The spatial dimension of the Winter Olympic Village: between local model and regionalisation strategies

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Abstract

Since the second half of the 20th century, the editions of the Winter Olympic Games have catalysed different urban transformations, allowing the development of a new critical perspective on the spatial dimension of the Olympic event. The following contribution observes the various strategies by analysing the spatial models of Olympic villages developed to date. Through observing the relationships between the Olympic Village and the urban fabric, valuable tools will be advanced for evaluating the Olympic event in the context of the territory. Spatial models show the spatial dimension of the Olympic Village in the territory, allowing us to consider Olympic urbanism as a tangible asset that may fade away in the post-Olympic period. Since the first Winter Olympic Games were held in Chamonix in 1924, the event has been organised in mountain locations with ski resorts, ice rinks and accommodation facilities. The contribution analyses how creating new facilities implies the implementation of new spatial strategies capable of catalysing new territorial connections. The research proposes an innovative analysis of Olympic town planning in general and Olympic villages in particular, consolidating the field of study and offering a valuable document for the future construction of new Olympic villages in the coming decades. In addition, the study aims to reflect on the case of Turin in 2006 to observe how the regional spatial model has become a privileged case study for future candidate cities. Therefore, through the analysis, it will be observed how the winter edition, over time, has become of primary importance for implementing regional strategies in the host cities. From 2006 onwards, the Olympic event will be a primary element in planning regional infrastructure, transport systems, services and accommodation in the regional space.

Keywords: Olympic Games, Olympic Village, Legacy, Urbanism, Regionalisation.

1. Introduction

The primary element of this contribution analyses how the urbanisation of the Western world during the 20th century can be entirely understood through the consideration of relevant urban events. The Great Expos and the Olympic Games are two clear examples of this type of urban mega-event (Roche, 2000). Within Olympic urbanism, Olympic villages – temporally designed for athletes and subsequently occupied by residents in the post-Olympic period – stand out as urban artefacts that allow a deeper understanding of the relationship between architecture and urban planning. In the Olympic Village, architecture is placed at the service of creating the international imagination of the host city. In this sense, building typologies, formal languages and urban design are part of an urban landscape specifically conceived to highlight certain site-specific modernities and values (della Sala, 2022b).

At the same time, the architecture of the Olympic accommodation shows elements of reproduction within a small and limited space. Urban models and proposals, in observance of their rigidity, cannot reproduce within the host city's actual space. As noted in the final dossier of Los Angeles 1932, the architectural style of the Olympic Villages restores a miniature world, a spectacular temporal image of the city devoid of deformations, deficiencies and excesses of real urban space. Gradually, with the advancement of architecture's role in urban planning and the design of urban expansion programmes observed during the 20th century, the Olympic Villages ceased to be ephemeral constructions. During the first half of the 20th century, we observed barracks, military camps, and hotel accommodations that gave way to entirely new constructions, conceived from the outset as a central part of the city's expansion process on the subject territory. As some Olympic experiences show, the urban transformation resulting from the organisation of the Games can be used as a guideline for the city's future development (Essex & Chalkley, 1998; 2004). Cities such as Barcelona radically changed their urban profile when hosting the Games, but also used this experience of urban regeneration to design strategic and planning visions for the future (della Sala, 2022a).

Therefore, observing the different urban planning experiences of host cities during the 20th and 21st centuries allows us to advance the hypothesis of the evolution from mountain resorts to specific and complex urban planning models. The endpoint of this process would be the proposal of metropolitan and regional strategies through the evolution of the 'Olympic Village', progressively built according to criteria similar to those of the Summer Games (della Sala, 2023b). Based on recent experiences, the contemporary model combines different places within a complex network: on the one hand, the mountain resort areas and, on the other hand, the metropolitan city, as an expression of the global phenomenon.

2. The different stages of the development of the Winter Village on the regional territory

Analysing the Olympic Villages within the transformations of the Olympic cities can help observe the evolution and sensitivity of the housing issue in large contemporary metropolises. Olympic City has become a more complex geographical concept that must meet new requirements regarding air quality, water reuse, waste collection, public spaces, and well-being. Therefore, Olympic cities must be seen as an open and dynamic space to reinterpret and implement new

sustainable development theories for our communities' future. The Olympic Village has no blueprint or model. However, some models will be a reference for the Olympic urbanisation of future candidates and host cities. Therefore, in the following section, we will see which models were used to implement the Olympic Village in the host cities of the winter edition.

Phase 1: Promotion of mountain tourism in resorts (1924-1948)

Since the first edition in Chamonix in 1924, the winter event has been planned in mountain areas with ski resorts, an ice stadium and accommodation facilities. As we can see in Table 1, the winter edition up to Oslo 1952 was planned in places with a tourist vocation to implement winter sports strategies. The mountain areas the organisers chose were equipped with extensive accommodation facilities or within a winter tourism development strategy. In terms of development, Oslo in 1952 was considered the first winter city to provide a permanent Olympic village (Delorme, 2014).

Phase 2: Development of a public housing policy (1952-1964)

The second phase began with the great Oslo project of 1951. The programme envisaged a polycentric spatial organisation involving the construction of three Olympic quarters within the urban fabric of the Norwegian lagoon. Thus, from this historic moment, the Winter Olympic accommodation became a spatial transformation model similar to that observed in the summer edition. The accommodations were planned in three city areas and embedded within a strategic plan for the metropolis (Illa, Sogn and Ulleval). From the first implementation, the Olympic quarters were intended to be transformed into new residential accommodations in the post-event phase. In addition, the districts were equipped with major primary and secondary services. The buildings were arranged in 18 blocks ranging in height from 2 to 8 storeys (COJO, 1952).

During this period, a growing interest in promoting winter sports was observed. Therefore, the host cities should include the winter event in their urban transformations.[1]. Subsequently, Innsbruck's 1964 edition will propose a housing development in an area defined in advance within the central government's development plan. The village was planned to be built with four 10-storey blocks (COJO, 1964). The huge neighbourhood was built to become a large residential area in the post-event phase. Finally, in this phase, we observe an exponential increase in public funding for residential housing stimulated by the Olympic event.

Phase 3: Mixed Housing in a Regional Development Dimension (1968-1988)

The third phase is characterised by the host cities' increase in size and interest in winter sports. Hence, the new spatial model will expand by preparing a new spatial model in an Olympic space that will reach its maximum regional extent for the Grenoble Games 1968. The burgeoning infrastructural demand will ensure that the city of Grenoble will carry out a new transformation project that will involve central government support to increase tourism and commerce in

[1] With a resident population of 447,200, the city was by far the most significant centre to have hosted the Games to that date. The larger population created new opportunities for the type of facilities offered, as viability and future use after the Games were more than assured (Essex, 2017).

mountainous areas[2]. Grenoble, in 1968, proposed different accommodation solutions in the central fabric of the city, in an area adjacent to the main stadium characterised by removable elements in the post-Olympic phase. The structures of the Olympic Village were proposed by implementing a rationalist style reminiscent of Le Corbusier's idea for functional city planning. However, the Olympic residences were planned to meet the needs of the French locality to benefit the university, residents and winter tourism. The Olympic Village was organised in 11 blocks between 4 and 5 storeys high. In addition, the provision of new infrastructure (highways, roads, railway lines and airports) would define a new model of Olympic organisation.

The lodgings were included within a priority urbanisation area, identified within the general plan as an area of new interest for regional development. Therefore, at this stage, the Olympic event will be transformed into a catalyst for regional development capable of implementing infrastructural interventions, as in the 1960 Rome summer edition. Like Grenoble, Sapporo (1972) implemented a project for the redevelopment and redefinition of urban areas and regional infrastructure (Kagaya, 1991).

The Japanese city became the first metropolis with more than 1 million inhabitants to host the winter event. The Japanese housing has been included in a housing expansion plan that residents will use in the post-event phase through the provision of block structures. The following phase allows us to observe how the housing emergency will be the crucial element influencing the layout and construction of the residences. Meanwhile, in the mountain resorts, only a few accommodation facilities will be built to accommodate the participants of the Alpine disciplines. The Sapporo accommodation will promote a new construction model that will impact the host area significantly. The complex will be built by constructing 20 residential blocks between 5 and 11 storeys high (COJO, 1972).

Furthermore, Sapporo would be the first Olympic city not to have sports facilities. Until 1968, it was essential to have sports facilities to bid for the Olympic event. At the same time, the 1976 Innsbruck edition proposed the construction of a new Olympic Village in an area adjacent to the one built for the 1964 edition (OCOG, 1976). Therefore, as was the case for the 1964 edition, housing was arranged to reflect the reuse philosophy. The new neighbourhood will promote an expansion of the previously built neighbourhood, and the housing will be available to residents.

Until the 1988 Canadian edition in Calgary, the winter edition was characterised by increased participation, and cities began to promote new design solutions for Olympic housing. Calgary is recognised as the first winter edition city to propose university-style housing solutions (Olds, 1998). In addition, the organising committee focused the project on constructing new sports facilities for university students and promoting winter sports (COJO, 1988).

Calgary's solution will stimulate future editions, proposing a new transformation model for the winter edition. Meanwhile, the third phase will be characterised by increasing the size of the Olympic space. Finally, the implementation of sports disciplines and the increase in the number of participants will imply the development of new sports facilities and multiple Olympic villages.

[2] The Grenoble project was financed by the central government and the French central bank in a framework of international trade development.

Phase 4: Tourism Development Tool (1992-2002)

Albertville 1992 will be the first winter project to design multiple accommodation solutions in mountain resorts. Thus, the Olympic villages will be located within an area included in the tourism development plans of the entire region. However, Albertville 1992 proposed a polycentric spatial model that included and strengthened the region's position as an international tourist centre (Terret, 2008). The large budget prepared for the event allowed for the construction of many accommodation facilities throughout the region, renewing the entire mountain infrastructure system to reposition the resorts within the tourism strategies. The provision of eight accommodation facilities ensured that the whole region met the Olympic requirements and allowed for a spatial dimension never observed until 1992.

However, after Albertville, the IOC began to raise serious concerns about the size of the event. From then on, the winter event would establish itself as a new instrument capable of redefining new territories and repositioning cities in a winter tourism market.[3].

During the 1994 Lillehammer edition, the organising committee introduced the theme of materials and temporality to the Olympic accommodation. In addition, the organising committee introduced the theme of sustainability and sustainable development by providing 185 removable wooden huts (COJO, 1994). The solution used by Lillehammer will inspire the entire Olympic movement and future candidate cities. Therefore, after Lillehammer, the theme of sustainability and environmental friendliness has become essential for the winter edition (of the Hall, 2023). Lillehammer allowed the IOC to add sustainability as the third pillar of the Olympic movement. The next edition in Nagano in 1998 will propose the construction of a new sports district. The 1998 Japanese edition was part of a series of regional transformations that used the metropolis as the centre of strategies.

For example, constructing the railway line between Nagano and Tokyo would transform the city's economy. The Olympic lodgings were planned on the city's outskirts to be converted into private residences in the post-Olympic period. The village was built by constructing 23 residential blocks ranging in height from 2 to 4 storeys (COJO, 1998). Subsequently, Salt Lake 2002 will propose housing solutions to implement university housing, as observed in Calgary in 1988. In addition, the organisers developed new measures to protect the environment, including new sustainable development processes for the event (OCOG, 2002). The Salt Lake programme ensured that the organisers met their carbon reduction target and confirmed themselves as one of the most sustainable events ever.

Phase 5: Multiple Olympic Villages in a Regionalisation Context (2006-2022)

Within the fifth phase, the Turin 2006 edition again changed the spatial dimension of the Olympic event. The Piedmont edition will be the first to implement sustainable development practices with the help of strategic evaluation. The organisers proposed a new spatial model with the metropolitan city as the venue for the ceremonies, the ice races, the media villages and the leading

[3] The number of overnight stays increased from 100,000 in 1989 to 700,000 in 1995. Thus, in 1996, Brides' financial situation aligned with expectations. The municipality's budget grew from 15 million francs in 1992 to 25 million francs in 1996 (Sordet, 1996).

athletes' village. The committee proposed two mountain resorts for the competitions: Bardonecchia and Sestriere. The following spatial organisation and the provision of three Olympic Villages enabled the areas to transform the territory permanently and encouraged an increase in winter tourism. The central Olympic Village was planned in a disused area previously included in the city's master plan and would become a mixed area (services, residences, shops and offices) in the post-Olympic period. However, the whole area never became a mixed area, as it still suffers from structural problems and was occupied by people awaiting political asylum in 2012. Initially, the Olympic Villages in the mountain resorts were used as hotels and holiday flats. The construction of the Olympic Village in Bardonecchia was part of a regional development plan that involved reconstructing and reconfiguring a 1930s building. The Sestriere Olympic Village was built by a private company that undertook the construction of the resort with the commitment to hand it over free of charge to the organising committee to hold the Olympic event. The transformations in Turin were emblematic in terms of the revaluation and transformation of post-industrial metropolises. This strategy aimed to extend the benefits of the Olympic investment beyond the city, i.e. to the entire region, thanks to the possibility of improving ski facilities and facilities and extending the tourist season (Dansero, 2003). Therefore, the dimension of the winter event in the fourth phase will turn into a metropolitan event that will inspire the reconstruction of the regional infrastructure (della Sala, 2023b).

Subsequently, Vancouver 2010 advanced a new mixed-finance model by introducing a new post-Olympic planning model that will be a tool to promote long-term Olympic investment (VanWynsberghe, 2012). The construction of the Olympic housing was planned in an area included in an urban regeneration project. Thus, the execution of the Olympic Village took place in an abandoned area that, thanks to private support, could be finished to provide new residential accommodation in the post-event period. The new neighbourhood consisted of 37 buildings between 5 and 10 storeys high; in the post-Olympic period, it was reconfigured and transformed into a central space of the Vancouver metropolis (COJO, 2010). However, the Vancouver Olympic Village will manifest other problems related to Olympic building speculation in the post-Olympic period (Scherer, 2011). The goal of developing mixed-market housing has been modified to provide only 10 per cent of the planned 30 per cent. In the post-Olympic period, rising rental prices increased evictions in the city (Essex, 2017). At the Sochi Games in 2014, a territorial organisation was proposed as a crucial step in expanding the new Olympic event to locations with a subtropical climate (Scott, 2015). The event aimed to develop a new territorial system by preparing new tourist sites and planning multiple Olympic villages connected with a railway system. After the 2014 edition in Sochi, the size of the winter event will continue to grow, becoming a stimulus for transforming the regional system. The organisers will plan the Olympic event using a solution based on constructing three Olympic villages – one main village is near the ice facilities, and two other Olympic villages are in the mountain sites. Ninety-nine new buildings will be constructed between 2 and 7 storeys (OCOG, 2014). The central Olympic Village will be converted into private residences in the post-Olympic period, while the mountain lodgings will be converted into hotels and resorts to promote tourism to the site. However, the post-Olympic edition has been widely criticised for the considerable financial investment and the size of the event.

PyeongChang and Beijing 2022 will be other editions using Olympic Villages to promote sports tourism in mountain resorts. PyeongChang provided a model of metropolitan aggregation with the reuse of accommodation as private residences in the post-Olympic period. However, the mountain lodgings are still awaiting use today. On the other hand, Beijing 2022 will make the Chinese metropolis the first city in the world to host both the summer and winter editions. The Chinese edition represents a critical moment in metropolitan and regional expansion. The spatial model, strongly inspired by Turin 2006, envisaged three Olympic Villages within a vast regional territory.
The central accommodations were built in the area bordering the Olympic Village for the 2008 edition and will be converted into residences by public tender in the post-Olympic period. Meanwhile, accommodations in the mountainous locations were built to become hotels or tourist flats in the post-Olympic period.

Phase 6: Tool for infrastructural development of tourism sites. Multiple cities, multiple regions (2026-Future)
During this phase, the distance between the metropolis and the venues will reach an average of 115.63 km, promoting a new form of joint bidding between different locations (Milan-Cortina in 2026 and Barcelona-Pyrenees in 2030). Beijing, in 2022, will mark the beginning of a new ephemeral era, where metropolises will only use the event to promote their services and position themselves as global tourist locations. Therefore, in this latest phase, the Metropolitan Olympic Village has become a key element in the housing planning of the world's future metropolises, inscribed in the new urban dynamics of consumer societies (della Sala, 2023b). Furthermore, the Milan-Cortina edition of 2026 will involve three different regions in the northeastern area of Italy through the organisation of two principal cities and 13 secondary venues. The following dimension will produce a new evolution of the winter event, becoming an instrument for the economic reorganisation of almost 1/5 of an entire state. Furthermore, the following dimension will imply new infrastructural challenges for the territories involved in the organisation. Finally, the candidature of Barcelona and the Pyrenees for the 2030 edition and France 2030 allows a new extraterritorial dimension to be observed for the organisation of the winter event.

The different stages of the development of the Winter Olympic Village

Phase	Period	Spatial model	Aspects	Olympic Cities	
Phase I	1924-1948	Mountain locations Temporary accommodation	Prospects for the creation of an Olympic Village Existing sports facilities Use of hotels and resorts	1924 1928 1932	Chamonix St. Moritz Lake Placid

				1936	Garmisch-Partenkirchen
				1948	St Moritz
Phase II	1952-1964	Cities with more than 100,000 inhabitants Permanent accommodation	Construction of the Olympic Village Different areas for the celebration of the event Developing a public policy for Olympic accommodation Growing interest in winter sports	1952 1956 1960 1964	Oslo Cortina Squaw Valley Innsbruck
Phase III	1968-1988	Regional expansion Residential accommodation	Encouragement for the creation of new sports facilities Development of the infrastructural system for the transfer of athletes. The foundations are laid for the development of residential accommodation in the post-Olympic phase. New transformation model	1968 1972 1976 1980 1984 1988	Grenoble Sapporo Innsbruck Lake Placid Sarajevo Calgary
Phase IV	1992-2002	Increase in Olympic space Tourism development tool	Increase of competitions and athletes Construction of multiple Olympic Villages New housing solutions (universities, demountable) Olympic space organised in multiple locations Respect for the environment	1992 1994 1998 2002	Albertville Lillehammer Nagano Salt Lake City
Phase V	2006-2022	Olympic Village in the city and Olympic Villages at competition venues Stimulus for the transformation of the regional system	Main Olympic Village in the metropolitan city Mixed economy for the construction of the residences in the mountain places The Olympic Village as a tool for the promotion of sports tourism in mountain areas Increased emphasis on environmental protection and the sustainable development Legacy begins to enter into post-Olympic planning	2006 2010 2014	Turin Vancouver Sochi

		Metropolis		2018 2022	Pyeongchang Beijing
Phase VI	2026 - Future	Multiple Olympic cities Multiple regions	Regional development Tool for the reorganisation of the economy of the Olympic area Creation of new mixed accommodation solutions Development of new infrastructure for the transport of Olympic athletes	2026 2030 2034	Milan-Cortina France Salt Lake City

Table 1. Stages of the Olympic Villages at the Winter Olympics (Source: Own implementation)

3. The long process of physical and imaginary transformation of the city of Turin

The 2006 edition in Turin is recognised as the first edition to reach an Olympic area, including seven mountain locations and providing three Olympic Villages. The 2006 Olympics award to Turin will mean an increase in the size of the winter event, which will be hosted by cities with more than one million inhabitants. The event was part of a strategy for the transformation and redefinition of metropolitan areas abandoned since the industrial crisis of the 1980s. Turin's 2006 project can, therefore, be compared to that of Barcelona 1992 as it included the event in a broader urban transformation strategy with a solid base supported by master plans and long-term strategic plans. The city of Turin, thanks to the inclusion of the Olympic event, had the opportunity to develop new areas, re-establish the old railway line, add new mixed-use facilities, re-establish pedestrian areas in the old town and other works, including the revaluation of emblematic spaces and buildings. "*The slogan of rebalancing and decentralisation effectively acquired a key role in the imagination of the general public*" (De Rossi, 2006, p. 15).

The transformation of the city of Turin and the definition of the practices used in constructing the new physical and imaginary city must be analysed through decisive moments to orient and complete the physical and imaginary transformation process.

- Rigotti Masterplan in 1959 (PRG) (Turin enlargement in 1950 and 1960).
- The public transport network in 1982.
- Programming guidelines 1985.
- Three central axes of the 1996 plan (between strategic areas and disused industrial areas).
- Green crown.
- Turin, city of water.

- The City of Cities (Second Strategic Plan) (A mix of multicentric, radio-centric rail and road structures, innovative transformation areas and historical and environmental merits).

In the proposal of the Preliminary Draft of the Turin Urban Plan of 1980, the objectives for the post-industrialisation of the city of Turin were included: "Diffusion of centrality; breaking the monopoly of the central areas; improvement of the urban environment; provision of low-cost housing, initially in the centre; acquisition of large areas, in the city and on the hills, for the common enjoyment of woods and parks, for the regeneration of the environment" (Radicioni, 1988, p. 71).

- Preliminary draft urban plan, 1980.
- They closed industrial zones in Turin in 1989 (Dansero, 1993).
- The strategic zones identified in the City Council's programme, 1985-1990.

The operation carried out by Gregotti and Cagnardi had the great merit of summarising in physical images, such as that of the "*Spina Centrale*", very complicated intentions and forms of transformation: the recovery of industrial areas within Turin; the formation of new places and focal points; the interaction between urban renewal and infrastructural operations. The 1995 plan can be defined as a plan of redevelopment, reconstruction, redefinition and reconversion of abandoned industrial areas[4].

Thus, the long road of building a new image of post-industrial Turin began with its central areas, squares and main streets.
For the first time in the twentieth century, it was the physical image of Turin's spaces that was given a strategic role in defining the priorities of the new administrative policies (De Rossi, 2006).

Projects

- Redefinition of Piazza Castello, 1999.
- Pedestrian and restricted traffic zones (2000).
- PRIU Improvement and conversion programmes for Spina 1, 3 and 4.
- Integrated PRIN programme for Spina 2.
- ZUTS Urban Transformation Zones (1999 with the allocation of the Olympic event).
- Spina 2 (Politecnico, OGR, Residenza Borsellino).
- The Regional Territorial Plan (PTR) approved in 1997.
- The territorial coordination plan of the CTP was approved in 1999.
- Progetto Speciale Periferie (Artesio, 1997).

[4] It is also advisable to go deeper with developed plans to identify areas for renovation. See: Urban transformation zones (ZUT) and Projects for the PRG (City of Turin, 1994).

Subsequent projects

- Corona Verde (FUNDED BY SPD 2000-2006).
- Turin city of water.
- Hundred Places Project.
- Territorial plan of the Pinerolo area.
- The Val di Susa territorial pact.
- The Leader Plus programme "Escartons and Valli Valdesi". Identity and sustainability for an Olympic landscape.
- The Interreg III "Alte Valli" programme.
- The Turin 2006 integrated zonal plan (to take advantage of the development opportunities linked to the Olympic event and elaborating an integrated plan for the financing of SPD 2 and the phasing out (2000-2006) of the Piedmont region (Dansero *et al.*, 2003).

Thus, we can see how socio-economic development issues were strongly implicated in the physical aspects of the habitat, urban environment, infrastructure and green areas.
Turin was the first Italian city to have a strategic plan in 2000 (De Rossi, 2006). The plan consisted of six strategic intervention lines, twenty objectives, and eighty-four measures for implementing it. Implementing the strategic plan, creating the *Torino Internazionale* association and the metropolitan urban centre and appointing a city architect are signs of the growing awareness of the current metamorphosis (De Rossi, 2006).
However, the Olympics allowed the city of Turin to carry out millions of euros worth of public works, including more than a thousand operations on roads and streets in and around Turin.
In consideration of the economic development of the city of Turin, the first available data for analysing economic development in Turin is the value added at current prices. The following value represents the difference between the production value of goods and services and intermediate production costs during a given period. Therefore, through the following variables, it is possible to assess the economic growth and productivity of companies in the area. In 2020, the following value was EUR 22,857 per capita and reached EUR 29,928 per capita in 2019 (the last year for which data is available). The difference between the survey period represents an increase of +30.94%.

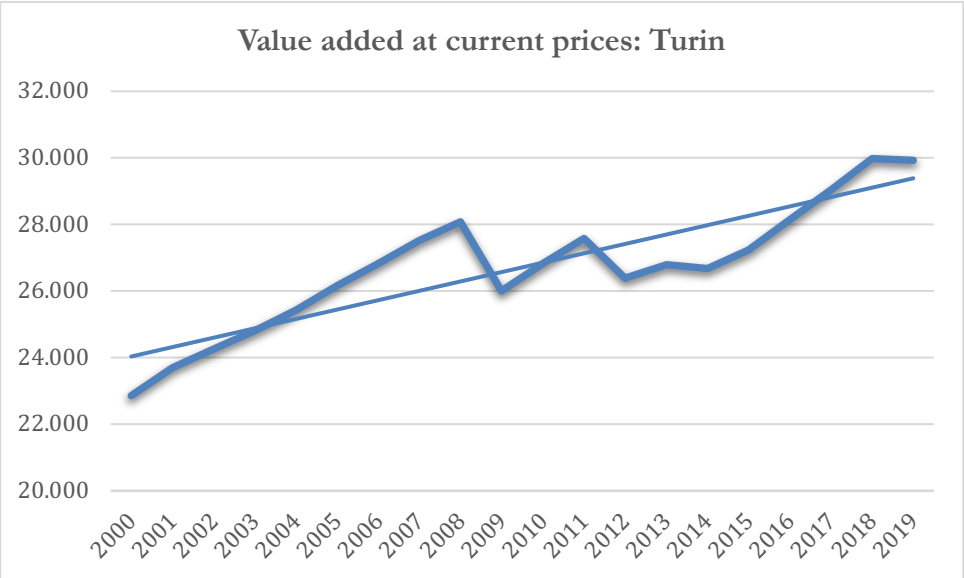

Fig 1. Value added at current prices: Turin from 2000 to 2019 (Source: Comitato Giorgio Rota)

Another significant element for understanding the economic performance of the city of Turin is foreign trade. In 1991, Turin's imports amounted to 6,649 million euros, while exports were 8,623 million euros. Turin in the early 1990s was therefore characterised by a favourable foreign trade balance of 1,974 million euros. Subsequently, in 2001, the city's imports rose to 11,726 million euro (+76.35% over 1991), while exports rose to 16,045 million euro (+86.07% over 1991), leading to a positive trade balance of 4,319 million euro (+118.26% over 1991). Whereas, in 2011, there was an increase in imports, which rose to €15,183 million (+28.48% over 2001), as well as exports, which reached €18,023 million (+12.33% over 2001). The total trade balance in 2011 remained positive and amounted to Euro 2,841 million, but contracted by 34.23% compared to 2001. Finally, in 2021, imports amounted to EUR 19,001 million (+25.15% in 2011) and exports to EUR 20,746 million (+15.11% in 2011). This increase in imports greater than exports led to a percentage drop in the trade balance in 2021 compared to 2001 -38.57%, with a value of EUR 1,745 million.

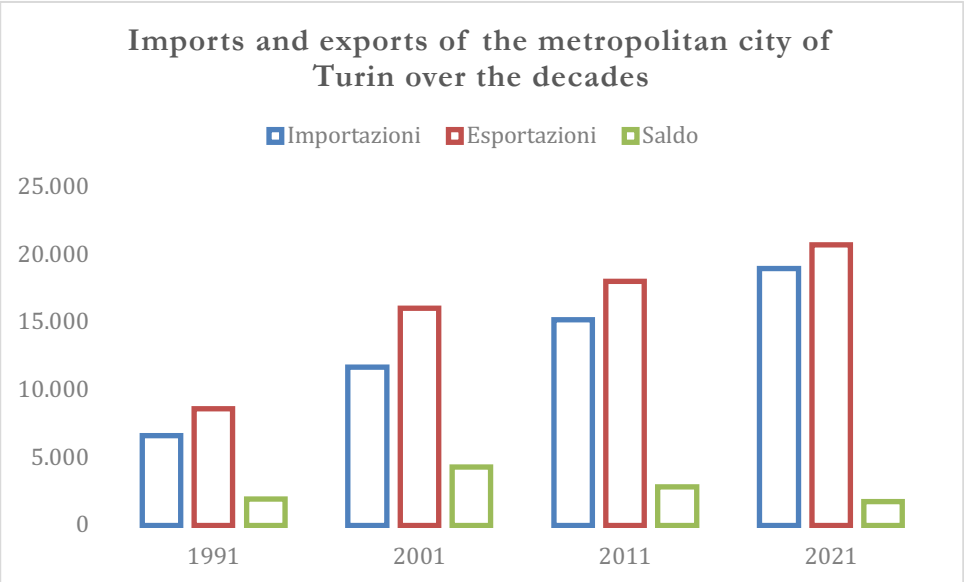

Fig 2. Imports and exports of the metropolitan city of Turin from 1991 to 2021 (Source: Comitato Giorgio Rota)

Finally, the last significant variable for understanding the city of Turin's economic performance refers to the distribution structures' size. In 2005, Turin, the most crucial number of commercial establishments, comprised neighbourhood shops (no. 31,429). The remaining shops were divided into 1,709 medium-sized establishments and 80 large establishments. Subsequently, during 2006 and 2007, there was an increase in the number of neighbourhood shops. The peak was reached in 2007 with 33,612 neighbourhood establishments (+6.95% over 2005). However, in 2018, there was a further peak in the presence of neighbourhood establishments, when they reached 34,354 (+2.21% over the 2007 peak). Meanwhile, as far as medium-sized establishments are concerned, there was an increase in their number until 2009, when Turin was characterised by 1,838 medium-sized establishments (+7.55% over 2005). However, from 2010 until 2016, there was a gradual decrease in medium-sized structures, from 1,657 medium-sized activities in 2010 to 1,468 in 2016, constituting a decrease of -11.41%. While in 2017 and 2018 there was a live recovery in the number of these activities, reaching 1,598 in 2018 (+8.86% in 2016). Finally, regarding extensive facilities, there was a progressive increase from 2005 to 2018, a period in which these activities increased from 80 units to 105 in 2018, i.e., there was an increase of +31.25% over 2005.

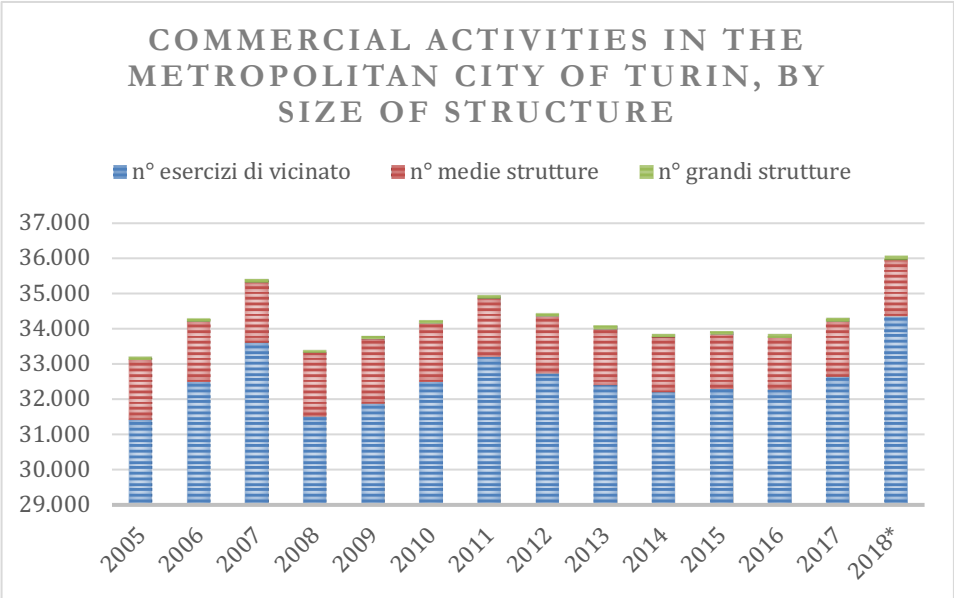

Fig 3. Commercial activities in Turin city 2005-2018 (Source: Comitato Giorgio Rota)

In conclusion, the economic development of Turin over the period analysed shows a significant growth in per capita added value, which can be observed as increased productivity and economic welfare. Therefore, the analysis of foreign trade highlights the strong performance of the city's exports but also underlines the difficulties of maintaining a positive trade balance in the presence of an increase in imports. Meanwhile, the structural evolution of the retail sector suggests a complex interaction between neighbourhood shops, medium-sized establishments, and ample outlets, each responding to changing market dynamics and consumer behaviour. In the future, policy and business leaders in Turin should focus on supporting productivity growth, increasing export competitiveness, and supporting a diversified and resilient retail sector to ensure balanced and inclusive economic development. By addressing these areas, Turin can continue to build on its economic strengths and address the challenges posed by a changing global and local financial landscape. "*The dark side of the event is represented by the 100,000 jobs lost during the same period in the manufacturing sector due to the closure of so many factories*" (De Rossi, 2006, p. 15).

4. Conclusion: Towards new forms of regionalisation and new spatial models

Looking at different urban planning experiences proposed by candidate cities during the 20th century and in the 21st century, we can identify a new transformation of the spatial dimension. The winter edition was developed by preparing primary models that were not essentially urbanistic, bound to the identity of mountain resorts. Therefore, these models were developed temporarily for the sports event. Whereas, from the second half of the 20th century, starting with the Oslo edition in 1952, the winter event enabled the establishment of new, more complex and permanent urbanisation models to be observed. In parallel, the Olympic Village shows the exact

evolution of the construction criteria observed in the summer edition. The new strategies' arrival point will implement the metropolitan and regional dimensions observed after the Turin 2006 experience. The regional model examined in the Turin 2006 edition establishes the validity of a central structure based on the metropolitan city and the different venues distributed within the regional space. Therefore, the new regional expansion model is configured in different locations, implying the creation of new networks within a larger space. Within the regional space, mountain locations have only become of fundamental importance for holding sports competitions. The metropolitan city will only be the central element of the host cities' territorial marketing strategy. Territorial promotion will be the highest expression of the regional development model of the host cities.

Moreover, mountains were sometimes excluded from the overall project in the post-Olympic phase. Thus, it is emphasised that the Winter Olympics can affect the territory through different scales of intervention and yet some models can affect the territorial organisation permanently. In Olympic history, regionalisation and temporal connections dissolved and disappeared in the post-Olympic period. However, the Milan-Cortina 2026 edition, in which three regions and two main cities will participate, will change the Olympic space again. Establishing a central city, a cluster in the mountains and other competition venues distributed in a new spatial dimension will increase the size of the Olympic area to a maximum distance of 370 km between the city of Milan and Anterselva di Mezzo, the competition venue.

So, what will happen to the Olympic venues of the future? Will they only be real estate speculation projects, or will they promote new housing strategies in the metropolitan city?

The projects of future editions (Paris 2024, Milan-Cortina 2026; Los Angeles 2028, and Brisbane 2032) provide new elements to observe a model of an Olympic Village established in the central area of the world's largest metropolises. Moreover, the model proposed by the new editions implies the creation of mixed spaces capable of hosting different functions. However, as noted above, the winter edition implies the creation of multiple accommodations within a larger territory. Therefore, the construction of the accommodations in central areas will cause a change in the construction strategies of the new districts, as they will have to be inscribed in the existing urban fabric. Thus, the Olympic Village has been transformed from a temporary sports district into an area subject to real estate speculation in the post-Olympic period. The reduction of green spaces in our contemporary metropolises implies a greater interest on the part of planners in planning Olympic accommodation in areas with a more significant real estate attraction.

Finally, we want to emphasise the importance of strategic planning in the perspective of sustainable development of future territories. Integrating strategic lines in a joint development framework can reduce the possibilities of failure and uncertainty observed in the post-event phase. The Olympic Games are special events that must fit into the context of the ordinary planning of the host cities and territories. The Olympic Village, which is planned through a long-term strategy, is a dynamic instrument for the host territory. This underscores its importance and keeps the reader engaged in the ongoing debate and research on living in specific contexts.

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