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Built Heritage

RESEARCH ARTICLE

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The role of recurring cultural events in facilitating adaptive reuse and social reconnection of industrial heritage: the case of Parco Dora, Turin

Xinwen Zhang[1], Dingran Chen[1], Jingxiong Huang[1,2], Huishu Deng[2*] and Michele Bonino[1]

Abstract

The adaptive reuse poses both challenges and opportunities for industrial heritage sites. Cultural event programming has emerged as a key catalyst in this transformation process. This study uses Parco Dora, Turin, Italy as an empirical case and investigates how ephemeral but periodic cultural events, like the Kappa Futur Festival (KFF), a major European techno festival held annually in Parco Dora, can effectively activate such spaces. Adopting mixed methods combined with multi-stakeholder analysis, including interviews, on-site observations, spatial mapping, and sentiment analysis, this study explores both top-down planning strategies and bottom-up experiential responses, aiming to understand the coordinated transformation of Parco Dora and to evaluate its social and cultural impact from the perspectives of visitors. The findings reveal that KFF has played a significant role in both the physical revitalisation and the symbolic repositioning of Parco Dora. 1) Tangibly, the festival has spurred infrastructural upgrades, enhancing the park's function as a daily public space. 2) Intangibly, the annual event reinforces the site's cultural identity and visibility, transforming it into a vibrant urban landmark. Visitors' perceptions further emphasise the site's unique historical and spatial character. This study offers a reference for the adaptive reuse of industrial heritage through cultural event programming, which demonstrates how periodical cultural events can generate sustained socio-economic and cultural value, providing strategic insights for planners, cultural producers, and policymakers aiming to revitalise post-industrial urban spaces.

Keywords Industrial heritage, Cultural events, Event organisation, Adaptive reuse, Parco Dora

1 Introduction

In the context of global deindustrialisation and urban transformation, many cities were left with extensive industrial land, deteriorating facilities and fragmented infrastructure in areas that had become increasingly central to contemporary urban development (Kefford 2016; Liu et al. 2014). The demolition and reconstruction of those built spaces face a dilemma between short-term economic interests and the disappearance of cultural heritage, while the adaptive reuse of built heritage has become an increasingly prominent approach. Different from the traditional conversion and protection of industrial heritage, the adaptive reuse aims to attach new values to these abandoned sites capable of generating economic outputs and promoting local development (Alavi et al. 2022). Existing research shows that long-term outcomes depend on structural and architectural conditions, socio-cultural, legal, management

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and functional dimensions (Mérai et al. 2022; Mısırlısoy and Günçe, 2016; Vafaie et al. 2023; Wang et al. 2021). One case in Seoul also demonstrates that former industrial land was increasingly converted into urban parks through strategies that combined ecological restoration, cultural interpretation, and recreational provision rather than simple preservation or display (Lee 2019). In parallel, reused industrial buildings have become increasingly important anchors for creative-cluster formation, which were shaped by governance arrangements, state involvement and urban-branding strategies instead by architectural form alone (Gu 2014). Chan et al. (2019) explore that industrial-land redevelopment performs more effectively in social-sustainability terms when cultural activity, public space, conservation and community image are treated as interrelated rather than separate concerns. Identifying new uses for such sites can help retain their symbolic value while integrating them into local circular economies. In this sense, community engagement is often regarded as a key component of this process, since it can facilitate the successful integration of adaptive reuse initiatives into broader urban development or tourism strategies (Della Lucia and Pashkevich 2023; Firth, 2011).

However, most current studies on adaptive reuse emphasise the final outcomes, offering less insight into the processes through which industrial sites become gradually activated, interpreted and socially embedded. Process-oriented transformation requires methods capable of capturing everyday practices, layered meanings and situated forms of use. In this sense, Mattila et al. (2022) argue that human-centred knowledge could help bridge the gap between formal planning systems and the lived realities of urban users by making daily practices and local values legible within planning and regeneration processes. This concern is particularly relevant in adaptive reuse contexts where place memory, place change, and community action shape how transformation is experienced and contested (Falanga 2022), as the meaning of industrial sites is continuously reconstructed through interpretation, experience and perception rather than simply preserved as a static attribute (Wang and Wang 2023; Zhong et al. 2024). Adaptive reuse in post-industrial contexts should be understood as a question of functional conversion as well as a question of how obsolete industrial spaces are incrementally reinserted into contemporary urban life through repeated use, changing meanings and evolving stakeholder relationships.

Driven by the need for more sustainable and cost-effective approaches to hosting events, many cities have rejected constructing expensive new venues, widely adopting the strategy of adaptive reuse of existing urban spaces (Vardopoulos 2019). Therefore, events has been increasingly recognised as a catalyst for activating the spirit of place within industrial heritage and accelerating its transformation (Zhong et al. 2024), which might not happen otherwise or would take longer time (Deng et al. 2020). The core of such projects is to attach sustainable attractions to those abandoned sites through the organisation of events, often in integration with long-term urban planning. Lusiani and Panozzo (2016) interpret cultural activities through a functionally deterministic lens, in which industrial heritage is reduced to an empty container assigned with predefined uses in order to fulfil external objectives. They generate short-term benefits during the event period and can also produce longer-term community benefits by promoting sustained public participation.

Nevertheless, persistent challenges remain in integrating event hosting with the adaptive reuse of industrial heritage. Many initiatives still focus primarily on short-term image enhancement and visitor influx, while neglecting their long-term social impact on surrounding communities. Although mega-events can provide valuable resources and visibility for industrial heritage transformation, their long-term benefits depend on inclusive planning and sustained utilisation (M. Zhang 2024). Quinn (2005) points out that city authorities often instrumentalise festivals as economic generators or quick image fixes, while underestimating their broader social and cultural value in animating urban life and strengthening identity. Similarly, Evans (2005) proposes that the contribution of culture to regeneration is often assumed; hence, more attention should be paid to the actual processes through which cultural interventions affect places. Perry et al. (2020) argue that festivals should be understood as integrative sites where tangible and intangible heritage become entangled in multi-directional and contingent ways, which means there is a completed interrelationship between the sites and events. Jones and Ponzini (2018) similarly argue that the overlap between event-led urban development and heritage preservation remains underexplored, despite the fact that events frequently depend on existing urban assets, historically meaningful settings, and symbolic place-making. Cultural events may actively participate in reshaping how such sites are read, valued, and positioned within the city, which is particularly relevant for industrial heritage because many post-industrial sites possess strong atmospheric and symbolic qualities however lack clear everyday centrality after deindustrialisation. Cultural events enable industrial heritage to function as a preserved relic and an active urban setting, explaining the reason of event-led activation has become increasingly visible in the regeneration of post-industrial parks, waterfronts, warehouses and factories (Gunay and Dokmeci 2012; Rota and Salone 2014). Lau and Li

(2019), used a place-theory approach and showed that urban festival experiences shape place in many ways, including consumption, entertainment, atmosphere, embodied interaction, and symbolic association.

A critical strand of literature has shown that event-led strategies may create imbalances in how urban transformation is experienced. Festivals may generate visibility without necessarily broadening everyday accessibility, and symbolic upgrading may coexist with selective governance arrangements or unevenly distributed benefits. Cultural programming and special events are often mobilised instrumentally to re-image cities and attract investment, while their longer-term social and cultural benefits remain far less certain (García 2004). A related concern is that culture- and heritage-led regeneration may intensify social fragmentation. More specifically, urban landscapes are often remade in the name of culture and heritage preservation in ways that privilege certain users, values, and narratives over others. In this context, heritage-led redevelopment may function as a tool of urban governance, high-cultural positioning, and economically driven spatial restructuring, often at the expense of poorer residents and migrant communities (De Cesari and Dimova 2019; Zhang et al. 2020). Indeed, the effects of cultural events in industrial heritage transformation need to be assessed critically, since the celebration of memory, atmosphere, and post-industrial identity may therefore be selective, foregrounding narratives compatible with branding and visibility while muting less marketable histories of labour, decline, conflict and exclusion. As Firth (2011) found, the adaptive reuse of an industrial heritage site in Sydney successfully produced a new tourist destination; only 10% of surveyed visitors recognised its historical significance or redevelopment. Although the adaptive reuse of industrial structures can contribute to their regeneration, it may also endanger their distinctive heritage value when new functionality takes precedence over site history (Jones and Zhang 2024).

On this basis, public perception is a crucial dimension for evaluating the outcomes of adaptive reuse. In industrial contexts, physical renewal and functional conversion do not automatically ensure that a transformed site will be understood, valued and socially integrated. The meanings attached to heritage sites are shaped not simply by their physical attributes, but by how people perceive and interpret them. Recent research on this realm has similarly emphasised placeness, local identity and behaviour patterns as key dimensions of transformation beyond material conservation alone (Zhang et al. 2025). More broadly, studies of urban regeneration show that place attachment, place memory and community action are central to how transformed environments acquire lasting significance (Falanga 2022). Regeneration outcomes cannot be fully understood without examining how people related to heritage in both online and offline settings, since heritage value is dynamically produced through lived and narrated experience instead of being fixed by design alone (Jones et al. 2024). Additionally, event-led adaptive reuse emerges through interactions among public institutions, event organisers and visitors instead of a single narrative. Jung et al. (2015) took the Gwangju project as a case, show that collaborative stakeholder partnerships were widely perceived as crucial to the socio-cultural and economic effects of culture-led regeneration. Furthermore, the process of event-led adaptive reuse should pay greater attention to collective memory and social inclusion, ensuring that marginalised voices are acknowledged and that multi-stakeholder collaboration underpins the transformation process (Graezer Bideau and Deng 2022). In this sense, semi-structured interviews with multi-stakeholders and perception-oriented analysis offer methodological supplements for this study, jointly making it possible to examine how organisers interpret industrial space, how visitors experience and narrate it and how recurring events mediate between temporary intensity and long-term place transformation. Under these circumstances, regeneration cannot be understood solely as either a completed design project or a sequence of events. Rather, it emerges through the cumulative interplay of periodic occupation, spatial adjustment, and lived experience. It is at this intersection that event-driven adaptive reuse becomes analytically distinct from more conventional models of industrial heritage conversion.

This study aims to explore the process for transforming industrial heritage sites into vibrant urban parks catalysed by periodic cultural events. Using Parco Dora in Turin, Italy as a case study, it employs a mixed-method framework to engage multiple stakeholders involved in heritage renovation and event programming. The research specifically investigates how events catalyse the adaptive reuse of industrial heritage, and how adaptive reuse enhances place identity and reshapes public perception. Findings highlight the importance of integrated planning that combines spatial transformation, event organisation, operational management, and post-event maintenance to achieve enduring impacts. The findings provide practical insights for urban planners, policymakers, and event organisers seeking to leverage cultural events as sustainable tools for heritage-based adaptive reuse.

2 Methods

2.1 Study area

Parco Dora (English name: Dora Park) is located in Turin, Italy (Fig. 1). It occupies a former industrial area

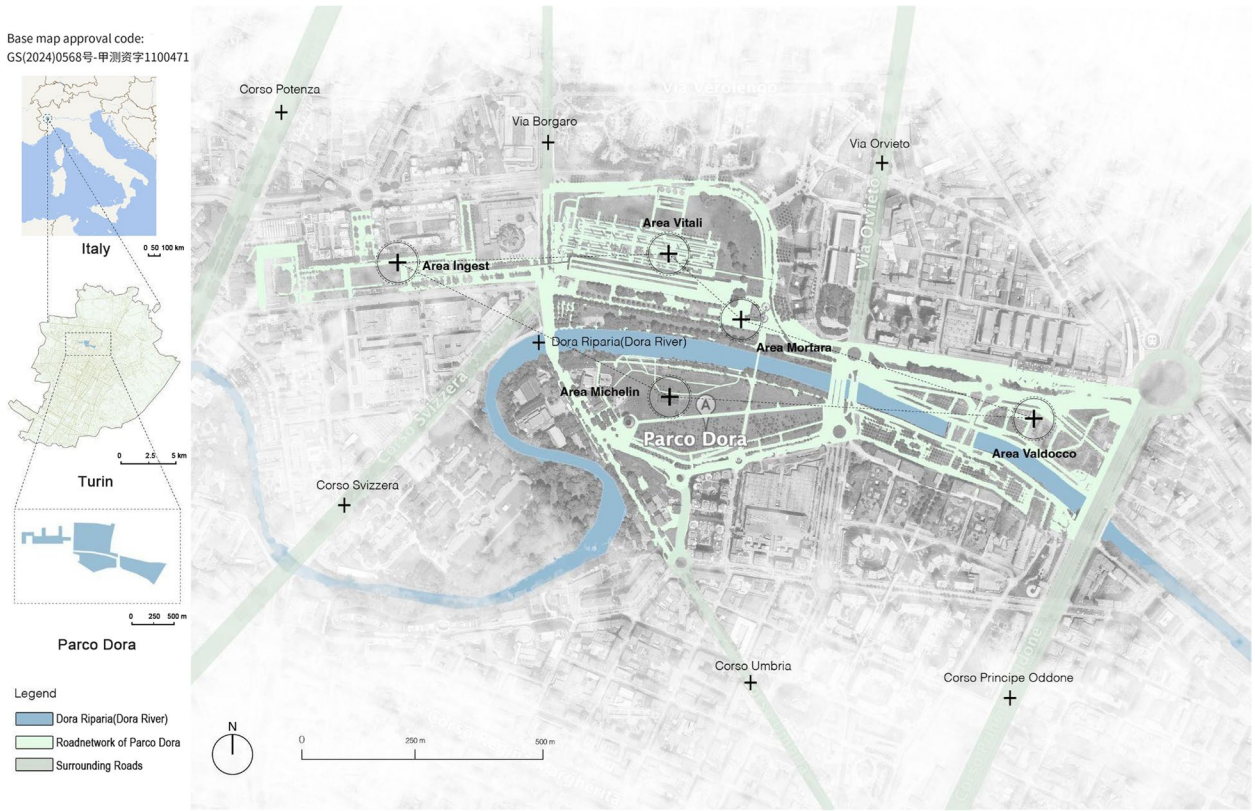


Fig. 1 Parco Dora (Source: the authors)

along the Dora River that was once part of Turin's major manufacturing zone, and gradually transformed into a public landscape after the industrial decline in the late twentieth century (Wang 2013). The adaptive reuse of Parco Dora began in 2004 and unfolded in several phases, combining the preservation of selected industrial remnants with the introduction of new public open spaces and circulation systems. The final section was completed in 2021. Parco Dora, combining a large industrial legacy, phased regeneration, and the later incorporation of recurring events, provides an appropriate case for examining event-driven adaptive reuse of industrial heritage.

2.2 Research design

This paper adopts an integrated research framework, which links institutional adaptive reuse processes with public perception and practice, to further reveal the mechanism that how events catalysed the adaptive reuse of industrial heritage and reshape its public perception and identity, as shown in Fig. 2.

The top-down dimension focuses on how adaptive reuse and event integration were framed, planned, and operationalised. It draws on planning documents, policy papers, interviews, and event reports to reconstruct the adaptive reuse process and its integration with events, to examine institutional intentions, governance arrangements, design strategies, and event-related operational logics that shaped the transformation of Parco Dora. The bottom-up dimension focuses on how the site has been perceived, experienced, and used by visitors. It combines online reviews with on-site observation to examine public perception, place identity, and everyday spatial practice. Online reviews are analysed through sentiment and textual analysis to identify dominant evaluative tendencies and recurring themes, while on-site observation and mapping are used to document activity patterns and areas of concentration across the site.

2.3 Data collection and processing

Data were collected from multiple sources (Tab S1), it combines institutional materials related to planning, design, and event operation with publicly available and site-based evidence of visitors' perception and spatial practice.

Top-down data include the Piano Regolatore Generale (PRG) and the Programma di Riqualificazione Urbana "Spina 3" (PRiU), which were issued by the City of Turin, together with semi-structured interviews and

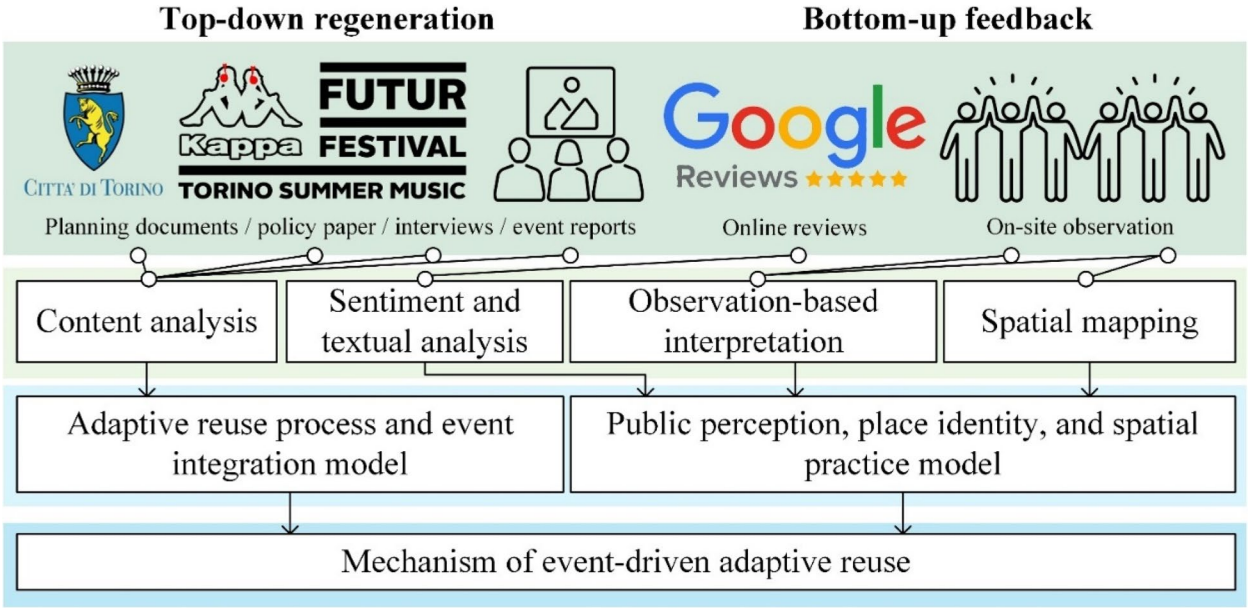


Fig. 2 Research framework (Source: the authors)

event-related reports. The documents were used to identify planning objectives, redevelopment strategies, and the role assigned to public space and heritage reuse. Interviews with actors involved in governance, design, and event organisation (i.e. the Kappa Futur Festival, since 2012) were conducted between April and May 2024 and generated approximately three hours of recorded material. Official reports and interviews with event organisers were used to examine how recurring events were incorporated into the long-term use and management of the site. These materials were processed through qualitative content analysis.

Bottom-up data include Google Reviews and on-site observation. All available Google Reviews of Parco Dora were collected in April 2025, yielding 2,945 entries. After cleaning, 996 reviews were retained for sentiment and textual analysis. Using the DistilRoBERTa model (Sanh et al. 2020), each review was classified according to dominant emotional tendency, and the texts were further examined for recurring themes related to industrial character, spatial atmosphere, leisure use, accessibility, safety, and site image. On-site observations were conducted in April 2024 on both weekdays and weekends; each session lasted about three hours and involved systematic recording of visitor presence, activity type, and spatial behaviour. In total, 206 individual visitors were observed. Field notes and visual records were processed through observation-based interpretation and spatial mapping to identify activity patterns, movement, and relative intensity of use across the park.

3 Results

3.1 Spatial transformation

The area where Parco Dora is located was initially home to four factories: Fiat Ferriere, Michelin, Savigliano, and Paracchi. In the late nineteenth century, workers settled around these plants, forming an industrial neighbourhood. However, in the 1980 s and early 1990 s, Turin faced industrial decline and an economic crisis, which led to a wave of plant closures. This resulted in extensive brownfields and derelict industrial sites (Vanolo 2008). As industrial zones were progressively abandoned, a once-productive corridor became empty (Maspoli 2012). The downturn of the FIAT automobile sector in the 1980 s marked a turning point in Turin's socio-spatial transformation (Della Sala 2023).

Against this backdrop, Turin initiated PRG in 1986 and approved it in 1995. This plan focused on four major redevelopment areas called the Spina projects. The goal was to reposition Turin as a cultural and creative centre by reusing abandoned industrial sites, upgrading infrastructure, and restoring the Dora River area (Vanolo 2008; Pede 2024). Spina 3 is the largest of these projects, covering over 1,000,000 m^2, mostly designated as public green space and designed as a multifunctional urban area (Governa et al. 2009). Parco Dora

is the main section of Spina 3. It connects redesigned neighbourhoods and serves as both a physical and symbolic link. In 1998, the PRiU "Spina 3" began (Maspoli 2012), which sought to transform former factory zones into urban parks and residential spaces, as shown in Fig. 3 (Bottero et al. 2023). After an international design competition in 2004, landscape architect Peter Latz and his team won the project (LATZ + PARTNER, 2012). The park officially opened in 2012, focusing on reconnecting the Dora River, reworking existing industrial buildings, and integrating the park with the city. The timeline of its transformation is displayed in Fig. 4.

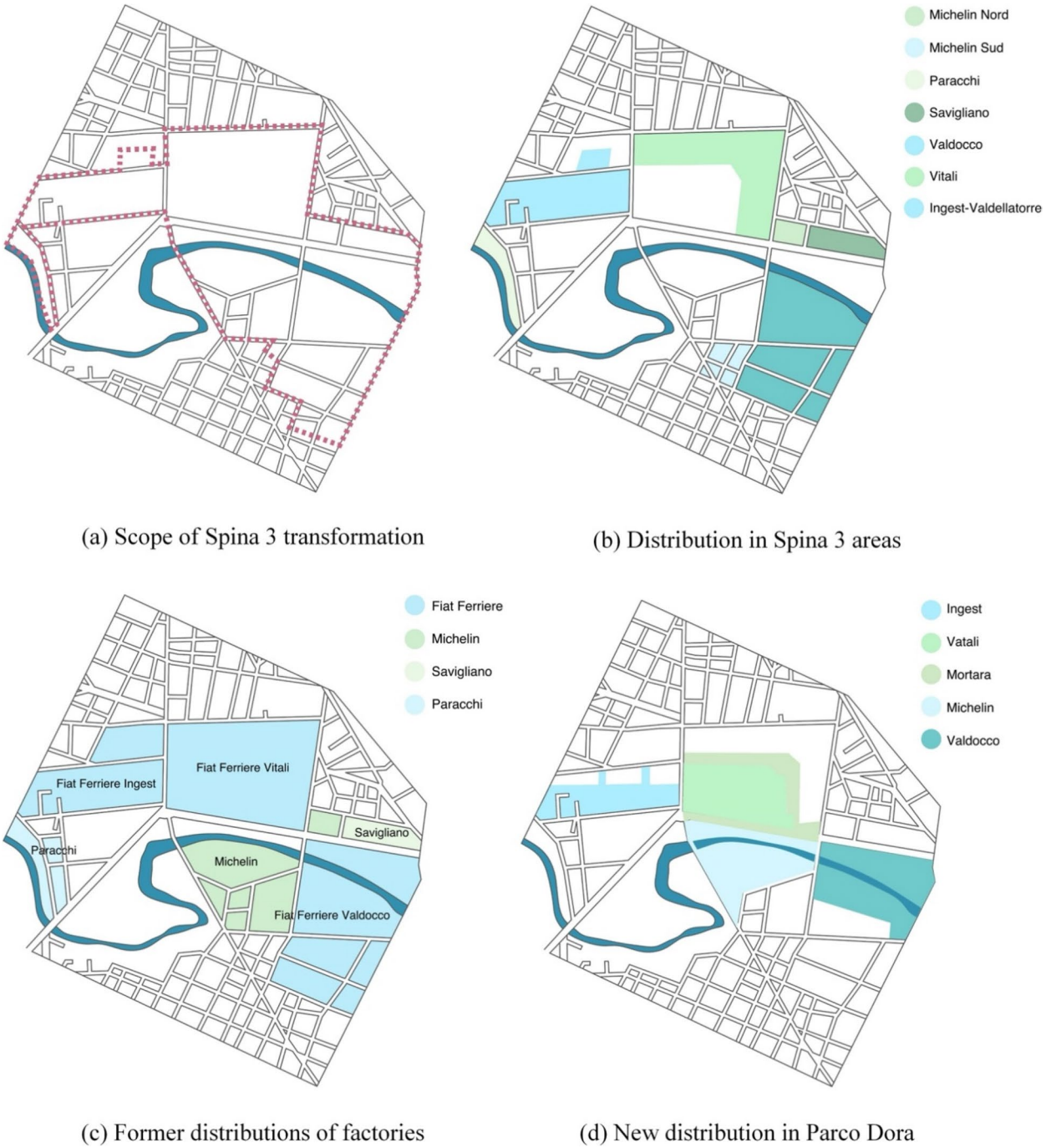


Fig. 3 Transformation and distribution in Spina 3 areas (Parco Dora) (Source: Città di Torino -http://www.comune.torino.it/comitatoparcodora/parco/)

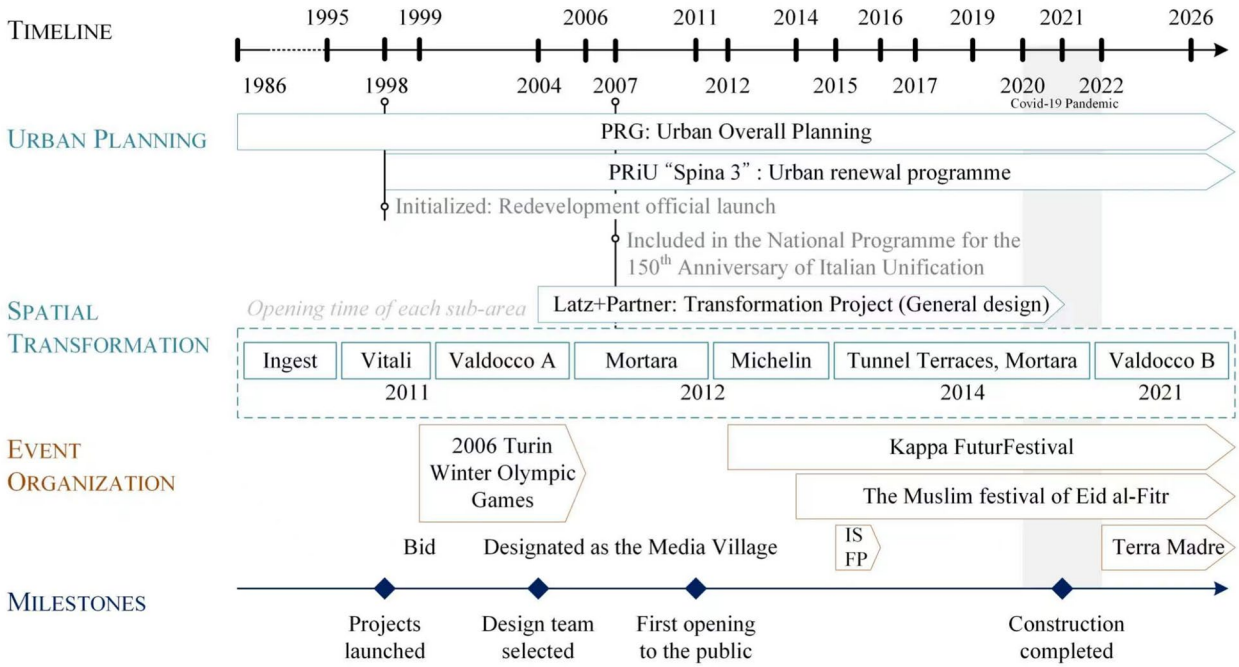


Fig. 4 The timeline of the transformation project (Source: the authors)

Beyond Turin's long-term planning, the 2006 Winter Olympics acted as a crucial catalyst for Parco Dora's transformation (Kennell et al. 2009). Following the successful bid in 1999, Turin invested significantly in infrastructure and environmental improvement to enhance the area. The Michelin Nord area of Spina 3 (Fig. 3b) was temporarily converted into a Media Village for journalists during the Olympics. After the event, the dismantled Olympic structures were replaced by mixed-use residential and commercial facilities (Vanolo 2008; Dansero et al. 2015). Overall, Parco Dora's regeneration was shaped by strategic planning and the influence of the 2006 Winter Olympics, reflecting the city's transition from an industrial centre to a post-industrial urban model (Rossi 2011; Pollio 2016).

Parco Dora, covering approximately 456,000 m^2, is Turin's second-largest urban park, offering extensive public space for leisure, recreation and cultural events (Bottero et al. 2023). It consists of five zones: Ingest, Vitali, Mortara, Michelin, and Valdocco (Fig. 3b). Each zone combines natural landscapes with preserved industrial structures, creating distinct spatial identities (Graezer Bideau and Deng 2022).

At its centre, a large plaza is framed by red-painted steel columns and cooling towers. The preserved stripping hall next to the Future Forest serves as a flexible venue for cultural and community activities. Key industrial remnants, including steel columns, sedimentation tanks transformed into water gardens, cooling towers, and factory walls in the Vitali area, have been retained as illustrated in Fig. 5. In the Ingest area, the concrete foundations and service-shed walls of the former rolling mill were repurposed as a *hortus conclusus*, a protected garden displaying diverse plant species. A row of columns that once supported an elevated bridge was also retained as a landscape feature. In the Michelin area, the landmark cylindrical evaporative tower was preserved, while in the Valdocco area, portions of reinforced concrete slabs and structural frames remain along the Dora River.

Alongside the preserved industrial structures, new landscape elements and community facilities were introduced to improve liveability and strengthen residents' sense of belonging. A six-metre-high steel pedestrian walkway created new visual perspectives and circulation links, while a bike path along the Dora River, developed under the *Torino Città d'Acque* initiative, connected Spina 3 to Turin's wider cycling network. Children's play areas were added to the Ingest zone, and a four-metre observation hill was created in Valdocco, surrounded by open lawns and more than 300 newly planted trees. As one of the designers involved in the Ingest area explained, "these interventions not only improved accessibility and comfort but also reshaped public perceptions of the industrial ruins. Once perceived as intimidating, the preserved steel structures gradually became familiar and

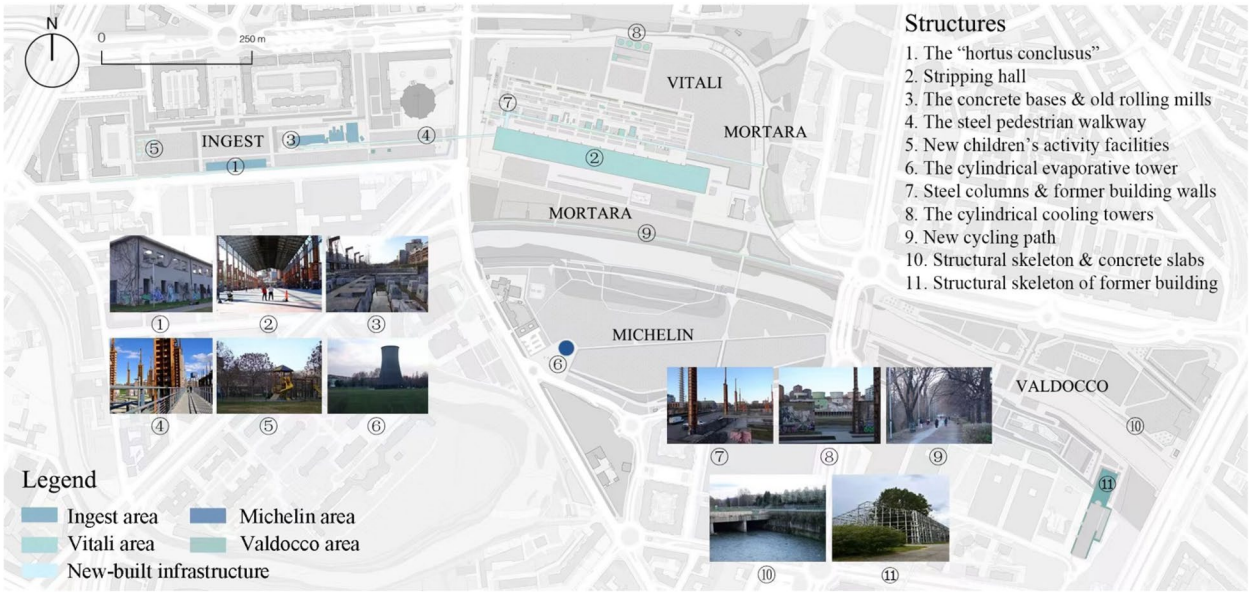


Fig. 5 Distribution of industrial remnants and new-built facilities in Parco Dora (Source: the authors)

valued landmarks associated with comfort, attachment, and collective memory".

Parco Dora exemplifies how industrial heritage can be reinterpreted through contemporary landscape design. It reflects Turin's transition from an industrial city to a more sustainable and creative urban model, while showing how derelict industrial land can be regenerated into public parkland integrated with the surrounding city (Rossi 2011; Pollio 2016).

3.2 Organising and operation strategies

As a revitalised industrial heritage site, Parco Dora has also become a venue for cultural events. Among its recurring cultural programs, the KFF, one of the world's largest techno festivals. Organised annually by Movement Entertainment, the event typically spans three days and has been held since 2012, except for the pandemic suspension in 2020–2021, providing a particularly relevant case and comprehensive insights for examining how a periodic cultural event can contribute to the continued activation of an adapted industrial heritage site.

Taking the 10th edition in 2023 as an example, KFF attracted around 100,000 attendees from 120 countries, with Italian and French attendees representing the largest nationality groups. The festival also generated visible benefits for Turin. Public transport services were intensified during the event to accommodate increased demand. As shown in Fig. 6, the attendee questionnaire was jointly administered by KFF and Turismo Torino e Provincia (Convention & Visitors Bureau), and the aggregated results were obtained in a report provided by KFF. The travel modes indicate that attendees used a combination of private and public transport to reach Turin and Parco Dora. Around 77% of respondents used hotels, holiday rentals, or B&Bs, while hotel occupancy in Turin exceeded 80% during the festival period. These patterns indicate substantial event-related demand for accommodation and tourism services and illustrate the wider economic opportunities associated with KFF. These findings indicate that KFF works as a significantly attractive festival as well as a recurring urban-scale program embedded in the wider logistical and service systems of the city.

More importantly, KFF demonstrates how periodic cultural use can reactivate the spatial and functional capacities of Parco Dora after its formal redevelopment. As shown in Fig. 7, the 2024 edition featured five stages, including the new Voyager and Kosmo stages, mainly located in the Vitali area. The Futur Stage, installed beneath the preserved stripping hall, is especially representative of this mechanism, as it reuses an industrial structure as an operational and symbolic focal point for contemporary cultural production. Food trucks, bars, emergency facilities, temporary toilets, and service units were distributed across the site in a flexible and reversible manner, allowing large-scale occupation without permanent alteration of the park's overall layout. This temporary infrastructure strategy is important because it shows how the site can accommodate intensive cultural use while retaining its openness and public character.

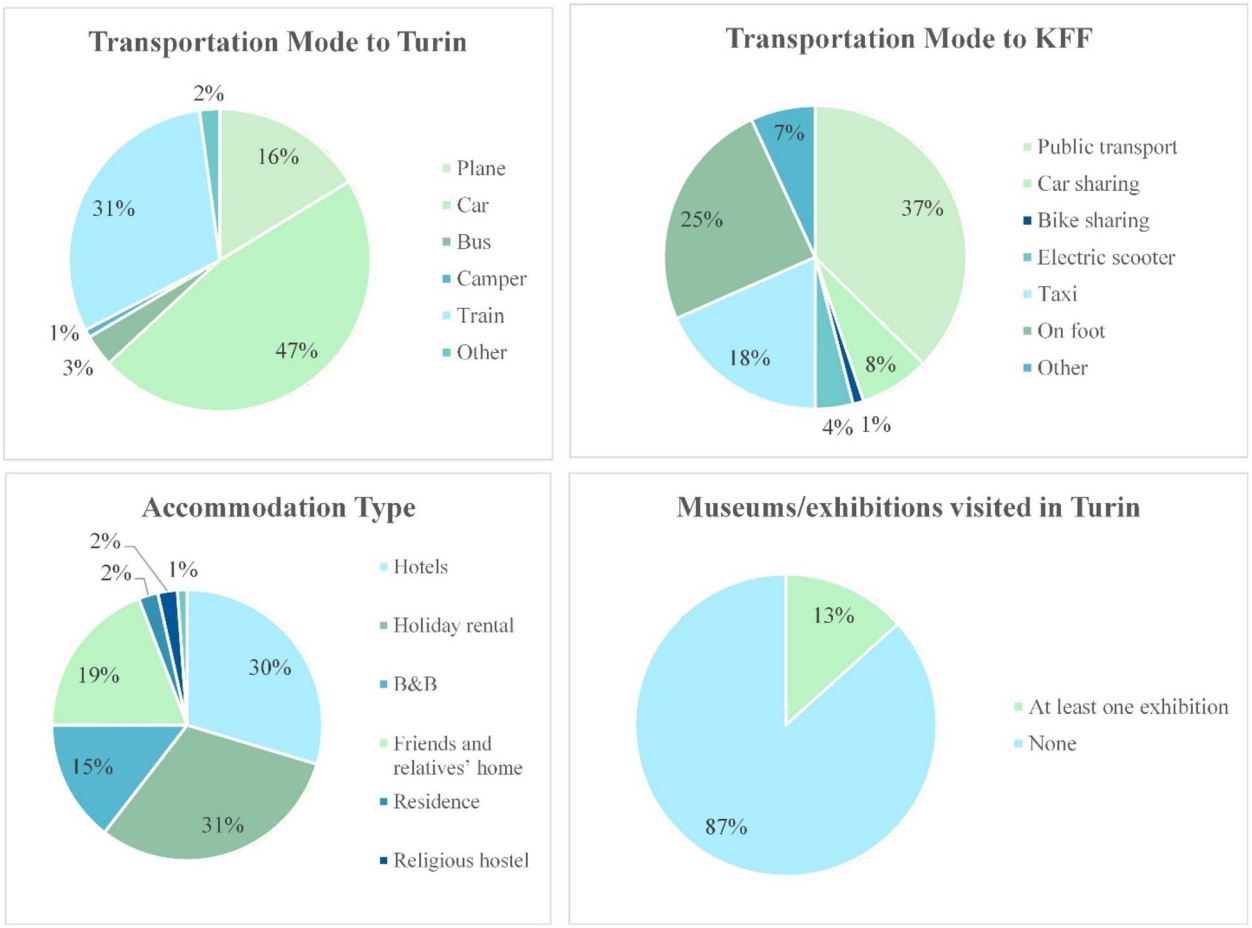


Fig. 6 Results of the questionnaire of 2023 KFF attendees (Source: Movement Entertainment)

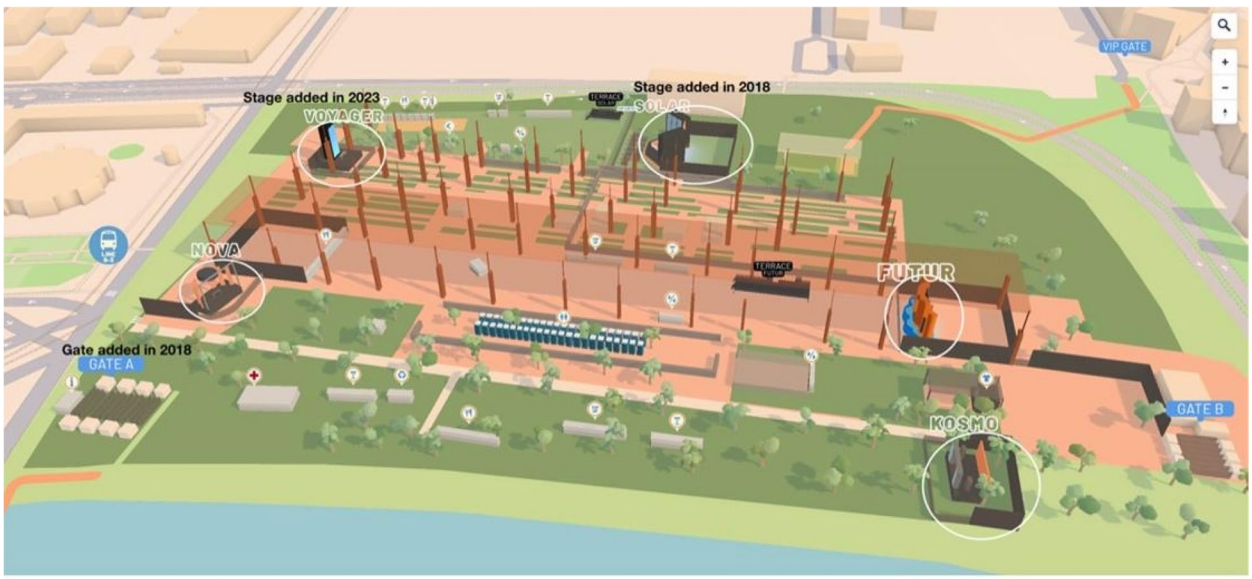


Fig. 7 The master plan of the KFF 2024 (Source: Movement Entertainment)

The festival's role is not limited to short-term occupation during event days. Movement Entertainment, the organising company of the KFF, has also contributed to the post-event maintenance and long-term operability of the site (Fig. 8). A representative of the event organiser explained that 'the routine maintenance supported by KFF organisers include installing outdoor defibrillators, replacing sports equipment, and repairing benches and pathways'. Since 2013, the company has sponsored the upkeep of the Vitali green area, including the refurbishment of flower beds and drainage improvements. Besides, an engineering load test confirmed the safety of the northern lawn for large-scale gatherings in 2018. These actions indicate that KFF extends beyond event programming to function as a secondary layer of adaptive reuse, sustaining the redeveloped industrial heritage site through recurring occupation, technical adaptation, and reinvestment in maintenance, and thereby contributing to its continued operational and spatial renewal after formal planning and design interventions.

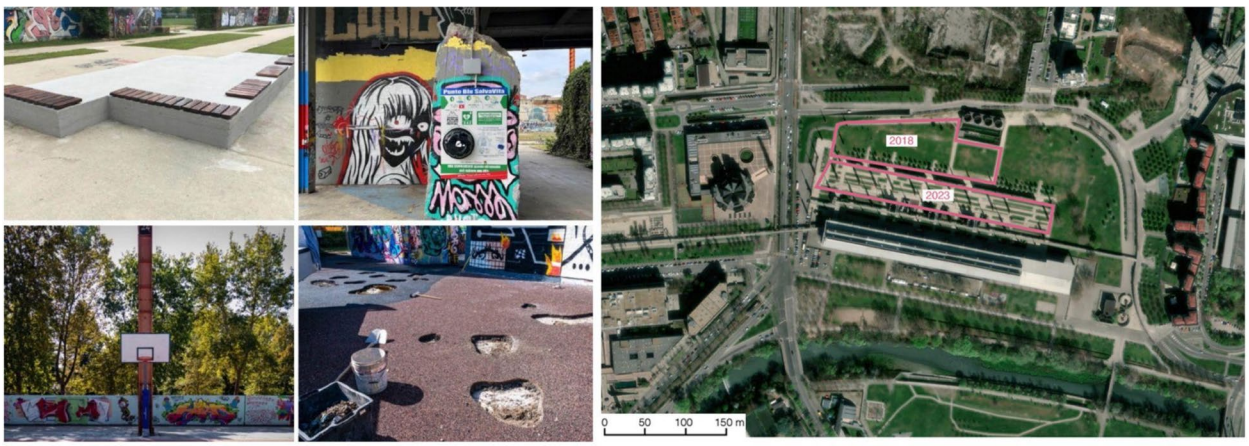
This process is further reinforced by other cultural, educational and everyday activities that broadened Parco Dora's use and public visibility. Events such as the International Street Food Parade (ISFP), the 2023 Ramadan prayer (Munafò and Giachino 2025) and Terra Madre Salone del Gusto 2022 attracted diverse publics and strengthened the park's association with multicultural exchange, inclusivity and environmental awareness. Parco Dora also functions as an educational platform. Collaborations with local universities, particularly the Politecnico di Torino, have supported exhibitions, workshops, and design-oriented activities that reinterpret the site through the lenses of industrial heritage and urban innovation. Initiatives such as *Disegnare la città* and *the Torino Innovation Mile project* indicate that the park serves as a venue for cultural consumption and also a site for learning, research and future-led experimentation. Meanwhile, community-based activities and everyday uses, including street art, skateboarding and cycling, further anchor the site in ordinary urban life.

Together, these activities show that the continued activation of Parco Dora depends on more than occasional spectacle. Its identity is produced through the coexistence of major events, educational programs, and everyday practices, all of which help sustain the park as a living post-industrial landscape. In this sense, KFF should be understood as the most prominent expression of a wider process in which recurring and diverse forms of cultural use continue to stabilise the social relevance and urban distinctiveness of the site.

3.3 Public perception and spatial practice

Parco Dora has a stable public image and a favourable reputation, with an average rating of 4.43. As shown in Fig. 9, joy is the dominant emotion in reviews, averaging 49.9% and exceeding 50% in recent years. Neutral comments follow at 34.2%, while surprise is around 5%. Negative emotions like anger, fear, sadness, and disgust are less common and have declined over time, indicating increasingly positive public responses to Parco Dora.

A closer reading of the texts reveals several recurring themes. As shown in Tab S1, positive comments often highlight the park's spaciousness, riverside setting, preserved steel structures, and unique post-industrial atmosphere. Visitors appreciate the contrast between



(a) The post-maintenance from the event organizer

(b) The map of the area that has been interested in the most significant engineering

Fig. 8 The post-maintenance from the Movement Entertainment (Source: Movement Entertainment)

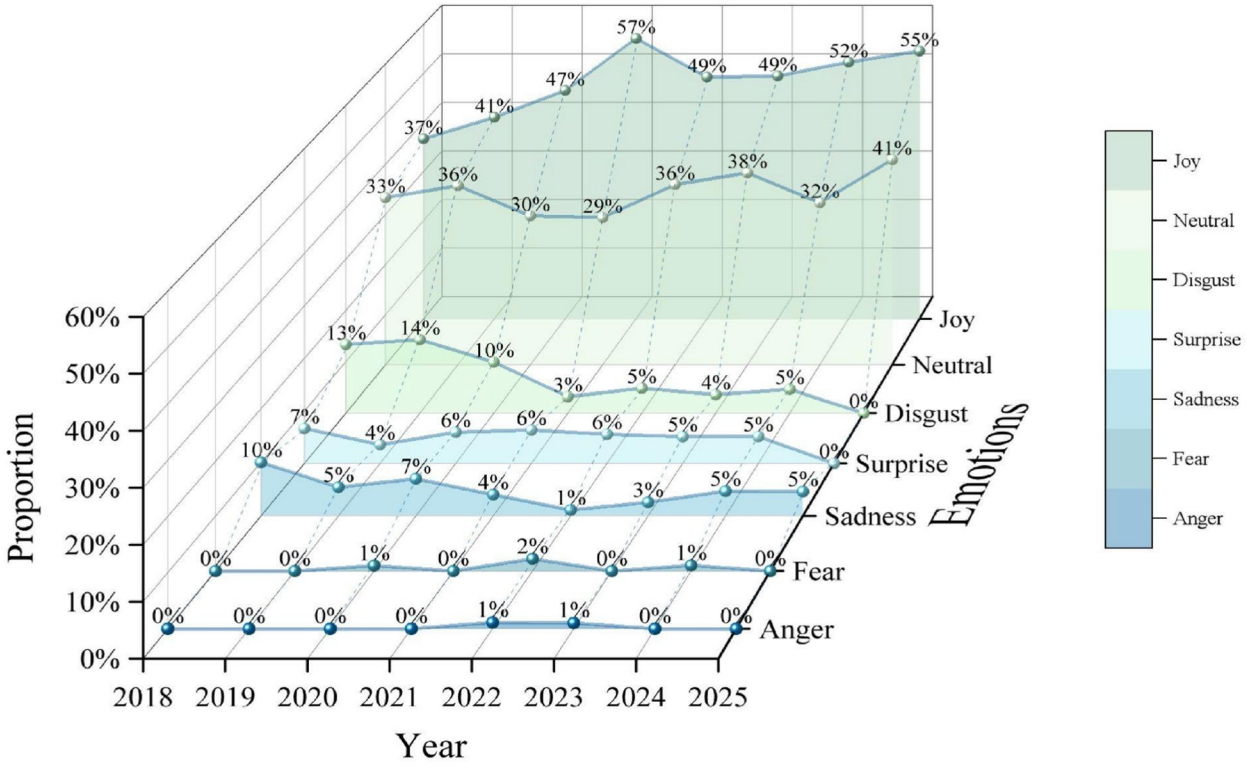


Fig. 9 Yearly sentiment distribution of Google Reviews (Source: the authors)

industrial remnants and greenery, making Parco Dora visually memorable compared to typical urban green spaces. These features are frequently showcased in user-uploaded photos, contributing to the park's public image.

Positive evaluations are linked to actual uses like walking, relaxing, jogging, informal gatherings, and events, as the park is seen as suitable for leisure and recreation. Neutral comments focus on practical aspects such as walking paths and sheltered areas, indicating that Parco Dora has become a regular part of daily urban life. Surprise reviews are less common, often referring to the scale of industrial elements and the coexistence of green spaces. Negative reviews typically relate to operational issues or safety concerns, though it does not dominate the dataset. Overall, positive perceptions are tied to the park's distinct industrial landscape and quality of recreational use, while negative feedback is more focused and management-related.

The observational results provide a second layer of evidence, and eleven categories of behaviour were recorded in Fig. 10. Walking is the most common activity, followed by resting and jogging. This distribution shows Parco Dora functions as a space for everyday movement, pause, and low-intensity recreation. Resting on benches and lawns also accounts for a substantial share, suggesting that the park supports prolonged occupation rather than short visits or transits. Visitors spend time in the landscape, indicating a relatively high level of spatial comfort and acceptance. More active forms of use are also clearly present, showing that Parco Dora accommodates a broad range of physically intensive and socially visible activities. Some of these uses depend on dedicated facilities, while open hard surfaces, linear paths, or adaptable spaces within the park enable others. The diversity reflects the flexibility of the regenerated landscape and its capacity to support multiple rhythms of use.

Age-related differences are evident in the observation results. Younger visitors gravitate towards dynamic activities like basketball and skateboarding, while middle-aged individuals prefer walking and jogging along main routes. Older visitors tend to engage in walking, cycling, and resting in areas with easy access and comfortable seating. These patterns show that different parts of Parco Dora support different intensities and types of activity, without strict separation between age groups.

The spatial distribution reveals that activities cluster in specific areas of Parco Dora, particularly in the Vitali and Michelin sections, where circulation routes and open surfaces intersect (Fig. 11). Sports practices are found in zones with dedicated facilities; while walking and jogging follow major pathways. Resting behaviours occur more often in open, comfortable, or visually attractive

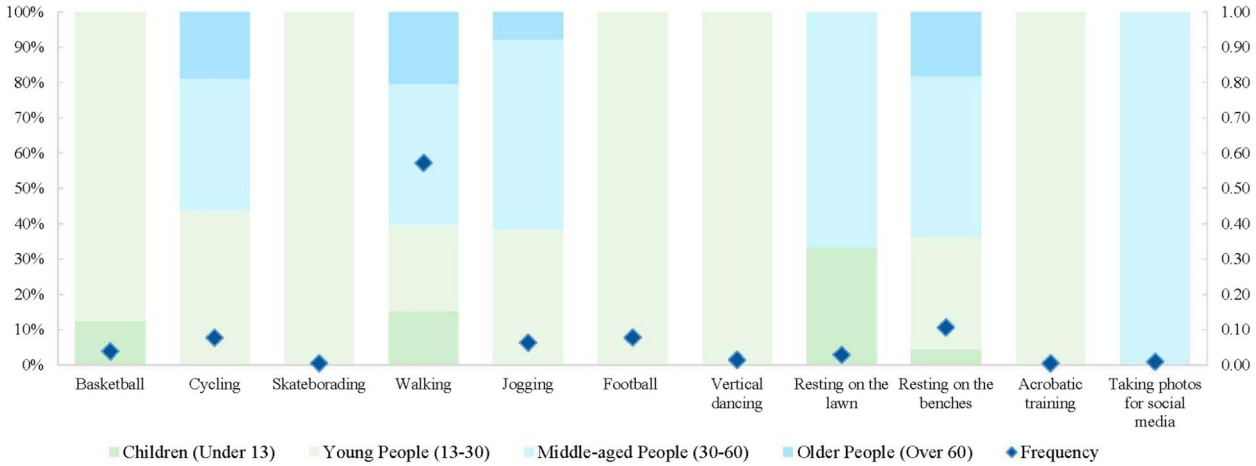


Fig. 10 On-site observation of visitors' behaviour in Parco Dora (Source: the authors)

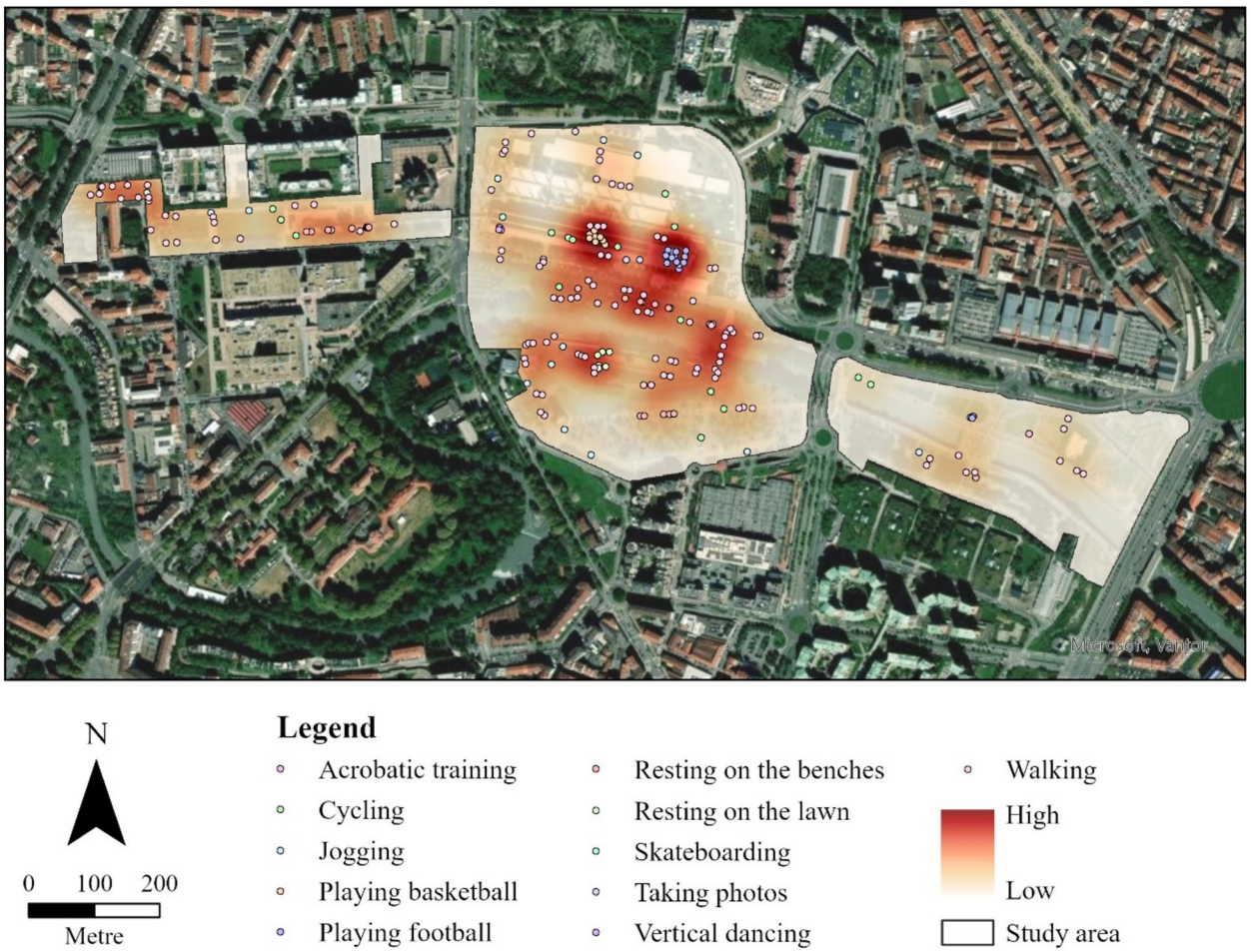


Fig. 11 The visitors' behaviour observation results in Parco Dora (Source: the authors)

locations. Photo-taking and performative activities are centred around striking industrial structures. This indicates that visitor behaviour is influenced by available facilities and the distinctive qualities of the landscape. The adaptive reuse of structures has shaped how spaces are visually perceived and utilised.

Among these behaviours, vertical dancing is closely related to specially adapted structures integrated into the steel pedestrian infrastructure, although limited in number. This demonstrates how retained industrial elements support new forms of use and contribute to the diversity of spatial practice. Similarly, photography represents a relatively small proportion, but it points to the visual appeal and recognisability; visitors select industrial backdrops, wide spatial views, and characteristic structures as part of their image-making, further reinforcing Parco Dora's public visibility.

Based on the online and on-site results, several consistent patterns emerge. The favourable image shown in online reviews corresponds with frequent and repeated everyday use observed on site. Visitors' appreciation is closely related to both functional public-space qualities and the distinctive atmosphere of the reused industrial landscape. Public use is also internally differentiated, with some areas supporting routine low-intensity activities and others accommodating sports, performance, and visually oriented practices. Meanwhile, the distribution also shows uneven conditions across the park; some spaces are more intensively used and more socially legible, while complaints related to maintenance and safety suggest the quality of public experience is not uniform across all zones.

In total, the bottom-up results show Parco Dora has developed into a widely used and positively perceived post-industrial public landscape. Visitors engage with the site through different behaviours. Online feedback highlights satisfaction, distinctiveness, and recreational value, while on-site observation shows how these qualities are expressed in everyday spatial practice. These findings indicate that the adaptive reuse of Parco Dora has produced a recognisable place identity grounded in both public perception and actual patterns of use.

4 Discussion

4.1 Events as catalysts for adaptive reuse beyond formal redevelopment

Parco Dora case suggests that the events' catalytic role lies not simply in attracting visitors or enhancing visibility, but in extending adaptive reuse beyond the point of formal redevelopment. Although the PRG and PRiU established the institutional and spatial framework for transformation, and a broader momentum of the 2006 Turin Winter Olympics further reinforced Turin's transition, the reuse process did not end with the completion of the park. Recurring events, especially KFF, introduced repeated cycles of occupation, temporary installation, technical adjustment and post-event maintenance, thereby sustaining the site's functionality and relevance after the completion of permanent planning and design interventions. This result adds a processual dimension to existing adaptive reuse research, which has often focused on conversion strategies, design outcomes or end-state functions. Recent reviews have already shown that reuse success depends on managerial, social, and functional dimensions as well as physical intervention (Vafaie et al. 2023). Parco Dora case extends this argument by showing that periodical events can operate as a secondary layer of adaptive reuse, keeping a redeveloped site active through recurring investment, operational adaption and continued public engagement. In this respect, this interpretation moves beyond conventional understandings of adaptive reuse as a matter of conversion strategy, which is also consistent with the broader life-cycle understanding of industrial heritage development proposed by Xie (2015). Parco Dora is less a case of completed conversion than one of ongoing adaptive reuse. Regularly held events not only make full use of the redeveloped park, but also contribute to its continued revitalisation after the completion of the permanent renovation project.

4.2 Adaptive reuse as a process of identity reconstruction and public recognition

The findings also indicate that adaptive reuse involved more than the physical conversion of an industrial brownfield into an urban park. It entailed the gradual reworking of the site's symbolic identity. Preserved structures such as the stripping hall and steel framework were not left as static relics, but became embedded in everyday landscapes and play important roles in memory and place identity (Wheeler 2014). Wei et al. (2023) demonstrate that public satisfaction with post-industrial parks depends on how artificial and natural elements are jointly configured and perceived. Through recurring events, educational initiatives and everyday occupation, they became active settings for gathering, leisure, performance and image-making. Industrial identity was therefore not simply retained but reinterpreted through repeated use.

This interpretation is consistent with research suggesting that industrial heritage value cannot be reduced to material conservation alone. Placeness-based studies have emphasised tacit knowledge, lived experience and everyday meaning, while festival and heritage research has shown that cultural events can function as sites where heritage and contemporary practices become mutually

constitutive (Richards and Wilson 2004). The Parco Dora case sharpens these arguments by showing that identity reconstruction was stabilised through recurrence. The significance of KFF lay less in short-term spectacle than in repeatedly reactivating the site and reinforcing its visibility as a post-industrial cultural landscape. At the same time, this symbolic transformation was not produced by KFF alone. Other public events, educational programmes, and everyday practices also extended the use and visibility of the park, reducing dependence on a single flagship event and embedding the site more firmly in ordinary urban life.

The bottom-up findings further support this interpretation. On-site observation indicates that the park has been widely appropriated for walking, resting, sports, gathering, performance and photography, while online reviews reveal high levels of satisfaction and frequent references to the site's distinctiveness and leisure value. These results suggest that adaptive reuse has produced a place that is not only spatially transformed, but also socially recognised. Public perception, in this case, should not be treated merely as a secondary outcome of successful design. Rather, it forms part of the reuse process itself by showing whether a transformed site has actually entered everyday urban life. At the same time, negative comments on safety, drug-related activity, and inadequate maintenance indicate that public recognition remains conditional rather than absolute. The consolidation of place identity therefore depends on symbolic visibility and sustained everyday management.

4.3 Implications for future industrial heritage regeneration

Parco Dora shows that successful adaptive reuse cannot be reduced either to a completed design project or to the periodic hosting of cultural events. Instead, it depends on the cumulative interaction between formal planning, recurring activation, symbolic reinterpretation, public participation and long-term governance,

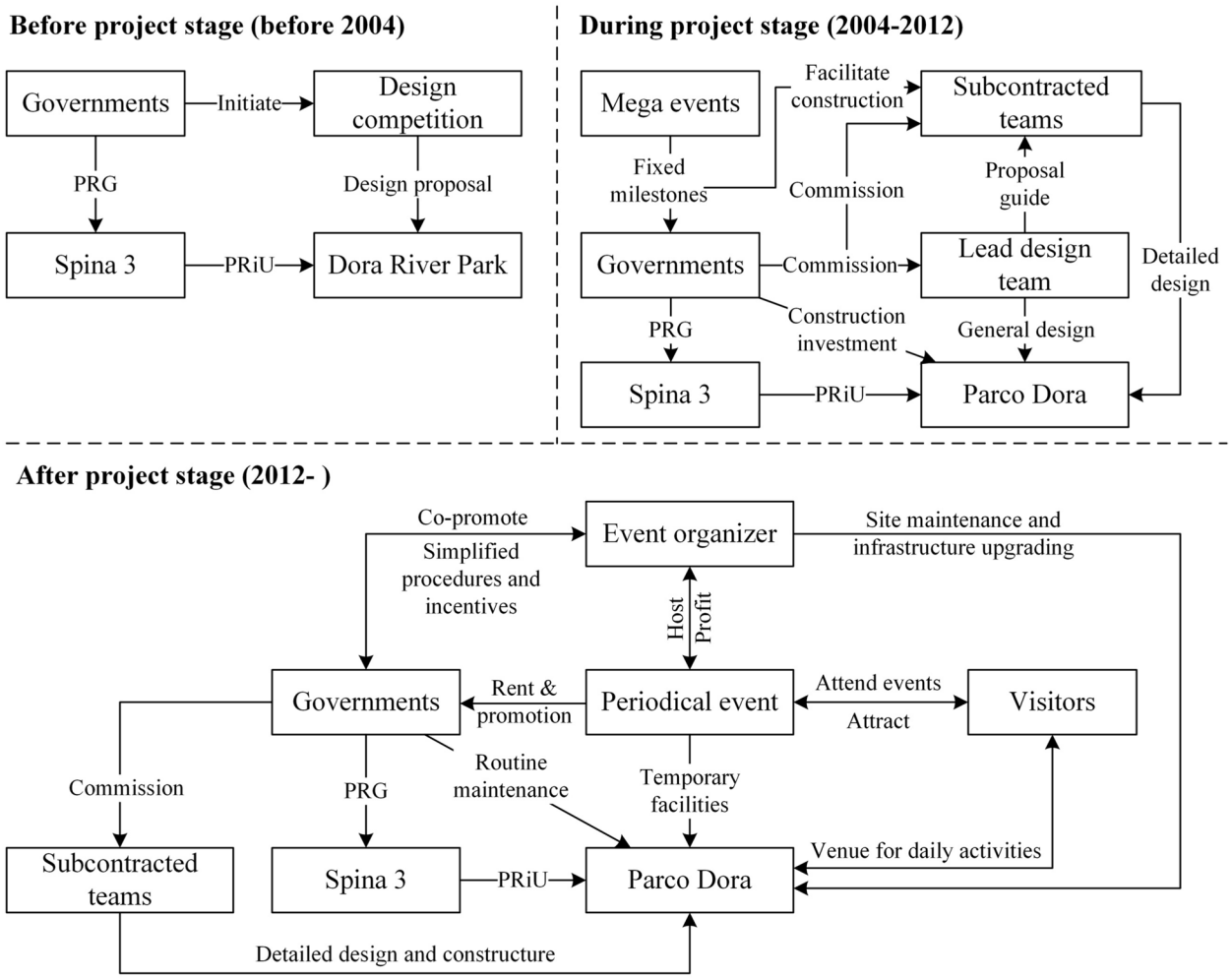


Fig. 12 The interactions among multiple stakeholders (Source: the authors)

as shown in Fig. 12. Industrial heritage regeneration can therefore be understood as an evolving process that continues after the completion of physical redevelopment. During the post-project phase, governance shifted from one-off construction to continued operation. At Parco Dora, public authorities assumed responsibilities for coordination, institutional facilitation, incentive provision and routine maintenance, while event organisers contributed through repeated programming, temporary spatial adaptation, infrastructure upgrading and maintenance investment. Visitors also contributed to this process through event attendance and everyday visits, which continually reaffirmed the site's social relevance. Besides, simplified procedures and relatively low site rental fees further lowered the threshold for diverse cultural and everyday uses, indicating that continued activation was supported by a broader operational framework.

Based on these findings, several conditions are particularly relevant to the application of recurring cultural events in other industrial heritage contexts. Event programming should be coordinated with long-term planning and management, while the physical characteristics of the site should support reversible installations without compromising retained heritage structures or everyday public access. Public institutions should provide clear administrative procedures and coordination mechanisms for recurring use, while part of the organisational and economic capacity generated through events should contribute to routine maintenance and infrastructure improvement. At the same time, major cultural events should coexist with daily activities, thereby maintaining the accessibility and social relevance of the site throughout the year.

These observations refine existing discussion on stakeholder collaboration in culture-led adaptive reuse. Prior studies on culture-led regeneration similarly stress the importance of stakeholder collaboration, while also showing that such collaboration involves tensions rather than consensus (Jung et al. 2015). Future industrial heritage adaptive reuse should therefore place greater emphasis on post-project operation, including recurring use, administrative facilitation, routine maintenance and ongoing public accessibility. Recurring events may serve as effective mechanisms for maintaining relevance and visibility, but only where they are embedded in a broader ecology of use and supported by an institutional framework capable of balancing cultural intensification with public continuity. The applicability of this approach depends on governance arrangements, heritage regulations, spatial capacity, operational resources and community needs. The broader value of the Parco Dora case lies in identifying the institutional, spatial and operational conditions under which event-driven adaptive reuse can remain socially and spatially durable. Further comparative research is required to examine how these conditions operate across different industrial heritage contexts.

5 Conclusion

This study examined event-driven adaptive reuse through the case of Parco Dora and investigated how events can catalyse the reuse of industrial heritage, while also exploring how adaptive reuse reshapes place identity and public perception. The multi-body analysis provides a comprehensive perspective, integrating government institutions, a design company, an event organiser and visitors.

Rather than treating reuse as a one-off intervention completed at the moment of physical redevelopment, the research approached it as a longer process unfolding through planning, design, event programming, everyday use, and subsequent governance. By combining analysis of the site's redevelopment trajectory with attention to public experience and perception, the study sought to connect the material transformation of an industrial site with its changing social meanings.

The findings indicate that event-driven adaptive reuse is better understood as an ongoing process compared with a finished outcome. In the case of Parco Dora, formal redevelopment did not mark the end of transformation. Instead, later forms of activation, repeated occupation, and event-based use continued to shape how the site functioned and how it was interpreted by different publics. The study also finds that adaptive reuse extends beyond physical conversion. Through the reactivation of former industrial structures and landscapes, the site was reconnected to contemporary urban life, which contributed to the reconstruction of place identity and to shifts in public perception. In this sense, events did not simply animate an already completed space. They participated in producing its renewed visibility, recognisability, and social relevance.

The study contributes in several respects. First, it argues for a process-based understanding of adaptive reuse, suggesting that the reuse of industrial heritage should not be reduced to project delivery, architectural conversion, or functional replacement alone. Second, it highlights the analytical importance of place identity and public perception, showing that these are central dimensions of effects appearing after redevelopment, through which reused industrial sites acquire social meaning and public legitimacy. Third, by foregrounding the role of events, the study adds to existing discussions of industrial heritage adaptive reuse by showing how temporary and repeated activities can sustain post-redevelopment transformation

and help mediate the relationship between physical space, everyday use, and symbolic reinterpretation.

At the same time, this research has several limitations. Its empirical findings were based on a single-case study, which may not seek to establish a universally applicable model. In addition, the analysis of public perception is based mainly on on-site observation and online reviews, which could not fully capture the diversity of users or longer-term social change. Evidence from different stages of Parco Dora's redevelopment and subsequent use provides insights into the continuity of site activation and public engagement, while differences between local and non-local visitors, together with longer-term changes in place attachment, social inclusion, and community relationships, require further research. Future research should employ repeated surveys, follow-up interviews, and comparative cases to explore how these social effects develop over time and across different institutional contexts.

Abbreviations

ISFP	International Street Food Parade
KFF	Kappa Futur Festival
PRG	Piano Regolatore Generale
PRiU	Programma di Riqualificazione Urbana "Spina 3"

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s43238-026-00294-4.

Supplementary Material 1.

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Authors' contributions
Xinwen Zhang: Conceptualisation, Data curation, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing review & editing. Dingran Chen: Data curation, Investigation, Methodology, Visualisation, Writing–original draft. Jingxiong Huang: Data curation, Methodology, Visualisation, Writing–original draft, Writing review & editing. Huishu Deng: Conceptualisation, Methodology, Investigation, Project administration, Supervision, Writing review & editing. Michele Bonino: Supervision, Project administration, Writing review & editing. All authors read and approved the final manuscript.

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Data availability
Data will be made available on reasonable request.

Declarations

Ethics approval and consent to participate
This study did not involve human participants or animals and therefore did not require ethical approval. Prior to each interview, participants were informed about the purpose of the study and their right to withdraw at any time. Verbal informed consent was obtained prior to the interview. The identity of all participants has been kept confidential, and their responses have been anonymised to ensure privacy and respect for their perspectives.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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