

Toxi-City: From Reuse to Regeneration. Reimagining Taranto's Post-Industrial Landscape Through the Former Circumarpiccolo Railway

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Post-Deindustrialization Scenarios

Anthropized territories are dotted with artifacts, spaces, and places that have over time lost their original function. Systemic remnants, rendered obsolete by technological advancement, abandoned following the exhaustion of resources or too costly to dismantle persist in the landscape as traces of an often-glorious past. These elements and spaces are typically erased from the collective imaginary and remain alien to the mental landscapes of local inhabitants.

To speak about deindustrialization is to speak about industrial decline, unemployment, depopulation, technological transformation, capital relocation, the profound impact on regional economies. Yet it also involves examining how these changes have been met, how deindustrialization interweaves with memory and symbolic value, giving rise to new landscapes. Though obsolete, such disused heritage represents the testimony of a technical and technological historicized knowledge, and of the labor that sustained it. This heritage is diffuse and vernacular rather than monumental, intrinsically tied to production and trade, and often closely related to the environmental and landscape-specific characteristics of place. It also encompasses intangible assets and values,¹ constituting a form of social construction whose significance evolves over time through collective recognition.²

Today, through the attribution of new meanings and interpretations,³ this heritage can become a medium for transmitting memory and generating new narratives. It offers an opportunity to valorize the ruins of modernity that would otherwise become mere debris.⁴ Through active transformation, surpassing both the notion of musealization and passive conservation, we can reframe the industrial experience and explore new, context-sensitive forms of production embedded in the identity of cultural landscapes.

Among the many ruins of the post-industrial city, disused railway lines recur frequently. From the late 19th to the early 20th century railways enabled economic growth across many territories, deeply shaping spatial organization, landscapes, and urban development. Once an emblem of innovation and progress, this system spreads reticularly across the land, traversing often extraordinary landscapes, sites, and spaces, offering unique and alternative perspectives. Railway components – tracks, sleepers, embankments, bridges, viaducts, cuttings, and tunnels – profoundly altered the territory and redefined how the landscape was perceived. The

1 Marilena Vecco, "A Definition of Cultural Heritage: From the Tangible to the Intangible," *Journal of Cultural Heritage* 11 (2010): 321-24.

2 Rodney Harrison, *Understanding the Politics of Heritage* (Manchester: Manchester University Press, 2010); Robert Hewison, *The Heritage Industry* (London: Routledge, 2023); Carlo Tosco, *I beni culturali* (Bologna: Il mulino, 2014).

3 Tim Edensor, *Industrial Ruins* (Oxford: Berg, 2005).

4 Marc Augé, *Le temps des ruines* (Paris: Gallée, 2003).

subsequent rise of the automotive industry shifted investment toward road networks and road transport, leading to the decline of railway and the abandonment of many lines across all the industrialized nations. With the increasing prevalence of route modifications aimed at reducing travel time or upgrading infrastructure, a further increase⁵ in disused lines appears likely.

The extensive distribution of such infrastructures offers a remarkable opportunity for rethinking contemporary anthropized space. The railway corridor and its adjacent buffer zone – often rigorously protected by regulation, thus inadvertently preserved – form a continuous, mostly unbuilt strip of land, which now represents a valuable asset for sustainable territorial reactivation.⁶ The structural endurance of these systems, even after decades of neglect, testifies to the ingenuity with which they were built. During their abandonment, they have evolved into a *third landscape*, dynamic places where nature reclaims space,⁷ interacts with abandoned fragments of human activity.

This space may be readily reimagined as an alternative infrastructural model around which to construct new post-industrial narratives. It may continue to serve a connective function, offering a slow-paced, experiential way to traverse the landscape. This functional reactivation extends to aesthetic and perceptual dimensions, reinterpreting infrastructure as “landscapes of technology” that, through a slow, kinesthetic vision, reveal unprecedented perspectives⁸ and augment territorial awareness. Expressing connections of an economic, industrial, commercial, and cultural-touristic nature, such conversions may also serve, particularly in peripheral areas, as catalysts for wider territorial transformations.

Abandoned railway corridors may, with minimal intervention, be converted into greenways, networks for soft mobility that connect users with local resources. Physically separate from road traffic, they are accessible to pedestrians, cyclists, and other non-motorized users, with an emphasis not on speed but on broad inclusivity and ease of access. The European Greenways Association, in the Lille Declaration of 2000, defines greenways as “independent communication routes reserved exclusively for non-motorized journeys, developed in an integrated manner which enhances both the environment and quality of life of the surrounding area. These routes should meet satisfactory standards of width, gradient, and surface condition to ensure that they are both user-friendly and low risk for users of all abilities. In this respect, canal towpaths and disused railway lines are a highly suitable resource for the development of greenways.”

Greenways are linear open spaces⁹ marked by two semantic ambiguities embedded in their name: the *green* alludes to a color that no longer fully encapsulates the chromatic variety of urban natures — which may be green, grey, blue, or otherwise — while the term *way* evokes technical infrastructure, often eclipsing their social dimension. Besides facilitating daily commuting (e.g., home-work or home-school), their characteristics make them ideally suited to the growing demand for active and responsible tourism, outdoor recreation, and contact with nature. Greenways developed along former railway lines — often referred to as *rail-trails*¹⁰ — exploit the unique features of rail infrastructure: continuous and dedicated routes, typically under a single ownership, with regular and modest gradients, and connections to the operational rail network. They enable the preservation and valorization of railway heritage, including engineering works and service buildings, while maintaining the integrity of the track for potential future reuse.

5 Approximately 20,000 km of disused railway lines are estimated across Europe.

6 Julius Gy Fabos and Jack Ahern, *Greenways* (New York: Elsevier, 1996); Mark A. Benedict and Edward McMahon, *Green Infrastructure* (Washington: Island Press, 2006).

7 Matthew Gandy, *Natura Urbana* (Cambridge: The MIT Press, 2022).

8 Marc Desportes, *Paysages en mouvement* (Paris: Gallimard, 2005).

9 Charles E. Little, *Greenways for America* (Baltimore: The Johns Hopkins University Press, 1995).

10 These are referred to as *rail-trails* in the USA, *railway paths* in Britain, *chemins du rail* in Francophone countries, and *Bahntrassenradwege* in German-speaking areas.

Data concerning the Italian territory confirm these dynamics.¹¹ Today, more than 6,000 km of disused railway lines are estimated to exist in Italy. Many are abandoned, informally repurposed as rural paths, or lost entirely, converted into roads or left to decay. This represents a significant heritage of continuous routes that weave through cities, towns, and rural settlements, comprising engineering structures (bridges, viaducts, tunnels), stations, and service buildings. Uniformly spread across the country, this network could form the backbone of a sustainable mobility system, interlinked with the active rail system. There is growing recognition of the potential of greenways to generate economic and social value for the territories they traverse. In recent years, the Italian State railway group,¹² together with relevant ministries, sector associations, and local administrations, has played an active role in promoting programs aimed at transforming and valorizing former railway lines for alternative mobility and sustainable tourism.¹³ Within this framework, a significant effort has been made to survey and map the infrastructure through a digital atlas¹⁴ and to develop a national cycling mobility plan, outlining financial frameworks, yearly targets, priority interventions, and strategic actions.

Numerous European examples demonstrate how the conversion of former railway lines into cycling and walking routes can generate positive effects on the territory, activating local economies, enhancing the landscape, and promoting new forms of use. From the *Vías Verdes*, which since the early 1990s has redeveloped one third of Spain's disused railways, to the *Vennbahn* connecting Germany, Belgium and Luxembourg, and the French projects of the *Schéma national des véloroutes et voies vertes* or the UK's *National Cycle Network*, these experiences show how disused infrastructures can be transformed into territorial devices capable of producing lasting impacts.

Within this context of potentiality, this contribution addresses the reuse of disused railway heritage as a tool for widespread valorization and a catalyst for local development strategies. The case of Taranto is examined: a city in southern Italy marked by deep industrial, environmental, and social crisis. This condition stems from short-sighted, externally imposed policies that promoted an industrial monoculture at the expense of more locally rooted production models. The presence of a former military railway line now presents itself as a *cadavre exquis* awaiting new interpretations. Through this specific case, the essay reflects on the opportunities offered by the conversion of disused railways and outlines possible strategies for intervention within a broader territorial project. The potential for the ecological conversion of these places may signal profound change – especially in fragile and compromised contexts – offering reparation to a cultural landscape long burdened by a toxic legacy.

The Context of Taranto. From Crisis to Opportunity

Taranto is a city located in the Apulia region of southern Italy, overlooking the homonymous gulf in the Ionian Sea (Fig. 1). Once the site of military industries and later home to a large steelworks complex – now significantly downsized – the city is officially recognized by the Italian government as an area of complex industrial crises,¹⁵ owing to its critical environmental, occu-

11 Albano Marcarini and Roberto Rovelli, *Atlante italiano delle ferrovie in disuso* (Firenze: Istituto Geografico Militare, 2018).

12 Gruppo FS (Ferrovie dello Stato Italiane) and RFI (Rete Ferroviaria Italiana).

13 Roughly 500 km of greenways have been implemented along disused railway tracks. The General Plan for Urban and Extra-urban Cycle Mobility has been developed, as well as the *Community Stations* protocol, which entrusts unstaffed stations to social cooperatives for projects aimed at inclusion and the cultural, historical and environmental enhancement of such sites.

14 In collaboration with several stakeholder associations, the *Atlas of Soft Mobility* was developed, establishing relationships between railway stations, cycle routes, pilgrimage paths, hiking trails and greenways, and the national territory's historical, artistic and natural heritage.

15 Recognition was granted in 2012. Areas of complex industrial crisis are defined as “areas whose processes of socio-economic transformation are considered of national importance, requiring public intervention with additional resources and conversion and industrial regeneration projects focused on the fate of the



Fig. 1: Taranto, Apulia, Italy. Geographic location and aerial photograph of the city of Taranto. The map shows the bay of the Mar Grande with the commercial port and the naval base, the island hosting the old city (to its right, the urban expansion area; to its left, the industrial zones), and the two inlets of the Mar Piccolo

Fig. 2-3: Mar Piccolo. Fragments of landscapes (facing page)

pational, social and health conditions. The unique geomorphological configuration of Taranto's territory renders it an exceptional place, where the urban fabric shelters a karstic lagoon system. This system comprises the Mar Grande, the outer bay, separated from the Gulf of Taranto by an archipelago of islands, and connected via two channels to the Mar Piccolo, an inner semi-enclosed basin consisting of two inlets. The more inland one is the principal focus of this study. This geographical configuration, highly advantageous from both a strategic and logistical perspective, has shaped the city's history since the 8th century BC. Its central position in the Mediterranean, abundant freshwater reserves, limestone quarries, distinctive geological and morphological features, and relationship with the vast, fertile hinterland have all informed the city's urban and industrial development. This urban metabolism maintained a balance between economy and ecology until the late nineteenth century, when the relationship between production and environment began to shift and became conflictual.

The millennial history of the city¹⁶ is inscribed along the perimeter of the two inlets of the Mar Piccolo (Fig. 2, 3). The original urban nucleus of the *polis* – the island now known as the Old City – was the heart of the Spartan colony, later becoming a Byzantine, Aragonese, Bourbon and Napoleonic outpost. In direct continuity with it lies the nineteenth-century grid expansion of the Borgo.

Following these edges, one also traces the strategic-military importance that the city has long held. The inaccessible zones owned by the Navy and Air Force, areas absent from the collective urban imagery, hidden from land view and shielded by high walls, reveal their full extent when

productive systems involved, and aiming at a balance between industrial activity and the protection of health and the environment.”

16 For the history of the city, see: Franco Porsia and Mauro Scionti, *Taranto* (Roma: Laterza, 1989); Piero Massafra and Roberto Nistri, *Citta, cittadini, civiltà dell'industria* (Taranto: Scorpione, 1985).



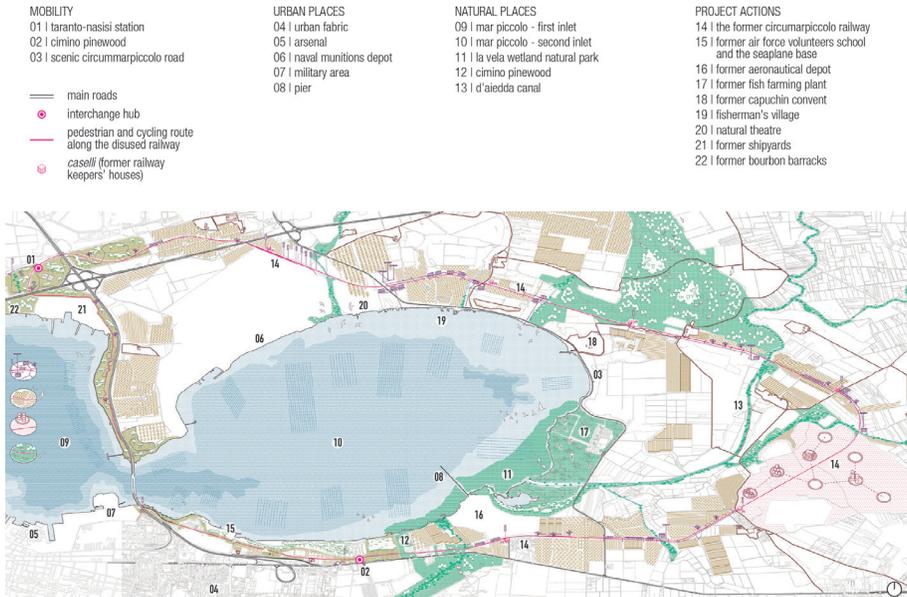


Fig. 4: The redevelopment project for the territorial unit of the Mar Piccolo in Taranto. Resources and opportunities

seen from the sea, which underscores how the city's relationship with the water has been severed.¹⁷ The establishment of the Arsenal shortly after the Italian unification in 1889 significantly influenced not only the urban layout but also the social composition and economic system of the city. Maritime and fishing activities were supplanted by naval and mechanical industries and their associated workforce, thereby breaking the link with the productive model that had defined the territory's identity and community for centuries. The Arsenal, once a technologically advanced production site, and the Tosi shipyards, which at the dawn of the twentieth century represented global excellence in submarine construction, had already become obsolete and weakened following the World Wars. The crisis of military industry and the failure to convert production in a manner that leveraged the high skills of a specialized workforce resulted in degradation and unemployment. The external response was to substitute one monoculture with another: on the opposite shore, the decision was made to establish Europe's largest steelworks,¹⁸ a choice that irreversibly transformed the landscape, atmosphere, economy and life of the city.¹⁹ This intervention had a devastating environmental and social impact, and the first

17 For the industrial development of Taranto, see: Roberto Nistri, *Taranto dagli ulivi agli altiforni - Tomo 1* (Taranto: Mandese, 2007); Roberto Nistri, *Taranto dagli ulivi agli altiforni - Tomo 2* (Taranto: Mandese, 2008); Antonella Rinella, *Oltre l'acciaio* (Bari: Progedit, 2002); Roberto Gianni and Anna Migliaccio, "Taranto, oltre la crisi," *Meridiana* 85 (2016): 155–80.

18 The state-owned steelworks Italsider was inaugurated in 1964 (renamed Ilva in 1989, then *Acciaierie d'Italia* in 2018). Initially built on a coastal agricultural area of over 500 hectares, close to the port, railway and city, it was expanded in 1968 by an additional 1,000 hectares, at the time, an area equivalent to two and a half times that of the city. In the early 1980s, at the height of its expansion, Ilva produced 80 percent of Italy's steel and employed 22,000 direct workers and 15,000 in related industries. To enhance its competitiveness, the steelworks was privatized in 1995. Following an investigation into environmental disaster due to negligence, the plant was seized by the judiciary in 2012 due to serious environmental violations. In 2021, the State regained control of the plant through a public-private partnership, with the aim of relaunching national and sustainable steel production.

19 For the relationship between the city and the steelworks, and its environmental, social and cultural impacts, see: Salvatore Romeo, *L'acciaio in fumo* (Roma: Donzelli Editore, 2019); Tonio Attino, *Generazione Ilva* (Nardò, LE: Besa, 2012); Rinella, *Oltre l'acciaio*.

signs of concern emerged just a few years after the plant's inauguration.²⁰ The result was a wave of unregulated, chaotic construction in the 1960s and 1970s, with entire districts built to house the growing workforce of the plant and its supply chain.

Again, from the 1990s onwards, the global steel market crisis triggered further contraction, recession, unemployment, demographic and economic decline, and territorial degradation. This was compounded by a severe environmental emergency, generating a fierce conflict between employment security and public health and producing deep rifts in the social fabric. Development decisions imposed from above – first with military and then with steel industry infrastructures – have proven unsustainable. The fate of the industrial system, established through centralized state decisions with no meaningful involvement of local institutions and no understanding of territorial specificities, remains at the mercy of volatile and ungovernable external factors. Furthermore, it was conceived within an outdated nineteenth-century paradigm of industrial-city relations, where no new values – no research centers, no universities, no historical archives – were developed around the factory. When all the conditions for diversification were present, none were seized, and once the monoculture exhausted its function, the entire system collapsed.

Amid this anthropized landscape, scarred by questionable decisions and missed opportunities that have shaped its development, lie resources of inestimable value and untapped potential (Fig. 4). Winds and tides, along with the presence of *citri* (submarine freshwater springs mixing with brackish water), influence the movement of surface and deep currents between the two basins of the Mar Piccolo and Mar Grande.²¹ This particular salinity, combined with nitrogen and phosphorus-rich tributaries, shallow depths and low hydrodynamics, creates a highly biodiverse environment and an exceptionally productive hydrobiological condition for mussel farming and fishing. These activities once formed the foundation of the urban economy. Since the Middle Ages the sea was treated on par with agricultural land, subdivided into privately managed fishing grounds governed by an advanced code of piscatorial law regulating ecology, management, and economic practices.

Once more, reading the perimeter of the two inlets of the Mar Piccolo reveals their extraordinary qualities. The geomorphological landscape to the north of the gulf takes the form of a natural amphitheater, where the *Murge*²² and agricultural terraces, shaped by karst aquifers and the hydrographic network, are clearly discernible. Coastal springs with clear waters feed into the two seas, enhancing biodiversity while altering the salinity and temperature of the water. The surrounding agricultural lands are a living testament to a millennia-old settlement history, featuring diversified crops, marked by rows of vines and dotted with olive trees, whose yields – alongside those of fishing and mussel cultivation – anchor a rich and deeply rooted gastronomic culture. Archaeological remains and rural structures, evident in rock settlements, convents, churches, necropolises, towers and *masserie*,²³ speak to a history of human use in close ecological and economic relationship with the sea and the surrounding plain delimited by the karstic semicircle. Above all, the sea, as connective filigree, unites this complex scenery and constitutes the defining trait of its cultural identity.

While the coast of the first inlet has been heavily altered by urban, military and industrial pressures, the second inlet's shoreline remains largely intact and has been designated a Regional Natural Park since 2020. This protected area includes sites of significant ecological value, such as the historic Cimino pinewood and the La Vela wetland.²⁴

20 In 1971, the journalist Antonio Cederna described the industrialization of Taranto as "barbaric" in the pages of *Corriere della Sera*, one of Italy's major national newspapers, highlighting for the first time the risks of uncontrolled urbanization and the imposition of state industry decisions on the local community.

21 For the ecological and environmental system of the Mar Piccolo, see: Pietro Parenzan, *Il Mar Piccolo di Taranto* (Taranto: Camera di Commercio, Industria, Artigianato e Agricoltura, 1984); Michele Pastore, *Mar Piccolo* (Martina Franca, TA: Nuova Editrice Apulia, 1993).

22 Karst plateau composed of limestone rocks.

23 Traditional rural farmsteads.

24 Recognized by the WWF in 1996, which also manages it. Since 2006, it has been designated as Regional



Fig. 5: The former railway, the agricultural territory, the Mar Piccolo, and the city skyline

These landscapes are traversed by the Circumarpiccolo railway (Fig. 5), a disused military railway line constructed in the early twentieth century.²⁵ Spanning approximately 18 km and built with narrow-gauge track, the line branched from the now-abandoned Taranto-Nasisi station and encircles the second inlet of the Mar Piccolo, connecting the naval munitions depot, naval base, and arsenal. Until its decommissioning in the late 1970s, the line served primarily freight traffic, transporting weapons, munitions and equipment, but also carried military personnel and civilians employed in the workshops and warehouses of Italy's largest military industry. The track is largely level and remains in reasonably good condition in terms of path continuity (Fig. 6). It features a variety of structural typologies (at grade, on embankment, in cutting, on bridge) and is still almost entirely equipped with railroad tracks, although these are often buried under spontaneous vegetation or asphalt at former level crossings. Along the route are several heritage structures of particular value, such as the stone bridge over the D'Aiedda Canal, and a number of *caselli*²⁶ now in a poor state of preservation, alongside industrial and military areas either already decommissioned or planned for dismissal.

If modern Taranto's story is inextricably linked to its productive history, it becomes imperative to intervene on these recent ruins and transform the wound into a landscape,²⁷ redeeming the city from the negative legacy of its industrial past. The foundations for a post-industrial economy must once again be anchored in the territory, ending a long history of externally imposed initiatives and triggering a process of endogenous development. And if the Mar Piccolo holds the deep memory of territorial identity, where traces and meanings of the complex relationship between humans and the environment have accumulated, then this rich and layered ecosystem must become the starting point. A new narrative must be co-evolved, wherein progress is no longer mere material growth but sustainable development: durable over time and compatible with the intrinsic meaning of place.

Oriented Nature Reserve. The marshy environment supports a rich flora and is home to numerous species of birds, both resident and migratory, including some that are rare.

25 The railway line was opened in 1916 and remained in service until 1978.

26 *Caselli* are the former railway keepers' houses. There are six *caselli* located at intervals of approximately 1.5-3 km. These are one or two-story buildings, with a total floor area of around 500 sm. Almost all are accessible via the road network.

27 Alain Roger, "Vita e morte dei paesaggi." *Lotus International* 101 (1999): 86.

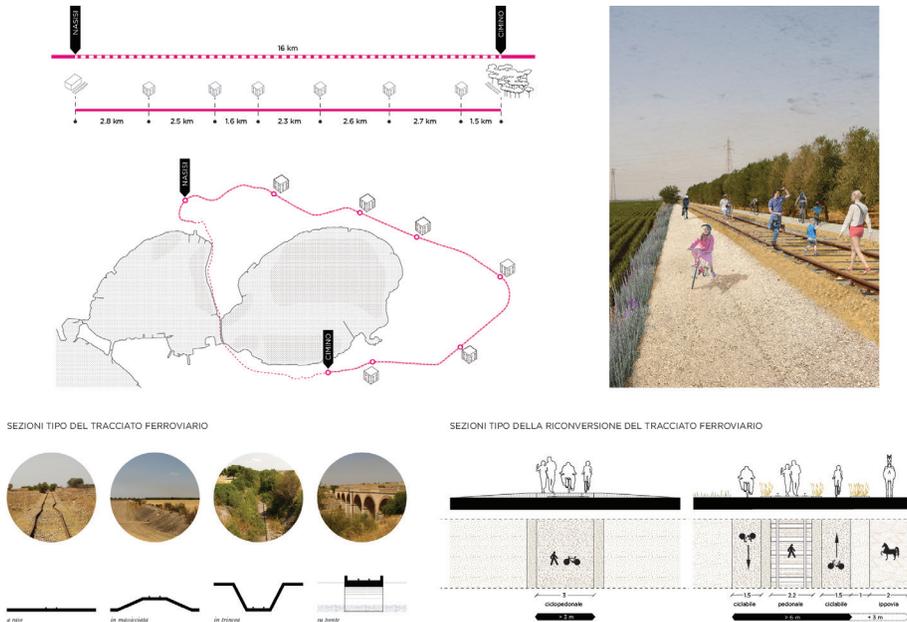


Fig. 6: The redevelopment project for the territorial unit of the Mar Piccolo in Taranto. Interventions on the former railway

Strategies and Tactics for a Territorial Vision

The redevelopment project for the territorial unit of the Mar Piccolo in Taranto²⁸ that is proposed here, outlines an integrated model of territorial development, understanding regeneration as a multidisciplinary and multiscalar process. This model is grounded in a critical reading of the territory and proposes a vision of sustainable development, that is ecologically coherent and generative, capable of activating processes with environmental, economic, social, and cultural value (Fig. 4). The project is conceived as a broad and long-term framework, open to a variety of design initiatives promoted by different actors. These initiatives, while diverse, are all directly or indirectly connected to the identity of the place and its history, and adhere to a set of guiding principles that define general rules within which specific processes may unfold. Through a shared and participatory process, sustainable and high-quality activities can be implemented across fields such as ecological economics, social innovation, sustainable mobility, research, and technology transfer.

The aim of the proposed project is to build a path of renewal rooted in existing conditions and available local resources. The process is guided by several *strategic principles* – mobility, territorial identity, biodiversity, and economic development – which inform a coherent set of *project actions*. Among these, the starting point is the conversion of the former military railway Circumarpiccolo into a pedestrian and cycling route with services. Indeed, once a territory becomes accessible and infrastructurally connected, it can readily be brought back to life, enabling the construction of new imageries and encouraging public and private initiatives that foster new activities and a network of local economies.

²⁸ The research project was developed by TSPoon, an architectural and urban design practice, through several phases and modalities between 2008 and 2020. The proposals and methodologies were discussed with a range of local stakeholders, both public and private. Some strategies and recommendations were later incorporated into planning instruments (e.g. the Urban Plan for Sustainable Mobility, the Regional Park, etc.).



Fig. 7: The redevelopment project for the territorial unit of the Mar Piccolo in Taranto. Excerpt from the master-plan and a possible transformation scenario

Strategic principles

The long-term strategy of the project is structured around four key themes, which define the project's guiding principles (Fig. 7).

The first is *mobility*. The integration of multiple modes of transport is fundamental to the quality of life in future cities, offering a viable alternative to car-based mobility and responding to the needs of both everyday life and tourism or recreational use. In addition to the proposed pedestrian and cycling route along the disused railway, which traces the edge of the Mar Piccolo and links it to the city center, the area includes the scenic Circumarpiccolo road, likely built upon one of the ancient branches of the Appian Way.²⁹ Former rural and mule tracks may be transformed into nature and cycle-pedestrian paths, while waterways present opportunities to directly connect key urban nodes and the coastline.

The proposal's second theme is *territorial identity*. Beyond its naturalistic interest, the Mar Piccolo embodies the millenary history of Taranto and physically preserves the traces of past civilizations, unified in the essence of the "two seas". Territorial identity is expressed in the project through the promotion of activities rooted in the *genius loci* (cultural programs, artisanal practices, traditional agricultural and fishing techniques, ecological and experiential tourism, hospitality and local gastronomy, folk events and intangible heritage). This constitutes a model of active heritage preservation, in which added value lies in the creation of networks between spaces and initiatives, thus avoiding isolation or museumification.

Despite the high level of environmental pollution, *biodiversity* – the third theme – emerges in the Mar Piccolo area in a paradoxically pronounced manner. Life does not disappear here; instead, evolutionary processes such as *speciation* occur: new species arise, and existing ones adapt in response to environmental change, to climate disruption, and to the arrival of alien species transported by ships docking in the commercial port. This broader landscape can thus be

²⁹ Ancient Roman consular road linking Rome and Brindisi.

reimagined as a laboratory for forging renewed alliances between humans and nature,³⁰ where speciation applies not only to ecological life, but also to spaces and activities that adapt and evolve through a co-evolutionary process shaped by the layered relationship between humans and territory over time.

Finally, the fourth theme is *economic development*, understood as the creation of a sustainable and enduring system of growth based on new forms of value that do not deplete original resources. The benefits of ecological economic development extend beyond the reactivation of spaces; they become tools for constructing new, territorially rooted economies. These are based on the specific qualities of the local ecosystem and are capable of enhancing both the material and intangible heritage of the area. This, in turn, fosters the emergence of an ethical entrepreneurial community grounded in the intergenerational transmission of local knowledge and the integration of technological innovation.

Accessibility and the conversion of the former railway

But where should one begin in order to trigger a long-term and wide-ranging strategy? What tactics are needed to initiate change in the image, narrative, and uses of place?

Accessibility and infrastructural integration represent the first steps towards transformation. Through a slower, more immersive mode of perception, it becomes possible to generate new interpretations around which new narratives and meanings may take shape. Walking – or more generally, moving slowly – already contains within it a symbolic capacity for spatial transformation.³¹ This aesthetic and analytical practice enables a renewed reading and rewriting of the landscape,³² reshaping environmental perception and effectively marking the start of the design process.³³

From this perspective, the conversion of an existing system – the former railway – into a pedestrian and cycling route with services constitutes the point of departure for enhancing the entire Mar Piccolo territorial unit (Fig. 6). It is a public asset that has lost its original function: an uninterrupted spatial corridor that crosses agricultural landscapes, drainage channels, production zones, military areas, and small rural settlements. This linear space can quite simply become the backbone of a new, slow-paced approach to the territory, capable of attracting density, activity, people, and relationships, and of revealing both visible and hidden resources. It is a continuous, safe, and livable system that can connect key nodes and opportunities within the territory, offering a viable alternative to car mobility and responding to both everyday and occasional uses – whether touristic or recreational – while ensuring accessibility for both expert and casual users.

Along this backbone, a more informal network of paths takes shape – partly following the traces of nature (ditches, waterways, valleys and plateaus), and partly the signs inscribed by human activity over centuries (ancient paving stones, canals, inter-farm roads, etc.) – weaving through the territory in a capillary manner. This network can be integrated with a system of waterways which have the potential to connect places even at great distances. The piers become points of contact and exchange between the marine and terrestrial systems, identifiable and singular places. With minimal equipment, these can serve as small hubs of social and cultural multifunctionality.

In aiming to establish a cycle and pedestrian network suitable for both occasional and daily use, it is crucial to define a continuous and closed circuit, while simultaneously ensuring its integration with existing and planned public transport systems and urban interchange nodes. The intervention is structured in in two phases.

The first phase marks an initial step towards territorial reactivation. It involves the conversion of the former railway line into a cycle-pedestrian path with services between Taranto-Nasisi sta-

30 Emanuele Coccia, *Metamorfosi* (Torino: Einaudi, 2022).

31 Francesco Careri, *Walkscapes* (Torino: Einaudi, 2006).

32 Jean-François Augoyard, *Pas à pas* (Paris: Éditions du Seuil, 1979).

33 Lucius Burckhardt, "Strollological Observation on Perception of the Environment and the Task Facing Our Generation," in *Why Is Landscape Beautiful?*, ed. Martin Schmitz (Basel: Birkhäuser, 2015), 225-30.



Fig. 8: The redevelopment project for the territorial unit of the Mar Piccolo in Taranto. The cycle-pedestrian path near one of the *caselli*, the former railway keepers' houses

tion³⁴ and the Cimino pinewood (approximately 16 km). This is a straightforward intervention, affecting only public land belonging to the disused railway bed, without significant obstacles or complexities. The route intersects existing sustainable mobility networks – including national and regional cycling paths – as well as those planned for future development. Its termini are located at multi-modal transport hubs (rail services, interurban public transport, park-and-ride facilities, etc.), thus connecting the cycling path with the broader urban fabric.

The second phase completes the circular route by integrating the missing segments to be developed across residual areas, low-traffic roads, and protected pathways. This phase includes the reactivation of the *caselli* distributed along the route. These small buildings, including their outdoor areas, can be repurposed as facilities for sustainable mobility, tourism, and the valorization of local heritage (Fig. 8). Management may be entrusted to private entities or local associations and cooperatives in exchange for maintaining both the buildings and sections of the path.

The integration of slow mobility, public transport, and cycle-pedestrian systems not only offers clear benefits in terms of reducing road traffic and atmospheric and acoustic pollution but also enables a deeper and alternative reading of the environment. Slowing down fosters an engagement with the syntactic dimension of spatial experience, where territory is reassembled through its landscapes.³⁵ To reinforce the path's inherent potential as a narrative device, it is punctuated with invitations to observe, weaving a new thread between the visible and invisible elements that shape the complexity of the landscape. In this way, moving slowly becomes an opportunity to progressively engage individuals with both ongoing and potential transformations, while also fostering awareness among citizens and visitors of themes such as sustainability, biodiversity, and climate change. The reassignment of new values and meanings stimulates a process of communal reappropriation, capable of transforming an area erased from the urban imagination into a recognized and active place, one where new individual and collective rituals can unfold.

34 The station is currently inactive, although it lies along operational railway lines. A project is underway for its reactivation and upgrade as a railroad interchange hub, linking the city center with the outlying areas.

35 Michel Desvigne, *Le paysage en préalable* (Marseille: Parenthèses, 2011).



Fig. 9: The redevelopment project for the territorial unit of the Mar Piccolo in Taranto. The *former Capuchin convent*, with its river and sea landings, serves as a hub for outdoor activities between the water and the inland territory

Disused areas and project actions

The cycle-pedestrian path serves as the backbone for the proposed *project actions* (Fig. 4), interventions aimed at reactivating places and valorizing local resources. Existing material and immaterial assets form the basis for constructing a new, ecosystemic and biocultural narrative, integrated within a coordinated transformative vision and fostering novel synergies among the various actors engaged in the territory. Industrial buildings and derelict areas, along with ill-defined, identity-lacking spaces, once reconnected to this new network, can become significant assets in providing collective spaces and services.

Surrounding the former railway are a number of abandoned sites, some once directly related to the infrastructure, others merely adjacent. These areas hold the potential to become new attractors generating post-industrial forms of production rooted in local identity, cultural promotion, education, sustainable tourism, and practices of care for cultural heritage.

Several decommissioned military areas are also present, either entirely or partially abandoned, with others expected to follow. For the *former Air Force Volunteers School and the seaplane base*, a new educational infrastructure is proposed, converting the sites into a research campus promoting ecological awareness of the marine environment and fostering interdisciplinary training and environmental-scientific knowledge production. From the long pier of the *former aeronautical depot*, visitors will be able to “walk on water,” constantly shifting perspective until reaching a view of the natural reserve’s promontory. The pier will also host permanent services related to dining and water sports (rowing, diving, competitive activities), as well as multifunctional devices for temporary events. The transformation of the *former Bourbon barracks* into a cultural center is instead aimed at returning an abandoned building to the community, creating an educational and interpretive space dedicated to the history of the Mar Piccolo and its waters. The outdoor area will feature thematic trails, offering immersive experiences in local biodiversity and promoting a direct understanding of the landscape and its fragile ecological dynamics.



Fig. 10: The redevelopment project for the territorial unit of the Mar Piccolo in Taranto. The open-air theatre

At the *former fish farming plant*, reclaimed by nature over the years, an intriguing process of natural recolonization has taken place, with aquatic structures and basins being overtaken by wild flora and fauna. This space could be repurposed to promote traditional fishing culture, offering technical assistance and specialist consultancy, and transferring knowledge on sustainable fishing practices, ethical aquaculture methods, and traditional techniques.

The *former Capuchin convent* (Fig. 9) with its river and sea landings is envisioned as a hub for outdoor activities connected to water and the exploration of the inland territory (light nautical sports – as canoeing, dinghies, diving – and excursions along ancient mule tracks and inter-farm paths, on muleback, horseback, or via trekking and mountain biking). This would support a form of ecological experiential tourism that integrates sport, nature, and sustainable mobility with rediscovery of landscape and local traditions. Furthermore, the self-built piers can be transformed into a kind of *fisherman's village*, restoring dignity and value to the region's highly specific fishing and mussel-farming practices. The inclusion of small infrastructures and services for the sale and tasting of local products would help sustain local economies and traditions, promote gastronomic tourism, and preserve the identity of the fishing communities. Taking advantage of the natural morphology of the area, a currently uncultivated natural slope could be transformed into an open-air stage; an infrastructure for culture that combines landscape, performance, and sociability. The *natural theatre of the Mar Piccolo* (Fig. 10) envisions a temporary or seasonal arena, nestled within the descending walls of karstic channels, offering an immersive experience in the natural setting.

The vast abandoned area of the *former shipyards* could be converted into a new leisure and cultural center, integrated with accommodation facilities that would reinforce the area's touristic vocation. The creation of a thematic park (for example, inspired by the history of Spartan colonists), with attractions for both adults and children, thematic sports routes, and immersive educational spaces, would allow for the fusion of culture and leisure.

Recurring Possible Scenarios

The situation in Taranto is unique due to its morphological, natural, and environmental characteristics, yet it does not stand alone. As previously discussed, there is currently a substantial availability of disused railway lines, likely to increase in the coming years. This availability raises several critical questions regarding their contemporary significance and potential for reactivation, calling for reflection on the actions, methods, and strategies to be implemented. It is crucial to ask how a discarded element of the system, bearing both a persistent meaning and a replaceable one,³⁶ might acquire a renewed role within a future-oriented perspective.

Despite their diversity, these cases share several recurring physical characteristics, particularly in terms of the morphology of the routes. Their regular planimetric layout and predominantly flat profiles favor their reuse as cycle paths, easily accessible on foot, horseback, or by other means of soft mobility. The currently disused sections often remain connected to the broader infrastructural network, allowing for their reintegration within a systemic and supra-local logic. From this standpoint, it becomes essential to develop a comprehensive vision capable of amplifying local impacts by broadening the scope of interests and benefits across the wider territory. Moreover, their reuse as cycle and pedestrian paths, due to the limited scale of works required, does not compromise the possibility of future rail reinstatement. On the contrary, it helps preserve the system's continuity, preventing fragmentation. An additional favorable aspect is the frequent presence of single ownership,³⁷ which avoids lengthy expropriation processes and facilitates swift implementation, especially given the existence of still-functional engineering structures (such as tunnels and bridges) that would otherwise need to be constructed anew at significant financial and design cost. Conversely, fragmented ownership of railway corridors represents a significant challenge.

Although similar in their typological and formal characteristics, these routes acquire a distinct identity in relation to the specific contexts they traverse. They belong to a landscape that can be defined as *fragile*,³⁸ a forgotten and marginal landscape, excluded from development processes. Yet the adjective *fragile* generates a renewed sense of responsibility. These are landscapes of modern ruins, suspended between the *no longer* and the *not yet*, and as such, remain open to critique and the exploration of alternative solutions.

Landscape, in fact, reflects how a society views and represents itself:³⁹ it is both a material reality, composed of tangible, measurable elements,⁴⁰ and a cultural construct, a mode of perception that symbolically expresses the ideals of a historical moment⁴¹ through images and imageries. In this sense, it becomes a vehicle of power,⁴² capable of communicating political, economic, and environmental visions. When such visions are sufficiently generative, they can influence positively both thoughts and actions.

The transformation of industrial remnants offers the opportunity to craft a counter-narrative, redefining progress not as mere material growth, but as sustainable development. This entails a shift in gaze, not so much through the physical manipulation of structures, but via their reconceptualization. The ecological repurposing of obsolete infrastructures, remnants of a

36 Kevin Lynch and Michael Southworth, *Wasting Away* (San Francisco: Sierra Club Books, 1991).

37 In Italy, the main owners of these assets are FS (see footnote 12) or other public bodies, such as the Demanio (the State property agency).

38 Antonella Tarpino, *Il paesaggio fragile* (Torino: Einaudi, 2016).

39 Augustin Berque, *Écoumène* (Paris: Belin, 2019).

40 Georges Bertrand, "Le paysage entre la nature et la société," *Revue géographique des Pyrénées et du sud-ouest* 49 (1978): 239-58.

41 Denis E. Cosgrove, *Social Formation and Symbolic Landscape* (Madison: University of Wisconsin Press, 1998).

42 W. J. T. Mitchell, *Landscape and Power* (Chicago: University of Chicago Press, 2002).

now-surpassed industrial age, can serve as a potent signal of change, particularly in fragile and compromised territories. This gesture seeks to compensate for the cultural landscape burdened by a toxic legacy. Reinterpreting deindustrialization through the lens of eco-compatibility allows growth to be redefined according to endogenous factors, restoring centrality to the territory as the foundation of post-industrial economies. In this way, a radical counter-narrative emerges – *radical* because it is transformative, *rooted* because it is grounded in place, and *rooting* because it provides the basis for identity to be carried forward in time.

When memory succeeds in incorporating both space and time, it becomes performative: it does not merely recall tradition, but embarks on a path of re-signifying the past, responding to the need to re-establish contexts of meaning, density of relations, and richness of significance. The recovery and evolution of a form of *deep memory*⁴³ constitute preliminary steps in any process of reterritorialization within fragile landscapes. This approach continuously refunctionalizes the past, paying attention to invariants, elements of continuity, and change, mending the violent rifts between communities and territories brought about by the accelerated— technological, social, and temporal – dynamics of industrialization. These processes, by imposing externally driven modes of production that replaced local systems, caused abrupt breaks in the continuity of time.

The spirit of place, with which humanity must come to terms in order to inhabit,⁴⁴ unfolds over centuries and shows us a path, engraved in matter and landscape, through which to reimagine it. It suggests a vision of a compatible future, to be reinvented in the spirit of ecological rebalancing, centered on relationships (rather than flows) and on new forms of active community, operating between traditional knowledge and innovation, fully aware of what is at stake.

In this regard, the active role of communities becomes crucial. From the deep bond between inhabitants and their territory, a new subjectivity can emerge, rooted in recognition of the intrinsic value of place. Such recognition becomes a distinguishing factor in a context dominated by the homogenizing dynamics of contemporary society. In recognizing themselves within their places, communities regain visibility – first and foremost to themselves – and acquire a renewed awareness that fosters emotional engagement. This engagement is not limited to preservation but opens up to a creative and design-oriented interpretation, based on acknowledging the value of local specificities. Thus, the community is not the *passive guardian of tradition*, but a dynamic actor in a co-evolutionary process between natural systems and human settlements. This critical and periodically reconstituted interplay between humans, nature, and territory generates co-constructed landscapes, which often emerge in ways unforeseen by planning.⁴⁵

Within these experimental realms, new layers of memory can progressively activate reterritorialization processes rooted in place-consciousness.⁴⁶ This awareness safeguards common heritage – cultures, urban and rural landscapes, local productions and knowledge – and is reflected in lifestyles, ethnographic heritage, and the historical trajectories of territories and environments, in a fusion of past and present experiences. The goal is to define new forms of conscious inhabitation and productivity, not solely driven by economic value, but aligned with durable development, consistent with the innate vocations of places and respectful of the territory.

Infrastructures, by reshaping how space is inhabited, are simultaneously structural elements of a territory and agents of its structuration. They generate a relational system grounded in both the physical infrastructure – the elements enabling movement through time and space – and its users, with their needs, expectations, and social dimensions, in relation to the territory they traverse. When this equilibrium is disrupted by structural transformations, resulting in identity loss and abandonment, it becomes imperative to reassign a new role and identity to infrastructure, reconnecting it with place and contemporary modes of inhabitation. Their repurposing

43 Joël Candau, *Mémoire et identité* (Paris: Presses Universitaires de France, 1998).

44 Christian Norberg-Schulz, *Genius Loci* (London: Academy Editions, 1980).

45 Anna Lowenhaupt Tsing, *The Mushroom at the End of the World* (New Jersey: Princeton University Press, 2017).

46 Alberto Magnaghi, *Il progetto locale* (Torino: Bollati Boringhieri, 2010).

through slow, experiential use enables the construction of a deeper, more conscious relationship with the territory. To recontextualize the meanings of disused infrastructure is to adapt them to evolving needs and reposition them at the heart of community and territorial life. In this sense, they take on the role of *superstructures*:⁴⁷ identity-bearing infrastructures capable of characterizing a territorial system and acting as catalysts for the emergence of new development scenarios.

The proposed case study is characterized by specific morphological, environmental, and historical features. Yet every place bears its own distinctive traits, which make it exceptional and recognizable. These are enduring characteristics and latent potentials on which to build new narratives, capable of carrying values across time and reactivating them, thus restoring a generative role to the landscape. More broadly, the study shows how the repurposing of a former railway line may generate a new reading – and rewriting – of the landscape it traverses. This opportunity cannot be reduced to functional aims alone, nor should the greenway be viewed merely as infrastructure for soft mobility. Rather, it represents an opportunity – indeed, an imperative – to initiate a process of progressive signification, attributing new meanings to the ruins of modernity, and placing territorial identity and community at the center. In this way, it is possible to outline a set of key principles that transcend the mere benefits of renewed accessibility and become an effective territorial project, in which disused railway infrastructures act as catalysts for a new vision of local development.

First and foremost, it requires a nuanced reading and *understanding of place* and its layered, historically sedimented meanings, an approach rooted in contextual sensitivity. Now more than ever, a convergence of multidisciplinary approaches is essential to grasp the historical, economic, and social contingencies, as well as the geo-physical and morphological characteristics of the territory. On this basis, it becomes possible to define specific balances between protection and transformation strategies. Interventions must be conceived and assessed through a multi-scalar lens, transcending a narrow focus on the physical infrastructure corridor. This attitude resonates with the European Landscape Convention's recommendations, which call for projects to recognize traces and fragments of memory, promoting a unified vision capable of recovering lost connections and deliberately constructing new ones. Thus, the project becomes an instrument for linking and interpreting territorial frameworks across past and future.

From this understanding, a *development vision* must be defined, one compatible with the enduring identity of the place. Such a vision, by acknowledging the infrastructure's role as a connective tissue integrating environmental, historical-cultural, and settlement systems, reassigns new meanings to it and activates favorable conditions for coherent interventions. On the one hand, this enables the pursuit of sustainable, user-centered objectives, aligned with the needs of contemporary, pluralist, and evolving communities; on the other, it creates the conditions for initiating new forms of value production, rooted in territorial meaning and capable of generating sustainable economies without exhausting foundational resources.

Lastly, a *methodology* is required to implement far-reaching transformations, articulating long-term structural strategies alongside short-term, lighter, and more flexible tactics. The timelines for realizing such projects often misalign with institutional programming capacity, the unpredictable nature of macro processes, and the changing needs expressed by communities. It is thus vital to elaborate a future vision with medium-to-long-term outcomes, while also integrating immediate interventions capable of testing operational solutions. This approach anticipates implementation, tests scenarios against changing variables,⁴⁸ assesses the effectiveness of actions, and adjusts based on community feedback. Most importantly, it sets in motion the necessary processes of use that generate new layers of memory, allowing projects to take root in the places they seek to transform.

47 Jan Tinbergen, "Development Cooperation as a Learning Process," in *Pioneers in Development*, ed. Gerald M. Meier and Dudley Seers (New York: Oxford University Press, 1984).

48 Bernardo Secchi, "Scenari," *Planum. The Journal of Urbanism* 5 (2002).

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