Students Reinventing Cities

Trinitat Nova neighbourhood, Barcelona

Barcelona, Spain

Located in the northern district of Nou Barris, Trinitat Nova represents an opportunity to reconnect fragmented urban fabric through sustainable design and community-centered intervention.

Trinitat Nova is a neighborhood in Barcelona's Nou Barris district, situated between the Collserola mountain range and the Besòs River. With a population of over 20,000 inhabitants, this area is **characterized by scattered residential blocks surrounded by abundant yet underutilized green spaces**. The neighborhood faces significant challenges related to **urban fragmentation caused by large road infrastructures**, including the Ronda de Dalt highway, which has historically severed connections between the community and its natural surroundings.

The area presents unique opportunities for urban regeneration through two ongoing projects: the ReGreeneration Project Trinitat Nova, which transforms 8,640 m² of urban space including 2,493 m² of new green areas, and the Trinitat Vella Prison redevelopment, which will create 129 new homes and establish crucial connections through new green corridors. These initiatives aim to strengthen both internal neighborhood connectivity and external links to the mountain and river, creating a more cohesive urban environment.

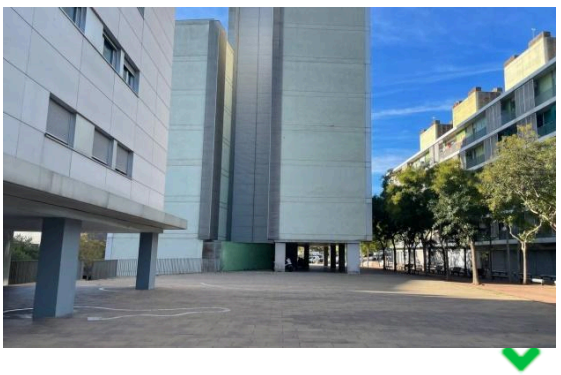
Trinitat Nova boasts **strong social diversity** and significant **potential for transformation**. The challenge lies in **converting residual green spaces into an activated, structured green network** that serves the community while improving accessibility and **creating new public spaces that integrate mobility, ecology, and social activities**.

At the same time, as an extension of early community planning concepts, the idea of the **15-minute city** is well-suited to be incorporated into urban planning and design of this competition. This concept aims to create **self-sufficient communities** with essential functions such as living, working, business, healthcare, education, and entertainment, based on **human-centered urban design, diversity, flexibility, proximity and connectivity**. It emphasizes that, at the local community level, most daily necessities can be accessed within 15 minutes through active modes of transportation such as walking or cycling. This concept helps promote social, economic, and environmental sustainability.

Given the actual circumstances of this competition, integrating pedestrian and cycling-friendly designs into the project area presents a novel challenge, especially considering the **complexity and uniqueness of the site**. In addition, within the framework of the 15-minute city, it is important to consider integrating various functions such as residential, office, commercial, educational, healthcare, and recreational spaces within the community.

It is worth noting that the **main challenge** of this competition lies in integrating two key aspects: on one hand, **incorporating infrastructure into the urban fabric to achieve better connections** and synergies between social community networks and the surrounding natural environment; and on the other hand, **rethinking the urbanization of certain open spaces to create more sustainable, green, and attractive areas**.





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Figure 1: Unurbanized green area

Figure 2: Urbanized area without sufficient natural shade or seating

Approx. site area:

- **Study area:** 332 ha including Trinitat Nova, Trinitat Vella, La Prosperitat, Sant Andreu del Palomar, and surroundings.
- **Intervention areas:** 95 ha focused on core neighborhood transformation zones.

Key Information:

- **Neighborhood Population**: 20,659 inhabitants (7,259 inhabitants in Trinitat Nova, 10,048 inhabitantas in Trinitat Vella)
- **Population density:** 10,027 inhabitants/km² (lower than Barcelona's 16,630 inhabitants/km²)
- **Social composition:** 22.42% foreign-born population, reflecting Barcelona's multicultural character
- **Ongoing regeneration:** Two major projects (ReGreeneration Trinitat Nova and Trinitat Vella Prison redevelopment) already underway

Priority areas & main expectations:

- **Connectivity**: Strengthen links between Ronda de Dalt, Meridiana, Ronda Litoral, Collserola Mountain, and Besòs River with new pedestrian and cycling routes.
- **Green Network**: Unite dispersed green spaces into an active ecological network with community facilities.
- **Mobility & Public Space**: Integrate multimodal transport, ecological functions, and social life in new urban nodes.
- **Sustainability**: Promote strategies supporting economic diversity and social cohesion.

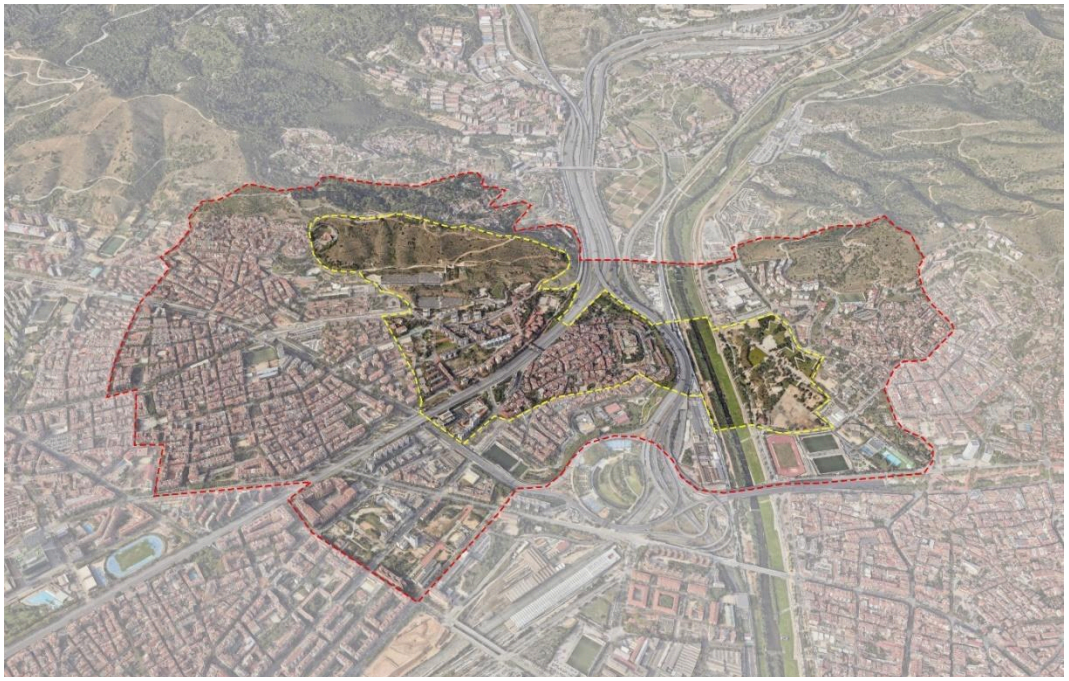


Figure 3: Aerial view of the study and intervention area. Source: Google Earth



Figure 4: Aerial view of Trinitat Nova and Trinitat Vella neighborhoods. Source: Google Earth

Historical evolution



Figure 5: Main façade of the prefabricated block in Trinitat Nova



Figure 6: Overview of the Trinitat Nova Industrial Estate at the end of 1960

The origins of this area of the city help to understand both its peculiar location within Barcelona and its current social configuration.

Originally, **the territory was dedicated to agriculture** until, throughout the 19th century, it began a gradual process of urbanization. The first significant transformation came in 1825 with the construction of an aqueduct intended to supply water to Barcelona.

From the mid 19th century onward, the area experienced deeper changes. The Cerdà Plan of 1859 proposed a new urban structure for the city, which included the layout of Meridiana Avenue, incorporating the railway line that connected Montcada with Barcelona in the direction of Zaragoza.

The presence of the train, the proximity of the Rec Comtal, and Barcelona's gradual expansion facilitated the **establishment of the first industries** in the area at the beginning of the 20th century. With industrial development also came a significant migratory influx from other regions of Spain.

In response to the growing demand for housing, **the first residential buildings in the neighborhood began to be constructed**. In Trinitat Nova, low-quality apartment blocks were built without urban planning, a phenomenon that has been described as "vertical shantytown." Meanwhile, in Trinitat Vella, the new constructions formed a compact fabric of low-rise buildings. During this first stage of the neighborhood's consolidation, the prison was also built.

In 1960, the railway line running along Meridiana Avenue disappeared, and the area was converted into a traffic thoroughfare. Around the same time, the neighborhood of **Trinitat Nova was consolidated** with an urban plan that regularized existing buildings and established new residential areas.

On the other hand, **Trinitat Vella gradually grew and consolidated until 1992**, when the Trinitat interchange was built for the city's Olympic Games. This major urban intervention completely **isolated Trinitat Vella from both the rest of the city** and the Besòs River.

Currently, **several projects are underway**, such as **ReGreeneration** and the new development **plan for the prison site**, aimed at improving aspects like connectivity between different areas of Barcelona and the implementation of structural green spaces.

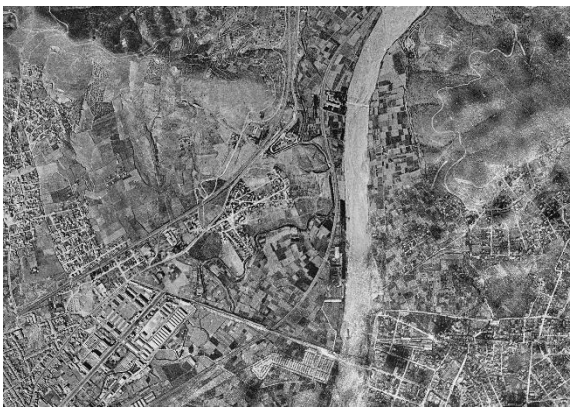


Figure 7: Aerial view of the Project Area in 1945



Figure 8: Aerial view of the Project Area in 1956



Figure 9: Aerial view of the Project Area in 1975



Figure 10: Aerial view of the Project Area in 1993



Figure 11: Aerial view of the Project Area in 2010

Description of the urban space

Trinitat Nova and Trinitat Vella are neighbourhoods located in the northeast of Barcelona, covering an area of 138 hectares. According to official statistics, there are approximately 20,659 inhabitants between the two neighbourhoods.

They are two of the thirteen neighborhoods of the Nou Barris district and have **many public housing units and plans for future projects**. These buildings are located at the foot of the Collserola mountain and have large open urban public spaces, giving it **great potential for development**.

Historical urban development has disrupted connectivity with adjacent neighborhoods. Major infrastructures, including Avinguda Meridiana and Ronda de Dalt, act as **physical barriers**, limiting direct access. Although bridges provide crossings, they remain **insufficient to fully integrate the urban fabric**.

Green spaces

In general, this area has a high proportion of green spaces in relation to built-up areas. Most of the residential complexes are located in the south of the area, although they are more scattered, with large areas of vegetation between the buildings. In the centre of the area, there are large open public spaces with gardens.

The Trinitat Nova neighbourhood has an abundance of green spaces. At the intersection of Carrer de s'Agaró and Via Favència there is the Jardins de l'Amistat, which offers residents paths for exercise and areas of urban shade. To the north of the area is Plaça de La Terra, a square with many recreational facilities for children, where many residents enjoy spending their free time. In addition, this area is surrounded by a wide variety of plants, flowers and trees, which provide habitats for wildlife, contribute to the maintenance of the natural environment, purify the air and reduce the heat island effect. Apart from this, the residential area also has a high number of green spaces.

In recent years, the City Council has been working to optimize urban vegetation and improve the area's road infrastructure. During the current year, the remodeling works on Palamós Street, in the section between Les Chafarines Street and Trinitat Nova Street, have been completed. This project received a subsidy of €1,501,530 from the Department of Community Planning. The intervention included the reorganization of access points to the different buildings of the Institut Escola Trinitat Nova, through the creation of a unified platform, the installation of new traffic lights, and the expansion of shaded areas, with the aim of improving accessibility, road safety, and urban comfort.



Figure 12: Camí del Rec



Figure 13: Parc de la Trinitat

In contrast, in the Trinitat Vella area, integrating green spaces within the neighborhood is more complex, as the existing urban layout does not allow for the creation of new green areas inside the district. The zones with the most greenery are located along the perimeter of the neighborhood, a solution resulting from this urban configuration. These spaces create a pleasant buffer along the Ronda, as seen in the Parc de la Trinitat and the Camí del Rec. In addition, the redevelopment project of the former penitentiary is currently underway, aiming to introduce more green spaces, improve accessibility, and add new housing to the area.

Connectivity

Trinitat Nova is located in the northern part of the Nou Barris district while Trinitat Vella lies to the east. However, the connection between Trinitat Nova and the adjacent neighborhoods of Les Roquetes and La Prosperitat is interrupted by the Ronda de Dalt highway.

On one hand, the terrain of Trinitat Nova and its **surrounding areas are complex and varied**, which partially **disrupts internal connectivity** within the neighborhood. For example, abrupt changes in elevation reduce the accessibility of sidewalks, and the crisscrossing layout of paths often causes confusion for pedestrians.

On the other hand, **dense transportation networks fragment access to nearby natural resources**. Wide roads and highways, along with the Besòs River, act as physical barriers. While **the river and its fluvial park provide valuable public space**, they also separate Barcelona from the municipalities on the opposite bank, limiting direct access to green areas and outdoor recreational opportunities for residents of Trinitat Nova and surrounding neighborhoods.

Despite the challenging topography, **new infrastructure projects are being developed to improve connectivity** between Trinitat Nova and neighboring districts, allowing for smoother circulation. According to a statement from the City Council, the 2025–2028 Neighborhood Plan will allocate over €8 million to intensive interventions in Trinitat Nova and Prosperitat, prioritizing projects in education, culture, public spaces, housing, and well-being.

The plan aims to **enhance residents' quality of life and address social and housing vulnerability** in both neighborhoods. It also seeks to strengthen community cultural education, improve connectivity between housing blocks, and increase urban greenery and shaded areas.



Figure 14: Road map of the Trinitat area.



Figure 15: Meridiana Avenue



Figure 16: Besòs river

Social context

The neighborhood of **Trinitat Nova has been undergoing an urban renewal plan for over 15 years**, which has intervened in and transformed nearly half of its territory. This plan includes the **construction of new housing blocks** to replace the old ones and the **creation of various open spaces** throughout the neighborhood.

In contrast, **Trinitat Vella has maintained its original urban layout from the 1960s**, although work has now begun to renovate and redevelop the area surrounding the penitentiary, adding new housing and green spaces.

In recent years, the number of **public facilities in the area has increased**, generating a better relationship with public space and encouraging greater community participation. Despite this progress and improvements in education initiatives and public spaces connecting the neighboring districts, Trinitat Nova continues to have one of the **highest levels of urban vulnerability in the city**. This index is mainly focused on two key areas: **education and housing**.

In terms of education, 24% of the neighborhood's teenagers have not completed their corresponding studies, which is double the citywide average. It is also known that 17% of adolescents in these neighborhoods report feelings of loneliness, and 14% feel socially excluded.

In Trinitat Vella, the adolescent poverty rate is three times higher than in the rest of the city, with 24% of young people also not completing their education, similar to their neighbors in Trinitat Nova.

Regarding housing, 17.5% of homes have poor construction quality, and 39.7% have very limited usable space. Socioeconomically, the neighborhood is marked by a poverty rate nearly double the average for the city of Barcelona. However, compared with its neighboring district la Prosperitat, Trinitat Nova benefits from larger green and public spaces.



Figure 17: Square in Nou Barris



Figure 18: Square in Nou Barris

New Projects

Old Penitentiary Project Trinitat Vella

On the site of the former penitentiary, a **public housing** development is planned, combined with **green areas** and improvements in neighborhood **connectivity and accessibility**. The project area sits on two different elevations, which will be connected through stairs, ramps, and elevators to solve the topographical challenge.



Figure 4: Old penitenciary Trinitat Vella

ReGreeneration Project Trinitat Nova

The ReGreeneration project in Trinitat Nova aims to **improve pedestrian spaces and strengthen connections** within the Nou Barris district. It proposes the **creation of a large green area**, the promotion of diverse uses and economic activities around it, the **revitalization of social and urban spaces**, and the promotion of a **new development model based on sustainability**.

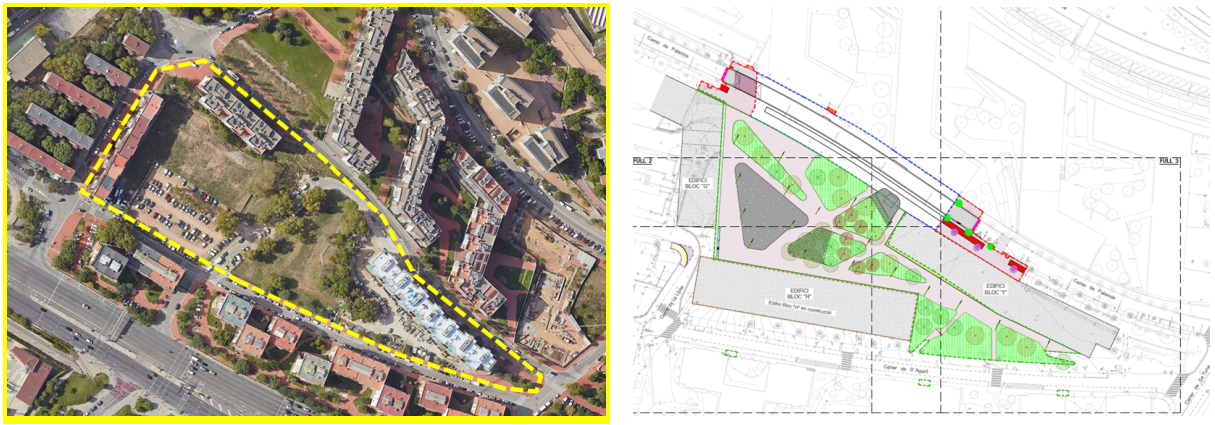


Figure 15: The ReGreeneration project in Trinitat Nova

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Climate priorities and environmental ambitions

Barcelona is a coastal city on the Mediterranean Sea bordering the Collserola mountain range and the Besós and Llobregat rivers. The environmental conditions are typical of the Mediterranean climate and set the city's main climate challenges: heat waves, hot nights, torrential rain, biodiversity loss and drought.

The city is committed to the well-being of its citizens. Therefore, new urban proposals should aim for a **multifunctional, efficient and compact city** that improves residents' quality of life. Consequently, urban planning regulations should seek **sustainable solutions in urban, socio-economic and environmental aspects**.

Barcelona aspires to give neighbourhoods and streets back to their residents, creating **public spaces to share, socialise and enjoy**. For this reason, regenerating the city must incorporate safe meeting spaces, boost the local economies and promote neighbourhood life.

Thus, all participants are encouraged to seek creative solutions that are sensitive to the population but also to the climate and energy resources. In short, urban planning and architecture should reflect climate ambition.

Within the framework of sustainable development for Barcelona and in the context of the Ciutat Vella, the most relevant points for students to consider are:

- Consolidate a **clean and safe street network**.
- Create **meeting spaces** and encourage interaction between citizens and neighbourhoods.
- **Reactivate local commerce** and the local economic fabric.
- Seek solutions for the integration of **green infrastructure**.
- Improve the **accessibility** of public space.
- Enrich the **cultural diversity** of the neighbourhood.
- Consider a **gender-inclusive perspective**.
- Promote street uses that create safe, **mixed-use public spaces** that guarantee that the population can meet their needs within **a 15-minute** walk from their homes.
- Increase resilience to extreme weather events and provide **weather shelters.**

Planning Rules and Regulations

The main and current urban plan for the neighborhood is the **'Pla de Barris de la Trinitat Nova i Prosperitat'** and the **'Pla de Barris de la Trinitat Vella, el Bon Pastor i Baró de Viver'** which focuses on improving education, public space, and accessibility, as well as rehabilitating the housing stock and promoting health and well-being. Regarding climate adaptation and energy transition, the plan aims to expand and enhance shaded areas to improve climate comfort, while also facilitating access to clean energy and supporting initiatives for the creation of energy communities.

Due to the unique urban nature of the district, Trinitat Nova neighborhood has multiple urban planning ordinances and plans, such as, for example, the Neighborhood Plan, the Old Penitentiary Project and other planned housing units, which seeks to **renovate neglected spaces throughout the city to bring out the green and benefit the health** of the neighbour in order to reduce the impact of heat in the current context of climate change.

Planning these areas should be rethought to improve the connection with the surrounding fabric while improving green infrastructure. Existing areas should be redesigned to align with the vision of the city, while using modern technologies and being sensitive with current uses and population.

For more specific urban planning information about Barcelona, please consult the BCN Urban Panning Information Portal.

Language Requirements

The proposals must be submitted in Catalan, Spanish, or English.