

4.1 Border[s]lines Between Isolation and Connection: the Disused Railway in Aberdeen

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Abstract. Abandoned railways allow an interpretation of urban borders by considering different scales of connection and separation. The former railway line in Aberdeen is used as a case study to explore how such urban linear connections represent a defining linear space and may postulate a socio-spatial statement. The linearity of abandoned railways as an urban design issue is recognised as a characteristic of urban isolation and connection.

The contemporary city is no longer a compact and homogeneous entity; its fragmentation and diversity make it prone to rapid transformation. The fragmentation represented by urban voids results from rapid urbanisation and new modes of transportation. Urban infrastructures, particularly railways, often necessitate redesign and are subject to relocation due to urban conditions. This relocation results in abandoned lines and, later, linear voids representing new micro-borders within a city.

Focusing on an urban void and a residual form of a spatial condition that resulted from an abandoned railway line in Aberdeen, its potential role in connecting historically isolated and fragmented neighbourhoods is considered through three case studies of the successful transformation of abandoned railways. These are analysed to highlight the potential to develop a methodological approach to conscious urban reuse by addressing the challenges of planning and structuring specific design methods to create a network of connections and reinforce the importance of reactivating surrounding areas and places.

Keywords: railway, reuse, greenway, urban identity, void, non-place, transversal-ways, micro-areas

Introduction

Post-industrial European cities are complex urban forms. This complexity is represented by the juxtaposition of multi-functional spaces with a mix of historical and contemporary urban readability (Aymonino, 1977). Cities require more regeneration than expansion within this urban complexity and persistent decay. This calls for alternate solutions to the conservation or replacement of buildings and urban spaces.

Strategies of interventions--conservation or replacement--are potentially opposing. Even though they may be fundamentally helpful for re-activating potential areas, they often highlight a complex range of issues. These issues include public expectations, new architectural challenges, loss of history, and restoration in style for which creative and planned strategic reuse might compensate.

In the European context, it is challenging to design a project in vacant land; often, every intervention is related to disused or residual spaces around the city, which have gone through demolition and require reconstruction (Cao et al. 2008).

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During the second half of the 20th century, the decommissioning of industrial areas became a more persistent phenomenon. As a result, infrastructures, predominantly railways that served those areas, fell into conditions of abandonment. Within the United Kingdom, a similar process of decreasing the use of rail travel occurred. A reduction in provincial railway lines was further accelerated by the Beeching Report (British Railways Board 1963).

The industrial areas are, by urban definition, *aerial* abandoned spaces that may represent the urban city tissue in the form of voids that are out of the scale and context (Secchi, 1984). Likewise, the associated infrastructures such as highways and railways are out-of-scale linear voids. However, the term *void* is too generic to describe the city's more profound significance and landscape.

Urban aerial and linear voids generate a necessity for specific urban strategies of intervention and transformation. The debate around the regeneration of these typologies of urban spaces involves the concept of identity and collective memory of the city's future, the relation between urbanism and architecture, the relation between large- and small-scale development, and the relation between a programme of intentions and real projects.

The criteria of redesigning an abandoned space may vary radically in how the project is approached or how the intervention is addressed. Conventionally, the intervention of the existing built environment can be identified through three different macro-categories of approaches:

- Conservation
- Demolition and newly construction
- Reuse

These approaches provide a way to assess the meaning of linear spaces generated by the abandonment of railway infrastructures and how they are transformed into greenways.

Across Europe, the old railway lines present an opportunity for investment in redevelopment (Bertolini, 1996); they are a flexible and innovative conversion. However, existing tracks are evidence of a place's history and warrant a reasonable level of analysis. Urban analysis proves to be fundamental if the complexity of regenerating the linear void and its associated structures, such as abandoned stations, bridges and tunnels, is fully addressed. It requires a careful and mastered skill to consider their full significance.

Incredibly helpful in analysing conditions of abandonment of the linear spaces along a railway is the nomenclature and the classification of elements constructed at these urban borders. Accurate identification of the problems and related design solutions exemplified in three successful projects demonstrates a rigorous application of urban design in dealing with the abandoned railway lines and transforming them into a viable urban project that neutralises social divergence. In addition, the reprofiling discourse surrounding void urbanism serves as a functional methodological approach to regenerate urban areas socially and environmentally responsive.

Definitions for the abandoned railway as linear space

Different approaches to understanding the complexity of urban abandoned spaces post-industrial cities may be undertaken; many involve interdisciplinary studies.

The abandonment or the closure of an aerial or linear space with a specific function generates various configurations and variations of the concept of *absence*. In terms of the city's

urbanity and form, the *absence* may be described as the opposite of the *presence* and the *Rossi permanence* (Rossi, 1982). Rossi argued that permanence in space exists where the past can still be experienced, while an abandoned space within the city no longer encapsulates or allows such experiences. Thus, in investigating the nature of the abandoned spaces, it is particularly relevant to address innovative and strategic forms of redesigning those spaces.

It is necessary to introduce the concept and the use of the term *place*, which can reflect on the morphological and typological natures of the abandoned spaces. The idea of place is closely connected with the concept of beauty, which is both valuable and beautiful in the urban and landscaping context (Turner, 1990). In addition, having a *good place* helps consider and create archetypes (Turner, 1995). A set of archetypes can provide better landscape planning processes than the vacuous open space concept (Turner, 1995, pg. 276). Turner (1995) observed that both Alexander et al. (1977) and Lynch (1981) studied the landscape and urbanity more profoundly than the *indoor* architecture itself.

This is relevant to linear spaces, exterior spaces, by the fact that both, Alexander and Lynch, explored the spaces in-between the architecture not only because defining the “indoor space is easier” (Lynch, 1960; Alexander et al., 1977) but because the indoor spaces would not have any *raison d’être* without relationships and connectivity with the outdoor spaces.

Gehl (1987) investigated the spaces between the buildings by analysing social activities and the factors that influence their uses and forms, and the relations generated between the people and the spaces. Relationships and connectivity and archetypes or Rossi’s urban artefacts (Rossi 1982) are fundamental to the concept of place. According to this, the lack of relationships and significant urban and social elements generate placelessness. Conversely, exaggerating the dimension of a place generates an opposite concept: a non-place. Thus, it is possible to individuate two main relationship categories functional to explore the meaning of abandoned railways and their regeneration methods. Relation means that presences have effectively taken place.

In terms of urbanity and landscape, relationships can be with the surrounding made through paths that emphasize particular points of view and through social functions between users.

Quoting from *Clément*:

You do not look at the landscape as an object of human activities, discovering a quantity of informal spaces with no purpose, of which it is difficult to give a name. (Clément, 2005)

An etymological study suggests that the opposite concept of place can be investigated through two different, but similar words that originated from Greek, *ατοπία* or *atopía* and French, *non-lieu* or non-place (Augé, 1995; Rotenberg, 2011)

Atopia (from Greek *ατοπία*, *atopía* – placeless-ness, unclassifiable where *a* is the privative of *topos*, or place) represents a condition of non-belonging and describes all parts of the city which determine a variation. That variation is provided by the lapsing of its function and, therefore, by its abandonment. It could be said that atopy is the absence of meaning in the territory and environment. (Acuto et al., 2015). The relationship between the concept of atopy and the notion of non-place resides in the concept of absence. On the one hand, it is the absence of relationships with the environment, and on the other, it is the absence of social function relations.

Manziona (2012) argued that the concept of non-place should be sought in the infrastructure spaces of the city and its periphery, which are already territories of Atopia. The

neologism of the *non-place* defines a space thought to exist independently without any relation to context and only specific functions. (Medori, 2011)

Railways are geometrically linear spaces appropriate for a specific purpose. These long elements' primary morphological and typological character is defined by the directional flow of humans and goods; this differs entirely from the aerial geometry of a space such as a park.

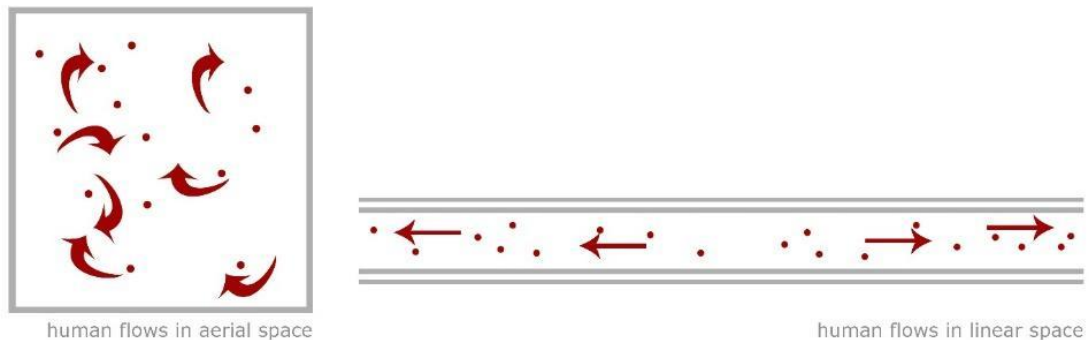


Figure 1. Human flows within spatial configurations. (Zecca, 2018).

The intertwined concepts of atopy and non-places help to establish that old railway present two issues of relationships: i) they do not relate to the surrounding area; the only exception might be the stations, which would require reuse to have a relationship to the area, and ii) they do not have particular social functions.

An aspect contributing to the lack of social function is related to different rhythms demonstrated by past and contemporary functions. Rhythm is an approach to analyse the relationships between space, time and society. (Smith, R et al. 2013) The concept of rhythm is provided by repetition, which regulates and reproduces the sense of urban space and its relational aspects of the place life. Lefebvre (2004) argues that analysis of rhythm offers the possibility to understand the complexity of the spaces, their interactions, mobility and the connections between particular and universal.

A railway is an extended linear infrastructure designed for intercommunications and mobility; these characteristics are often geopolitics and national. The relation between spatial dimensions, speed, time, and tempo connects two distant points. Urbanity is a technology-driven and strongly geometric line that crosses different landscapes and places indistinctly. It is indifferent to the porosity and variety of spatial micro-localisms (Lobefaro, D. 2010).

Often the conversion of a railway assumes the form of a long path for walking or cycling. It seems to be a more rhythmic transformation rather than a functional transformation. The spatial dimensions are still the same, but speed, time, and tempo change. Considering only the over-expanded linear object, the line, and overlooking the observation of the various contexts that the line transgresses is one of the most challenging tasks for reprofiling an abandoned railway.

Inhabiting an open public space is entirely different from the rhythm of linearity represented by rail lines. Different relationships between spaces, dimensions, speed, time, and tempo characterise an open space and a linear space. The length of a railway, in particular, is substantially incompatible with the walking speed and time required for walking unless more entrances and activities are provided at its borders.

In this sense, the “track-vector” (Lobefaro, D. 2008) is a remote element that isolates the spaces along its sides. Thus, the rhythm missed is the intensity of relations with micro-localisms and presences. In other words, there is not a composition of the rhythmicity elements, spaces-dimension-speed-time-tempo; composition in the Latin meaning of *ponere cum*, namely put together, juxtaposing different elements (ibid).

Therefore, the closure of a railway is related to the line itself and all context and micro-spaces around it, which belong to a specific functional logic--the linear space of travelling long distances. In this regard, the surrounding decommissioned elements at the borders become strategic spaces within the process of conversion. Borders have historically defined the linear void/space as a closed urban system or a country through an imaginary margin line. These lines draw the character of a place, providing its identity as a sum of different times and forms.

At borders, paradoxically, the identity of the place is generated by two opposite situations: it can be the image created by someone outside the place, and it can be the image built by the sense of belonging possessed by users inside the place. Thus, the configuration of the spaces is a tangible element of identity, but the border itself is not considered a criterion of space definition.

In this sense, there are constant distinct spatial elements along unused railways: stations, platforms, tunnels, bridges it passes under, engine spaces, and various landscapes that border the linear space.

Spatiality Definitions:

Stations

The term *station* can be defined as a place where passenger trains stop (Oxford, 2010) and are characterised by the twofold connotation of localism and globalism. Stations are local entities on a micro-scale; however, they have a connective role on a macro-scale. Since the railways appeared as a new form of mobility, many towns became more significant due to their railway junction purpose. This ambivalence, rooted in Castells' concept (1989) of “space of flows,” or global connections, and “space of places,” or local connections, leads Bertolini (1996) to the definition of the stations as both “nodes and places.” nodes of networks and places in the city.

If Bertolini defines the station as permanently and temporarily inhabited by people within the city, Augè, with an anthropologic eye, individuates the lack of human interactions and defines the station as a non-place. (Augè, M. 1995)

Given the redevelopment of the stations, Bertolini proposes addressing their characteristics as nodes and places with a project of transformation where the station becomes active poles within the urban system (Bertolini, L. 1996). It can be argued that the terms *node*, *place*, and *non-place* are accurate descriptions. Regarding the design to re-use an abandoned station, it is essential to consider its historical meaning of node of interconnections, place as a recognisable element within the city and a non-place for its lack of social functions. The non-place interpretation is also present in the abandonment condition of the station itself.

Platforms

The platform is an appealing differentiation of the walkway level and height. However, it is generally closed physically and in terms of access to the station. For this reason, the latter two are not separable in terms of analysis and design reconversion. The platform can be read in its entire short and long sections and explored in its relationship with human height and its way

of disappearing within the terrain in the long section. Because of this, the landscape analysis of the platforms is a critical interpretation of sections rather than plan views.



Figures 2 and 3. Two points of view of platforms, Deeside way. Scotland.

Source: geograph.org.uk

Tunnels

The tunnel belongs to another structure different from a proper building, even if enclosed only on two sides. Within the tunnel, the walkway may vary and become slower or faster as the external and surrounding conditions are different from the pathway itself. In this sense, borders become solid and material walls; space reveals its nature as a corridor in its geometrical and functional connotations.

Bridges

Bridges are elements that re-connect two points, overpassing a barrier along its borders. Overall, bridges have a symbolic significance in the history of architecture. Most railway crossings are juxtaposed by roads and bridges, often by bridges. Thus, the spaces that warrant investigation are the vertical connections between the railway underneath and the bridge itself. A bridge over a railway is an infrastructural node that generates an interstitial space beneath it, representing an occasion of newly designed functions.

Observed from below, these nodes are, as Gisela Erlacher (2016) titled her exposition, spaces under “skies of concrete.” There are walls, pillars and roofs, but there is another type of

connection above. The dialogue of the vertical-horizontal axis may be interpreted in the two forms of mobility.

Abandonment of the Deeside Way – the History

The Deeside Way was 43¼ miles of railway from Aberdeen to Ballater that was patronised by royalty to visit Balmoral Castle (Holland, 2015). The line was used to pass the royal trains and the modern battery-operated railcar. It was introduced in conjunction with steam power, and it was anticipated that the level of passengers would increase. However, despite introducing battery-operated railcars in 1958, the railway closed in 1966; battery railcars are now preserved as museum pieces.

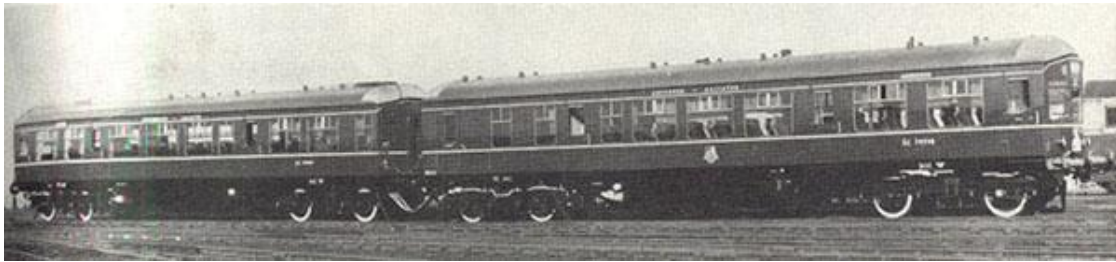


Figure 4. 2-car battery set on the Deeside line, Scotland | source: Courtesy of S. MacKay, railcar.co.uk

The Aberdeen to Ballater railway had three different construction phases: Aberdeen to Banchory in 1853, Banchory to Aboyne in 1859 and finally from Aboyne to Ballater in 1866 (Holland, J. 2015). The Beeching Report (British Railways Board, 1963) recommended the closure of those underused railways as the UK considered uneconomic routes. Between 1963 and 1970, around 4,500 miles of railways and stations were closed. (ibid) The decommissioning of the Deeside line in Scotland happened as a consequence.

The transformation into a pedestrian and cycle path generated deviations from the original route. Today, the conversion offers different views of the natural landscapes and historic castles from the Western side. The presence of the royal castle at Balmoral, even just as a tourism attraction, ensured that the surrounding spaces at the borders of the railway were preserved and contributed to the restoration of characteristic historic elements related to the railway, such as the Milton of Crathes steam carriage (The Royal Deeside Railway, 2018).

The first section of the Deeside line runs from Duthie Park in Aberdeen to Banchory. The first significant trace of the old railway and stations appears at Peterculter station. The length from Aberdeen to Peterculter circa is analysed because it is the most urban line compared to more rural segments of the Deeside line.



Figure 4. The first section of the Deeside line, Scotland. Source: Digimap

Border[s]Lines in Aberdeen

A railway takes people from an origin to a new destination by train. However, a new redrawn way along a previous railway, generally a walkway, cannot be rapidly and quickly transported along the historic route. Its paradoxical isolation and connection are presented at different scales. The Aberdeen Deeside line connects two far points that separate two lateral areas. It is indeed at once an element of connection and isolation.

The nature and history of the Deeside railway are essential to this line and represent a significant aspect of the city's identity. The identity of the place represents the main image of the city's positive growth, and its recognisability demonstrates the sum of different ages. Therefore, reconstructing and redrawing the railway is time-sensitive before disappearing within the landscape.

Along the Aberdeen segment of the line, there are many examples of the construction-oriented away from the line. The greenway, therefore, can still be considered a back and not a *new frontage*. The eastern part of the entire old railway, close to Aberdeen, is less considered a natural heritage. Unfortunately, some recent interventions have weakened the open spaces at the border of the path.



Figures 5 and 6. Recent housing intervention along the greenway, Scotland (Zecca, 2018)

The life of the line in Aberdeen is sharply defined by the seasons. In summer, citizen and tourist trade helps transform the line; however, there is little activity in winter. Even with some deviations, the Aberdeen greenway still connects points A and B, Aberdeen and Ballater. Various nodes and points have been forgotten in the reconversion of this long-distance route. The secondary stations, in some cases, are in abandonment apart from the historical and listed station of Pitfodels, built in 1894. One of these has been redeveloped as a private house. This intervention has entirely removed that building's historical and social sense, erasing the connection between the Pitfodels place and the railway.



Figure 7. Pitfodels station before the restoration, Aberdeen. Source: P. Ward
geograph.org.uk

The original conversion of the Deeside railway sought to recreate a natural wildlife environment, and this objective has been successfully achieved. Nevertheless, the path itself has been poorly replaced with tarmac, erasing the nature of that space, and it remains in its isolation although it still connects two far points, A and B. It is not evident that a person can walk or cycle long distances; the function of the path for moving between two places is not evident.



Figure 8. The Deeside way today, Aberdeen (Zecca, 2018)

Generally, the greenway is used as a walkway; people use it without interacting with the surrounding green-places, towns, or archetypes. Thus, how to reconvert the pathway and reactivate the marginal areas, destinations, and nodes at the borders of a linear straight idea, still running from A to B, requires consideration of numerous issues and factors.

Design Approaches

Whatever their location, railway conversion represents a challenge related to the natural isolation of the old tracks and their narrow size. Moreover, the complexity of dealing with a reconversion of a linear element designed in the past for speedy mobility and connecting distant points has to consider many intertwined aspects both at a large scale, between two towns, and small scale, people walking and cycling.

Three successful projects of converting railway lines to linear green spaces provide precedent for how design strategies have arrived at new solutions and new mobility means. They are the abandoned railway from Albisola to Celle Ligure in Italy, the Highline in the US and La Petite Ceinture in France. All three cases have generated potential and new activity networks by acting and designing the lines' borders to relaunch spontaneous surrounding redevelopment initiatives.

These three cases are instrumentally used to introduce possible interpretations in different urban and landscaping contexts. Finally, an interpretation and summary of all possible practices to be adopted are considered a possible methodological approach for re-converting a line, from high-railway mobility to slow-green-place mobility. The solution presented is a design project proposed in 2012 to regenerate the S. Vito railway: from abandoned to rebirth in Italy.

Savona – from Albisola to Celle Ligure Railway

The collective memory and the identity character of a railway are, in this project, maintained and interpreted through large timber elements that simulate and exaggerate the old platforms shapes, old places that people occupied.



Figure 9. Albisola ex-railway, Italy. Arch 3S Studio. Source: Courtesy of 3S Studio

The old track is re-interpreted in its section: the sitting areas become renewed elegant citations of the history of the place, the platforms, and divide the width, allowing in specific areas two different forms of mobility, walking and cycling. Close to the tunnel, this wood segment adds to the original width. It is a suspended footway that provides a better view of the sea. The pavement is an eco-friendly material in resin with various colours that respond to the surrounding context.

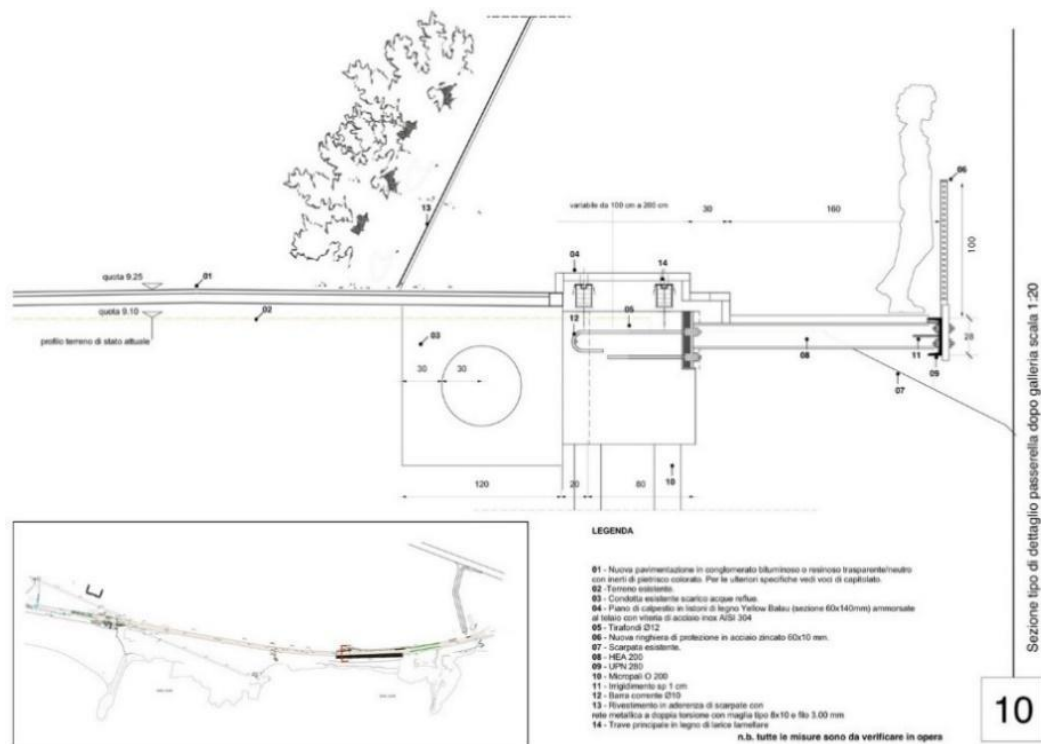


Figure 10. Albisola suspended footway, Italy. Arch. 3S Studio. Source: Courtesy of 3S Studio

The primary strategy of this successful project aims to change the conditions at the borders of the old railway, activating virtuous circles of micro-economy, social places and particular points of view of the marine landscape. The old railway is evoked through a linear and constant pavement, emphasising the borders with local vegetation and alluding to the rails through the scenic and dimmed streetlights at the level of the pavements positioned in a linear sequence simulating the old mobility speed. The tunnel is artfully reinforced with a system of corten steel panels strategically distributed along the walls. The gaps between panels expose the original brick and stone walls and their old and fascinating appearance.

Paris – Le Petite Ceinture

The case of Le Petite Ceinture in Paris is not an ordinary work of regeneration but rather a more complex case of re-appropriation and natural hybridisation between tracks, histories, biodiversity and forestation. The old belt runs around Paris and is divided into not all public segments. Segment number 18 is an example of spontaneous reuse. At this location, the old station of Ornano has been reused and transformed into a café restaurant. In addition, the owners cleaned the entire area to create flower beds and allotments and organise art events.

The Association Sauvegarde Petite Ceinture, together with schools and communities, care for the entire borders of the old railway. Their principal aim is to recycle every material and equipment in a spirit of ecology that goes beyond the building itself and includes an urban goat and chicken farm on the platform. These activities and initiatives have been able to reactivate the neighbourhoods at the edges of the line generating a strong social impact.



Figure 11. Albisola tunnel, Italy. Arch. 3S Studio. Source: Courtesy of 3S Studio



Figure 12. Reuse of the Ornano station, France. Source: J. Menjoulet, commons.wikimedia.org

This spontaneous and non-designed project represents renewed urbanity at the borders. Although still abandoned and closed to the public, the old track can catalyse social events raising curiosity and re-appropriation. This may demonstrate that the borders are potential elements of urban relationships.

Manhattan - the Highline

The old railway in Manhattan, New York, is an ideal example of railway line reuse in which plants and landscapes have been used to transform the raised line as a *suspended forest* above the city. It remains in the collective imagery.



Figure 13. Highline walkway, US. Arch. Diller Scofidio+Renfro, J. Corner, P. Oudolf.
Source: Courtesy of Diller+Scofidio

The rails have been retained and reused with a new idea of mobility; rails are used for mobile deckchairs, and their presence is highlighted with the pavement that simulates the idea of movements. However, it does not destroy the memory and the past function and purpose of the Highline. Instead, it demonstrates that the old urban elements can be reactivated through new functions and design languages.

It is easy to overlook that interconnections can determine the design concept. The Highline reuse project is based not just on the idea of rehabilitating the line but rather on the spaces in between it and the city. Many stairs, elevators and lateral connections are the heart of the project itself.



Figure 14. Vertical connections, Highline, US. Arch. Diller Scofidio+Renfro, J. Corner, P. Oudolf. Source: Courtesy of Diller+Scofidio

A micro-economy and different functions have been generated around the Highline. While the line remains constant in its length, the spaces around it and its borders have been elevated to social places.



Figure 15. Micro-activities underneath the Highline, US. Arch. Diller Scofidio+Renfro, J. Corner, P. Oudolf. Source: www.flickr.com

An Interpretation

These cases are considered for their design principles and theories. They have been re-adopted and re-interpreted to test the effectiveness of the design principles through a project that theorised and designed a possible solution for the old railway in Italy along the Adriatic coast. The abandonment of the old railway generated uncertainty, and now it does not serve any purpose to the urban environment and divides the town from the coastal area.



Figure 16. Project Proposal for S. Vito ex-railway. Masterplan, Italy. Zecca, C. (2012)
Source: Zecca, C.

At the heart of the project is the transformation of the transversal connections with the old line. The proposal starts with design elements that allow people to enter and leave the railway at different points. These elements have been called in a second step, faults and terraces. Physically they are ramps, steps and transversal paths and accesses.

The station piazza provides a uniform space where new architectural elements, small temporary shop units that vary in scale but are similar in appearance; the stations and platforms are reused as a community meeting and social places as the original conceptual purpose was. Even the tunnel is redesigned as a space to stay or vary the footstep through temporary activities and expositions.

The railway is segmented into smaller tranches and transformed into a new pedestrian thoroughfare and cycle lanes. The design of urban furniture, greenery, streetlights and pavement imitates the movement of the trains and rails are maintained and embedded in the new pavement. The terrain is steep, and there are constructed sun terraces and places to stop and visit, such as an archaeological site. The steep section allowed us to think and design a hypogeal nautical club in front of the sea and new quays.

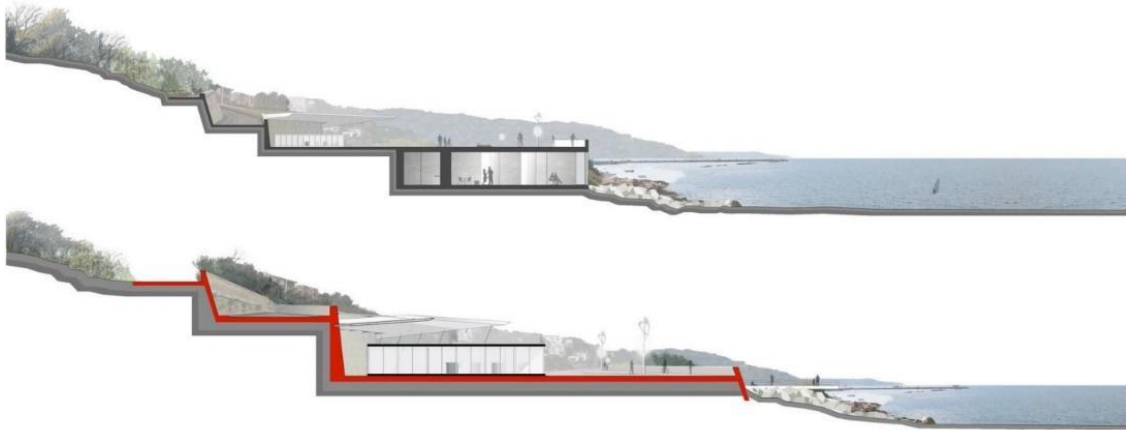


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Source: Zecca, C.

Conclusions

Three main ideas related to reusing railways, particularly the Deeside line in Aberdeen, have been raised through this research. First, these concepts have apparent implications for the practice of reconversion, which requires methodological reading of the historical urban significances of the lines and specific design approaches of recreating interconnections.

Reading the lines

Projects of conversion involve a higher level of urban and landscaping analysis that investigates explicitly the urban context, the existing objects to be redeveloped, and the interrelated connections between the existing elements and the surrounding areas.

This research demonstrated methodological and rigorous analysis to deeply understand the complex urban, landscaping and architectural systems of the disused railways. By considering the movements in the past and nowadays, the connection functions of these lines and the urban meaning of abandonment, all associated functional spaces built at the borders of tracks are classified. Following a rigorous analysis will help individuate the specific issues related to connection and isolation to find the specific reuse solution.

Rethinking the borders

From a symbolic perspective, decommissioning an old rail track represents the re-appropriation of particular urban and collective spaces. Being away in the past automatically allows us to use it as a new green path suitable for cycling and walking. The gentle slope, longitudinal configuration, and isolation are safe conditions for the new users. The automatic idea of using this natural corridor as a new functional “way” in its various declination, green- natural- walk-cycle-way for new forms of mobility represents, at the same time, innovation and a limitation. It is innovation in terms of renewed interpretations of the past through different possible mobility; it is a limitation in its length and non-variation, which immediately affects slow mobility.

The analysis underpinned suggests investigating and exploring reconversion, what the borders are, and what type of architecture objects and landscapes are there at the borders.

All elements should be transformed in places of memory of the old identity of the line and on occasions to better connect the primary way with the surrounding contexts. In this regard, the line itself may become a multi-functional line connected with different micro spaces. The result

would transition from the apathetic concept of renewed “way” to historical- touristic- green-natural-“place”.

By enhancing new and variegated mobility, the functions of the old building and constructed elements along the tracks can assume various configurations:

Stations

The reuse project should reactivate the station as a node through a social programme, meeting activities and functions, and enhancing the connections with the city's mainline and micro-areas. This will be possible by laying aside the mono-directional idea of human flows and enhancing a principle of perpendicular and more aerial flows and interactions.

In a perspective of new mobility, the station may become a “new” station for coming and going, for instance, serving the recent sharing transportation initiatives.

Platforms

Platforms are part of the station, and they should evolve in terms of architecture choices and details. However, looking at the platforms from the old railway instead, they are naturally and already suitable in their dimensions for resting, staying and sitting.

Tunnel

The reuse of tunnels is an important moment within the project because it is already an architectural work, is underground, and has poetic relations with its materiality. In this regard, it is helpful to look at other languages using the words tunnel and corridor. For example, the literal translation from Italian is “galleria”, in French “galérie”, a gallery.

This concept suggests that a corridor or a “galleria” was a narrow and long space within a building connecting different spaces. Furthermore, those long corridors used to be decorated within the buildings.

Following this concept, rather than just functionally connecting two spaces, a tunnel may be designed as an open-covered long gallery where the transition from outside and inside modifies the footstep. The surface of the walls can be used to reinforce the collective memory related to that space.

Bridges

Exploring the relations between two infrastructures defines the basis for interpreting and exploring two different typologies of mobility; in this respect, how can the vertical path between a car way above and a cycle path below? The architectural elements considered, such as the existing walls and pillars, maybe exaggerated and intensified to activate and reuse the spaces underneath, making vertical connections possible for different uses.

Strategy

The urban and landscaping analysis has proved to be fundamental for a coherent project of reuse, especially in dealing with particular extended infrastructures and lines of the territory. The ability to name those abandoned or underused spaces and its related ability to find declinations and different meanings in the context appears fundamental.

All regeneration projects described demonstrated the importance of the borders as a moment of relations and dialogue between different social and functional places. Nevertheless, they also recognise a shift between the lines being used for linear high-speed mobility and newly discovered uses which can benefit from the soft border of the lines and reuse of the existing nodes. In this sense, the projects can be regarded as conservation-led only if the lines are reused. Finding new uses for the abandoned infrastructure has influenced urban

development and demonstrates that positive change can be realised while still recognising a legacy and industrial heritage.

The analytical process could be transferred to the practice through more synergic and collaborative work that may involve various expertise. Analysing the territory critically and its elements is a more theoretical and intellectual approach that may positively influence and accompany the preliminary and feasibility study of the project as a starting point of the entire reconversion.

By interrelating the expertise and following specific methods of analysis and multi-scales design approaches, it would be possible to configure other and new ideas of renewed “individual” mobility within a no longer longitudinal way.

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