

Rodríguez, D. A., Vergel, E., & Triana, W. F. C. (2013). Desarrollo urbano orientado a los sistemas de transporte público masivo tipo BRT (Bus Rapid Transit) en Quito y Bogotá. Disponible on-line: <https://colaboracion.dnp.gov.co/CDT/portalDNP/Seminarios%20T%C3%A9cnicos/Doc%20mar13-2014Mar13%20Rodriguez%20Vergel%20BRT-OD%20Bogota%20Quito.pdf>

Wright, L., 2007. Bus Rapid Transit Planning Guide. Institute for Transportation and Development Policy, New York

ID 1753 | REUSING HERITAGE: ACTIVIST PLANNING FOR PLACE-BASED REGENERATION PROCESSES

Stefania Oppido¹, Stefania Ragozino¹, Serena Micheletti¹
¹CNR IRISS Institute for Research on Innovation and Services for Development
s.oppido@iriss.cnr.it

ABSTRACT: The research aims at discussing the potential role of reusing abandoned built heritage as driver for place-based regeneration processes in inner areas. The study focuses on disused railway heritage in Italy because of its relevant size, the low percentage of effective initiatives, and its strategic position into the territory. In European context, successful initiatives show the considerable role of political agenda and economic programmes as well as shared interests among institutional subjects, associations, entrepreneurs and local communities to achieve common goals. In Italy, these necessary components are often lacking, especially in terms of strategic initiatives and dialogue between policy makers, activists and socio-economic stakeholders, although the National Railway Company (RFI) has promoted institutional initiatives in the last decades. In this field, could activist planning have a key role for regeneration processes by recycling unused heritage? Could activist planning contribute to new territorial metabolisms, especially in deprived and marginal areas? The Southern case of Campania Region has been selected taking into account that it is included among the regions that need support to promote development and reduce regional disparities in European countries, according to European Structural Funds and Cohesion Fund. In this region, on one hand, the potentiality of railway heritage has been recognised for its being an existent infrastructure network on the territory that could link cultural, historical and environmental resources; on the other hand, the crisis of 2008 has cut down investments addressing main of them to sustain market-led processes. This conflicting scenario has induced social reactions such as civic movements, new local associations and community-based initiatives that have a proactive role in carrying out bottom up planning initiatives. To discuss that, the researchers have selected a case study in the Campania Region – the historical *Avellino-Rocchetta Sant'Antonio* railway – to reflect on the process induced by activist planning in reusing railway heritage. Through the consultation of indirect sources, fieldwork sessions, interaction with local key actors of the selected case study, the research group aims at verifying if bottom-up reuse initiatives are able to trigger place-based regeneration processes, producing positive impacts in terms of social, economic and cultural dimension.

1 INTRODUCTION

In many Italian Regions, inner areas represent about 60% of the national territory, where 25% of people lives, plagued by growing depopulation and marginalisation conditions, as described in the National Strategy for Inner Areas. The National Strategy defines these areas « [...] as territories substantially far from centres offering essential services and thus characterized by depopulation and degrade» but also « [...] with a wealth of key environmental and cultural resources of many different kinds, which have been subject to anthropisation for centuries». The Strategy is funded by Community funding programme for the period 2014-2020, and by national funds (Stability Law) and actually implemented at regional scale. As result of abandonment and emptiness processes, nowadays the inner areas often present a capital of unused built and infrastructural heritage. According with the National Strategy, the starting point for a local regeneration process is enhancing the “territorial capital” (Camagni, Borri, & Ferlaino, 2009): the natural and cultural capital and the social capital and social cohesion. In this perspective, unused capital should be considered as a measure of development potential. The ongoing research is developing within the research project “Place-based Regeneration Strategies and Participatory Processes”, coordinated by Gabriella Esposito De Vita, and funded by the Italian Research Council (CNR) and aimed at combining community engagement and participatory approaches within a cooperative and place-based regeneration process. A thematic focus regards abandoned heritage and reuse strategy as driver for local regeneration processes, analysing the role of bottom up initiatives ad social activation in implementing these processes. At present, the study deals with reusing abandoned railway asset in Italian inner areas as catalysts for valorising and networking environmental, historical, cultural and socio-economic resources, and guaranteeing a sustainable accessibility to the inner areas. What can be the opportunities arising from the railway network asset in the field of place-based regeneration processes? In this framework, what can be the proactive role played by local communities? The research deals with this heritage considering building stations and tracks as integrated parts of an infrastructural system for verifying if reuse strategies of this network can contribute to cope with the challenges of marginalization in inner areas through place-based regeneration processes. In particular, while in urban areas reusing railways can produce new opportunities in terms of urban mobility (Xu, 2011), in inner areas it can support local development strategy, improving accessibility of environmental, cultural and historical resources (Oppido & Ragozino, 2014). This research deals with the enhancement and valorisation of disused railway heritage taking into account a systemic logic, coherent with this heritage features and territorial characteristics. The main goal of this approach is to highlight relationships that this network has with the territory and the opportunity in linking environmental, cultural, historical as well economic and social existent resources (Oppido, 2014). The selected method to facing adequately this issue is the case study approach (Andrade, 2009; Yin, 2009), by selecting a case study located in an inner area of Southern Italy, the historical *Avellino-Rocchetta Sant'Antonio* railway in Campania Region. The case has been selected taking into account different criteria, among which: with regard to national average, the Region of Campania has an high level of soil consumption and this highlights a need of strategies for the reuse of dismissed or underutilised heritage (ISPRA, 2016); the extent in this Region of internal areas (63% counter to 60% of national average) and high rates of depopulation of the *Alta Irpinia* area; the extent of the track (119 km) with its historical and engineering value; and the high value of the landscape that the track crosses as well as environmental and cultural heritage that it captures. In this phase of the research, the case analysis has double objectives:

- To give a systemic lecture of the context aiming at linking the railway path with the entire infrastructural system and territorial heritage;
- To reconstruct main steps, main actors and stakeholders, which have marked the process of social activation for the enhancement and valorisation of historical track of *Avellino-Rocchetta Sant'Antonio*.

For these reasons, empirical analysis has been led starting from a consultation of direct and indirect sources and a set of site visits aimed at producing a visual analysis and a constant active observation (Gaber & Gaber, 2007). Then the work has carried on with the interviews to main local stakeholders, with a particular focus dedicated to actors involved in the social activation process, thanks to which several initiatives has been planned and put to the test for the enhancement of the track and for contrasting its closure. Geographic Information System (GIS) has supported this phase of the research for the construction of a geographic database. Other strengthens points have been added to these formers ones in order to consider possible future strategies of enhancement and valorisation of the track as well regeneration of its context:

- The project *"Binari senza tempo* [Timeless Tracks] and the Memorandum of Understanding between the Minister of cultural goods and activities and tourism, the Region of Campania, the *Rete Ferroviaria Italiana S.p.A.* [Italian rail network] and the Foundation *Ferrovie dello Stato Italiane* [Italian State railways] for a new opening of the track with tourist destinations (14 July 2016).
- The inclusion of the *Avellino-Rocchetta Sant'Antonio* case among the Italian historical tracks objects of the law proposal for the declaration of "Tourist railways" now collected from the Senate.
- The starting of the declaration procedure as good of architectural and landscape interest.
- Campania Region Strategy for inner context has selected this area as pivotal for regional inner contexts.
- The recent declaration of the *Distretto Turistico Alta Irpinia* [tourist cluster] with the Ministerial Decree 321/2016.

The last but not the least element of strong interest is the relevant civic activation emerged. In this context, associations and citizens have struggled to contrast the closure of the railway and to implement the process of enhancement and valorisation for the entire area. This engagement has anticipated and stimulated the following public action. Both strengths and weaknesses points of the *Avellino-Rocchetta Sant'Antonio* case arouse an interesting fieldwork for investigating potential effects of its reuse – with the final goal of supporting regeneration processes in vulnerable and marginal territories – and for checking the power of social activation. The paper includes four sections. Following this introduction, the background to frame the issue of place-based regeneration and enhancement of unused railway lines with a specific focus on social activation; case study analysis and first findings to the discussion about proactive role of social capital in regeneration; conclusions and perspectives for implementing research activities.

2 ENHANCING RAILWAY ASSETS FOR PLACE-BASED REGENERATION PROCESSES

Place-based regeneration processes «may be more accurately understood (and more efficiently practised) as an innumerable range of place-based economic strategies – each one connected by some common attributes, which could form an ideal-typical place-based policy model, although each approach to place-based development is likely to be contextually distinct. Actualising a place-based mode of thinking shapes how places are understood, conceptualised and codified, which can have significant implications for the formulation of policy and the implementation of development initiatives» (Pugalis & Bentley, 2014:561). These context-rooted approaches aim at improving partnership, involving and empowering local community in decision processes to achieve common goals. The main challenge is to build widespread collaborative arena among institutions, experts, stakeholders, local communities and all key actors for inclusive policies and practices in urban planning. They can support regeneration processes in historical centres, neighbourhoods, brownfields or abandoned areas that needed new development strategies based on inclusive and participatory processes. Indeed, place-based regeneration processes aim at building long-term development strategies that overcome inefficiency and inequality in the territory by solving the underutilization of resources and by reducing social exclusion (Barca, 2009). In this framework, cultural heritage represents a strategic resource and potential driver for triggering local development processes, improving quality of life and socio-economic and cultural environment, supporting heritage led regeneration processes (Ferilli et al., 2016; Fusco Girard, De Rosa, & Nocca, 2014; Horizon 2020 Expert Group on Cultural Heritage, 2015). This goal is even more relevant in inner areas, defined as territories at considerable distance from hubs providing essential services (education, health and mobility), and characterized by depopulation and degrade. In Italy, these areas cover approximately 60% of the national territory and hosting nearly 13,540 million people (Barca, 2016). This condition caused marginalisation processes, aging population, and, consequently, land maintenance reduction, hydrogeological instability and environmental risks, and decay and abandonment of the historical heritage. Nevertheless, on the other hand, the inner areas – excluded by globalization processes – contain major environmental resources (water, agricultural systems, natural and human landscapes), and relevant material, and immaterial cultural heritage. Because of this heritage, together with strong sense of community and sense of places, these areas represent a resource for recovering and enhancing local identity and promoting sustainable development. This perspective is consistent with the National Strategy for Inner Areas in Italy, which identifies natural, cultural and landscape diversity enhancement as the main goal for development processes, competitiveness and attractiveness, by increasing the use of territorial capital and by strengthening territorial cohesion (Atkinson, 2013; Camagni et al., 2009; Camagni & Capello, 2013). For this purpose, local communities and place-based leaderships can play a pivotal role in recognizing and enhancing local resources and in bringing up initiatives for bottom up local development and regeneration processes (Hambleton, 2015). With regard to this topic a new figure has been coined by Sager, the "active planner" (Sager, 2016). She is engaged in developing an alternative planning proposal not being a professional planner but a person informed about facts and involved proactively in the process by going beyond possible institutional participatory process and starting grassroots-initiatives, mainly when the institutional decision-making process is not sufficiently inclusive and transparent. She is aware of the potentiality of territorial resources and is engaged in bottom up struggles to enhance underused or unused goods for collective use. Place-based approaches and active planners could be a key to face issues of inner areas. Starting from valorising underused heritage it is possible to build new scenarios for their future. In particular, enhancing disused railway infrastructure can represent an opportunity for a new sustainable accessibility and for tourism promotion (Taylor, 2015), generating positive impacts on economic, social and cultural terms, as evidenced by a number of national and international experiences. For this goal, the railway heritage must be evaluated through a systemic approach, considering disused railways and stations as integrated parts of a system, a network able to improve accessibility and connections among environmental, cultural and historical resources (Oppido & Ragozino, 2014). In international context, many experiences demonstrate opportunities arising from enhancing disused railways for tourism, pointing out the role of a cooperative governance and dialogue between policy makers, stakeholders and local communities. The main initiatives concern, on one hand, national greenway design for implementing a slow mobility, such as *Sustrans Program* in England, *Vias*

Verdes in Spain, *Ecopistas* in Portugal; on the other hand, tourist trains for recreational activities. This second case is the topic of the research, aimed at designing a new life cycle for historical railway lines linking landscapes, and cultural and historical heritage. In many countries, local government bodies and community groups are developing these outdoor recreational trails and this tourism experience represents a growing trend (Taylor, 2015). In some cases, the tourist railway also represents historical and civil engineering values, such as Semmering Railway in Austria, added to the list of the UNESCO World Heritage sites. In Italy, these tourism initiatives started in the 90s thanks to voluntary associations, such as *Ferrovie Turistiche Italiane* [Italian Tourist Railways] in the cases of *Treno Blu* [Blu train] in the area of the Iseo Lake and the Norcia Valley railway. Then, starting from the 2013, the tourism train has been implemented also by institutional initiatives of *Ferrovie dello Stato FS* Group, in particular by *FS* Foundation that provides to enhance historical and technical heritage of Italian railways. For this purpose, in the 2014 it has launched an initiative named *Binari senza tempo* [Timeless railways], aimed at valorising historical rail tracks by converting them in touristic routes across Italian landscapes. Data by *FS* Foundation highlight over 60 thousand of visitors in touristic railways in 2016, with an increase of 45% over the previous year.

THE CASE STUDY OF AVELLINO-ROCCHETTA SANT'ANTONIO

The research deals with the case of Campania Region, where appropriate strategies for reuse of disused railway heritage can contribute to reverse the trend of high soil consumption, to activate valorisation processes of cultural, historical, environmental resources and to reduce gaps between the inner and the coastal areas. With regard to internal areas, the Campania Region has identified the delimitation of four internal areas among which has selected the *Alta Irpinia* as Pilot Area (resolution 600/2014). In March 2016, the Preliminary of Strategy of the Pilot Area *Alta Irpinia* was published on the site of the Territorial Cohesion Agency. The historic *Avellino-Rocchetta Sant'Antonio* railway, before its suspension, represented a strategic infrastructure between Campania, Basilicata and Puglia Regions crosses this area. Data highlight the ongoing marginalization process in the area; between 2000 and 2011, the population decreasing was 5,8%, higher than the regional average of internal areas (1,4%) and the national average for the same type of area, equal to 2,3%. In 2011, population over 65 was 23,7%, higher than the regional and national average for internal areas (21,2%). All these data are included in the Preliminary of Strategy - Pilot Area *Alta Irpinia* (Agency for Territorial Cohesion, 2016), which, among the whole actions for the development of the area, indicates the reuse for tourism of the suspended *Avellino-Rocchetta Sant'Antonio* railway. The railway was built starting from 1889, and it was inaugurated in 1895, with the engagement of Francesco De Sanctis – Minister of Public Education of the Kingdom of Italy – that described in his book *Viaggio elettorale* [Election trip] the landscapes crossed by the railway. The line is 119 km long with 31 stations and 2 terminals (Figure 1).

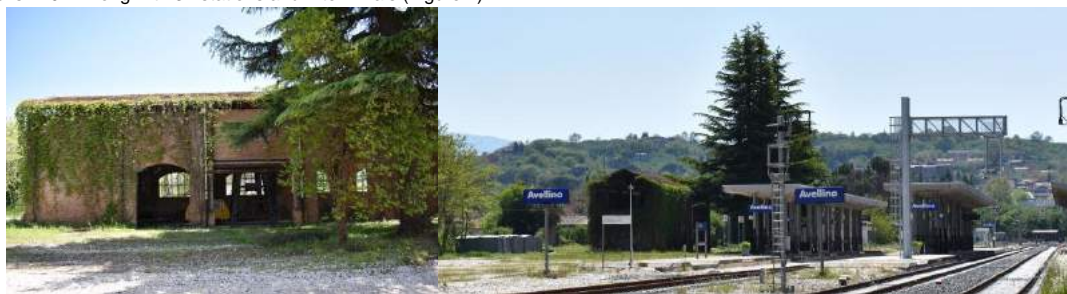


Figure 1 – The closed terminal of Avellino: new infrastructure and historical warehouse - (Source: Authors)

The tricky orography of the territory, and the need to overpass three rivers - *Sabato*, *Calore* and *Ofanto* – required the built of 58 bridges and viaducts, some of them are above 50 meters long and entirely of masonry (Pane, 2008). Among these relevant infrastructures, the *Principe Bridge* is renowned for its technologic and dimensional features. Considering this heritage, in 2014 an agreement has been signed between Department of Architecture (DIARC) of University of Naples Federico II and Regional Direction for cultural and landscape heritages of Campania; it aims at protecting and valorising the historic railway *Avellino-Rocchetta Sant'Antonio* with the proposal of declaration of architectural and landscape interest. This nineteenth-century-line crosses the main landscape resources such as *Conza della Campania* (Figure 2) natural reserve, *Monti Picentini Regional Park* - in which there are a SIC (Site of Community Importance) and a ZPS (Special Protection Area) zones - and Mephite area with a sulphurous lake and an archaeological site. The landscape excellence is testified by the high quality of local food-and-wine production such as registered designation of origin white wines - *Fiano* and *Greco di Tufo* - and Taurasi DOCG red wine. Nevertheless, in last decades national and regional policies did not recognise and valorise resources of this territory, local communities have believed in local identity value and understood potential future scenario based on their territorial capital.



Figure 2 – Landscapes of Conza della Campania, an abandoned post-earthquake village (Source: Architect Emanuela Di Guglielmo (2013), Degree Thesis "La Ricostruzione di Conza della Campania, Alta Irpinia. 1980/2013. Attraverso la Fotografia di Paesaggio")

3.1 ACTIVIST PLANNING FOR AVELLINO-ROCCHETTA SANT'ANTONIO RAILWAY

The sense of belonging that characterises *Alta Irpinia*'s communities is widely evident in the case of *Avellino-Rocchetta Sant'Antonio* railway. During the middle 2000, has been in sight the closure of the railway because it was underused. Because of this real possibility, a group of people organised an event-trip using the railway. Several people participated at the event so that an idea born: to build a permanent network having the main goal of demonstrating potentialities of the railway, mainly in tourist terms. In 2009, one year before

suspension of the line, the association *In_Loco_Motivi* was established by a network of associations, organisations and citizens, together with trade-union observatory (CGIL), to renew and give the right value to the *Avellino-Rocchetta Sant'Antonio* railway. The project was the *Treno Irpino del Paesaggio* [Irpinia's Landscape Train], Sunday's train trips to discover territory and its cultural, landscape, historic and food-and-wine resources. *In_Loco_Motivi* book from *Ferrovie dello Stato* tickets and organised a tourist package in which were included an excursion with lunch, cultural entertainment and guided tours, with the aim of telling the story and identifying local resources through a slow mood. This initiative was recognised really well done and interesting and the Campania's Agency for Sustainable Transport funded two trains per month. The high number of participants certified the success of this initiative in terms of tourism, socio-economic issues and territorial valorisation: during one year of activity, 27 excursions organised with 2,051 visitors, which have paid a ticket from 15 to 30 Euros. Among these trips, three were organised with educational goals (63 students per trip) and the others with tourism purposes (76 visitors per trip) by crossing 17 small villages and visiting more than 30 monuments (*In_Loco_Motivi* archive). On December 2010, the railway was suspended but not dismissed thanks to the engagement of *In_Loco_Motivi's* activism started in 2009 to keep high attention to the *Avellino-Rocchetta Sant'Antonio* railway and on usage opportunities for the valorisation of the area. The association organised national level events (National Day of Forgotten Railways, www.ferroviedimenticate.it), meetings and debates to facilitate communication among local administrators, stakeholders and citizens, and awareness activities in schools involving pupils and students in knowing territorial history and resources. A rail trip from Rocchetta to Conza was organised for the last edition of the Sponz Fest of Calitri (22-27 August 2016, www.sponzfest.it); it is an artistic kermesse directed by Vinicio Capossela that is programmed also for this current year during August. They are active also in contrasting not shared ideas and projects, such as the 2014-adopted Territorial Plan of Provincial Coordination that have proposed the conversion of the *Avellino-Rocchetta Sant'Antonio* railway to a greenway. This would have meant to delete the historical railway heritage substituting it with a new green infrastructure; this idea did not encounter favours of the *In_Loco_Motivi* Association, who, recognising its historical, cultural and engineering value, submitted comments to the plan in order to oppose to this conversion.

3.2 GIS inventory AS SUPPORT FOR territorial analysis

In order to analyse the territorial complexity and overlapping nature characterising *Alta Irpinia* area, a Geographical Informatic System (GIS) supports the research. Being the object of research a network linked (or potentially linked) to other territorial systems (environmental, historic, cultural and socio-economic), the GIS permits to analyse this complexity by identifying clusters and homogeneous areas – both critical and potential – to trigger a place-based regeneration process in the *Alta Irpinia* pilot area. Starting from these reasons, a GIS inventory has been elaborated to systematise information about railway and territorial structure. This tool can provide a support both in the case study analysis – reading the space-time context in a systemic logic and railway relations with environmental, cultural, socio-economic heritage (Eizaguirre-Iribar, Etxepare Igiñiz, & Hernández-Minguillón, 2017) – and in decisions making process to develop a place-based regeneration approach for the area. The use of GIS tool permits, indeed, to manage process, analyse, and then update and implement, a significant amount of georeferenced data and alphanumeric dataset. The analysis have focused on the railway line and crossed territories, particularly in the *Campania* Region, with attention to *Avellino* Province; considered that railroad crossed also *Puglia* and *Basilicata* Regions, the study model has also been extended to neighbouring territories of *Foggia* and *Potenza* Provinces. Spatial reference system is WGS84-UTM-zone 33N. About the project of the study model, systems have been identified taking into account context features in order to think about a place-based regeneration process: accessibility system, environmental system, historical-cultural system, socio-economic system, production system and tourism hospitality system. The model, then, takes back both information and maps about single systems, and integrated readings. This study model has been divided in systems to identify features and resources of territorial context, and to highlight relations of this one with railway:

- Environmental and historical-cultural systems include data about the existence and typology of natural and cultural resources;
- Accessibility system aims at highlighting some integrations between transport systems and different types of roads, the distance of the railway line and stations from urban centres and sites of interest and accessibility conditions;
- Socio-economic system aspires to analyse the marginalization of these areas, especially that crossed by the railway line in the previous and subsequent period by suspension (population density, age range, occupancy, commuting, etc.);
- Production system includes the identification of the main productive sectors and their location; finally, the tourist reception system identifies the current type of tourism that affects the area, and the hospitality capacity of the area.

Data to build GIS inventory have been found from different territorial information systems – particularly from, among other sources, Geoportal of public administrations, primarily from the *Campania* Region and the *Avellino* Province – and from official statistical sources, particularly *ISTAT* (Italian National Institute of Statistics). These databases have been integrated with information about environmental and cultural heritage, found by national and local authorities, and supplied by the *In_Loco_Motivi* association; also, fieldwork campaigns have been aimed at verifying and integrating information. By the use of GIS tool, graphics and thematic maps regarding territorial information have been worked out. In the subsequent steps of the research, moreover, this tool will be used for spatial and topological analysis to determine information about spatial relations. Therefore, it is clear that the use of GIS tool has a double function: the use as an analysis tool during the study step and as a decision support system for future valorisation strategies of the territory through the reuse of the *Avellino – Rocchetta Sant'Antonio* railway.

4 A DIFFUSED ENHANCEMENT THROUGH SHARED STRATEGIES

In the current initial phase of research, case study analysis has been structured in two areas of complementary investigation aimed at understanding the potential of the territory, the role of social actors and the expectations of local communities. For this purposes, an analysis of the track and its stations in relation to the context and territorial heritage has been carried out, through a systemic approach and building data collections. In parallel with this research activity, a listening campaign has been carried on for integrating the reading of the territory and identifying the expectations of local communities and key stakeholders. In the first five months of activity, initial case study evidences have been collected to define a first framework analysis:

- The importance of the territorial heritage of the context crossed by the track, with its historical, cultural, landscape and precious resources, and excellence productions;
- The strategic position of the railway to access landscape and main resources of the territory;
- Railway role as hinges between three Italian regions that amplify its range of action and consequent effects of a valorization strategy;

- The number and position of stations along the track reinforces this role as a linkage among the main territorial resources and as points for a diffused accessibility;
- Not critical conditions of the infrastructure that need not too expensive investments for the railway rehabilitation.

The listening campaign conducted so far has highlighted:

- The sense of belonging, social and territorial cohesion, which represented humus for the effectiveness of a broad social activation process;
- The presence of a group of key actors able to exercise leadership in civic activism;
- The community's awareness of the historical memory value of this railway line and the prefiguration of its potential for regenerating the territorial context, which has anticipated and urged the subsequent choices of public action;
- Proactive role of involved actors that have highlighted potentialities of the railway for a regeneration process, have anticipated and stimulated current public intentions.

In the face of public action absence, bottom-up initiatives undertaken by activists have highlighted the potential of the railway in tourism terms through the re-use of a benefit perceived as a collective and considered part of the historical memory of local communities. The data provided by the *In_Loco_Motivi* association regarding the attendance of users during Sunday walks with "*Il Treno Irpino del Paesaggio*" before the suspension of the line highlights the appropriateness of the initiative and the willingness to pay for this kind of tourist service. After seven years of exclusive civic activation, starting from 2016 institutional actors had showed their practical intentions for tourist reuse. In particular in 2016 the Avellino-Rocchetta Sant'Antonio railway has been inserted in the Foundation Timeless Tracks of FS Foundation, and in the same year the Campania Region has signed a Memorandum of Understanding with FS Foundation, Minister of cultural goods and activities and tourism, *Rete Ferroviaria Italiana S.p.A.*. For this current year, Campania Region has committed to fund the reopening of the railway for the Sponz Fest – scheduled for August – and to support accessibility to the WWF's Oasis *Conza della Campania*. The last but not the least result is the reuse of this railway with tourist and cultural destination among main interventions declared with the Preliminary of Strategy of the Pilot Area *Alta Irpinia*. Starting from these initial results, from completion of the analysis phase and the listening campaign, next steps of the research could be developed in order to verify opportunities offered by the railway as a field in which it could be tested approaches for place-based regeneration. In particular, it will be possible to highlight the impacts on the territory resulting from the reuse of the railway, in terms of environment (soil consumption reduction, sustainable accessibility), socio-economic dimension (new services for local communities, new profitability), cultural dimension (valorisation and promotion of environmental, cultural and historical heritage). In this integrated perspective, by overlapping environmental, socio-economic and cultural dimensions, it becomes necessary to consider a reuse approach based on mixed usages in order to guarantee not only a tourist destination but also new proactive synergies for internal areas. New activities in railway stations and sustainable mobility system are strategic points for this goal, with a particular regard to the role of the railway in accessing vulnerable areas, supporting Management Plan for Site of Community Importance, WWF areas and archaeological sites. The main goal of this proposed approach is to explore the reuse of railway as a device for diffused enhancement and valorization in terms of tourist development, building and sustaining excellence productions and activation of new economic and social synergies.

ACKNOWLEDGMENT

We thank the association *In_Loco_Motivi* and in particular Pietro Mitrone, Valentina Corvigno and Luca Battista for the material provided, useful for analysing the historic of *Avellino-Rocchetta Sant'Antonio* railway and its tangible and intangible heritage, and for the reconstruction of the social activation process of which they were and are protagonists. Thank also to Emanuela Di Guglielmo for her landscape photographs of *Conza della Campania* area. This contribution is the result of the collaborative work of the authors. However, Stefania Oppido specifically worked on §1, 2 and 4, Stefania Ragozino worked on §1, 3 and 3.1 and Serena Micheletti worked on §3.2.

REFERENCES

- Agency for Territorial Cohesion. (2016). *Preliminary of Strategy - Pilot Area Alta Irpinia*.
- Andrade, A. D. (2009). Interpretive Research Aiming at Theory Building : Adopting and Adapting the Case Study Design. *The Qualitative Report*, 14(1), 42–60.
- Atkinson, R. (2013). Territorial capital, attractiveness and the place-based approach: The potential implications for territorial development. In I. Pálné Kovács, J. Scott, & Z. Gál (Eds.), *Territorial Cohesion in Europe - Institute for Regional Studies, Centre for Economic and Regional Studies, Hungarian Academy*.
- Barca, F. (2009). *An agenda for a reformed cohesion policy. A place-based approach to meeting European Union challenges and expectations*.
- Barca, F. (2016). Diseguaglianze territoriali e bisogno sociale – La sfida delle "Aree Interne", Testo della Lezione per la decima Lettura annuale Ermanno Gorrieri, Modena, 27 maggio 2015, Fondazione Ermanno Gorrieri per gli studi sociali.
- Camagni, R., Borri, D., & Ferlaino, F. (2009). Per un concetto di capitale territoriale. In *Crescita e sviluppo regionale: strumenti, sistemi, azioni* (pp. 66–90). Milano: FrancoAngeli.
- Camagni, R., & Capello, R. (2013). Regional competitiveness and territorial capital: a conceptual approach and empirical evidence from the European Union. *Regional Studies*, 47(9), 1383–1402.
- Eizaguirre-Iribar, A., Etxepare Igiñiz, L., & Hernández-Minguiñón, R. J. (2017). The Analysis Of Disused Railway Lines as Complex Systems: Gis-based Inventory and Comprehensive Analysis Method. *International Journal of Sustainable Development and Planning*, 12(6), 1018–1031.
- Ferilli, G., Sacco, P. L., Tavano Blessi, G., & Forbici, S. (2016). Power to the people: when culture works as a social catalyst in urban regeneration processes (and when it does not). *European Planning Studies*, 24(11), 1–18.
<http://doi.org/10.1080/09654313.2016.1259397>
- Fusco Girard, L., De Rosa, F., & Nocca, F. (2014). Verso il Piano Strategico di una città storica: Viterbo. *BDC. Bollettino Del Centro*

Calza Bini, (1), 11–37.

Gaber, J., & Gaber, S. L. (2007). *Qualitative analysis for planning and policy: Beyond the numbers*. Planners Press, American Planning Association.

Hambleton, R. (2015). Place-based leadership: A new perspective on urban regeneration. *Journal of Urban Regeneration and Renewal*, 9(1), 10–24.

Horizon 2020 Expert Group on Cultural Heritage. (2015). *Getting cultural heritage to work for Europe*. <http://doi.org/10.2777/745666>

Oppido, S. (2014). La valorizzazione diffusa: il riuso del patrimonio ferroviario dismesso. *Bollettino Del Centro Calza Bini*, 14(1).

Oppido, S., & Ragozino, S. (2014). Abandoned Railways, Renewed Pathways: Opportunities for Accessing Landscapes. *Advanced Engineering Forum*, 11, 424–432. <http://doi.org/10.4028/www.scientific.net/AEF.11.424>

Pane, A. (2008). Alle origini dell'ingegneria ferroviaria in Campania: la costruzione della linea Avellino-Ponte S. Venere (1888-1895) e gli attuali problemi di conservazione. In S. D'Agostino (Ed.), *Atti del 2° Convegno Nazionale Storia dell'Ingegneria* (pp. 1291–1300).

Pugalis, L., & Bentley, G. (2014). Place-based development strategies: Possibilities, dilemmas and ongoing debates. *Local Economy*, 29(4–5), 561–572. <http://doi.org/10.1177/0269094214541617>

Sager, T. (2016). Activist planning: a response to the woes of neo-liberalism? *European Planning Studies*, 4313(May), 1–19. <http://doi.org/10.1080/09654313.2016.1168784>

Taylor, P. (2015). What factors make rail trails successful as tourism attractions? Developing a conceptual framework from relevant literature. *Journal of Outdoor Recreation and Tourism*, 12, 89–98. <http://doi.org/10.1016/j.jort.2015.11.005>

Xu, J. I. N. Y. Z. (2011). Conceptual Discussion on Planning Model of Urban Greenway System [J]. *Modern Urban Research*, 3, 8.

Yin, R. K. (2009). *Case study research: Design and methods* (Vol. 5). London: Sage.

ID 1754 | RESILIENCE ASSESSMENT TOOL FOR PUBLIC SPACE REGENERATION

Antonia Gravagnuolo¹, Roberta Iavarone², Ines Alberico³, Gabriella Esposito De Vita¹
CNR National Council of Research, Institutes 1 IRISS, 2 IBAF, 3 IAMC
a.gravagnuolo@iriss.cnr.it

ABSTRACT: The reacting capacity of a territorial system to multiple stresses can be described as its “resilience”. It expresses the ability of a system to absorb, recover from and successfully adapt to stressing circumstances. To make cities more resilient to natural disaster risks, international initiatives, such as the UN Agenda 2030 for Sustainable Development and the Sendai Framework for Disaster Risk Reduction (2015-2030), recommend the application of risk management measures and procedures, and stress the importance of preserving and safeguarding cultural heritage as a key element of safe, inclusive, sustainable and resilient cities. Urban planning and regeneration can be opportunity to design safe and resilient public spaces according to risk management, enhancing the overall city resilience to natural disaster risks. In this work, we develop a methodology to assess resilience to natural disaster risk in cities and public spaces, allowing the integration of risk management into ordinary planning tools. We identify which are the drivers that make cities and public spaces resilient to natural disaster risks, adopting a systemic approach that interprets cities as complex, dynamic, self-organizing systems, continuously changing under the pressure of perturbing factors caused by internal processes or external factors. A set of *drivers* (4), *driver descriptors* (15) and *sub-drivers* (36) were identified. A single sub-driver was associated to one or more phases of disaster risk management and to one or more goals of resilience. The method allows to overcome the sectorial approaches of territorial management through an integrated decision support tool for resilience-oriented planning. Particular attention was posed to the role of cultural heritage because it enhances the sense of belonging to the place and thus can enhance the response of citizens to adverse natural events. The territory of the Ischia Island, in Southern Italy, was identified as a suitable case study for future testing of the methodology. In Ischia, the presence of natural and cultural heritage coupled with the exposure to many natural hazards (seismic, volcanic, landslide, coastal erosion and marine inundation), and the intensive urbanization, could favor the validation of the methodology here proposed.

KEYWORDS: urban resilience, public space, urban design, risk management, cultural heritage.

1 INTRODUCTION

Public spaces should be designed to provide cities with beautiful, human-scaled and walkable open areas, creating a unique atmosphere, sense of place and identity. Furthermore, public spaces should be “safe”, both in the daily use and in the face of hazardous events and emergencies that threaten people's life. The Agenda 2030 for Sustainable Development (United Nations, 2015) advocates the development of safe, inclusive, resilient and sustainable cities (Goal 11), by protecting and safeguarding the world's natural and cultural heritage (Target 11.4), reducing the number of deaths and damages caused by disasters (Target 11.5), and increasing the number of cities and human settlements adopting and implementing integrated policies and plans towards resilience to disaster and holistic disaster risk management, according to the Sendai Framework for Disaster Risk Reduction 2015-2030 (Target 11.b). In order to achieve these fundamental aims at global scale, cities should implement feasible, economically viable, easy-to-use and effective tools to enhance their ability to cope with natural disaster risks. A set of integrated actions to increase city resilience to natural disaster risks should include information and preparation of citizens, cultural and natural heritage protection, and the design and equipment of public spaces. It requires a large effort in terms of human and economic resources. However, public resources are more and more scarce, particularly at the local and municipal level. Moreover, the integration of risk management into ordinary urban planning presents many difficulties due to the sectorial education and skills of urban planners and risk management officers. Thus, the enhancement of cities resilience can become extremely challenging, preventing the achievement of global goals. Existing funding provided for urban regeneration processes can be an opportunity, if sectorial approaches are overcome in favor of more integrated, multidisciplinary and systemic approaches. The concept of urban regeneration includes actions improving the economic, physical, social and environmental condition of an area that could be subject to changes (Roberts & Sykes, 2008). Thus, the synergy between risk management and urban