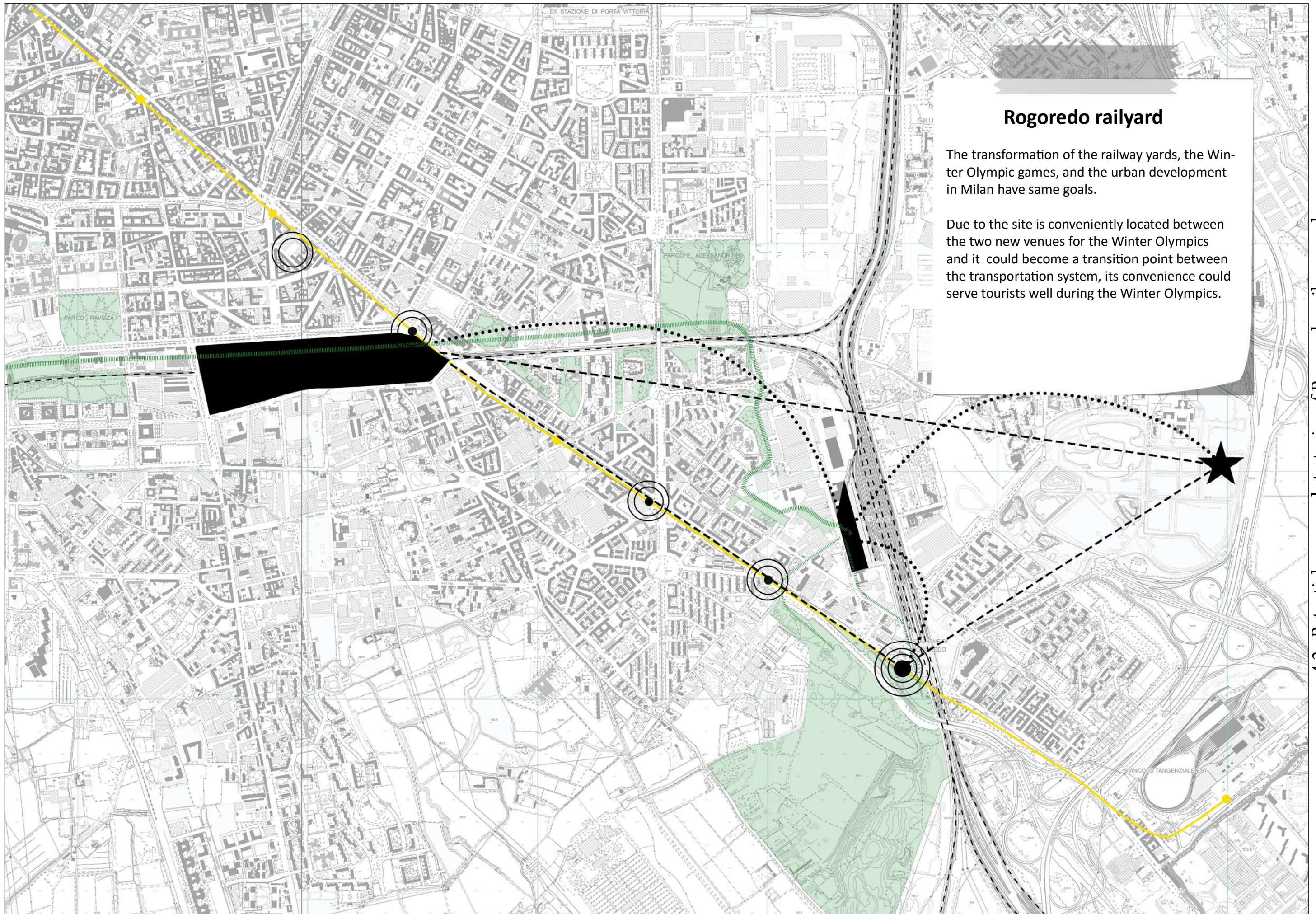
ROGOREDO:



<b>Total area</b>	21.132 mq
Territorial area	21.132 mq
Instrument surface	0 mq
Existing road	0 mq
<b>Gross floor area</b>	16.000 mq
<b>Green equipment</b>	11.632 mq

1. Redesign the West End (to Porto di Mare) and the eastern district (Santa Giulia), increasing the possibility of connection) railway.
2. Connect to the Southern Agricultural Park System.
3. Rogoredo is suitable for trying innovative public housing, in various forms, especially conducive to rental houses.
4. Restoration of several abandoned and/or underutilized areas helps address some of the issues associated with the lack of certain types of neighborhood services.
5. Envisions the reuse of sidewalks and bike paths of the abandoned railway line connecting rogoredo and Chiaravalle; thus also offers a new tourist route planning with new bike paths in Alessandrini Park and Porto di Mare Park connection system.





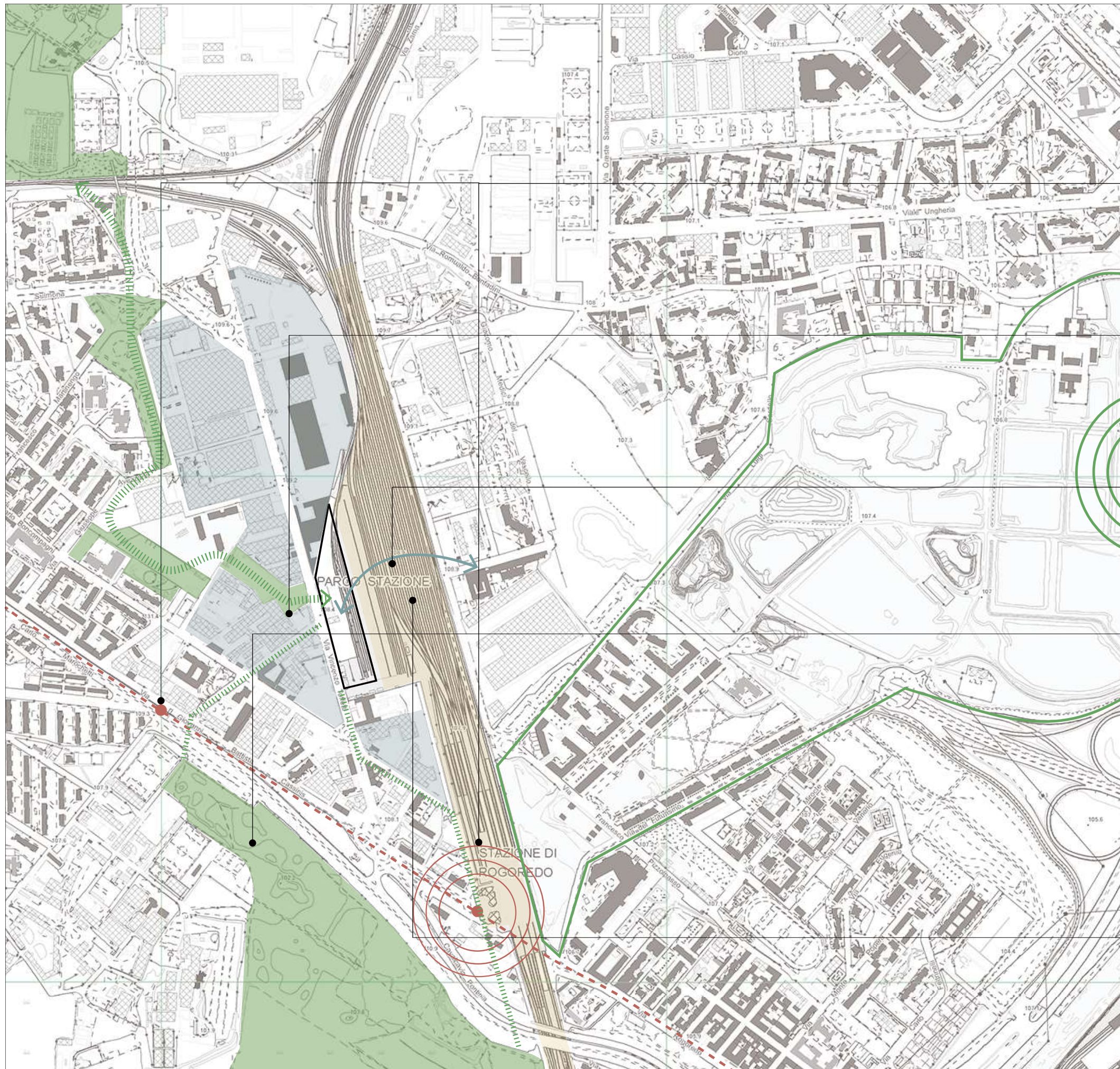
### Rogoredo rail yard

The transformation of the railway yards, the Winter Olympic games, and the urban development in Milan have same goals.

Due to the site is conveniently located between the two new venues for the Winter Olympics and it could become a transition point between the transportation system, its convenience could serve tourists well during the Winter Olympics.

4.2 Potential users and strategies of Rogoredo railway yard





**SWOT ANALYSIS**  
**STRENGTHS & WEAKNESS**  
**OPPORTUNITIES & THREATS**

Porto di Mare and Rogoredo station provides **fast transport** to the site



The surrounding maintenance depot and warehouse add to the **motor traffic and environmental burden** around the site



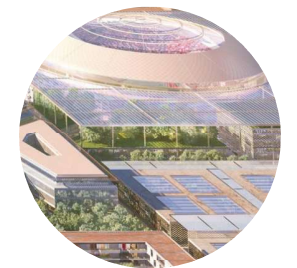
The two sides of the railway are **weakly connected**, and the points of communication where people cross the railway on foot are far apart



The site can create **a hub connecting** with the South Agricultural Park and the South High-speed railway station



The new Olympic venues will **create a new sustainable economy** and **attract large numbers of people**



Railways **bring a lot of noise**





**Competition**  
**AAAarchitircasi™**  
**Habitat Milano Rogoredo**  
**2019.11 -2020.5**

The designers will have to elaborate a multidisciplinary and complex project proposal for a cooperative residential intervention on the scale of the city, the building and the open spaces, in an area of approximately 21,000 square meters of the Rogoredo railway yard in Milan.

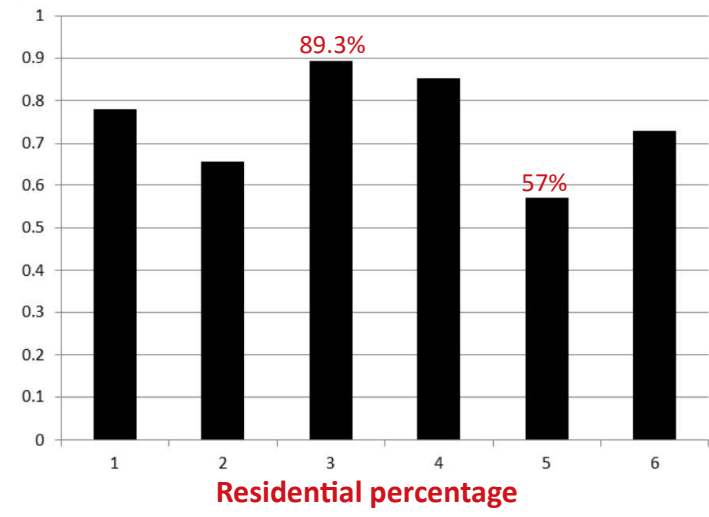
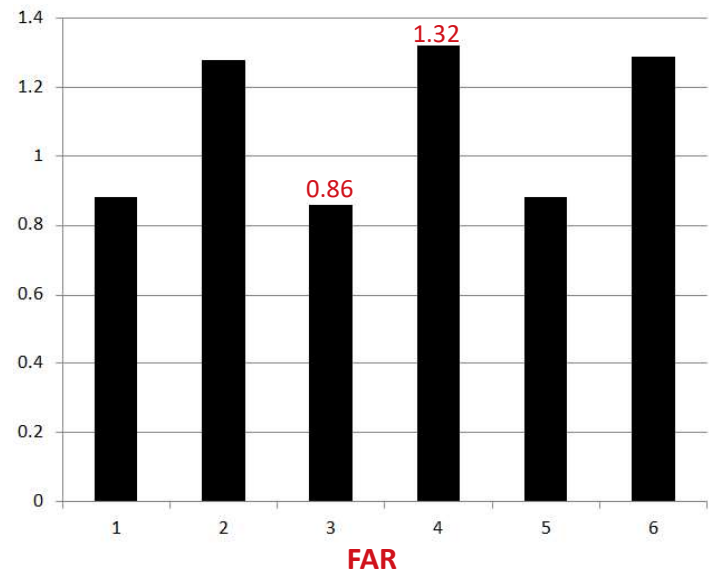
**Objectives of the competition:**

**Elaboration of a project proposal can be used in  
future assignments**

- 1- Identify strategic hypotheses on the area in question and to stimulate a planning reflection on the cooperative house as a common good
- 2- Identify deserving groups of young professionals to be included in a "list of merit" that the organizers can use in the case of future assignments
- 3- Contribute to the cultural and disciplinary debate through an in-depth and experimental investigation on the most current issues of living, the city and the landscape.



Winning Points	<p>First place   <b>LIVING THE EDGE</b>  Gregorio Pecorelli, Tobia Davanzo, Chiara Dorbolò  The <b>BALANCE</b> achieved: between buildings and open spaces; private, collective and public areas; 'mineral' spaces and green spaces; order and complexity.</p>	<p>Second place   <b>ONE AMONG MANY</b>  Stefano Maria Ivaldi (MI), Manuel Clasadonte (MI)  <b>Clear and Precise</b>  Space is used in their various forms. Appreciable attention to the road and its vitality, as well as the treatment of the margin towards the railway.</p>	<p>Third place   <b>URBAN DOMESTIC</b>  Matteo Bassi (BS), Michele Antinori (MI), Pietro Nobili Vitelleschi (TR), Joseph Rigo (Calicut)  <b>Close dialogue between the individual parts and the whole.</b> A sequence of distinct and easily recognizable places gives life to a narrative that makes a city.</p>	<p>Fourth place   <b>ROGOREDO OPEN OPERA</b>  Andrea Danelli (CO), Stefano Casula (BS), Massimo Falconi (VR)  The reinterpretation of traditional elements is conducted with intelligence capable of enriching the project. Well-defined places in an <b>Balance</b> between relationship and intimacy.</p>	<p>Fifth   <b>ECOL - EASY CONSCIOUS LIVING</b>  Elisa Perego (BL), Caterina Spadoni (RA)  A solution that is appreciated for its <b>Internal coherence</b></p>	<p>Sixth place  Antonio La Marca (NA), Andrea Govi (FC)  The project focuses on the <b>invention</b> of a new landscape and on strong functional and architectural synergies. <b>But it takes risks</b> on the actual feasibility and manageability of spaces.</p>
Program Main Features						
Building Texture						
GFA	18561 mq	27062 mq	18157 mq	27914 mq	18611 mq	27301 mq
FAR	0.88	1.28	0.86	1.32	0.88	1.29
Building density	0.194	0.251	0.19	0.195	0.228	0.349
Non-Residential percentage	22.0%	34.4%	10.7%	14.8%	43.0%	27.0%
Residential percentage	78.0%	65.6%	89.3%	85.2%	57%	73.0%
Residential typology	Single, Couple and Family <b>Apartment</b>	<b>The Shared apartment</b> for different ages and family status	<b>Shared apartment</b> and <b>Student dormitory</b>	<b>Shared apartment</b> for renting, <b>Apartment</b> and <b>Student dormitory</b>	<b>The Shared apartment</b> for different ages and family status	<b>Modular apartment</b> for students, different ages, and family status



**Indication of Rogoredo railway yard**

<b>Total area</b>	21132 mq
<b>Gross floor area</b>	18157-29714 mq
<b>FAR</b>	0.86 - 1.32
<b>Building density</b>	0.19 - 0.35
<b>Residential percentage</b>	57% - 89.3%
<b>Residential typology</b>	Apartment Student dormitory

# PART III

## Combining Affordable Hotel and Student Housing

### **5. Relationship between accommodation conversion and the Olympic Games**

- 5.1 The impact of 2026 winter olympics on hotel demand
- 5.2 Solution of accommodation for mega events in Milan
- 5.3 Short-term demand and target users for accommodation
- 5.4 Long-term demand and target users for accommodation

### **6. Transformation Strategy of Rogoredo railway yard**

- 6.1 From Affordable Hotel to Student housing

### **7. Case studies and Functional indicators**

- 7.1 Case studies- New trends in Europe budget hotels
- 7.2 Functional indicators



## 5.1 THE IMPACT OF 2026 WINTER OLYMPICS ON HOTEL DEMAND

### 5.1.1 The short-term impact of the Expo on the performance of Milan hotels

To better understand the potential impact of the Winter Olympics on Milan's tourism development, we can refer to the effects generated by the Milan World Expo 2015 on both hotel performance and seasonality structure. The study showed that in the short term, the Expo significantly improved the hotel performance of the four seasons in Milan, and the events have the ability to change seasonality (Sainaghi et al. 2019).

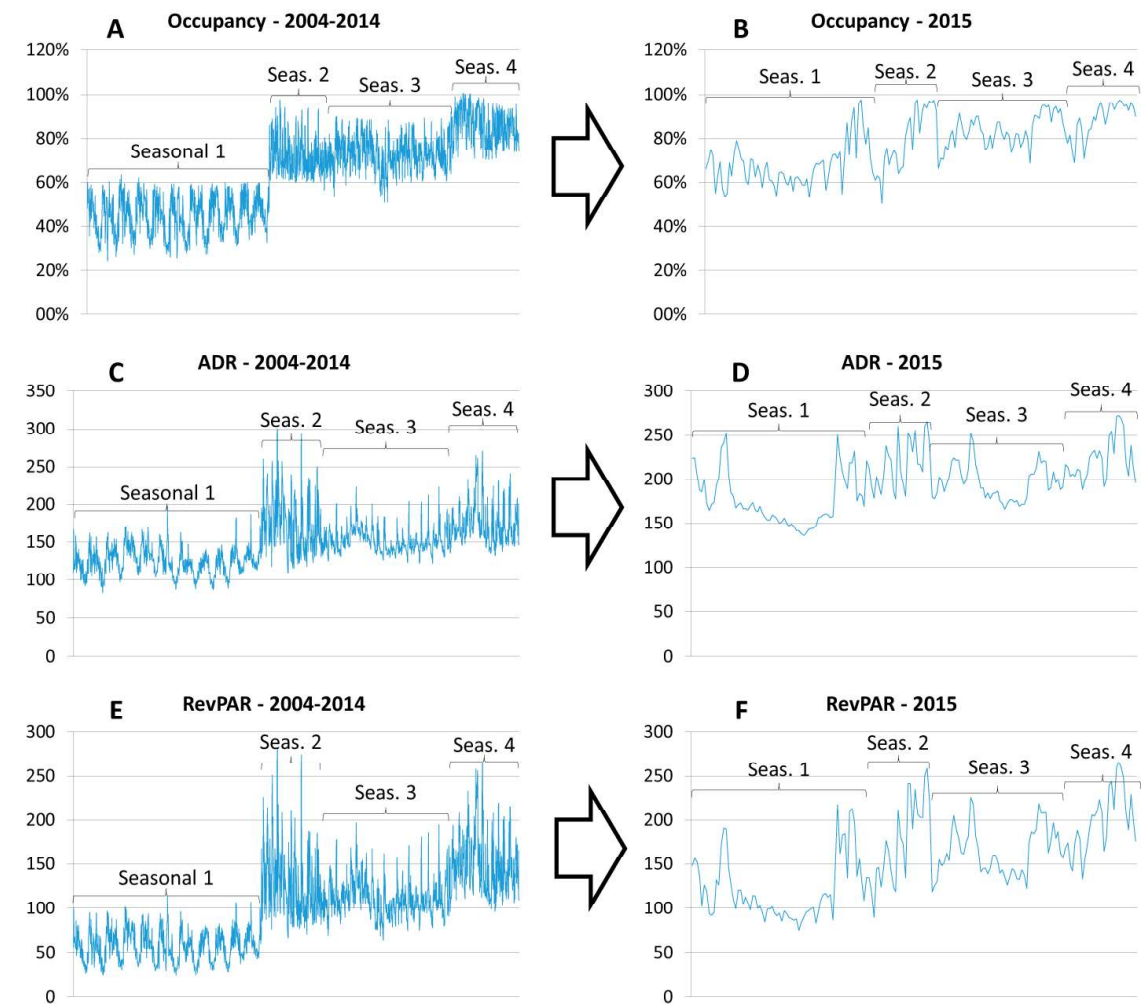
### 5.1.2 The impact of COVID-19 on the hotel industry in Milan

The hotel and tourism industry is one of the sectors most affected by the pandemic. According to Eurostat, in Italy, the hotel 2020 demand faced a drop in overnights of -56.9% compared to 2019, with an even more dramatic impact on the Milan (-75.0%) (Horwath HTL, 2021). Although the 2021 demand in overnights rose to -28.2% compared to 2019, it still has a long way to go from full recovery. Public institutions and research centers elaborated many recovery predictions, they all agree that the most realistic expectation to the likely recovery of 2019 levels is by the end of 2023 (Horwath HTL, 2022).

Furthermore, 2.4 billion euros was decided to be invested in the tourism sector by the Italian government to boost a full recovery. In the view of the international events that will be hosted in Italy, the Government is trying to promote alternative and integrated routes to secondary locations and regions to reduce the effects of overtourism.

### 5.1.3 Conclusion

In 2026, the hotel industry could have recovered from the effects of the pandemic, and the Winter Olympics have the potential to give Milan a short-term tourism boost. In order to improve the economy of Milan and provide better services for tourists, NEW HOTELS CAN BE OPENED DURING THE WINTER OLYMPICS.



Milan's seasonality between May 1 and October 31: 2004-2014 versus 2015 (Sainaghi et al. 2019).

## 5.2 SOLUTION OF ACCOMMODATION FOR MEGA EVENTS IN MILAN

### 5.2.1 Ways to increase accommodation capacity

Tourism income-generating capacity requires adequate accommodation capacity. It can be increased in one of three ways: by building new accommodation facilities (an expensive and environmentally unsustainable option), by temporarily introducing mobile capacity on cruise ships, or by using existing space that is not being used when events take place (Fairley, S., MacInnes, S. and Dolnicar, S. 2021) . So Sustainability and temporality are the tools of accommodation for mega events.

### 5.2.3 The current situation of hotel accommodation for tourists in Milan

According to the service level of hotels, hotels can be divided into economy hotels, Midscale hotels, and Luxury hotels. In ITALY Hotels & Chains Report 2021, as recorded in the past years, there is still an unexplored segment in terms of brands in the economy segment in Italy. The situation is similar in Milan, which has enough luxury and star accommodation to meet the visitors coming in different kind of weeks and fairs. . In order to develop the hotel industry, this segment needs greenfield, efficient and lean developments.

As of February 2022, Milan has a total of 432 hotel facilities. Three- star and four-star hotels accounted for roughly two thirds of all hotel facilities in Milan, with 281 such establishments in total. Meanwhile, there were 24 five-star hotels and 134 three-star hotels in the municipality of Milan as of that period.

### 5.2.3 Non-hotel accommodation's impact on the hotel industry

Tourist demand for non-hotel accommodation has led to a huge increase in recent years. For non-hotel facilities in Milan, according to the data from Statista, the number of accommodation listings on Airbnb in Italy increased nearly three times compared to 2015.

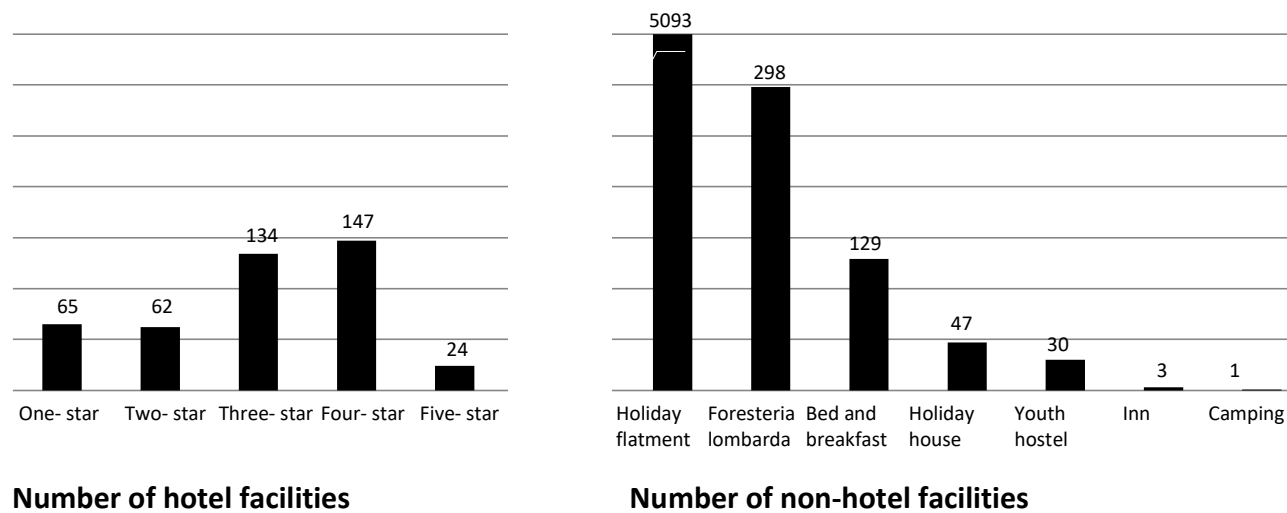
Although the overall impact of Airbnb supply on hotel performance is negative, but it is very small and mainly reflected in the low-end hotels. Managers of low-end hotels should find effective ways to improve their competitiveness in the market. There is marginal replacement of the hotel demand by the growth of the accommodation cost. One important difference between hotels and Airbnb is the greater social advantage of hotels (yang et al., 2021). Given how competitive the budget hotel industry is and the growing popularity of AirBnB, the industry must innovate and do a better job of creating a more "social" atmosphere for guests..

### 5.2.4 Conclusion

Sustainability and temporality are the tools of accommodation for mega events. Moreover, Milan has the potential to explore hotel brands in the economy segment with the consideration of improving their competitiveness with Airbnb.

So an affordable hotel with a good social atmosphere that can be sustainable used is a perfect solution for mega events in Milan.

Number of hotel and non-hotel facilities in the Italian city of Milan as of February 2022, by ranking and type

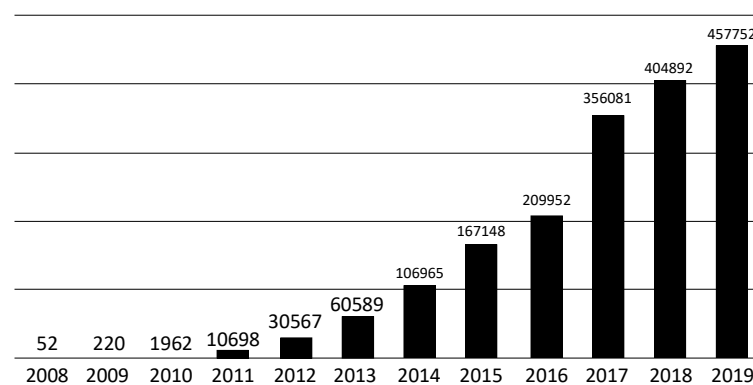


Number of hotel facilities

Number of non-hotel facilities

Source: Regione Lombardia, Statista 2022

Number of accommodation listings on Airbnb in Italy from 2008 to 2019



Source: Regione Lombardia, Statista 2022



### 5.3 SHORT- TERM DEMAND AND TARGET USERS FOR ACCOMODATION



The current situation of unexplored hotel economy segment in Milan gives an opportunity to unlock the city as a destination appealing to the young, students and budget traveller from all over the world.

### 5.4 LONG- TERM DEMAND AND TARGET USERS FOR ACCOMODATION



#### The growing trend of the student number in Milan

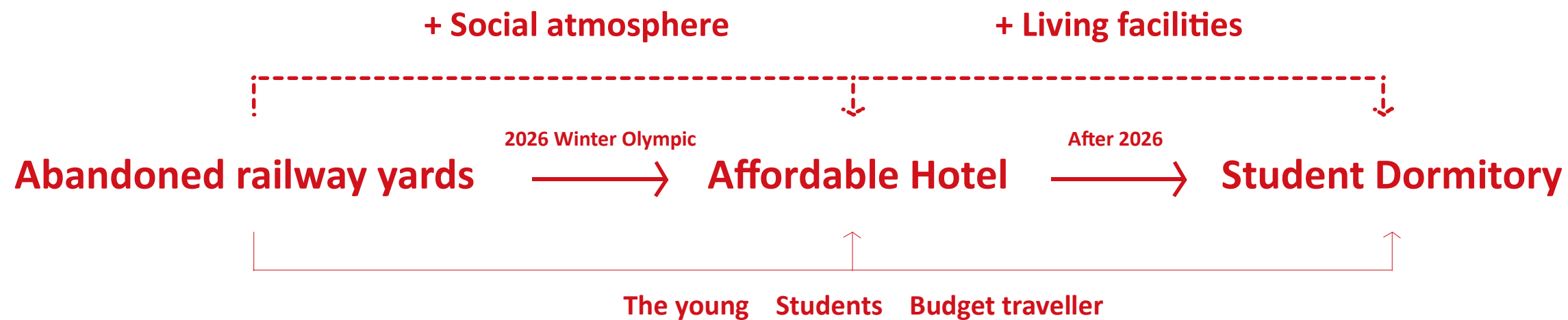
The number of students in Milan has grown rapidly between 2015 and 2020



According to PGT Documento di piano, Milano 2030, Station areas primarily provide services, jobs and housing for the youngest and most vulnerable. At the same time, student housing in Milan can only be provided to less than 10% of students, and the number of dormitories is seriously insufficient.

For long-term consideration, due to the support of the policy and the growing demand for student housing in Milan, the Rogoredo railway yard is suitable to be built as a place for students and young people to live and to inject vitality into the surrounding community.





**An affordable hotel will be built on the site for the Winter Olympic games.**

The large number of visitors to the 2026 Winter Olympics will bring a lot of opportunities for the city, and the site is close to the Olympic venues and has an excellent position in terms of public transport and intercity transport. Taking advantage of this advantage will provide great convenience for tourists to visit during the Winter Olympics, and the arrival of tourists will also bring new vitality to the area. After the Winter Olympics, the complex can be quickly transformed into social housing for students and young people to rent.



## 7 CASE STUDIES- NEW TRENDS IN EUROPE BUDGET HOTELS

In the past few years, innovative hotels like the Generator, The Student Hotel and Daniel Vienna have opened in Europe. They have amazing facilities like cool bars, cinemas and swimming pools. In addition, guests can choose from dormitories or private rooms with ensuites. It attracts not only the young but also the older generation of travellers

### 7.1.1 The student hotel Bologna



Figure III.1 Inner courtyard of The student hotel Bologna

#### PUBLIC SPACES

- Entrance & Lobby
- The commons restaurant
- Co-working spaces
- Study area
- GYM
- Game zone
- Mail boxes area
- Luggage room
- Courtyard
- Swimming pool
- Common kitchen
- Bike garage

#### SEMI-PUBLIC SPACES

- Office
- Auditorium
- Classroom

Place: Bologna, Italy

Year: 2020

Designers: RIZOMA Architecture

The hotel has got a 26.000 sqm surface, 361 rooms, the 62% of which dedicated to the students and the 38% to the other guests.

#### PRIVATE SPACES

Student accommodation:

ROOM TYPE	R. SIZE	BED SIZE
Economy single	17 m <sup>2</sup>	90*200 cm 120*200cm
Economy queen	18 m <sup>2</sup>	160*200cm
Standard queen	20 m <sup>2</sup>	160*200cm
Standard twin	21 m <sup>2</sup>	90*200cm
Executive twin	24 m <sup>2</sup>	90*200cm
Deluxe twin	25 m <sup>2</sup>	120*200cm

Hotel rooms:

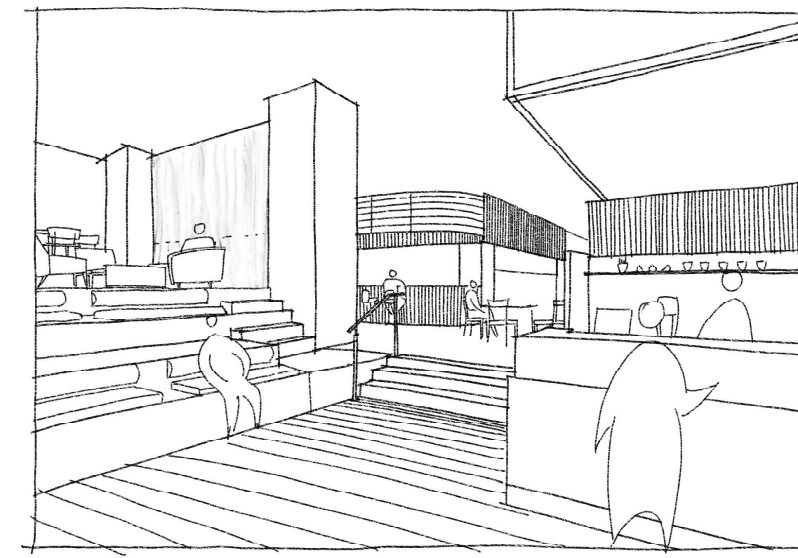
ROOM TYPE	R. SIZE	BEDDING
Standard single	17 m <sup>2</sup>	1 double bed
Economy queen	18 m <sup>2</sup>	1 Queen-sized bed
Standard queen	20 m <sup>2</sup>	1 Queen-sized bed
Standard twin	21 m <sup>2</sup>	2 Single beds
Executive king	22 m <sup>2</sup>	1 king-sized bed
Executive twin	24 m <sup>2</sup>	2 Single beds
Deluxe twin	25 m <sup>2</sup>	2 Single beds
Deluxe studio	30 m <sup>2</sup>	1 king-sized bed
Play room	36 m <sup>2</sup>	1 king-sized bed

## THE STUDENT HOTEL: More than just a hotel

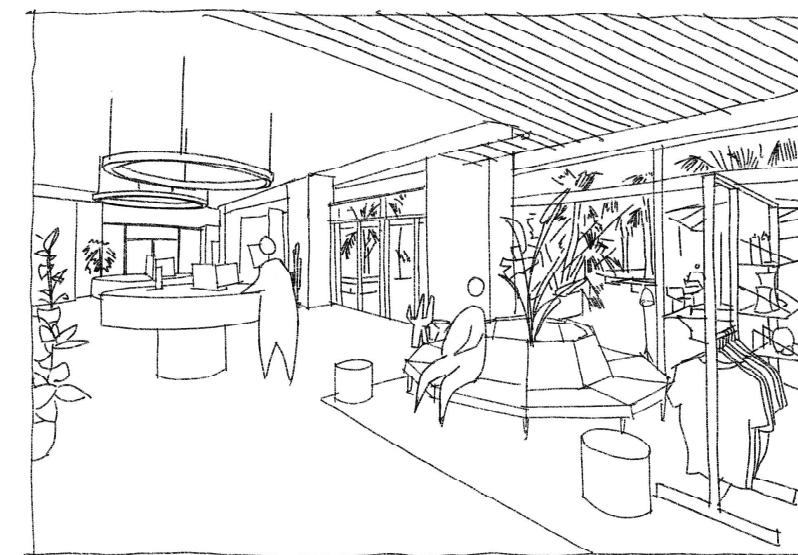
The Student Hotel gives a new concept in hybrid hospitality. It brings together student accommodation, hotel rooms, co-working, meetings and events in a new and inspiring hospitality concept.



Public space  
Semi-public space  
Private space  
Service space  
(Kenneth and Ashley, 2015)



open space  
distinguish different activity space through the indoor height difference



Glass doors separate indoor and outdoor Spaces and indoor quiet areas



## 7 CASE STUDIES- NEW TRENDS IN EUROPE BUDGET HOTELS

### 7.1.2 The student hotel Delft



Figure III.2 Street view of The student hotel Delft

Place: Delft, Netherlands

Year: 2016-2022

Designers: KACP

The hotel has got a 13.500 sqm surface, 342 hotel rooms. The hotel (public spaces) is 1.085 sqm. Bringing neighbors together and connecting the community is central to The Student Hotel.

#### PUBLIC SPACES

Entrance area  
GYM  
Restaurant 250 sqm  
Library  
Gaming and lounge spaces  
Co-working spaces 350 sqm  
Kitchen  
Integrated bicycle parking facility  
Laundry

#### SEMI-PUBLIC SPACES

Office  
Classrooms  
Meeting rooms

#### PRIVATE SPACES

Student accommodation:

ROOM TYPE	R. SIZE	BED SIZE
Standard single	13 m <sup>2</sup>	120*200cm
Executive queen	16 m <sup>2</sup>	160*200cm
Deluxe queen	22 m <sup>2</sup>	160*200cm
Executive studio	20 m <sup>2</sup>	180*200cm

Hotel rooms:

ROOM TYPE	R. SIZE	BEDDING
Executive queen	14 m <sup>2</sup>	1 Queen-sized bed
Deluxe queen	20 m <sup>2</sup>	1 Queen-sized bed
Deluxe king	20 m <sup>2</sup>	1 King-sized bed



Public space  
Semi-public space  
Private space  
Service space

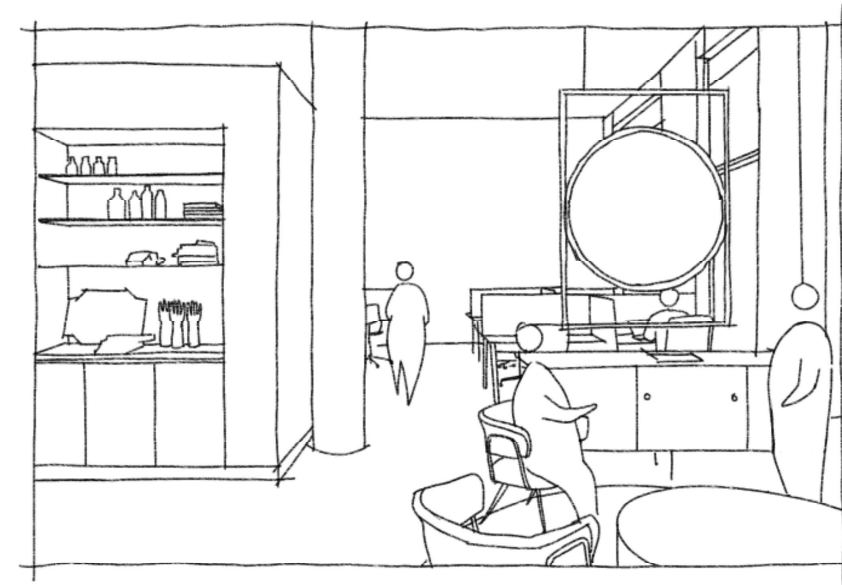
(Kenneth and Ashley, 2015)



Open space

Large steps provide the main communication space

The interior leisure area is divided by carving empty shelves and partitions



The large space is divided into different small Spaces to create a learning atmosphere and reduce mutual interference

## 7 CASE STUDIES- NEW TRENDS IN EUROPE BUDGET HOTELS

### GENERATOR

Generator combines affordable luxury rooms with unique social events for the travellers and locals of Europe's coolest cities.

#### 7.1.3 Generator Venice



Figure III.3 Street view of Generator Venice

Place: Venice, Italy

Year: 2013

Designers: Progetto CMR

The hotel has got a 26.000 sqm surface, 29 rooms with 241 beds. Generator Venice aims to change Venice's staid hotel and nightlife scene. The hostel originally occupies an 1855 granary warehouse, converted in the 1950s into the only hostel of Venice.

#### PUBLIC SPACES

Entrance & Lobby  
Bar  
Cafe  
Garden  
Lounge and restaurants 250 sqm  
Chill-out areas  
Exhibition spaces  
Lounge

#### PRIVATE SPACES

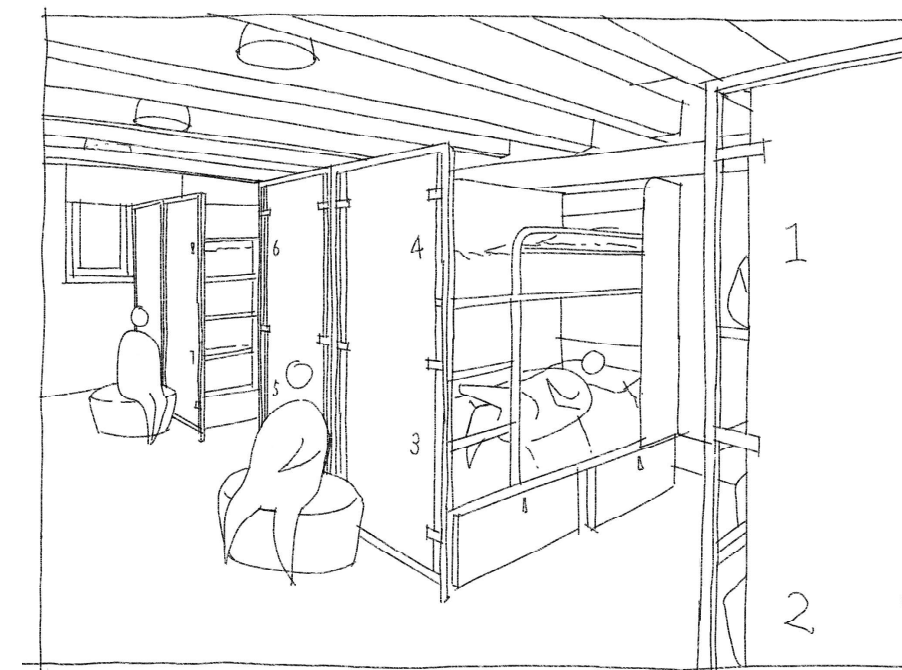
Hotel rooms:

ROOM TYPE	BEDDING
Bed in Large Dorm - Shared bathroom	10 to 16 beds
12-bed Female Dorm	6 bunks - 12 beds
10-bed Female Dorm	5 bunks - 10 beds
8-bed Dorm	4 bunks - 8 beds
7-bed Dorm	3 bunks - 7 beds
7-bed Dorm - Shared Bathrooms	3 bunks - 7 beds
5-bed Dorm - Shared Bathrooms	5 beds
5-bed Dorm	2 bunks - 5 beds
4-bed Dorm	2 bunks - 4 beds
3-bed Room - Shared Bathrooms	3 beds
Deluxe King	1 king bed



Public space  
Semi- public space  
Private space  
Service space

(Kenneth and Ashley, 2015)



Economy beds in multiple rooms, people can enjoy the rest of the hotel's recreational facilities and social atmosphere



## 7 CASE STUDIES- NEW TRENDS OF EUROPE BUDGET HOTELS

### 7.1.4 Generator Paris



Figure III.4 Street view of Generator Paris

Place: Paris, France

Year: 2015

Designers: Studios d'Architecture Ory & Associés

Built in 1985 as an eight-storey office block, the property was later converted into a Generator hotel, with 917 beds in 199 rooms. It primarily offers an affordable and design-oriented accommodation in prime locations, with an emphasis on a wide range of vibrant social Spaces.

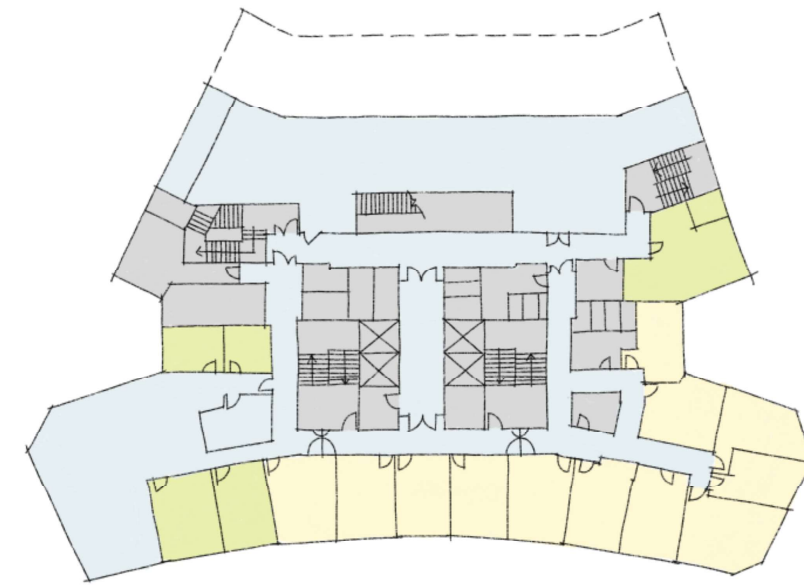
#### PUBLIC SPACES

Entrance & Lobby  
 Club/ Basement Bar 150 sqm  
 Mezzanine 150 sqm  
 Cafe 36 sqm  
 Library and work area  
 Garden  
 Exhibition spaces  
 Rooftop Terrace with Solarium 110 sqm

#### PRIVATE SPACES

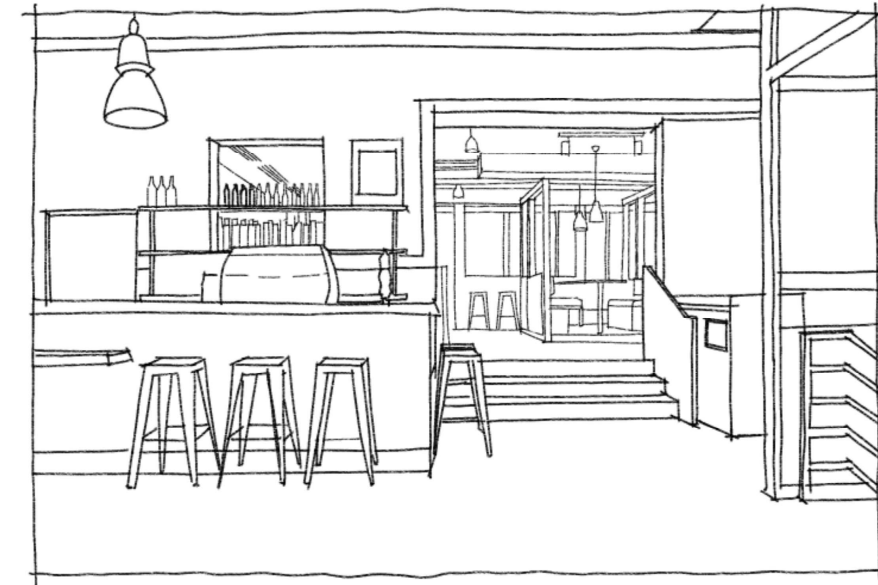
Hotel rooms:

ROOM TYPE	BEDDING
10-bed Dorm	5 bunks – 10 beds
8-bed Dorm	4 bunks – 8 beds
8-bed Female Dorm	4 bunks – 8 beds
6-bed Dorm	3 bunks – 6 beds
4-bed Dorm	2 bunks – 4 beds
Superior Twin	2 single beds
Deluxe Twin	2 single beds
Deluxe Queen	1 double bed
Deluxe King	1 king bed
Deluxe King - Private Terrace	1 king bed

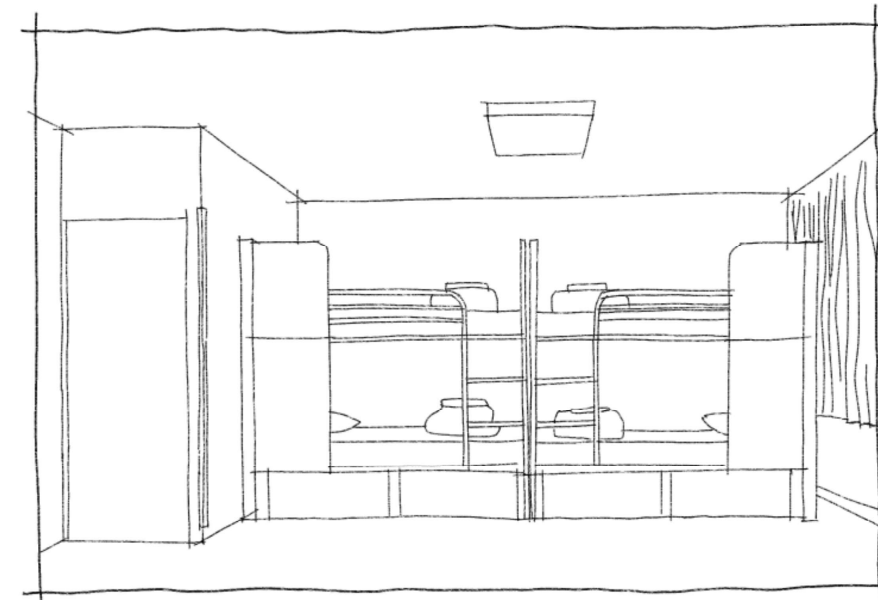


- Public space
- Semi- public space
- Private space
- Service space

(Kenneth and Ashley, 2015)



Different functions are arranged in different Spaces, but these Spaces are interconnected



Multi-person rooms with private bathrooms, it balanced privacy and affordability

### Functional Area Spaces and Equipment for Affordable hotel

<b>Private spaces</b>	<b>Standard rooms</b>	Standard single Standard twin Standard queen Deluxe twin Deluxe King Family room
	<b>Shared rooms</b>	4-bed Dorm 6-bed Dorm 8-bed Dorm 10-bed Dorm
<b>Public and Semi-public spaces</b>	<b>Cultural Facilities</b>	Exhibition spaces Study area Co-working spaces Auditorium
	<b>Recreational Facilities</b>	Bar& Clab Restaurant Classroom Swimming pool (Common) kitchen GYM Game zone Garden
	<b>Support, Management and Administrative Services</b>	Office Luggage room Mail boxes area Bathrooms
	<b>Circulation</b>	Entrance & Lobby Horizontal and vertical walkways Stairs Communal bathrooms
	<b>Car park and technical rooms</b>	Car/motorbike parking Technical rooms

The table is organized according to the development trend of budget hotels and cases studies

### Functional Area Spaces and Equipment for Student Housing

<b>FA1: Accommodation</b>	FA1.1 Bedroom FA1.2 Bathroom FA1.3 Individually furnished room FA1.4 Semi-private kitchen-diner sitting room FA1.5 Communal sitting room FA1.6 Communal floor kitchen and dining area
<b>FA2: Cultural and Teaching Facilities</b>	FA2.1 Study room FA2.2 Meeting room FA2.3 Library FA2.4 Auditorium (optional)
<b>FA3: Recreational Facilities</b>	FA3.1 TV room FA3.2 Music room FA3.3 Internet zone FA3.4 Games room FA3.5 Gym and supplementary rooms FA3.6 Cafeteria (optional)
<b>FA4: Support, Management and Administrative Services</b>	FA4.1 Laundry room FA4.2 Bicycle shelter FA4.3 Canteen or self-service (optional) FA4.4 Minimarket (optional) FA4.5 Manager's office FA4.6 Custodian's office FA4.7 Archive FA4.8 Cloakroom FA4.9 Linen storage FA4.10 Storeroom
<b>Circulation</b>	C.1 Entrance C.2 Horizontal and vertical walkways C.3 Stairs C.4 Communal bathrooms
<b>Car park and technical rooms</b>	D1 car/motorbike parking D2 technical rooms

For the certain guidelines relative to the description of the functional units can refer to DM 22 May 2007 no. 43



# PART IV

Design Proposal for Rogoredo Railway yard  
Transformation

## **8. Rogoredo's origin and development**

- 8.1 History & Background
- 8.2 Urban Growth
- 8.3 Urban mobility
- 8.4 Road section
- 8.5 Roads from the traffic node to the site
- 8.6 Municipal Ecological Network
- 8.7 Land use
- 8.8 Attractive & Weakness points
- 8.9 Morphologies

## **9. Design-oriented strategies**

- 9.1 Summary of strategies
- 9.2 Greening system and slow traffic system strategy
- 9.3 Function distribution strategy
- 9.4 Road strategy





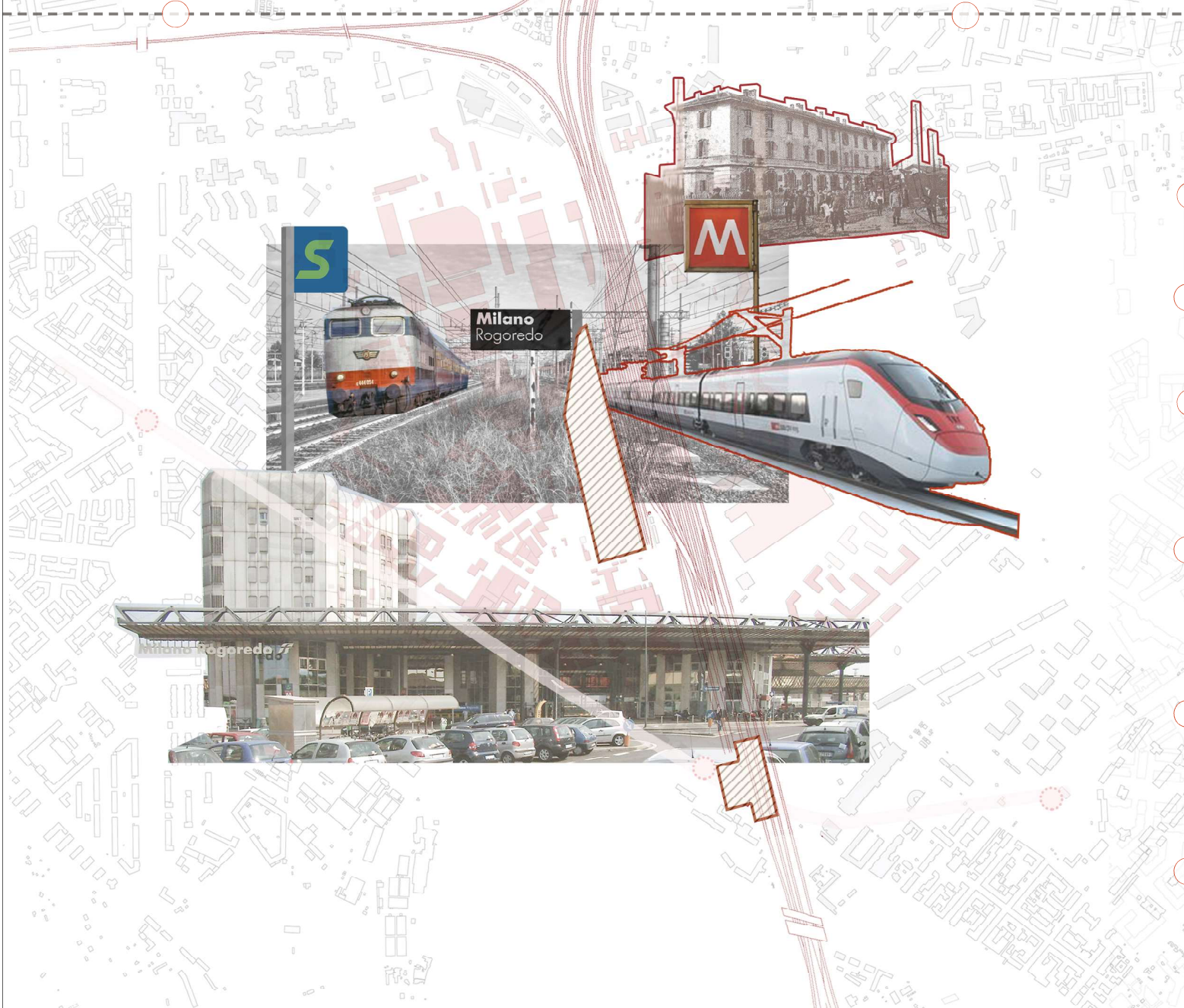
**1884-1919:** The new Corvetto-Rogoredo Dock is included in the new town plan.



**1950s-1980s:** In Rogoredo, the Acciaierie Redaelli steel mill and the Società Italiana Prodotti Esplosivi explosive material factory were built, the industry developed rapidly, the population grew rapidly.



**Since the 1990s,** the technological update of railway system, the concentration of logistics activities of large factories and the competition of road freight have led to the abandonment of Railway Yard.



### Timeline of Rogoredo Station

**1862-1876:** Rogoredo Station is built and gradually opened.

**1908:** Becomes a **freight depot** for the autonomous town of Rogoredo.

**1950s:** Expanded into a **passenger terminal**.

**1981-1991:** The historic station is **demolished** during the construction of the Subway line 3, It was replaced by a **new building** on the same site as the previous one.

**2008:** S Line railway's "Rogoredo Extension" opens.

**2012:** With the opening of the new **high-speed rail station**, the importance of the station has become increasingly prominent.





**LRGEND**  
**Milan urban expansion**  
**from 1884 to 2012**

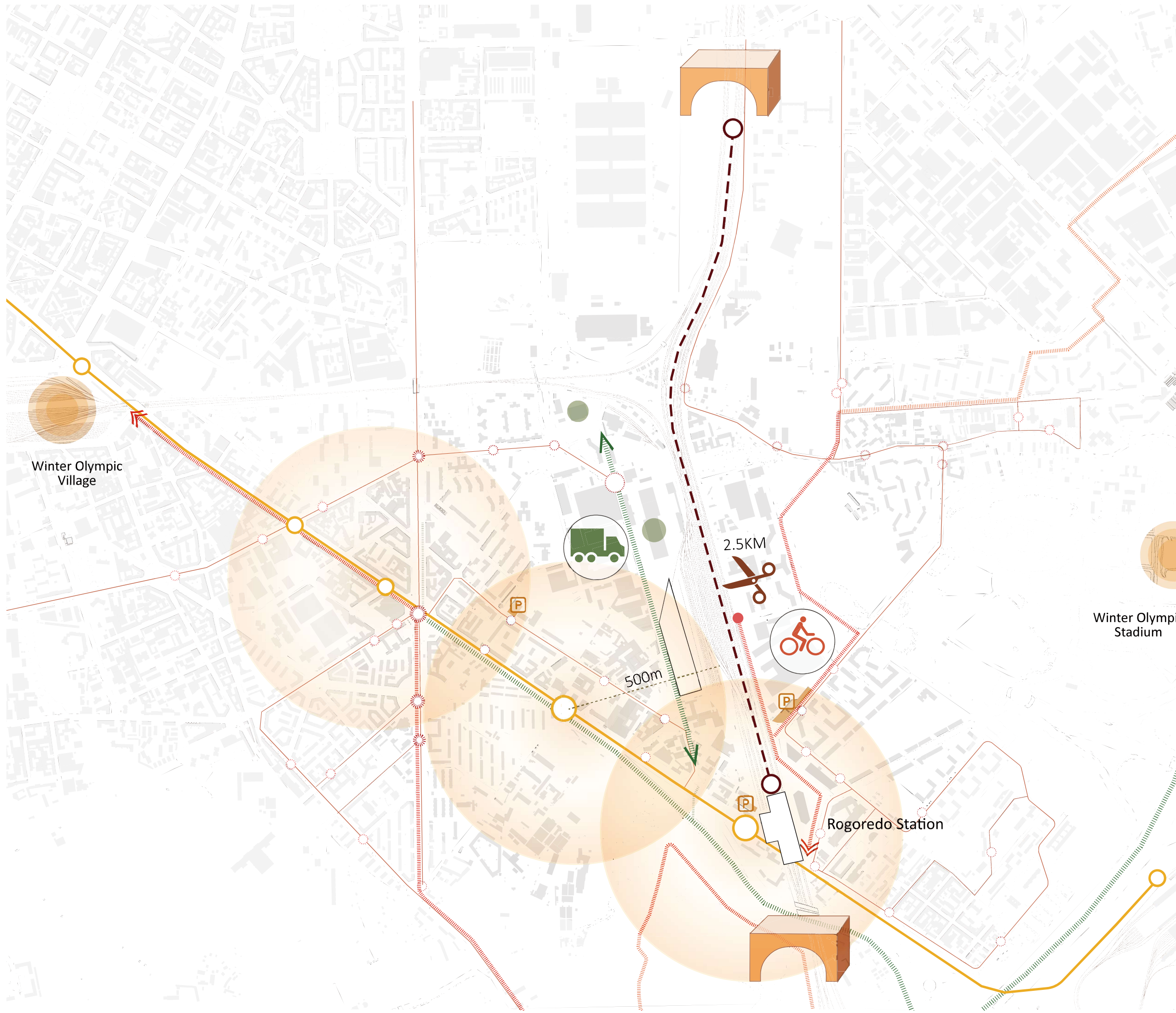
Built-up Structure

- 1884
- 1910
- 1956
- 1965
- 1972
- 2006
- 2012













Built-up Structure around Rogoredo

- 1910
- 1956
- 1965
- 1972
- 2006
- 2012

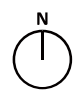




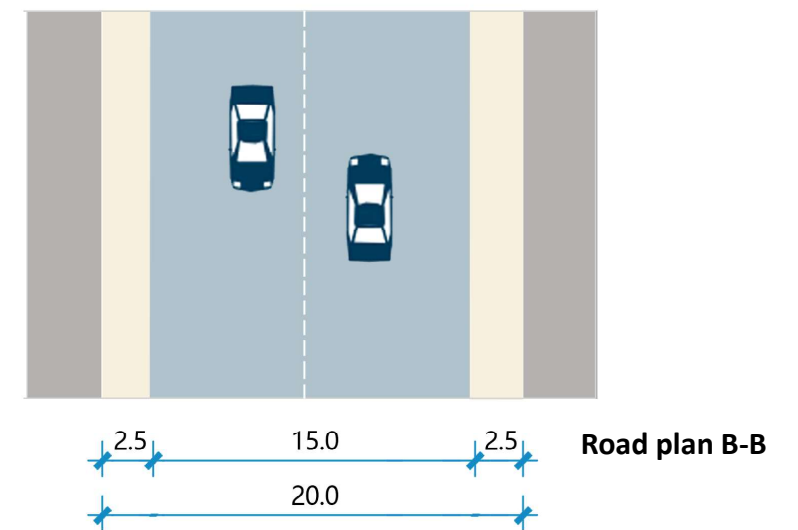
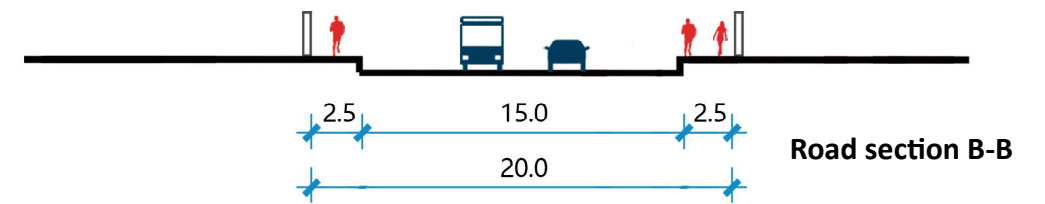
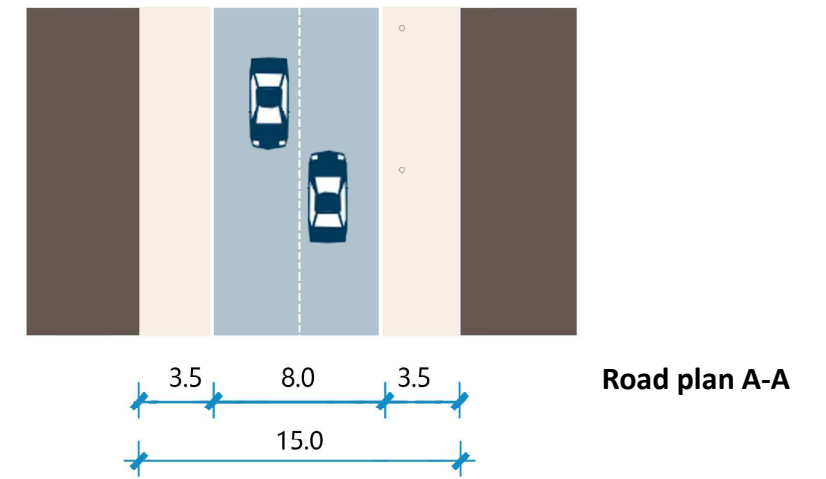
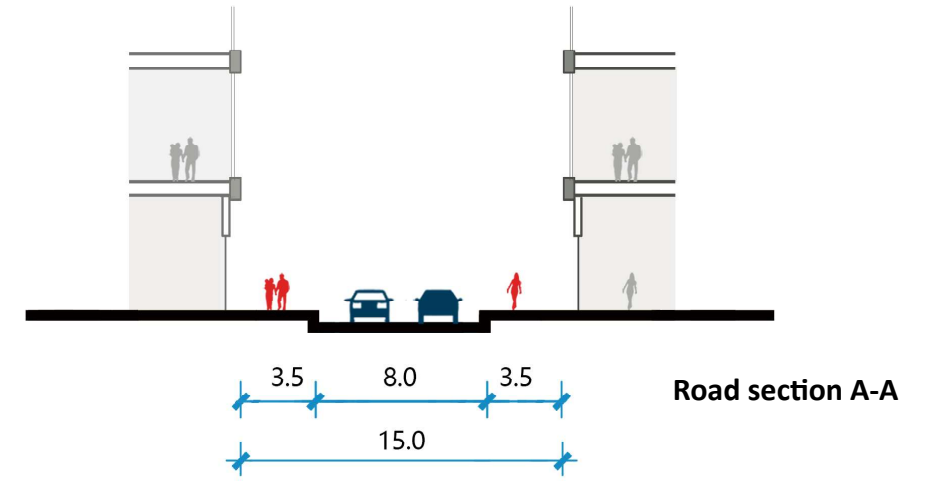
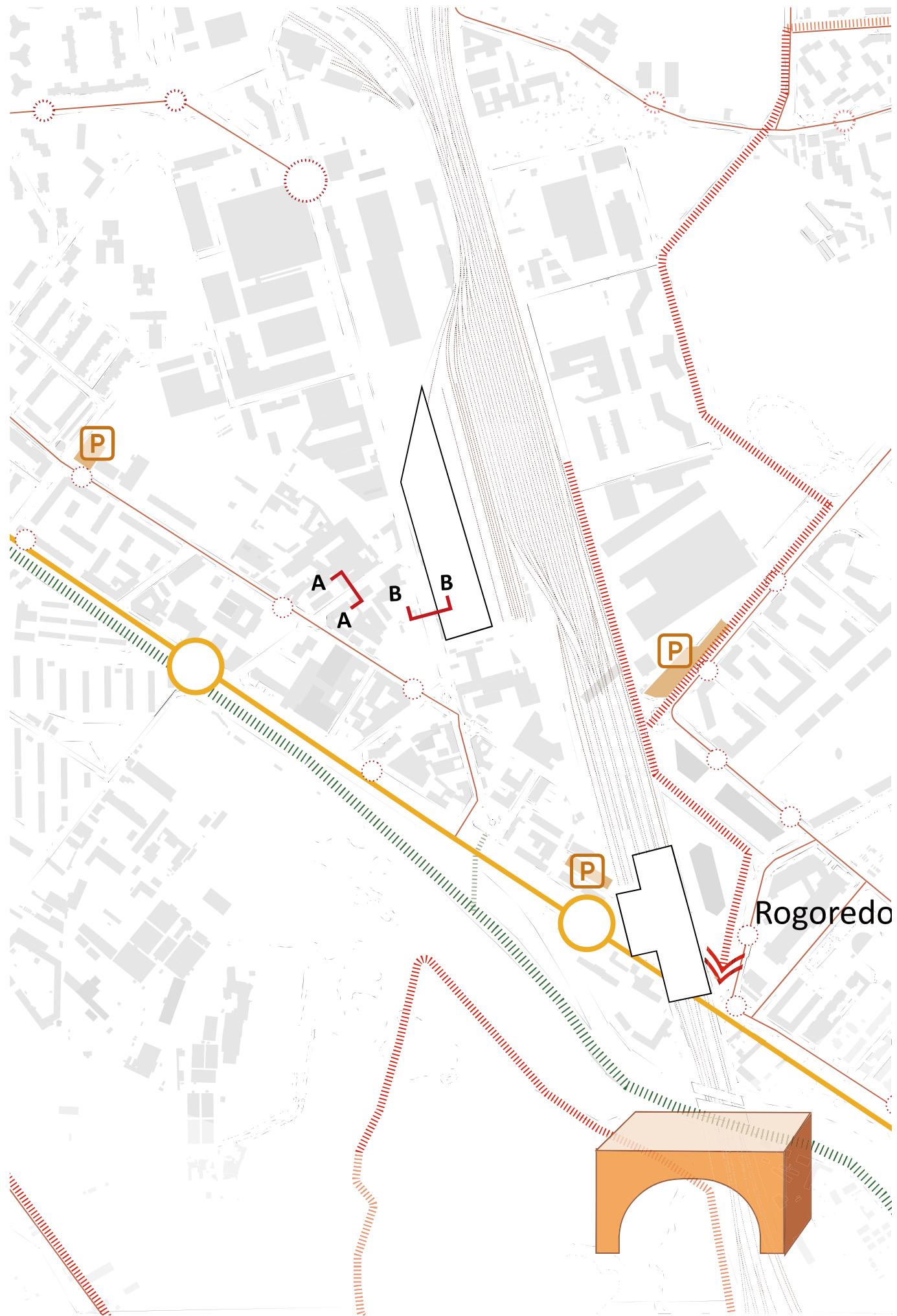
**LRGEND  
MOBILITY SYSTEM**

-  M3 line
-  Railway Line
-  Bus and tram lines
-  Bike Lane
-  Highway
-  Lorries pass
-  Freight warehouse
-  Metro Station
-  Important transportation node
-  Bus station
-  Parking lot
-  Existing Bridge

**8.3 Urban Mobility**

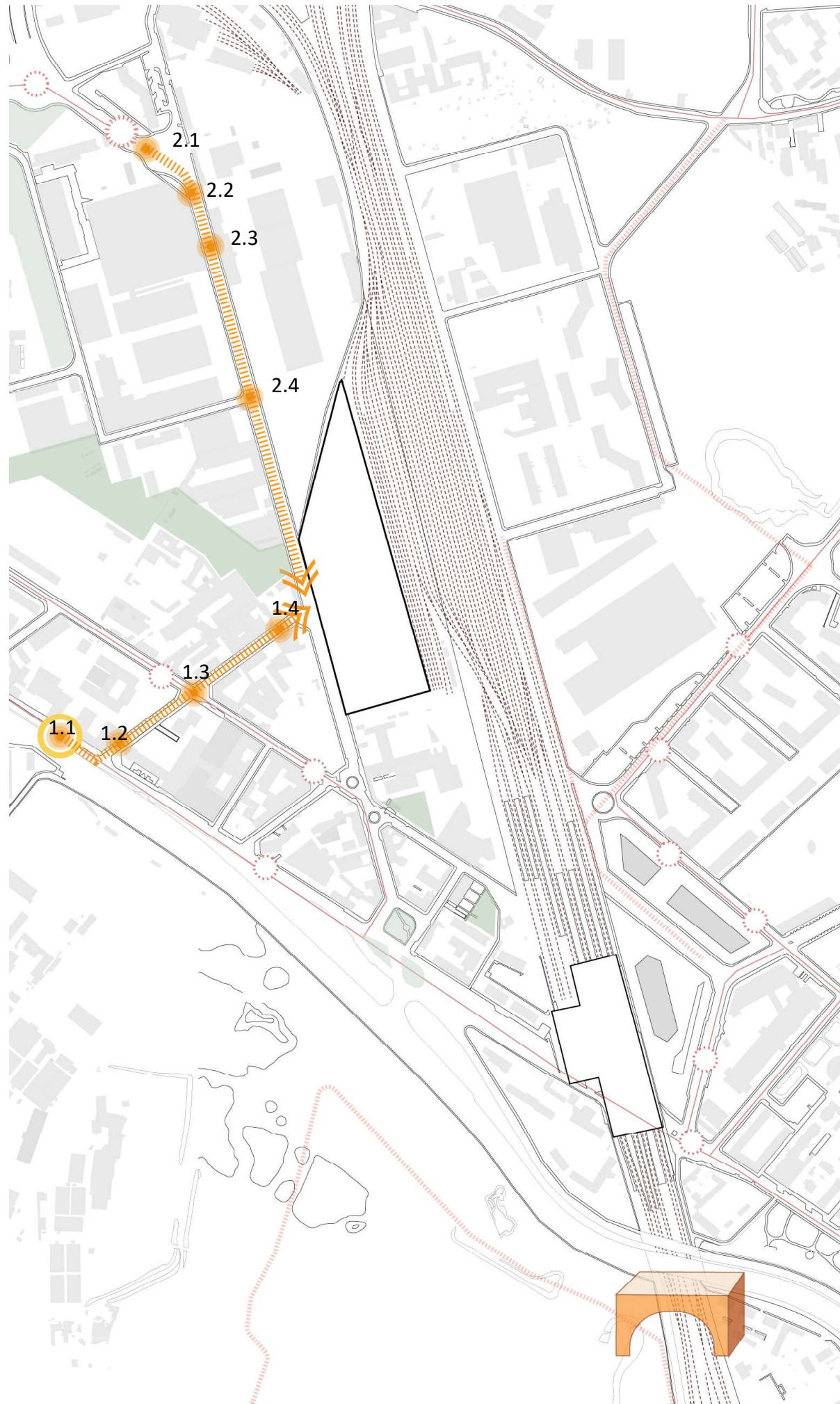






8.4 Road section





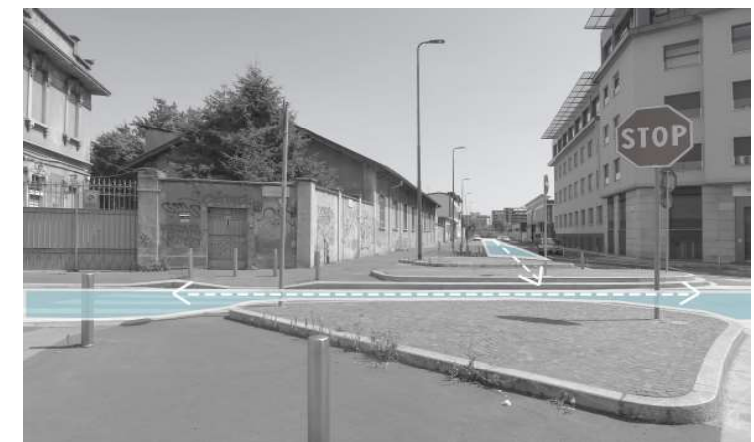
Walking  
Route 1:



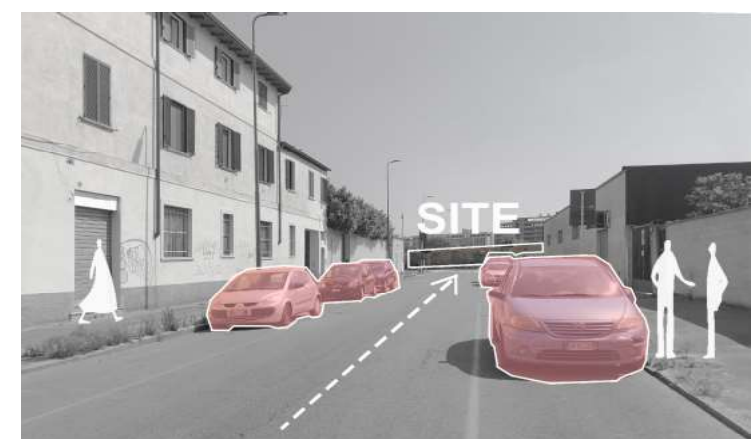
1.1 Bus stop signs and subway entrances along the street.



1.2 Cars parked on both sides of the road.



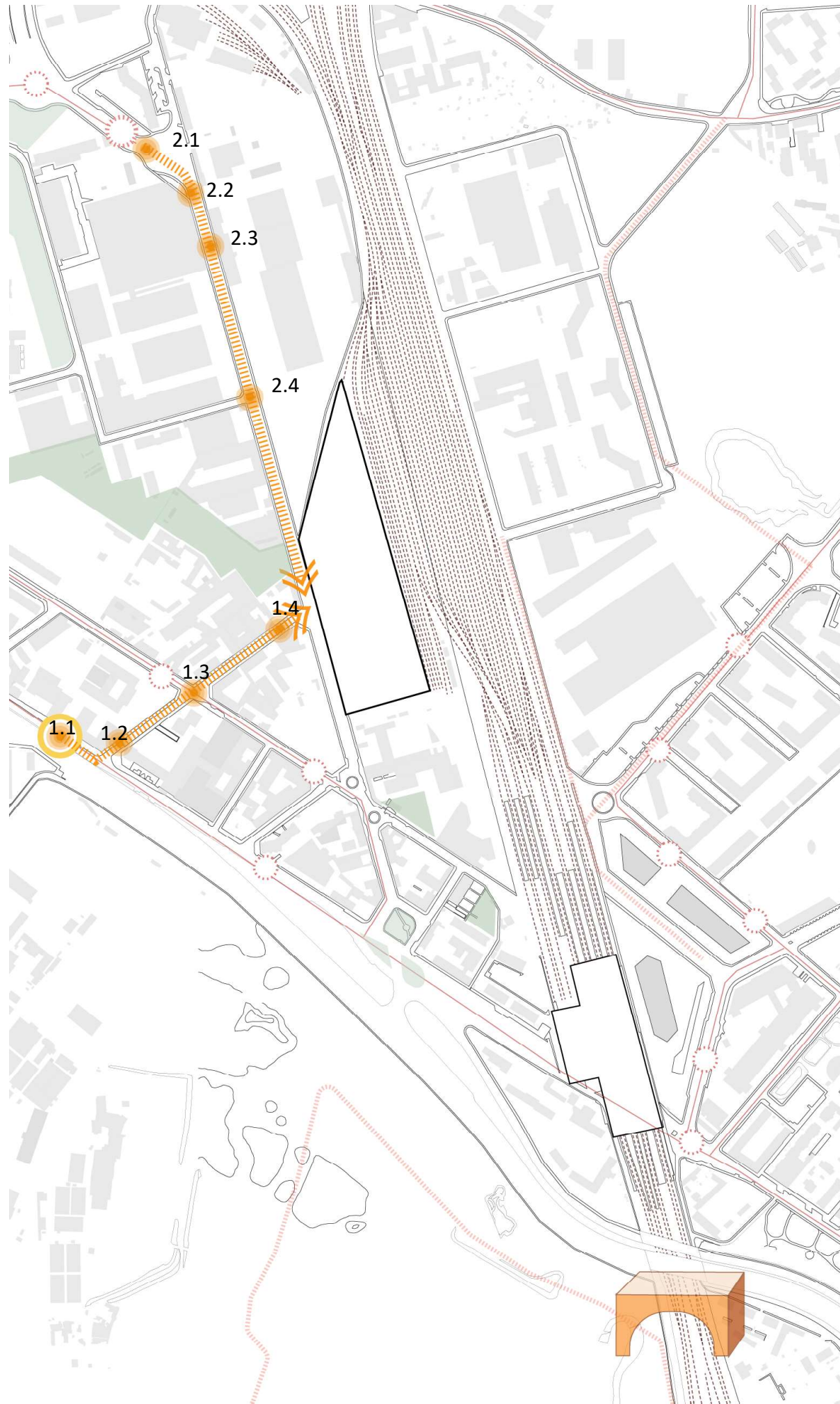
1.3 There is a bus stop next to the intersection along the way.



1.4 Linear parking on the way to the site.

8.5 Roads from the traffic node to the site

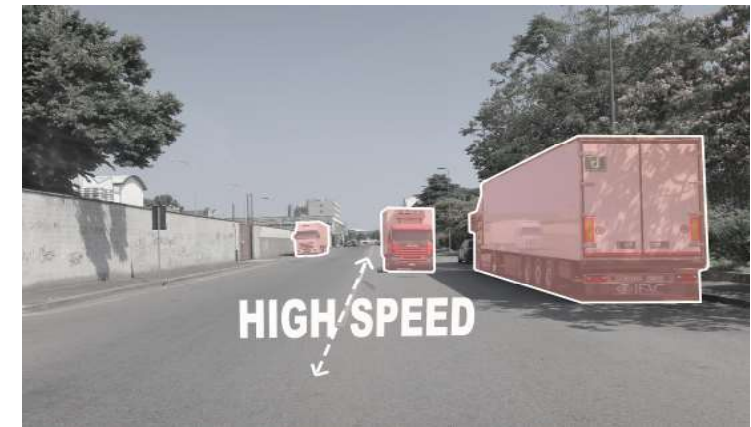




Walking  
Route 2:



2.1 Large freight companies around the site.



2.2 Many large trucks on this road and the speed is very fast.

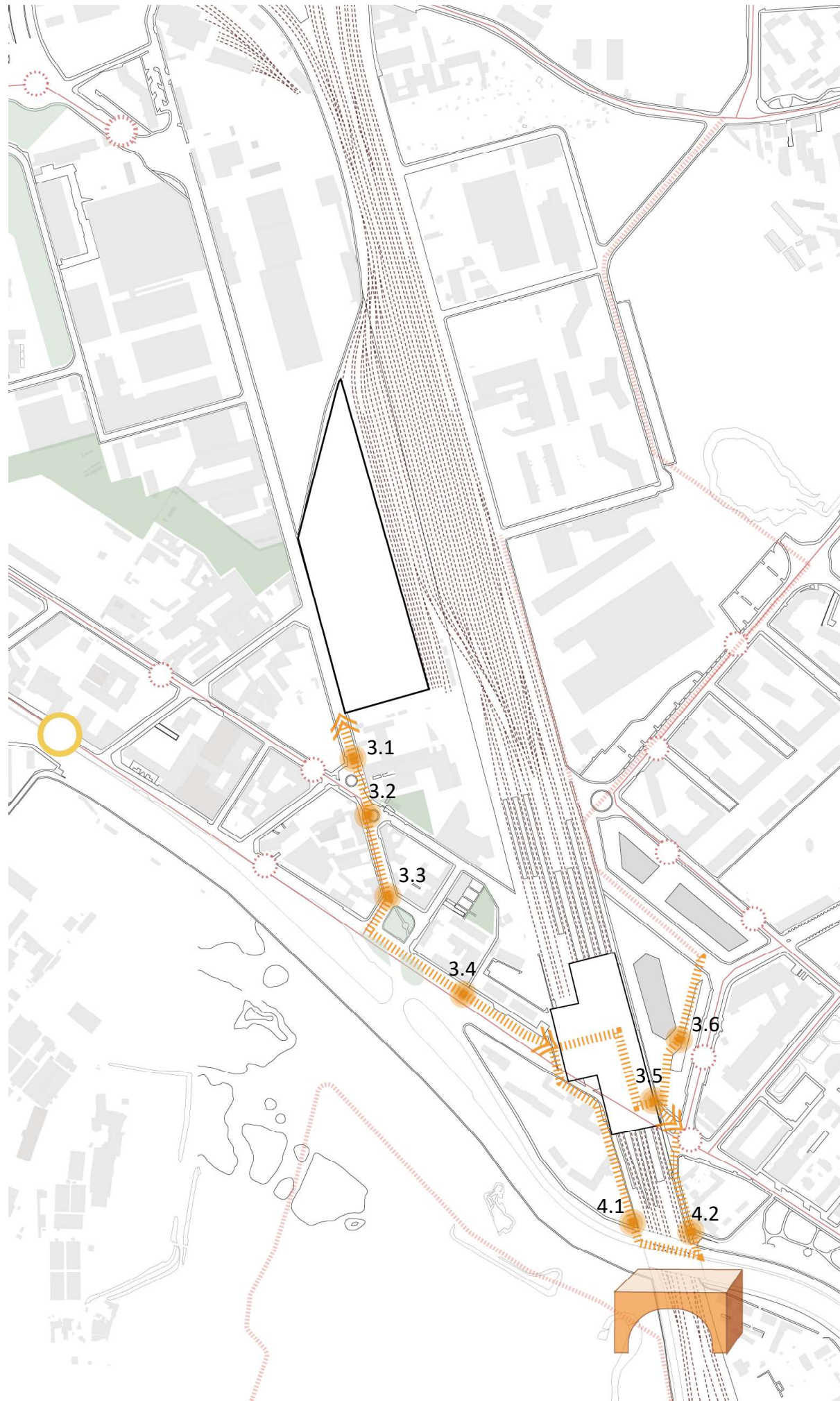


2.3 Many office or factory/warehouse along the street.



2.4 Intersections along the way.





**Walking**  
**Route 3:**

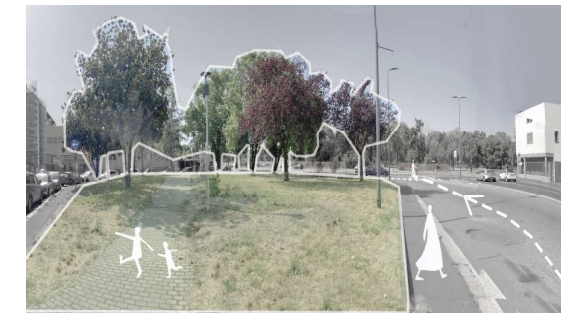
**3.1** Cars parked on both sides of the road and wide pedestrian paths



**3.2** Roundabouts along the way can slow down the car.



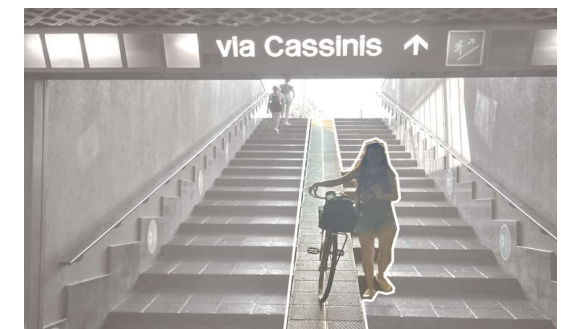
**3.3** A park on the way to the Rogelodo station.



**3.4** Directions to rogoredo train station.



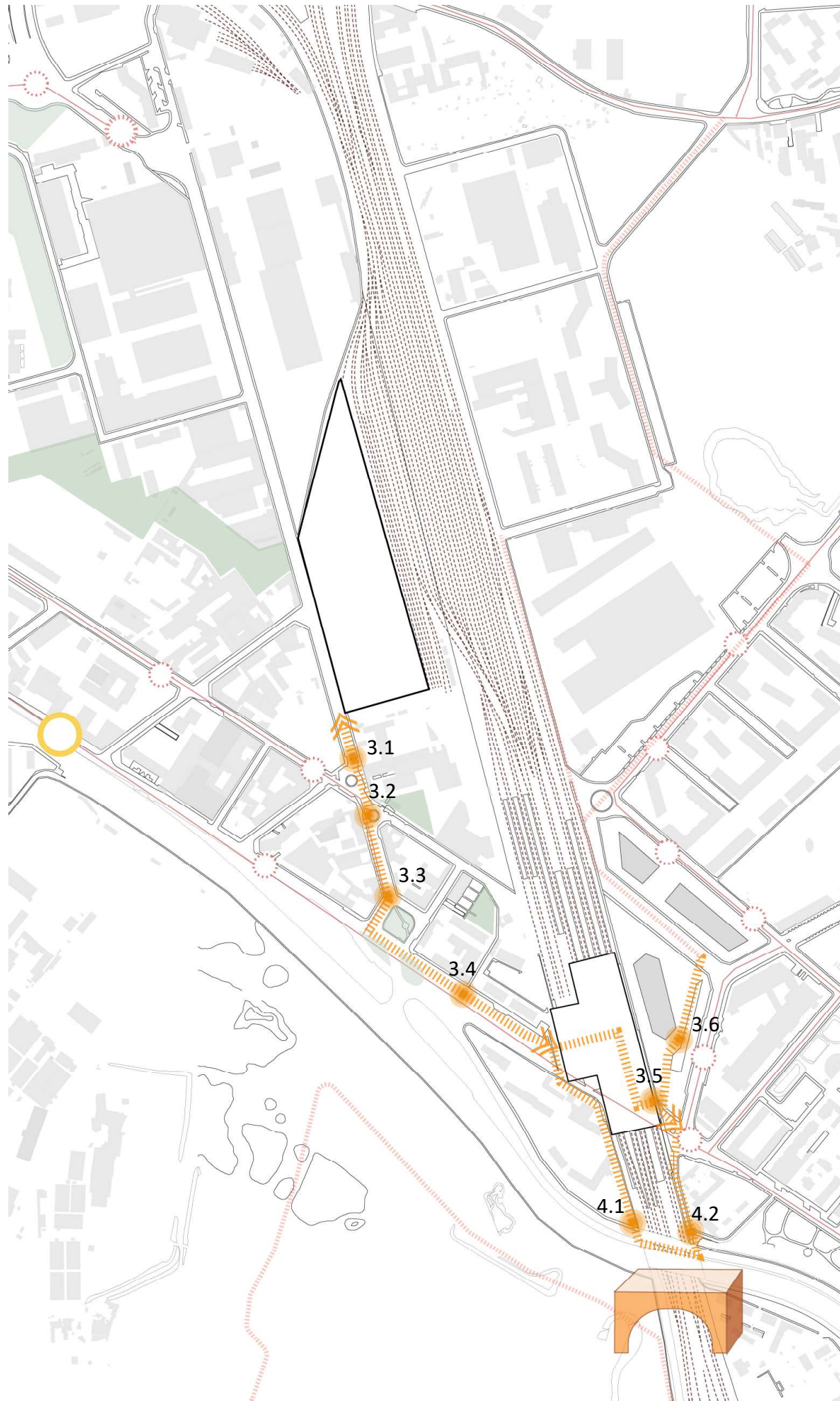
**3.5** Cyclists reach the opposite side from the underground entrance of station.



**3.6** The bike path of the square connects to the subway entrance .







Walking  
Route 4:



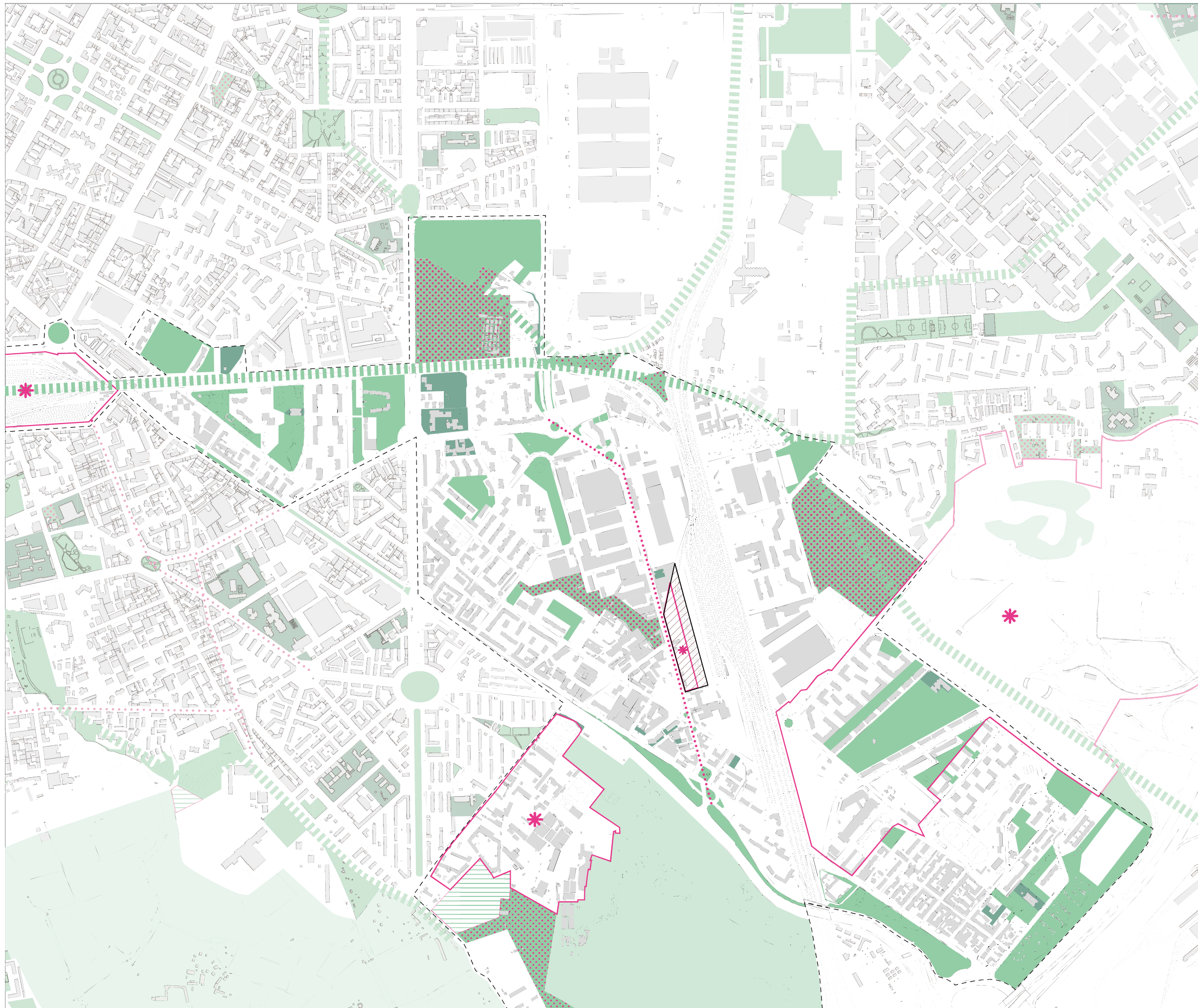
4.1 The sidewalk is too narrow and the car is going fast.



4.2 No bike ramps and the bridge is lack of use.



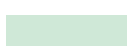

8.5 Roads from the traffic node to the site



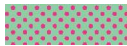





**LRGEND  
GREEN SYSTEM**

**GREEN AREA**

-  Internal green services
-  Green areas for public use
-  Protected area regional parks
-  Green infrastructure

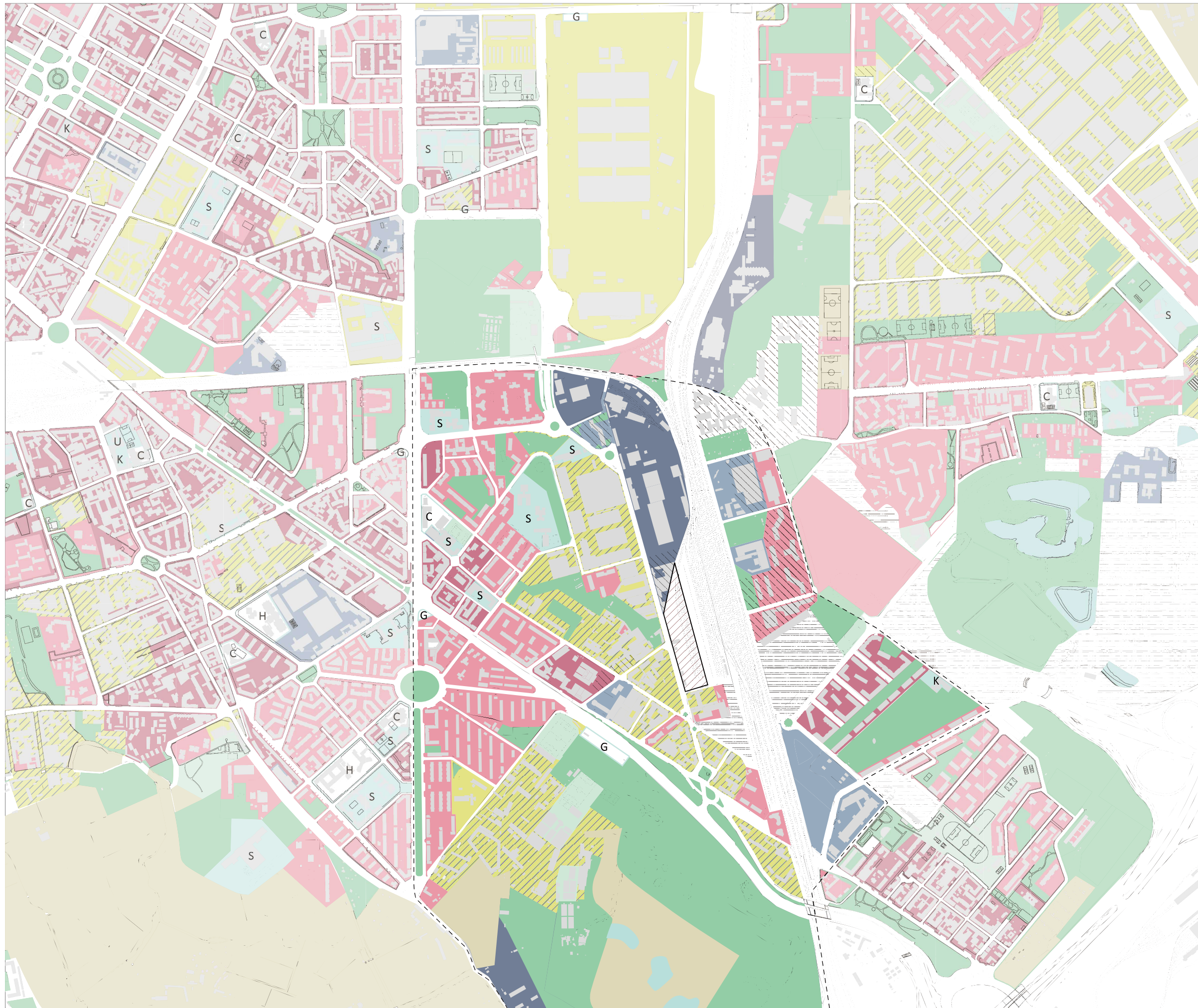
**FUTURE PLAN**

-  Under construction phase
-  Proposal to extend the agricultural park in south milan
-  New parks
-  Linear green connections to build

**Others**

-  Railway yard





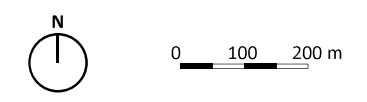
**LRGEND  
LAND USE**

- BUILD-UP SPACES**
- Residential
  - Mixed residencial
  - Commercial
  - Mixed Commercial, industry and office
  - Industry
  - Office
  - Abandoned
  - To be built

- OPEN- SPACES**
- Green space
  - Farmland
  - Water

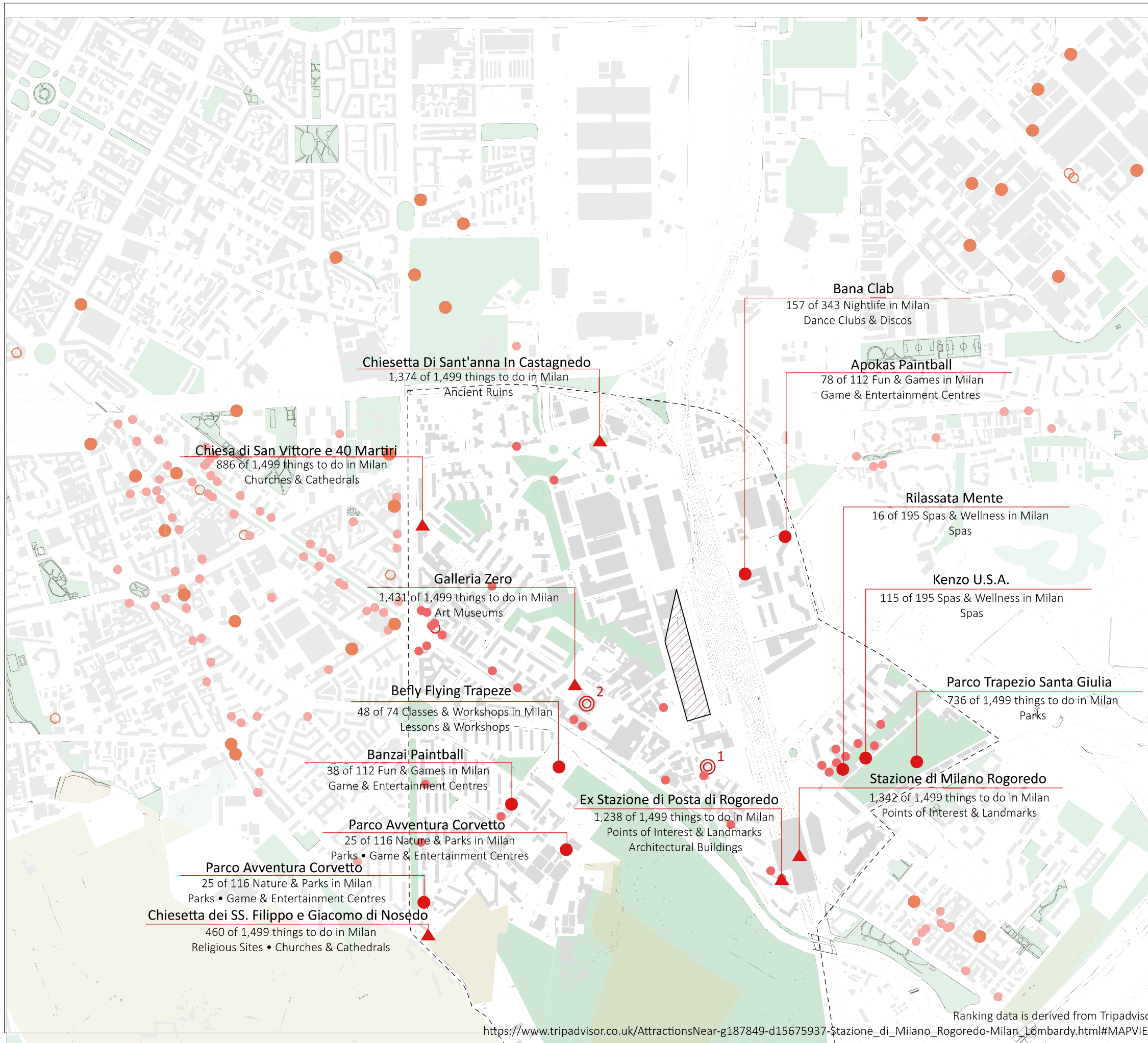
- FACILITIES**
- Sports facility
  - U University
  - S School
  - K Kindergarten
  - H Hospital/ Nursing home/ Clinic
  - C Church
  - T Theater/ Cinema
  - G Gas station

- Others**
- Railway yard



8.7 Land use

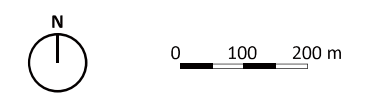




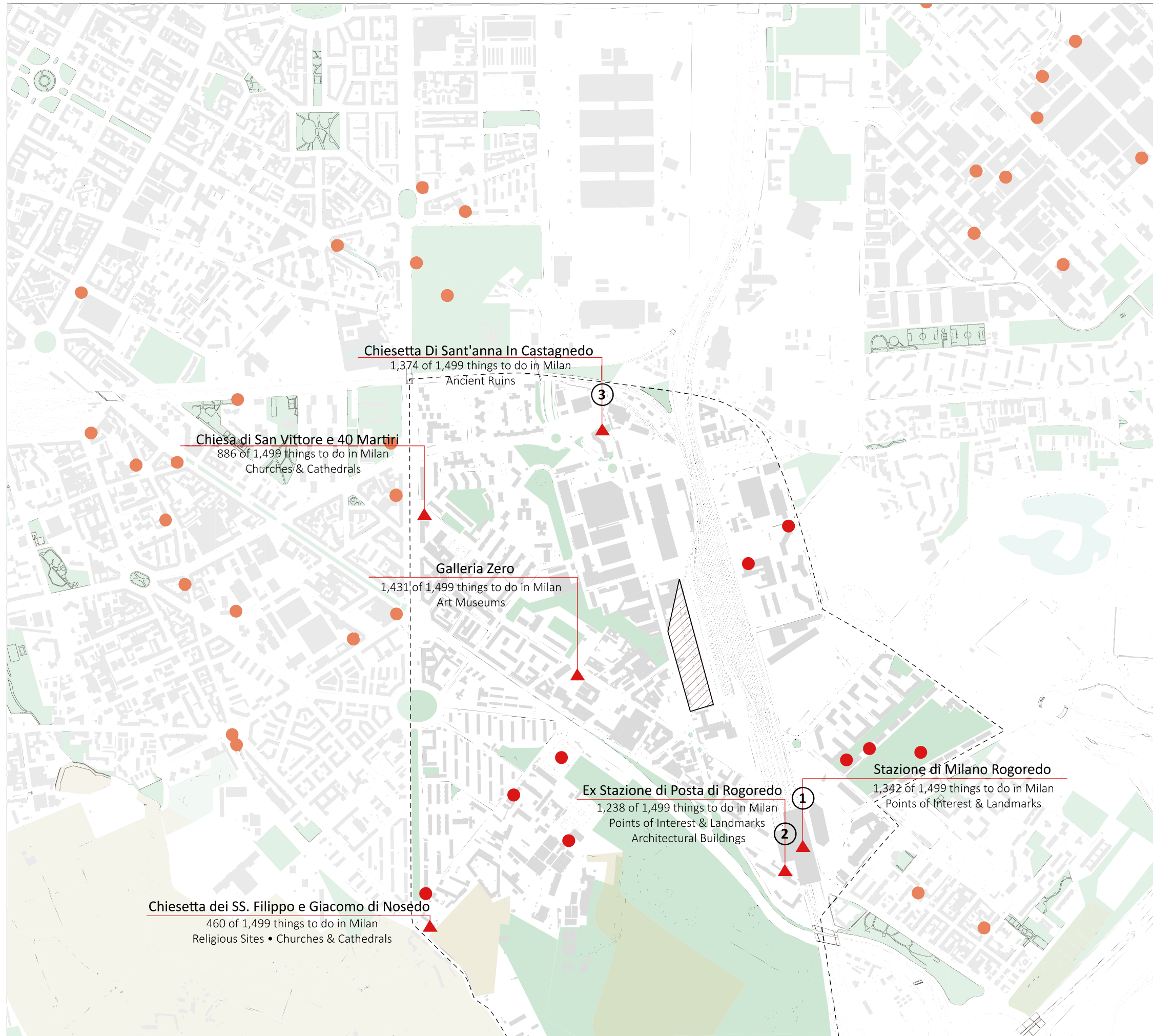
- LRGEND**  
**ATTRACTION MAP**  
 ATTRACTION POINTS
- ▲ Culture and landmark
  - Leisure and recreation
  - Hotel
  - ⊙ Competitive Hotel
  - Restaurant

Most of the attractions in Rogoredo are large outdoor recreational facilities. Abandoned factories and outdoor parks brought a lot of adventure games to Rogoredo. And the area's restaurants and hotels are mostly along Via Carlo Marochetti.

- 1 Hotel Mistral( 3 star)
 
- 2 Starhotels Business Palace( 4 star)
 







**LRGEND**  
**ATTRACTION MAP**

ATTRACTION POINTS

- ▲ Culture and landmark
- Leisure and recreation

Rogoredo region has several historical sites that symbolize the culture of the region, which have not been properly restored or managed. So Rogoredo has some potential for historical restoration, in addition to a lot of adventure games brought about by abandoned factories and outdoor parks.

①



Rogoredo Station connecting the city in the Milan's south, so it is an important facility for travelers. Getting to Rogoredo is never too difficult since it's located on the Milan metro. Because of its location, it is used more by citizens living in the south of Milan.

②



The building was a resting place for rail and road passengers and served as a post office, where the postal service, which operated in the late 19th century, could change horses or feed them. The building is in good condition but is no longer in use

③

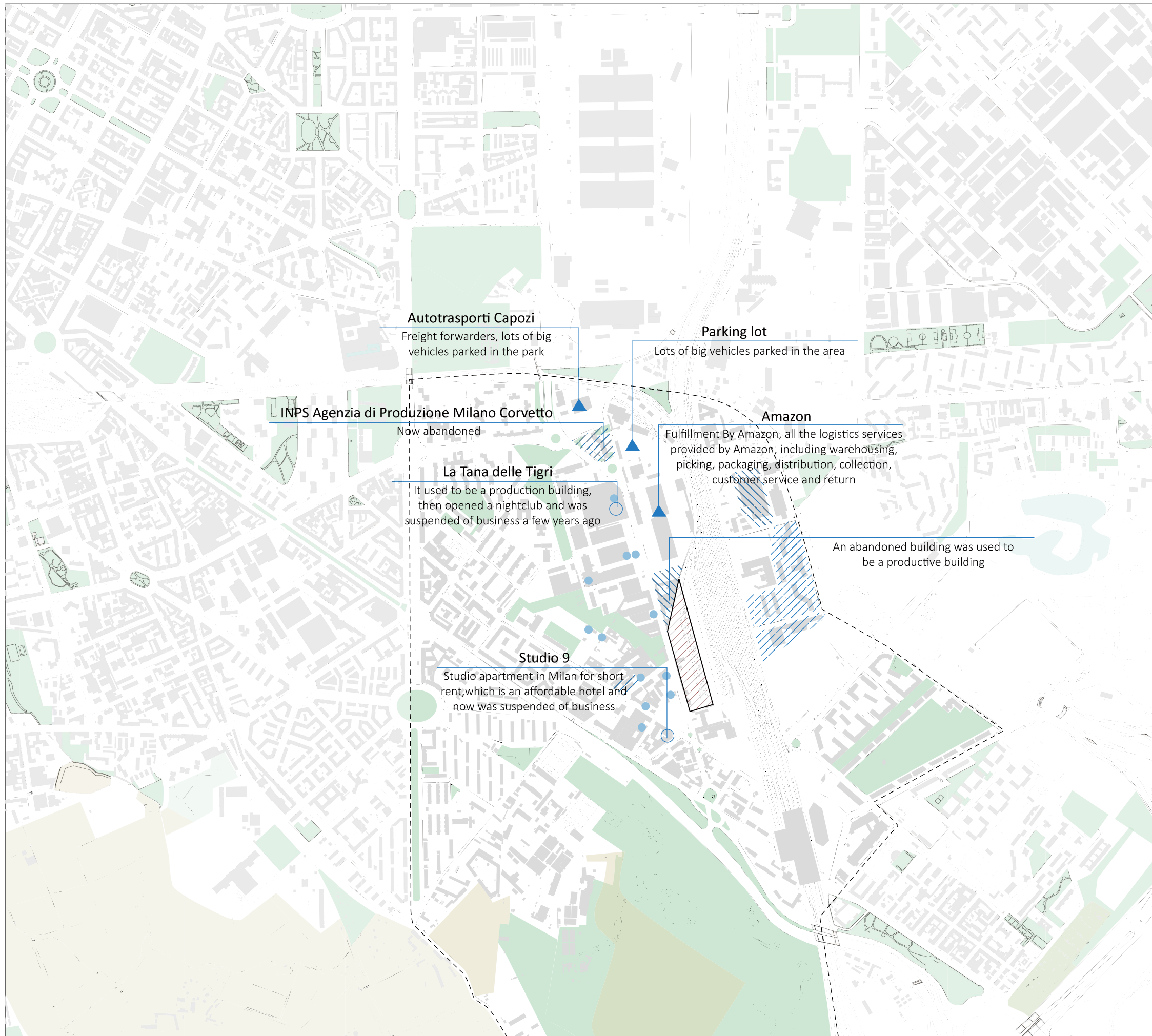


It is a secondary establishment for benedictine nuns of St. Margaret's Convent, which was firstly built in 1190. The exterior of the church is very simple, and the interior previously contained important frescoes. The post-war period was damaged by a series of construction projects around it. Now it is in ruins



0 100 200 m





**LRGEND  
WEAKNESS MAP**

**WEAKNESS POINTS**

- ▲ Industry
- Suspension of business
- Auto parts and building materials related business

**ABANDONED AREA**

-  Productive
-  Tertiary

**Autotrasporti Capozzi**  
Freight forwarders, lots of big vehicles parked in the park

**Parking lot**  
Lots of big vehicles parked in the area

**INPS Agenzia di Produzione Milano Corvetto**  
Now abandoned

**Amazon**  
Fulfillment By Amazon, all the logistics services provided by Amazon, including warehousing, picking, packaging, distribution, collection, customer service and return

**La Tana delle Tigri**  
It used to be a production building, then opened a nightclub and was suspended of business a few years ago

An abandoned building was used to be a productive building

**Studio 9**  
Studio apartment in Milan for short rent, which is an affordable hotel and now was suspended of business

There are plenty of abandoned areas and buildings around the site. Other buildings were closed because of the suspension of business. A freight forwarder and logistics park in operation to the north allows large vehicles to pass through the site. To the west is a series of Auto parts and building materials related business



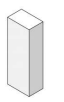
0 100 200 m



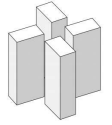


**LRGEND  
RESIDENIAL  
MORPHOTPOLOGICAL**

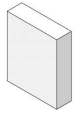
**HIGH-RISED BUILDING**



Isolated block

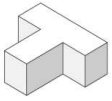


Grouped blocks

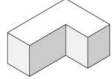


Elonged Block

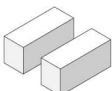
**LINEAR SYSTEM**



T-shaped block

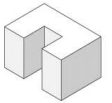


L-shaped block

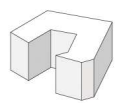


Parallel blocks

**SEMI OPEN BLOCK**

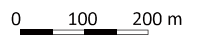


U- shaped city block



Folded city block

8.9 Morphologies

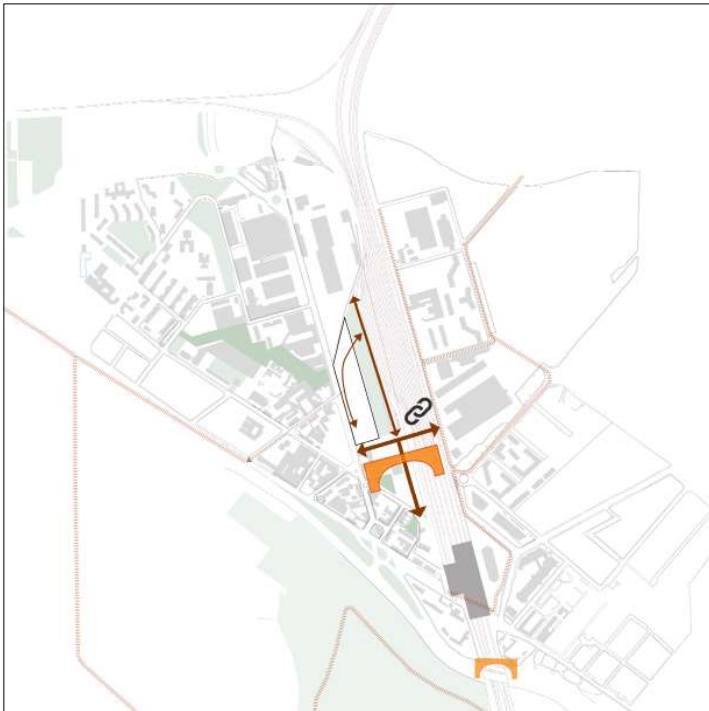




# 9.1 Summary of design-oriented strategies



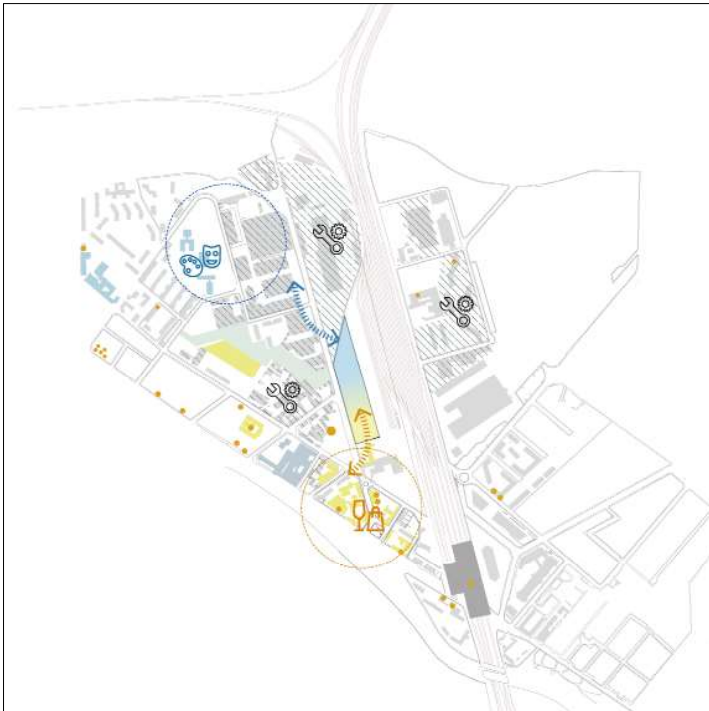
Place a liner park  
Link the left public green area with site



Integrate the site with the existing cycling network  
Bridge the two sides of the railway

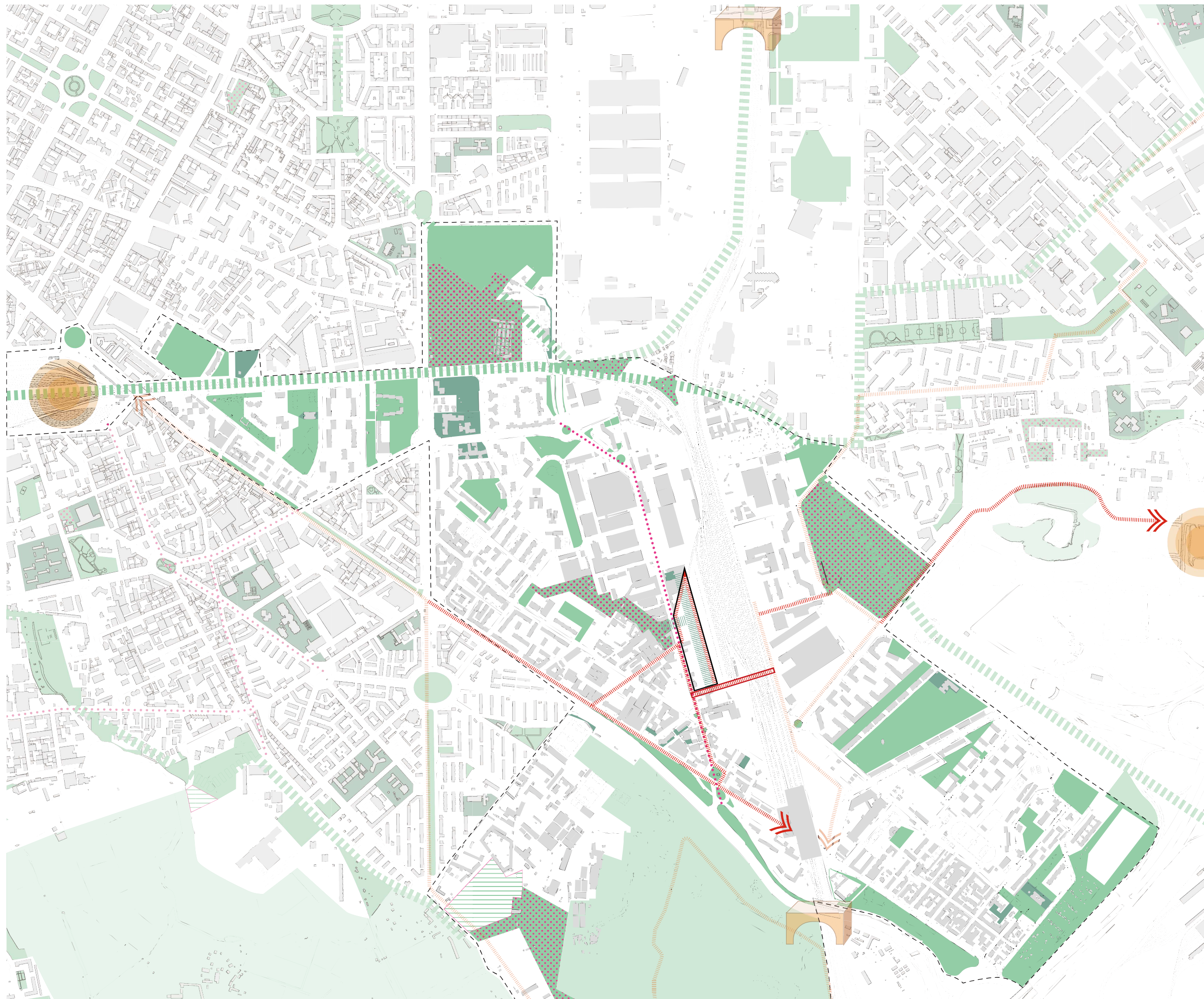


Widen the sidewalk to reduce the speed of the car  
Form two squares according to the main flows of people





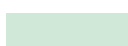
Function transformation on the ground floor  
Set a buffer zone between site and the warehouse



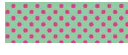



**LRGEND  
GREEN SYSTEM**





**GREEN AREA**

-  Internal green services
-  Green areas for public use
-  Protected area regional parks

**FUTURE PLAN**

-  Under construction phase
-  Linear green connections to build

**STRATEGY**

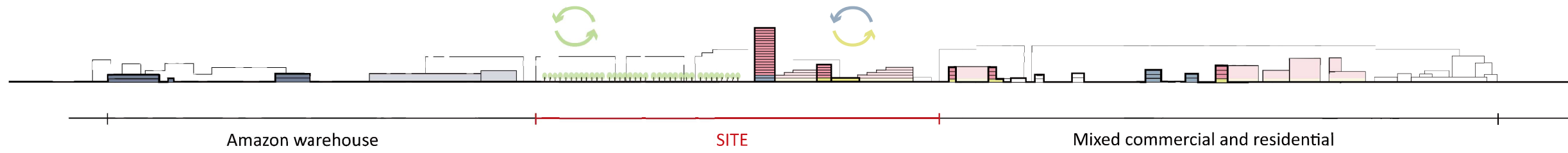
-  New footable bridge
-  Existing bike lane
-  New bike lane
-  New Green Link



9.2 Greening system and slow traffic system strategy



Green space serves as a buffer area between industry and mixed residential area      The building functions transition on the ground floor, from office to commercial



**LRGEND  
LAND USE**

**BUILD-UP SPACES**

- Residential
- Mixed residential
- Commercial
- Mixed Commercial, industry and office
- Industry
- Office
- Abandoned
- To be built

**OPEN- SPACES**

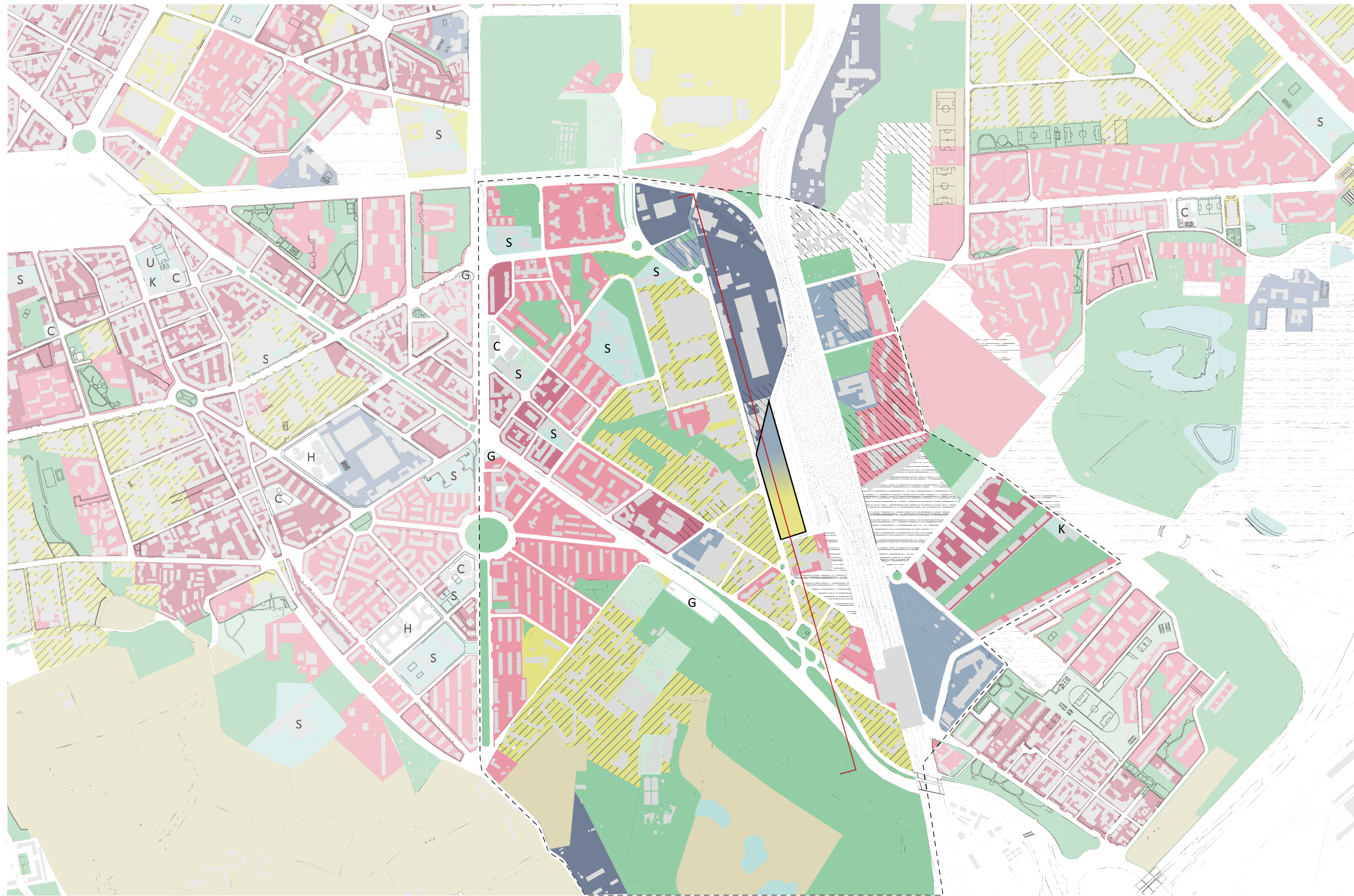
- Green space
- Farmland
- Water

**FACILITIES**

- Sports facility
- U University
- S School
- K Kindergarten
- H Hospital/ Nursing home/ Clinic
- C Church
- T Theater/ Cinema
- G Gas station

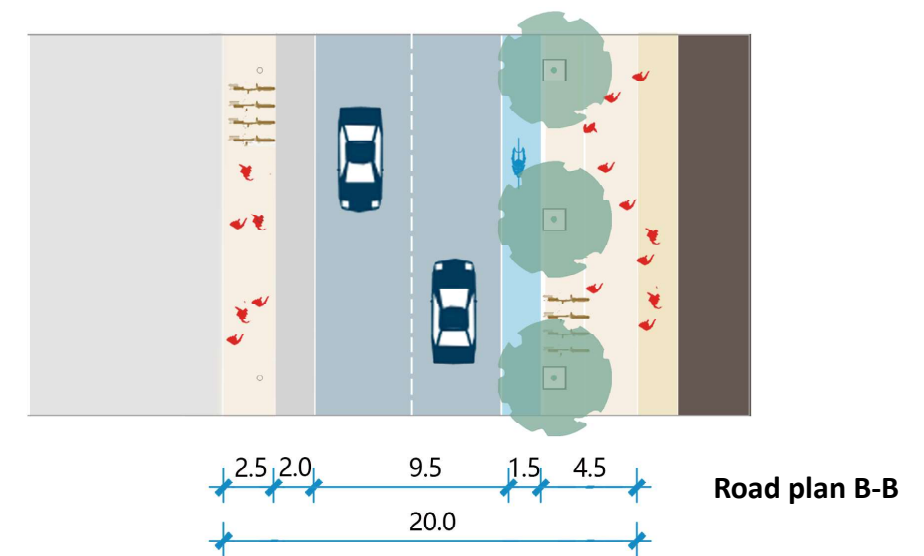
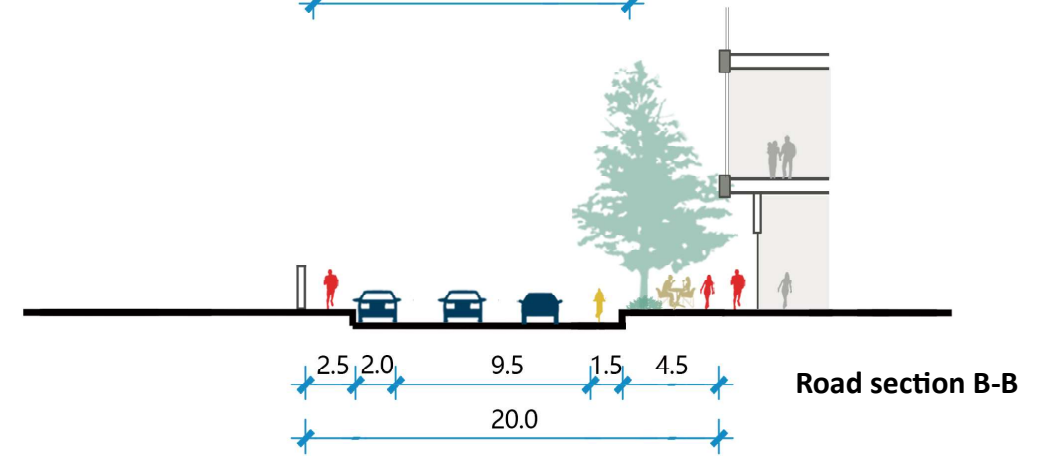
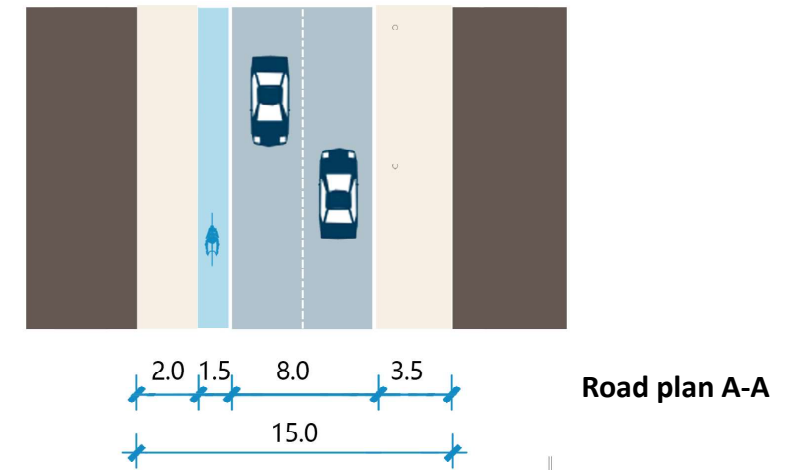
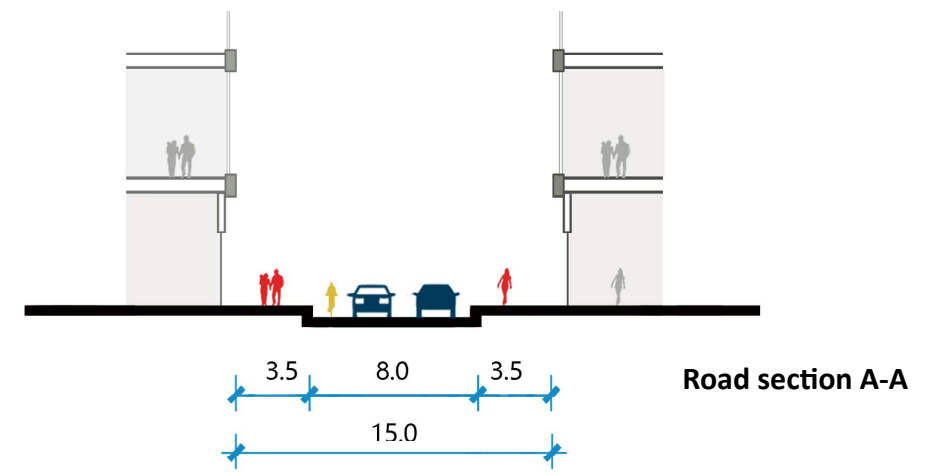
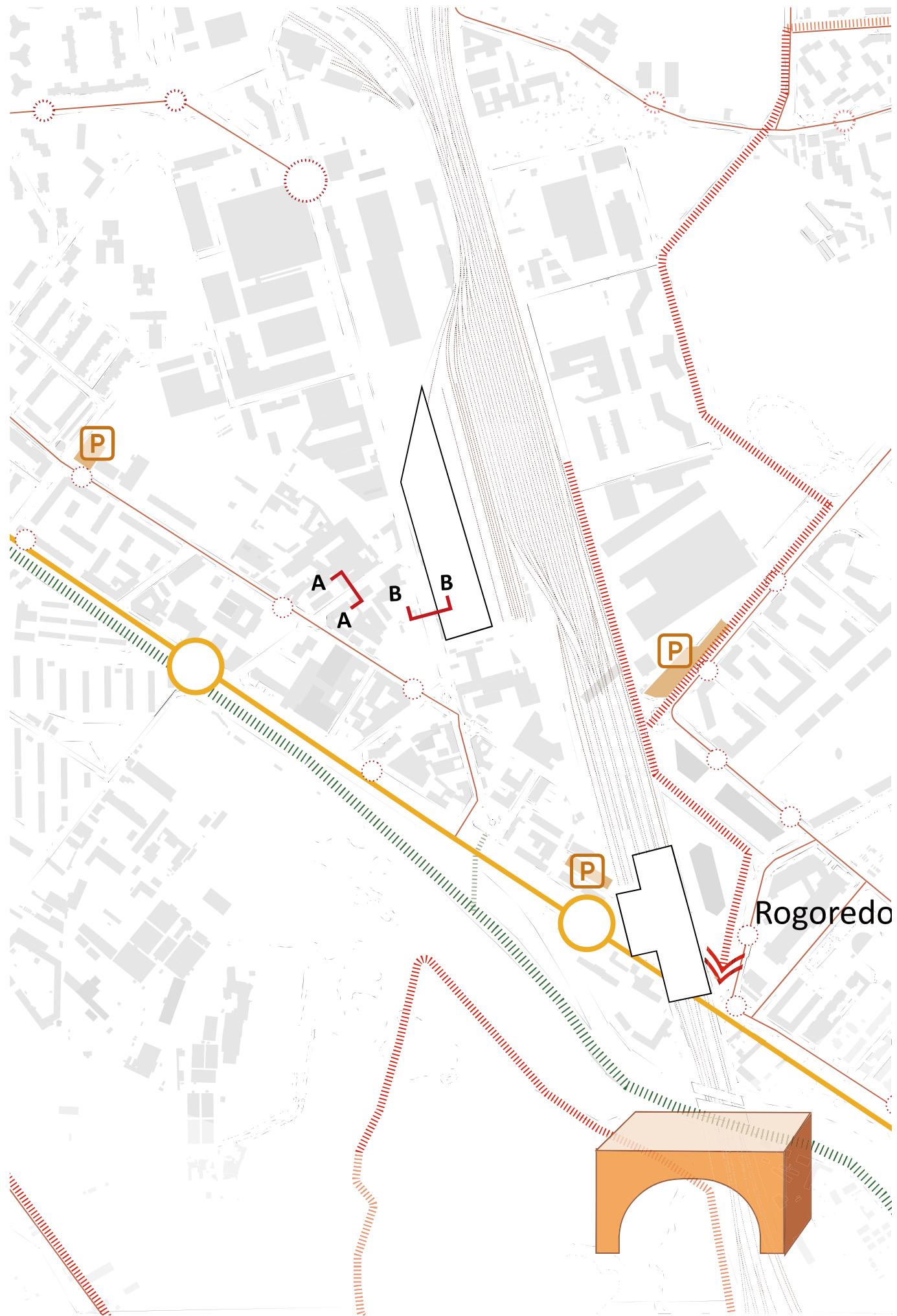
**Others**

- Railway yard



0 100 200 m







# PART V

Architecture and Urban design

## **10. The urban design**

- 10.1 Urban plan
- 10.2 masterplan
- 10.3 Building generation
- 10.4 Urban section
- 10.5 Urban axonometries

## **11. The architectural design**

- 11.1 The program before and after the transformation
- 11.2 Ground floor
- 11.3 Plans before and after the transformation
- 11.4 Room types
- 11.5 Sections and facades
- 11.6 Perspective views/ axonometrics

## **12. Views of the model**



10.1 Urban plan



Winter Olympic Village

Winter Olympic Hockey Hall

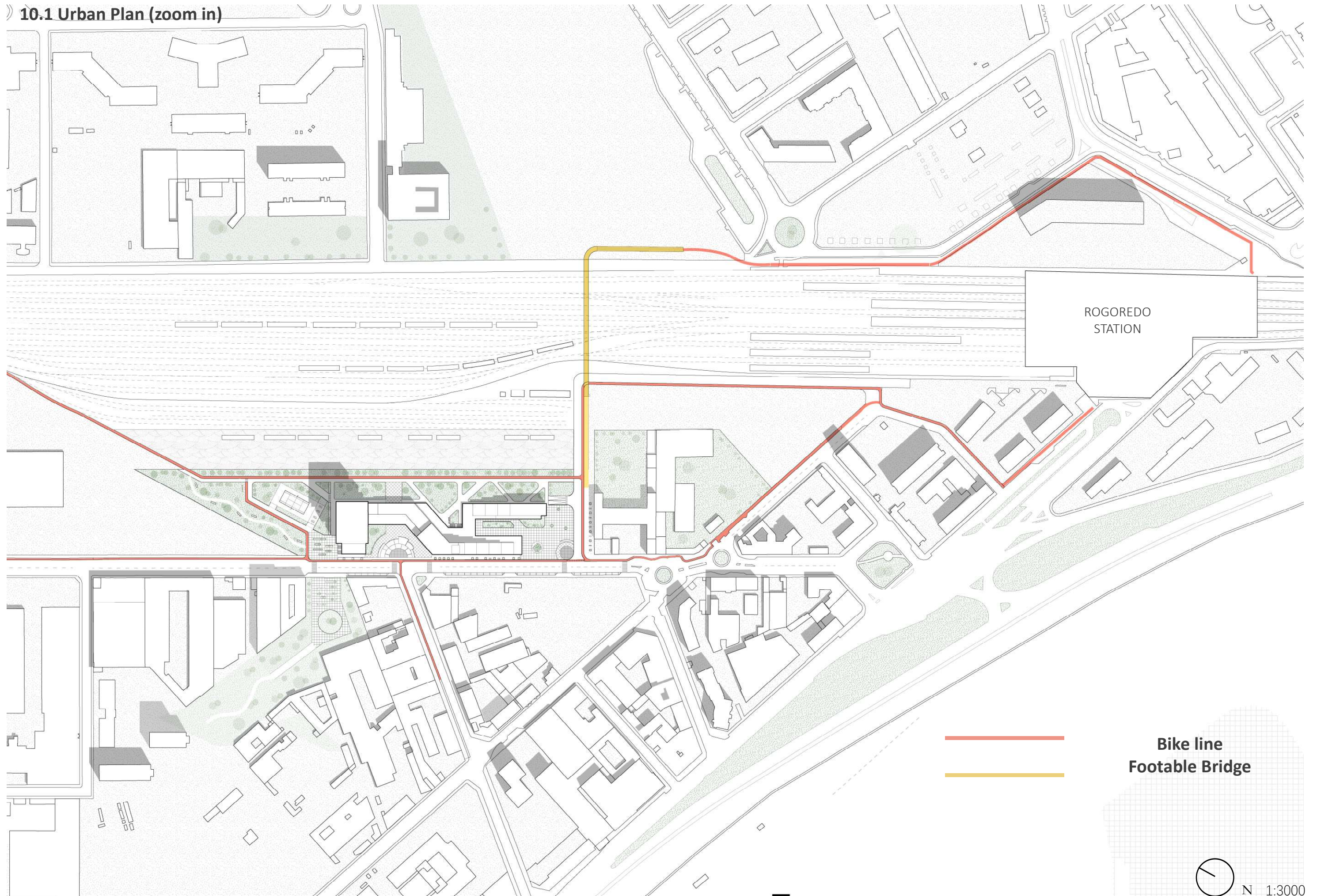
Site

Bike line

N



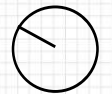
10.1 Urban Plan (zoom in)



ROGOREDO  
STATION



**Bike line**  
**Footable Bridge**

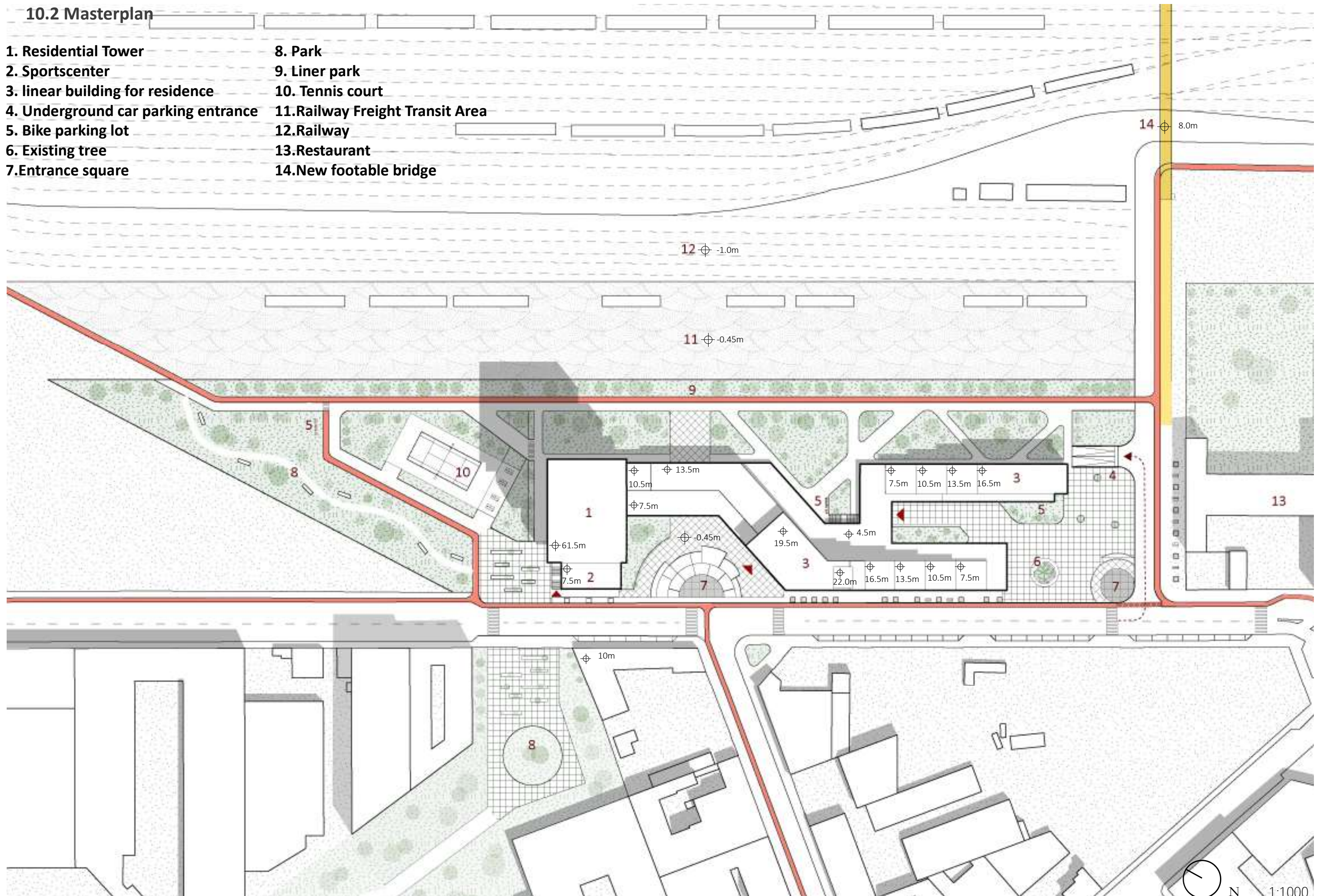


N 1:3000



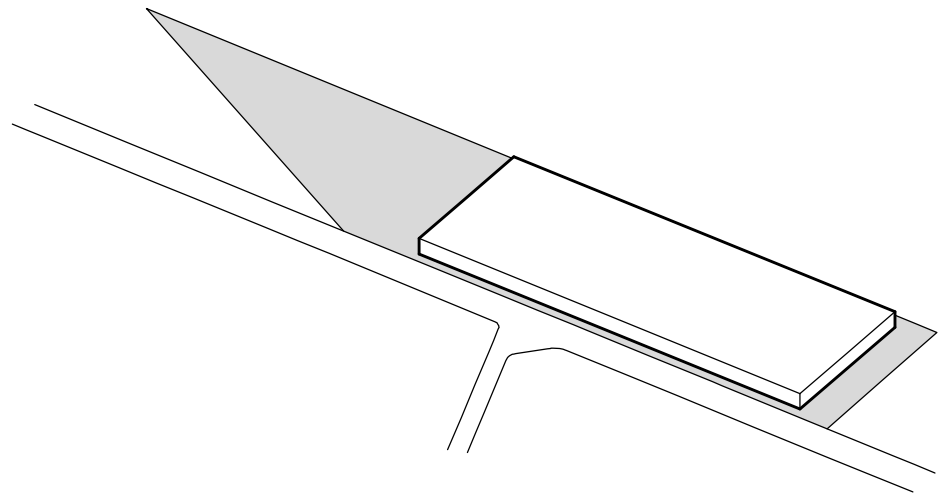
## 10.2 Masterplan

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| 1. Residential Tower                | 8. Park                          |
| 2. Sportscenter                     | 9. Liner park                    |
| 3. linear building for residence    | 10. Tennis court                 |
| 4. Underground car parking entrance | 11. Railway Freight Transit Area |
| 5. Bike parking lot                 | 12. Railway                      |
| 6. Existing tree                    | 13. Restaurant                   |
| 7. Entrance square                  | 14. New footable bridge          |

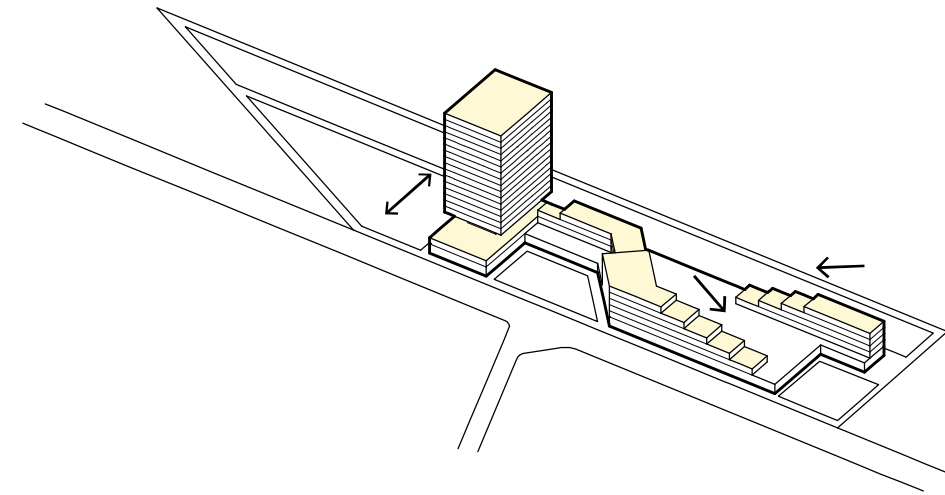




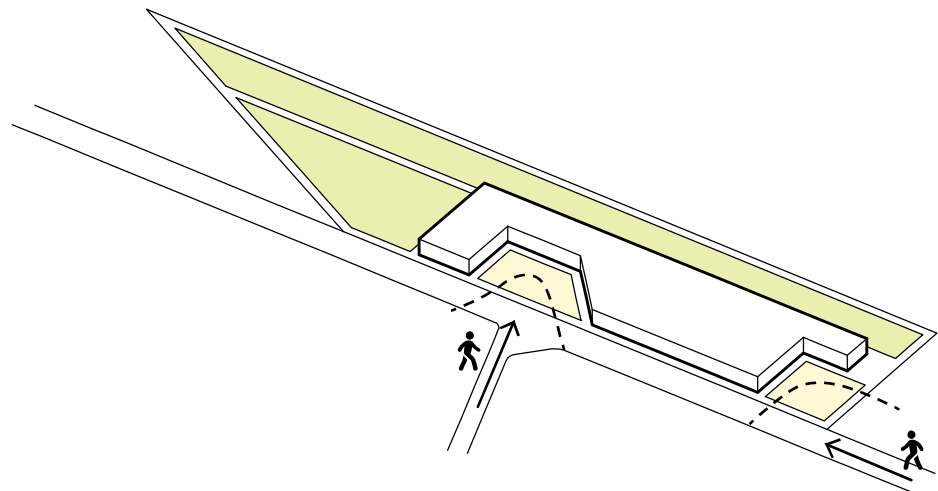
### 10.3 Building generation



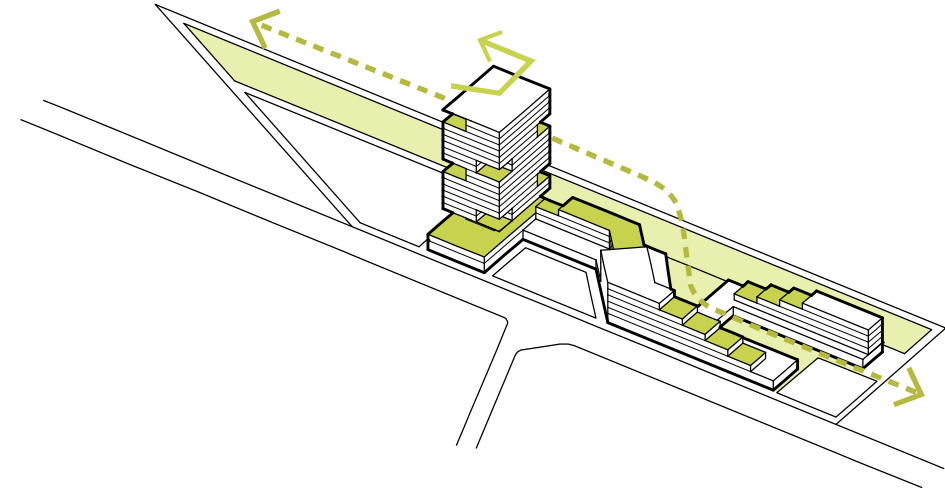
1 Occupy the regular ground



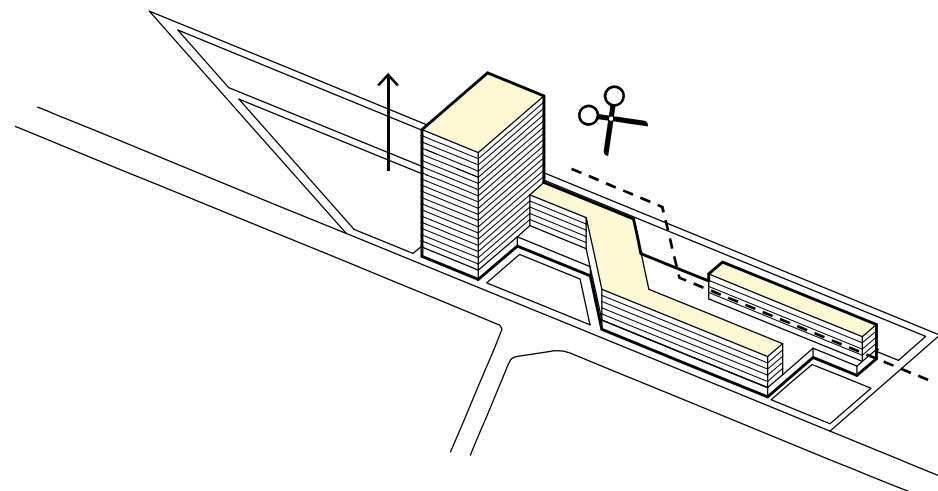
4 Stepped to increase the visibility of the residents and improve the quality of middle space



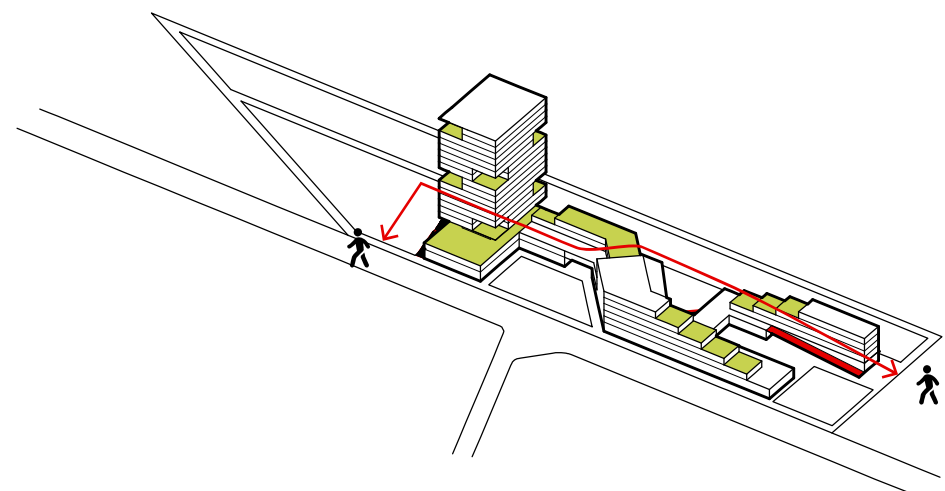
2 Form squares according to the crowd



5 Greening penetration



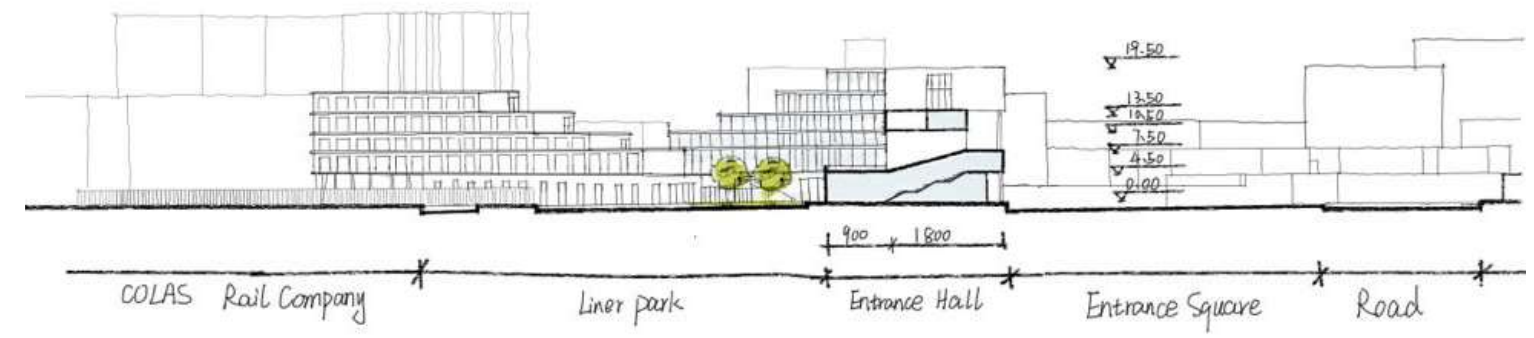
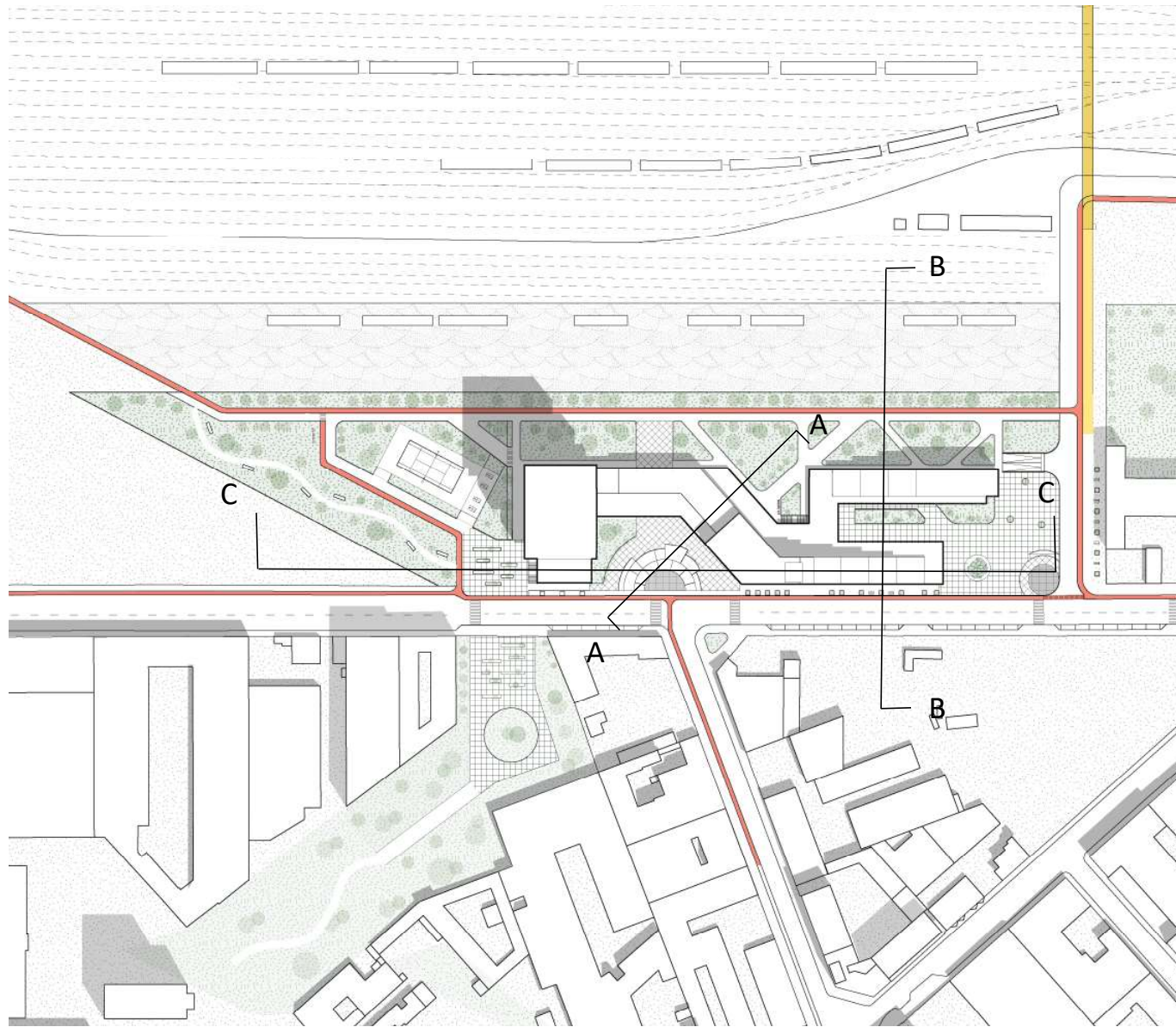
3 Lay out the linear houses and determine the tower height according to the summarized building indicators



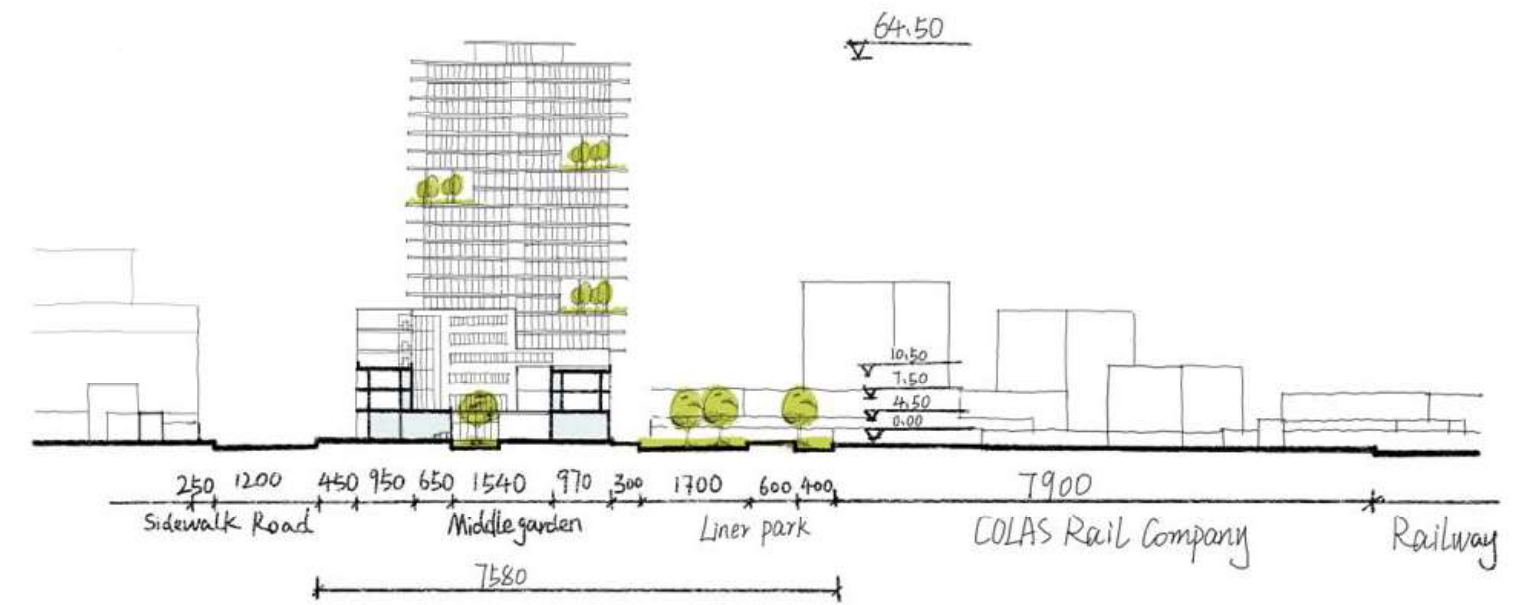
6 Create a rooftop park



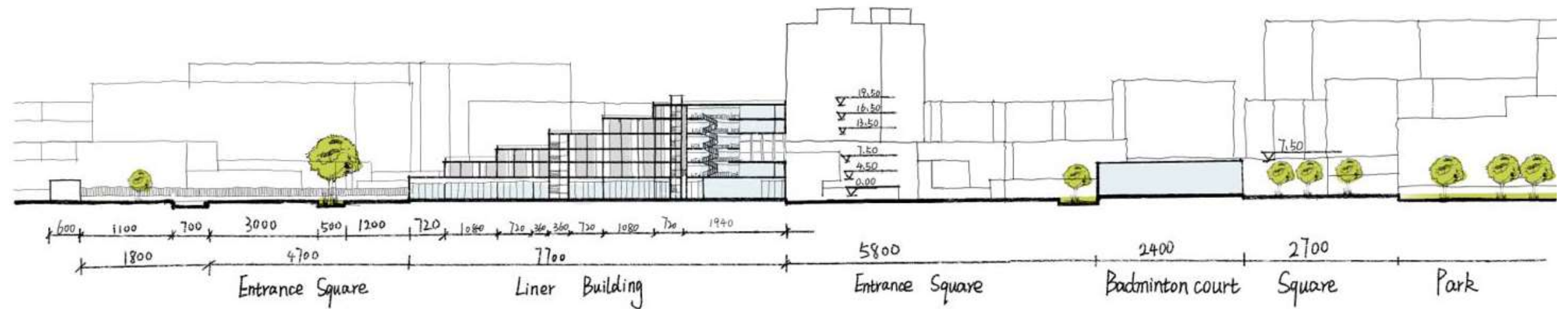
# 10.4 Urban section



Section A-A 1: 1200



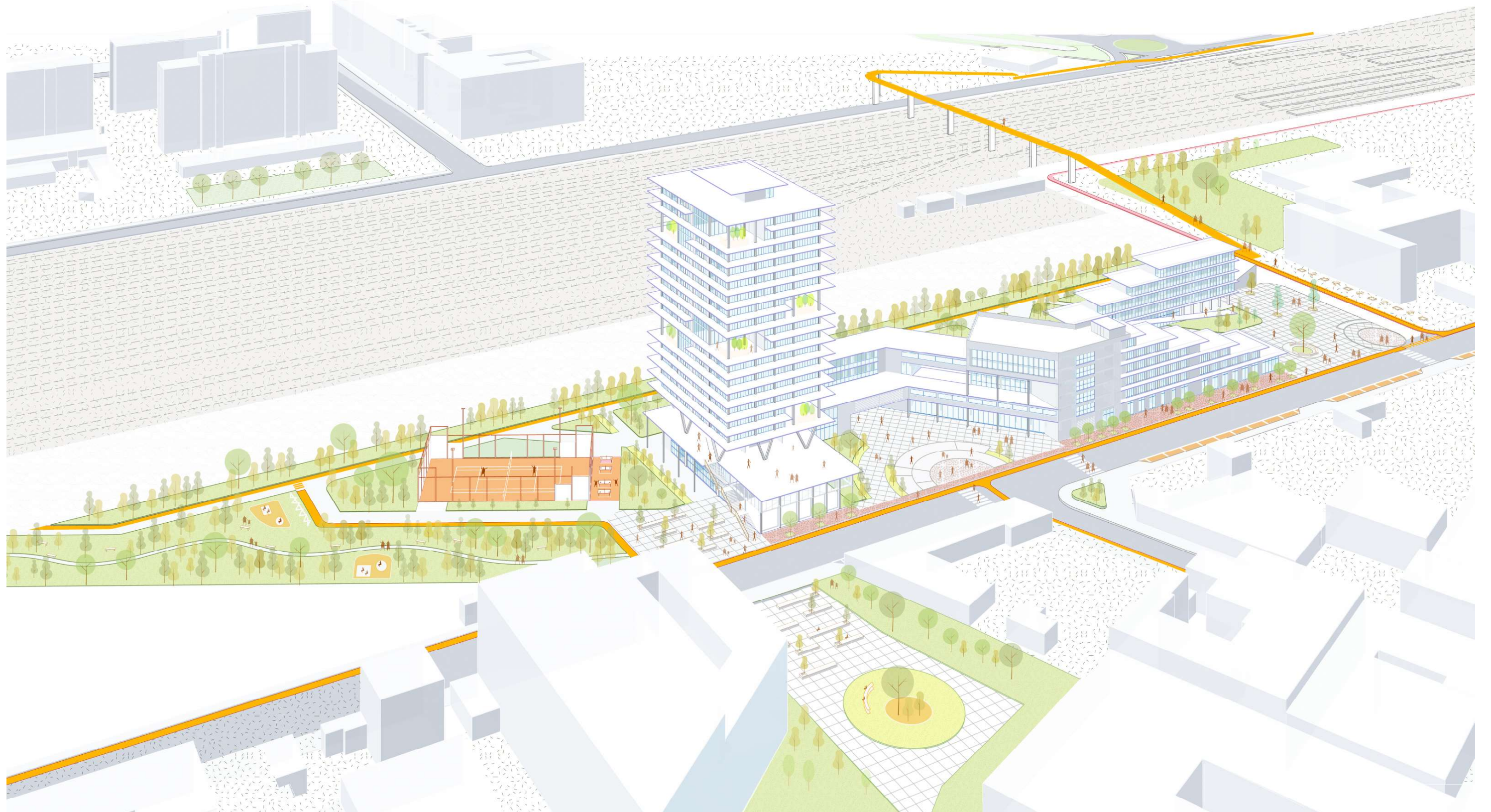
Section B-B 1: 1200



Section C-C 1: 1200



## 10.5 Urban axonometries





## 11.1 The program before and after the transformation

### Indication of Rogoredo railway yard(Summary from competition data)

Total area	<b>21132 mq</b>
Gross floor area	<b>18157-29714 mq</b>
FAR	<b>0.86 - 1.32</b>
Building density	<b>0.19 - 0.35</b>
Residential percentage	<b>57% - 89.3%</b>
Residential typology	<b>Apartment Student dormitory</b>

### Indication from the design of affordable hotel to the student housing

Total area	<b>21132 mq</b>
Gross floor area	<b>22487.7mq</b> (18157-29714)
FAR	<b>1.06</b> (0.86 - 1.32)
Building density	<b>0.21</b> (0.19 - 0.35)
Green area	<b>10636.3mq</b>
Greening rate	<b>0.5</b>
Residential typology	<b>Affordable Hotel to Student Housing</b>

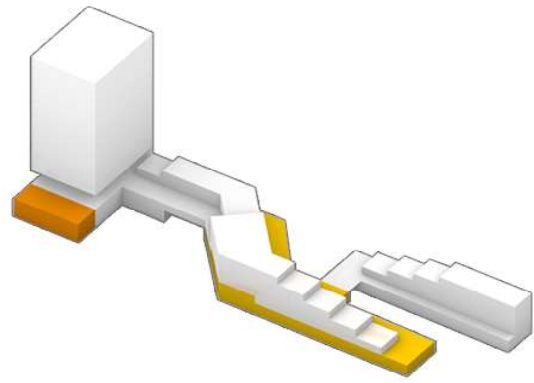
### Comparison between specific Indication of the affordable hotel and the student housing

	During the affordable hotel	During the student housing
Accommodation area	<b>13403.4 mq</b>	<b>13051.88mq</b>
Shared space in accommodation	<b>108.96mq</b>	<b>4418.28mq</b> ↑
Number of users	<b>1202</b>	<b>418</b> ↓

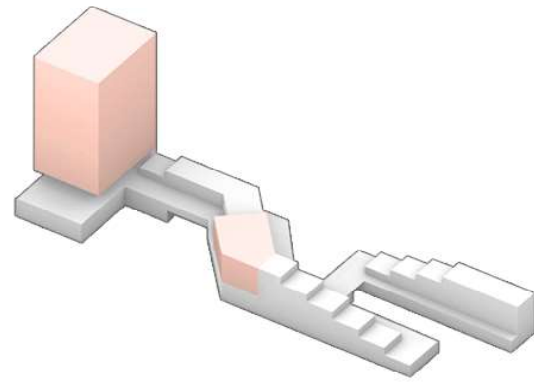


# 11.1 The program before and after the transformation

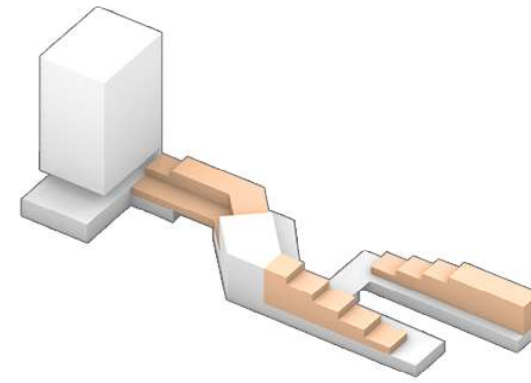
## During the hotel time



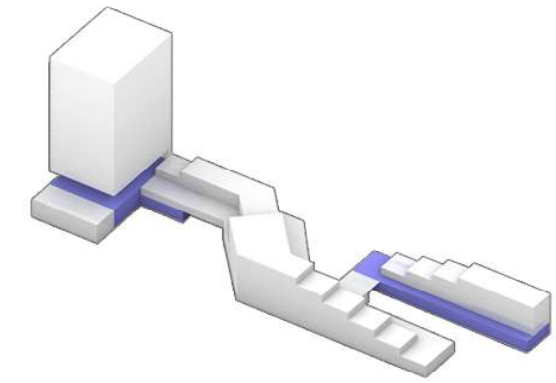
Sports, leisure and entertainment for hotel



Dormitory type\_ multi-person rooms



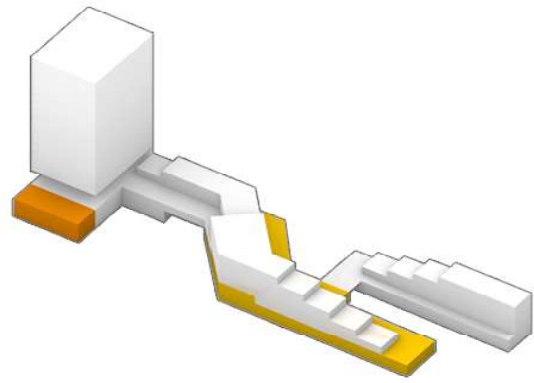
Standard hotel rooms



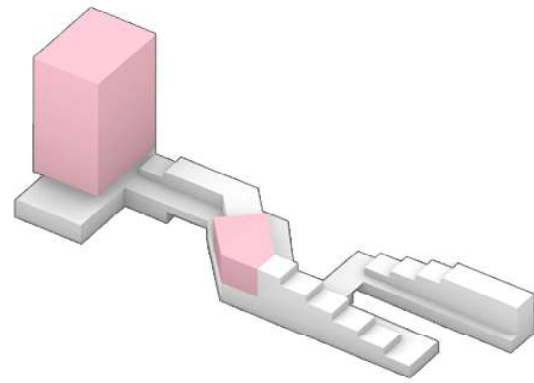
Studio for renting, Logistics services, and Hotel management



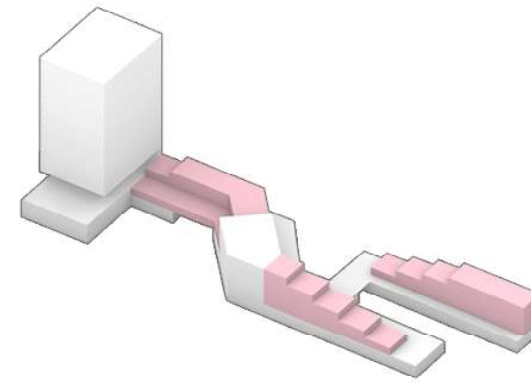
Sports, leisure and entertainment for the community



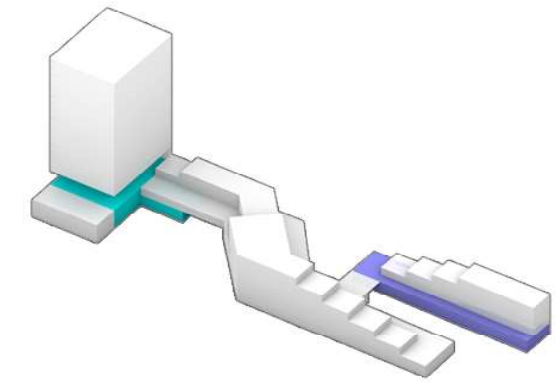
Student accommodation suites



Student accommodation suites

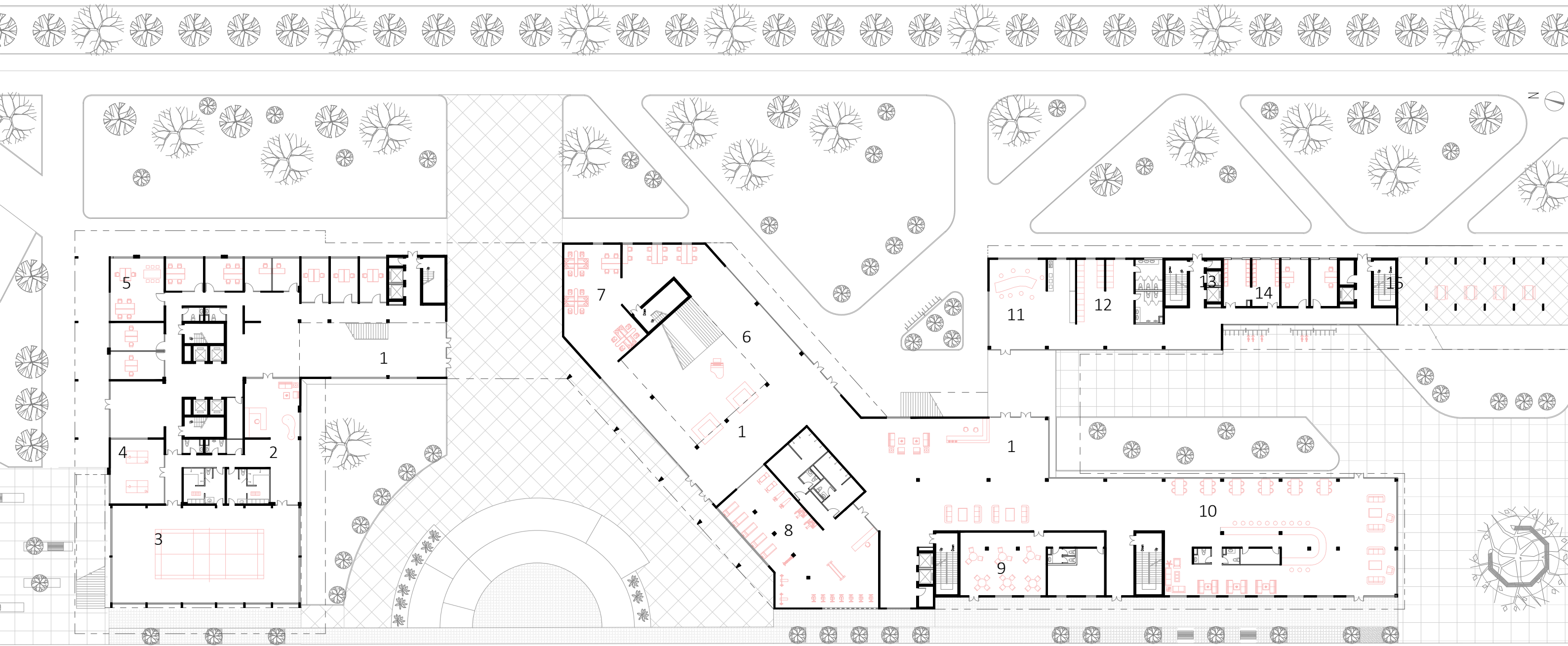


Self-study room, Library, Logistics services, and Dormitory management

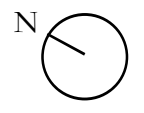


## During the Dormitory

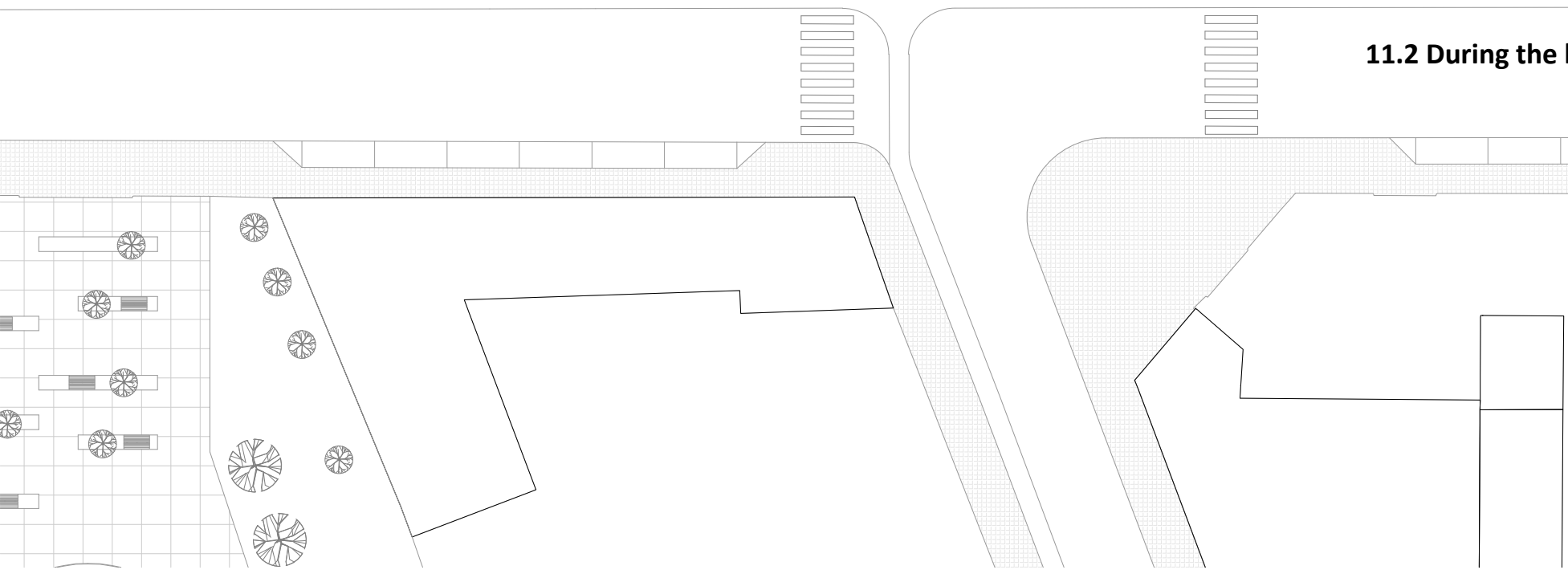




11.2 During the hotel time and the Dormitory\_ground floor plan\_ 1:500



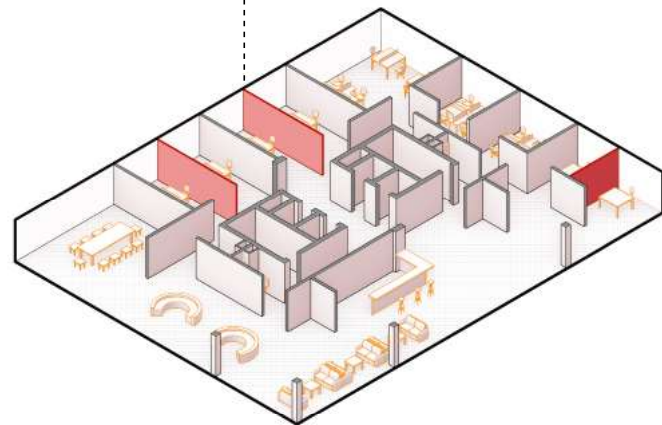
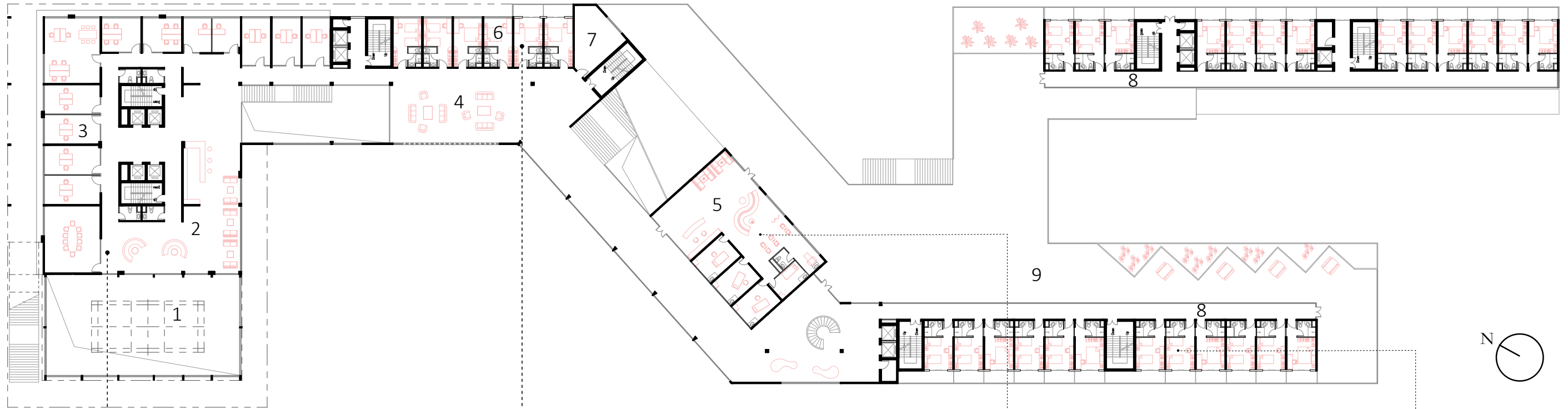
- 1 Entrance hall
- 2 Sports center
- 3 Badminton court
- 4 Table tennis room
- 5 Studio for renting  
( Later can be transformed to Library)
- 6 Leisure and game area
- 7 Smart-working area
- 8 GYM
- 9 Restaurant
- 10 Bar
- 11 Shared kitchen
- 12 Self-storage of baggage  
( Later can be transformed to Express pick up area)
- 13 Laundry
- 14 Office
- 15 Outdoor recreation area



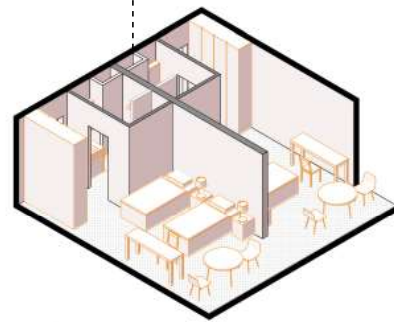


11.3 During the hotel time\_ 1st floor plan\_ 1:500

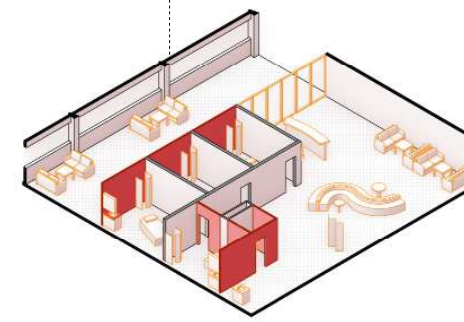
- 1 Top of Badminton court
- 2 Bar
- 3 Studio for renting
- 4 Leisure area
- 5 Spa
- 6 Type A\_Single unit
- 7 Linen room
- 8 Type C\_Treble unit
- 9 Roof garden



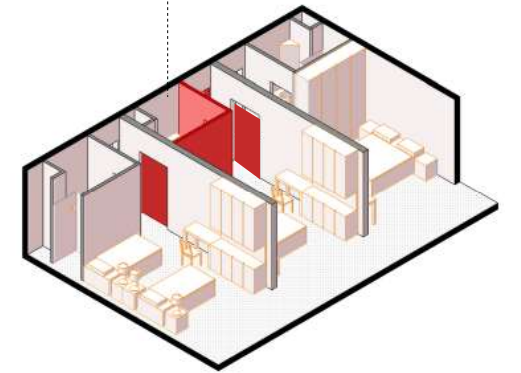
Studio for renting



Type A\_Single unit



Spa

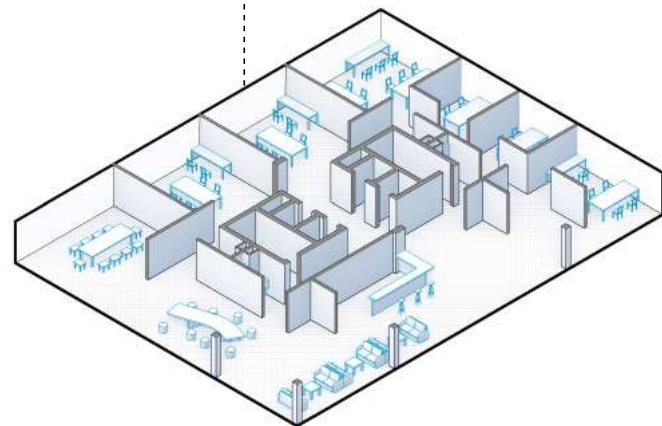
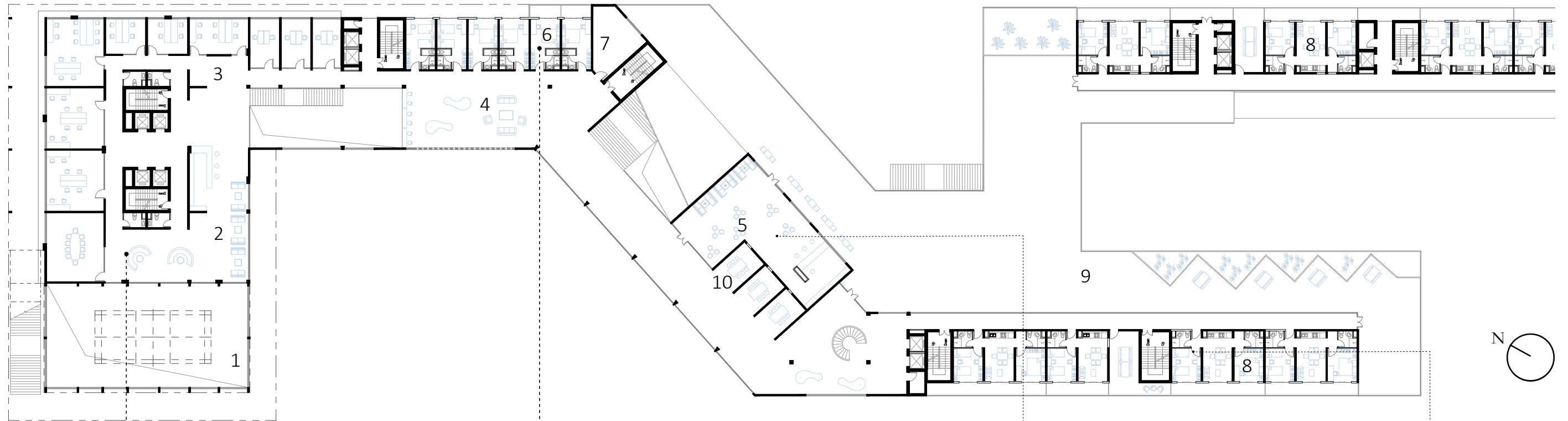


Type C\_Treble unit

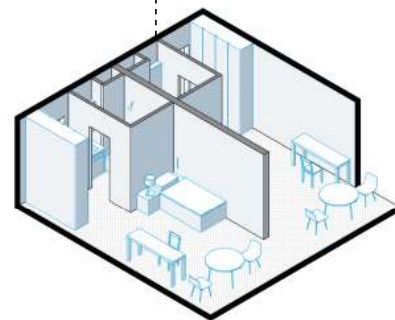


11.3 During the Dormitory\_ 1st floor plan\_ 1:500

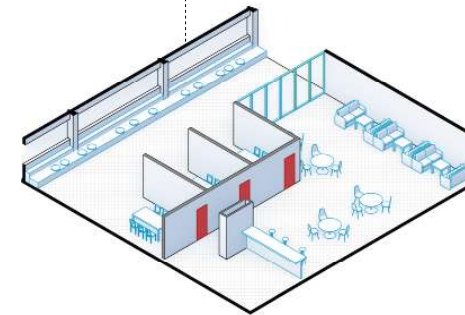
- 1 Top of Badminton court
- 2 Bar
- 3 Self study room
- 4 Leasure area
- 5 Bar
- 6 Type A\_Single unit
- 7 Shared kitchen for Type A
- 8 Type C\_Treble unit
- 9 Roof garden
- 10 Multimedia discussion area



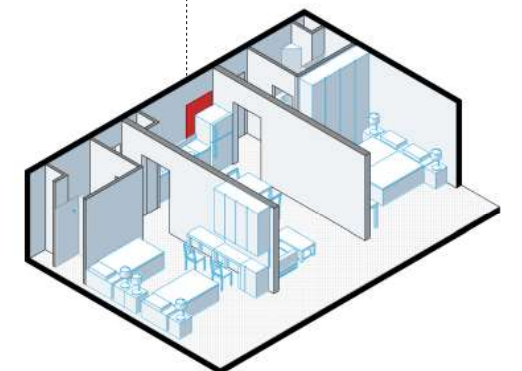
Self study room



Type A\_Single unit



Bar

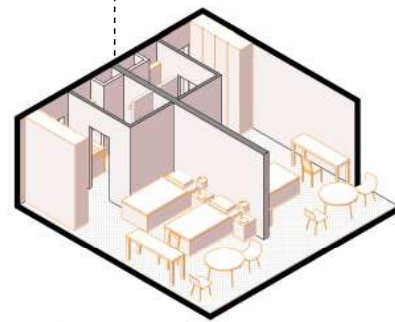
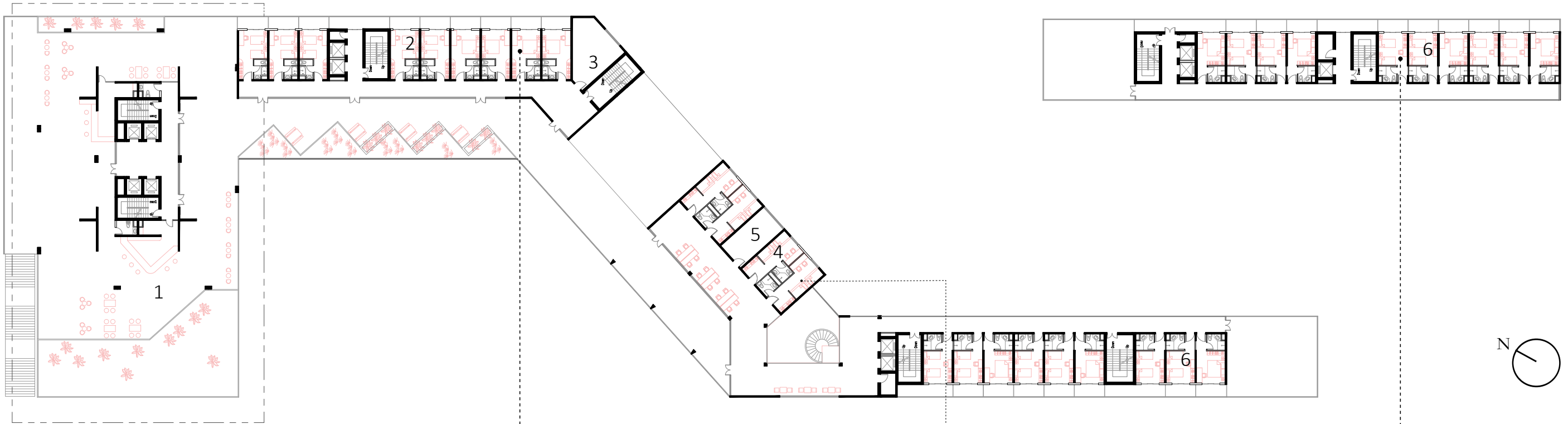


Type C\_Treble unit

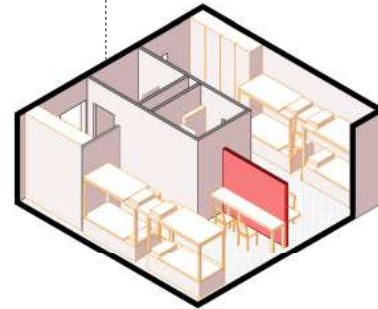


11.3 During the hotel time\_ 2nd floor plan\_ 1:500

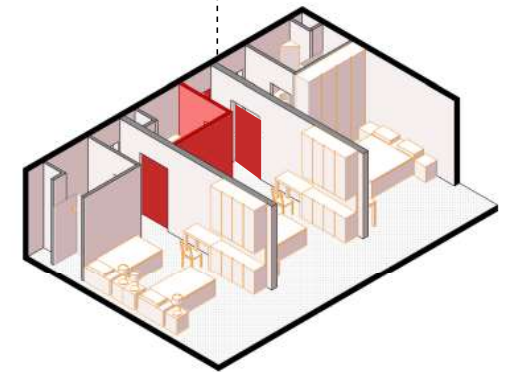
- 1 Roof garden with bar
- 2 Type A\_Single unit
- 3 Linen room
- 4 Type B\_Double unit
- 5 Video room
- 6 Type C\_Treble unit



Type A\_Single unit



Type B\_Double unit

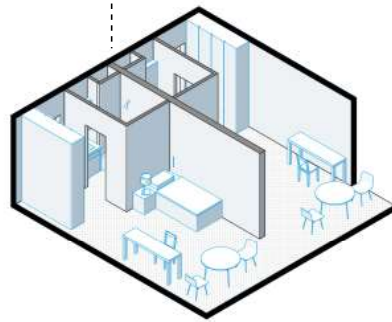
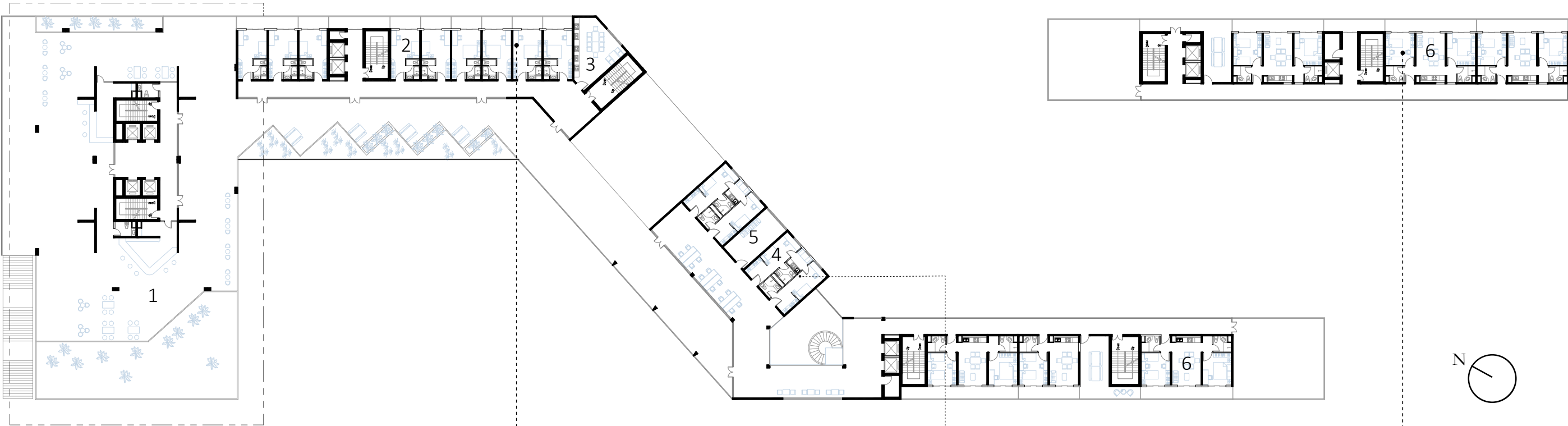


Type C\_Treble unit

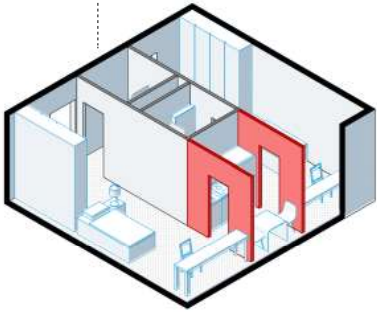


11.3 During the Dormitory\_ 2nd floor plan\_ 1:500

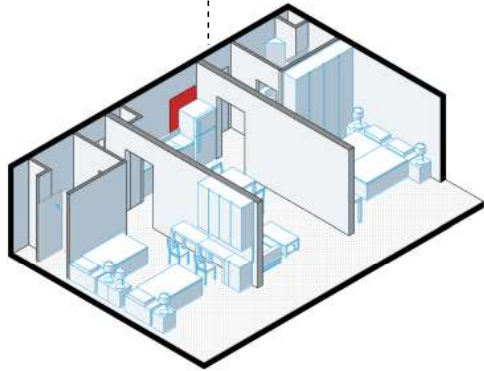
- 1 Roof garden with bar
- 2 Type A\_Single unit
- 3 Shared kitchen for Type A
- 4 Type B\_Double unit
- 5 Video room
- 6 Type C\_Treble unit



Type A\_Single unit



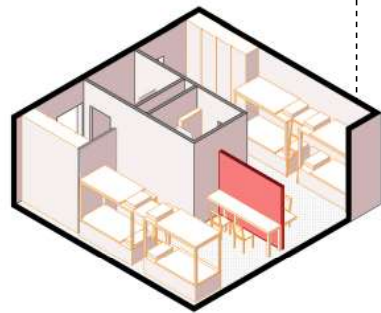
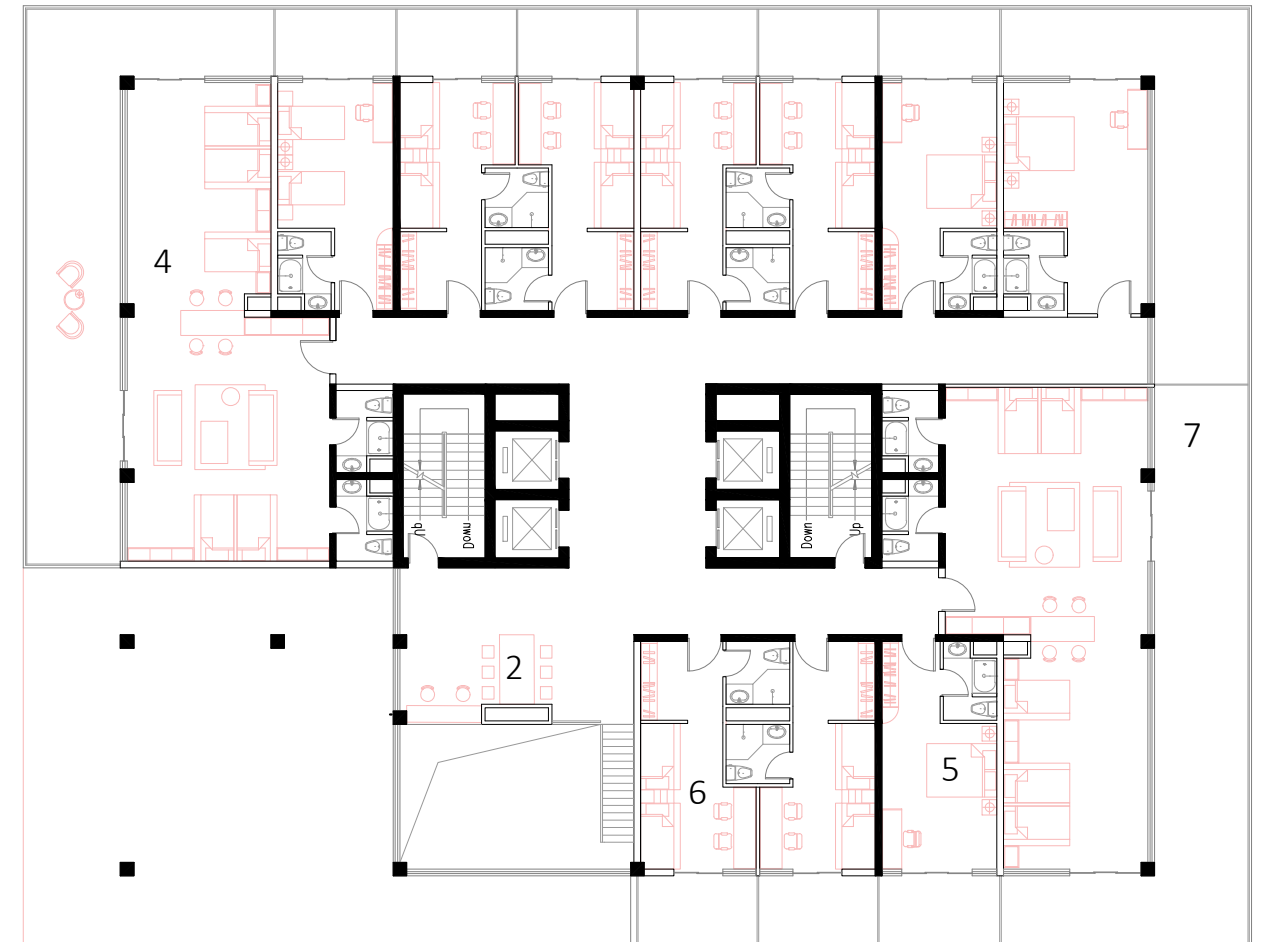
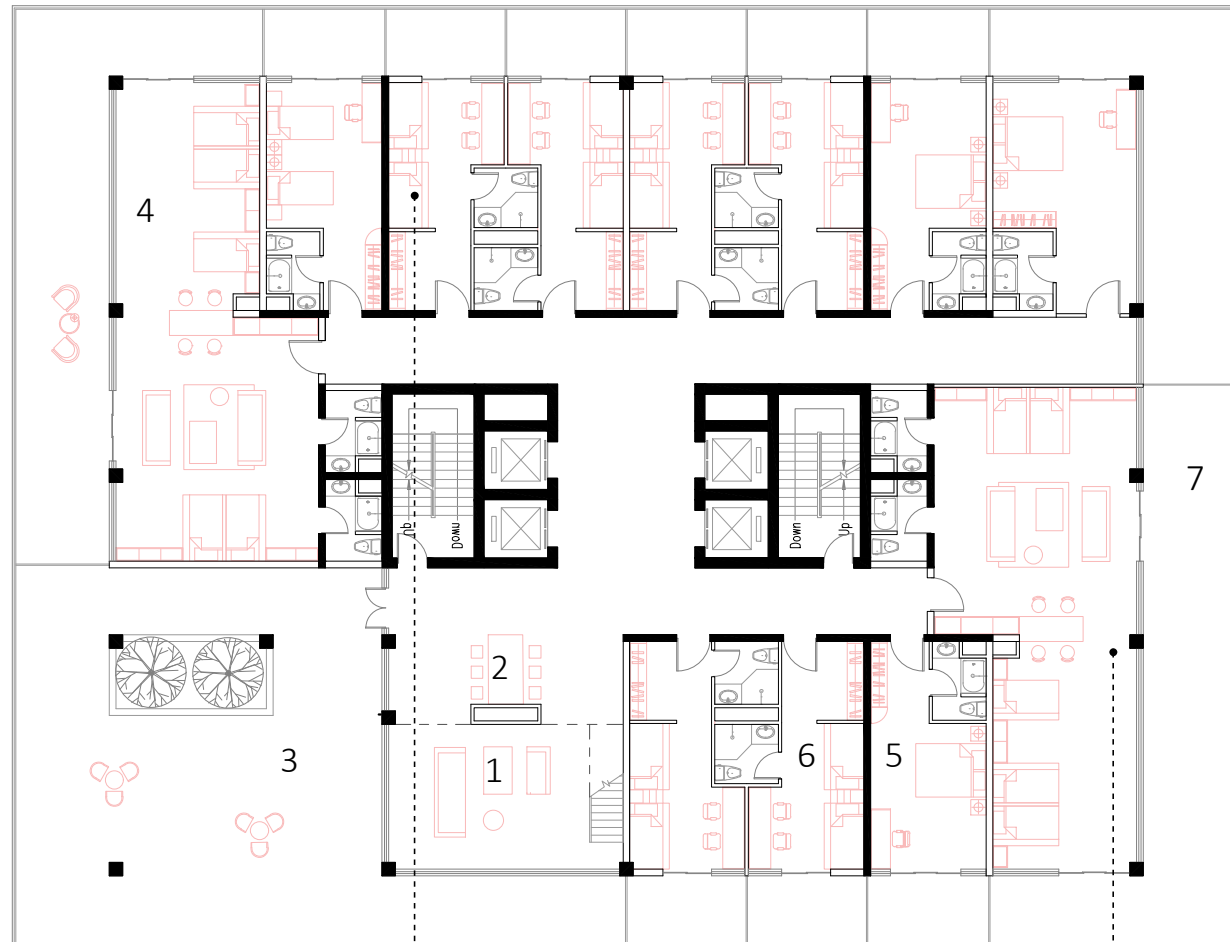
Type B\_Double unit



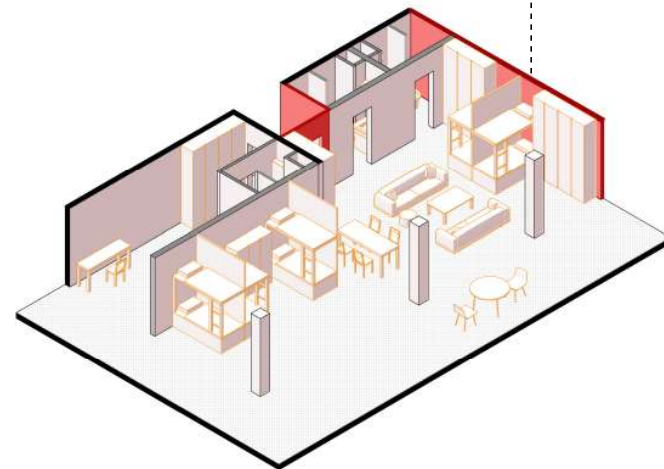
Type C\_Treble unit



11.3 During the hotel time\_ standard floor plan of tower\_ 1:250



Type B\_Double unit

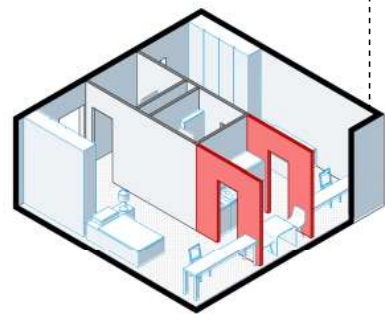
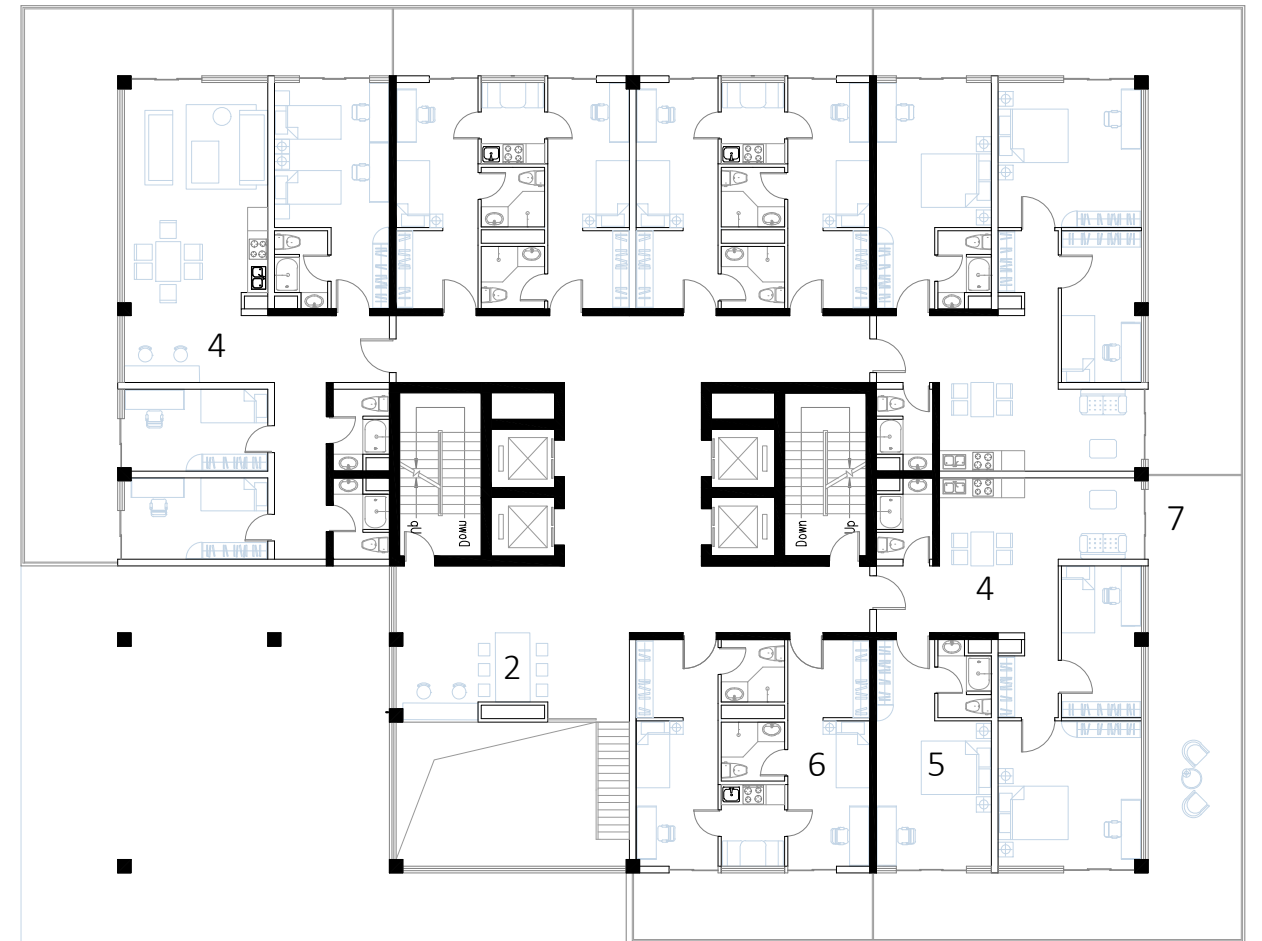
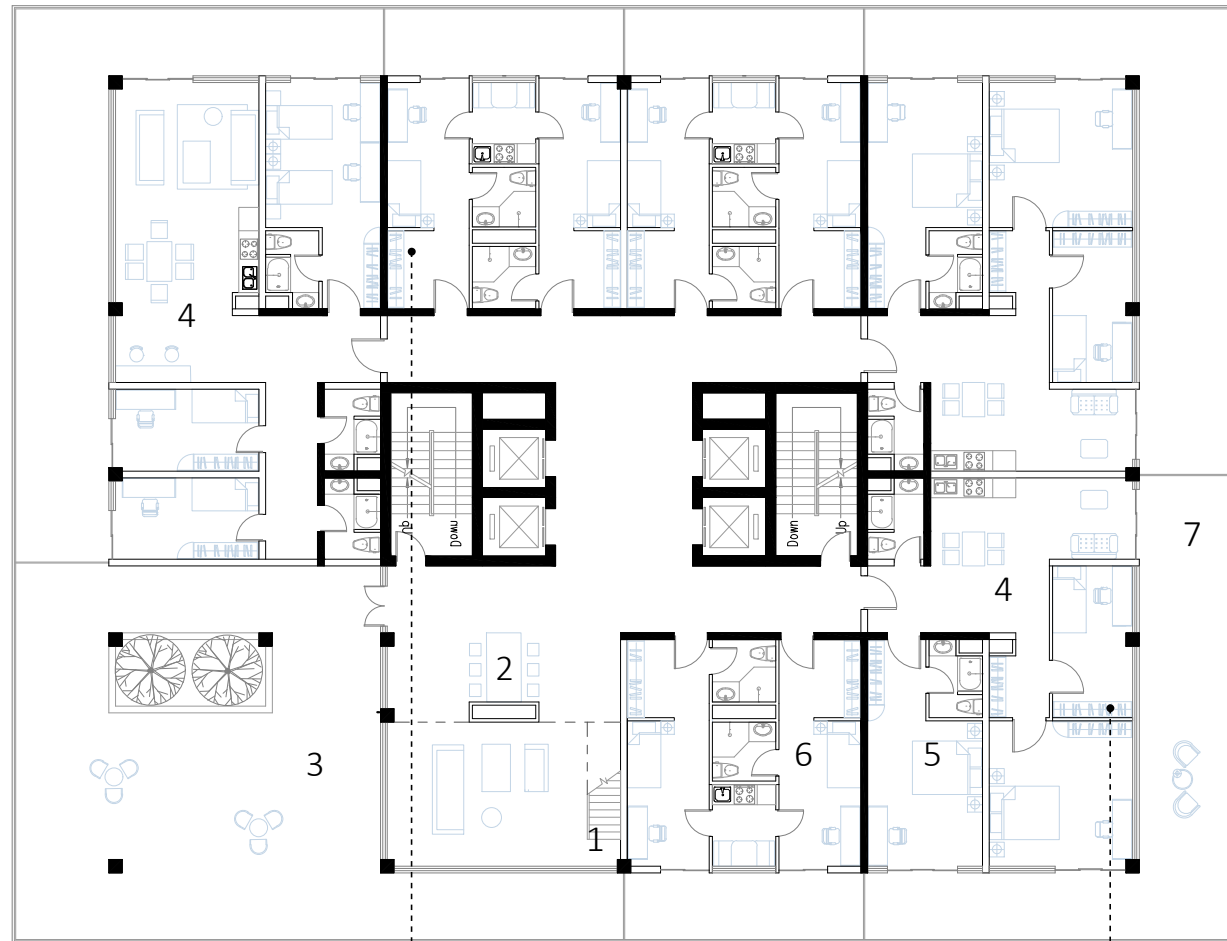


TypeD\_Dormitory unit

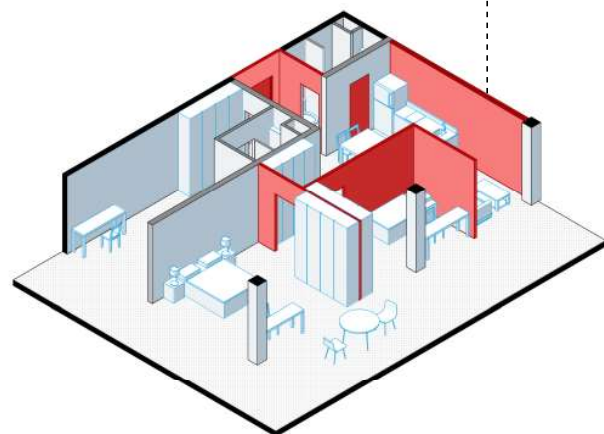
- 1 Leisure area
- 2 discussion table
- 3 Terrace garden
- 4 TypeD\_Dormitory unit
- 5 Type A\_Single unit
- 6 Type B\_Double unit
- 7 Balcony



11.3 During the Dormitory\_standard floor plan of tower\_ 1:250



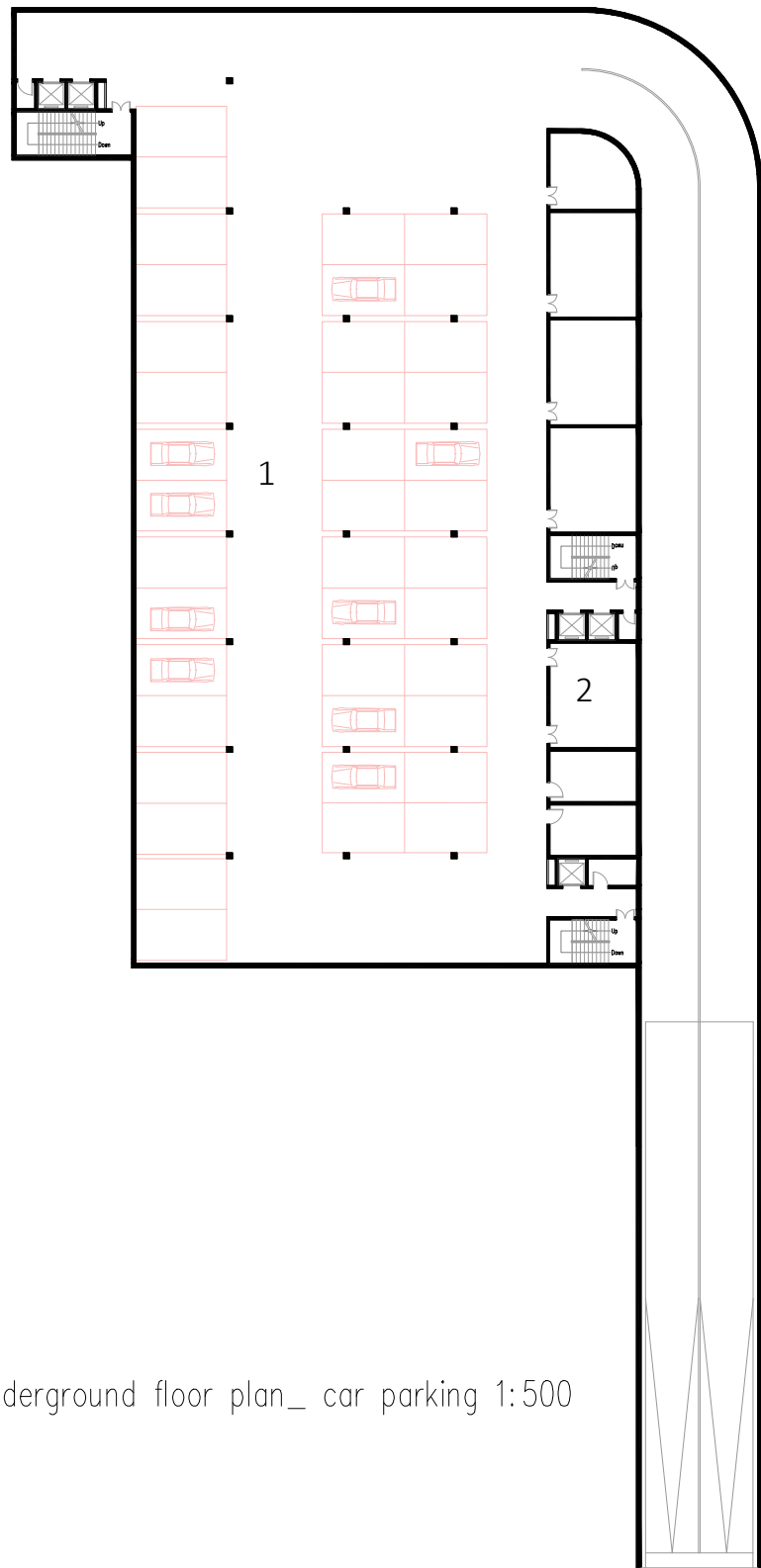
Type B\_Double unit



TypeD\_Dormitory unit

- 1 Leisure area
- 2 discussion table
- 3 Terrace garden
- 4 TypeD\_Dormitory unit
- 5 Type A\_Single unit
- 6 Type B\_Double unit
- 7 Balcony





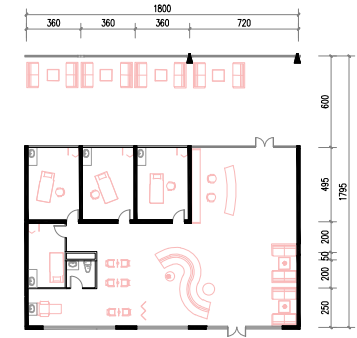
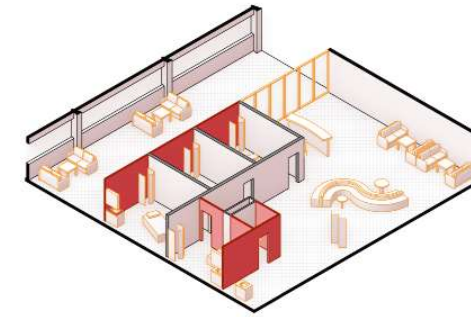
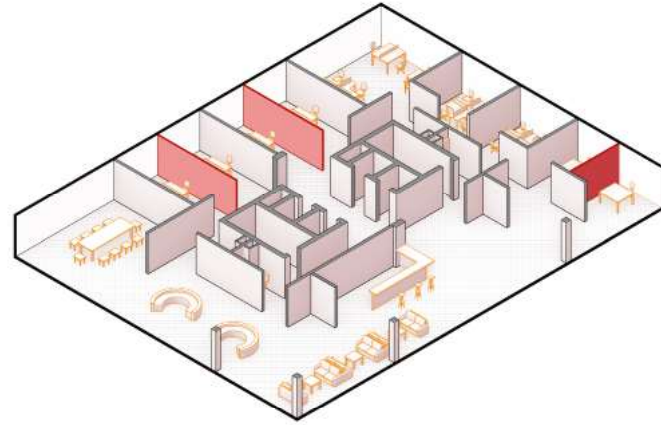
Underground floor plan\_ car parking 1:500

**11.3 Underground car parking plan\_ 1:500**

- 1 Parking spots
- 2 Technical rooms



# 11.4 Transformation of public spaces 1:500

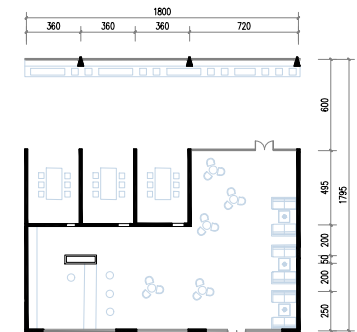
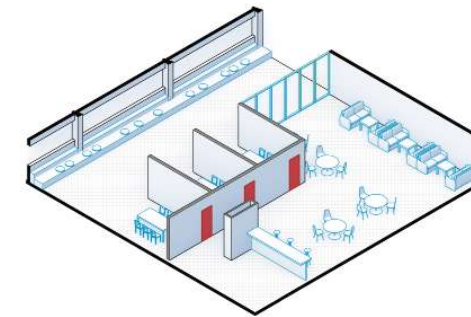
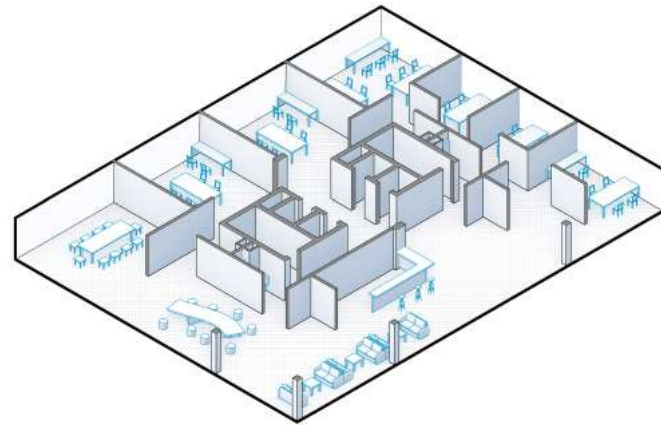
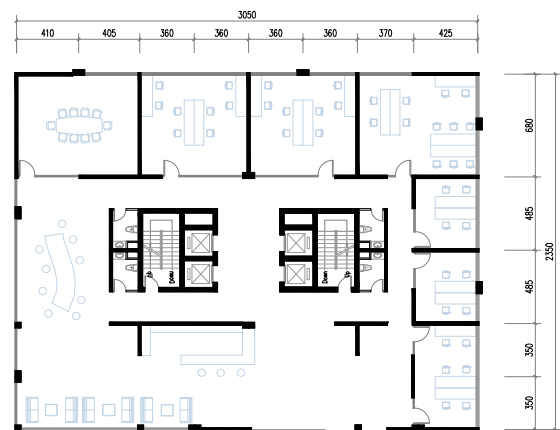


Studio for renting

Spa

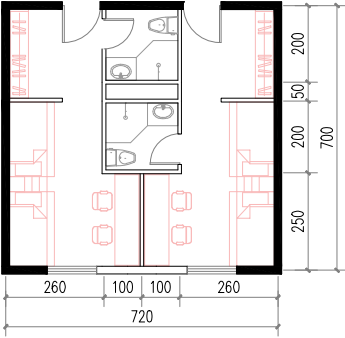
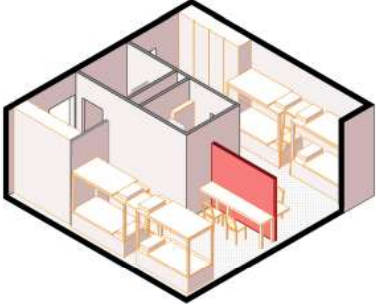
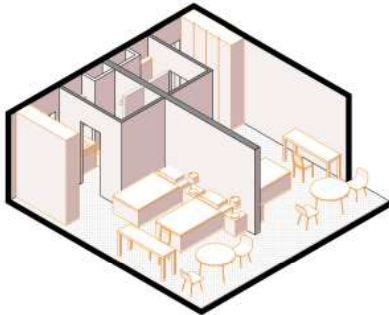
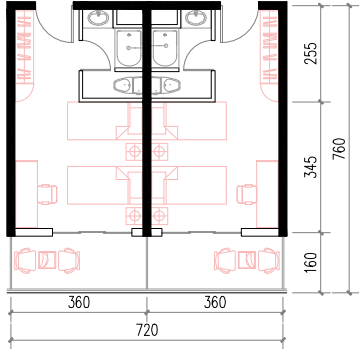
Self study room

Bar+ Multimedia discussion area



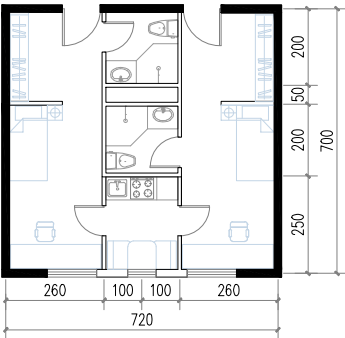
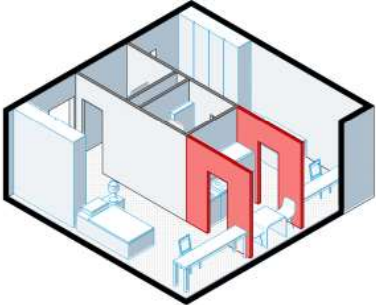
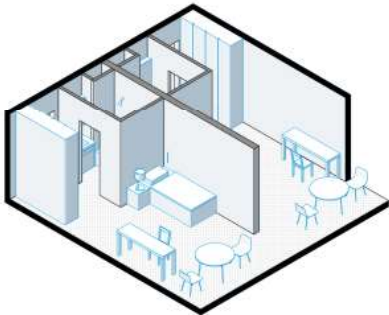
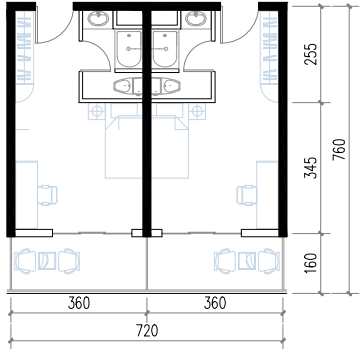


11.4 Room types 1:200



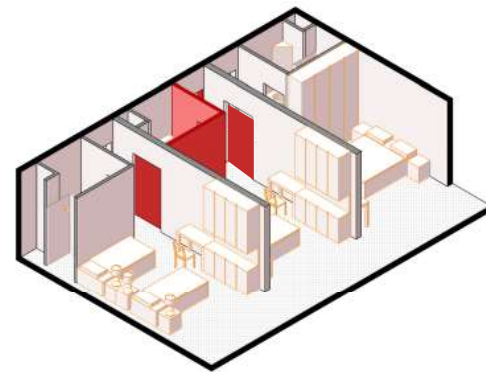
Type A \_ Single room

Type B \_ Double room

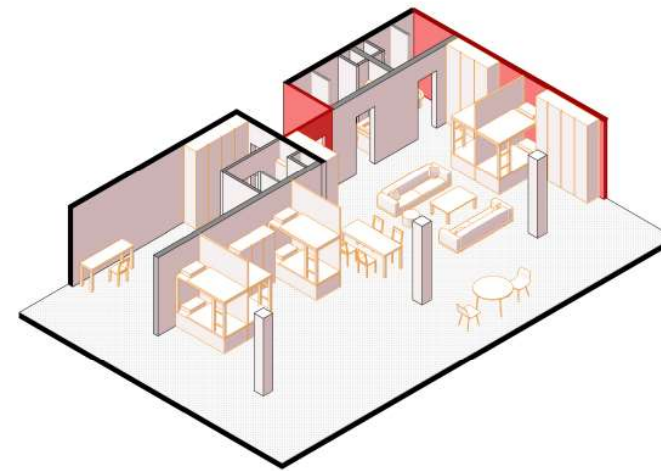
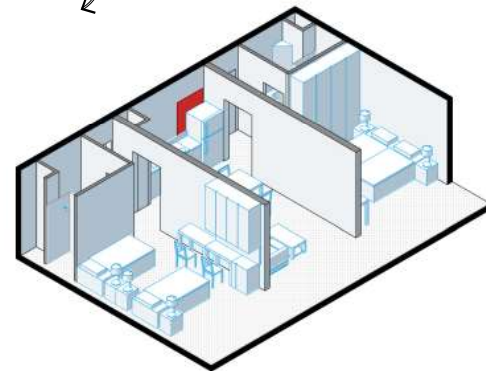
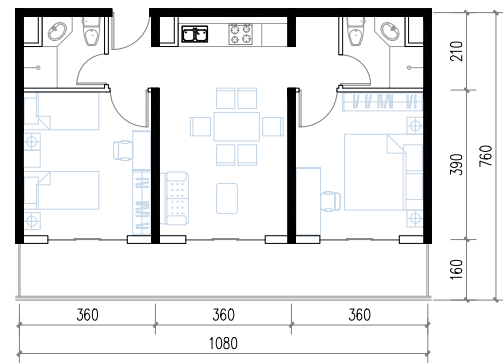




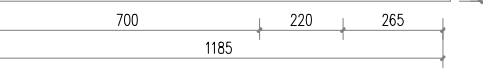
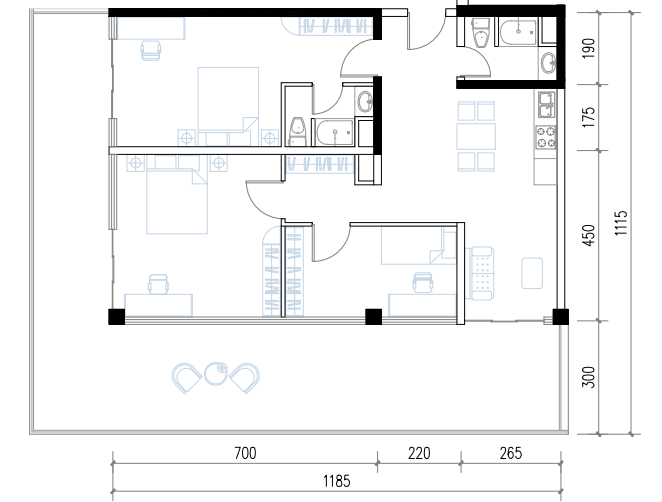
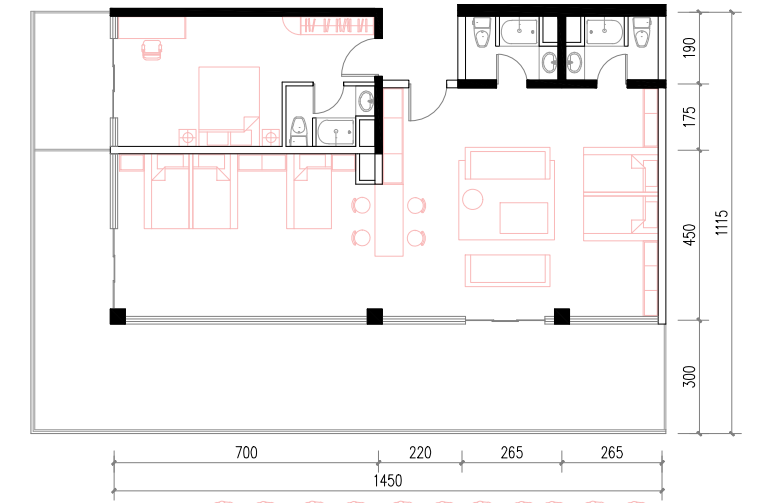
# 11.4 Room types 1:200



Type C \_ Treble room

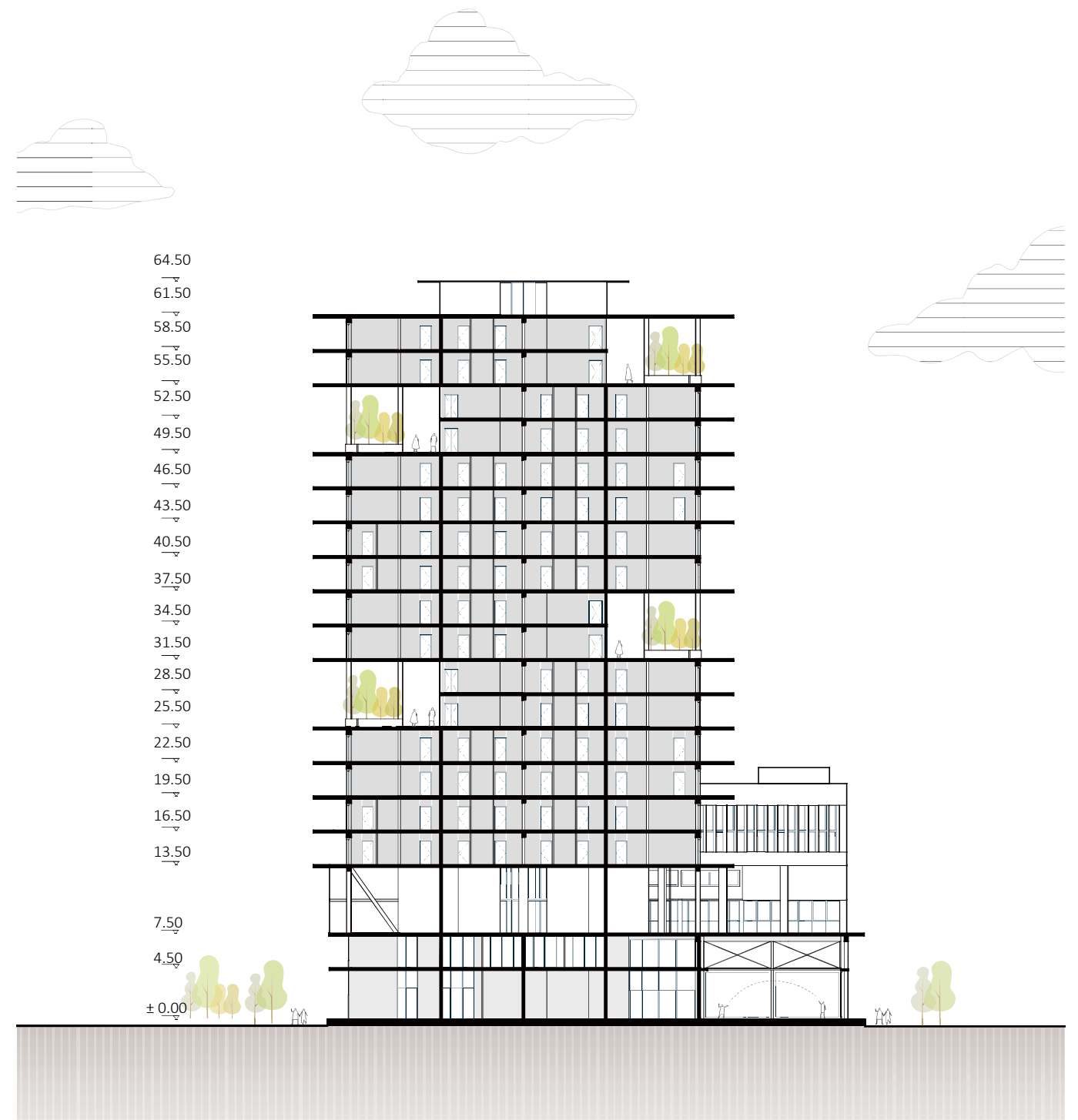
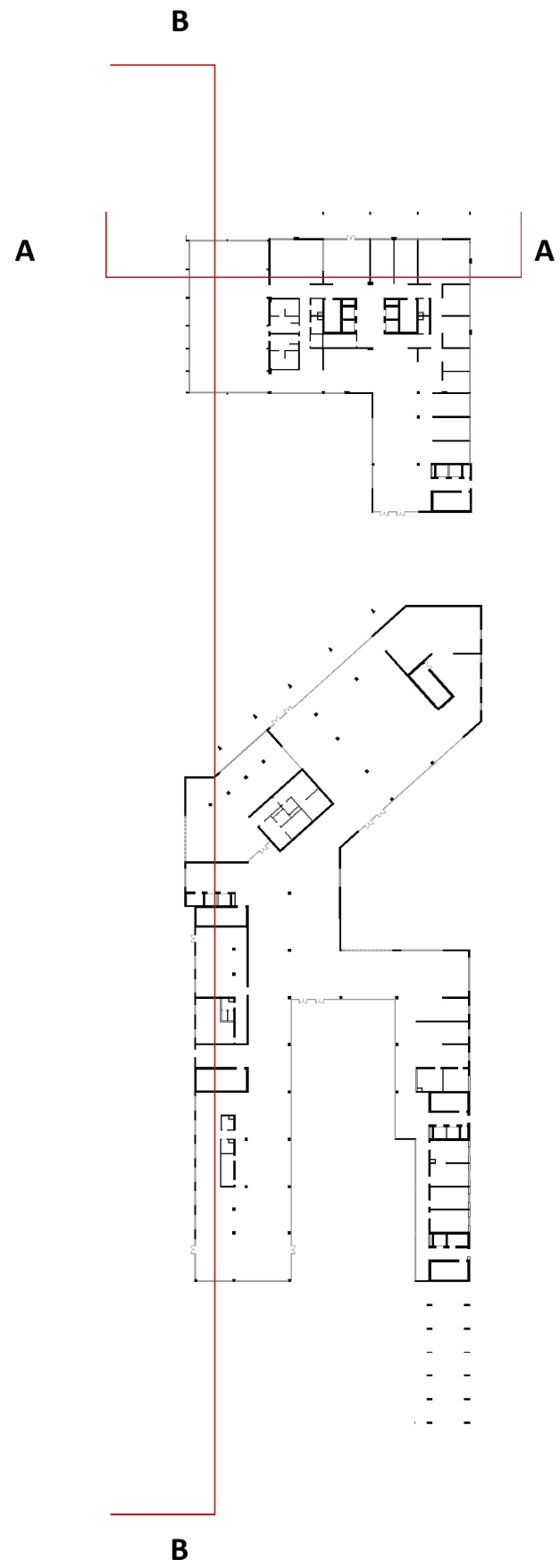


Type D \_ Dormitory





11.5 Section and facade



Section and facade A-A\_ 1:500



11.5 Section and facade



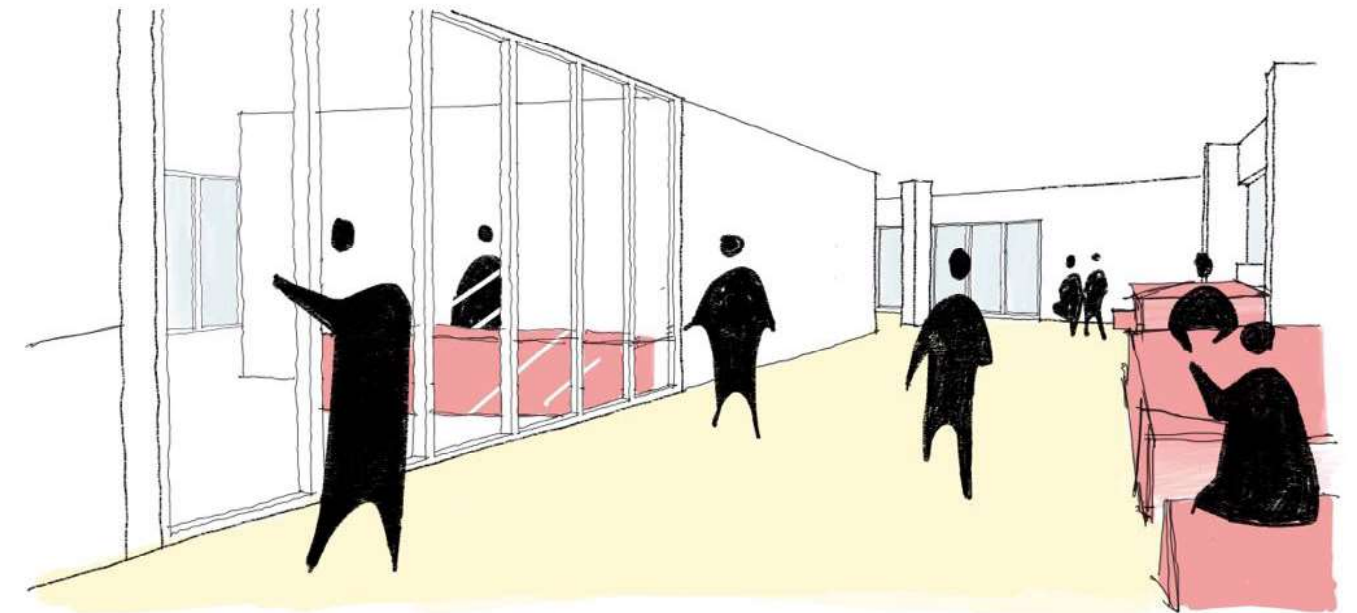
Section and facade B-B\_ 1:500



11.7 Perspective views/ axonometrics



During Hotel\_Studio for renting



During Hotel\_SPA



During Dorimitory\_Self study room

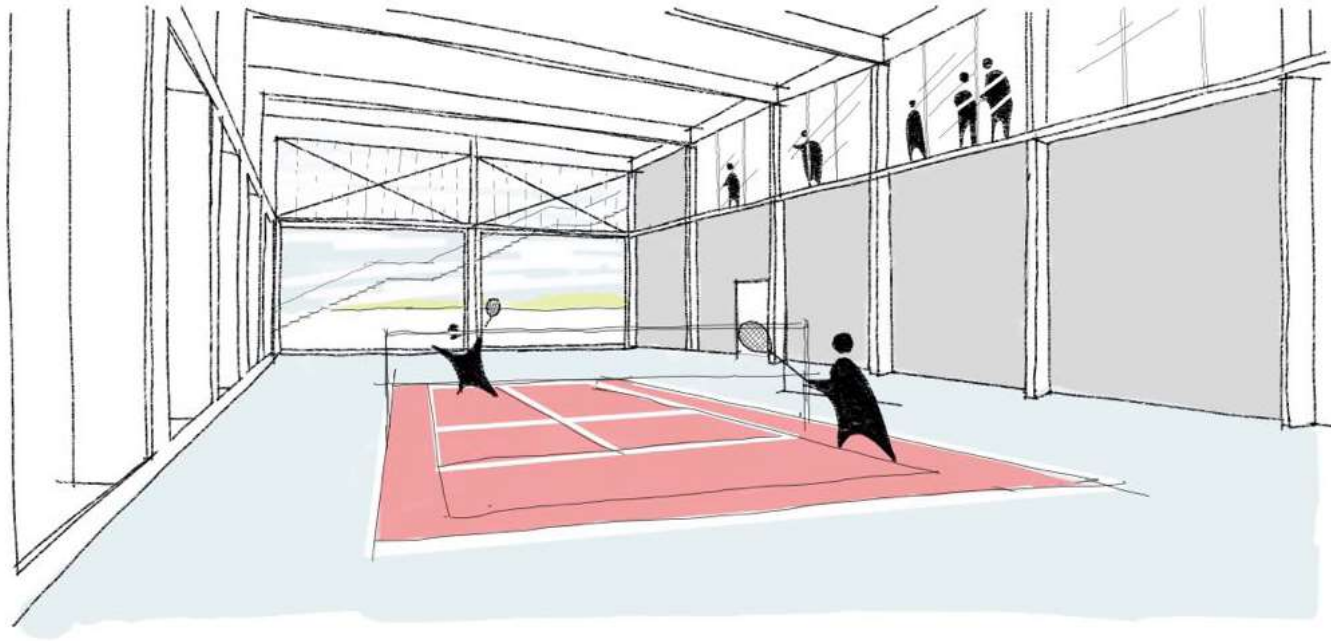


During Dorimitory\_Bar+ Multimedia discussion





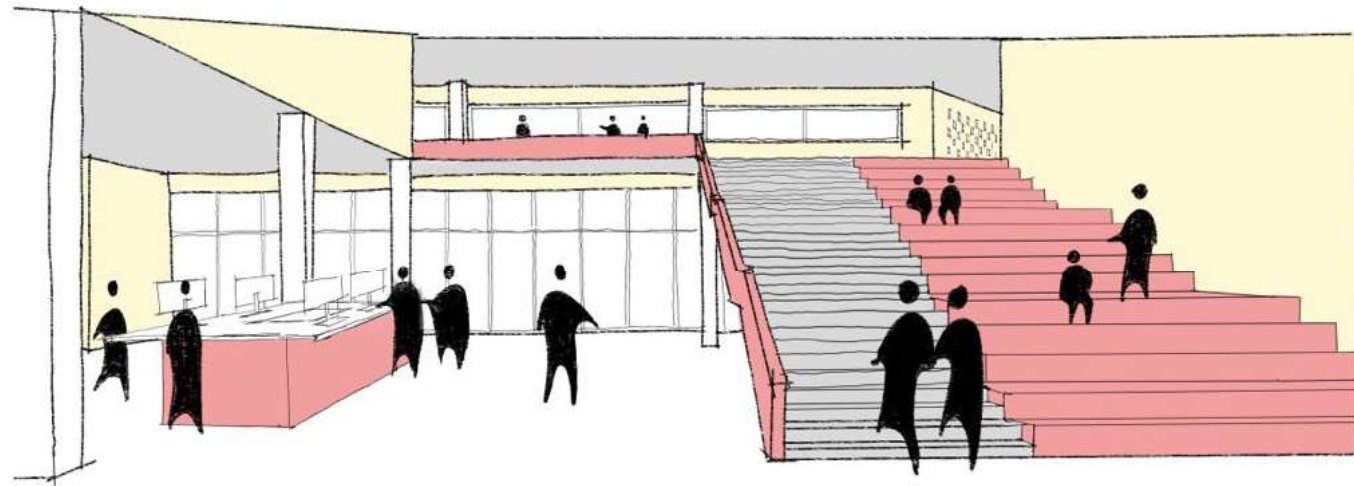
## 11.7 Perspective views/ axonometrics



View from Badminton court



Main entrance for Tower



Main entrance for Liner part with leisure stair



View from the roof garden in tower part



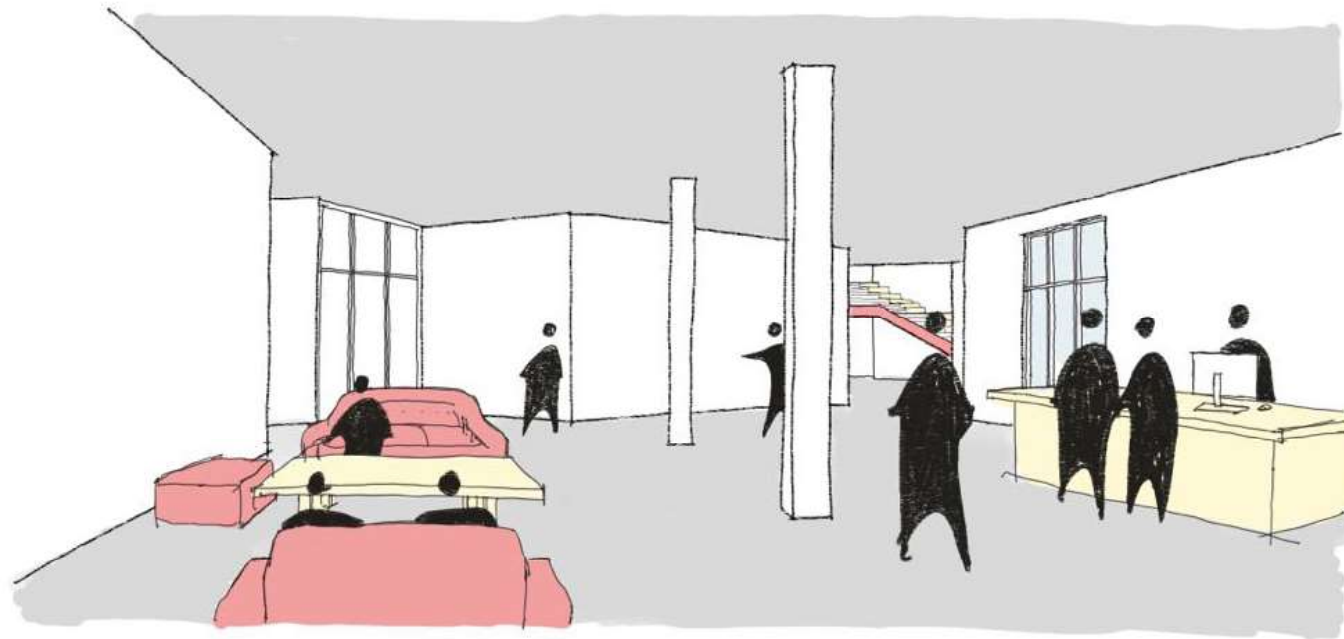
11.7 Perspective views/ axonometrics



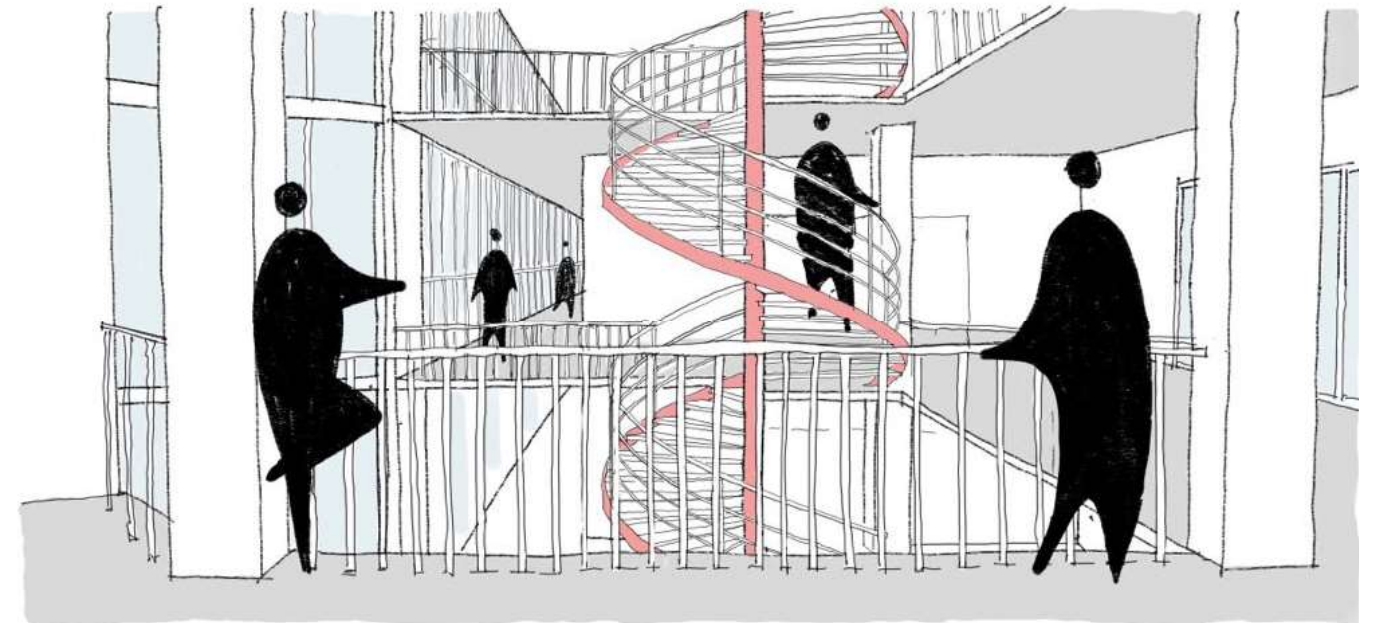
View from Bar with garden



Terrace garden for Tower



Main entrance for Liner part next to GYM entrance



View from the atrium in liner part



12. Views of the model









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<https://www.marcomerati.it/rogoredo-e-una-storia-vera/>

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<https://www.toposophy.com/insights/insight/?bid=64>

### 2. A painting shows Spiridon Louis of Greece winning the first Olympic marathon, April 1896. Photograph: Getty Images

<https://www.theguardian.com/sport/from-the-archive-blog/2021/apr/07/first-modern-olympics-begin-athens-1896>

### 3.The IOC Sustainability Strategy

<https://olympics.com/ioc/sustainability>

### 4.Pyeongchang stadium built for the Opening and Closing Ceremonies of 2018 Winter Olympic and Paralympic Games .Pyeongchang 2018

<https://www.insidethegames.biz/articles/1056137/pyeongchang-2018-officially-complete-construction-of-stadium-for-opening-and-closing-ceremonies>

### 5.The big jumping training venue transformed by the capital steel factory is in the 2022 Beijing Winter Olympics, Vision China

[https://www.ccdi.gov.cn/toutiaon/202202/t20220212\\_171072.html](https://www.ccdi.gov.cn/toutiaon/202202/t20220212_171072.html)

## Part III

### 1.Inner courtyard of The student hotel Bologna

[https://www.rizoma.me/progetto/tsh\\_bologna/](https://www.rizoma.me/progetto/tsh_bologna/)

### 2.Street view of The student hotel Delft

<https://www.kcap.eu/projects/27/the-student-hotel>

### 3.Street view of Generator Venice

<https://www10.aeccafe.com/blogs/arch-showcase/2014/03/12/generator-venice-in-venezia-ve-italy-by-designagency/>

### 4.Street view of Generator Paris

<https://www.archdaily.com/642241/generator-paris-designagency>

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