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**Analysis of the Bellavista district:
historical aspects and requalification framework**

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ABSTRACT:

Ivrea played a major role in the fields of industry, economy, architecture, and urban planning in the 20th century in Italy. This industrial city benefited from collaborations between the local authorities and the Olivetti company and created a socio-economic environment full of humanism in its economic and productive development. A number of the representative modernist constructions were built in the 20th in Ivrea, they linked to the Olivetti company directly or indirectly, including factories, social service buildings, office buildings and residences, etc; they were preserved as architectural and cultural heritages. In the southwestern part of Ivrea, Olivetti company built a few social housing districts for the employees. These districts were built on the balanced principle of economic, aesthetic, function, and embodied Adriano Olivetti's thinking of "Community". Among these districts, the district Bellavista is a particular one, it was the first satellite district of Ivrea that also partly founded by the INA-Casa social housing plan.

It was promoted in the first organic urban planning regulation in the 50s, located in the southwest of Ivrea. Its first construction phase was assigned to architects Luigi Piccinato and Vittoria Girardi, then, the completion was finished by architects Ottavio Cascio and Ezio Sgrelli. The residences and urban layout were designed by Luigi Piccinato; he isolated the district with a perimetric lane, and designed the wide green area with a pedestrian central park, in addition, there was an architectural homogeneity among different building types of residential buildings. The second construction phase was mainly dedicated to the implementation of services for residents' collective life in Bellavista. One of the notable characteristics of Bellavista is the self-sufficiency of social services, there are areas that provide administrative, commercial, educational, sporting, and healthcare services.

This thesis aims at retracing the construction history of the Bellavista district and analyzing its architectural, cultural, and social aspects, demonstrating the value and spirit of this district. Furthermore, the thesis tries to explore the future development of the Bellavista by analyzing the new urban planning of Ivrea city (PRGC Ivrea 2030), then, propose a framework for the district qualification based on the knowledge of the strategies of the city; meanwhile, tries to carry out a discussion on the preservation and enhancement of the cultural and social heritage of this Olivettian housing district.

INTRODUCTION

There is much research on Olivetti's architectural heritage which has been centered on the buildings around Via Jevis, and the research on the residential community has focused on Canton Vesco; Bellavista, as a community that both embodies the A. Olivetti community concept and witnessed the INA-Casa social housing plan, has been less explored. The social structure of this community is nowadays very limited. Today, the social fabric of this community has changed considerably with the development of the city; the architecture and public spaces have also declined to some extent. In recent years, the city is preparing to introduce a new urban planning, and in this context, it is necessary to discuss how the Bellavista community can benefit from the city's future development plans, and what it can contribute and what role it will play in it.

The first part of the thesis is a review of Olivetti's involvement in the urban construction of Ivrea city, especially the period related to the housing district of the Olivetti company's employees. The history of organic urban planning in Ivrea from the 1940s onwards is recalled, with the involvement of Olivetti, which opened the chapter for Olivetti's future architectural and community development. From the 30s to the 60s in the 20th century, Olivetti built communities for its employees, mostly in pleasant natural environments, and equipped them with public services, educational resources and community management to ensure the quality of life of the residents. The districts linked to the Olivetti company have created a particular urban fabric in Ivrea city, because of their unique architectural and landscape expression, unique community culture and spirit. A. Olivetti tried to carry out his thinking into the construction of the environment of the work and of the living, to cultivate a democratic and humanistic ground in Ivrea.

The second and third parts are the analyses of archives of Bellavista district, that are acquired from the Associazione Archivio Storico Olivetti. I would like to express my gratitude to Ms. Marcella. Turchetti, with her generous help, the process of archive consulting has become much easier for me. The analysis of the second part is about the initial neighborhood design carried out by architects Luigi Piccinato and Vittoria Girardi. The conceptual design of the community cannot avoid the influence of some theoretical models such as Ebenezer Howard 's "Garden City", Clarence Perry's "Neighborhood unit", and Gropius's thinking on the community planning. The outside perimetric road, inside the pedestrian area, and the wide green space of the

neighborhood are the notable elements of the Bellavista district, which makes its particularity on town planning. Regarding architecture of the Bellavista, because it was partly funded by the INA-Casa plan, the building construction followed the instruction and respected the standard. The building analysis is composed of typology and structure. The third part analysis concerns the social compositions in the Bellavista district, including the construction history of the “Social Center” program which responds to the “Community” thinking of A. Olivetti.

The preparation of the new urban planning of Ivrea city has been finished in 2020, the work result of the PRGC Ivrea 2030 is available on the official website of the municipality of Ivrea, the introduction of the PRGC Ivrea 2030 aims at figuring out the integrated resources and opportunities of the future development of this city. In this sense, the maps can tell the connection between Bellavista district and Ivrea city, regarding three relevant themes: natural environment, built systems and development strategies. The initiative proposal for the requalification of the district is carried out based on the knowledge of the new urban planning. The process of this section was conducted step by step. The first step is having an overall review of the policies of urban regeneration, to understand the political instruments in this field. The diagnostics of the current status of the neighborhood, in terms of building, public space and social structure, has been done before establishing the relevant proposals. Strategies that have definitive objectives work for the improvements of the Bellavista district. At the end of this part, the dialogue returns to the connection between the community and the city, regarding the preservation of cultural and social heritage and the enhancement spirit of this community. The discussion on the conceptual development of culture narrates the experiences of the MaAM program and UNESCO nomination in Ivrea.

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1 RETRACING THE HISTORICAL CONTEXT OF OLIVETTIAN HOUSING IN IVREA

1.1 THE ORGANIC URBAN EXPANSION OF IVREA

Before the enacting of the first organic state law on urban planning, Italy was governed by law n.2359 of 25 June 1865, about the expropriation for public utility. This law limited a long-term development for a territory, it permitted only the framing of the problem of detailed partial plannings in a short-term period and limited area. The restricted and inefficient legislation led to chaotic building confusion and disordered urban expansion, which marked the first century of the Italian political unity and still makes difficult the problem of organic city developments¹. To solve this problem, a lot of cities were trying to carry out their plans based on some specialized law. Meanwhile, Ivrea was also following this wave of revolution.

The economic structure of Ivrea gradually shifted from an agricultural to an industrial economy in the 20th century, it had developed, and in consequence, there had been a migration flow². The population of Ivrea had increased intensively. The municipality had to deal with the increasing housing demand, improve public services and infrastructures, develop more industrial areas, etc. On the other hand, when it came to the 40s, the Olivetti company took a major part in the development of Ivrea, not only in fields of industry and commerce; but also in fields of culture and urbanism, they collaborated with the municipality of Ivrea to promulgate new urban planning in 1942. (Piano Regolatore 1942)

This urban planning was assigned to architects: Luigi Piccinato, Luigi Figini, and Egisippo Devoti. The planning proposed to structure and accompany the industrial growth of Ivrea without determining ruptures with the historical center, and through an organic residential expansion along three distinct lines to the east, south and west of the historical center; coordinated with the new industrial development and reorganization of the center with the establishment of an executive core near the railway station, supported by the construction of a new bridge over the Dora River. It had been completed before the law 1150/42 came out, there were some new requirements this

¹ L. Piccinato (1977), *Scritti vari: 1925-1974; 1975-1977. 2, Saggi, articoli e interventi*, Roma

² Fondo Direzione Sviluppo Servizi Sociali, 769, Associazione Archivio storico Olivetti, Ivrea

planning had been unable to take into account, therefore it wasn't fully adopted by the authority. However, according to this planning, they built 2 residential districts for employees of Olivetti, Castellamonte (in via Jervis), and Canton Vesco (along the Turin-Ivrea highway). After enacting the urban planning law 1150/1942, they started preparing another urban planning in 1952, which was appointed to urbanists (Renacco, Quaroni, Fiocchi, Ranieri). This urban planning was concluded in 1954, with the proposal of the Planning by GTCUC (Gruppo Tecnico per il Coordinamento Urbanistico del Canavese³). There was a concept that both plannings had in common, which was promoting a "clustered" expansion of Ivrea through various cores, the city was supposed to expand spontaneously and concentrically, with different compositions developing around the old urban core. It wasn't adopted by the municipal administration of Ivrea, but after deliberation in 1955, the administration decided to process another new urban planning by consulting GTCUC. They took the previous surveys made by GTCUC, then did more surveys according to different relative issues, such as the organization of housing and industrial expansion; the organization of road network and traffic; the organization of collective facilities..... They tried to take into account all the problems including those from previous studies. As a result, the planning was a general approach planning, an outline program that could be gradually implemented based on economic possibilities, responding to the social needs of citizens. The planning was divided into seven sections: zoning, communications, traffic organization, public utility and collective interest facilities, dimension of planning, the proportion of other zones, and the central zone. It was approved by the Ministry in 1961. The interpretation of the planning processes of those years, drew up an expansion in cores, in symbiosis with the conservation of the historic center, and the creation of two directional centers with urban and territorial radius. The city expanded integrating into the rural territory. In subsequent years, other important inventions that had been approved and implemented: the first phase of the residential district Bellavista in 1961, and San Giovanni in 1964.

The variant in 1975 was invented to adapt the gradual updates for disciplines of national regulation. Variant 75 proposed a linear urban structure with a larger dimension and a territory at a balanced level. The city was supposed to provide opportunities for urban life homogeneously. There were subsequent strategies Variant 85, invented in 1985 to

³ Gruppo Tecnico per il Coordinamento Urbanistico del Canavese stands for Technical Group for the Urban Coordination of the Canavese.

adapt the regional urban law No.56/77, and urban planning 1991. They were consistent strategies of Variant 75; Variant 85 proposed to adjust to the settlement capacity provided for Variant 75, planning in 1991 consolidated and strengthened the reformist design initiated in Ivrea. When it came to the 21st century, the situation in Ivrea had changed a lot, there emerged some crises in the development of Ivrea: a demographic depression, a reduction in housing demand, and plenty of unused space and houses. The general urban planning in 2000 (PRG 2000) was created, to respond to these issues, it was supposed to requalify the urban structure and conserve the environmental and landscape values. The method applied in planning 2000, was creating four categories according to different urban fabrics:

- Urban fabrics of the historical matrix;
- Urban fabrics of the Olivettian city;
- Urban fabrics of the consolidated city;
- Commercial and productive platforms.

One of these categories, Urban fabrics of Olivettian city, was to identify around two hundred buildings on the municipal territory that belong to Olivettian heritage. These heritages interpretate the Italian architectural and urban culture during the Modern Movement era, although they were built in different periods. This category included various buildings in response to different urban demands at that time. In planning 2000, there were also sub-categories under each primary category, to operate the urban transformation and adaptation appropriately. The district Bellavista was included in the sub-category TSM1 (Tessuti dei quartieri moderni olivettiani⁴). This sub-category included several Olivettian districts, characteristics that they had in common were⁵:

- the regular layout of buildings, oriented generally according to the principles of the best heliothermal exposure;
- the presence of serial building types, frequently belonging to unitary and authorial projects;

⁴ Tessuti dei quartieri moderni olivettiani stands for Urban fabrics of Olivettian modern district.

⁵ Comune di Ivrea (2020), *Proposta tecnica del progetto preliminare, Relazione illustrativa: quadro conoscitivo*, Ivrea

- the hierarchy of the traffic route system;
- an explicit relationship between buildings and open spaces;
- an identifiable location of buildings and facilities for services inside the district.

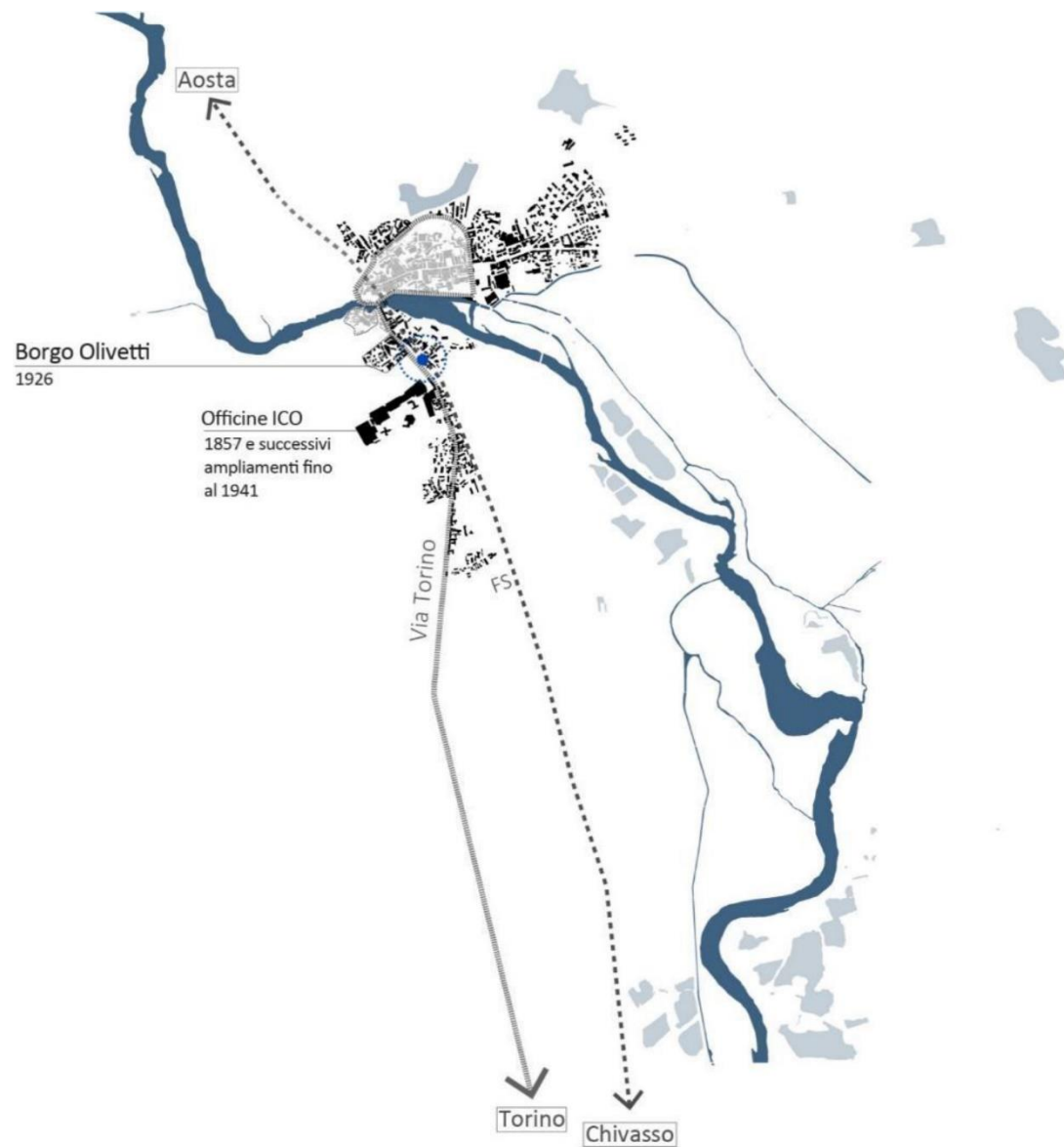


Figure 1. Outline of the evolution of the city Ivrea in 1920s - 1940s (Source: Comune di Ivrea)

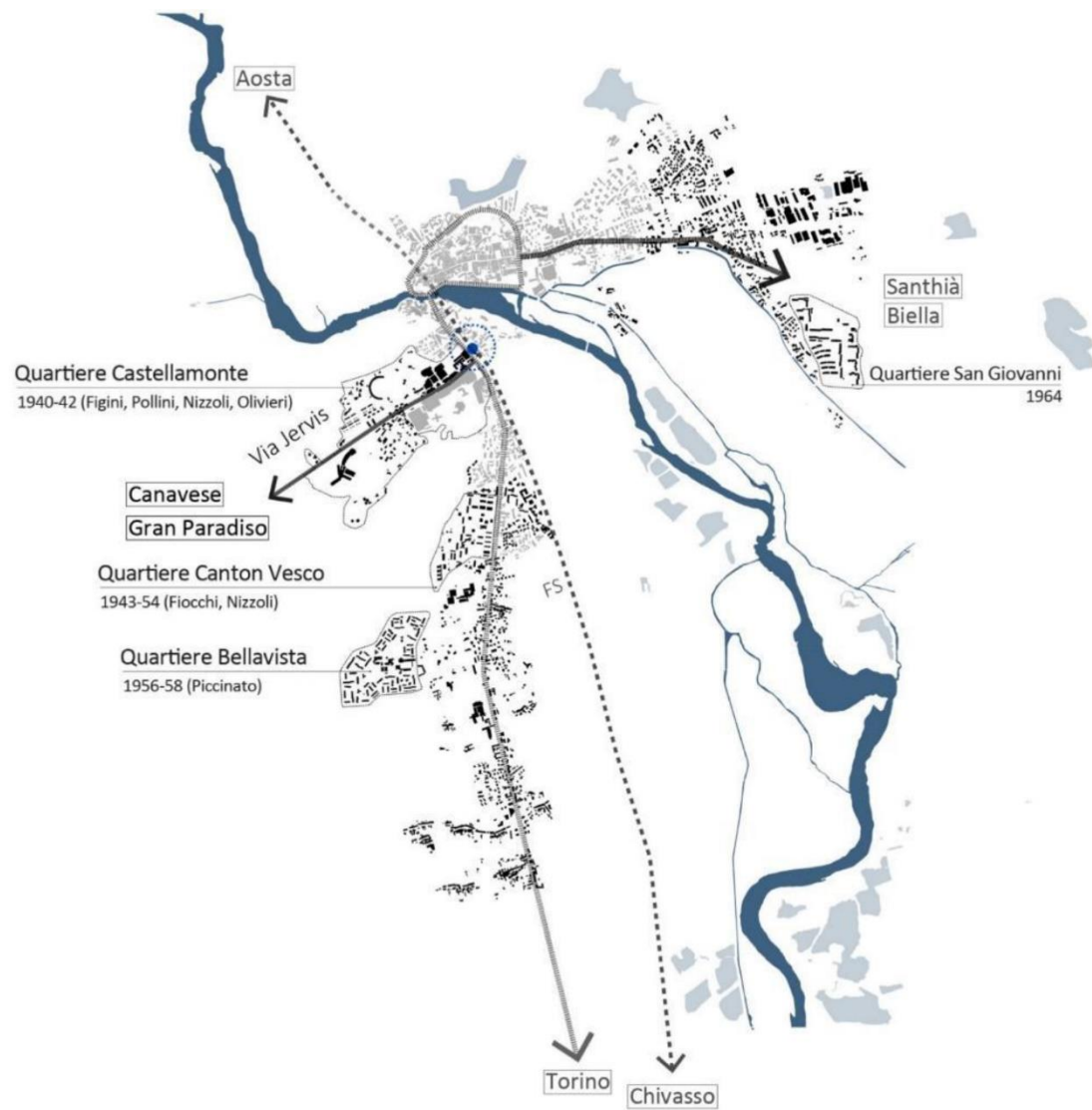


Figure 2. Outline of the evolution of the city Ivrea in 1940s - 1960s (Source: Comune di Ivrea)

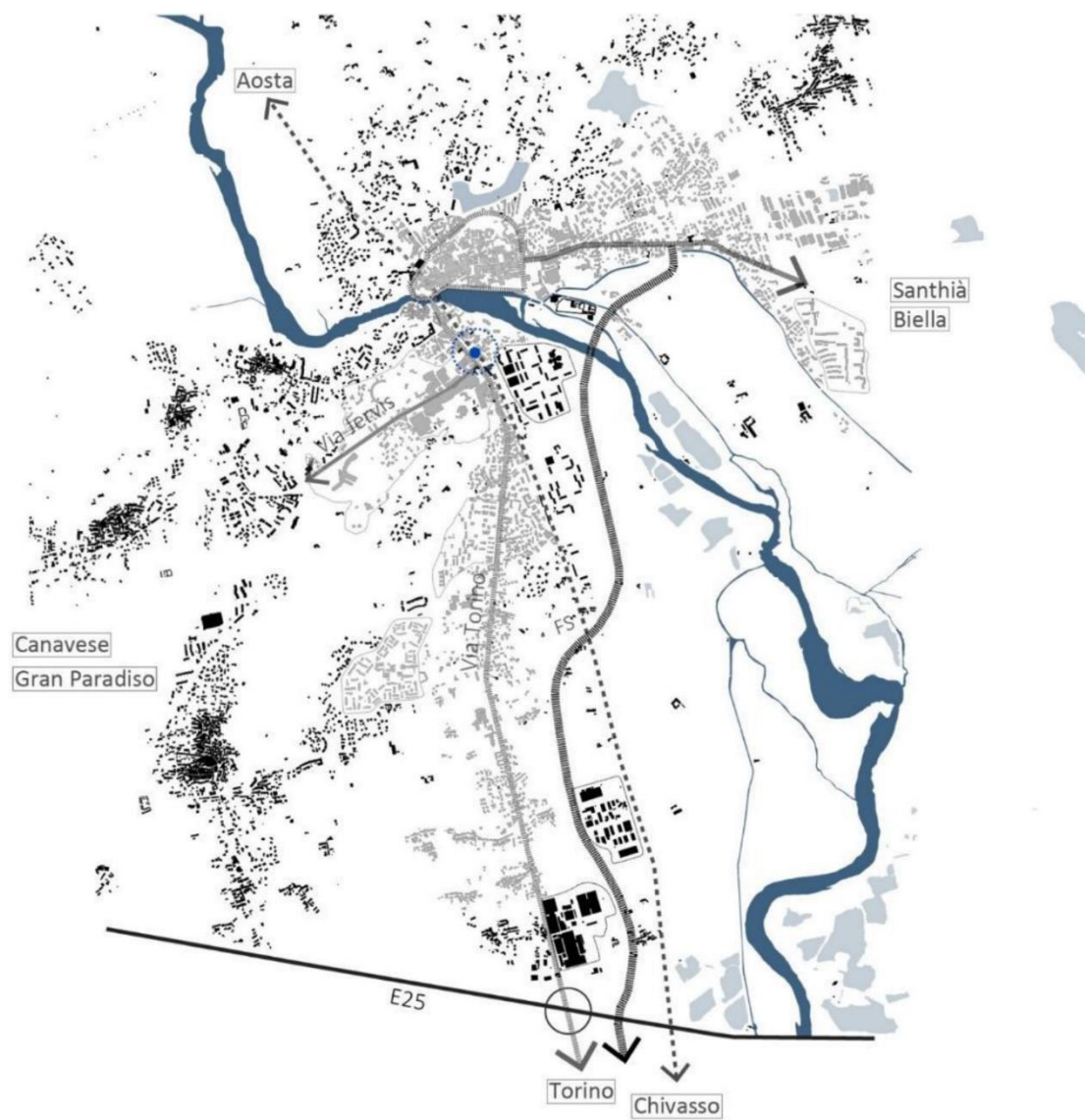


Figure 3. Outline of the evolution of the city Ivrea in 1970s – today (Source: Comune di Ivrea)

1.2 THE HOUSING OF OLIVETTI'S EMPLOYEES

The development of Ivrea was accompanied by the expansion of Olivetti company, especially during the period when Adriano Olivetti was the chairman. Besides making a significant contribution to the city's revenue generation, Olivetti was also concerned and involved in the urban planning, building construction and social welfare in Ivrea, with the result that, this industrial city continuously developed in a democratic and humanistic atmosphere. Between 1926 and 1977 Olivetti constructed housing initiatives for their employees in Ivrea and other manufacturing locations. Generally, the projects were entrusted to qualified architects, who guarantee high-quality environmental and architectural results, consistent with Adriano Olivetti's idea that the conditions and appearance of workplaces and residences influence the quality of social life and productive efficiency⁶.

In 1926, Camillo Olivetti (Adriano Olivetti's father) built the first group of houses for employees. They were 6 single-family houses with small gardens, located nearby an area afterward known as Borgo Olivetti. Time came to the late 30s, Adriano Olivetti entrusted architects Luigi Figini and Gino Pollini, with the expansion project of housing in Borgo Olivetti. The construction of a three-floor building with a white facade was implemented in 1941, built for 24 families. It's an international modern architecture of the 1920s and 1930s. Then another group of buildings was built near the Officine ICO, between 1941 to 1942. They were seven parallelepiped-shaped buildings with flat roofs and white plastered facades, typical rationalism architectures. These buildings were also the first buildings of the district Castellamonte. The further expansion of Castellamonte was assigned to Marcello Nizzoli and Gian Mario Olivetti after the second world war. This expansion between 1950 and 1952, included 2 four-family buildings, 4 single-family houses with gardens, and a building for 18 families.

The Canton Vesco district was located in the south of the city, between the highway to Turin and the hill, proposed in the urban planning of 1942. even though this planning

⁶ P. Bonifazio n.d., *Le case per i dipendenti e la politica edilizia della Olivetti*, Associazione Archivio Storico Olivetti
<https://www.storiaolivetti.it/articolo/12-le-case-per-i-dipendenti-e-la-politica-edilizia/#collapseExample>

wasn't adopted by the municipality, it was carried out by Olivetti. The construction phase between 1943 and 1954 was founded by Olivetti. The architect Ugo Sissa completed the first construction in 1945 and 1946; the first building was a three-floor residence for 15 families, meanwhile, he collaborated with architect Italo Lauro, to complete other three-floor residences. The subsequent project was 4 residences assigned to architects Annibale Fiocchi and Marcello Nizzoli. The next construction phase was dedicated to improving the quality of social life for this district's inhabitants, by constructing the infrastructure. This social expansion had taken the urban models from the United Kingdom or Scandinavia, which aim to make a district auto-sufficient for various demands (commercial, education, religion.....). Between 1955 and 1963, they built a kindergarten (Ridolfi and Frankl), an elementary school (Quaroni and De Carlo), and a church (Nizzoli and Oliveri). The number of residences also continuously increased: Luciano Giovannini completed 3 rent-to-own residential complexes between 1955 and 1958; Ottavio Cascio and Emilio Tarpino completed 2 seven-floor tower buildings in the maxim height according to the legislation at that time. The construction of district Canton Vigna was assigned to Fiocchi and Nizzoli, they collaborated to define the architectural and urban layout of new initiatives. The first three residences were based on the A, B, and C building type in 1950-51, the subsequent buildings replicated these building types. The construction site was opened by Olivetti but funded by INA-Casa, and the IACP (Istituto Autonomo Case Popolari⁷) in Turin provided design and free technical assistance.

The La Sacca and the Bellavista were built in the late 50s in response to increasing housing demands. At that moment, Olivettian districts were generally made up of residences and social services. La Sacca was built between 1958 and 1962 in south-central Ivrea, on the east of Canton Vesco. It was dedicated to Olivetti's employees, with a population of around 5.320 inhabitants. There were 2 churches (one Catholic, one Waldensian), a kindergarten, an elementary school, a middle school, and a technical institution. In addition, there was also a gym and a sports field with a capacity of 100 people.

Bellavista is a residential district that is located in the south of Ivrea, between the hills of S.Grato and highway No. 26 Turin-Aosta. It was promoted by Olivetti, following the town planning project entrusted to Luigi Piccinato, collaborating with Vittoria Girardi

⁷ Istituto Autonomo Case Popolari stands for Institute for Social Housing.

in 1959. The district was designed on an area of 32 hectares to accommodate around 5,000 inhabitants. Its inhabitants, functions and housing characteristics, demonstrate this district is not a disseminated suburban sprawl, it aims to create an urban environment in Ivrea's southwest rural area. It was included in the construction plans of Law 18/4/62 No.167⁸, which envisions a group of neighborhoods to the southwest of the city in connection with industrial sectors. The access roads diverge from a perimeter road surrounding the district; to the different parts of it: residential buildings, schools, shops, sports facilities, and religious buildings. Besides these amenities, Bellavista has wide green areas and a low population density.

The construction work of Bellavista was entrusted to architect Luigi Piccinato in 1957, he was in charge of the town planning and architecture design, collaborating with architect Vittoria Girardi. The construction of the entire neighborhood began in 1960 and was still in progress. In 1961, around 450 flats were built, and 300 of them were for the Olivetti employees' families. The buildings were prevalently funded by INA-Casa. In the same year, people pointed out that the construction of a social center in Bellavista is necessary. This center was built for the lack of various social, commercial, educational, and administrative services.

In 1965, architects Ottavio Cascio and Emilio Aventino Tarpino were assigned to the construction work of other 54 flats that were funded by Gescal, following the town planning of Luigi Piccinato. The implementation of Bellavista was continually ongoing in the subsequent years. In 1969, Ottavio Cascio completed the "Sportiva", with a service complex including a bar, a recreation room, and a small theater in the sports area; besides this complex, he also designed fields for various sports. The area for educational activities was also entrusted to O. Cascio, this area was supposed to dedicate to a nursery school, a kindergarten, a primary school, and an outpatient clinic. These school buildings were requested to be built in the prefabricated system, and equipped with green areas. The construction of Bellavista was finished in the 70s, the primary school and civic center were designed by architect Ezio Sgrelli, and the church was built later, following the architect Manuele Scozzari's design⁹.

⁸ Fondo Direzione Sviluppo Servizi Sociali, 769, Associazione Archivio storico Olivetti, Ivrea

⁹ Information from the exhibition "Living in Bellavista" organized by Urban Lab, edited by Elena Dellapiana and Marcella Turchetti. 2021



Figure 4. Houses for employees, Borgo Olivetti



Figure 5. Houses for employees with garden, Borgo Olivetti



Figure 6. Housing type "A", Canton Vegna



Figure 7. Rent to own housing for employee, Canton Vegna



Figure 8. Row houses with garden, Canton Vegna



Figure 9. Row houses with garden, Canton Vesco



Figure 10. Row houses with garden, Canton Vesco



Figure 11. Four-floor houses with garden, Canton Vesco



Figure 12. Social housing, La Sacca



Figure 13. Houses with garage, La Sacca



Figure 14. Houses and ground floor services, La Sacca



Figure 15. Evangelica Valdese church, La Sacca

1.3 ADRIANO OLIVETTI – THE UTOPIAN DREAMER

Besides expanding the company's business as an entrepreneur, Adriano Olivetti tirelessly took part in public life. After world war II, he participated in social and political debates on the reconstruction of Italy, more than this, he started to stimulate people to take the initiative concerning territory, welfare, and sociology; through his involvement in social housing districts and his publications. His publications demonstrated his objective, a society where that industry and economy develop with humanity and democracy. Adriano Olivetti thought the Italian communities need to be built in a definitively appropriate form, therefore, in 1946 he put forward new definitions of the “Community”¹⁰. He didn’t limit himself to exploring the new form of “Community”, he also talked about policy, architecture culture, and urban planning. His thoughts were imbued with a democratic and humanistic touch and spread widely in Italy, especially in Ivrea, where the Olivetti company’s headquarters was. In the second half of the 20th century, one after another masterpiece construction was built, under A. Olivetti’s direction.

Undoubtedly, A. Olivetti had a sight taken forwards, and his experimental thoughts promoted development in different fields. When it comes to the construction of social housing districts, it was not necessary to investigate deeply the culture of the Community Movement, but it was necessary to refer to those specific parts related to

¹⁰ A. Olivetti (1960), *Ciita’ dell’uomo*, Milano: Ed. di Comunit,14:

- *The basic principle of a new society is to create a common moral interest among people who carry out their social and economic life in a convenient geographical space determined by nature or history.*

- *The community is intended to abolish the evident contrasts and conflicts that normally arise in current economic organization, and develop between agriculture, industry, and craft in a determined area where people are forced to lead a fragmented economic life without elements of solidarity.*

- *The communities by creating a superior interest, tend to settle those conflicts and unite people together.*

- *When the communities have life, in them the children of people will find the most alive wellspring of love of the homeland in the area they will have passed through their childhood and the concrete element of fraternity in the same traditions and common*

the models of community, the internal social services, the homogeneous settlement states (a common characteristic of most subsidized districts). However, like a coin has two sides, there are also positive points and negative points of his ideology of Community, according to a report¹¹ of Bellavista district from the group of Bianco and Prella in 1969.

On the one hand, A. Olivetti attempted to overcome the opposition between Capitalism and Marxism through a revaluation of human personality, to overcome the contrast between human and machine in the community culture; he attempted to make health and social care independent from the capital, without the inferiority and the degradation; he tried to give consciousness of ends of work, in this sense, he asked:” Could industry give itself purposes?”; he trusted that there was a possibility that Community could be the carrier for various elements, for instance, social, economy, technique, culture, art, etc.

On the other hand, A. Olivetti had the illusion of recovering the human value through direct social contact, refer to his ideology, the human measure of a Community was defined by the limited opportunity for people to have direct social contact; he didn’t trust vehicles and media - these modern tools for transport and communication.” They tend rather to diminish than increase the understanding and exact knowledge of life.”; he trusted a Community equipped with reduced service units, where recoveries could happen, such as love for the homeland, of traditions, of a human brotherhood made up of solidarity in the commonality of traditions and events.

“Olivetti would not survive today, indeed it has not survived. The reason for this is that if you focus on mankind, then invariably you are kept in check by those who focus on money. Olivetti had a dream, a very important utopia, and created a culture that had man and his realization as the centre of output. Olivetti invited industry to look at society. I would have liked to point this fact out to Adriano Olivetti, and not because I find fault with his intentions, but simply because I see how society works today. It works exactly like a technostucture, with men inserted in the company to be parts of the machinery, not individuals with their own desires, aspirations and will. This is where Adriano Olivetti’s utopia lies.” This comment was from philosopher Umberto Galimberti’s interview on a Swiss TV program in February 2010, it was kind of a reason

¹¹ Fondo Direzione Sviluppo Servizi Sociali, 769, Associazione Archivio storico Olivetti, Ivrea

for the failure of A. Olivetti's utopian ideology. According to the report in 1969, there were many external factors that lead to the failure: the lack of organizations; of valid personalities besides A. Olivetti; of initiatives that were not based only on the momentary fervor; of a real movement of ideas organized on a scientific basis. However, the most valid reason for the failure was the value of A. Olivetti's utopia wasn't the value reality pursues.

2 RETRACING THE CONSTRUCTION PROCESS OF BELLAVISTA

2.1 SOME RELATED COMMUNITY PLANNING THEORIES

In the 1920s and 1930s, for a number of reasons including post-war restoration, industrial development, housing shortage, and the prevalence of the modern movement, a number of ideas for modern community design emerged. The design philosophy of Bellavista is linked to some of these ideas.

The “Garden City¹²” idea was first formulated by Ebenezer Howard in *To-morrow A Peaceful Path to Real Reform* in 1898. Howard's garden city concept is known as a concept of combining town and country to provide the working class an alternative to working on farms or in the city. The Garden City was supposed to solve the problems from the core cities' rapid expansion. With concerns about unlimited urban sprawl and increasing density, Howard advocated dismantling mega-cities, combating land speculation, and dismembering economies bundled as a whole, so that mega-cities would break up into of six or more city clusters around the city center. These clusters are different dimensional spaces of social life, such as housing, agriculture, industry, commerce, administration, and transport infrastructure. Accepting that the form of the city is a manifestation of the form of social structure, the new subversive form of the city requires a radically different political and economic system from the current world to sustain it, and in this sense, it was unlikely that the garden city could be completely realized in the real world. In order to prevent the expansion of the garden city into a megalopolis, Howard's many restrictions on the size of the garden city have in turn constrained the development and evolution of the city.

Jane Jacobs, in her book, *The Death and Life of Great American Cities*, criticized¹³ Howard for creating a powerful set of ideas that destroyed cities, and thought that the garden city had a significant negative impact on many "orthodox" planning theories, such as Le Corbusier's *Ville Radieuse*. However, there are some fragments of this theory that may be instructive. On the basis of the theory of the garden city, a new

¹² E. Howard (1898), *To-morrow: a peaceful path to real reform*, England: Swan Sonnenschein

¹³ J. Jacobs (1960), *The death and life of great American cities*, New York: Random House

concept has also been developed, in which the city is compared to a living organism and is designed as an "organic" form.

During that period, because of the rapid expansion of cities, some large cities in the United States also had problems of dense population, overcrowding, poor living conditions, and serious traffic accidents. In 1929, Clarence Perry proposed the concept of "Neighborhood unit"¹⁴ in his paper, which led to its promotion as a planning tool. The principles of this planning model aren't complex: the use of the hierarchical road system ensures the safety of residents (especially children) and the efficiency of traffic, the road system includes the perimetric arterial streets and the internal local streets that create pedestrians; the facilities (schools, institutions, churches...) are placed in the center of the neighborhood, the total population of the neighborhood is related to elementary school dimension.; the local shopping areas are restricted to the perimeter and there must be at least 10 percent of neighborhood land used for parks and open space¹⁵.

The neighborhood unit is generally an attempt to group the total components (social, physical, economic, visual) into a single, identifiable unit; it was embraced for its community idealism, therefore, many countries adopted its purpose of providing citizens with public welfare and a healthy and safe environment. Although it has had a great impact on the world of urban planning as a classical principle of settlement planning, it has been subjected to numerous criticisms¹⁶. The concept has been criticized for being too romanticized and idealistic for modern life. Some criticisms point out that it leads to a grouping of people that inevitably results in compulsory class distinctions. Some critics question the adequate neighborhood dimension, it is found to be too large to promote social behavior and neighborly relations, also, it is found too small, the schools would be too small to undertake specialized activities that are economically feasible in large schools. Some critics also question the economic efficiency of the neighborhood unit as a service district for urban services. It's obvious that neither "Garden city" nor "Neighborhood unit" is catholicon to the problems in the

¹⁴ C. Perry (1929), *"The Neighborhood Unit": from The Regional Plan of New York and its Environs*

¹⁵ J. R. Allaire (1960), *Neighborhood Boundaries*, American Planning Association, Chicago

¹⁶ M. Singhal (2011), *"Neighborhood Unit and its Conceptualization in the Contemporary Urban Context"*, Institute of Town Planners, India Journal 8 – 3, 81-87

field of urban planning, they are alternative and enlightened. They were accredited for inspiring a lot of successful plannings in many countries. In Italy, there were many suburbs developed according to the Garden city theory, such as Falchera in Turin, Harar in Milan, Cesate Villaggio in Cesate, etc. The “Neighbourhood unit” is a significant aspect of the plannings of the New towns movement.

As a product of the Modern Movement, Bellavista was inevitably enlightened by Gropius’s design theory, especially in the architectural field. There was a lack of housing shortage during the Weimar republic. Citizens need affordable houses allowing the entry of light, air and sun. Under this context, Bauhaus started exploring a solution for the new settlement. The first experience was the construction of the housing Dessau - Törten, a district for professors of Bauhaus, built in 1926-1928. The terraced buildings of two floors were designed by Gropius, and each of them had a private garden dedicated to planting and animal breeding, in order to promote self-sufficiency. The district was spread out in a concentric circle-like shape, with the cooperative's tall buildings located near its central plaza. In 1927, Gropius gained the assignment of district Dammerstock from a design competition sponsored by the city of Karlsruhe, then, he invited other eight architects for the subsequent construction. The guidelines were very strict and concrete, including even the details of the plant. All blocks are oriented from north to south to symmetrically distribute sunlight to both elevations and are served by pedestrian streets, as the vehicular streets are oriented vertically from east to west. The variety that seems to be absent in the masterplan was restored in the architecture, by blocks’ different heights, from two to five floors. Thanks to this, nine architects were able to have different spaces to address the architecture in different ways. The aim of the district was “to create healthy and functional properties that correspond to the standard practices of the family social media” in Germany, therefore, the residences in Dammerstock were supposed to satisfy the basic daily needs of different kinds of families and users. In the historical context of urban industrialization and urbanization, this residential building type is repeatable and rationalistic, allowing further expansion¹⁷.

¹⁷ A. Milan (2019), *Wilhelm Riphahn in Cologne (1913–1963): Urban Policies and Social Housing between Innovation and Conservation*, Urban Planning, Volume 4, Issue 3, SSOAR - Social Science Open Access Repository, 134-153

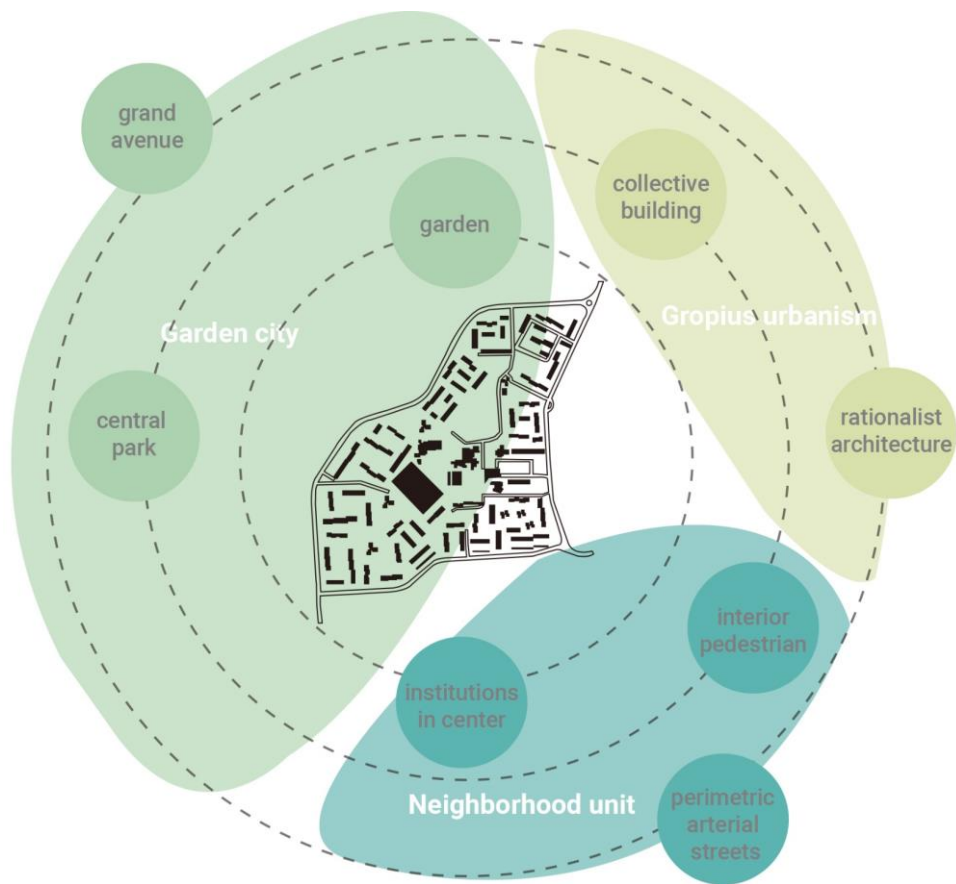


Figure 16. Diagram of inspirations for urban planning in Bellavista

2.2 ARCHIVE ANALYSIS

This section is dedicated to analyzing the archives of Bellavista, most of the archives are from the association **Archivio Storico Olivetti**, and a small part is from **Archivio Luigi Piccinato** and the internet. I would like to thank Ms. M. Turchetti for her generous helping during the whole process of archive consulting.

2.2.1 Road system and green areas

The hierarchy of the Bellavista's roads is quite simple: a perimeter vehicular lane wraps around the entire Bellavista, extending several driveways to each residential parking lot; inside the complex; pedestrian pathways are scattered throughout the inside of the complex, radiating from the central green area to the edges of the complex. Through these internal circulation channels, inhabitants can reach various services from their residences.

The road is the fundamental element – the framework of town planning. If a town is considered an organism, the roads are the circulation system of the organism, ensuring that the organism works in an agile, safe, and continuous manner. Luigi Piccinato didn't agree with the linear city and unplanned expansion. He stated his opinion on this, in his article, *Paesi sulla strada*¹⁸ published in 1959:” ...If, indeed, the hundreds or thousands of houses under construction along the roads, were taken and clustered into many towns, equipped with their facilities, amenities, stores, churches, and squares, the game would be over: the great road would remain as it was created, an artery of safe traffic...”.

Luigi Piccinato achieved his idea on the road design of Bellavista. The road system creates a comfortable and safe environment for residents; on the one hand, children can move freely through the inside complex by pedestrian lanes, and people are protected from the noise of vehicles; on the other hand, the wrap-around vehicular lane and the access roads that extend into the parking lot provide easy access to traffic.

Another major feature of Bellavista's landscape is the vast greenery, distributed in a natural and modest way without unnecessary decoration. This somehow reflects Luigi

¹⁸ L. Piccinato (1977), *Scritti vari: 1925-1974; 1975-1977. 2, Saggi, articoli e interventi*, Roma

Piccinato's thinking on the definition of "garden", published in the 1920s and 1930s. As far as Luigi Piccinato is concerned, the origins of the modernization of the garden can be traced back to the end of the 18th century, when the Italian Garden ended its dominance in Europe and British architects proposed that the non-spontaneous linear, symmetrical, geometric garden forms should be discouraged, the liberty of nature should be proclaimed instead. This romantic idea slowly began to prevail in Europe, and it found ground for development in Germany, Austria and northern Italy. When time came to the 20th century, because of the rapid expansion of cities caused by industrial development, suburban spaces were planned as new urban neighborhoods and green environments made way for new urban areas, until some hygienists and urban planners started to stand up against the stifling housing expansion and proposed the protection of environmental resources. Large-scale gardens have subsequently become part of the urban planning framework, and in Germany and the UK special legislation has even been adopted to protect the construction of "green zone system"¹⁹.

In the 1930s, garden design attempted to merge formalism and naturalism into a logic; thus it can be seen that in Italy, France and Germany, modern gardens liberated from the artificial geometry of the baroque structures of the past and became less aloof, more lively, more logical and more functional; in England and the United States, modern gardens became tighter and more rhythmic in structure, larger and more romantic than before. In the 20th century, the garden was no longer just an aesthetic addition to the space, but was used practically to meet daily needs. As a result, a combination of gardens and vegetable gardens, changing rooms for sports activities, tennis courts, lawns for various ball games, and children's activity areas began to appear in the plan²⁰.

These waves of design and Olivetti's demand for community service drove the design of Luigi Piccinato's plan for the Bellavista district, completed in 1958. The masterplan shows that the initial green areas are designed with a tight layout and distinct functional blocks; pedestrian paths divide the green areas so that buildings and service sites have separate green areas; trees and greenery are naturally distributed in each green area to show a natural growth pattern.

¹⁹ L. Piccinato (1977), *Scritti vari: 1925-1974; 1975-1977. 2, Saggi, articoli e interventi*, Roma

²⁰ L. Piccinato (1977), *Scritti vari: 1925-1974; 1975-1977. 2, Saggi, articoli e interventi*, Roma

Archive of the road system

- Masterplan



Luigi Piccinato, *planimetry of district Bellavista*, 1958, Archivio Luigi Piccinato, Rome

2.2.2 Building typology

The residential buildings were built wrapping the edge of the district, to create inside space facilities, amenities, and green areas, the Scandinavian social community character. The architect characterized the planimetric arrangement of buildings with considerable freedom, the different combinations of arrays and towers achieved buildings' varied forms with a simple architectural language, avoiding alignments, abstract geometries, and monotonous repetitions. The first concern was creating a qualified and effective organic community for the middle social class²¹, providing a livable environment to respond to the daily needs of a good level of collective life, without using an elevated architectural language. One of the important characteristics of this district is the economic budget for the construction. The architect intended to build an emblematic neighborhood within a limited economic margin. His chosen materials were concrete and brick masonry which could be used in a load-bearing structure and an exposed face. The exposed brick façade had become the traditional architectural element in the Piedmont region, created a culture of the use of brick which developed and spread throughout the entire region and beyond the Alps²².

The residential buildings are most terraced buildings, composed of 2-4 floors. These buildings were made up of different combinations of arrays, straight or staggered; different combinations formed four building types: E, F(F+A), G, D. Among which D-type houses are tower buildings. The composition among terraced buildings were various, some buildings have small gardens, some buildings have balconies, and some buildings' ground floors are garages. Although these buildings seem so different from each other, Bellavista still has a homogeneous visual perspective, given by the red brick façade. Grey concrete lines divide the red brick walls horizontally and vertically, and the opening and closing of windows and balconies create a dimensional dynamic movement to the building façade and correspond to the variations of building orientation and functional organizations of internal space. The continuous pitch roof visually gives a ray of harmony to this diverse organic community and functionally acts as an adaptation to the climate. The tower buildings weren't placed in the barycenter of Bellavista, which aimed to decentralize the community; each of them was composed of

²¹ C. De Sessa (1985), *Luigi Piccinato architetto*, Bari: Dedalo

²² P. G. Bardelli (2003), *L'architettura INA Casa (1949-1963): aspetti e problemi di conservazione e recupero*, Roma: Gangemi

four volumes (stair and elevator placed in the center volume) without an intentional geometric arrangement.

There is another district that has the identical exposed brick façade, which is the Falchera district, one of the INA-Casa districts in Turin; it was built in the peripheral area of the north of Turin between 1951 and 1954. The district Falchera was a satellite residential unit designed by the architect group led by architect Giovanni Astengo. This neighborhood was supposed to accommodate 1446 dwellings in an agricultural area on the edge of the municipal territory of Turin, because of its peripheral location, it was characterized by a self-sufficient initial program by the presence of services in the neighborhood's center, for instance, stores, bars, offices, schools, cinema, church, etc²³.

The neighborhood is composed of semi-open blocks of residential buildings, most buildings are two-floor and three-floor with the ancillary green spaces. The idea of the two-floor and three-floor houses with the interclosed green spaces was inspired by the landscape of the site, in order to the organic fusion with surrounding nature and far-reaching views of Alps, Superga and forest. The planimetric outline of the residential blocks was characterized by a morphological layout of the U-shaped plan opening to the south; in addition, a particularity of this district is the “continuous multiple houses with two dwellings per staircase – floor” principle which was adapted to fourteen blocks of the neighborhood; there were two types of staircase, one was two-flight type which was recommended in the plan diagrams circulated by the authority, another was three-flight staircase, which wasn't provided by INA-Casa in the plan schemes. In the initial plan, there was supposed to build a nine-floor “high house” on the north of the neighborhood where the 15th block located in, however, it wasn't constructed in the end, because of the lack of finance of private capital²⁴.

There whole project was decided into three construction plots, assigned to different architects. The constructions of the residential blocks had been characterized by the INA-Casa's projective indications in terms of the dimensional, configurational and

²³ Museo Torino (n.d.), *La Falchera*, Scheda: Tema - Tipo: Architettura e urbanistica, <https://www.museotorino.it/view/s/64a4663211544f18874edf5c775e3953>

²⁴ M. Di Robilant (2019), *Falchera public housing neighborhood on «Urbanistica» 7, 1951 and «Metron» 53-54, 1954: narration and iconographic presentation*, ATTI E RASSEGNA TECNICA DELLA SOCIETÀ DEGLI INGEGNERI E DEGLI ARCHITETTI IN TORINO, ANNO 152 - LXXIII - N. 1

technological aspects: the height of the building floor, the building exposed orientation, the minimum sizes of stairs and loggias, slopes of rood pitches, the type of the roofing membrane, eaves, and frames of windows and doors, etc. The INA-Casa construction standards and the exposed brick envelopes have created a homogeneous architectural language for Falchera district, and also the similarity with the Bellavista to a certain extent, but, the continuous brick facades in Falchera haven't been broke by the vertical and horizontal concrete structure matrixes²⁵.

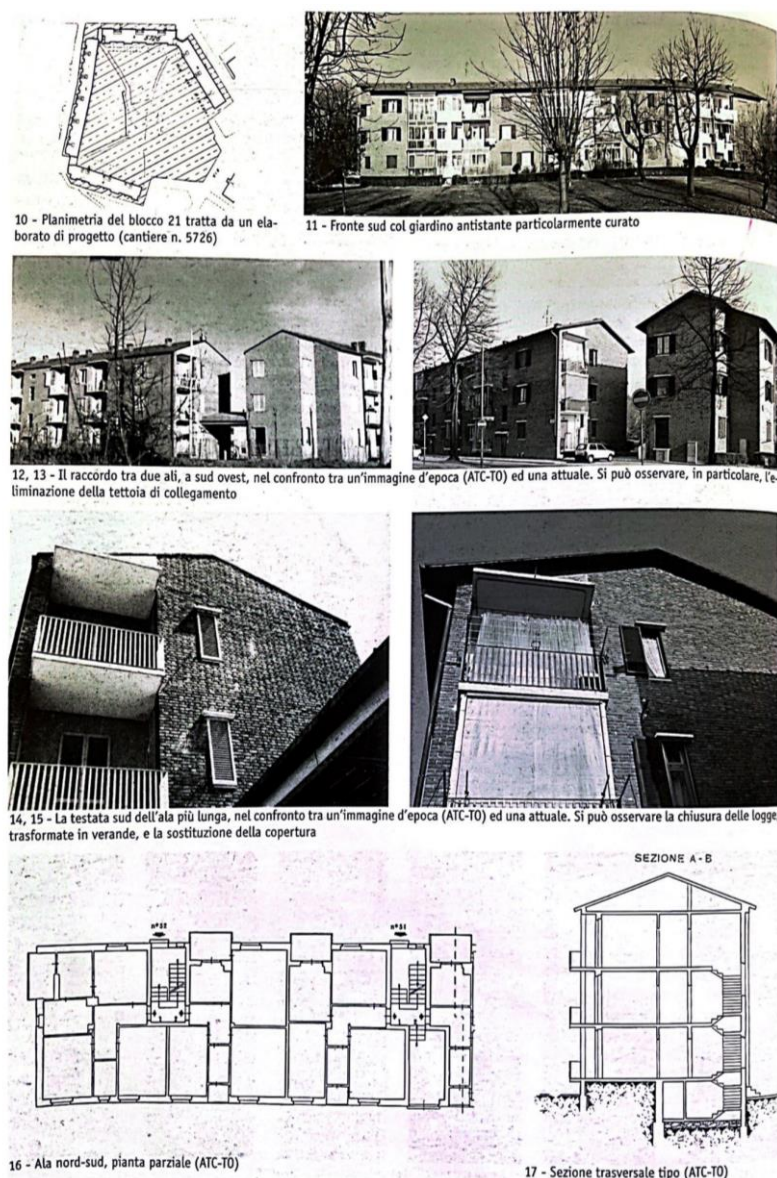


Figure 17. photo, plans and section of the block 21 in Felchera district (Source: p92 of *L'architettura INA Casa (1949-1963): aspetti e problemi di conservazione e recupero*)

²⁵P. G. Bardelli (2003), *L'architettura INA Casa (1949-1963): aspetti e problemi di conservazione e recupero*, Roma: Gangemi

Archive of terraced building

- Elevation:

Luigi Piccinato, *E type building, the nord elevation- buildings, n. 1,5,8,15*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *E type building, the south elevation- buildings, n. 3,10,11,16,18*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *F+A type building, the front elevation- buildings, n. 3,10,11,16,18*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *F+A type building, the back elevation*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *E type building side elevation*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *F+A type building side elevation*, 1959, Associazione Archivio Storico Olivetti, Ivrea

- Plan:

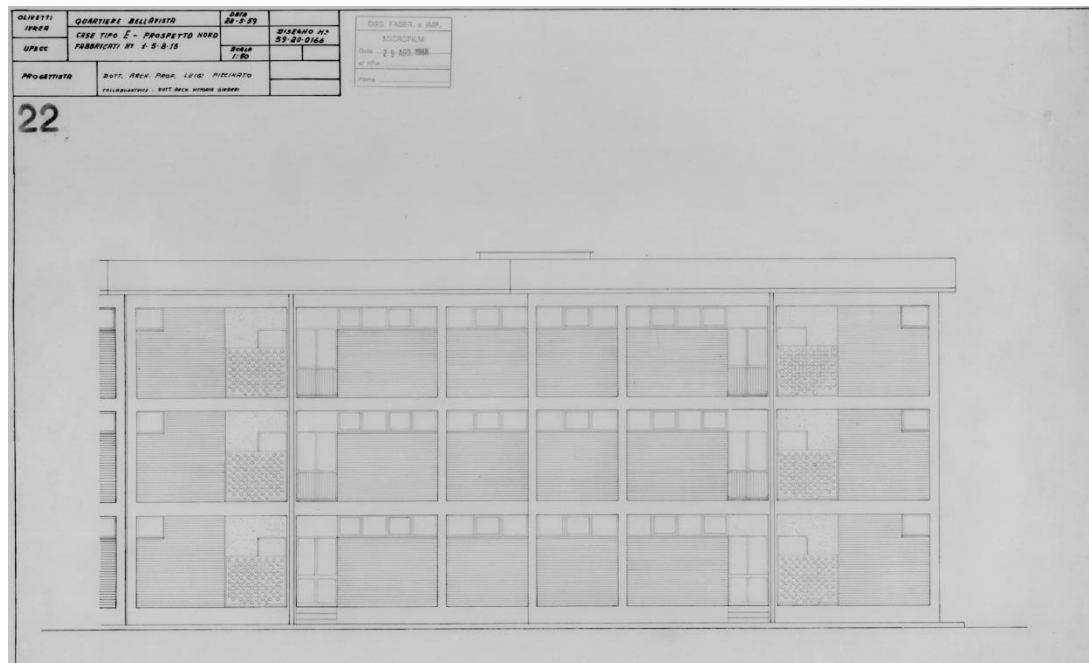
Luigi Piccinato, *E type building plan*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *F+A type building plan*, 1959, Associazione Archivio Storico Olivetti, Ivrea

- Section

Luigi Piccinato, *E type building transversal section*, 1959, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *F+A type building transversal section*, 1959, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *E type building, the nord elevation- buildings, n. 1,5,8,15*, 1959, Associazione Archivio Storico Olivetti, Ivrea



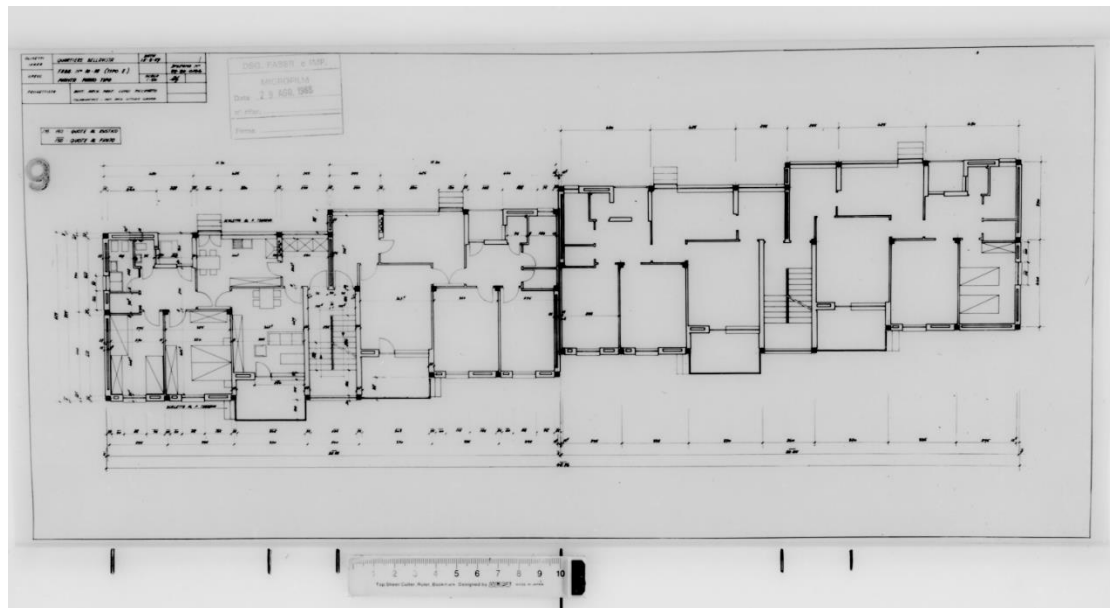
Luigi Piccinato, *E type building, the south elevation- buildings, n. 3,10,11,16,18*, 1959, Associazione Archivio Storico Olivetti, Ivrea



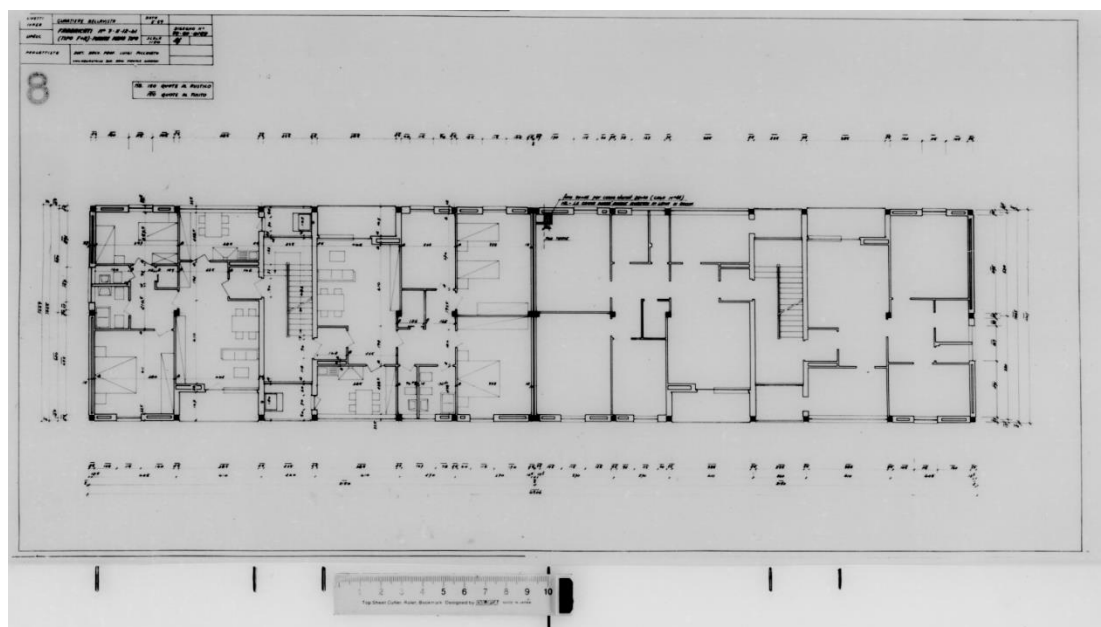
Luigi Piccinato, *F+A type building, the front elevation- buildings, n. 3,10,11,16,18*, 1959, Associazione Archivio Storico Olivetti, Ivrea



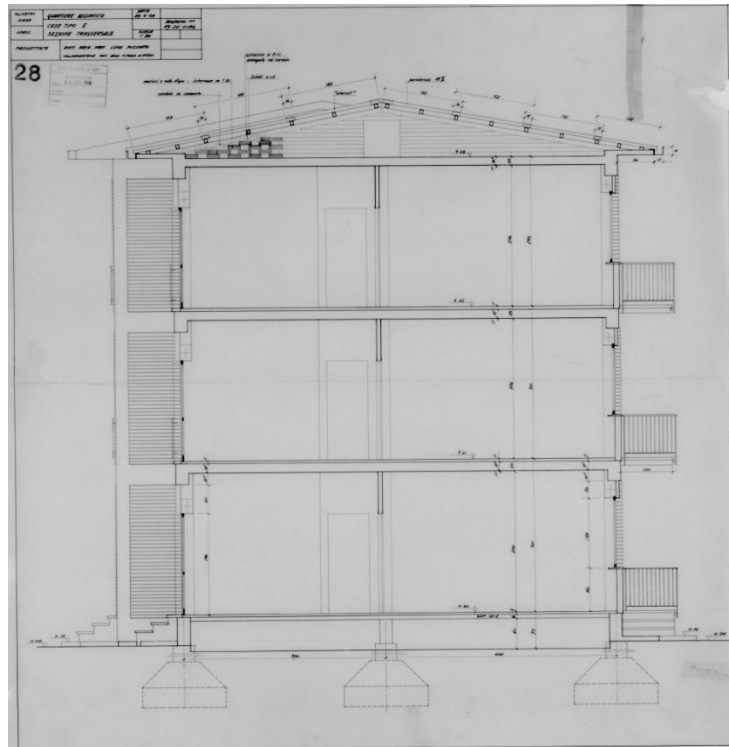
Luigi Piccinato, *F+A type building, the back elevation*, 1959, Associazione Archivio Storico Olivetti, Ivrea



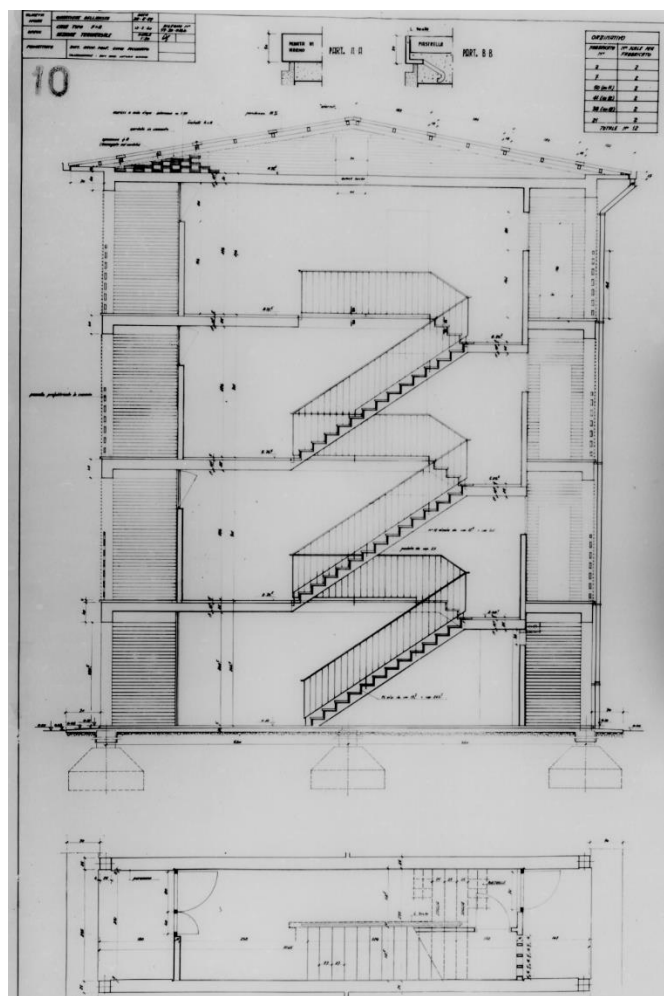
Luigi Piccinato, *F+A type building side elevation*, 1959, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *F+A type building plan*, 1959, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *E*
type building
transversal section,
1959, Associazione
Archivio Storico
Olivetti, Ivrea



Luigi Piccinato,
F+A type building
transversal section,
1959, Associazione
Archivio Storico
Olivetti, Ivrea

Archive of tower building

- Plan:

Luigi Piccinato, *D type building the third floor plan, building n.22*, 1960, Associazione Archivio Storico Olivetti, Ivrea

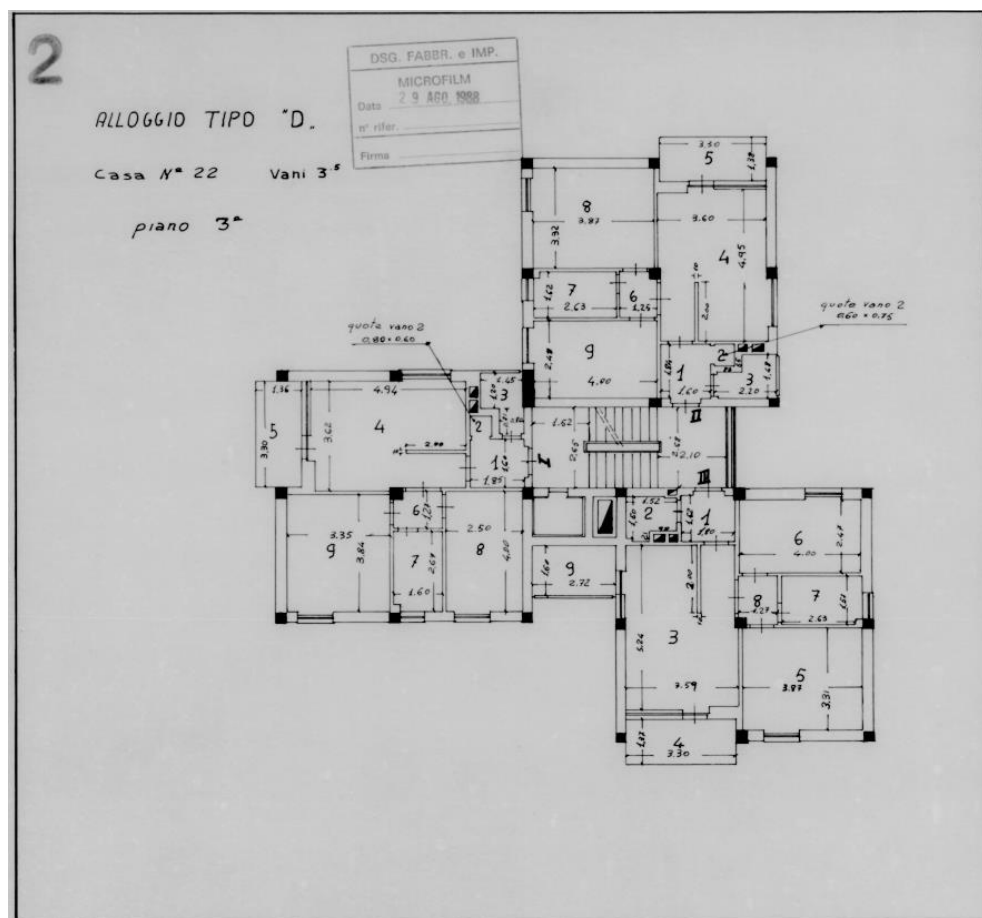
- Elevation:

Luigi Piccinato, *D type building the south elevation, building n.22*, 1960, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *D type building the north elevation, building n.22*, 1960, Associazione Archivio Storico Olivetti, Ivrea

Luigi Piccinato, *D type building the west elevation, building n.22*, 1960, Associazione Archivio Storico Olivetti, Ivrea

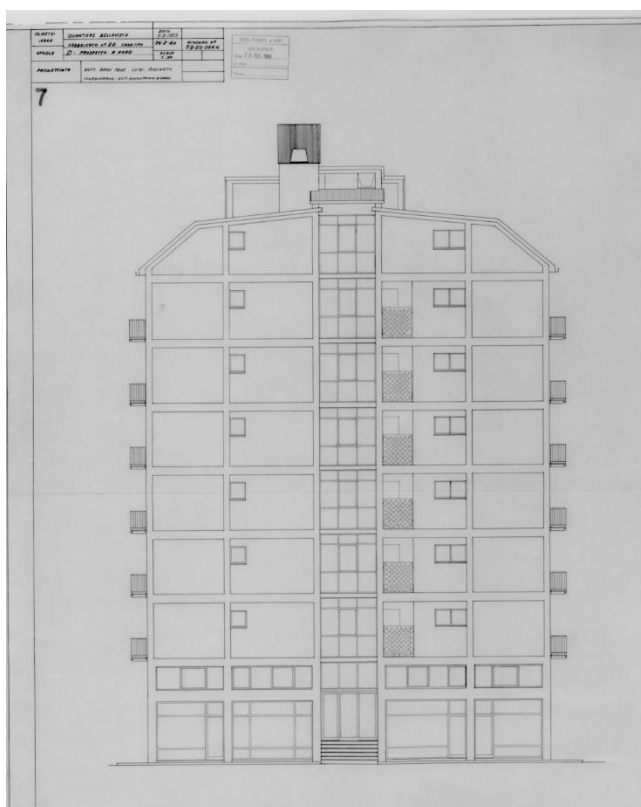
Luigi Piccinato, *D type building the east elevation, building n.22*, 1960, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *D type building the third floor plan, building n.22*, 1960, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *D type*
building the south elevation,
building n.22, 1960,
 Associazione Archivio Storico
 Olivetti, Ivrea



Luigi Piccinato, *D type*
building the north elevation,
building n.22, 1960,
 Associazione Archivio Storico
 Olivetti, Ivrea



Luigi Piccinato, *D type*
building the west elevation,
building n.22, 1960,
Associazione Archivio
Storico Olivetti, Ivrea



Luigi Piccinato, *D type*
building the east elevation,
building n.22, 1960,
Associazione Archivio
Storico Olivetti, Ivrea

2.2.3 Building structures

It is well known that design manuals given by INA-Casa were brief and vague; because the administration recognized that it is impossible to implement one single solution for building envelope design in all the regions of Italy. A variety of factors, such as disparate climates, materials, and building traditions must be taken into account, otherwise, it would have created problems more than it solved. However, the architects were requested to explicate the construction method and consider the climate, latitude, altitude, local materials, local customs, and the heating system, to guarantee the quality and performance of architecture.²⁶

According to the report²⁷ of Bellavista, the building structures are made of reinforced concrete and remain visible in almost all cases; closures are brick masonry. In the 1950s, reinforced concrete structures were widespread throughout the country, even in small towns. The term reinforced refers to the steel reinforcement present within the concrete; the latter has high compressive strength, and steel has high tensile strength. Reinforced masonry is characterized by the presence of horizontal and vertical reinforcement within the masonry, to increase the stability of the building by making the flexural strength greater for the actions parallel and orthogonal to the plane of the masonry and preventing the occurrence of collapse following the cracking²⁸.

However, there is only a little information about the architect's choice of building structure and his technical considerations. Fortunately, among the documents of the archive, there is a document about the list of used materials of houses n°55, 67 and houses n°68, 77. This list includes the used materials of each construction system, even the water, electricity, and heating system. Here is the translation of this paper and the attachments of drawings that explicate the technological consideration of Luigi Piccinato²⁹.

²⁶ S. Z. Pilat (2009), *Reconstructing Italy The Ina-Casa Neighborhoods of the Postwar Era*, University of Michigan.

²⁷ Fondo Direzione Sviluppo Servizi Sociali, 769, Associazione Archivio storico Olivetti, Ivrea

²⁸ F. Cumo, G. Piras, F. Giustini, E. Pennacchia (2019), *Stato dell'arte di soluzioni tecnologiche di involucro edilizio esistenti come base per interventi di Deep Renovation del patrimonio immobiliare nel settore abitativo*, ENEA

²⁹ L. Piccinato (1965), *Relazione sulle opere da seguirsi*, Bobina 30, Associazione Archivio storico Olivetti, Ivrea

- A) Houses F No.56, 67 – Houses G No.68, 77.
1. Excavations, both open and hard sections, for foundations, sewers, fences, etc.
 2. Cementitious concrete given on site for foundations and elevated structures, beams, slabs, balconies, stairs, etc., with exterior elevation surface, where required, to be left exposed, rustic to be dismantled. Breaking strength greater than Kg 200/sq cm.
 3. Cell coupling expansion joints for F Houses and for every 3 dwellings for G Houses, formed with gypsum slurry, protected with suitable joint covers.
 4. Cast rebar or formwork including shoring and stripping; cast reinforcement with faces left exposed should have particularly clean boards, possibly moving, with regular joints running parallel.
 5. Concrete walls dosed 300 kg/mc for ground floor slab support of 20 cm thickness, including timber reinforcement.
 6. Ground floor ceiling formed by SAP joists 12 cm thick, laid on the walls described in item 5, with overlying batter casting of 2 cm thickness.
 7. Ground floor ceiling formed by SAP joists 12 cm thick, laid on the walls described in item 5, with overlying batter casting of 2 cm thickness.
 8. Slabs for compartments corresponding to bathrooms, the mixture of brick and reinforced concrete with a thickness of 12 + 2 cm of mash, similar to those described in item 7.
 9. Roof slabs, similar to the lower floor slabs described in item 7, with an overload of 150 kg/sqm.
 10. Solid brick and lime mortar, wall thickness 25 cm, for staircase walls.
 11. Hollow core masonry for external and internal infill, formed by two longitudinal partitions, separated by an air gap.
 12. Internal and external wall, thickness of 12 cm, made of solid brick (and worked on required face).
 13. Internal and external wall, thickness of 12 cm, made of half-round bricks.
 14. Internal partitions with a thickness of 8 cm, made of four-hole bricks.
 15. Roof made of fiber cement slabs including the supporting walls built of four-hole honeycomb bricks, thickness of 12 cm, with upper cornice also suitable for fastening the laths, made of concrete dosed 300 kg/mc and the fir laths with a cross-section of 6x8 cm.
 16. Ø 8 cm eternit pipes for kitchen hoods and dustbin room, including special pieces.
 17. Ø 15x15 cm eternit pipes for chimney flues, including special pieces.
 18. Ø 8 cm eternit pipes for kitchen hoods and dustbin room, including special pieces.
 19. Ø 8 cm Gres pipes for draining sinks and wash basins including special pieces.
 20. Flooring of all rooms, balconies, stair landings, in 25x25 cm medium-grain grit tiles.
 21. Thresholds between indoor and outdoors made up of precast concrete.
 22. Smoothed precast concrete thresholds, at the perimeter of balconies and loggias.
 23. Internal and external sills made of prefabricated grit, as drawings No. 60-20-0027, 60-20-0028, 60-20-0017, 60-20-0015, 60-20-0020, 60-20-0010, 60-20-0026.
 24. Elements made of precast concrete elements with high-strength cement, for closing service loggias of F houses as drawing No. 59-20-0165.
 25. Internal and external plaster (intrados of balconies and loggias) on walls and ceilings of type-civil.

26. Cement mortar reinforcement on parapet sheds.
27. Bathroom and kitchen wall cladding with 7.5x15 cm glazed tiles.
28. Staircase construction with marble treads and slate risers.
29. Railings for stairs and balconies made of steel sections, as drawing No. 60-20-0049.
30. Plastic stair railing handrail, as drawing No. 60-20-0049.
31. Thresholds and steps access staircase F and steps access housing houses G in polished stone.
32. AQ 50 steel iron for reinforced concrete works.
33. River gravel screed for subfloor of staircase entrance.
34. Spruce wood exterior windows and doors, finishing thickness of 45 mm, equipped with hinges, adjusters, locks, handles, etc; given painted with two coats of oil and two coats of enamel, as per drawings No. 59-19-0011, 59-20-0308, 59-20-0308/B, 60-20-0043, 59-19-0042, 59-19-0043, 59-19-0039, 59-19-0048.
35. Roller shutters made of Cadore Spruce wood including synthetic enamel coating, completed with painted fir wood roll-up box, pulleys, belt guides, winders, supports, etc.
36. Hollow-core internal door, on fir frame, covered on both faces with 4 poplar plywood, total thickness 43 mm, painted with two coats of enamel, including hinges handles, locks, etc, as per drawing no.59-19-0041.
37. Entrance doors of houses F consisting of fir framing with coat on the outer face of 4 mm mahogany plywood and on the inner face of 4mm poplar plywood, overall thickness mm 53, including coats on the inner and outer faces, handle, knob, lock, etc., as per drawing No. 59-19-0037.
38. Entrance doors of houses consisting of fir framing with coat on the outer face of 15 mm thick Douglas beads painted with polyester and 4 mm poplar plywood on the inner face painted with enamel, completed with handle, knob, lock, etc., as per drawing No. 59-19-0026.
39. Access doors to staircase compartment houses F, made of tubular iron section complete with handle, lock and door closer.
40. Sheet metal doors 25x15 cm for chimney inspection.
41. Kitchen hoods 110x55 cm including aluminum tube connection to ceiling.
42. Brass rosettes for smoke and exhaled flues.
43. Roof inspection hatch for F houses, made of steel profiles and sheet metal.
44. Six-part letter boxes for F houses and single letter boxes for G houses.
45. Painting interior and exterior ceilings with two coats of lime paint and vinyl fixative.
46. Painted interior and exterior walls with two coats of tempera paint.
47. Painted metal structures (balcony and stair railings, exterior fences, etc.) with two coats of minium and two coats of enamel.
48. Polished and molded semidouble glazing, installed on all windows and doors.
49. Gutters, flashings, downspouts in 8/10 galvanized sheet metal including painting
50. Coating walls of staircase in houses F, with peeling plastic paint.
51. Concrete castings dosed 250 kg/mc for exterior fence walls, including lumber reinforcement and plastering of surfaces after dismantling.
52. External fence formed of iron profile elements to be attached to previously constructed masonry, as per drawing No. 60-20-0110.

53. Internal fence between gardens with chestnut stakes of 8x8 cm - height of 100 cm, driven into the ground at spacing of about 2 m and connected with each other by two galvanized wires Ø 4. mm.
 54. Black and white sewer connections with concrete pipes R cm 20 on lean concrete screed.
 55. Concrete manholes at the foot of downspouts and drains, size cm 40x40x40, fitted with manhole covers.
 56. Idem concrete, by 60x60x60 cm at the junctions of the connection.
 57. Outdoor sidewalk of houses F, formed by concrete casting of 10 cm thickness, dosed 250 Kg/mc, then smoothed and bush-hammered, including perimeter curb of 10 x 20 cm and gravel foundation of 20 cm thickness.
 58. Outdoor stairs for F houses with three steps formed of concrete structure dosed 250 kg/mc, foundation base, steps, and risers made of precast concrete elements, as per drawing No. 59-20-0213.
 59. Idem concrete, but two steps.
 60. Plumbing system including: risers, meters for each building and each dwelling, supply and drains. Sanitary fixtures in fire clay to be installed in each dwelling: 2 toilets, 2 washbasins, 1 bidet, 1 kitchen sink with draining board, 1 cast-iron basin 170x70 cm 1 lt 80 boiler, 1 grit washbasin. Supply and distribution piping in galvanized mannesmann, lead drains, cast iron R 100 descenders. Faucets and siphons in chrome-plated brass, paper holders and soap dishes type in casso 15x15. Washbasin, bidet, tub and kitchen sink must be connected to the hot water system.
 61. Electrical and power system of each dwelling including: risers, meter panel, switches, light and power outlets, junction boxes, vault center boxes, diverters, switches, buttons, bells, chimes, lines in elios tubes and conductors to CEI standards. Tubing network for telephone and TV system will also have to be provided.
 62. Stair light electrical system for houses F including: ceiling lights, pushbuttons, switches, valves, elios piping, conductors to CEI standards.
 63. housing heating system with steel radiators, mannesmann piping properly insulated when needed, valves, lockshields, expansion tanks, etc. Radiators shall be subjected to anti-oxide protection by phosphatization and subsequent fixing with plasticizing resin-based paints. Required temperature: +18°C indoors with -10°C outdoors.
- B) The external storage No.79, 81
1. Overburden excavation to pave and cross-sectional excavation for foundations.
 2. Pouring of foundation for perimeter and internal walls, with concrete dosed at 200 kg/mc.
 3. Concrete casting dosed 250 Kg/mc for perimeter wall basement, with rustic exposed outer side to be dismantled, including formwork.
 4. Storage paving with ballast or stabilization, thickness of 25 cm and paving of bituminous tout-venant thickness of 10 cm.
 5. Solid brick masonry of 25 cm, partly performed exposed and partly normal.
 6. Masonry in semi-flat bricks of 12 cm, for division of the pits.
 7. Concrete curbs, bases and shoulders dosed 300 Kg/mc, for attaching door frames or stiffening box division partitions, including formworks and steel.

8. Roof covering including warping with 12x8 cm fir battens and covering with fiber-cement slabs, flashing in 15/10 sheet metal, galvanized, special gable pezszo.
9. Bituminous conglomerate carpet, thickness of 3 cm for paving deposits.
10. Plastering outside walls on the garden side with bastard lime mortar.
11. Double-leaf profile and sheet iron doors with floor stop, lock, painted with two coats of minium and two coats of enamel, refer to drawing No. 59-19-0013.
12. Small door for access from the gardens of the living quarters of houses G made of profile and sheet iron, including lock, handle, painting with two coats of minium and two coats of enamel refer to drawing No. 59-19-0035.

Archive of building detail

- Foundation:

Luigi Piccinato, *F type building fondation transversal section*, 1960, Associazione Archivio Storico Olivetti, Ivrea

- Window detail:

Luigi Piccinato, *E, F, F+A type building, window frame type D, E, F, F', G, G'*, 1959, Associazione Archivio Storico Olivetti, Ivrea

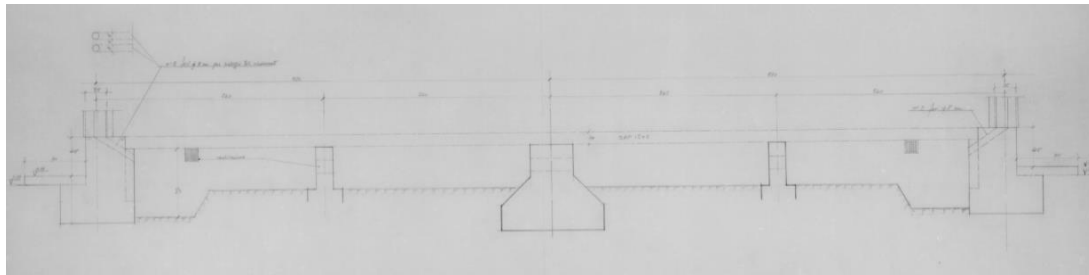
Luigi Piccinato, *E, F, F+A, D type building, window frame type B, C*, 1959, Associazione Archivio Storico Olivetti, Ivrea

- Section detail:

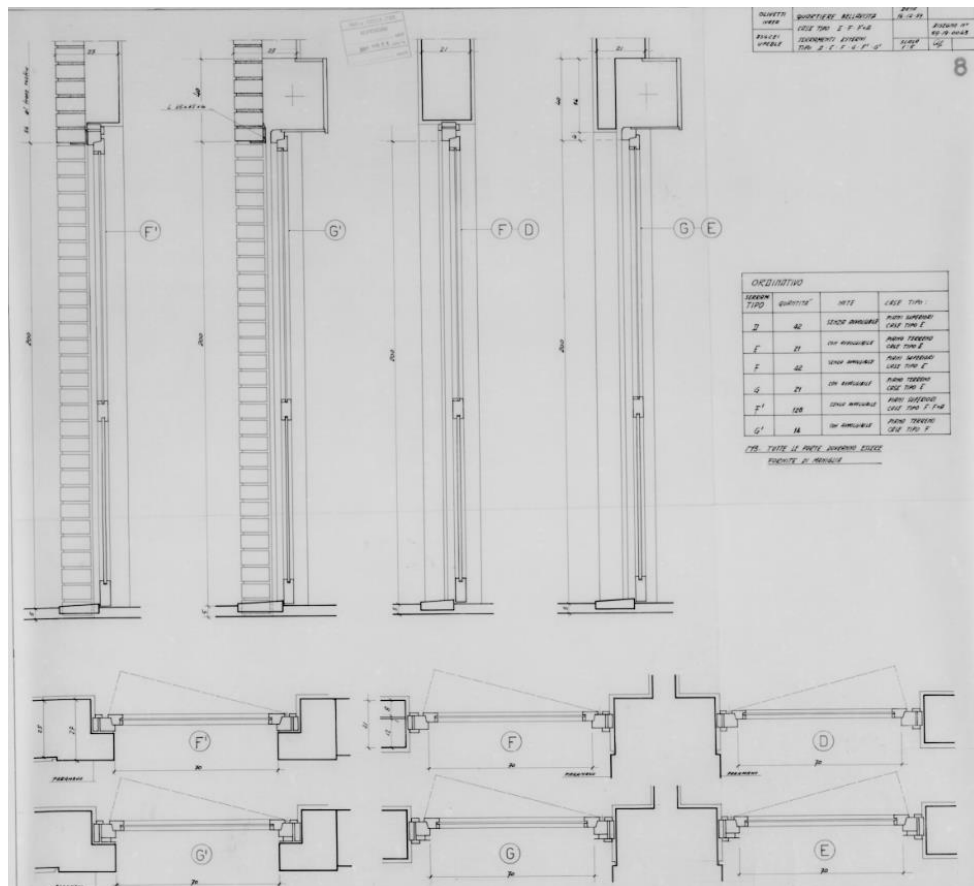
Luigi Piccinato, *G type building section window S.T.U, building n. 68,77*, 1959, Associazione Archivio Storico Olivetti, Ivrea

- Roof section:

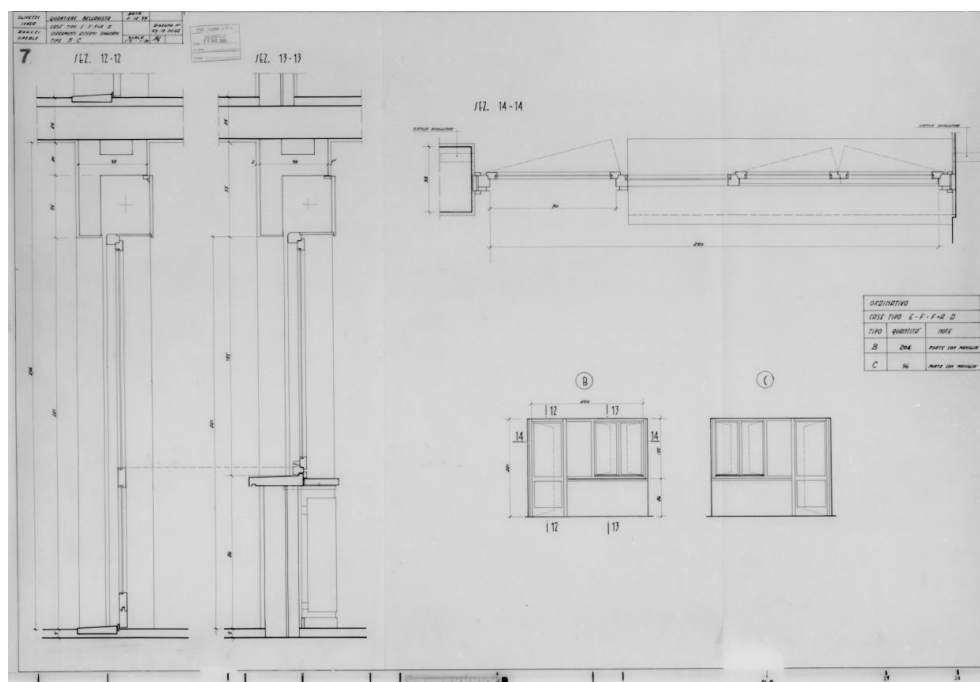
Luigi Piccinato, *F, G type building details of cornice, building n. 55,67,68,77*, 1959, Associazione Archivio Storico Olivetti, Ivrea



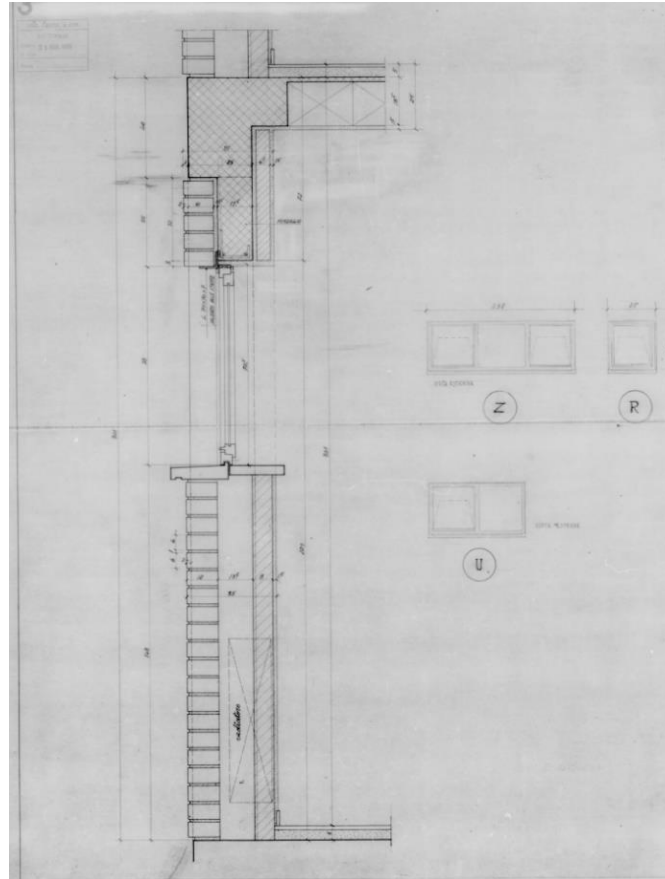
Luigi Piccinato, *F, G type building details of cornice, building n. 55,67,68,77*, 1959, Associazione Archivio Storico Olivetti, Ivrea



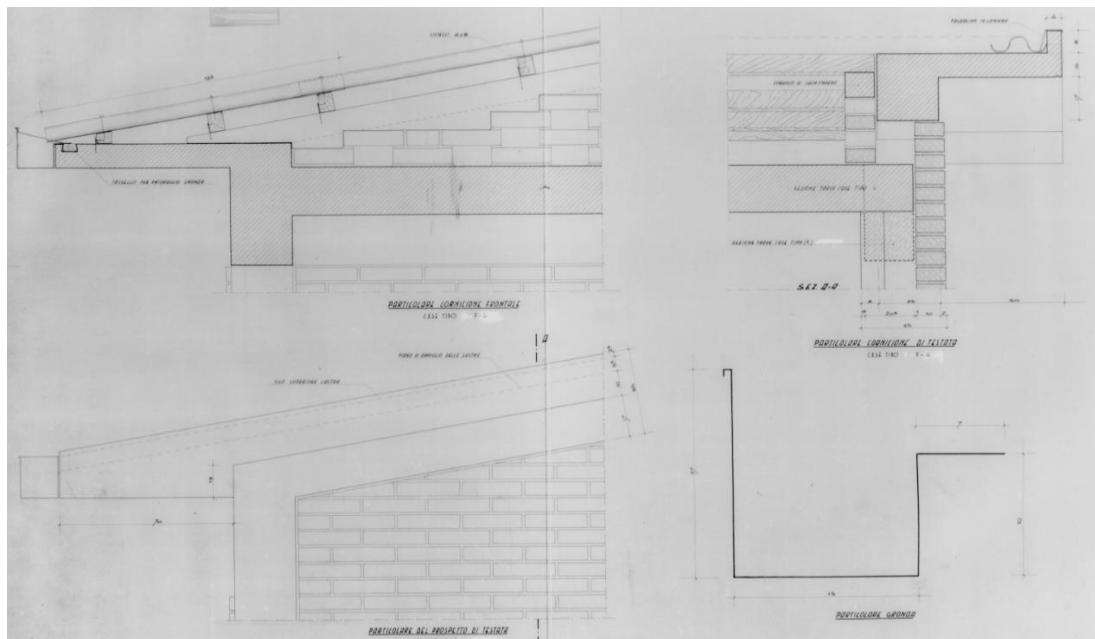
Luigi Piccinato, *E, F, F+A type building, window frame type D, E, F, F', G, G'*, 1959, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *E, F, F+A, D type building, window frame type B, C*, 1959, Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *G type building section window S.T.U.*, building n. 68,77, 1959,
Associazione Archivio Storico Olivetti, Ivrea



Luigi Piccinato, *F, G type building details of cornice*, building n. 55,67,68,77, 1959,
Associazione Archivio Storico Olivetti, Ivrea

3 SOCIAL CENTRE IN BELLAVISTA

3.1 THE CONCERNS OF COLLECTIVE LIFE

The district Bellavista represented the first coordinated satellite center in Ivrea, the INA-Casa, the Olivetti company and the Ivrea municipality were particularly interested in this experiment. In order to enhance its character of self-sufficiency and to support the residents' collective life as well, they started to prepare the implementation of a "Social Center" for residents in the 60s³⁰. The main service systems of the Social Center would be the commercial center, educational facilities, social and sports facilities, and healthcare support. Before the construction of Bellavista, there were many housing districts for workers in Ivrea, but there was no established experience. For instance, Canton Vesco was an Olivettian district near Bellavista, its public services for the residents were placed along the highway to Turin, which was considered to be unfavorable for collective life and for relationships between neighborhoods, this kind of imposition of public services would not be adopted for Bellavista. The "Social Center" in Bellavista was supposed to be a cluster of various public services, from a commercial center to an administration center; its purpose was not only to provide services for residents, but also to enable the integration among residents in the collective life of the community.

In the spring of 1961, the first residents of the Bellavista arrived, benefiting from reserved allocations for Olivetti employees of the INA-Casa. It was soon followed by other arrivals, this small group of residents made of state employees, employees from public agencies and private companies. The Social Centre was supposed to be the location of gathering and fusing, its first task should be to solve certain problems of collective life, caused by special situations. On the one hand, there would be inevitable differences in the lifestyle and habits of residents. Because a significant ratio of residents was from different regions, they have different traditions, customs, and civic education. On the other hand, they were affiliated with various industries, handicrafts, and commercial enterprises, thus, their wage levels were highly differentiated, which led to non-homogeneous economic problems. In that sense, it was necessary to have sufficient management programs to create a democratic, fair, free Social Center, equipped with social services techniques and respecting cultural diversity. In this

³⁰ 1961, *Della necessita' di costruire un Centro Sociale nel Quartiere Bellavista*, Fondo Direzione Sviluppo Servizi Sociali, 766, Associazione Archivio storico Olivetti, Ivrea

democratic “center”, each person or group could freely express ideas and communicate. The activities held in the “center” should have the maximum freedom in respecting the interests expressed by a person or groups, according to their initiatives without any ideological or political discrimination³¹.

The establishment of the Social Center was not a simple service program, it was supposed to be the one of the reflections of the A. Olivetti’s “Community” thinking. He implemented his vision by rationalizing the factory design to improve the working environment for workers, collaborating with educational institutions to provide educational opportunities for workers and their families, establishing a welfare center to protect the physical and mental health of employees, and trying to materialize the concept of community in employee housing areas, allowing residents to establish their own community management structure to nurture a liberal human nature.

Olivetti's approach was, as is well known, to build the Community with "optimum"³² measures, which can minimize the influence received from municipalities and provincial governments and has autonomous capacity. For Olivetti, the necessary conditions for the implementation of a “Community” are composed of an optimum organizable territory, an appropriate administrative structure, an implementable plan, a social life inspired by the spirit³³. From point of the A. Olivetti’s view, the Community is not just the place where people live their life but the ground that grows a harmonious territory culture for different identities of people. It is a form of moral action spontaneously established by residents, uniting interests and desires and sharing a common set of goals. The development of such social relationships will be determined by emotional bonds rather than excessive economic transactions, and people lead a harmonious life with liberty³⁴.

There are other lines of thought that followed the organic version of the programmatic manifesto Community. One line is the thought that invites a rethink of the government’s

³¹ Comitato di Quartiere (1968), *Promemoria sui problemi del “Quartiere Bellavista”*, Fondo Direzione Sviluppo Servizi Sociali, 517, Associazione Archivio storico Olivetti, Ivrea

³² A. Olivetti (1960), *Ciita’ dell’uomo*, Milano: Ed. di Comunit, 11

³³ M. Piccinini (2014), *Adriano Olivetti: il lascito*, Roma: INU, 38

³⁴ C. Simone, M. E. Conti, A. LaSala (2019), *Firm, territory and local community: lessons learned from the Olivetti’s model, Il capitale culturale*, eum edizioni università di macerata, 403 - 428

political action in Consistent Assembly between 1946 and 1948. A. Olivetti published an article in 1947 which is *Non si cammina nel futuro* (We don't walk into the future). In his article, he stated that policy shouldn't lose the sight of the current world, focusing only on the future project is destined to fail. he draws attention to the sense of concreteness inherent in politics with theoretical underpinning warns, he against the ideological approaches in which it is the action preceding a posteriori theoretical elaboration that justifies the practice. Another line of thought is concerned with urban planning, the connection of the political and social thinking³⁵.

Community theory is multifaceted, starting with a sketchy idea that evolves into a systematic theory, which then leads to a process of political debate and influences urban planning, eventually evolving into a political movement. However, if back to the essence of the idea, it should be as the journalist and author Giuseppe Lupo has stated in the 11th episode of Olivetti Design Talk³⁶, in the Italian 20th century, seen as a phase of great growth from an industrial and economic point of view and considered as the period of approach to an Italy defined as Modern, a different kind of reality based on the concept of Community also stands out. One of the main proponents and founders of this philosophy is Olivetti, a reality that can be called Counter-Modern. This is because at the basis of a functioning business model there is the person and the community he or she constitutes, unlike the large realities of major Italian cities such as Milan or Turin one among all FIAT where the focus is placed essentially of productivity and in economic and technological development. In Olivetti on the other hand, a small provincial reality, at the center of everything is production combined with the happiness of the worker. This is a point of view that for the time did not produce great results leading to the bankruptcy of the company, which even though it still exists today but has lost its importance, but which is very avant-garde and perfectly suited to today's reality.

³⁵ S. Fava (2020), *Adriano Olivetti's notion of "Community": transforming the factory and urban physical space into educational spaces*, *Ricerche di pedagogia e didattica*, Vol.15 (1), 203-216

³⁶ The 11th episode of Olivetti Design Talk is an online seminar organized by Associazione Archivio Storico Olivetti in 2021, based on the theory of "Community" advocated by Adriano Olivetti, in which Giuseppe Lupo, Giuseppe Lupo, Enrico Loccioni and other professionals with many years of research in this field are invited. <https://www.youtube.com/watch?v=-RbSHDneRTw>

3.2 CONSTRUCTIONS OF PUBLIC SERVICE

The whole 60s was the completing phase of residential buildings and the preparing phase of public services, these works were entrusted to architect Ottavio Cascio, and architect Ezio Sgrelli. In the early 60s, there were a lot of conversations and conferences among INA-Casa, Olivetti, and Ivrea municipality, to make clear the guidelines for different constructions and subsequent administrative management for the program of social services³⁷. Thus, it was not until the 70s that the arrangement of the “Social Centre” was presented in the master plans of Bellavista.



Figure 18. The services area in the general map of 1971 and the actual services area in a map of 2010

(Source: Associazione Archivio Storico Olivetti; Geoportale Torino)

A general map of Bellavista showed the prototype of the arrangement in 1971; it was considered a prototype because it showed the correct locations of service areas, but some areas were eventually different. The commercial area was placed on the last empty area on the perimeter of Bellavista, connecting with the Viale Papa Giovanni XXIII. The civic center and church were next to the southern building of the commercial area, there was a tower building on the opposite side. Going inside Bellavista from this area would arrive at the educational area. There was supposed to allocate a kindergarten, a preschool, and an elementary school, surrounded by greenery and a playground for outside activities. Behind the elementary school was the well-

³⁷ Fondo Direzione Sviluppo Servizi Sociali, 767, Associazione Archivio storico Olivetti, Ivrea

equipped sports area. This sports area includes a gym, a football field, a basketball court, etc. The differences between the eventual construction and the prototype will be individually discussed in subsequent sections for each service area.

3.2.1 Commercial area

The commercial area was funded by GESCAL (GESTione CAse per i Lavoratori³⁸), it was a square-shaped site, and two three-floor buildings were constructed separately on the north and south sides, defining the boundaries of the area. Between these two buildings, there was a square, composed of a lane in “U” form, parking lots, and a pedestrian area in the middle, in addition, the bus stop was placed at the entrance of the area, in front of a parking lot.

Instead of using monolithic commercial buildings, architect Cascio chose a widespread solution for the construction of buildings in this area, which is the residential building with a commercial ground floor. The architectural language still cohered with residential buildings, the brick masonry façade, the pitched roof and the white window frames, nevertheless, the porches on the ground floor showed the identity of the architecture of the commercial area. The porches are public spaces in the commercial area, visually and functionally balancing the similarity of the building to other residential buildings, providing spaces for residents to stop and stay near the stores without being affected by weather. Although there were few stores in this area, they were sufficient for residents’ daily life: a bar, a supermarket, a grocery market, a clinic, a hair salon, etc.

The final version of this area is different from the general map of 1971. First of all, they didn’t build the huge parking lot on the other side of the Viale Papa Giovanni XXIII, the area ended at the bus stop. They canceled the construction of a squared building and a porch, instead, they built the parking lot behind the bus stop, on the position of the porch. Another difference near the commercial area was the place where located the church and the civic center. These two independent buildings have similar architectural language, they both have white plaster exterior walls and irregular building shapes, for some reason the civic center building has red window frames, but the church maintains

³⁸ Gestione casa per i lavoratori stands for Housing management for workers, it was a fund intended for the allocation and construction of houses to workers, it was transformed from INA-Casa in 1963.

the white tone. Anyway, their plan forms are both different from the ones on the general map.

3.2.2 Schools

The establishment of schools was a very important part of the implementation of the “Social Centre”. The Committee of Bellavista did a demographic survey in Bellavista in 1968, according to this survey, there were 94 children under 3 years old, and 116 children over 3 years old and under 6 years old, moreover, these data had a tendency to increase significantly in the next two years. The establishment of kindergarten and preschool would be a huge help for those families with children if it was only a ten-minute walk from home.

Regarding the buildings of schools, they were designed by architect O. Cascio in 1969. Fortunately, there are drawings and a report of the kindergarten building in the archives. The kindergarten was located in the area, where existed the OMNI consulate building and the elementary school. As a public building, it hadn't followed the architectural language of residences; in order to keep the regularity with the building of the elementary school, it adopted the same prefabricated construction system. The prefabricated system gave the maximum flexibility to the building structure, in this sense, the wall system could be dismantled and replaced without changing the fundamental relationship between internal and external spaces. The architect O. Cascio stated also the technical details of the building in the report: the perimetric walls of the foundation system were made up of reinforced concrete; the pavements were made up of ceramic stoneware; the envelope of the building was the latticework supported by asbestos cement on the upper and bottom sides, the support cladding parts contained the synthetic fiber insulation board; the ceilings were composed of the Pavatex sound-absorbing panels with rock wool matting above; the roof was different from the roof of residences, the asbestos cement roof sheets placed on wooden planks and metal trusses. The position of the building was the central greening area of Bellavista, thus, the kindergarten was surrounded by plenty of grassplots, which provide a safe space for children's outdoor activities.

The building was in cross-plan form; it was divided into four sections, among them, three sections for children's daily activities, and a section for common services, for instance, kitchen, laundry, personal changing room, canteen, warehouse, restrooms. Through a porch could see the entrance, leading to the central area of the building, which was the interaction area of the four sections. After children entered the

kindergarten through the entrance, they changed clothes there and went to their section. The three sections were separately dedicated to children of different age groups, there was the infant section, the two-year-old section, and the three-year-old section. The capacity of the kindergarten was 60, each section could be allocated to 20 children³⁹.

Unfortunately, the kindergarten was destroyed by a fire in 1978. Although the preschool appears on the general map, and there are drawings of the preschool in the archive, they probably canceled its construction, because this district doesn't have a preschool, and there is no record of its construction and demolishment. Nowadays, only the building of the elementary school survives, which is currently both a kindergarten and an elementary school.

3.2.3 Sports area

There was a multi-functional building near the elementary school, which belong to the sports area. It is composed of three volumes, two lateral ones are lower than the middle one. This building included a bar, a small theater, and an office of the Bellavista council. Its façade was made of reinforced concrete structure, brick masonry closures, pitched roof, and white frames in windows and doors, which resembles the residential building.

There were two camps next to the building, on the western side was a campo for the game of bowls, with a dimension of 12 x 30 m; on the eastern side was a skating camp, with a dimension of 18 x 30 m. Continuing inside from here, there are the various sports fields, whose grounds were designed to accommodate various sports activities⁴⁰.

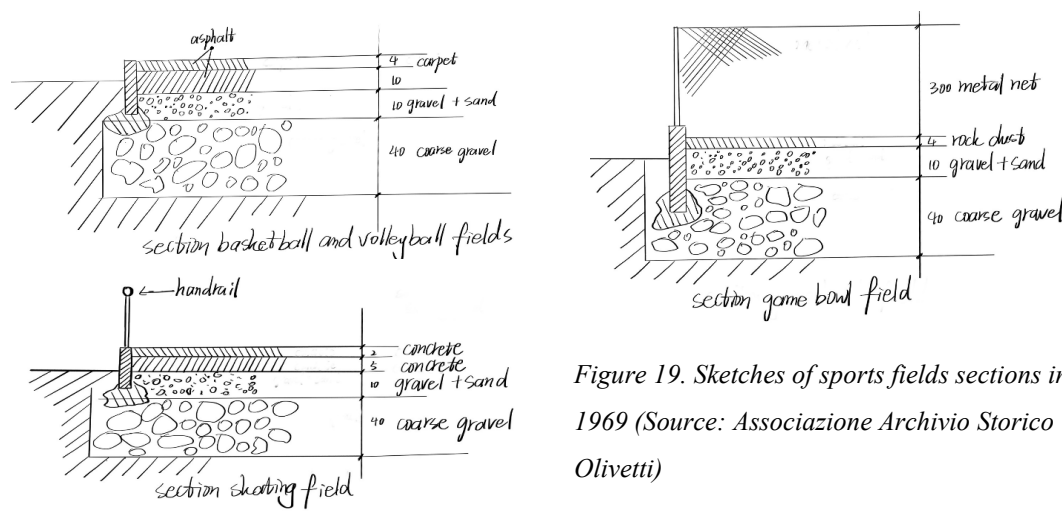


Figure 19. Sketches of sports fields sections in 1969 (Source: Associazione Archivio Storico Olivetti)

³⁹ O. Cascio (1969), *Relazione, Progetto di Asilo – Nido a 3 sezioni*, Fondo Direzione Sviluppo Servizi Sociali, 517, Associazione Archivio storico Olivetti, Ivrea

⁴⁰ Comitato “Quartiere Bellavista” (1969), *Piano Arch. Cascio sistemazione aree B e D del quartiere Bellavista – Ivrea*, Fondo Direzione Sviluppo Servizi Sociali, 517, Associazione Archivio storico Olivetti, Ivrea

Archive of buildings in the commercial area:

- Elevation:

Ottavio Cascio, *Building B, Service side elevation*, 1971, Associazione Archivio Storico Olivetti, Ivrea

Ottavio Cascio, *Building B, Living room side elevation*, 1971, Associazione Archivio Storico Olivetti, Ivrea

- Plan:

Ottavio Cascio, *Building A, the 1st floor plan*, 1971, Associazione Archivio Storico Olivetti, Ivrea

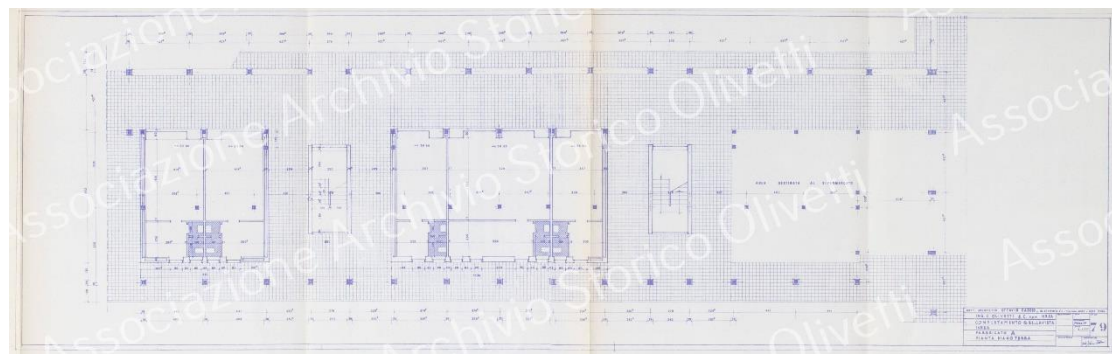
Ottavio Cascio, *Building A, the ground, floor plan*, 1971, Associazione Archivio Storico Olivetti, Ivrea



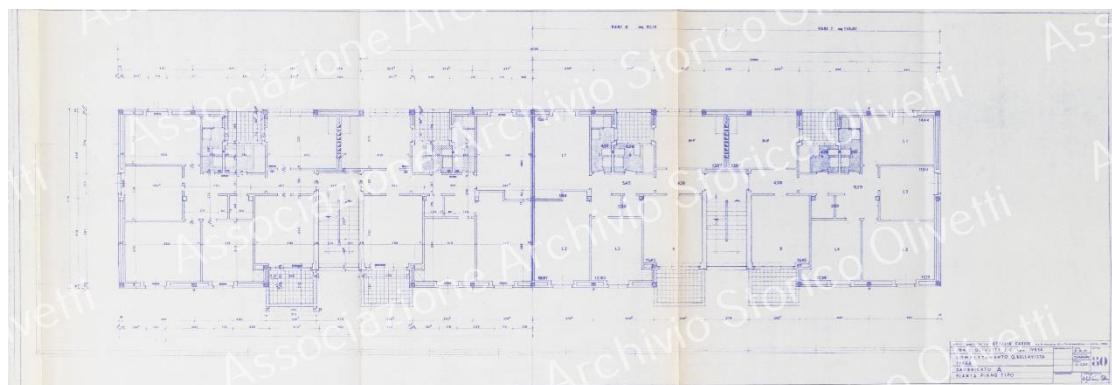
Ottavio Cascio, *Building B, Service side elevation*, 1971, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, *Building B, Living room side elevation*, 1971, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, *Building A, the 1st floor plan*, 1971, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, *Building A, the ground floor plan*, 1971, Associazione Archivio Storico Olivetti, Ivrea

Archive of building of kindergarten

- Elevation:

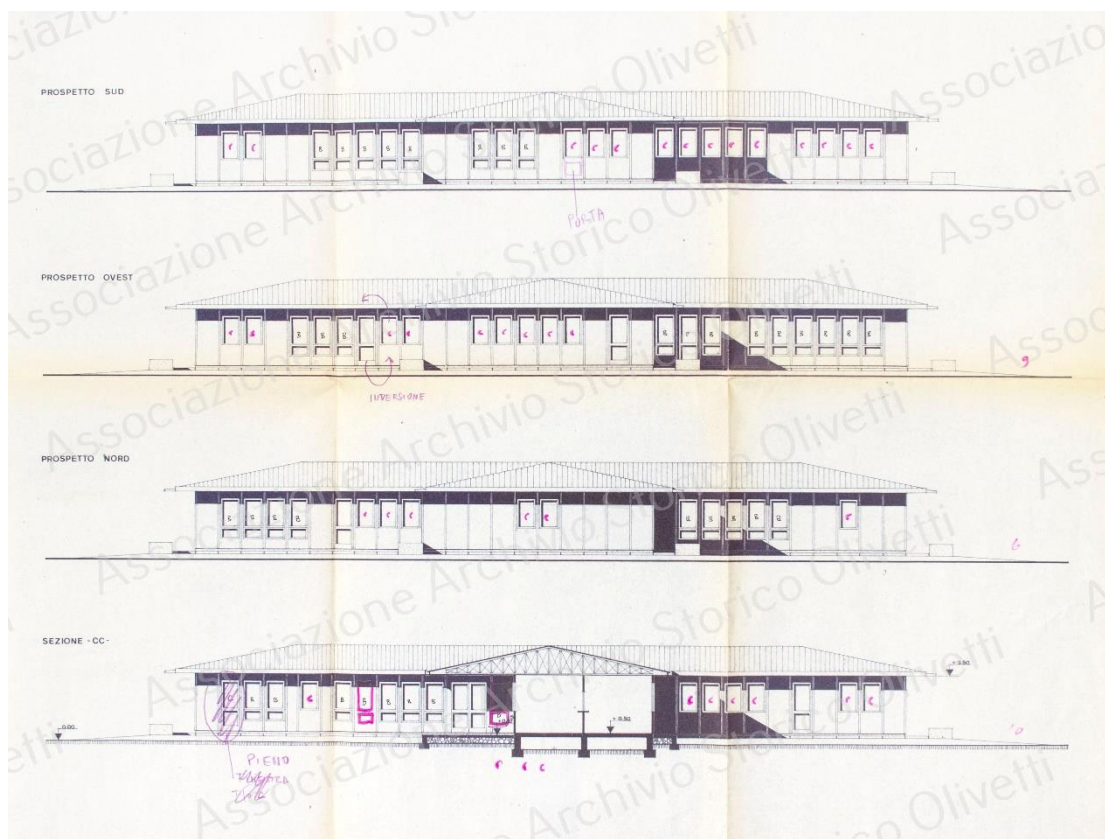
Ottavio Cascio, *Elevations and sections for Dis. 18934*, 1969, Associazione Archivio Storico Olivetti, Ivrea

- Plan:

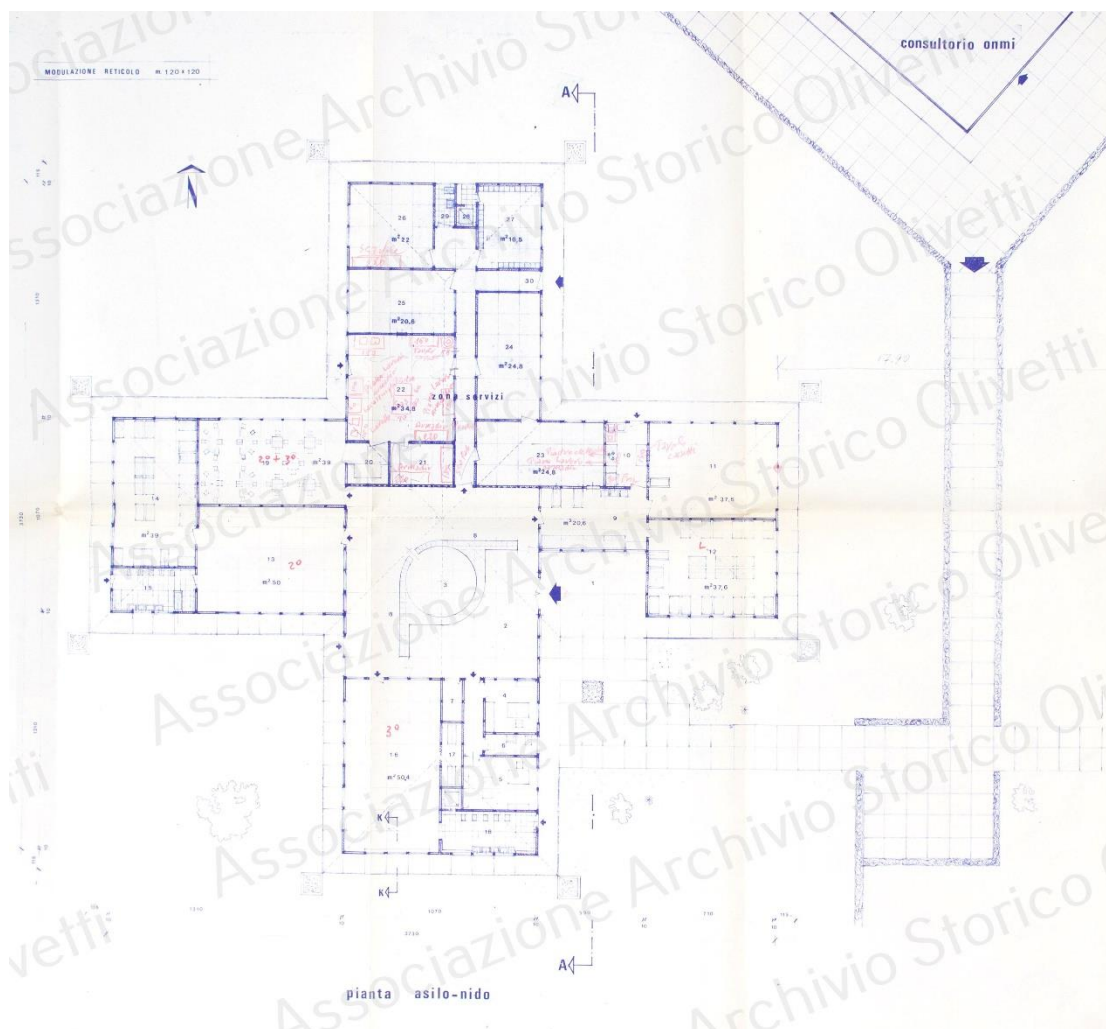
Ottavio Cascio, *3 sections kindergarten, plan*, 1969, Associazione Archivio Storico Olivetti, Ivrea

- Section:

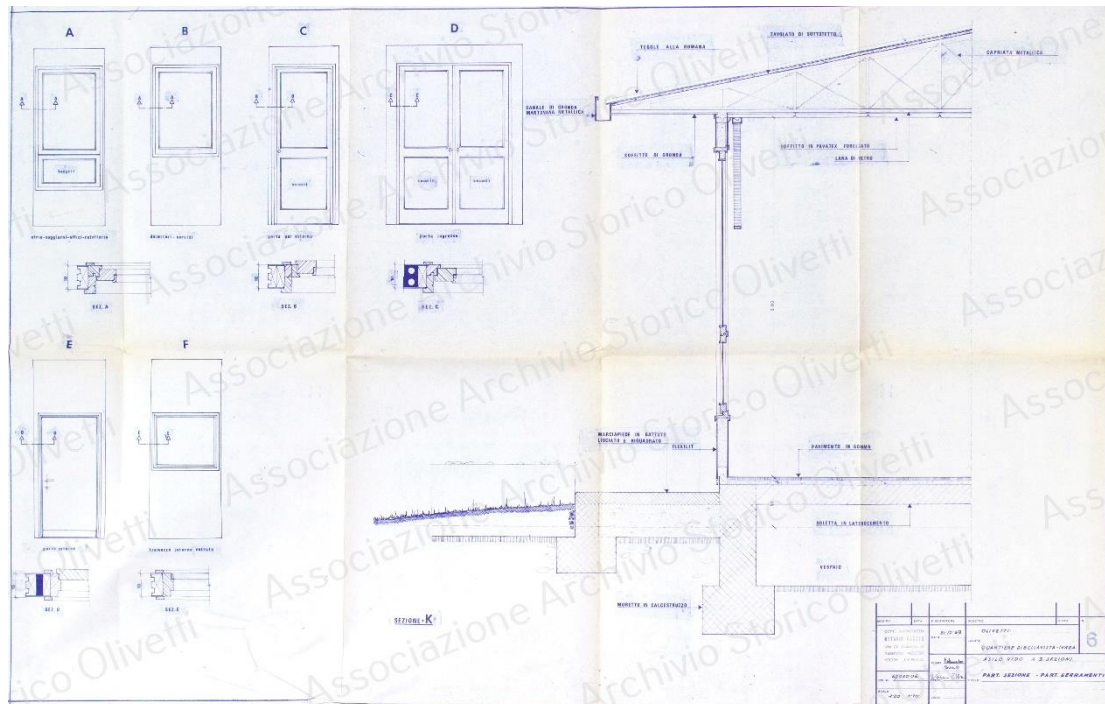
Ottavio Cascio, *3 sections kindergarten, section details, frames details*, 1969, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, *Elevations and sections for Dis. 18934*, 1969, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, *3 sections kindergarten, plan*, 1969, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, *3 sections kindergarten, section details, frames details*, 1969,
Associazione Archivio Storico Olivetti, Ivrea

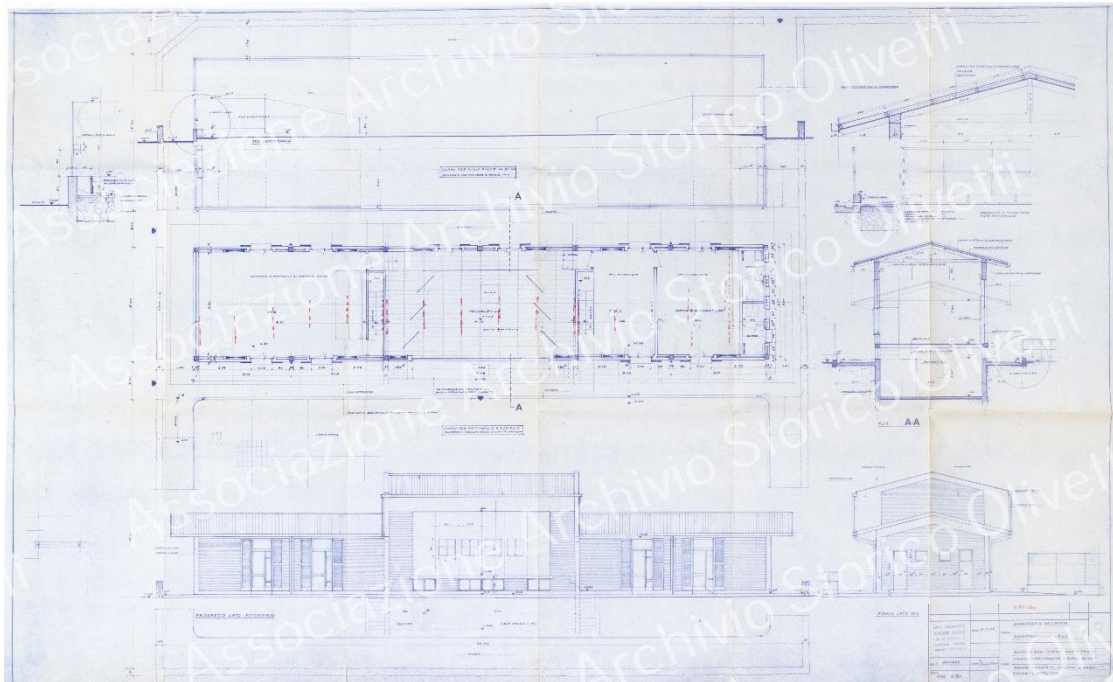
Archive of building in sports area

- Plan – Elevation – Roof – Section:

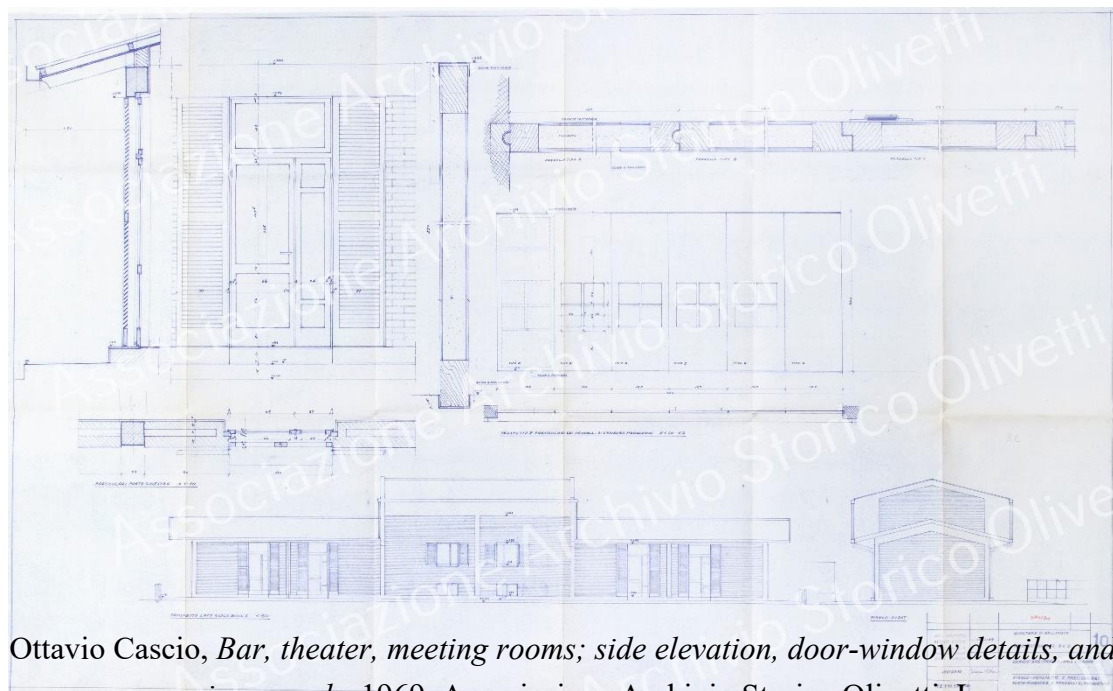
Ottavio Cascio, *Bar, theater, meeting rooms, skating field and Bowl game field; plans, elevations, sections and constructive details*, 1969, Associazione Archivio Storico Olivetti, Ivrea

- Section – Frames details – Elevation:

Ottavio Cascio, *Bar, theater, meeting rooms; side elevation, door-window details, and proscenium panels*, 1969, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, Bar, theater, meeting rooms, skating field and Bowl game field; plans, elevations, sections and constructive details, 1969, Associazione Archivio Storico Olivetti, Ivrea



Ottavio Cascio, Bar, theater, meeting rooms; side elevation, door-window details, and proscenium panels, 1969, Associazione Archivio Storico Olivetti, Ivrea

4 BELLAVISTA IN THE URBAN FRAME OF THE PRGC IVREA 2030

4.1 INTRODUCTION OF THE PRGC IvREA 2030

In December 2017, the first public workshop was carried out to collect ideas for a new general urban planning for Ivrea, conducted by studio Stefano Boeri Architetti. The workshop included different table talks of seven topics that aim to systematically analyze the various realities of the territory and propose strategic visions on the pillars of sustainability. The seven topics of the workshop were: T01 metropolitan city, T02 agricultural landscapes and ecosystem services, T03 protection of territory, T04 reactivation of city and temporary uses, T05 urban attraction, T06 life quality, T07 production, innovation and culture. The second public workshop was held in January 2018, and three months later, the strategic vision was submitted. The architect Massimo Giuliani was in charge of the whole program PRGC Ivrea 2030; and collaborated with the architect Stefano Boeri who was the scientific coordinator. The Technical Proposal of Preliminary Project was submitted and adopted in January 2020, then it was published and observed in February. The PRGC Ivrea 2030 utilizes public participation, collecting citizens' visions of Ivrea's future, from the citizens' quotidian perception, in that sense, the strategies will be more relevant to meet the expectations of citizens for the future development of the city; and the final work results (graphics and reports) are available to the public on the official website of Ivrea municipality.

The redevelopment of the Ivrea will contribute to each organism of the urban system, public and private spaces, built, agricultural, and forest areas that play different roles in the process of the city's regeneration. For areas like Bellavista, the PRGC Ivrea 2030 can give a guide and an opportunity to fix the physical decline brought by time, strengthen its historical and social value, and better serve residents' well-being live. In order to understand the current status of Ivrea city and its future development objectives, the following section will analyze illustrative framework and strategic illustration of the PRGC Ivrea 2030, trying to figure out how Bellavista can achieve its urban renewal in the context of the urban transformation.

The PRGC Ivrea 2030 has given 24 tables and two reports to explicit the cognition framework and project framework, whose main objects are Historical ancient modern city, Consolidated city, Transformation city, Green system, services, infrastructure and facilities, Environmental and agricultural system. In order to create a clear knowledge and avoid redundancy, this section will be divided into three parts by integrating two

frameworks; the first part is dedicated to recognition of Ivrea's environmental and agricultural systems, in addition, it will explicit the specific projects that aim to balance the ecological diversity and provide ecosystem services; the second part will explore the man-made urban systems and historical-cultural heritage of Ivrea; the third part will be dedicated to discussing the transformation areas defined by the PRG 2000, the specific disciplines and strategies given by PRGC 2030. The section aims to explore the connection between Bellavista and territory of Ivrea, to seek the experiences and opportunities that could contribute to urban generation of Bellavista.

4.1.1 Environmental system

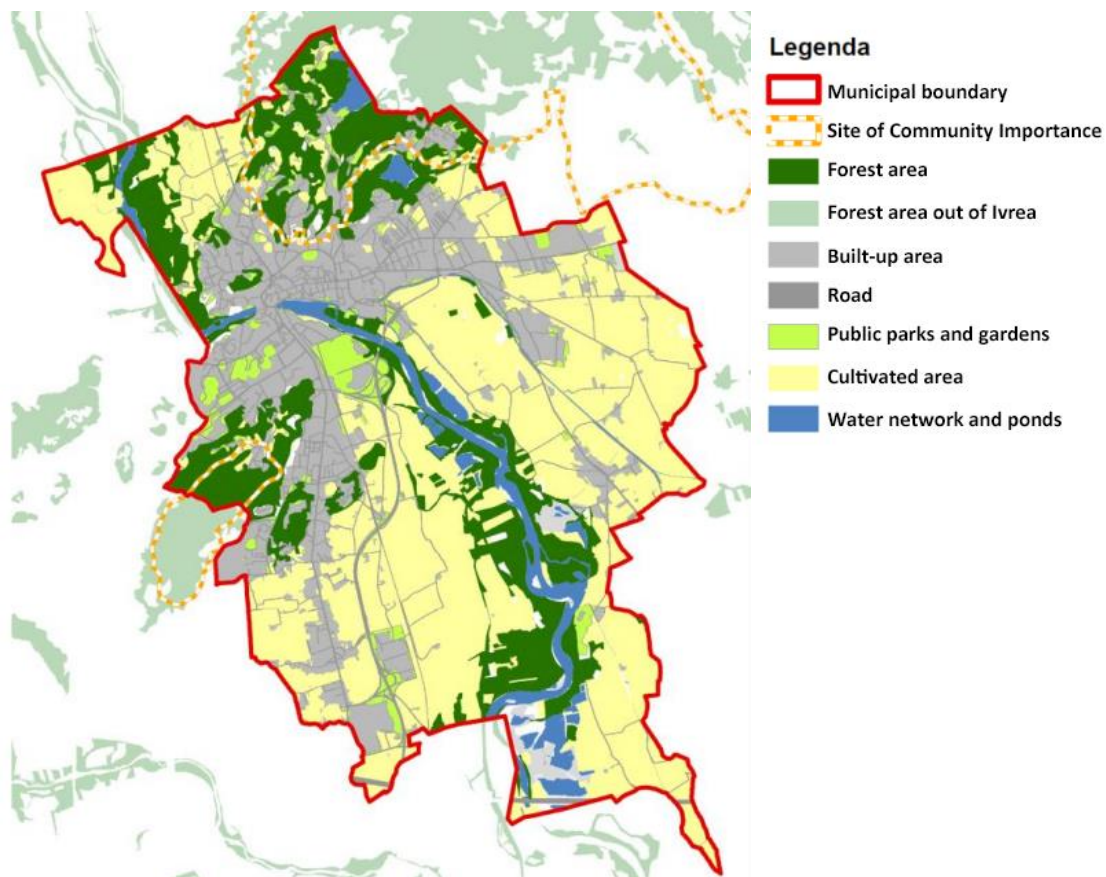


Figure 20. identification of Ivrea's environmental system (Source: Comune di Ivrea)

The environmental system of Ivrea is mainly characterized by two coexisting systems: the forest system is predominantly clustered on the northern and eastern territories of Ivrea; the agricultural system in the form of mosaics is mainly distributed in the plains

of the southeast of the city, its continuity is broken by the Dora Baltea river and the SS26 highway⁴¹.

The agricultural production of Ivrea started to decline when the agricultural economic entities gradually shifted to industrial ones, therefore, there is a significant reduction in agricultural activities compared to the past. The city's agricultural system was once vibrant and produced many high-quality agricultural products, such as Erbaluce; nowadays, viticulture is being abandoned in favor of corn and wheat, crops that can be grown at high densities. Due to the geological structure of the land along the Dora Baltea river, natural and artificial forests for tree cultivation and pastures for fodder production have been established along the river. Poplar forests mainly dominate tree cultivation, with 95% of production.

Despite the obvious decrease in agricultural production in Ivrea city, the city has fortunately preserved its traditional rural landscape of Canavese. The mosaic of agricultural fields, interspersed with connecting paths, are spontaneously used by citizens of the city for sports and leisure activities, as sidewalks, bicycle paths, and jogging paths; indeed, their actions have demonstrated how well the paths meet their needs for sports and leisure space, providing a direction and opportunity for redevelopment of the agricultural system.

The environmental system of Ivrea is composed of wooded and forested clusters that are scattered into the northern sector, the western sector and the sector along the river Dora due to the presence of urban fabrics. The environmental system makes a lot of contributions to the territory of Ivrea, it maintains the biodiversity of the ecosystem, releases the pressure of territorial urbanization, and generates natural ecological landscapes in Ivrea. The Natura 2000⁴² has nominated two Sites of Community Importance (SCI) in the territory of the Ivrea: the western forest sector is named SCI

⁴¹ Comune di Ivrea (2020), Proposta tecnica del progetto preliminare, Relazione illustrativa: quadro conoscitivo, Ivrea, 100-105

⁴² Natura 2000 is the world's largest network of protected area coordination, stretches across all 27 EU countries, both terrestrial and marine, providing a haven for threatened species and habitats; however, Natura 2000 is not a system of nature reserves that excludes all human activities, but aims to protect the ecology and economy of the region using sustainable management practices that pursue cooperation between people and nature. The information is acquired from the website of the European Commission. https://ec.europa.eu/environment/nature/natura2000/index_en.htm

Boschi e Paludi di Bellavista (Forests and swamps of Bellavista), this nature reserve is located immediately to the west of the community of Bellavista, surrounded by the built-up areas of the cities of Ivrea and Pavone, and the SCI straddles the Ivrea – Pvanone border; the northern forest system of Ivrea is a part of SCI Laghi di Ivrea (Lakes of Ivrea) including the lakes of San Michele e Sirio, the rest part of SCI “Lakes of Ivrea” extends towards the forest area of several municipalities from the northeast of Ivrea’s municipal boundary. The eastern SCI is more urbanized, with a part of its interior built up with low-density buildings, providing natural sites with shrubs and woodlands that can serve as green filters on the edge of both cities; the northeastern SCI, which affects the city territory on a small scale, has few man-made areas that serve to protect and enhance the ecological connectivity of the ecosystem diversity.

The linear environmental sector along the Dora river is a coexistence of wooded areas and aquatic habitats which has an elevated environmental value. Even though it breaks the continuity of the agricultural system, it maintains ecological diversity, generates wood production, river landscape, gives more possibilities to the city’s sustainable development in the future.

Due to the ample environmental resource of Ivrea, the PRGC Ivrea 2030 made a series of analyses, in order to evaluate the service capacity of different environmental areas⁴³, in that sense, the ecosystem can function as “territorial tool” in various urban redevelopment strategies. The evaluation aims to figure out different areas’ service potential. The study is composed of six analytic themes, the methodology includes mapping, table, and explicit statement. The six analytic themes are natural heritage and diversity, quality regulation of air and microclimate, areas and routes for sports and recreational use, areas and routes with cultural, artistic, identical value, production of wood. To avoid repetition with the previous contents, the following part will state only three themes, which are Areas and routes for sports and recreational use, Areas and routes with cultural, artistic, identical value, and Quality regulation of air and microclimate. The analysis of these themes can provide ideas and make contributions to the “green development” of Ivrea city.

⁴³ Comune di Ivrea (2020), *Proposta tecnica del progetto preliminare, Relazione illustrativa strategica – elementi essenziali*, Ivrea, 52-60

The evaluation for the indicators is made up of a synthetic mode. The different components listed in the table have qualitative assessments with the rates from very low to very high levels. The data came from the regional, provincial and municipal databases.

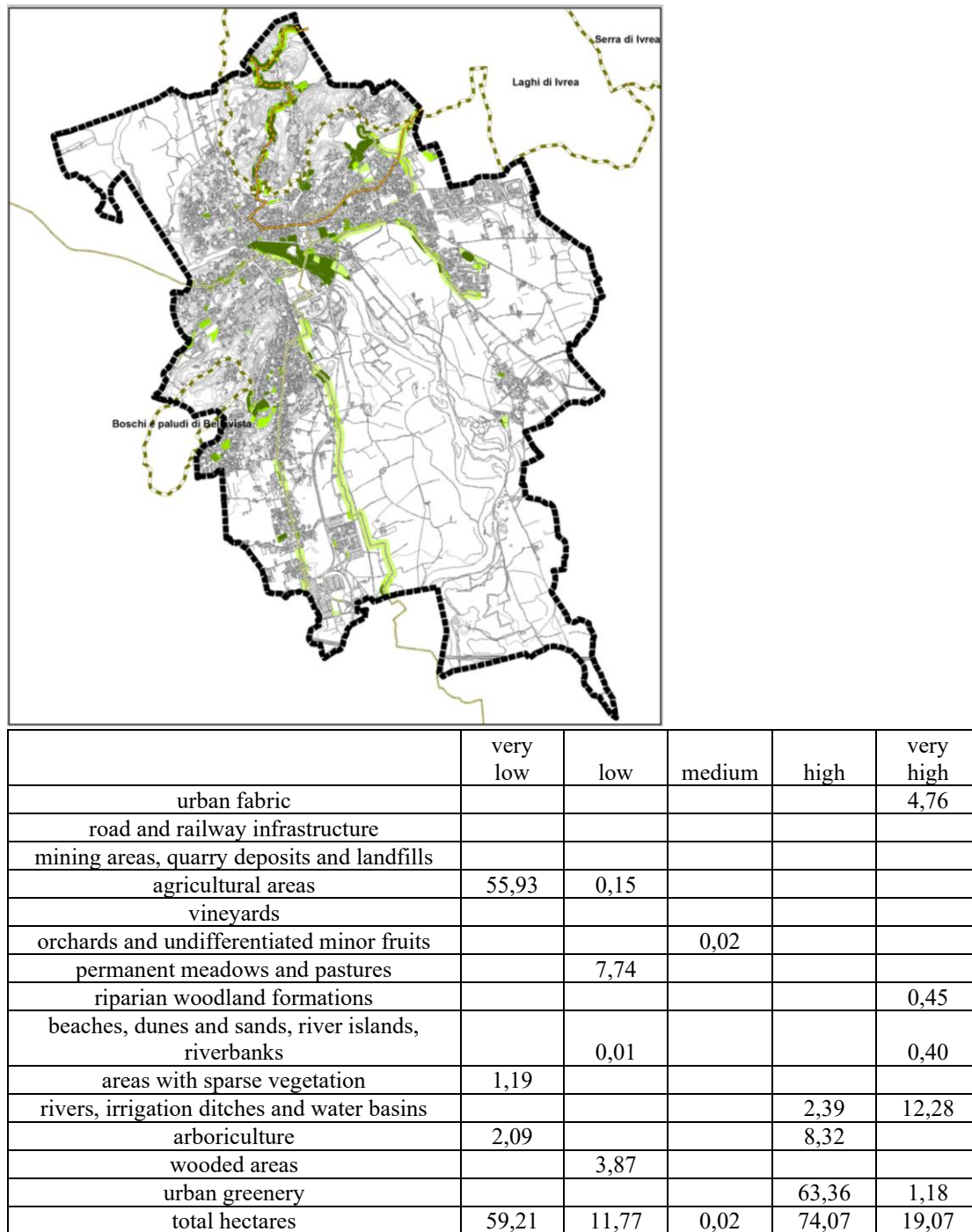


Figure 21. Areas and routes for sports and recreational use and table of data (Source: Comune di Ivrea)

This map and the next map are showing the connection between the unurbanized environment and human activities. According to the study, the unurbanized areas are the potential spaces that could serve citizens to carry out leisure, sports and recreational activities, with the maintenance of the characteristic of landscape. As the map shows that the current state of these footpaths and bike paths is reticular and scattered, there is a lack of connection among them.

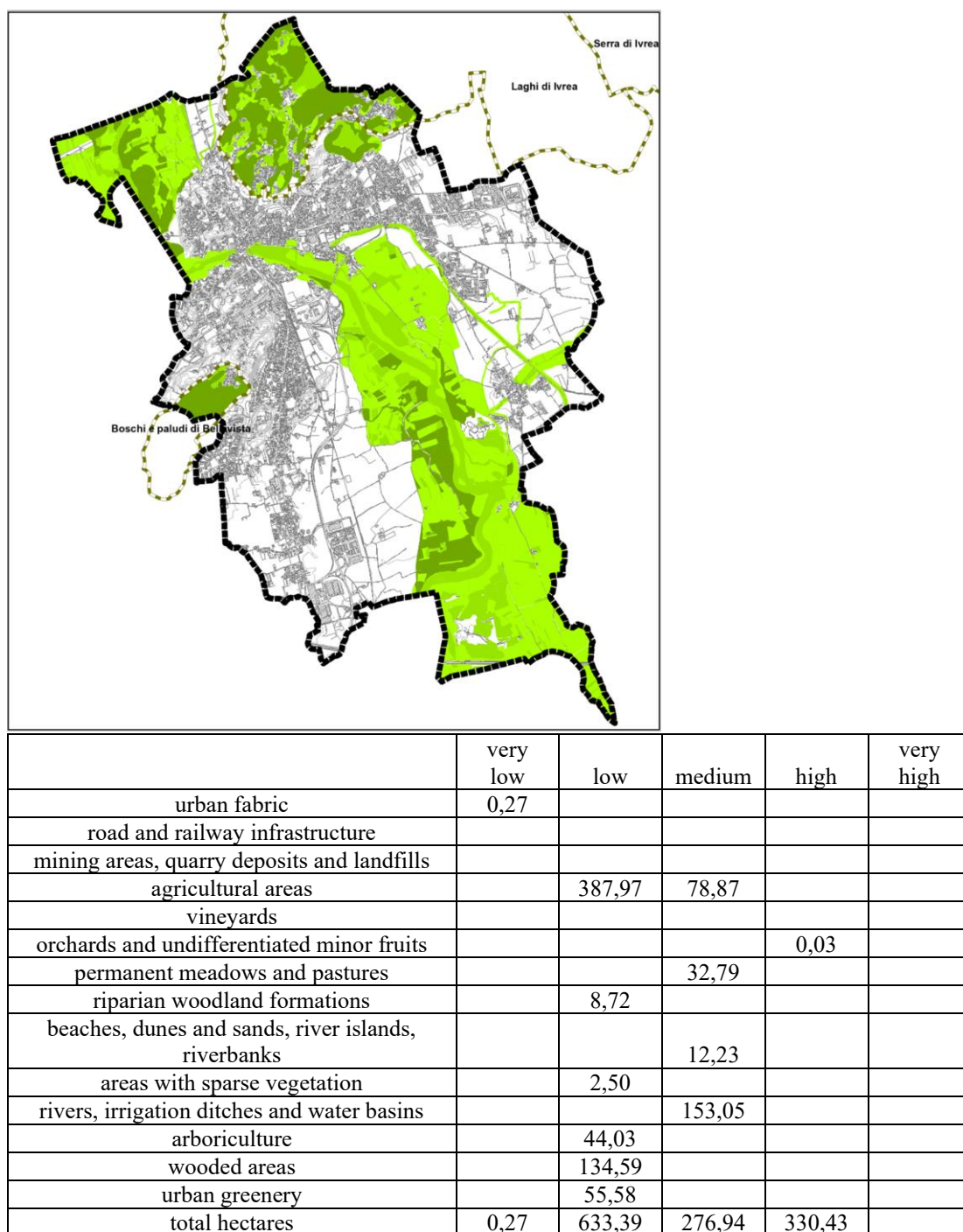


Figure 22. Areas and routes with cultural, artistic, identical value and table of data (Source: Comune di Ivrea)

This map includes the areas recognized as valuable evidence of historical activities, for instance, areas like vineyards, orchards, and hazelnut farms that represent the activities of traditional production of agriculture are considered valuable identical areas. From the point of view of development, it would be a waste not to utilize these areas. Nowadays, agricultural tourism and cultural tourism are new popular business models, these frameworks of development don't create much land consumption and will benefit the local economy in a sustainable way.

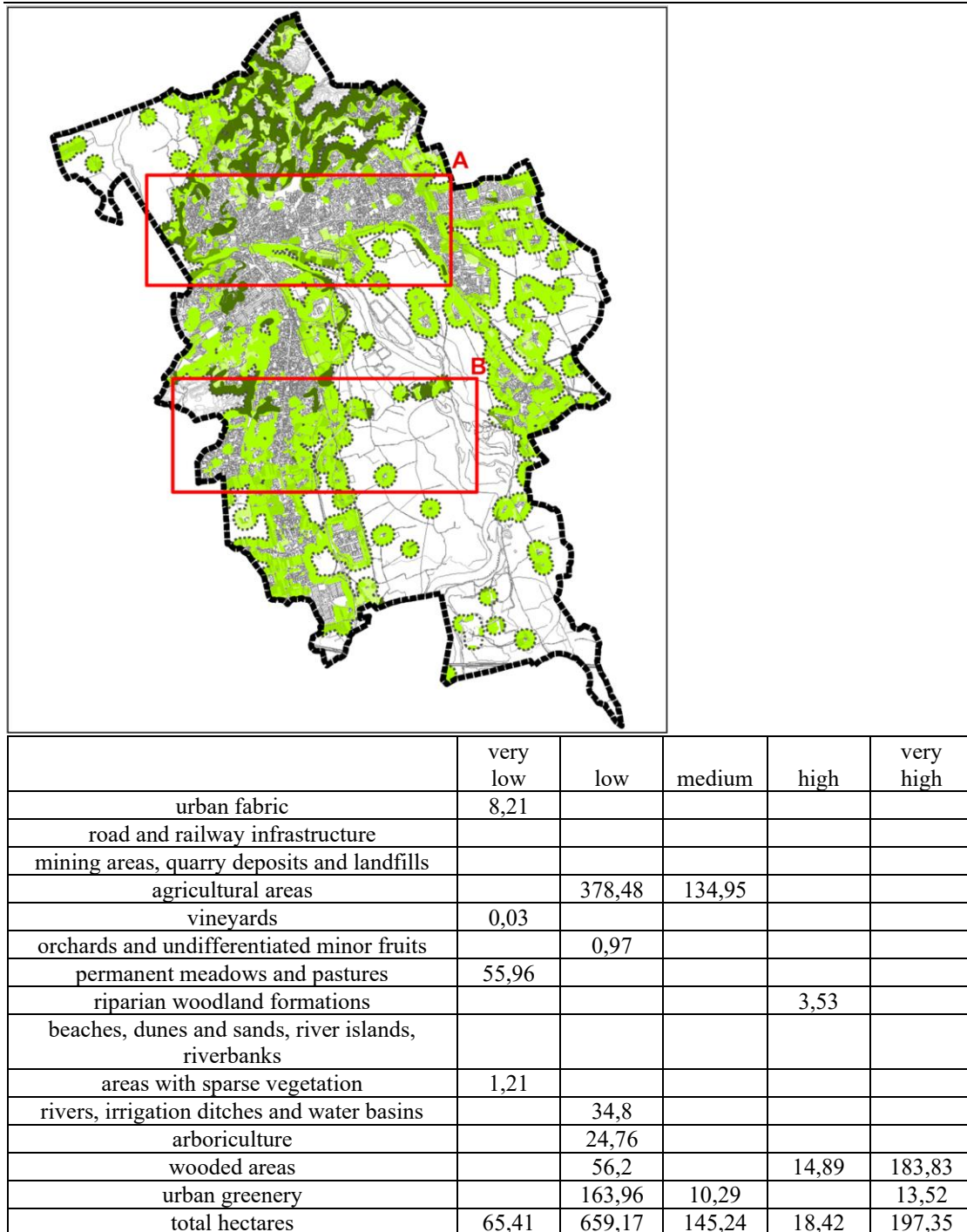


Figure 23. Quality regulation of air and microclimate and table of data (Source: Comune di Ivrea)

Undeveloped areas have higher vegetation cover and therefore play a major role in purifying the air, conditioning local temperatures, and relieving the pressure of land urbanization. The value rating of these green links depends on the carbon sequestration capacity of the trees and shrubs in each area, and their potential to influence the urban environment.

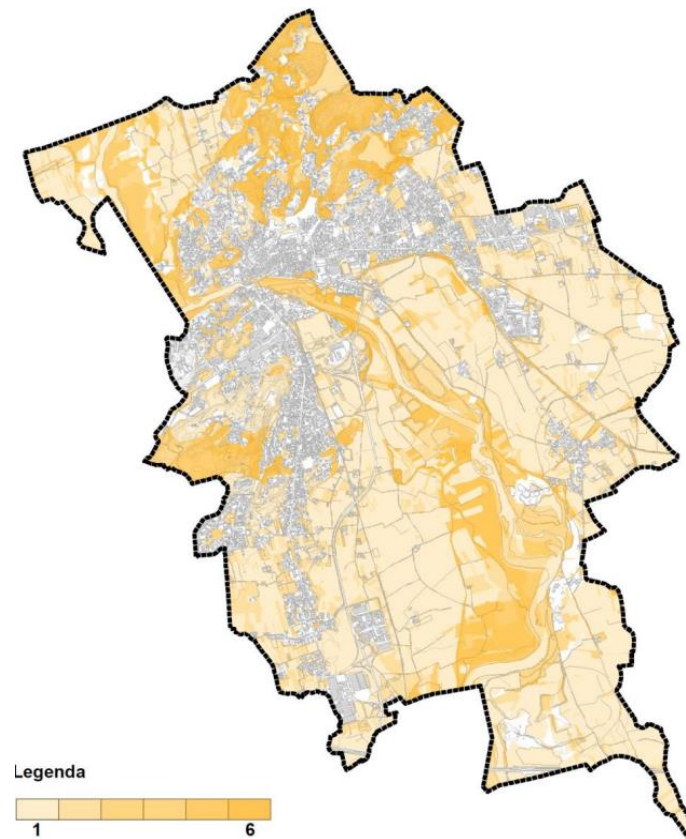


Figure 24. summary paper (Source: Comune di Ivrea)

The final synthesis map takes every single indicator into account to rate the different areas of Ivrea, with a gradient from 1 to 6, representing the increasing environmental value of the region and the service potential. This study is considered as a development guide to reduce unnecessary land consumption, facilitate the redevelopment of developed areas and balance the overall environment. The diverse landscape of Ivrea, besides having a balance of maintaining ecological diversity, has a component of historical evidence. The stability and integrity of the overall landscape today are due to the inclusion of various environmental protection instruments into local plans and regulations, therefore the development plans for Ivrea will involve the protection and improvement of the landscape, with a framework and intervention guidelines that are highly consistent with the objectives and strategies of the PPR⁴⁴ (Piano Paesaggistico Regionale – regional landscape plan).

⁴⁴ Cite from the information sheet of the website of Regione Piemonte: *The Regional Landscape Plan (PPR)*, approved by D.C.R. No. 233-35836 of Oct. 3, 2017 on the basis of the Agreement, signed in Rome on March 14, 2017 between the Ministry of Cultural Heritage and Activities and the Piedmont Region, is an instrument for the protection and promotion of the Piedmont landscape, aimed at regulating its transformations and

4.1.2 Built system

The whole analysis of the framework of the built environment, based on the quantification of PRG 2000, is a fundamental verification of the status of land use, public services, and facilities in the urban territory. First of all, it's necessary to understand the categories of Ivrea's urban fabrics. As mentioned in the first chapter, there are four main categories of urban fabrics: urban fabrics of the historical matrix, urban fabrics of the Olivettian city, urban fabrics of the consolidated city, commercial and productive platforms; they are then subdivided into more sub-categories. These categories of urban fabrics were formed according to the morphology, the urban development, the functional distribution, the ratios of density-volume, building-street, and building-green area⁴⁵.

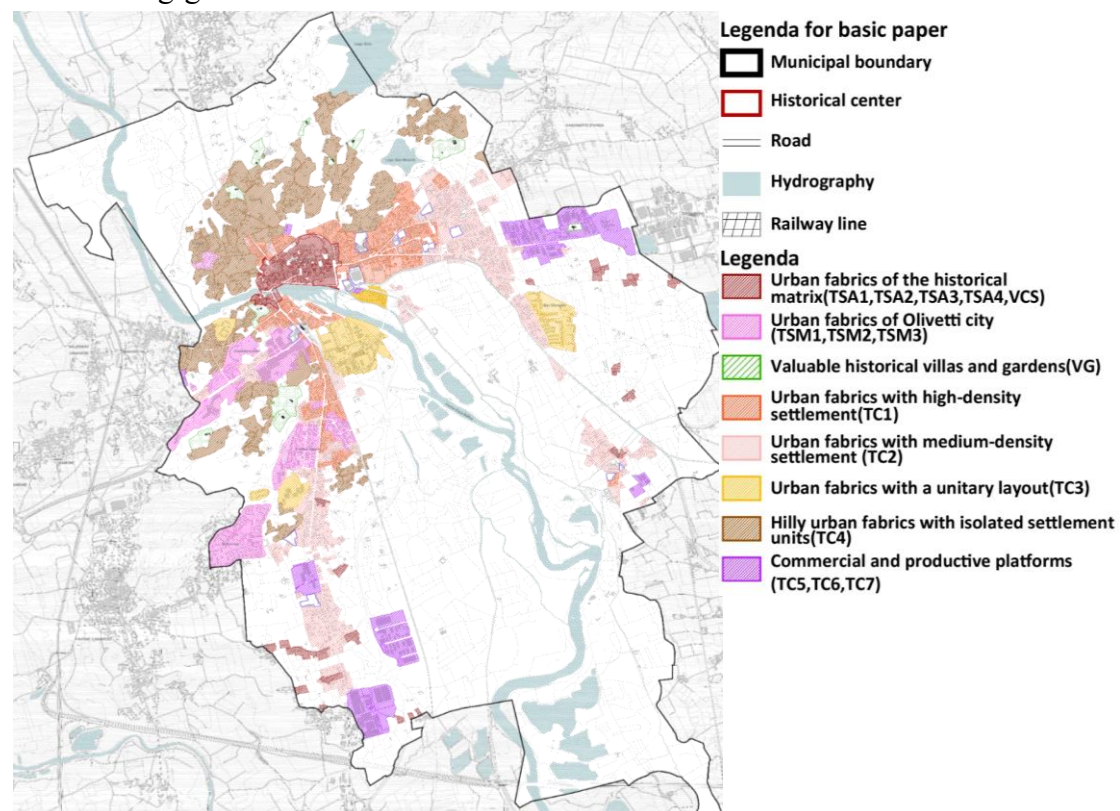


Figure 25. map of urban fabric analysis (Source: Comune di Ivrea)

supporting its strategic role in the sustainable development of the territory.
<https://www.regione.piemonte.it/web/temi/ambiente-territorio/paesaggio/piano-paesaggistico-regionale-ppr>

⁴⁵ Comune di Ivrea (2020), *Proposta tecnica del progetto preliminare, Relazione illustrativa: quadro conoscitivo*, Ivrea, 73-65

The items of legend are made up of main categories and sub-categories, the item 1 is a main category - urban fabrics of the historical matrix, including its sub-categories TSA1, TSA2, TSA3, TSA4, VCS. These abbreviations separately stand for historical fabrics layered over original layout, replacement or extension fabrics, suburban fabrics of historical core, historical suburban fabrics, areas of enhancement of the historical city, in addition, the item 3 valuable historical villas and gardens (VG) is also a sub-category of this main category. This main category identifies the different urban fabrics of the historical city of Ivrea: the TSA1 and the TSA2 contain the areas where the most ancient constructions are located, from the center of the historical city of Ivrea to another side of fortified walls, and most of these constructions are ancient building, palace, square, church, etc; the TSA3 contains the rural complexes that are located in the agricultural areas, they are considered valuable artistic patrimonies and good for the environment; the TSA4 contains the ancient settlements of rural origin once outside of the historical city of Ivrea, the factories generally flanked on the crossing roads.

Item 2 urban fabrics of Olivetti city is another main category that has three sub-categories, these sub-categories are TSM1-fabrics of olivettian modern districts, TSM2- extensive residential fabrics, TSM3- olivettian multifunctional fabrics; a majority of constructions were built between the mid-1930s and the late 1960s, their reuse program is supposed to make a positive effect on the urban regeneration of Ivrea city. The TSM1 contains the fabrics of olivettian housing districts for the company employees, there are some common characteristics of olivettian districts which have been demonstrated in the first chapter. The constructions of the TSM2 were built based on a defined and unitary plant design and supported by the Uccd- Employee Housing Counseling Office of Olivetti company; there is no assumed physical and functional character for the urban design as much as the TSM1, the urban design is quite simple: the single-family houses, semi-detached houses and villas are placed along an allotment street. The TSM3 contains the constructions that were public facilities, open spaces and factories, they were distinguished by two systems; the system of via Jervis(east)-ICO facilities includes the productive facilities and services, such as the ICO buildings, the employee canteen, the churches, etc; the system of via Jervis(west)-office palaces is composed of the settlements located in the terminal part of via Jervis towards Banchette, the core constructions of the west system are represented by the Office Building 1, TAI Computing Center and the surrounding open spaces.

Item 4 (TC1) to item 7 (TC4) are sub-categories of the main category of urban fabrics of the consolidated city. The urban fabrics that belong to this category were essentially constructed since the postwar period and were considered as lacking historical value.

These urban fabrics are composed of blocks or parts of blocks consisting of the aggregation of buildings with their appurtenant open spaces. The constructions of each sub-category were built based on homogeneous rules of layout: subdivision of land, arrangement, and relationship to roadways. The TC1 (fabrics with high-density settlement types) is represented by the fabrics of the first expansion beyond the fortified walls of the historical city of Ivrea; they are predominantly over three-floor heights residences with tertiary and commercial uses. The TC2 (fabrics with medium-density settlement types) was developed with the formation of piecemeal, saturating fringe areas and through unified public and private projects, extensively sprawled a substantial part of the suburban from the 1960s to 1990s; the fabrics were characterized by the extensive residences under the three-floor heights. The fabrics of the TC3 (fabrics with a unitary layout) were formed by unitary interventions with the homogeneous urban layout of the general grid; the building types of residences are linear multi-floor buildings, isolated tower buildings with green space, and terraced buildings of one or two floors. There are two types of fabrics of TC4 (hilly fabrics with isolated settlement units). The low-density type is characterized by an organizing principle that one-family or multi-family villas are isolated in the center of the lot with the presence of private greenery, and they are distributed along the hillside; the other type is the aggregation of villas or isolated houses with large green spaces in the higher hill areas, equipped with parks and gardens.

Item 8 is another main category - commercial and productive platforms which contains sub-categories TC5(environmental redevelopment fabrics), TC6(multifunctional activity fabrics), TC7(fabrics for productive activities). The three different sub-categories represent three different productive activity polars: the TC5 contains heterogeneous constructions with urban and environmental degradation, and they have various morphological discontinuities, building typologies, functions, these constructions are a part of the redevelopment of the fabric via Burolo; the TC6 is the coexistence of different production, it has the medium soil permeability, it predominantly contains constructions like medium and small pavilions and sheds; the TC7 predominantly has the artisan-industrial productions with low permeability, the constructions there are large and medium-sized production facilities.

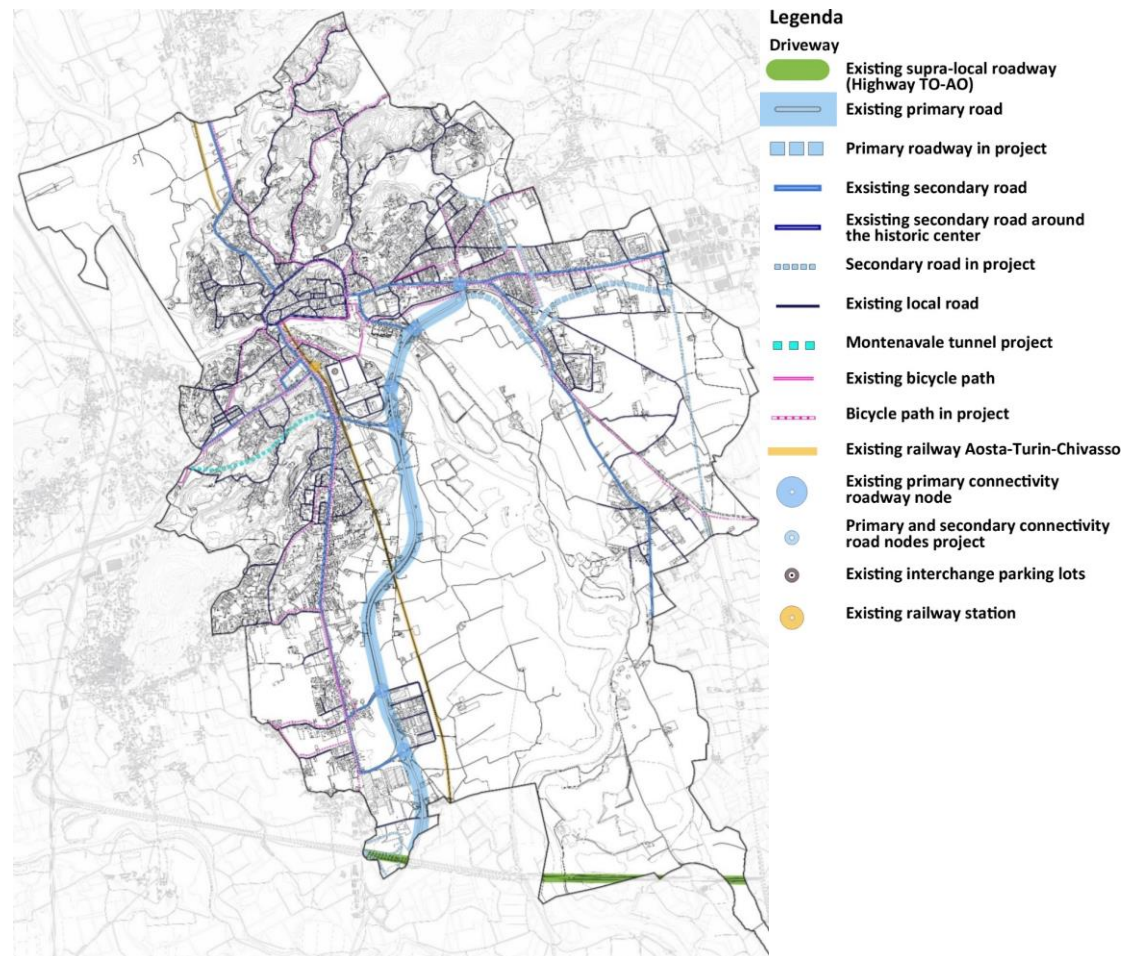


Figure 26. map of mobility in Ivrea (Source: Comune di Ivrea)

The only one existing principle road is the SS26 highway, which runs from the southwest agricultural area to the northeast of the city, crossing the Dora River by Ex Montefibre and ending at the intersection with the Corso Vercelli. The proposal for this road is to expand eastward along the border of the agricultural and urban areas before intersecting with the Corso Vercelli. In fact, Ivrea's road hierarchy is not complicated, with the exception of the SS26 highway, which is simply categorized as a secondary road and a local road. There are three main compositions of the secondary road system: the southwest part contains Via Torino and its branch that connects to SS26, Via Jervis, and Via Giuseppe di Vittorio; in the northern part of the city, the secondary road system includes Via Aosta and the Corso Giuseppe Garibaldi, Corso Re Umberto I, Corso Botta and Via Circonvallazione, which surround the historical city of Ivrea; Corso Vecelli and Via Casale extend east and southeast separately. The expansion of the secondary road system starts from Corso Vercelli, to the northeast and southeast. The local road system is not very dense either, except for a few roads in the city center that are paved inside the blocks but generally run along the periphery of the blocks.

In addition to the expansion of motorized roads, the construction of eco-friendly cycling lanes is also on the agenda. The existing cycling paths are just a few scattered in the city center, and its expansion plan is to create a widespread network of cycling paths throughout the entire city. The cycling networks expand towards the urban edge along the tracks of the road network at all hierarchy levels: in the southwest, it mainly follows the tracks of secondary roads, and in the northeast, it covers most of the grid of local roads. It's a pity that the agricultural area is not covered by the cycling path network.

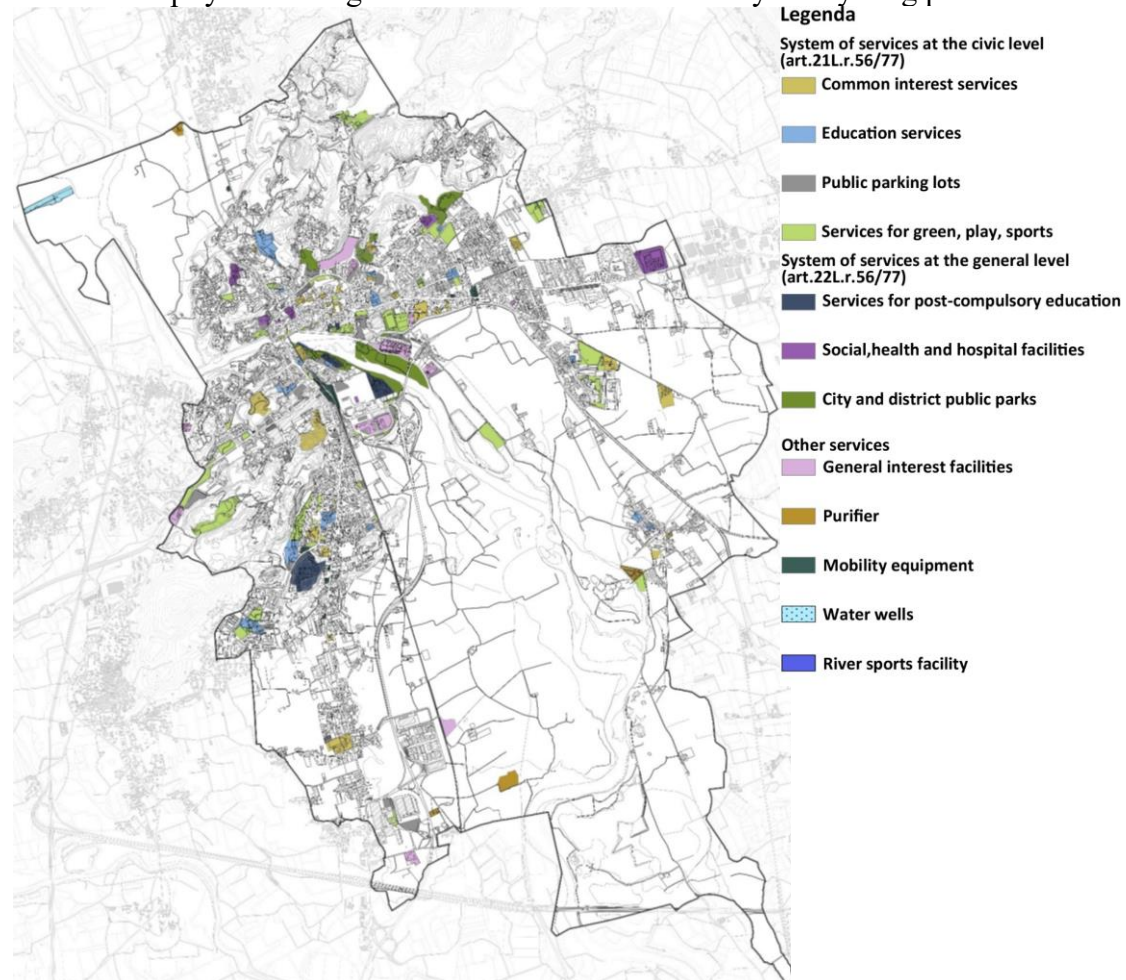


Figure 27. map of the provision of equipment and services (Source: Comune di Ivrea)

Public services play an important role in the daily lives of citizens, Public services play an important role in the daily life of citizens, and the verification, classification, and updating of these services ensure the functionality of the entire service system. One of Olivetti's valuable heritages to Ivrea is the provision of services in a tangible and concrete way for the welfare of the people. The demand of the citizens for public services is not only at the quantitative level, not simply for more public services, but

for high-quality public services with efficiency, convenience and comfort⁴⁶. This mapping has categorized and quantified the public services of Ivrea, based on the quantification of the PRG 2000; each item of the legenda is a set of services.

As shown in mapping, the small-scale civic interest services are mainly concentrated in the center of Ivrea city, and this kind of service is mostly in the form of medium-scale aggregation in the southwestern and eastern urban areas. This sort of service is made up of public institutions, such as churches, libraries, archives, associations, etc. It's verified by the term art.21 L.r.56/77.

The education services are separated into two sorts, the civic level includes kindergartens, elementary schools, and middle schools, while, the general level represents high schools and beyond. It is well known that Olivetti considers the care and education of its employees' children, in general, the residential communities in which Olivetti was involved in the planning are equipped with kindergartens, which explains the relatively high density of educational services in southwest Ivrea. However, civic-level education services are widespread throughout Ivrea, the few education schools are mostly concentrated in the center part of Ivrea city, and only one is located in the southwest hill.

Regarding the green space of Ivrea, there are also two different levels of it. The civic-level green spaces mostly are construction appurtenances, sports activity fields, and non-functional green lands, from point of the sustainable development, they are the potential areas. The general-level green spaces are located on the border of the urban areas and environmental areas, they provide ecological services, but this service wasn't verified by term art.22 L.r.56/77.

The services that are most closely linked to the welfare of the citizens are the social and medical services system. Only a few service buildings are identified in the mapping, but there are actually some clinics and medical institutions that are not counted. Although this service has been verified by term art.22 L.r.56/77, now that the population is aging, coronavirus disease is spreading, and the city needs to be redeveloped, this standard achieved in terms of quantity is no longer relevant for reference, as citizens expect a high-quality public service.

⁴⁶ Comune di Ivrea (2020), *Proposta tecnica del progetto preliminare, Relazione illustrativa: quadro conoscitivo*, Ivrea

4.1.3 Strategic projects

The urban transformation plan of Ivrea has been officially implemented since 2006, when the urban planning PRG 2000 was adopted. Its strategic objectives were explicated by relevant spatial systems which were mobility, agriculture-environment and settlement; in summary, the major objectives are: -strengthening infrastructure to improve urban services and accessibility, -strengthening production options to develop a new economy, -improving the landscape system and settlement system public services, -assessing the preservation of the historical and cultural heritage and the Olivetti communities⁴⁷. In order to achieve these strategic objectives, the PRG 2000 identified the transformable areas in Ivrea, then, categorized and coded these areas according to their functional structure. The original sorts of these transformation areas are ATS – Strategic transformation, AR – Urban regeneration, AQ – Qualification of urban and environment, AT1/2 – Transformation of urban and environment, API – Transformation for multi-function integrated activities, AIA – Transformation for artisanal and industrial activities, AS – Transformation for services.

These projects of urban PRG 2000 have been implemented during these years, but there is still a large portion of the projects that have not been completed, nowadays, the municipality is carrying out the new urban planning, the PRGC Ivrea 2030. The Ivrea 2030 has kept most of the previous transformation areas, but, the new PRG updates the strategic objectives, there are also relevant alterations and updates. Under the vision of improving the quality of life of the inhabitants and promoting the development of the city, the PRGC Ivrea 2030 has proposed six strategic areas of research value: Accessibility and Infrastructure, Dora River Park, Urban Areas Compensation, 5 Lakes System, Regeneration of Degradated Areas, Attractive Poles. The Attractive Poles is the most achievable in the short term, for which the PRGC has made detailed strategic projects, which will be implemented in AS1-AS5 of the urban transformation area.

IVREA has lost its centrality in the CANACVESE region since the 90s, when the industrial economy began to decline due to the economic crisis; in the last 20 years, IVREA has been recovering its identity as a core area in the CANACVESE region by developing its public tertiary sector, increasing its capacity to act as a regional service

⁴⁷ Comune di Ivrea (2020), *Proposta tecnica del progetto preliminare, Relazione illustrativa: quadro conoscitivo*, Ivrea, 23 - 30

center and consolidating its service characteristics⁴⁸. The whole strategy Attractive Poles aims to enhance the super-municipal character of Ivrea city through its main service-related attractions.

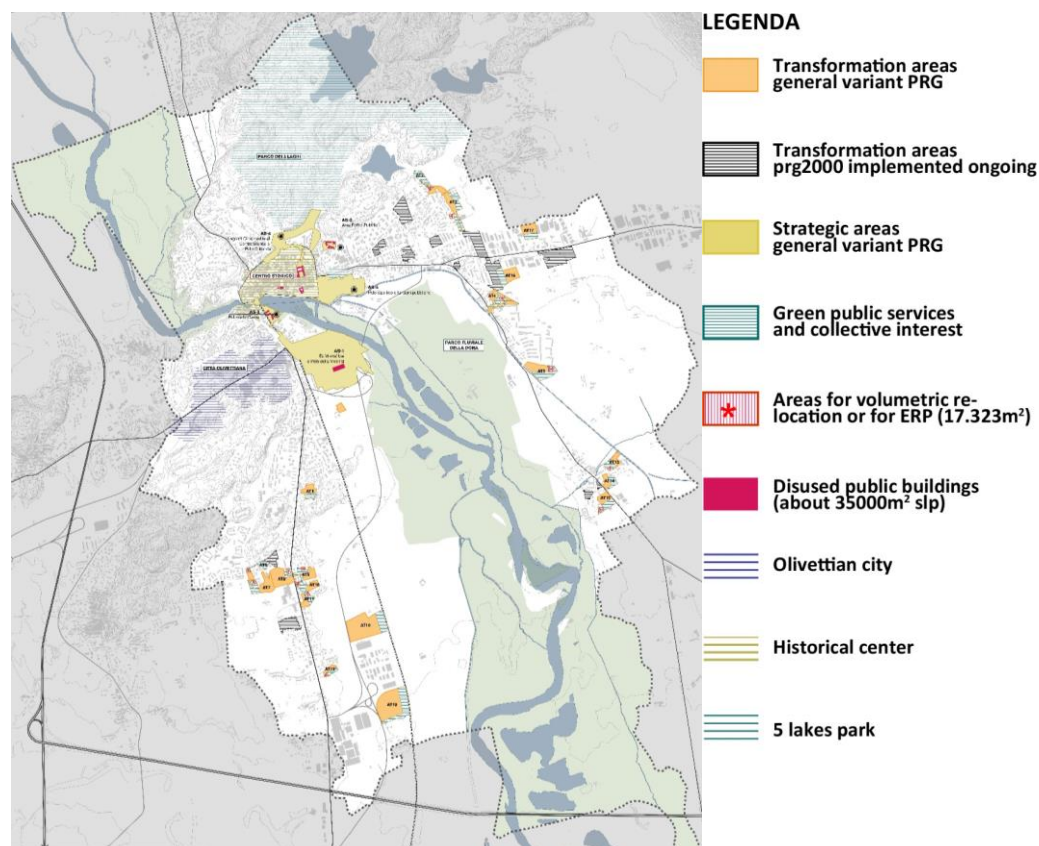


Figure 28. map of Areas for the relocation of volumetric rights (Source: Comune di Ivrea)

AS1 is a complex that contains Mobility Pole and Ex Montefibre. Mobility Pole is a part of strategy Movicentro which is proposed by PRG 2000, and it functions as an intermodal center near the train station of Ivrea, making contributions accessibility of Ivrea. The Ex Montefibre area will accommodate the construction of services such as shopping centers, courts, poly clinics, and residential buildings, etc. The location of AS1, close to the intersection of Via Jervis and Via Torino, and with the Dora River to the east of the site, gives AS1 the advantage of not only connecting the historical city of Ivrea to Via Jervis, but also to the bike path that extends over the river.

AS2 Public building complex is a building requalification project. The project aims to create an education complex with a running administration building and an abandoned public building. The cycling path will pass through the area.

⁴⁸ Comune di Ivrea (2020), *Proposta tecnica del progetto preliminare, Relazione illustrativa strategica – elementi essenziali, Ivrea*, 17 - 21

AS3 Canoe Pole will be turned into a water sports service center. It is strategic to promote sports and tourism services, in terms of tourism, because Ivrea is a popular national and international destination for the sport of canoeing. This project could strengthen Ivrea's sporting and cultural identity.

The area of strategy AS4 Lake City is an aggregation of local markets on the north of the historical center nearby the SS26 highway. It has declined before because of the presence of hydrogeological hazards; the loss of adequate spaces led to the depopulation of the market. Thanks to the construction of INAIL, LIDL, a series of geognostic investigations has been carried out, the geological intervention was commissioned by the Ivrea municipality. The presence of the market bonding with the commercial area of the historical center is considered a historical service pole that plays an important role in the city's cultural identity. The SS26 highway makes convenient accessibility for vehicles arriving at the market, however, in order to enhance the connection between the historical center and the market, there will be three elevators in construction that connect separately to Castle Sabauda of Ivrea, Ottinetti square, and Costantino Nigra civic library.

AS5 - Sports Pole with public functions is supposed to have a sports camp and a swimming pool, the disused craft buildings will become the site for events. This transformation complex is located between garden Giusiana and the cemetery by the riverside, formed by several previous transformation areas. The cycle path extends from the historical city of Ivrea and crosses the River Dora, passing through the complex.

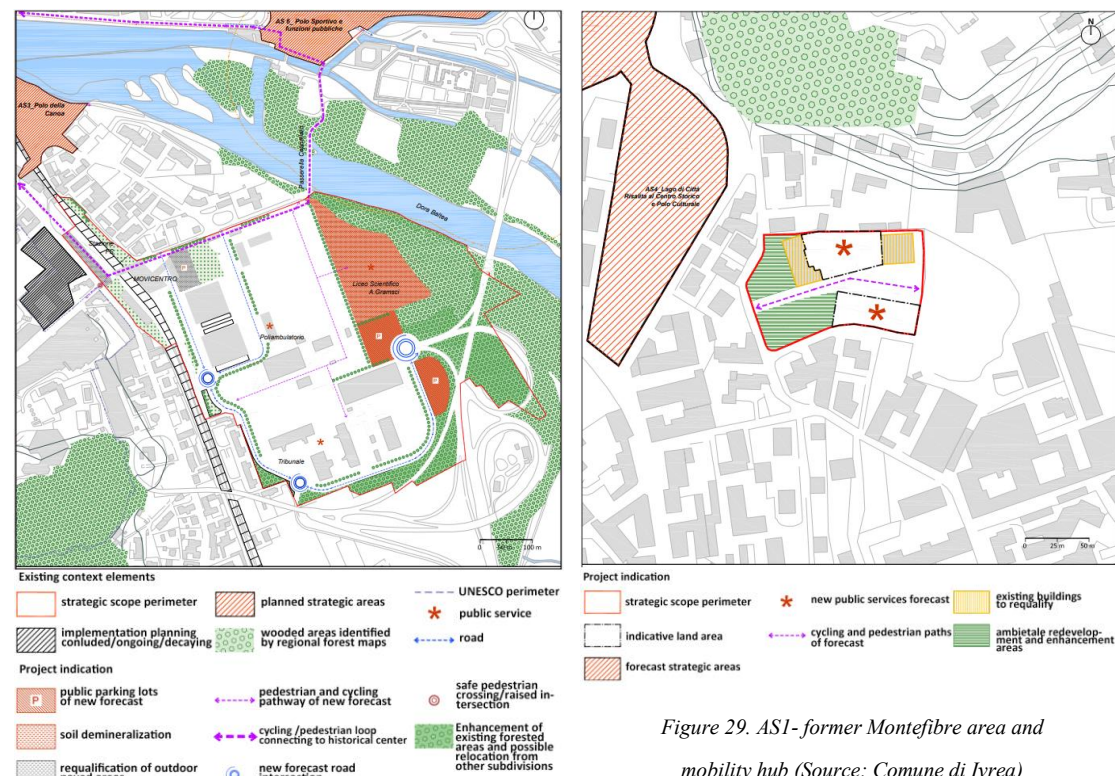


Figure 29. AS1 - former Montefibre area and mobility hub (Source: Comune di Ivrea)

Figure 30. AS2 - area of public buildings (Source: Comune di Ivrea)

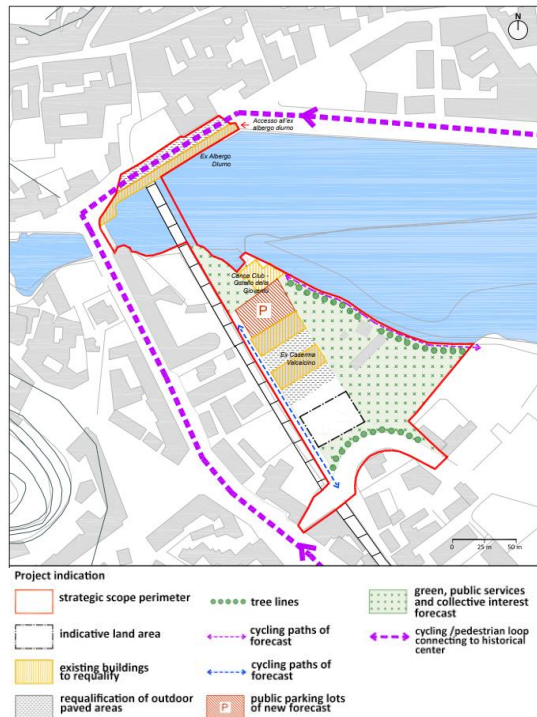


Figure 31. AS3 - canoe pole (Source: Comune di Ivrea)

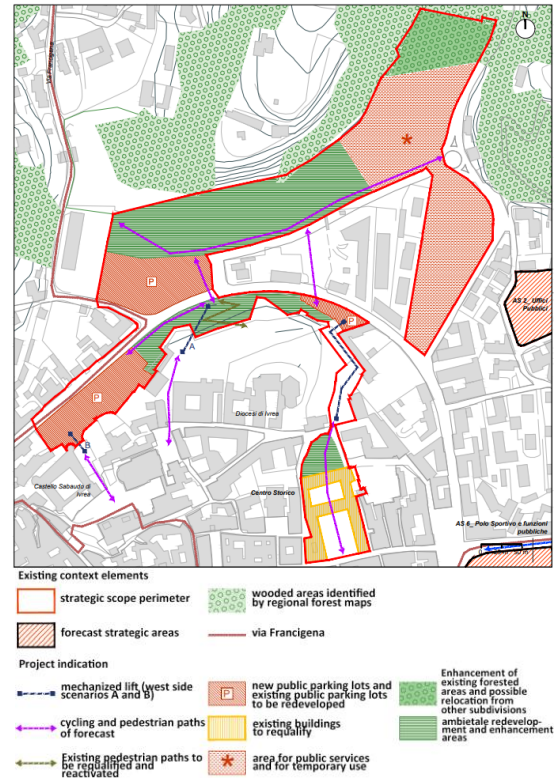


Figure 32. AS4 - City Lake, Rising to the Center Historical and Cultural Center (Source: Comune di Ivrea)

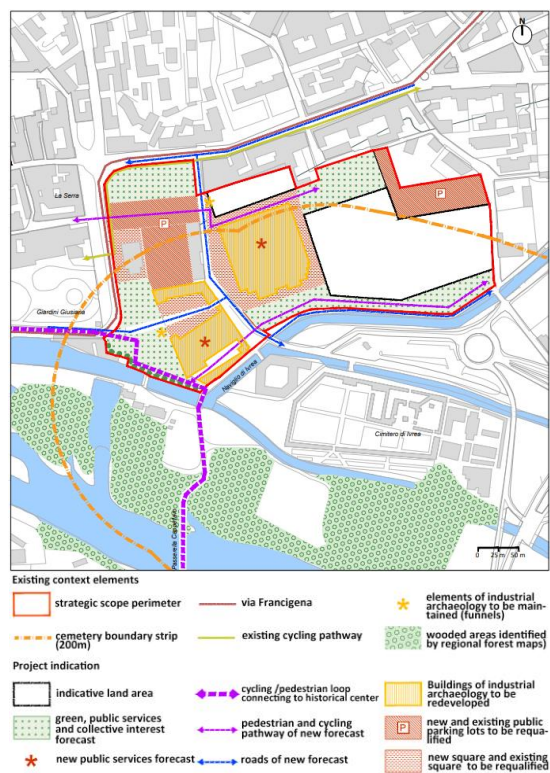


Figure 33. AS5 - public function and sports pole (Source: Comune di Ivrea)

4.2 INITIATIVE REQUALIFICATION OF BELLAVISTA

4.2.1 Supporting legislations - Integrated programs

Until now, urban regeneration has not found a complete definition in the national legal system, and although it has been mentioned several times in national legislation, the definition has not always been consistent in numerous regional laws. In summary from the pieces of literature and public debates, urban regeneration refers to a set of programs for the restoration and reconstruction of real estate and spaces within the urban context, aiming to safeguard the quality of life in environmental and social dimensions, especially in the most degraded urban areas and suburbs. These interventions aim to address the existing building stock and limit land consumption while preserving the landscape and environment. Nevertheless, the architectural intervention is not the core of the program, but one of the relevant fields of intervention; the implementation of the interventions should be integrated and aimed at achieving sustainable development, with CO₂ reduction and energy transition as one of the priority objectives. The concept of urban regeneration thus becomes a transversal paradigm for multiple public policies aimed at protecting the environment and landscape - especially through the control of land consumption and restoration. Social and cultural policies are developed, targeting not only peripheral or physically degraded areas, but also those with low-quality services, social decay, economic difficulties, cultural deficits, incomplete areas, and areas with concentrations of the most vulnerable parts of the population.⁴⁹ In order to more systematically manage and finance these interventions, a series of policies on urban regeneration were initiated in Italy.

The origins of the integrated programs can be traced back to the experimental program L.457/78, art.2 advocated in 1978, a set of programs aimed at coordinating different sectors of intervention from public to private, from residential to services, however, the L.457/78 funded specifically the rehabilitation of individual building units and not urban regeneration, it did not effectively solve the problem created by the great expansion of the 1970s, which brought about the dysfunctional development of land, the waste of buildings, the lack of services, the illegal use of buildings, and the need to renovate and redevelop. The innovative surge since the early 1990s, with the

⁴⁹ CRESMA (2022), *Le Politiche di rigenerazione Urbana: prospettive e possibili impatti*, Servizio studi - Dipartimento Ambiente, 14-15

regulations on integrated programs, developed a strong link between established regulations and innovative interventions in the territory. In an attempt to initiate concrete urban requalification policies and solve urban problems, the regions are the first to operatively institute integrated programs with their own devices. Integrated Programs became nationwide operational, thanks to the enactment of laws: L.179/92 on Programmi integrati di interventi - PII (art.16) and on Programma di Riqualificazione Urbana - PRIU (art.2); L.493/93 on Programmi di Recupero Urbano - PRU (art.11); the ministerial decree DM 22 ott.1997 on the first version of I Contratti di Quartiere – CdQI; the L.21/2001 on the second I Contratti di Quartiere - CdQ II.⁵⁰

The PII are integrated programs promoted by municipalities in order to redevelop the urban, architectural and environmental fabric. They are characterized by the existence of multiple functions that integrate different types of interventions, including urbanization works, dimensions that affect the restructuring of the city, and the integration of public and private financial resources that may be involved. The PII operates can be public or private subjects, individually or in a joint form, submitting to the municipality an integrated proposal for the regeneration of the city and the environment; when the proposals are approved, whose areas may use part of the money allocated to them under this law for the development of integrated program (L.179/92 art.16). The PRIU's guiding role is entrusted to the municipalities, who specify objectives and contents of possible PRIU program, delimit the areas where private individuals can also submit their proposals on, and ultimately submit the program to the Ministry. Municipalities submit applications to the Housing Committee (Cer - Comitato per l'edilizia residenziale), which makes the selection and disburses funding directly, the selection will be approved by the State-Regions Conference. The ultimate objective of the PRIU is to achieve the spatial and functional redevelopment of degraded parts of city, through functional renovations on the buildings and an organic set of interventions covering both primary and secondary urbanization, as well as residential and non-residential development⁵¹.

⁵⁰ S. Visone (1999), *Riqualificazione e recupero urbano, nuovi strumenti per la riprogettazione della città*, Napoli: ITA

⁵¹ S. Saccomani, *Programmi complessi: una rilettura delle esperienze, Valutare i programmi complessi*, Regione Piemonte: Stamperia Artistica di Savigliano, 15-38

In terms of statistical data (number of government allocations and number of involved projects), the PRU program and CdQI, II are very important urban regeneration intervention programs. The programs of PRU inherit the restoration plan of the 1970s (L457/78, art.2) and aim at an integrated intervention at the physical level of the degraded buildings, unlike the previous ones, the PRU intervention programs will consider the relationship between infrastructure, environment and architecture. The CdQI drew on the innovative experience of the URBAN program (1994-99), with multifaceted interventions that can improve the quality of housing, such as the renovation of building complexes, energy efficiency, and the introduction of new services. The CdQ II is an advanced program based on CdQs I, structuring a series of multidimensional actions such as improving infrastructure, valorizing historical and environmental resources, supporting local businesses, and changing social decline, to achieve the ultimate objective of renewal of the area's image. The participation of residents is particularly important in both programs.⁵²

In the recent years, the territory is no longer considered as a mere support of functions and interventions, but as a multi-dimensional and complex entity with its own local specificities, history and identity: these local specificities are considered as extraordinary and non-reproducible resources, determinants of endogenous development practices; they are fundamental aspects that are supposed to be recognized and enhanced by policies in the processes of development. In this context of territorial orientation, the strategic objectives of those instruments considered as having the capacity for local development effects are characterized by promoting the actions of local actors in generating innovation; strengthening the quality of the local environment by improving its performance and competitiveness; developing institutional mechanisms to combine different resources and actors, both public and private; and promoting cooperative behavior to create a local community. These issues are mainly addressed by programs of PRUSST (DM.8.oct.1998) and negotiated planning instruments (Patto territoriale - L. 622/ 96 and Contratto d'area). PRUSST can also play

⁵² C. Morandi, G. Pessina, L. Scavuzzo, (2010), *Innovative tools for the rehabilitation of the housing estates in Italy: three examples*, CIUDADES 13, 103 - 122

a role in coordinating other development interventions, flanking and ordering other initiatives in the territory (e.g. negotiated planning instruments)⁵³.

In the same way that there is no precise definition of the subject of urban regeneration, it is difficult to develop a standardized model of interventions for the redevelopment of housing communities. Therefore, flexible and innovative instruments are needed to effectively integrate the functional, resource, economic, cultural, managerial and environmental aspects of the community territory to complete the reconstruction of the living environment, open spaces and public spaces. Public participation plays an important role in the process's initiation phase, and the population's structure is an important factor that cannot be ignored in a redevelopment plan. From a series of urban regeneration legislations and their updates, it can be seen that the quantitative expansion of cities has left the main stage of urban planning history, and urban regeneration with sustainable characteristics is the main theme of urban planning nowadays.

4.2.2 Framework of requalification in Bellavista

4.2.2.1 Spatial diagnostics

The construction of the Bellavista district was financed by INA-Casa plan, Olivetti company and Gescal, IACP, Olivetti company respectively in the early and late stages. It is first identified as an olivettian district because it was built in the 50s and 60s socio-economic context to response the “Community” spirit of A. Olivetti and it is also one of the INA-Casa districts that have scenic views and were built on the mankind scale with local materials and methods. The constructions of the INA-Casa were designed and built under the modern criteria of the last century, representing a significant national experience of standardization in terms of social housing typologies and facilities; however, different levels of inadequacies have appeared as a common problem in these districts.

In many INA-Casa districts, the high-quality open spaces and collective facilities, which used to be an important factor in guaranteeing the welfare of residents, have deteriorated rapidly with the privatization of housing and the disappearance of management bodies and neighborhood custodians. In Bellavista, its collective facilities so-called Social Center was built in the internal area of the district and was supposed to

⁵³ S. Saccomani, *Programmi complessi: una rilettura delle esperienze, Valutare i programmi complessi*, Regione Piemonte: Stamperia Artistica di Savigliano, 15-38

provide comprehensive public services for the residents, including sports areas, education facilities, a theater, a park, an administrative center, and a commercial area. The Social Center continues to function, with stores, church, civic center, school, gym, these basic services that require regular staff to operate on a daily basis, always turning the wheels of work; but the recreational areas such as sports fields, theater, and park are not alive. The courts of basketball, tennis, volleyball and roller skating rink have been damaged and neglected due to the lack of maintenance and management. The former theater and game bowl field are now a workshop of handmade woodwork, which is one of the few building function transformations that have positive impacts in this neighborhood, the workshop staff can keep this area running and maintained on a daily basis. The wide park is maintained as clean and green as ever, except for a few residents who walk their dogs, there's not much use of it.

Most of the buildings in the community present the same architectural language, and the whole community presents a harmonious homogeneity. Most of the walls, window frames and balconies of the building façade are in good condition, and there is no obvious damage; The building façade of a few buildings is obviously damaged, for example, the window frames are aging and blackened, the balcony is moldy and partially peeling, the brick walls are moldy and mossy, etc. In addition, the apartments designed for working families in the last century are inadequate to meet the needs of contemporary users; for example, most residential buildings are not suitable for elderly or disabled residents, and their energy performance largely fails to meet current standards for providing appropriate levels of indoor comfort⁵⁴. Because residential areas are external spaces wrapped around collective facilities, their subsidiary open spaces are connected to driveways to ensure the accessibility of the district, however, due to the open spaces of buildings away from parking lots suffering from the chaotic parking of vehicles, a guideline on the parking route could make a contribution, in case there is an emergency.

⁵⁴ L. Marchi, E. Palumbo, A. Lombardi, E. Antonini (2017), *Ina-Casa La Fiorita. A system for the shared regeneration of social housing*, TECHNE: Journal of Technology for Architecture and Environment (Issue 14), Firenze University Press



Figure 34. former theater, current center of Consorzio servizi sociali in Rete



Figure 35. former roller skating rink, current small football camp



Figure 36. basketball court, and tennis court



Figure 37. abandoned part of gym



Figure 38. children activity area in the park



Figure 39. multiple-floor building in good condition



Figure 40. multiple-floor building with garden in good condition



Figure 41. multiple-floor building in good condition



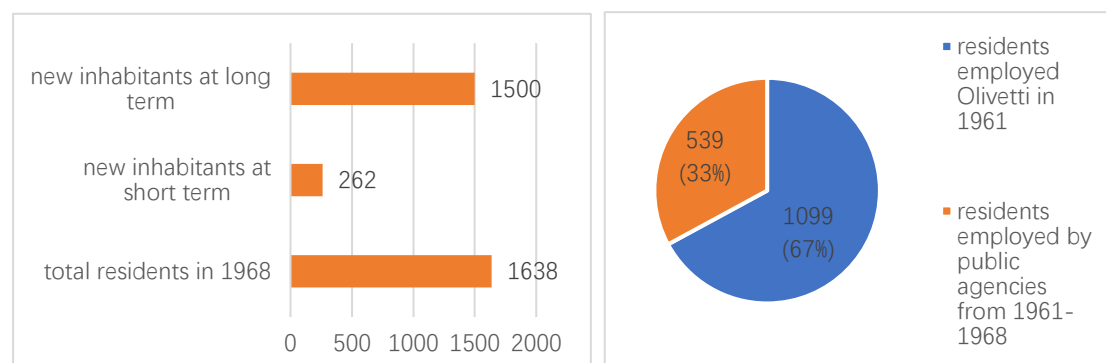
Figure 42. damage balcony of multiple-floor building



Figure 43. Moldy wall of building

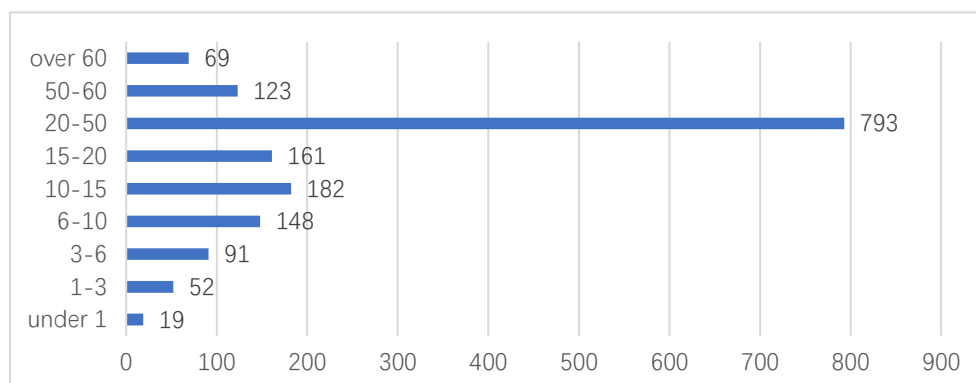
4.2.2.2 Demographic surveys

After the part of the spatial diagnostics of the district, this section will show the social structural changes in Bellavista district through the analysis of demographics. The demographic survey that was acquired from the association Archivio Storico, was carried out by studio of Gabetti e Isola in the 60s.

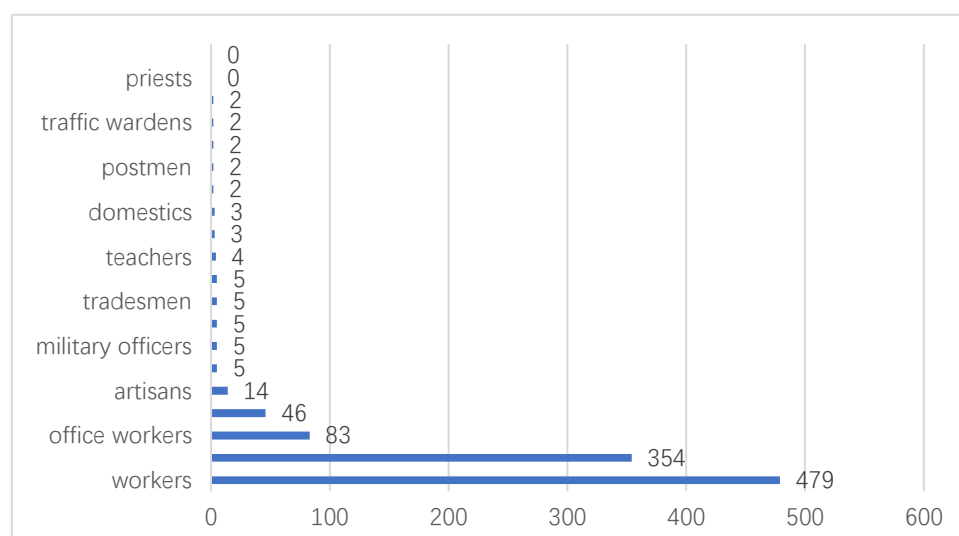


Graph 1. Total and estimated residents of Bellavista district in 1968 (Source: Associazione Archivio Storico Olivetti)

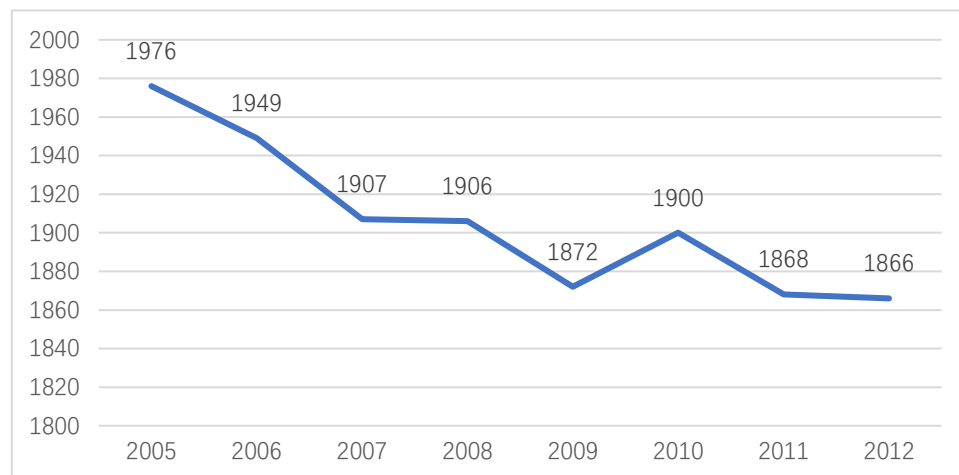
Graph 2. Compositions of the total residents in 1968 (Source: Associazione Archivio Storico Olivetti)



Graph 3. Age groups of the population in 1968 (Source: Associazione Archivio Storico Olivetti)



Graph 4. Occupational Survey of population of Bellavista district in 1965 (Source: Associazione Archivio Storico Olivetti)



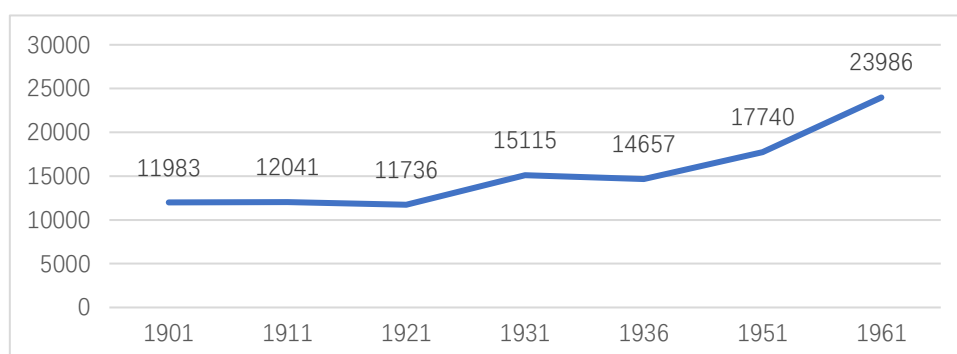
Graph 5. Demographic trend of resident population Bellavista district from 2005 to 2012 (Source: Comune di Ivrea)

The first graph shows the total number of residents of the Bellavista district in 1968, the estimated number of new residents in the short term and the long term based on the housing capacity under construction. The initial design concept for the district was to accommodate 5,000 residents, and after the first phase was completed, the developers estimated the total number of residents based on actual occupancy, which was greatly reduced from the initial estimate; the total number of future residents was expected to be 3,400, and this goal required a short-term target and a long-term target. This calculation is reasonable; because graph 2 shows that the number of Olivetti's employees was 1099 occupying 67% of the population in 1968. The data show that the future growth of the number of residents would be affected to a large extent by the Olivetti Company since one of the original intentions of the neighborhood was to create a residential center between two representative industrial areas (the factories of Ivrea and S. Bernardo), thus, the industrial development of the city would change the structure of the neighborhood to a certain extent.

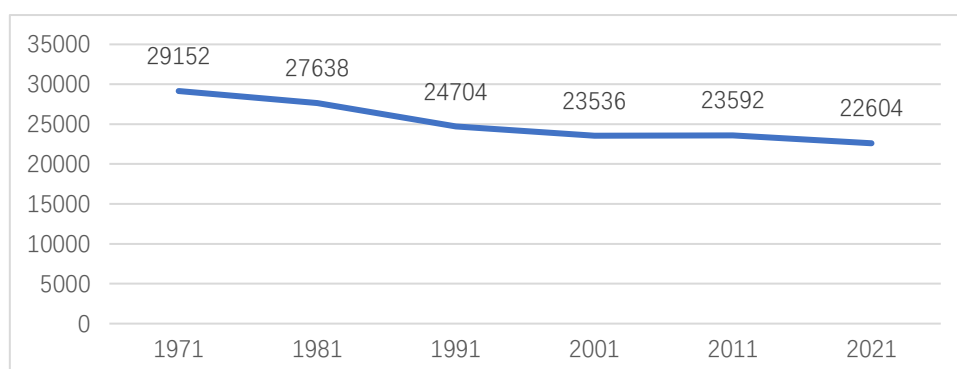
The 3rd graph shows the different age compositions of Bellavista district's residents in 1968, and the 4th graph shows the occupational survey of 1,021 residents in 1965 (the total number of residents was 1,274, of which 253 were children). It can be seen that the composition of the Bellavista at that time consisted mainly of workers between 20 and 50 years old; the second largest group is made up of wives who take care of their families at home; and the third largest group is the office workers who work in other public agencies. The structure of the community could be described as "vibrant", with 33% of young people aged 0-14 years and 2.91% of elderly people over 60 years old,

compared to the national rate of 31% of young people aged 0-14 years and 4.8% of elderly people.

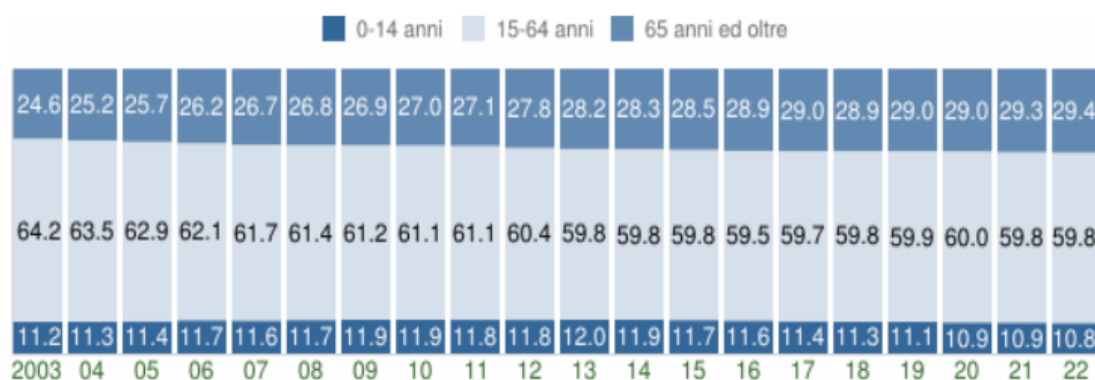
The fourth graph shows that the community's total population has been decreasing during 2005-2012 and has not yet reached 2,000, after a peak of 1,976 in 2005. This is related to the overall economic development, social structure, and expansion plans of the city; the following section is dedicated to the analysis of urban social structure of Ivrea, in order to demonstrate the changes in the community's social structure in recent years.



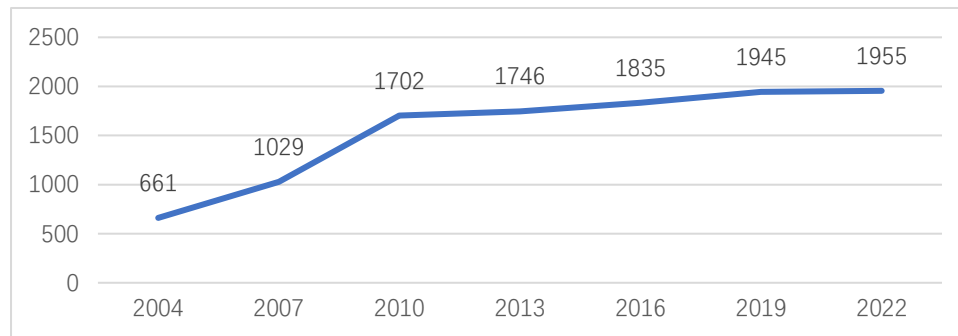
Graph 6. Demographic trend of the population in Ivrea from 1901 to 1961 (Source: tuttitalia.it)



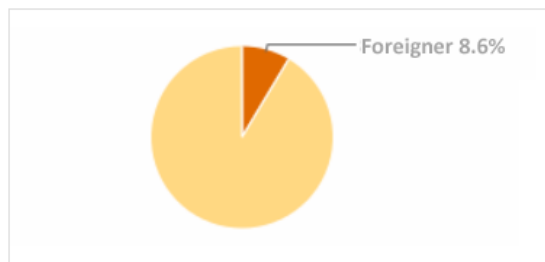
Graph 7. Demographic trend of the population in Ivrea from 1971 to 2021 (Source: tuttitalia.it)



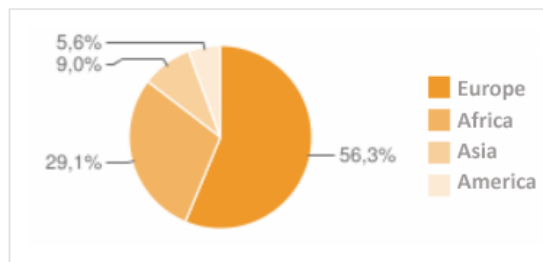
Graph 8. Demographic indicators and Structure of Ivrea from 2003 to 2022 (Source: tuttitalia.it)



Graph 9. population trend with foreign citizenship from 2004 to 2022 (Source: tuttitalia.it)



Graph 10. Index of population with foreign residents in 2022 (Source: tuttitalia.it)



Graph 11. Distributions of foreign residents by origin (Source: tuttitalia.it)

By comparing these two graphs, 6th and 7th, the strong connection between the trend of urban population and urban industrial development is demonstrated. In the first half of the last century, Ivrea had finished its transformation on economy system; the traditional agricultural production economy turned to the modern industrial production economy. The industrial system of the city consisted of many manufacturing industries: food, mechanical engineering, computer manufacturing, electronic mechanical engineering, construction, etc. The booming industrial economy also led to the development of financial and tertiary services, including banking, insurance, real estate, information technology, education system, health care, social services, and recreational activities. All these achievements made the city an example of housing, industry, and social construction, becoming “the industrial city of the 20th century”. This prosperity began to dissipate after the 1970s, when the industrial recession began to hit the city, then, the city's total population began to show a general decline. It is no coincidence that along with the decrease in the total city population, the aging of the city began to be gradually evident. As can be seen on the 8th chart, from 2003 to 2022, the rate of population aged 0-14 years has been decreasing and the rate of the population over 65 years continues to increase, which is not a positive phenomenon from the point of view of the urban population structure.

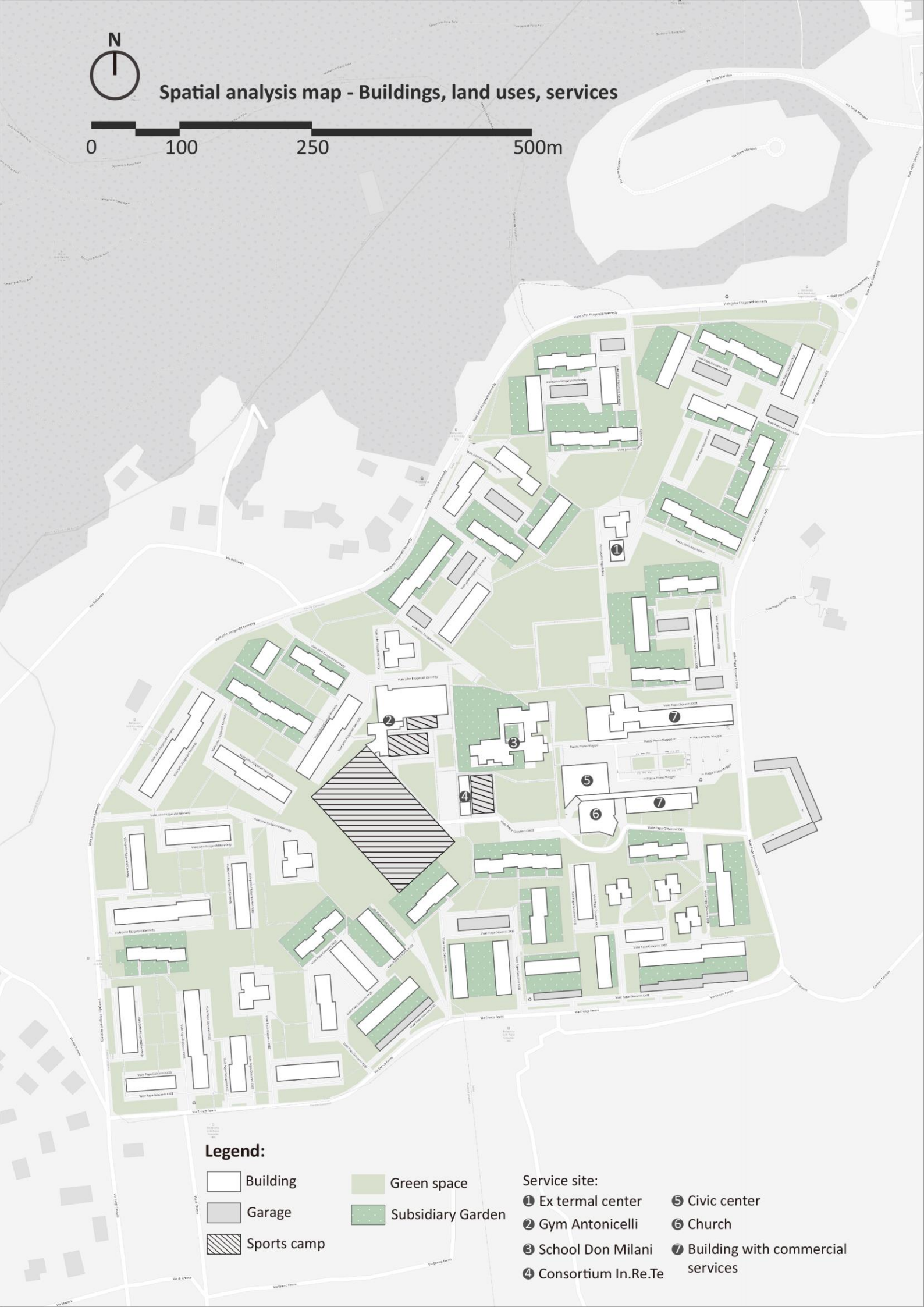
Graph 9 shows the growth trend of foreign residents entering the city from 2004 to 2022, the data shows that the number of foreign residents in the city increased from 661 to 1955 between 2004 to 2022. Until 2022, immigrants account for 8.6% of the city's total population, of which 56.3% are from other European countries. The increase in the total number of foreign residents can partly alleviate the problem of declining urban populations, and from the economic point of view, the income generated by legal immigrants exceeds the government's expenditure on social benefits for immigrants.

The district is a microcosm of the city, and its declining population, aging, and increasing foreign population are all social structural propositions in the current neighborhood. Interventions for the redevelopment of the district are, from one side, the integration of various resources; and social structure analysis can make contributions to active public participation of residents, which is a very important part of the community redevelopment process.




Spatial analysis map - Buildings, land uses, services

0 100 250 500m





Legend:

 Building

 Garage

 Sports camp

 Green space

 Subsidiary Garden

Service site:

① Ex ternal center

② Gym Antonicelli

③ School Don Milani

④ Consortium In.Re.Te

⑤ Civic center

⑥ Church

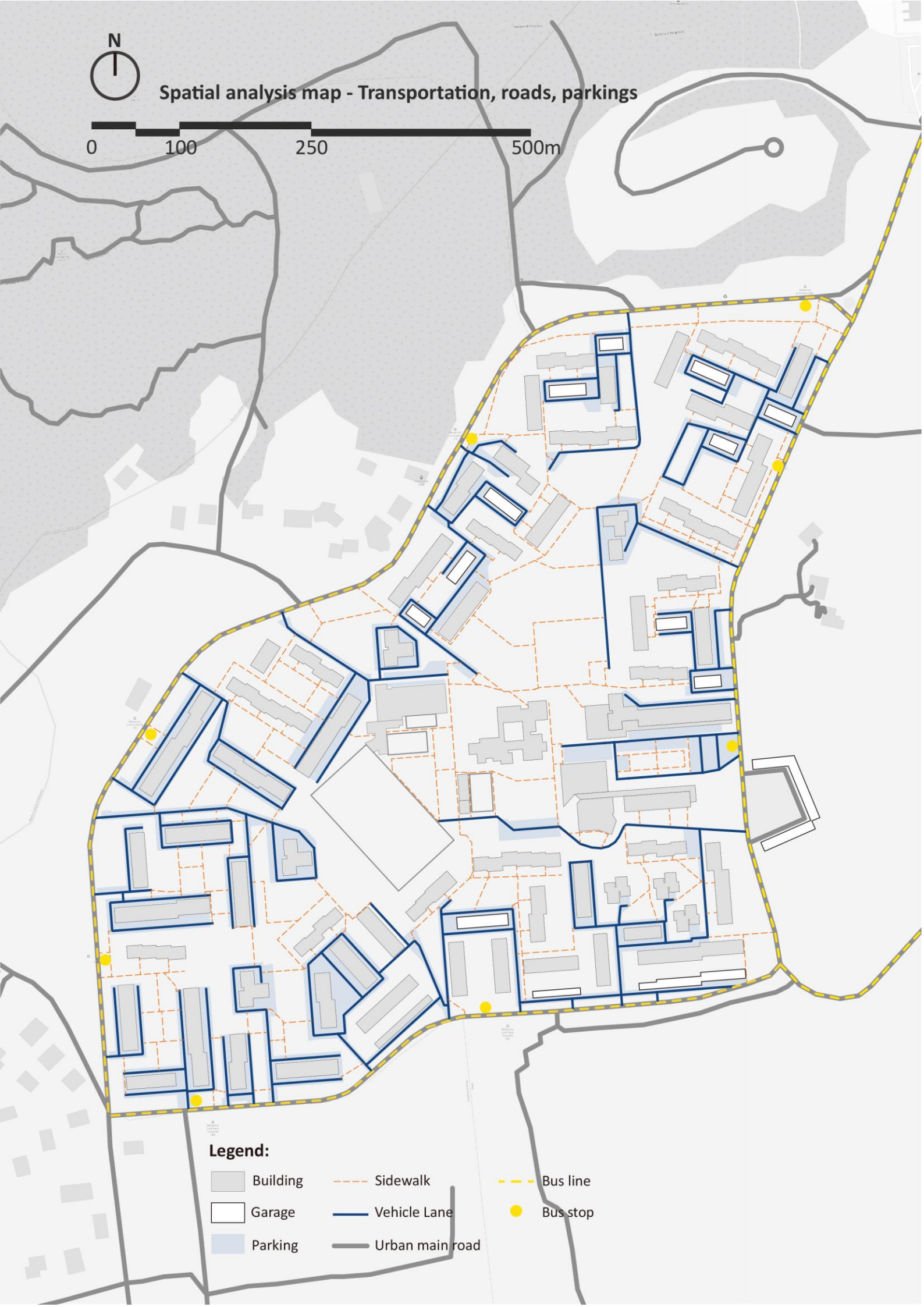
⑦ Building with commercial

services



Spatial analysis map - Transportation, roads, parkings

0 100 250 500m



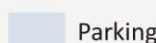
Legend:



Building



Garage



Parking



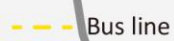
Sidewalk



Vehicle Lane



Urban main road



Bus line



Bus stop

4.2.2.3 Proposals

The interventions for the redevelopment of the Bellavista district will be divided into three parts, which correspond to the three valuable aspects of the neighborhood: architecture, public space, and social culture. The interventions for architecture can actually only give a general guideline, and interventions for architecture can be divided into three sections. The first is the restoration of the building's exterior, which specifically operates to unify the building's appearance by repairing and cleaning the damaged and moldy building facades; this would emphasize the homogeneity of the community's architecture not only in terms of architectural language, but in terms of the current state of the building. The second architectural intervention program is to carry out the energy performance retrofits of buildings. The optimization of building energy performance is currently very important research in the field of building renovation, and its professionalism and operability are difficult to understand by people who are not specialized in the field. Therefore, in this section we only talk about the maintenance and renewal of two building details, roofs and exterior windows; two important structures and indicators that can affect indoor comfort and building energy performance, and whose maintenance and renewal is very convenient and affordable. Regarding the use of solar panels that have gradually emerged in recent years, we will not consider them for now because they will change the appearance of the building to a certain extent. The third part of the architectural intervention is to take care of the elderly and disabled in the community, a consideration based on the structural changes in the community; using modern technology to equip housing without elevators with appropriate mechanical systems to solve the problem of inconvenient transportation for the elderly and disabled.

The intervention for the redevelopment of public spaces is based on a conceptual scheme of "opening up the Bellavista" and can be practically implemented in community redevelopment plans. Bellavista district is one of the few neighborhoods with a comprehensive collection of services, however, many facilities that can be seen today are abandoned and damaged, especially the sports areas, due to the loss of residents, inadequate management, and lack of maintenance. Therefore, in order to stimulate the vitality of these facilities to promote the redevelopment of the community, an attempt can be made to conceptually open up the community and introduce low-carbon and environmentally friendly transportation to spread the service radiation beyond the community. In order to achieve this objective, it is necessary to make improvements in the neighborhood road system which are re-planning neighborhood

parking areas and improving the phenomenon of indiscriminate parking. The second step is the functional transformation of a portion of the roads, by adding bike lanes to some of the driveways entering the neighborhood and to the sidewalks in the neighborhood. The purpose of this intervention is to strengthen the connection between Bellavista and Ivrea city by connecting the community to the city's planning network of cycling paths. For the installation of the bike lanes, it is important to consider that they do not interfere with the daily life of the residents, so the bike lanes are mainly established in the driveways where vehicles enter and exit the community, ensuring that visitors can quickly enter and exit the Social Center of Bellavista district. This requires planning and consolidation of parking areas in the community to ensure that vehicle routes and bicycle lanes do not conflict with each other and to avoid safety risks. When the bike path is paved into the pedestrian area, the sidewalks that need to be converted will be widened to ensure convenient and safe movement for pedestrians and cyclists. The network of cycling lanes will cover the entire service area to ensure that cyclists can reach and use every service facility in the community, thus, the installation of bicycle parking points in each service area is necessary. Through the connection of bicycle parking points, bicycle lanes and service areas, the points, lines and surfaces are connected to build a service system that is open to the public and shares community resources.

The reconstruction of the community's society and culture requires more internal and external public participation. Cohesion is needed among residents, and volunteers or organizations bring residents of all ages together. The community can make use of the sports facilities to organize outdoor activities for the younger generation and promote communication among them. In addition, different organizations can offer meaningful educational programs in the Civic Center to help youths to improve their skills and broaden their horizons. For the vulnerable groups in the community, such as the elderly and the disabled, who need help in their daily lives and socialization, regular activities should be organized to carry out communication between them, in order to understand the main needs of the vulnerable groups in their lives. People in their prime are the backbone of social and cultural renewal and are the primary implementers of the intervention program. The community's younger generation needs their guidance to get on track for public participation, and they have the experience and resources to carry out the work of caring for the community's vulnerable groups. The acceptance of social activities from the outside requires the community to develop inclusiveness, because the community's beautiful environment, services, and cultural heritage need to be

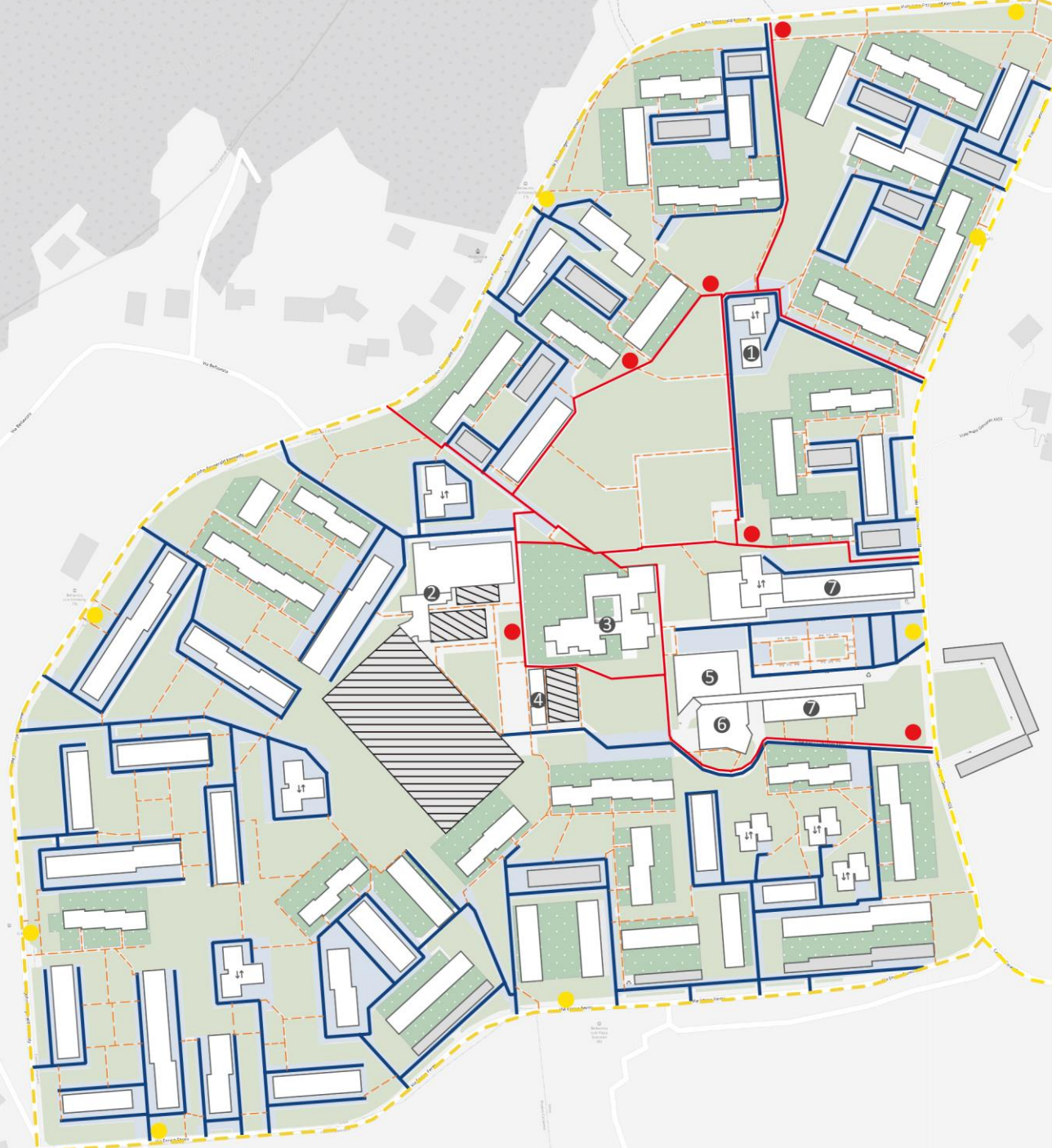
promoted and integrated with the outside world in order to maintain and even develop, which is why the second part of the intervention program implements the concept of an open community. Sharing the community's environmental resources, services and cultural heritage with the outside world is a strategy to increase the impact of the community, which will also bring more attention to the community in the urban periphery and increase its value.

	Objective	Action
Architecture	Unifying the appearance of the buildings	-Elimination of the mold on walls -Repairment of the breakages of the walls and balconies
	Improving the energy performance of the buildings	-Replacements of the external window-door system (frames and glasses) -Assembly of the thermal isolation slab for roofs
	Facilitating the transportation of elderly and disabled residents	-Assembly of the inclined platform lift
Public space	Requalifying the facilities in the sports center	-Repairments of the sports fields (basketball, volleyball, Roller skating)
	Eliminating the chaotic parking problem	-Re-organization of the parking lots in the buildings' open space
	Enhancing the public services value of the district	-Setting up the cycling paths and the bike-stop points in the neighborhood
Sociology	Enhancing the communication of the young generation of the community	-Setting up extracurricular education programs -Organizing events -Creation of Counseling Center
	Helping vulnerable groups in the community	-Building connections among groups -Create volunteer groups and schedules of assistance - Pre-programmed to handle emergencies
	Improving the social connection with other places in the city	-Enhancement of current association Bellavista viva -Collaboration with outside institutions, eg: Consorzio servizi sociali in Rete - Organizing open events to increase the impact of the community



Proposal map

0 100 250 500m



Legend:

- Building
- Building with elevator
- Garage
- Sports camp

- Green space
- Subsidiary Garden
- Parking

- Bus line
- Bike path
- Vehicle Lane
- Side walk

- Bus stop
- Bike stop

Service site:

- ① Ex ternal center
- ② Gym Antonicelli
- ③ School Don Milani
- ④ Consortium In.Re.Te
- ⑤ Civic center
- ⑥ Church
- ⑦ Building with commercial services

4.2.3 An outlook of the identity area of Olivettian housing

After the evacuation of Olivetti from Ivrea in the 90s of the last century, the municipality of Ivrea has taken the actions to reserve the Olivetti cultural heritage which are the representative modern architectures of the 20th century, including the residential housing, factory, service complex, and office building, etc. The determined programs attempt to obtain economic funding and establish studies, conservation and management of cultural capital in the Ivrea and Canavese area. The first significant and successful project is the MaAM (the open-air museum of modern architecture) is a series of actions to improve the restoration of Olivetti buildings, made Ivrea city to be nominated for the Melina Mercouri international prize and awarded by UNESCO for safeguarding cultural landscapes⁵⁵.

The first step of actions of the MaAM program was the establishment of the Catalogue of the Constructive and Decorative Typological Assets of the Ivrea City, the research that has cataloged 237 local buildings directly or indirectly linked to the Olivetti company. The Catalogue was presented in monographic sheets, providing summarized information about buildings, such as location, client and designer, building status, reference chronology. The Catalogue made contributions to the implementation of the Regulations for interventions on buildings and in their appurtenant areas, they constituted the fundamental references for the Quality Plan, which was introduced in the urban planning of Ivrea city - the PRG 2000. According to the classifications, there are four building categories, category A - Buildings of architectural and monumental significance, category B - Signature buildings with formal and historical-documentary value, category C - Buildings with testimonial value, and category D - Minor buildings. The museum was launched in 1999, then, inaugurated on 29th, September 2001. It has developed a two-kilometer long route along the via Jervis and the adjacent area, where the most representative social-industrial buildings of Olivetti are located. They have placed seven thematic information stations along the sidewalks, on which show the integration of building and urban fabric, in order to form a tour itinerary.

On 1st July 2018, the UNESCO World Heritage Committee officially included “Ivrea industrial city of the XX century” in the World Heritage List, the Ivrea has been approved for its identity as a cultural city worldwide. The core zone is around via Jervis

⁵⁵ P. Bonifazio, P. Scrivano (2001), *Olivetti Builds. Modern Architecture in Ivrea*, <http://momoneco.kotka.fi/ivrea.html>

and includes 27 buildings and complexes that are recognized as representatives of the high standard of modern industrial architecture of the last century. The districts of Canton Vigna, Canton Vesco, La Sacca, and Bellavista are not classified as part of the core zone, but function as the buffer zone aiming at "providing additional protection" for the nominated property⁵⁶. The establishment of the UNESCO core zone contributes to new development opportunities, attracting new businesses and organizing thematic events in harmony with the cultural values of the territory, which is the expression of the values of this zone, considered an indispensable element of valorization based on economic, social and environmental sustainability.

The MaAM route continues to the area where the Olivetti neighborhoods are located, the Buffer zone. If they could be developed through such integration of territorial and cultural resources to demonstrate the values they have and to tell the history they witness. According to the architectural catalog of the MaAM regulation⁵⁷, most buildings in the Buffer zone are classified as building category B, and few buildings are classified as category A and category D. These buildings, combined with green spaces and collective services, create exemplary communities that illustrate the principles of modern movement design. These Olivetti neighborhoods were constructed under the socio-economic context between the 40s and the 70s; their architectural appearances and urban layouts represent the high quality and standard of the 20th century, and to a certain extent, the cultural enhancement program could make contributions to their redevelopment, in terms of their social, historical and territorial values. The connection between them is not to be physical in a spatial sense, a conceptual or cultural promotion like the Open-air Museum could be attempted, that enables the Buffer zone to display the history of the expansion of public housing in Italy in the late 20th century, Olivetti's involvement and reflection in the field of community construction.

⁵⁶N. De Togni (2021), *Il patrimonio abitato: Ivrea città industriale del XX secolo e i quartieri residenziali nel processo di candidatura UNESCO*, VOLUME 06 | XXIII Conferenza Nazionale SIU, Milan: Planum. The Journal of Urbanism, https://issuu.com/planumnet/docs/volume_06_def/s/12211307

⁵⁷The MaAM regulations (based on the "Census of the constructive and decorative typological assets of the City of Ivrea" drawn up pursuant to Article 24 of R.L. 35/95), are integrated into the Building Regulations and incorporated into PRG 2000.

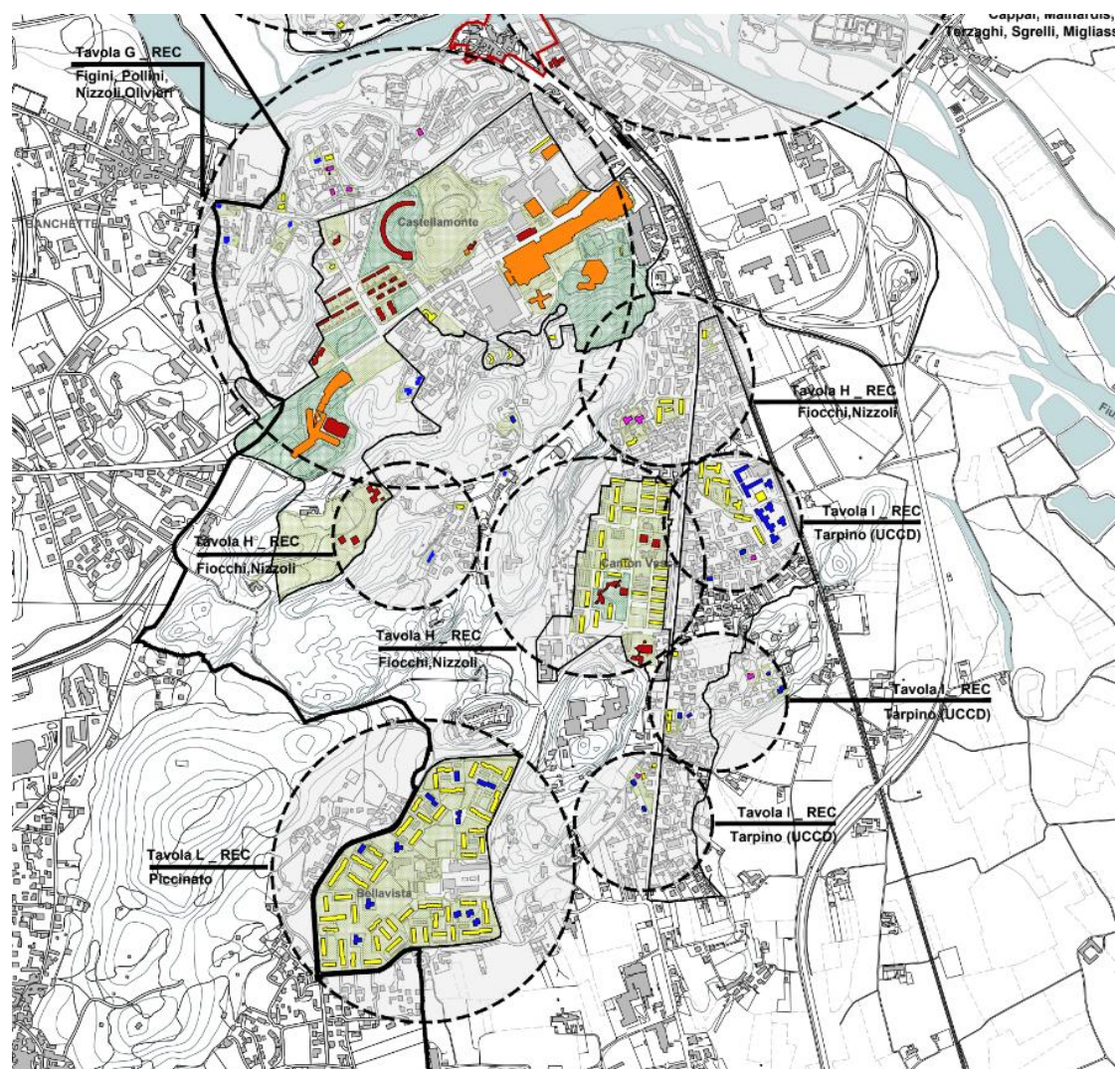


Figure 44. map of Olivettian city (Source: Comune di Ivrea)

4.3 THE PERSPECTIVE OF THE BELLAVISTA DISTRICT IN THE NEW URBAN PLANNING OF IVREA

To operate the new urban planning of Ivrea 2030, there are four main processing phases, the first one is the Technical Proposal of the Preliminary Project, which was adopted by the Municipal Council Resolution n.4 of 22/01/2020, then, it was concluded by the first co-planning and evaluation conference in 26th November 2020, the previous section 4.1 is related to the work result of this phase. The latest phase of the new urban planning of Ivrea is the so-called Preliminary Project of the General Variant of the Municipal Regulatory Plan, which is adopted by the Municipal Council Resolution n.01 of 18/01/2023, and then, published on the institutional website of the Ivrea Council. In order to explore the further participation of the Bellavista district in the new Regulatory Plan, I've fortunately interviewed Michele. Cafarelli, who is the municipal councilor of Ivrea and has taken part in all the strategic phases for the new urban planning of Ivrea 2030. The pre-organization of the interview is meant to carry out four thematic discussions about the Bellavista district: 1. Discussion of the approved value of the district; 2. Discussion of the specific plans and legislations of the Bellavista requalification on its physical aspects (buildings, open spaces and public services) and its sociological aspects (community associations); 3. Discussion of the potential function of the Bellavista district; 4. Discussion of the Bellavista's connection with other Olivettian housing districts. During the interview, M. Cafarelli told some seldom-known facts and urban renewals of the Bellavista district.

According to the outcome of the interview with M. Cafarelli, including Bellavista, a lot of Olivettian housing districts are considered the Buffer Zone of the UNESCO program, which makes them become the world cultural property. However, unlike the monuments, for instance, those certain public buildings in the UNESCO Core Zone in Ivrea, the preservation of the Buffer zone targets mainly landscape and environment; this point is also envisaged in the new Preliminary Project of Regulatory Plan. For the buildings in the Buffer Zone and some buildings outside the Buffer Zone, their restoration work should follow the regulation of MaAM. The preservation of the Buffer Zone functions on the unit of area that consists of the elements of landscapes and buildings, which can maintain the identical characteristic of the Olivettian districts – the explicit relationship between buildings and landscapes.

The renewals and general management of the Bellavista district are in charge of the association Bellavista Viva, whose office is the civic center in the community. Because of the presence of the Bellavista Viva, the innovative mentality of Adriano Olivetti has been well-reflected in the community; Bellavista Viva is a non-profit association, financed by the Ivrea Municipality. The establishment of this association aims at improving the cohesion and quality of social life for the residents of the Bellavista district, the commissions have been implemented independently by the Bellavista Viva, such as the maintenance of the green areas, the renewals of the buildings and the sports camps' future requalification. According to M. Cafarelli, the Bellavista district is the most collaborative district among the Olivettian housing districts, thus, it will become the first energetic neighborhood in the Canavese region; the assembly of photovoltaic panels will carry out at the Don Milani school in Bellavista. The requalification projects in processing are especially for public buildings and open spaces in the Bellavista district, even though, there are a number of requests for the bonus on the private residences' requalification, considering the feasibility and complexity of the implementation, this project is still in the trial stage of discussion.

The social structure in the Bellavista has changed, nowadays the average ages of the residents and of the association's members are significantly high. Even though the community association functions very well, the further improvement of the social life's quality in the neighborhood needs the participation of the young generation; it is the fundamental issue to preserve the sociological spirit of the Bellavista district.

The discussion of the connection between the Bellavista and other Olivettian districts aims at exploring the enhancements of the cultural and historical values of this community. As the previous analysis demonstrates, Bellavista is located near the forest and agricultural areas of southwestern Ivrea, moreover, it has an extensive green area inside the neighborhood, which strengthen its attraction from the point of view of the landscape. M. Cafarelli told that there are tourists coming to visit the Bellavista district, and the Municipality also carries out events to promote tourism in Ivrea, such as the annual event *Welc-Home to my house* in September, but in his opinion, there isn't a strong connection between Bellavista and other Olivettian districts, also because the configuration of the Bellavista is kind of isolated. Bellavita has been discovered more in recent years, Urban Lab Torino held an exhibition of the theme "Living in Bellavista" from November 2021 to March 2022. The exhibition displayed neighborhood archival

drawings, photographs of the community taken by Paolo Mazzo, and video interviews with residents telling their stories about living in this residential settlement by Olivetti.

The interview reveals that the Bellavista district plays an important role in the Buffer Zone because of its environment, cultural assets and the responsiveness of community associations to urban activities. Regarding the community's urban renewal program, the public areas and buildings are already in the implementation phase, and there are ongoing attempts to make proposals to address the restoration of private residences. In addition, Bellavista Viva welcomed its new young president, Gabriel Piccagli, as a tangible boost to the association's infusion of young blood. As for the promotion of the community's historical and cultural heritage, it will need to be accompanied by the new Regulatory Plan based on the principle of landscape preservation, to organize cultural promotion activities to expose the “Community” spirit from the Olivetti experience that exists in the Bellavista's buildings, open spaces and social activities.

4.3.1 Content of the interview with Mr. Michele. Cafarelli on the 30th January 2023

- The Bellavista district embodied the historical value that linked A. Olivetti's experience, and how can it be considered in the revision of the Municipal General Regulatory Plan? Does the City Council have the priorities for the district?

As you know the stages of the new Regulation Plan are four, giving a new Regulation Plan, a general variant of the old plan. There are four phases, the first phase is the technical proposal of the preliminary project, the current phase is adopted by the city council and it is the preliminary project. The preliminary project thus provides, as has already come in the technical proposal, the preservation of the Buffer Zone from the point of view of the landscape. That was a UNESCO prescription; Ivrea has Core Zone and Buffer Zone. Ivrea has become a world heritage site, as well as the Olivetti districts, a prescription was to put in safeguard. Therefore constraints, from the landscape point of view, are for the areas of the world heritage site. In sense that, at the moment we have safeguards, which are that of the superintendence with regard to properties, and buildings in the Core Zone of UNESCO. You know that Bellavista is in the Buffer Zone. In Core Zone, constraints are mainly for monuments, for buildings, that have monumental constraints; in Buffer Zone, the constraints instead are only given by the MaAM regulation, a regulation from the municipality Ivrea that protects certain buildings in the Olivettian districts, not only in Buffer Zone but also outside the Buffer Zone. It was requested by UNESCO make a safeguarded landscape. It does not mean, to constrain the buildings, but, in some way, to preserve the landscape, and the environment. Thus, the concept is that, if there is an Olivettian building to be preserved, it is possible to build another building next to it. There is a passage in the local landscape commission to give indications to the new construction or not allow it. Therefore, it is not a constraint that is only on the property but on the area. For the Regulation plan, there is the variant and the

preliminary project, imagine all the variants has safeguarded from the point of view of the landscape, a good part of the Buffer Zone, and in particular the whole area of Bellavista.

- How can Olivetti's "innovative mentality" be reflected in the social aspects of the Bellavista district nowadays? In the sense that, what has been left for us from the A. Olivetti's experience in the district?

Bellavista is a neighborhood where the community experience works very well, there are many associations, for instance, the association "Bellavista Viva" in the civic center does a very good job. All the green maintenance for trees and lawns is done directly by them. We give a contribution as the municipality, however, they are in charge of the management of the community, which made a considerable saving for the municipality. There are many associations that gravitate around the civic center. Now we are working on the realization of the first energy community in the Canavese territory. We are going to install the photovoltaic panel at the Don Milani school, which is the school behind the civic center. And the savings from that will be shared by the whole community of Bellavista. So that in case you want to make a proposal about the energy community in Ivrea, make it Bellavista. Another thing that between investment that we are making an announcement of PNRR for urban regeneration, is precisely related to the renovation, redevelopment of certain buildings, we have chosen the Bellavista Civic Center, just to help more what are all the experiences and situations that are going on very well in the civic center.

- Does the City council have a detailed specific restoration plan for the buildings and public spaces of the Bellavista district?

As I was telling you before, we took money from the PNRR to renovate the Bellavista Civic Center, we are also doing the project of the waterproof assembly to the roof of the Don Milani school, also to do the photovoltaic system on top. There is also the building ex-heating center where we recently removed asbestos there was enernit roofing, and now we have changed the roofing to sheet metal. Then other buildings, the municipality does not own them. There is work in the future that we are thinking about the requalification of sports facilities. That in future perspective will be absolutely the next step for sports facilities in Bellavista. This is for public buildings, of course. we are getting requests for various bonus which concerns private buildings, which are very complicated for energy-efficient interventions because having exposed brick façade, it is not conceivable to do another coat. There are some companies that are making proposals, and some attempts but as yet, for this, I cannot say much, it also depends on the timing of the private individuals.

- Are there some legislative limits on the architectural or territorial requalification in Bellavista?

The legislative limits in architectural redevelopment are MaAm regulation; and landscape preservation. Those are the two legislative limits as far as Bellavista is concerned. MaAm's regulation is for those

private buildings. Instead, from the point of view of territorial legislative limits, they are the landscape preservation given by the new regulatory plan.

- Since the social structure has changed in the district, how could the current residents preserve the sociological spirit in the Bellavista district?

The association is working very well in that respect, the main problem is that the average ages of both the inhabitants of Bellavista and the members of the association, are very elevated. They are all almost pensioners, and elderly. The current propriety is the implementation of some generation changes; thus get not only the elderly but also the young generation to participate in the Bellavista association, that quite fundamental.

- Does “Bellavista district” has a strong connection with other districts or with the city? how do you evaluate this aspect of the link with the other neighborhoods?

Actually, an impression, yes, Bellavista has a connection with also S. Grato, Canton Vesco, the Buffer Zone neighborhoods there, but they are not so, so closely related. Bellavista is a bit of a separate neighborhood. The other neighborhoods maybe are a bit more connected, but Bellavista no, because of its conformation like that, even the inhabitants. However, there is Bellavista then there is Ivrea. There is not so much connection with other neighborhoods, in my opinion. Socially, then in the end obviously there is. However, there is a strong sense of belonging among the inhabitants of Bellavista. They like to say that they are from Bellavista.

- Considering the important value and also historical and cultural significance of the Olivetti districts in the Buffer zone of the city of Ivrea, could they become another open-air museum of the history of public housing in Ivrea, is there the possibility for carrying out another MaAM program here?

It already is anyway. The open-air museum continues there. On the routes, actually, I know that the various tours made by private individuals, of tourism, actually, the trip also goes on Bellavista, and then when there were the various occasions architecture festivals, or, every year we were doing the event in September “Welc-Home to my house” like that; Bellavista is always very involved. For example, Bellavista is more involved than other neighborhoods; also because, in Bellavista, there are elements that are associations like Bellavista Viva, even personage. For example, Paola Risoli, an artist, she is making videos about Bellavista, who collaborated with Urban Lab for the exhibition of Bellavista. When we do these things, she keeps her house open, tells us precisely what it means to “live in Bellavista”.

- How are the public services of the city considered today in relation to the evolution of the population and of the social background and also of the city’s main problems?

There is no increase in population, but, a decrease in population. If you go see in the explanatory report in the general variant of the general regulatory plan, you see that the public services in the city are four times higher than what would be the standard, so we have the services that in general are already optimal.

However, it is a city of around 23,000 inhabitants that has a hospital and a court, it is a unique case in Italy, of a city small city that has a hospital, it is also not a provincial capital, but that is a very large basin.

CONCLUSION

The first step is a contextual analysis of the era, when the project of housing neighborhood was proposed, it started with the formation of the organic urban planning plan of Ivrea in the 1940s (Piano Regolatore 1942). The Bellavista community is an implementation project of the first organic urban planning plan (1959) with two initial purposes: the first was to address the need for housing due to population growth, and the second was to serve the other surrounding districts (Canton Vesco) as a community service complement. Olivetti company built a lot of housing neighborhoods for its employees in the 20th century, and among these districts, there were certain common characteristics that were summarized by the PRG 2000; these neighborhoods have formed a particular urban fabric in the city of Ivrea. The creation of these communities was also part of Olivetti's Community movement, which was supposed to make a contribution to the realization of Ivrea city's democracy and liberty.

As the first urban experimental satellite community, Bellavista has its own well-equipped facilities and an autonomous committee to manage affairs. The construction of the Bellavista district was carried out in two phases between the 1950s and the 1970s, which were separately assigned to Luigi Piccinato and Vittoria Gerardi in the first phase (1957-1960), to Ottavio Cascio and Ezio Sgrelli in the second phase (1961-1971). The analysis of the history of these construction phases refers to archives of Bellavista from the Associazione Archivio Storico Olivetti, articles and reports of main architects Luigi Piccinato and Ottavio Cascio, including the architectural, town planning, and social aspects. The design of the residence and the town planning were in charge of the architect Luigi Piccinato. The influence from other community models ("Garden City", and "Neighborhood units") can be clearly perceived in the planning design of Bellavista, especially from the arrangements of extensive green areas, perimeter motorways, inner pedestrian areas, and social-welfare amenities. The consideration of the architecture took into account the instruction of the INA-Casa plan, therefore, there were certain similarities between the buildings in Bellavista and the buildings in the Falchera district, in terms of the building appearance and structure of façade. The second construction phase was the completion of residences and the implementation of the Social Center program in Bellavista. The leader architect of these projects was Ottavio Cascio, who designed commercial center, gym, former theater (current social center of Consorzio servizi sociali In.Re.Te), sports area and schools in Bellavista. The result of the analysis

part turns out that it is difficult to requalify the residential buildings in Bellavista, because of the architectural structure and the stakeholder, however, there is the feasibility of the requalification for the open spaces and for the social aspects.

The future development of the Bellavista district should be guided by the orientation of the Regulation Plan, thus, the last chapter of the study explores firstly the neighborhood's role in the urban planning framework. A number of current status maps show that Bellavista is located in areas where landscape and environmental preservation is the primary development strategy. It is bordered by the SCI preservation area (Forests and swamps of Bellavista) to the west, forested areas to the east, and agricultural areas to the south. The study of the Technical Proposal of the Preliminary Project makes clear the principles of future urban development, which are adapting to the new urban social structure, reducing land consumption, preserving ecological diversity, improving the performance of urban services and promoting the city's historical-culture value. Based on the knowledge of urban planning, the results of the on-site survey, and an analysis of the current social structure of the community, a framework for a renovation project was proposed for the architecture, public space and social aspects of the community. Bellavista is the evidence of the INA-Casa public housing plan and Adriano Olivetti's "Community" thinking, it's worth promoting this community's cultural and social value, therefore, the part narrates the experiences of the MaAM program and of the UNESCO nomination aims to present a vision that Bellavista district could strengthen the connection with other Olivettian districts in the Buffer Zone⁵⁸, establishing another open-air museum which embodies the Olivetti culture and the "Community" spirit.

At the end of this study, I was fortunate to be able to interview Mr. Michele Cafarelli, who is the councilor of the Municipality of the Ivrea and collaborates with the design team in all strategic and project phases of the Ivrea PRG 2030; thus, I get a description and evaluation of the Bellavista district from the municipal side, based on the launching

⁵⁸ The perimeter of the "Buffer Zone" develops mainly in the south of the Ivrea city; to the north, it touches the orographic right bank of the Dora Baltea River; follows the axis of the railway to the east; and largely coincides with the southwestern boundaries of the municipal territory; it includes the areas of the Olivettian districts, which are "Canton Vigna", "Canton Vesco", "La Sacca" and "Bellavista", as well as numerous buildings surveyed in the repertory of the "Open-air" Museum of Modern Architecture of Ivrea" (MaAM). The Buffer Zone contributes to long-term conservation of the heritage's integrity and authenticity in Ivrea city.

of the Preliminary Project of the General Variant of the Municipal Regulatory Plan⁵⁹. Through the interviews, it was learned that the urban renewal strategy of the city municipality for the Bellavista district and even for all housing districts in the Buffer Zone is based on the principle of the landscape preservation strategy, considering that a graceful and diverse landscape is now one of the important urban aspects, and the need to respond positively to the Regional Landscape Plan (Piano Paesaggistico Regionale - PPR⁶⁰). Regarding the specific renewals of the architecture and open spaces, there are ongoing plans to renovate the buildings, but only for public buildings in the Bellavista, such as the installation of photovoltaic panels on the roof of Don Milani school, the renovation of the civic center, the refurbishment of the sports fields, and the maintenance of the green areas. These assignments are managed and implemented by the association “Bellavista Viva”, an association that actively drives the social autonomy and activism of the community and contributes a lot to the preservation of its social values, it is currently facing the challenge of the aging population, a problem that exists not only in the community but is also fundamental to the social structure of Ivrea city. However, the elevated age average of the association doesn’t stop the Bellavista Viva, with the lead of the young present, this association keeps preserving the social-culture heritage of the Adriano Olivetti “Community” experience. The collective social life in the Bellavista district is improving by the people who care and love this neighborhood, which reflects properly the core spirit of “Community” thinking - people lead a happy life fairly and liberally in their community, and makes the Bellavista district stand out of the Buffer Zone, of Ivrea city, even of the Canavese region, to narrate the story of the Olivettian housing districts. As for the answer to the

⁵⁹ GENERAL VARIANT TO THE P.R.G.C., PURSUANT TO ART. 15 OF THE L.R. 56/77, ADOPTION OF THE PRELIMINARY PROJECT, this Preliminary Project of the General Variant to the Municipal Regulatory Plan was adopted by Municipal Council Resolution No. 01 of 01/18/2023.

⁶⁰ Cite from the information sheet of the website of Regione Piemonte: *The Regional Landscape Plan (PPR), approved by D.C.R. No. 233-35836 of Oct. 3, 2017 on the basis of the Agreement, signed in Rome on March 14, 2017 between the Ministry of Cultural Heritage and Activities and the Piedmont Region, is an instrument for the protection and promotion of the Piedmont landscape, aimed at regulating its transformations and supporting its strategic role in the sustainable development of the territory.* <https://www.regione.piemonte.it/web/temi/ambiente-territorio/paesaggio/piano-paesaggistico-regionale-ppr>

question of whether the Bellavista and other Olivetti neighborhoods could serve as an additional open-air museum in the Buffer Zone that reflects the residential culture of the Olivetti experience, M. Cafarelli believes that the museum already exists and is being visited by tourists; the annual Welc-Home to my house⁶¹ event in September is a cultural promotion of the Municipality in this regard. The fact is like M. Cafarelli said that the route of the MaAM continues to the Bellavista, there is an information station for each Olivettian housing district. Nevertheless, there isn't a strongly perceivable connection between these neighborhoods, their common values given by the original construction "concept", have bonded them tightly. They may be redeveloped individually by appropriate proposals of the new Regulation Plan (for instance, the Bellavista became the first energetic community), but, their common historical identity will not change, and the spiritual connection will be preserved in the daily life of the residents.

The objectives of the entire study were first to analyze and present the history of the planning and architectural design of the little-known Bellavista neighborhood and the connection between the district and Olivetti, through the archives. Then, through the Regulation Plan study, to understand the current connection between the community and the city today and its general orientation of the development. After these studies, it was found that this active community, located on the edge of the city, is a subject worthy of further study because of its high-quality landscape and architectural design and its social nature with democratic autonomy, which will lead to a series of reflections on preserving this social-culture spirit and learning from this experience, which will be a reference for the future development of human living environment design.

⁶¹ This is an event that the Epoch community carries out on the 24-26th September and on the 1st-3rd of October, during these periods, the tourists are able to make reservations online to visit some private homes and former factories in the UNESCO Site and Buffer Zone, offices, archives, and churches are also accessible by reservation.

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