A Dismissed Train Line as a New Pillar for Sustainable Tourism Development in Corsica: "The Maquis Way" Strategy

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Abstract. Tourism represents an opportunity for boosting the development of marginalized, less populated areas. However, poor management of the tourism supply can lead to unbalanced territorial development. In recent years, Mediterranean islands have experienced an increase in tourist presence, due to global tourism trends and low-cost international travel. The case study of Corsica offers an opportunity to discuss the challenges faced by islands experiencing growing tourism pressure. Through the lens of the STESY model this research describe and analyze the island's tourism phenomena. The aim is to provide a comprehensive overview of tourism distribution across the territory, identify both critical issues and strengths, and support the design of context-specific, targeted strategies. The methodological framework combining open data and cluster analysis to identify local tourism Destination Areas. The design proposal "The Maquis Way", envisions the reuse of a dismissed railway as a cycling route to connect Corsica's eastern coast with inland areas, enhancing spatial and tourism connectivity. By positioning tourism as a core component of territorial planning, the study contributes to the debate on sustainable urban development and offers a decision-support framework aligned with the principles of the New Urban Agenda.

Keywords: New Urban Agenda · Sustainable development · Sustainable tourism ecosystem · STESY

1 Introduction

Mediterranean Islands represent major destinations for worldwide tourism due to a number unique values: landscape, nature, history and culture. To benefit of such generalized world tourism reputation becomes an extraordinary opportunity for socio-economic development but raising awareness on spatial sustainability suggests to compare such positive benefits with other the territorial issues, that in island areas are characterized by peculiar features [1–3].

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The debate on sustainable development strategies for sustainable tourism enhancement under the umbrella concept of regional development become more and more pressing due to the tourism boom in the post covid era. From the global perspective [4] to the operational level of key essays discussing various aspects of sustainable urban planning, land use, transportation, and ecological design [5]. Challenges and opportunities of sustainable urban development generally are positioned in the conflicts between economic growth, social equity, and environmental preservation in urban planning [6].

Current trends, more than standard rules, in policy recommendations are at the basis of key international institutional references and academic applications [7–10].

Tourism becomes a key sector for current debate in regional sustainability [11, 12] and it represents and horizontal domain of policy making and design implementation in a multiscale [13, 14] and multistakeholder perspective [15].

In the basis of those mainstream issues, in this research paper we refer to an application of the STESY model [16] in a specific case study: the Corsica. The island, famed for its rugged coastline and pristine beaches, draws tourists seeking natural beauty and beach tourism. Corsica attracts huge tourists flows annually even presenting a pure seasonality in trends. Overall, Corsica's tourism sector has demonstrated resilience, with a notable recovery in 2024 following the challenges posed by the pandemic and subsequent economic factors. In facts, Corsica's tourism industry has experienced significant fluctuations from the COVID-19 pandemic through 2024. In 2020, the COVID led to a sharp decline in tourism, with international visitors dropping from 30% to just 10% of total arrivals, while in 2022 Corsica saw a significant rebound, recording 3.4 million travelers distinguished in domestic and international tourists. In 2024 official data reported 9.9 million nights a relevant number posing sustainability issue of tourism phenomena in a region counting for 355.528 inhabitants (2024. The territorial tourism promotion is focused on the opportunities for relaxation and adventure that tourist can enjoy in the island enhanced by the unique stunning Mediterranean landscapes.

Beyond focusing on peculiar features of the case study area this work provide an experimentation of the STESY methodology in order to design a strategic framework for developing local tourism system on the ground of a robust analytical process oriented to identify local tourism Destination Areas. Open data and cluster analysis are applied in order to combine interpretative approach to quantitative design during studio lab developed with architectural university students at the University of Basilicata.

"Tourism as a territorial planning component" represents the disciplinary position of this paper, we aim at provide qualified decision support system in defining and support policy making territorial development process referring to the New Urban Agenda as a toolkit for better decision and better "context based" design [17–19].

The first section of the paper presents the research methodological framework and process. Then the case study area is described and the analytical approach is detailed. The proposed development strategy "The Maquis Way" integrating reuse of a dismissed train line for cycling as a new pillar for sustainable tourism development in Corsica, represents an option to improve the link among the Est-Cost of the island connecting coastal area with inner ones and promoting diagonalization in tourism supply. Discussions and conclusions section proposes main highlights of the research, limitations and future perspectives.

2 Background and Scope of the Research

The STESY model [16, 20] serves as a conceptual framework for analyzing and organizing knowledge related to specialized tourism phenomena, with a particular focus on spatial and territorial aspects. This taxonomy provides a structured system for classifying and managing information, supporting the analytical process from the initial phase of territorial classification to the development of strategic decision-making frameworks. The hierarchical approach of the model enables the classification of specialized tourism into three distinct levels: Specialized Tourism Ecosystem, Specialized Tourism System, and Specialized Destination Area (DAj). The latter represents the primary unit of analysis for describing the territorial tourism supply. A DAj does not necessarily correspond to traditional administrative boundaries but is instead defined by the spatial and functional organization of the local tourism system. Consequently, a DAj may encompass multiple municipalities or, conversely, multiple DAj may exist within a single municipal boundary. The conceptualization of DAj is formalized as follows:

Where:

- aj (Attractors) refers to physical points of interest (POIs), including officially recognized national and international tourist attractions (e.g., UNESCO sites, certified historic villages, Blue Flag locations, etc.).
- sj (Services) includes facilities within the tourism supply chain, such as accommodations and restaurants, each defined by specific locations and attributes.
- r (Reachability) represents the accessibility of the destination, encompassing the infrastructural and organizational system that allows visitors to reach the area via different modes of transportation (e.g., train stations, bus terminals, parking facilities).

A key aspect of the STESY model is the concept of tourism specialization (j), which categorizes a destination based on its predominant tourism type (e.g., cultural, gastronomic, nature-based tourism). This approach enables a detailed understanding of the relationships between functional sub-regions within a territory, facilitating the formulation of data-driven tourism development strategies. By applying this methodology to selected case studies, it is possible to construct a territorial network, enhancing the comprehension of spatial interconnections within the tourism system.

The research approach is based on the following phases (Fig. 1):

1. Analysis: Case study description through main tourism statistics, policies and analytics.
2. Application of STESY model: spatial data selection and classification, stakeholder identification, DA identification and benchmarking
3. Design: objectives identification, territorial scenario and design solutions, NUA compliance assessment.

The methodological framework is applied in Corsica case study highlighting issues and opportunities in tourism development strategy. The framework is structured in three different phases that start from the evaluation of tourism supply in given territories to support the design proposal in order to consider specific identity values of territories.

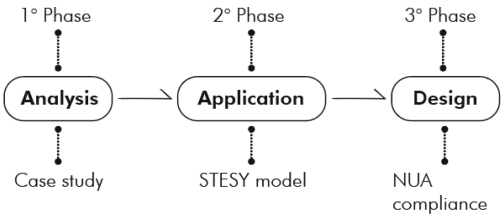

Fig. 1. Description of the methodological framework.

2.1 "Corsica": The Mediterranean Island

Tourism represents one of the main economic drivers of Corsica, a French island located in the Mediterranean Sea. Known for its natural beauty, beaches, mountainous landscapes, and rich cultural heritage, Corsica has developed a dynamic tourism sector that significantly contributes to the local GDP.

The annual occupancy of accommodation facilities highlights a preference for campsites, which record 4,457,055 presences, compared to 3,308,954 in hotels and 3,130,457 in other collective accommodation facilities (AHTC). This study suggests that tourists tend to favor camping over hotels (Fig. 2).

Regarding annual passenger traffic, both air and maritime traffic have shown a steady increase over time, correlating with the rise in tourist influx. Particularly, maritime transport has played a significant role in facilitating this growth.

An analysis of tourist activities reveals that the beach is the most popular choice (54.3%), followed by heritage-related activities (20.6%), cultural experiences (16.7%), and gastronomy (12.7%). This data confirms that Corsica is primarily a seaside destination, although cultural tourism remains significant.

The study also examines the preferred means of transport among tourists, with Uber being the most widely used (60.6%), followed by buses (17.4%), trains (4.3%), and other modes of transport (8.7%). This suggests that Corsica's public transport network is insufficient to meet demand.

Examining the monthly occupancy rates of accommodation facilities, there is a notable surge in demand during the summer months, peaking between June and August. This clearly indicates that tourism in Corsica is highly seasonal.

2.2 Application of STESY Model

The analysis of the territorial system and tourism offer of the Corsica island was conducted by dividing the elements into three main categories according to STESY model: Attractors, Services, Reachability.

From an initial survey of the elements identified within the study area, it emerges that the majority of attractors (54%) correspond to beaches. This indicates a predominance of seaside tourism over nature-based tourism attractions. The spatial distribution of the elements identified through the STESY taxonomy also reveals a continuous line of POIs along the waterfront near the beaches, while in the island's interior, they appear sparsely and unevenly distributed.

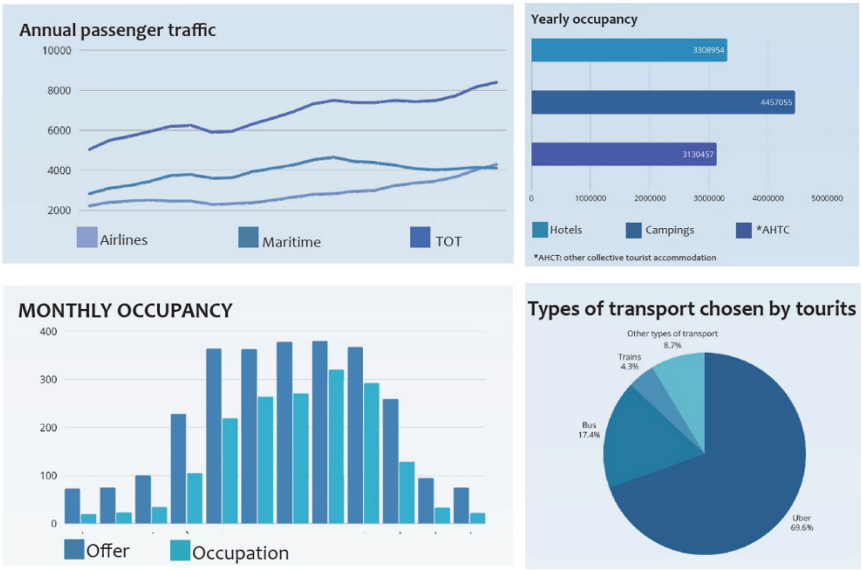

Fig. 2. Personal elaboration of data INSEE (Institut national de la statistique et des études économiques).

Using the GEODA software [21–23], a cluster analysis was conducted to identify the Destination Areas. The selected Destination Areas have a lower incidence of Reachability Points. These destinations, identified as "DA Aleira" and "DA Porto Vecchio," are subject to further thematic analytical study concerning coastal mobility.

As shown in the Fig. 3, investigations highlight a predominant use of cars as the main mode of transport. During the study on alternative mobility, it was found that along DA Aleira and DA Porto Vecchio, there is an abandoned railway line (Bastia-Porto Vecchio railway line) that was decommissioned during World War II after sustaining damage from bombings.

2.3 Design: The Maquis Way

The Maquis Way project was conceived to address the connectivity issues along Corsica's east coast. By transforming the decommissioning of the Bastia-Porto Vecchio railway line into a greenway, the project promotes sustainable mobility, encouraging the use of bicycles and pedestrian paths over traditional motor vehicles.

This initiative aligns with a broader vision of slow tourism, offering an alternative to beach tourism while fostering a deeper connection with the island's natural and cultural heritage.

Inspired by the principles of the New Urban Agenda (NUA), Maquis Way focuses on sustainable urban mobility, environmental resilience, and inclusive economic growth. The project includes various nature-based solutions (NBSs) to minimize its environmental impact and integrates eco-friendly transport solutions to reduce dependency on

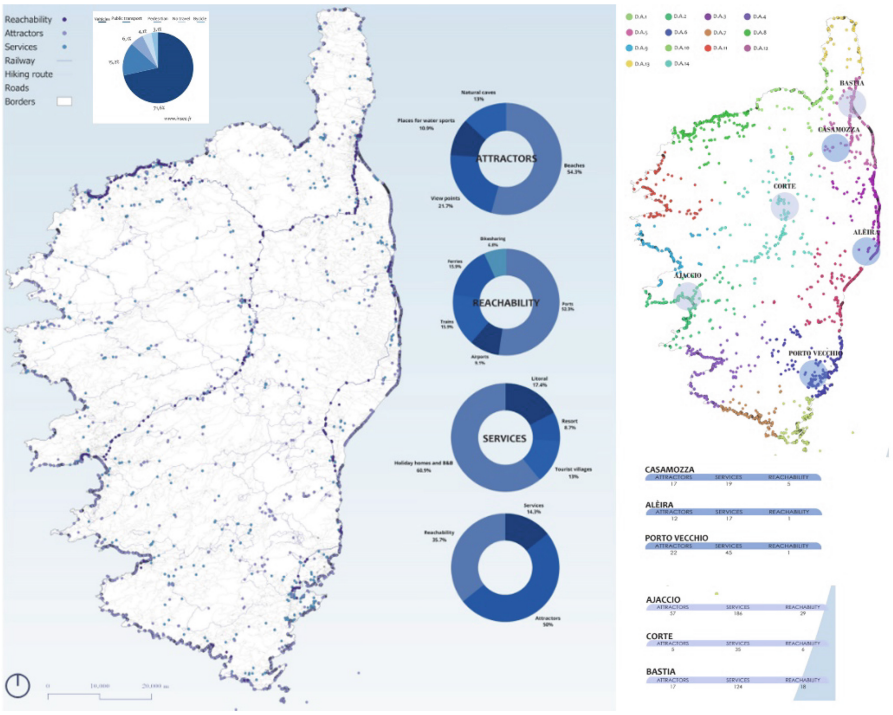

Fig. 3. Study area with Destination areas identification and evaluation.

cars. Along the route, travellers will find camping areas, picnic spots, and e-bike rental stations, strategically placed to enhance the overall experience.

The greenway is designed with different difficulty levels—ranging from flat and accessible sections to more challenging hilly and mountainous terrain—allowing visitors to choose routes based on their preferences and physical abilities. Travel time estimates vary depending on the means of transport: 32–34 h on foot, 6–7 h by bike, and 3 h by car.

Beyond its ecological and mobility benefits, the project is expected to have a significant economic impact, particularly in addressing the seasonality of tourism. Currently, Corsica experiences an influx of visitors during the summer, while winter tourism remains underdeveloped [24]. By creating an all-season attraction, Maquis Way is projected to increase local revenues, particularly benefiting businesses and communities along the route.

The name Maquis Way carries a dual significance. The term Maquis refers to Corsica's characteristic dense shrubland, but it also recalls the Maquisards, members of the French Resistance who sought refuge in the island's rugged landscapes during World War II. This historical connection is particularly relevant, as the railway itself was damaged by bombings and never restored. By repurposing it into a greenway, the project pays tribute to both Corsica's natural heritage and its legacy of resilience and independence (Figs. 4 and 5).



Fig. 4. Rail-infrastructure system and Project view.

3 Discussion and Conclusions

The study explores place-based tourism dynamics in Corsica. The analysis revealed a significant reliance on car use as the main means of transportation, a pronounced seasonality in tourist flows, and a concentration of attractors along the coastal line, largely linked to the prominence of beach-related tourism.

The STESY model was applied to assess the distribution of Destination Areas, and through its components—attractors, services, and accessibility—the territorial impact of tourism was quantitatively described in a spatially organized configuration. This analysis lays the groundwork for the formalization of targeted hard and soft measures structuring a sustainable development strategy [25, 26].

The results demonstrate that the proposed strategy positively contributes to a project vision aimed at enhancing the territory by requalify the disused railway line. Slow mobility is introduced as an alternative transportation system, alongside the promotion of nature-based experiential tourism as a form of supply diversification.

The proposal is inspired by the principles of the New Urban Agenda, fostering environmental identity and responsible tourism practices. The requalification of the abandoned railway track—equipped with camping areas, picnic spots, and bike rental services—caters to a model of tourism that balances the needs of both locals and visitors [27–31].

Furthermore, it strengthens DAj with lower accessibility Point of Interest (POI) density by introducing bicycle stations, and rebalances the regional tourism offer by enhancing hiking trails in response to the current dominance of beach-related attractors.

Limitation relies on data sources (mainly based on open data - Open Street Map - implemented in the STESY model [32–35]) and lack of local stakeholders' participation [10, 36] in the design phases in order to enhance the local validations of the proposal.

This study is part of the output developed within a university studio course during the academic semester program of architecture students at the University of Basilicata. Therefore, the character of the application is an academic proposal more than a real case study test. It reinforces a teaching objective oriented to test downscaling of the New Urban Agenda Principles on different topics and thematic area.

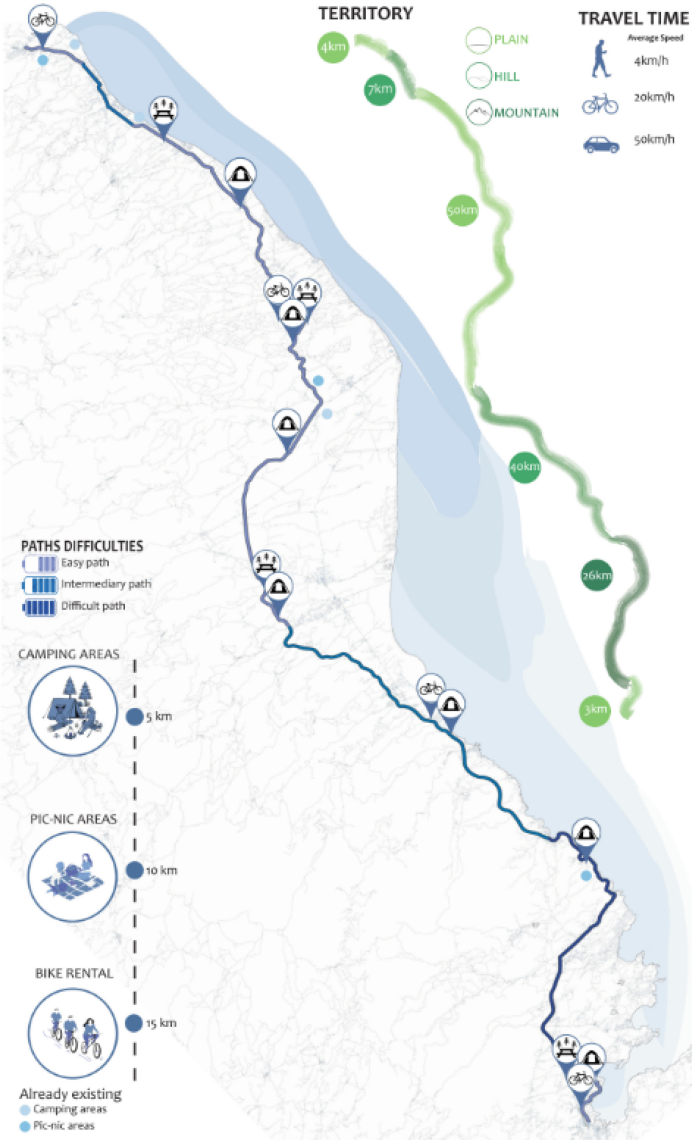

Fig. 5. Design: The Maquis Way.

Future research should explore advanced spatial analysis techniques and participatory approaches to refine the STESY model implementation [37] placing results in the framework of real decisions making processes for tourism policymaking in Corsica.

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