




Article

Adaptive Incremental Approaches to Enhance Tourism Services in Minor Centers: A Case Study on Naro, Italy

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Abstract: Over the past few years, minor centers have attracted interest from the scientific community and beyond as places to be re-inhabited. They have started being regarded as places of healthy and wholesome living, places that have kept resilience to anthropic actions as well as a sensitive architectural and landscape heritage that can act as a driver for the socioeconomic regeneration of their territories if enhanced. Several initiatives network small neighboring municipalities and link them to various types of tourism (cultural, mountain, experiential, etc.), depending on the areas' traditions and specific characteristics. However, minor centers are often still unprepared to welcome tourists and struggle to implement services, especially due to the economic deficit resulting from years of abandonment and depopulation. The research described here returns possible expeditious solutions for improving the condition of tourism-related services. Starting from the historical and urban analysis and knowledge acquisition of a specific case study—the Municipality of Naro, in Sicily—we reflected on solutions to be repeated in similar contexts to improve the accessibility and use of the historic center. The aim of the research is to outline a place-based design to improve mobility, water and waste management services, affecting places' attractiveness. The proposed interventions are modular, increasable in small steps, with budgets suited to the economic possibilities of small centers such as the examined one. This method, due to its incremental and adaptive nature, is working 'on' places and 'for' places, as well as functions as a possible tool and stimulus for the self-construction of a 'sustainable society' that helps the governance of these centers toward a vision of urban valorization. Territories like Naro represent a large part of Italy. They are endowed with resources lacking in heavily urbanized areas yet involved in numerous revitalization policies, including international ones.

Keywords: minor centers; sustainable cities; smart services; historical urban landscape; urban regeneration



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1. Introduction

In recent years, the issue of the demographic and economic contraction of minor centers, distant—not only geographically—from the economic dynamics and agglomeration forces of metropolitan systems has become central to academic debate [1,2], European cohesion policies, and the national agendas of member states. This mosaic of small and medium-sized urban centers stood as the primal structure of the European urban system. However, today, they represent the so-called “Inner Peripheries” [3], which are areas that suffer conditions of peripherality and marginality in a multidimensional perspective that covers the spatial, political, economic, and not least social sphere [4].

Yet, these smaller towns intrinsically represent welcoming places due to their small size, slow life, and consumption of 0 km resources. However, as they are often located in the hinterland, their morphological characters and road infrastructure quality lead to markedly complex connections. Over the years, this marginality has led to depopulation and abandonment; this has in turn been reflected in the maintenance state of infrastructure, buildings, and services. While producing socioeconomic impoverishment, abandonment has also paradoxically entailed the enforced preservation of identity features within the physical features of the architectural and urban heritage. Thus, the traces and fabrics of their ancient historic centers are still clear.

Hence, intervening in these areas involves dealing with complexity and extreme fragility. Despite being economically disadvantaged, these centers are micro-veins of natural resources, cultural values, historical–architectural heritage, and contextual knowledge, where cooperative and community forms of long-standing heritage management clash with critical issues that hinder their valorization. Not surprisingly, the EU’s Territorial Agenda 2030 as well as its predecessors and current regional development and cohesion policy frameworks (2014–2020, respectively 2021–2027) propose place-based development policies focused on leveraging local resources and capacities [5].

In minor centers located in the Inner Peripheries, activating historical–cultural routes can be a development driver in challenging ongoing depopulation phenomena by strengthening internal cohesion and improving the living conditions of local communities. Moreover, valorizing places triggers cultural awareness in the local community, which can generate innovative forms of governance and the management of urban space by caring for its heritage. The usability of heritage can, therefore, be improved by upgrading urban spaces, increasing tourist services and the quality of life of the settled community at the same time. This also impacts on climate adaptation, which, given the emerging needs, is necessary to address [6]. In addition, encouraging tourism in minor centers and rural areas can help balance tourist flows by decongesting more attractive urban centers. As highlighted, the tourist enhancement of minor centers is a cornerstone of European re-launch and revitalization policies. Thus, actions and interventions on services are relevant to improving the overall quality of these centers both from an “internal” perspective—i.e., those who live in these places—and from an “external” perspective—i.e., those who visit them. Focusing on the minor centers of rural areas, Nordberg (2020) and Farrington (2005) have conceptualized the right to equal opportunities of access to services and facilities necessary for daily life as a key element in the structuring of territorial inequalities [7,8]. It has been highlighted how the contraction of services is also the outcome of the restrictions imposed by rigid municipal budgets.

In particular, the oldness of mobility services and water and municipal solid waste (MSW) today results in a non-innovative, non-circular, non-inclusive management. Particularly in southern European minor centers, final user services are neither calibrated to the needs of temporary (transient) users nor fulfill the needs of the communities living there. However, efficient service management is a relevant aspect affecting the quality of urban space, and both factors (space and service quality) positively affect the psycho-physical well-being of the inhabitants, establishing a perception of serenity and security in its use and, therefore, improving the quality of life in the so-called Inner Peripheries [9].

After all, the sustainable and resilient urban development of minor centers is based on a complex network of functional interdependencies and partnerships. As indicated in the Territorial Agenda 2030, these involve several areas of intervention such as mobility, services, and green and blue infrastructure. The 2011 UNESCO Recommendation for Historic Urban Landscapes [10] also recognizes the role of tourism as an important economic initiative and calls on cities not only to have dedicated tourism development/management

plans but also to promote a range of initiatives related to renewable energy, waste recycling, the protection of natural areas, resource conservation, pedestrian and bicycle transportation, and local urban agriculture. Regarding services, it is now necessary to think about innovative solutions that address challenges related to social and low-carbon sustainability, such as those suggested by the Sustainable Cities Program and the New Urban Agenda [11].

Compared to this framework of themes and issues, one of the most interesting place-based development policies in marginal areas being tested in the European context is the Italian experience of the Italian National Strategy for Inner Areas (NSIA) [12]. This is an example of an innovative policy aimed at addressing socioeconomic inequalities between urban (and/or central) and rural and peripheral areas. Consistent with these objectives, the NSIA has two development trajectories: an intensive one, aiming to improve the endowment of services and the welfare of the population as a “precondition for local development”; and an extensive one, engaging the unused territorial capital to initiate “local development projects” based on the tourism enhancement of the smaller towns that insist in IAs (Inner Areas). Thus, the strategy encourages territories to trigger new economies, job opportunities, and service creation for their target communities. In analogy and synergy with NSIA, the Italian National Recovery and Resilience Plan’s (NRRP) section 2.1 of Mission 1C3 allocates a copious amount of investment to the measure “Attractiveness of Villages-Line B” [13]. The goal is to encourage proximity and sustainable tourism to small Italian villages often located in marginal and disadvantaged areas. The interventions in this area adopted a competitive bidding procedure to grant a maximum funding of 1,600,000 euros for each municipality in single or aggregate form for cultural regeneration and tourism relaunch in small towns. The actions consist of local projects aimed at the rehabilitation of historical heritage, redevelopment of public open spaces (ex. removing architectural barriers, improving street furniture), and creation of small cultural services also for tourism purposes. Second, the creation and promotion of new routes (e.g., thematic itineraries, historical routes) and guided tours is encouraged. The measure “Attractiveness of Villages—Line B” had the potential to serve as a valuable opportunity to explore innovative solutions aligned with the framework outlined above. However, the empirical evidence from the initiatives proposed by municipalities reveals a reliance on conventional approaches, presenting projects that fall short of enhancing tourism or improving the quality of life for inhabitants [14,15]. This gap, evident in the projects submitted by municipalities, calls for further analysis and methodological proposals capable of guiding local initiatives more effectively.

On the European stage, the NSIA and its ability to act synergistically with other funds, such as those of the Next Generation EU (NGEU), is regarded as a useful “policy transfer” for other EU regions facing similar challenges of depopulation and marginalization [16]. Starting from the objectives of the “Attractiveness of Villages—Line B” measure and the budget allocated to individual municipalities, this article attempts to reflect on the development of a replicable method of intervention in similar contexts to improve the services offered to minor centers’ inhabitants and visitors. The proposed solutions are low-cost and expeditious—when possible, meta-planned by steps, and directly affect the management of mobility, water, and solid urban waste services and indirect consequences such as tourist enhancement of minor centers, reactivation of the economy, etc. Finding answers for these smaller municipalities lays the groundwork for identifying a possible model of intervention that can be replicated and extended to all the municipalities that have great potential in terms of enhancing the architectural and urban heritage and yet often direct financial resources to interventions that do not improve the quality of life of local communities. It seems that place-based approaches acting on services for communities and potential temporary users are going to be the prevailing strategy of action in the coming

years for smaller centers at risk of depopulation [17]; however, the gradually shrinking of resources due to the expiration of NRRP funds has to be considered. Thus, it is necessary to understand what “low-budget” solutions can be introduced in these smaller centers to promote their development and slow depopulation.

Intending to develop a model that is generally applicable and not simply determined by particular circumstances, the article tries to thoroughly formulate a method of intervention for a small municipality in Sicily. To date, the examined one is excluded from NSIA funding but is affected by marginality, economic disadvantage, and progressive depopulation, like several minor centers defined as Internal Peripheries at the European level. Despite the evident marginality, the case study of Naro exemplifies the wealth of tangible and intangible resources possessed by minor European centers. The methodology illustrated in the study below can be consequently used as a model for similar considerations in comparable regions of Europe.

The research is part of an agreement between the Department of Architecture of the University of Palermo and the Municipal Administration of Naro (AG) and responds to the objectives of national and European funding measures on rural municipalities. The addressed topics are the following:

- Sustainable mobility and urban accessibility. The study considers combined solutions that include sustainable mobility and technological devices for compensating land height differences, the use of electric vehicles, the creation of sharing platforms, and the physical modification of routes. This entails developing elements from plans regarding both vehicular and pedestrian internal mobility in historical centers for all users (SUMP and PEABs, i.e., Sustainable Urban Mobility Plans and Plans for the Elimination of Architectural Barriers), limiting private transport and road transport as much as possible. With the help of even a few technical devices, both at the urban level and at the architectural level, it is possible to configure privileged paths that are passable by people with reduced walking abilities.
- Water circularity. The research proposes concrete actions connoted by management, technical, and economic feasibility that start with the reconfiguration of water services, possibly entailing punctual interventions in the redevelopment of the urban environment. Simple urban infrastructure for the integrated management of recycled water for urban and building uses and possibilities for further water use for irrigation are examined.
- Sustainable waste management in urban areas. In the redevelopment of urban spaces, there is an increasingly pressing need to identify and/or integrate spaces and technological equipment that can incentivize a community to perform recycling collection correctly and consistently. The study aims to highlight building-integrated technologies for managing waste streams to support the circular economy and quality of life in cities. Size control, connection with rural areas, and community involvement and participation can contribute to the success of this strategy, which is strongly oriented toward the circularity of processes and the proximity economy.

2. Adaptive and Incremental Method

The research outlined integrated solutions in a minor urban center with historical connotations aimed at improving mobility, water, and MSW management services. We define the method as adaptive and incremental because the challenge is to make small-size, modular, and progressively implemented interventions that are suitable for smaller municipalities with reduced spending and financing capacity and able to fulfill the welfare and quality needs of settled communities. The solutions are tested in a case study. Thus, the research has developed tailored design scenarios inspired by the physical characteristics of

the area in accordance with the place-based approach that informs European development policies. The methodology for the experimentations involving the three types of services (mobility, water, and MSW management) follows a common thread (see Figure 1):

1. Context analysis (orographic, morphological condition, historic building and urban fabric, building types, analysis of urban spaces).
2. Verification of the need–performance framework:
 - a. Analysis of current service offerings (disused fountains, roadside drains, MSW drop-off points and modes, etc.).
 - b. Analysis of current and potential demand (resident population—age, population growth curves, tourist flows, etc.).
 - c. Identification of the constraints of the historic urban context.
 - d. Planning of feasible scenario alternatives:
 - D1 expeditious mobility solutions with related costs (electric bicycles; electric shuttle; regular buses to Agrigento; identification of parking areas; identification of stalls; identification of routes for individuals with reduced mobility; identification of major bicycle and pedestrian routes).
 - D2 expeditious water management solutions with related costs (public fountains reactivation and integration; public utilities; rehabilitation of existing fountains; atomized water jets in specific areas).
 - D3 expeditious waste management solutions with related costs (rationalization of recycling bins; plug-in vending machines; EURVEN smart bins; screening systems and ecological islands in parking areas, community composter).
 - e. Choice of alternatives (the solutions identified must respect the constraints of the historic urban context, if they comply with them, then the solutions are applicable; if they do not comply with them then, it is necessary to return to point d and planning a new feasible scenario of alternatives).

Each urban space suggests specific and tailored solutions born in and for the context while drawing from state-of-the-art available technologies. The base structure of the approach is provided by the need–performance method: design goals and requirements are identified starting from user demands to propose solutions at various scales. The comparison between preliminarily identified requirements and the expected performance of design solutions allows the *ex ante* assessment of the efficiency and potential effectiveness of projects. Unlike traditional models, the incremental method proposes a step-by-step system of expeditious solutions, starting from small investments in projects that increase public services while guaranteeing small revenues to the Municipality due to internal movements of the city, such as improvements in tourists' fruition. The next steps can be carried out and financed later after the first interventions have managed to bring positive results. For example, a second step can be represented by the extension of the planned service to the entire municipality or a more expensive solution that requires greater funding.

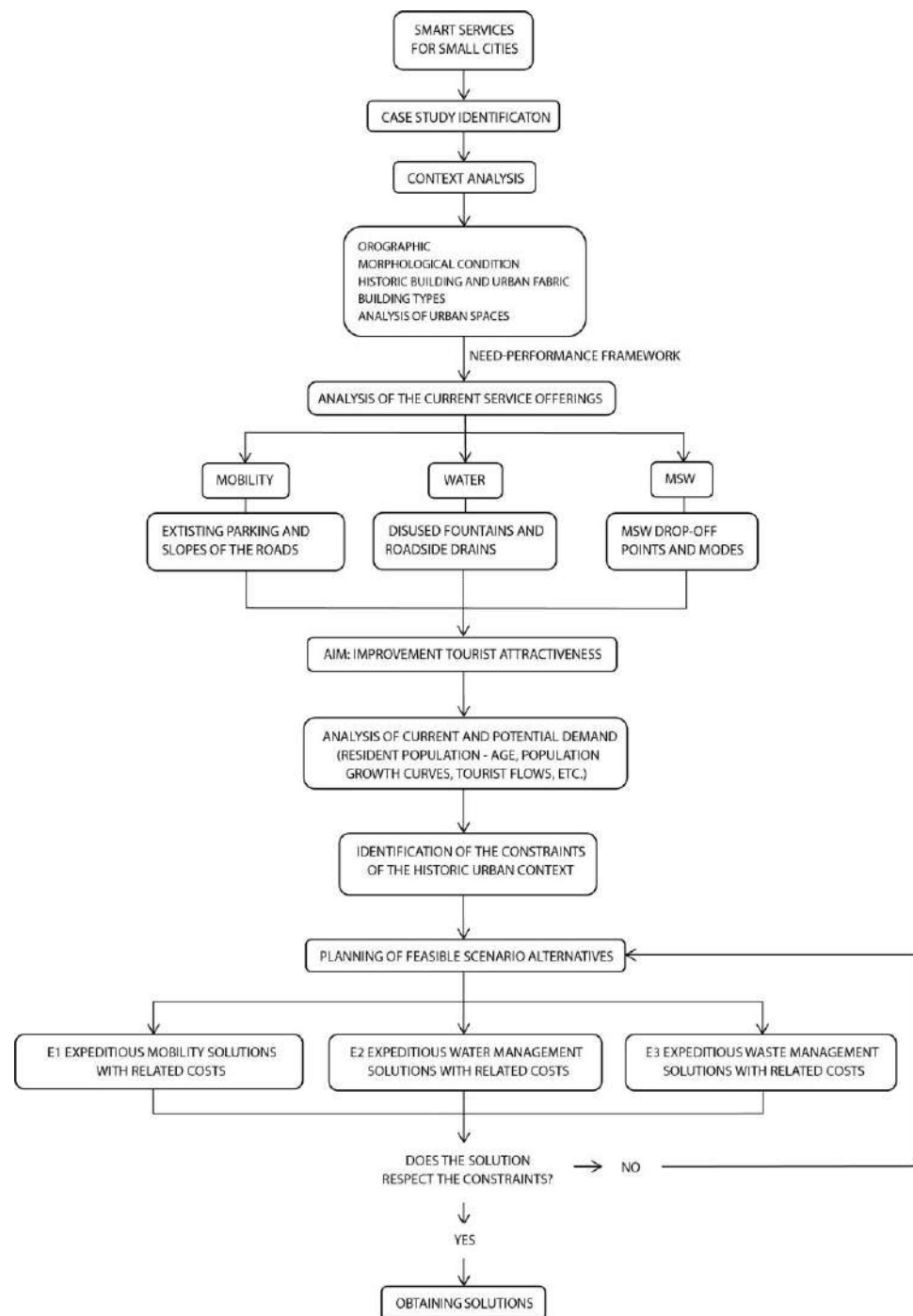


Figure 1. Flow chart illustrating the methodology of the design and plan choices (image prepared by E. Nicolini and V. Amato).

3. Experimentation

3.1. Case Study

Naro is a small town of 7066 inhabitants located 593 m above sea level in the Sicilian hinterland about 35 km from Agrigento, Sicily. Recently, archaeological evidence of human settlements from prehistoric times has been found in its territory. The city has Greek origins and has experienced influences from various civilizations over the centuries, including Romans, the Byzantines, Arabs, and Normans. Naro experienced its greatest splendor during the 17th century, corresponding to the spread of Baroque Art, which is an artistic current that arose as a result of the policies of the Catholic Counter-Reformation. During

that period, the city was enriched with remarkable monuments located on the main street, i.e., Via Dante, whose construction involved artists with considerable creative genius [18]. Naro also has many cultural and religious traditions with festivals and events related to the liturgical calendar. Like other smaller Municipalities in the hinterland, it has suffered gradual depopulation since the postwar period, resulting in the abandonment of much of the built-up area. In recent years, a calamitous event has given further impetus to the abandonment of this place: in 2005, the Municipality was hit by a landslide that endangered much of the historic center [19]. Today, Naro retains an extraordinary tourist attractiveness comparable to the best-known Sicilian Baroque sites. However, the advanced degradation state of many areas of the historic center and the absence of tourist accommodation services lead to its exclusion from the destinations of the known tourist circuits. The following section will present the design solutions identified for each of the themes: mobility, water, and MSW. These solutions, while tailored to Naro's context, offer valuable insights and methodologies that can be adapted to similar towns in the Sicilian hinterland and beyond, emphasizing the potential for broader application.

This context makes Naro a representative case of the challenges and opportunities characterizing the historical municipalities of the Sicilian hinterland and southern Italy to a broader extent. By addressing Naro's specific challenges, such as water management through its reservoirs and mobility concerns, scalable strategies emerge that could inspire integrated approaches in other small towns facing similar issues. Indeed, the city embodies a twofold reality: on the one hand, the charm of an extraordinary cultural and landscape heritage, which could attract tourist flows; on the other hand, a situation of urban decay, depopulation, and scarcity of economic resources, which impedes the full development of its potential. The presence of resources such as the San Giovanni and Furore Dams, as well as the Naro River, highlights the strategic importance of natural resources. The urban fabric is marked by decay but rich in history and stands as fertile soil for urban regeneration and tourist valorization interventions. Aside from its unique characteristics, it must also be considered that there are limitations to considering this case study as a universal model. However, specific approaches and solutions tested in Naro, such as leveraging its historical assets for sustainable tourism or utilizing existing water resources for regional development, underscore practical steps that could be replicated in other similar towns. The economic situation, characterized by the dependence on public funding, is significantly variable between Italian regions, as much as the management policies adopted by local institutions. Moreover, the geographic and climatic aspects, including hydrogeological vulnerability, are not the same as in all other areas with similar depopulation and abandonment issues. However, the comparison with other southern Italian regions, such as Basilicata, Apulia, Calabria, and Campania, shows that they share with Naro the need for integrated strategies for urban and cultural regeneration with some different shades related to the local context. The case of Naro highlights how innovative and site-specific interventions can be linked to broader regeneration frameworks across southern Italy, enhancing the relevance and scalability of these solutions. The beauty of this city resides in its capability to allow traveling in time through its streets and monuments; however, the lack of adequate services hinders its tourist attractiveness and residents' quality of life. Thus, Naro, with its history and heritage, stands as a paradigmatic example for minor Italian centers to rediscover their identity and generate new growth drivers while acknowledging the challenges within any regeneration process. Ultimately, Naro's strategies underscore a broader vision: how the revitalization of small towns, rooted in local identity, can serve as a blueprint for preserving cultural heritage and fostering sustainable development across similar contexts.

3.2. Analysis of Inclusive Mobility for Tourist Flows

The town of Naro is located in the southeastern part of the Agrigento territory. It can be reached from the capital by taking State Road 576, from Campobello di Licata by Provincial Road 12, or from Castrolibero or Camastra by taking state road 410. The municipality is 169 km from Palermo airport and 11 km from the nearest railway station in Canicattì. The urban center is spread over a hill stretching from 400 m a.s.l. in the valley to 593 m a.s.l. with an overhanging slope facing inland Sicily and the opposite flank sloping southwest. Despite providing control over the area in the past, the site's peculiar orography is now an obstacle to facilitated mobility. Historical–architectural heritage buildings, including the Old Cathedral and the Chiaramonte Castle, are located along the slope. Placed 20 m above the elevation of the main street, they are accessible only by stairs, curbs, or roads with a slope of more than 10 percent. The slope analysis (Figure 2) has revealed the presence of two road systems: the primary network, with vehicular roads, following the course of contour lines, and the secondary network, orthogonal to the former, whose paths mostly consist of stairways and curbs, which are sometimes framed by vaulted walkways. Some prominent elements of Naro's historical–archaeological heritage are the early Christian catacombs, including the Caves of Wonders, easily reached from the SS576, and a historical path, an inland variant of the Via Fabaria, one of Sicily's Via Francigena routes, which crosses Naro from Agrigento to Niscemi. Citizens are required to commute due to work and educational needs, since the Economic Technical Institute is the only secondary school in the municipality. The municipality does not have an urban mobility plan regulating the historic center or the rest of the city of Naro. The historic center is partly paved with natural stone, it is crossed by narrow streets and small characteristic alleys, but there is no limited traffic zone to safeguard this part of the city. In addition, the valorization of some architectural monuments, many of which are churches, is hindered by the presence of large squares at the entrances used as public parking lots. Through the various inspections and desk analyses, the following emerged: improper use of the widenings along Dante Street, which are used as parking lots; the absence of public transportation, bike lanes, or pedestrianization policies in the historic center; lack of accessibility to the historical–architectural heritage; and the absence of connections between the green areas inside the city and the suburban environmental systems.

The study focused on the elaboration of a SUMP and the identification of facilitated routes for weak users, thus enabling an improvement in the accessibility of services, facilities, and historical monuments to ensure the enhancement and development of a Municipality in the inner areas of Sicily.

Sustainable mobility aims to ensure that a place's transportation systems match the economic, social, and environmental needs of society; today, this issue is one of the most debated topics in local, national, and international environmental policies [20]. Examples of relevant actions involving sustainable mobility include the case of Manchester, where promoting the use of alternative and sustainable means of transportation involved making four cargo bikes of different models available for rental, useful for transporting goods or children, for both general riders and parents along a direct school–workplace route [21]. Regarding cycling, some examples of national strategies can be found: in France, with the PAMA (Plan d'actions pour les mobilités actives) [22], which aims to encourage cycling by offering tax incentives to those who cycle to work; or the case of Norway, with the National Cycling Strategy—Get on Bikes! [23], focusing on financing, infrastructure, and communication. However, there is currently no official EU cycling strategy. Yet, with the support of several other organizations, such as the European Cyclists Federation (ECF), a specific strategy and set of recommendations were developed in 2017 [24]. In addition, the NRRP allocates eight investments and one reform for public transport and sustainable

mobility to speed up the time frame for the implementation of interventions and simplify project evaluation procedures. Moreover, it aims to implement more than 21,000 electric vehicle charging infrastructures on suburban roads and in urban centers by 2025 through two different decrees: Ministerial Decree No. 10 of 12 January 2023 [25] and Ministerial Decree No. 110 of 18 March 2024 [26]. Mention should also be made of the Clean Vehicles Directive 2009/33/EG [27], which encourages the purchase of clean and energy-efficient vehicles, or Regulation UN-R49 [28], regarding measures against emissions from engines used for transportation. Starting in 2025, manufacturers will have to reduce emissions by 15 percent compared to the EU average during the baseline period (July 2019–June 2020). From 2030 onward, the reduction must be 30 percent. In addition to this, the EU is investing 2.2 billion euros in 140 key transport projects, including electric bus projects, which will be supported by the Connecting Europe Facility and are part of efforts to realize the European Green Deal [29].

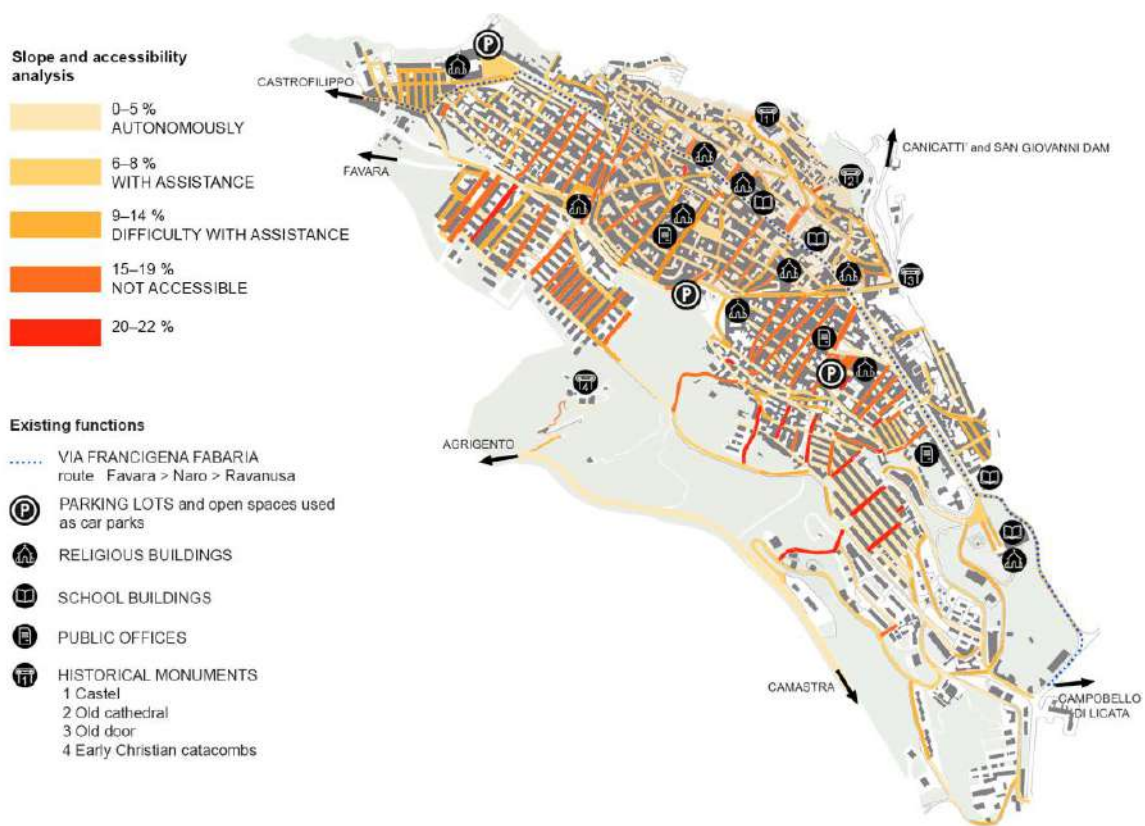


Figure 2. Analysis of road slopes and degree of accessibility and identification of functions of the Municipality of Naro (image prepared by V. Amato).

To convert current mobility to a more sustainable and inclusive one, a SUMP (Sustainable Urban Mobility Plan) has been proposed for Naro, with three interchange nodes, also called hub mobility—places where it is possible to choose different means according to their needs. They are located near the entrances to the city to allow drivers to leave their non-electric private vehicles and take advantage of electric and non-electric bicycles or electric buses used for public transport with at least one seat for the disabled. The plan also includes bicycle routes that mainly connect the intermodal parking lots to the historic center; of the other routes, however, external ones allow one to reach northward to the San Giovanni Dam, leaving behind Porta Vecchia (the only surviving gate of the old walls); another route reaches the early Christian catacombs to the south; one more route connects westward to the route of the Via Fabaria variant, thus providing views of

Naro's naturalistic and archaeological landscape. Two transport lines are hypothesized to meet public transportation needs: one connecting Naro and Agrigento, for inbound and outbound tourist flows or connection to other facilities; the other one connecting the intermodal nodes with important architectural emergencies, including the city's activities and public services. The position of stops is decisive from the proximity of flow attractors such as stores, schools, social centers, cultural venues, public offices, and public spaces, considering influence radii between 100 m and 250 m (Figure 3). Pedestrian paths with <math><8\%</math> slope (facilitated route with LVE paving marked in red in Figure 3) have been chosen to allow accessibility for people with mobility, visual, or hearing impairments. These connect intermodal nodes to public services and facilities and are signaled by special braille tactile maps and covered with LVE (Loges Vet Evolution) flooring, which is a tactile-planar system providing vocal information through radio frequency tags with dedicated electronic aids in addition to tactile directions. Moreover, preserving the historic center from vehicular traffic has led to hypothesizing the introduction of a restricted traffic zone with an active gate from 8 a.m. to 6 p.m. on weekdays and from 2 p.m. to 6 p.m. on holidays. The area's perimeter is based on the boundary of the historic center, excluding the Carmelite Convent, where a hub mobility is located.

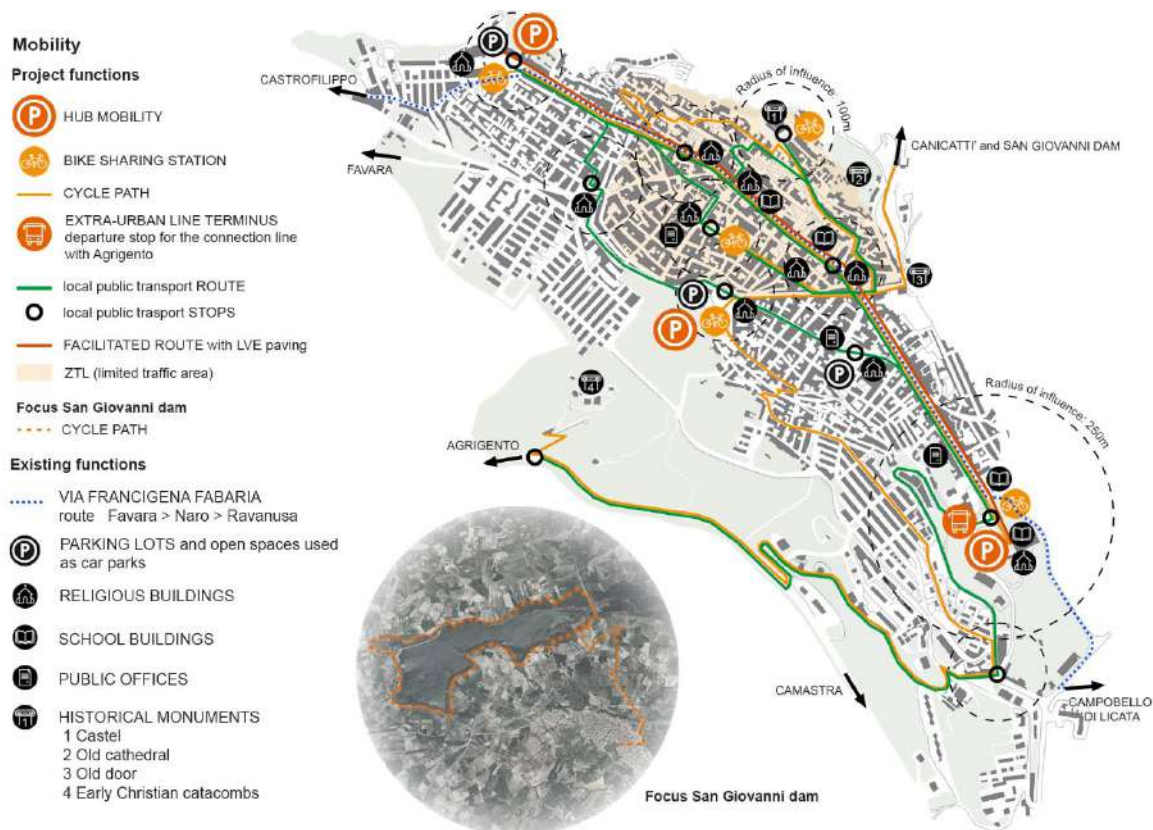


Figure 3. Plan of the inclusive SUMP and focus on Lake St. John (image prepared by V. Amato).

Interchange nodes are places of connectivity where different modes of transportation meet to offer different travel options to users and encourage the use of collective, rather than individual, transportation modes. The choice of a mobility hub is due to the presence of a large area of influence (offices, housing, stores, and recreation centers) and proximity to other mobility nodes such as train stations. It consists of cab areas on sidewalks, charging stations for electric vehicles, and squares, which create an active and welcoming place during stops. Moreover, it is also necessary to provide users with information about the services offered and their functioning. Regarding bike-sharing projects, some cities

provide it as a public service (i.e., paying for the initial investment and operating costs); others rely instead on national government subsidies or ongoing subsidies; others avail of public–private partnerships to provide the city with free (or low-cost) bicycles in exchange for advertising deals with private companies [30]. In most Italian cities, the bike-sharing pricing system offers the first 30 min free of charge; beyond this period, different levels of fees and tickets are available, ranging from 1 euro/h tickets, daily tickets, and monthly subscriptions to 25 € annual subscriptions. In addition, to reduce losses due to potential bicycle thefts, users often need to pledge a temporary deposit via credit/debit card or linked to the subscription contract, which can be uploaded directly into the smartphone app or the dedicated digital panel available at each bike station. Regarding public transportation, electric buses are cheaper despite higher investment costs because fuel and maintenance costs are much lower than conventional buses. Electric vehicle charging stations can be fully financed by electric supply agencies because they benefit from European tenders that cover their expenses. These agencies install, operate, and maintain the charging infrastructure for the duration of the concession, and they identify the locations of the infrastructure jointly with the administration, considering population density, the presence of points of interest, passing vehicular traffic, and average parking time.




The difficulties in applying the solutions identified may not derive so much from local policies, which instead encourage the enhancement of the city, nor from public funding that we have seen to be both European and national, such as the Local Agenda 2030 or the European Green Deal, but they may derive from the municipal management and organization of services. This is why it will be necessary for the Municipality to rely on public agencies that work with the administrations to be able to best manage the municipal service: for example, companies that deal with the management of cycling, the supply and installation of bike-sharing and bicycle stations. In Italy, there are many of these, some of which are quite well known. As regards public transport, in an initial phase of the project, it is possible to foresee the stipulation of an agreement with a public transport company; this would avoid the purchase of the vehicle but would not guarantee total management of the service by the administration. And instead, in a future phase of the project in which more funds will be available, it is possible to foresee the purchase of the vehicle and total management of the service. Regarding the Braille tactile maps and LVE flooring installation project, these interventions do not involve heavy investments and the installation is very simple: the companies that produce the products themselves take care of their installation.

The solutions identified in this paragraph on mobility can be applied by citizens with ease: the use of the new means identified in the solutions naturally depends on the habits of the population, and gradual interventions can guarantee a better adaptability to new urban changes. According to the planned interventions, pedestrian and vehicular interventions will be more direct and fluid than the situation of the current state, will allow better connections and avoid congested traffic in at critical times such as school dismissal time or public events, ensuring the increase in pedestrian circulation, benefitting both the environment and the city. The mobility interventions outlined here have significant costs, which cannot be fully sustained by the municipality. However, a single intervention, which can still improve tourist use and perhaps trigger small external investments, is within the budget. The rest of them, especially the purchase of electric buses, which has a significant expense, can be carried out through the use of European funding such as the green investment plan in the European Deal. The challenge consists of the active interest of the local administration and citizens as well as the will to carry out a series of interventions for the regeneration and valorization of a community. Regarding the feasibility of the design proposals, Table 1 shows the average prices of the elements that make up the SUMP. The reference data have been drawn from the price lists of supplier companies.

Table 1. Expeditious solutions for improving mobility (costs and quantities for the area of influence of the entire municipality).

Device	Description		Average Cost (€)	Quantity	Tot. (€)
Manually pedaled bicycles	City bicycle with 44 cm aluminum frame and 28" wheels with fender, pedal without suspension with kickstand, child seat compatibility, maximum weight 90 kg and bicycle weight 15 kg Dimensions L × H 200 × 50 × 130		350	12	4200
Pedal-assisted bicycles	Urban pedal-assisted electric bicycle with 250 Wh motor and 36 V battery, steel fork frame and 26" wheel, front and rear lights 60 km autonomous, maximum load 130 kg. Dimensions L × H 200 × 50 × 110		1200	12	14,400
Manually pedaled Hug-Bike	City bike with two seats, one for adults in the back hugging the passenger sitting in the front, created as a "hug bike" to meet the safety needs of children with autism, aluminum frame and 36" wheels, bike weight 21 kg. Dimensions L × H 250 × 50 × 110		2500	3	7500
Pedal-assist Hug-Bike	Electric city bicycle with two seats, one for adults and the other for children pedal-assisted with 250 Wh motor, 36 V battery, led display with charge indication, 3 speeds, safety sensors on brake levers Dimensions L × H 250 × 50 × 110		4000	3	12,000
Cyclostation	6-seater bike sharing station on self-supporting 400 kg concrete plates and racks, charging of any type of electric bike with specific cable, interlocked Schuko sockets, 750 Watt limiter, price includes transport and assembly Dimensions W × D × H 150 × 25 × 90		18,000	5	90,000
Software for bike sharing	Software for bike sharing, for purchasing daily tickets or weekly or annual subscriptions, allows unlocking of both manually pedaled and pedal-assisted bikes, downloadable to all Android or iOS systems		440	1	440
Braille signage	Corten steel totem treated with stain-resistant protective coating for outdoor use with any graphics reproduced in high-definition directly on the base and translation of the words into Braille Dimensions W × D × H 40 × 2 × 90 + inclined part		960	8	7680

Table 1. Cont.

Device	Description		Average Cost (€)	Quantity	Tot. (€)
LVE pavement for facilitated paths	Quartz cement slabs with the 6 LOGES templates and RFG peg tag with identified antenna one meter away from the reader, surface colors variable by luminance contrast of not less than 0.4 with the surrounding pavement, Dimensions L × W × H 30 × 40 × 3.2		20.000€/km	1.4	28,000
Electric minibus with disabled seat	Minibus with 32 kw electric traction motor, 200 km range, maximum speed 55 km/h, maximum slope 16%, with automatic platform encapsulated in the chassis, 24 seats with one wheelchair-accessible seat Dimensions L × W × H 532 × 200 × 266		240,000	1	240,000
Electric bus used for suburban route	Electric bus with 240 kWh lithium-ion batteries, 200 km range, air-conditioning system, 3 doors, manually operated handicap ramp on the center door, 50 seats in total with one wheelchair-accessible seat Dimensions L × W × H 1020 × 255 × 305		300,000	1	300,000
					729,220

3.3. Analysis of Water Resources for Tourist Flows

The municipality of Naro has a complex hydrological system characterized by significant water resources, which are managed through artificial reservoirs and natural waterways. The main waterway is the Naro River, which stretches about 31 km and originates from Mount Bardaro, 650 m a.s.l. in the territory of Canicattì. The river flows through the municipalities of Naro, Favara, and Agrigento. It receives contributions from significant tributaries, including the Iacono Stream and the Grancifone Stream, also known as the Burraito River. Two artificial reservoirs have been built along the course of the Naro River and the Grancifone Stream: the San Giovanni Dam and the Furore Dam. The St. John Dam, with a capacity of about 17 million liters, is essential for irrigating about 5000 hectares of farmland, supporting modern and sustainable agriculture. In addition to its irrigation function, the reservoir has become a center for sports activities. The Furore Dam, located along the Grancifone Stream, has a similar function as it provides water storage for irrigation and helps flood regulation. Despite not being completely full, Furore Dam is connected to San Giovanni Dam and is mainly used as a service reservoir.

Naro's relevance also emerges from the hydrogeological peculiarities of its basin (Figure 4), which is characterized by several areas with great scientific interest, such as the synclinal areas with highly permeable evaporitic rocks, standing as key local hydric resources, especially in the near areas of Piano Acci and Margio Vitale. A major part of the study focused on the urban fabric of the municipality and involved examining the water distribution system within the city.



Figure 5. Analysis of the state of affairs and services related to water use (image prepared by F. Romano).

The early adoption of Water Security Plans (WSPs) is crucial to ensure the protection of water sources, moving beyond a “downstream” control approach to prevent pollution and risk situations [32]. It is also fundamental to implement appropriate participatory tools to actively involve all stakeholders in water resources management, fostering transparent and inclusive decision-making processes [33,34].

Finally, the water redevelopment of urban spaces needs to be tackled in a hard-hitting way by incentivizing measures for water recovery and reuse as well as the adoption of sustainable drainage systems. To ensure environmental sustainability, it is essential to adopt an integrated approach and careful management of water resources [35].

Several expeditious actions are proposed for the case study, aiming both at improving existing services and laying the foundation for durable territorial rooting. These actions are deeply rooted in environmental sustainability principles and are designed to activate an urban metabolism that respects the latent regenerative components of the area, promoting development cycles with increasing intensity and improving the tourist experience.

The overall design strategy also includes the introduction of drinkable water fountains, prefabricated public toilets, and water misting points, to generate a new social and cultural atmosphere. These interventions improve the quality of tourist reception and urban life, favoring the reduction in environmental impacts. For example, in addition to providing a useful service for visitors and residents, fountains and misting points incentivize awareness of water use, as they reduce the consumption of single-use plastic cups and promote more sustainable use of urban spaces.

The project includes a network of self-cleaning prefabricated public toilets, located in the most relevant points of the historic center, where higher tourist flows are expected: near the urban access in Piazza Francesco Crispi and relevant architectural artifacts, such as the Castle, the St. Agostino Church, and the St. Calogero Sanctuary. Moreover, the restoration of the existing public toilet near Palazzo Gaetani, along Via Dante, is included.

On the one hand, these interventions improve the usability of the historic center; on the other, they adopt advanced technologies, such as automated cleaning systems, presence sensors, and contactless devices, which guarantee hygiene and safety, also contributing to the reduction in water and energy consumption [36]. In accordance with sustainability principles, the design of public toilets is based on the use of recycled materials and low-water-consumption systems with spaces freed of architectural barriers to guarantee full accessibility. These interventions are inspired to virtuous examples, such as the self-cleaning toilets introduced in London and Japanese cities, where similar technologies have improved urban attractiveness.

The reactivation and introduction of drinkable water fountains and ornamental fountains have key importance. In addition to the restoration of existing water networks, the interventions include the installation of push-button taps to reduce water consumption and guarantee sage and free access. Ornamental fountains, too, with the introduction of high-efficiency pumps and recirculating systems, will both serve as urban furniture and become an attractive element for visitors, improving places' cultural identity.

Finally, the integration of water misting points represents a sustainable innovation, which is designed for cooling during the summer months along the most used streets and squares. These systems use atomized water micro-jets and timed water dispensing, allowing an aware use of water resources. In cities such as Seville, these solutions have been proven to improve climatic comfort and the tourist experience in a harmonious integration with the urban environment (Figure 6).

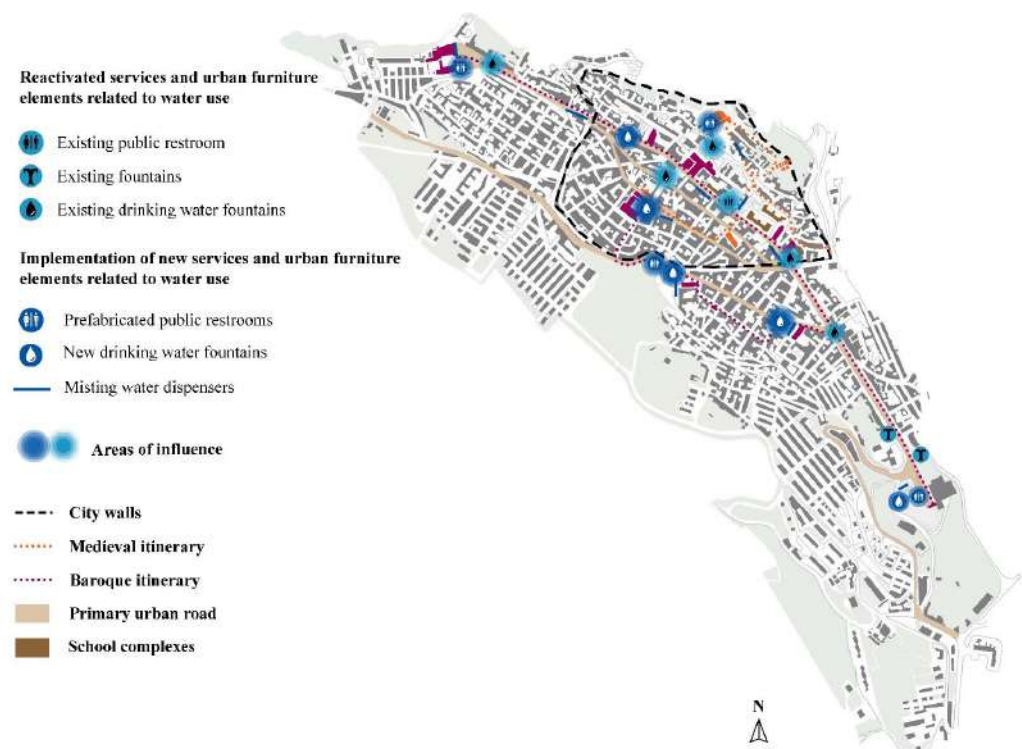


Figure 6. Reactivation and implementation of new services related to water use (image prepared by F. Romano).

The financial demand for the proposed interventions was then calculated (Table 2). The amounts outlined for these “project ideas” without preliminary, final, or executive projects are to be considered primarily indicative, since they are not supported by a detailed cost estimate. The status of interventions, divided by type according to their function, derives from the estimated sizing for the tourist route and is summarized in the table

below. As highlighted in the table, the overall investment totals 207,580 €, subdivided into interventions with higher financial impact, such as the installation of self-cleaning toilets, and other actions with smaller costs, such as the reactivation of drinking water and ornamental fountains.

Table 2. Expedient solutions for water service improvement (costs and quantities for the area of influence of the tourist route).

Device	Description	Average Cost (€)	Quantity	Tot. (€)
Installation of prefabricated self-cleaning public toilets	The self-cleaning toilet consists of a one-piece box structure with precast vibrated concrete side walls and slabs with a decorative exterior finish. Thanks to the use of a logic processor that manages all automation, it guarantees a flushed and sanitized toilet room after each use; therefore, its maintenance is greatly simplified.	45,000	4	180,000
Installation of drinking water fountains	The intervention involves the supply and installation of drinking water fountains in cast iron, including an operating connection to the water supply system. It also includes excavation and restoration, manholes, and drains, as well as the construction of a suitable concrete foundation footing, to perform fixing on by suitable devices.	1600	5	8000
Installation of nebulizers for outdoor spaces	The intervention includes the installation of nebulizers to make outdoor areas more comfortable, lowering the temperature by more than 10 °C. The system is connected to the water network and is equipped with a filter station that purifies the water in the network and preserves the components. At regular intervals, a high-pressure pump pushes water into the pipe on which the nozzles are attached. The water turns into micro-drops and disperses instantly, creating a refreshing rain. The nebulizing time is adjustable.	300 (6 diffusers)	6	4480
		670 (18 diffusers)	4	
Reactivation of existing drinking water fountains	The intervention includes assessing the condition of the drinking fountain and plumbing systems, thorough cleaning, repairing or replacing damaged pipes and components, and checking water quality with specific analyses. If necessary, the installation or repair of filtration systems is planned, and proper connection to the public water supply is verified.	1000	5	5000
Reactivation of existing public fountains	The work includes an inspection of the structure and systems, necessary structural repairs, and an inspection and repair of plumbing and electrical systems. Installation or repair of water treatment systems followed by the aesthetic restoration of decorative elements.	1800	2	3600
Reactivation of the existing public toilet	The intervention includes a thorough assessment of the current condition of the structure. Any structural damage will be repaired, ensuring that the bathroom is safe and functional. Plumbing and electrical systems will be upgraded, replacing outdated plumbing and sanitary fixtures to ensure efficient operation. In addition, an aesthetic renovation of the interior spaces is planned, including painting and tiling works. Finally, bathroom accessibility will be ensured by adapting spaces and installing clear signage for easy use by all.	6500	1	6500
				270,580

Naro currently lacks a homogeneous use of water resources in its public spaces. Restroom facilities are limited to a non-functioning public toilet, while non-active drinking water and ornamental fountains compromise both the access to potable water and the visual

appearance of the historic center. Moreover, the lack of systems to improve climatic comfort, such as misting systems, reduces the usability of urban space in the hot season. These situation is negative for both residents and tourists, as it limits the territory's potential and obstacles the valorization of its natural and cultural resources. Following the interventions, Naro's situation would significantly improve, regarding the supply of public services and sustainable water resource use. Benefits can be synthesized in the following items:

- Social sustainability: fair access to toilets and drinking water will improve the quality of life for both residents and tourists, promoting a welcoming and well-organized image of the city.
- Tourist attractiveness: the presence of modern and accessible spaces makes the historic center more competitive than others, increasing its capability to attract visitors.
- Aesthetic and cultural valorization: ornamental fountains and misting points strengthen the local identity and urban comfort, favoring the fruition of public spaces.
- Economic sustainability: while the investment in self-cleaning toilets represents the highest cost (around 89% of the total), other low-cost actions (fountains, misting points) provide immediate and tangible effects, resulting in high economic efficiency.

In addition to these benefits, it is important to underline that the economic feasibility of the project can be further enhanced by adopting a step-by-step implementation approach. Given that most municipalities, including Naro, face significant economic deficits, breaking down the interventions into smaller, incremental steps allows for gradual financial commitment. For example, the reactivation of fountains could be prioritized as a low-cost, high-impact action, while the installation of self-cleaning toilets could be deferred until specific funding is secured. This phased strategy ensures that individual actions can be activated with limited resources, avoiding financial overburden and enabling visible results over time.

In synthesis, while requiring a significant initial investment, the realization of these interventions stands as a strategic choice to guarantee sustainable urban development, increase tourist attractiveness, and improve the quality of life in Naro. A gradual approach, supported by regional or European funding, could facilitate the project's financial sustainability.

3.4. Analysis of MSW Management for Tourist Flows

Due to the problems related to the increasing production of municipal solid waste and its disposal, the latest European directives have evidently strengthened the focus on the issue by directing strategies toward a circular economy and (near) zero impact [37]. Following this circular process, urban agglomerations can be considered reservoirs of resources derived from waste recycling thanks to separate collection and on-site pretreatment [38]. The municipality of Naro already performs separate collection through door-to-door waste collection for resident households and proximity collection with ecological islands in street containers. In addition, the municipality has introduced awareness campaigns for waste prevention and sustainable consumption with promotional initiatives for the use of returnable packaging and self-composting as well as through the organization of flea markets and by promoting the short supply chain through the organization of farmers' markets. However, the current state does not present any waste in situ pretreatment system, with compost production, nor deposit return systems.

Surveys and analyses conducted in the historic center show that waste collection, currently focused on the "door-to-door" mode, is immediately noticeable as bins, wheeled bins, or bags hanging on the prospects impact the cramped spaces of alleys and small alleyways. Thus, the waste management system affects the urban environment; however, the inconvenience involved in driving down steep and bumpy roads to deliver waste, especially by the most vulnerable population, such as the elderly or people with reduced

mobility, must also be considered, and therefore, proximity collection must still be kept. In the city, there is currently no system for tourists' waste sorting. When walking along the main axes of the historic center, where the historic monuments of the city are located, tourists will cross few trash bins for unrecyclable waste collection, which are unevenly distributed along the route (Figure 7 stretches 1–2, 6–9, 10–11). On Dante Street, the main avenue with numerous Baroque churches and palaces, a total of three bins (two of which are very close) have been found on a linear path of about 1 km with two baskets being about 500 m from the third. Since building density is homogenous throughout the historic center, there is no explanation for an abundance of trash bins in one specific area and a total absence in others. In addition, the share of public trash bins for unrecyclable waste collection is not sustainable and does not generate any economy. Especially in areas with higher architectural value, waste sorting has a high impact on the morphological characteristics of the historic urban environment, which is mostly generated by the visual burden of collection systems and the high quantity of material that tourist waste collection would bring about. The integrability of collection systems is not considered; moreover, unsorted waste collection generates no economic benefits but only expenses related to disposal. Currently, the market offers countless movable devices and systems for the realization of small-scale circularity, also performing in situ pretreatment: these can be integrated in the total respect of the urban context. Pretreatment operations, such as volumetric reduction, granulation, fragmentation, and composting would guarantee faster economic return and an incentive to users' correct collection.



🗑️ “Door-to-door” recycling collection with wheeled bins ● Public trash bins for unrecyclable waste collection

Figure 7. Current status of municipal solid waste collection in the historic center of Naro (Ag) (image prepared by E. Nicolini).

This situation highlights the need to implement a more innovative, efficient, and tourist-friendly approach to waste management with marked benefits for citizens, too. Thus, the study individuated urban standards and building-integrated technologies for waste stream management to support the circular economy and quality of life in cities. As part of the overall design strategy aimed at the recovery of tourist services, consequently usable

by citizens, too, a possible network was defined in the historic center with widespread drop-off points for recycling collection to be located at a maximum distance of 100 m each, in easily accessible points, and at the same time in a way that does not alter the historical–architectural structure of the prospects.

In addition, ground floors of building units that are currently unused and in very poor or dilapidated condition were identified in order to create a widespread network of small waste stations. These small transfer stations can accommodate initial treatment operations (volumetric reductions, pressing, screening) and compost production. Depending on the location, it might be useful to provide self-service 24 h draught outlets either at stand-alone locations or at the station, which were adequately separated from the drop-off island. This would facilitate comfortable tourist use.

The stations represent the place where waste already sorted by users in their homes can be delivered, preventing it from being abandoned on the territory or constituting an obstacle to vehicular traffic and leading to urban and landscape degradation or environmental pollution risks. Punctual rehabilitation actions of abandoned building units by reusing them as drop-off points and places for draught sale can ensure the proximity of reach throughout the historic center as visible from the radii of influence associated with the assumed points (Figure 8).



Figure 8. Analysis of ground floors in the historic center of Naro (AG). Non-valuable building units, with no high historical-architectural value, in a state of abandonment, that could have new life as self-service 24 h draught sale premises and small ecological islands for recycling collection (image prepared by E. Nicolini).

A waste and resource management strategy has been developed for Naro along the tourist route through the town’s historic center. Solutions that can be integrated into individual urban spaces characterized by a specific conformation and, above all, valuable infrastructural and technological heritages were devised. Specific infrastructures have been designed for the management of efficient separate collection that is attentive to tourists’ and, consequently, citizens’ needs, including on-site sorting and the pretreatment of some fractions. The goal is to reduce the cost of transportation and emissions, thanks to volumetric reduction, and to recover value from fractions that have already been pretreated or

treated, thus changing their status from waste to resources for obtaining secondary raw materials. For the organic fraction, it is planned to close the cycle at the neighborhood level by providing community compost bins, following the rural tradition, in which organic matter has always been recycled as a fertilizer for agricultural and horticultural soils. Both in the redevelopment of urban spaces and in the design of new buildings or regeneration of existing ones, there is an increasing need to identify and/or integrate spaces and technological equipment that can incentivize a community to carry out recycling collection correctly and consistently [39].

The identification of buildings accommodating draught sale points and small ecological islands with pretreatment takes into account not only typological characteristics and use conditions but also vehicular collection mobility. The experimentation proposed here is a repeatable method, since it is a new modular and expeditious design approach with the specific objective of integrating selected devices in a complex context such as the historic center. The intervention must consider the needs expressed by the site itself to improve its external image without losing its original identity and, at the same time, integrating with the existing parts. The study was conducted by analyzing the physical characteristics of urban space with its constraints and specificities to hypothesize the integration of devices into the built environment. This included rationalizing recycling bins and reconfiguring degraded and abandoned spaces for the draught sale of products and for ecological islands with smart bins. The bins hypothesized for separate waste collection are defined as smart, meaning that they have an integrated pretreatment system (screening, shredding, volumetric reduction by compaction).

In Figures 9 and 10, we propose an example of the rehabilitation of an abandoned building unit with reuse into a drop-off station and point of sale of basic necessities on tap, which are useful to both tourists and citizens. The point chosen is among those shown in Figure 8 and is located exactly in the middle of the historical and scenic route from Dante Street to the Chiaramonte Castle in Naro (12th cent.).



Figure 9. Project to rehabilitate an abandoned and degraded building. Location of the building in relation to the tourist itinerary (image prepared by E. Nicolini).



Figure 10. Project to rehabilitate an abandoned and degraded building with reuse as an ecological island and a point of draught sale for basic necessities (image prepared by E. Nicolini).

All elements were sized by looking at the current waste production in the area involved in the tourist route, slightly oversizing to consider a possible increase in tourist use. This is also due to Agrigento, as the provincial capital will be the Italian Capital of Culture in 2025. The analysis is wide ranging and takes into account the vocation of use of the areas, users' demographic cycles, tourist seasonality and occasionality (events), which influence in no small measure the quantitative amount of MSW fractions, their time distribution, and their quality (from production and sorting) in terms of potential resource for reprocessing.

Small municipalities with high tourist vocation are characterized by the conspicuous presence of second homes, inhabited only at certain times of the year, and tourist accommodation facilities. During high season, they can be subject to considerable demographic pressures, resulting in an increase in MSW production that is difficult to control both quantitatively and qualitatively [40]. Both regarding urban strategies and technical solutions, the adoption of integrated scenarios, involving the use of varied forms of citizen involvement and technical solutions for collection, transportation, and treatment, is shown to be the most suitable. One more analysis focused on the treatment chains for separated fractions, considering the possibility of treating some of them on site, such as the process of turning organic waste into compost. The timely sustainable redevelopment and innovation of services and spaces in the existing city can become opportunities for social participation especially in small and medium-sized towns and villages. A drop-off station is a place designated for selected multimaterial collection and minimum storage where the user can drop off continuously. In addition, compared to the wheeled dumpster or bin, collection devices can be remotely monitored to determine the necessary collection steps for some fractions. While outlining the need for significant property rehabilitation works, this hypothesis would lead to outcomes of the physical and morphological integration of devices without sacrificing the achievement of service efficiency parameters.

The principle of sustainability is fulfilled in environmental terms by assuming the development of a resources cycle capable of significantly reducing CO₂ emissions; in socioeconomic terms, by demonstrating that recycling can have a significant impact on

management costs, favoring local development with the creation of new economies and reflecting that these economic revenues could become an incentive to increase separate collection; in urban planning, new technological systems become an opportunity for the regeneration of space.

A market analysis was conducted to estimate the costs that the administration might incur for the purchase of smart collection bins (with minimal pretreatment functions) and plug-in devices. The administration could decide to implement the service gradually by initially purchasing only some of the devices for one or more of the transfer stations. For some specific devices, available Italian incentives would cover the costs in part, or in some cases, totally. With the “Plastic Eater” decree, the Italian Ministry of Ecological Transition promoted the purchase of eco-compactors by municipalities by granting dedicated funds [41] (around 15,000 euros for medium-capacity compactors). By the Decree of 22 September 2021, published in the Official Gazette of 23 October 2021, no. 254, the Minister of Ecological Transition in consultation with the Minister of Economic Development issued implementing regulations to support enterprises that promote the sale of bulk or draught products [42]. This is a grant funding (up to a maximum amount of 5000 euros) aimed at neighborhood-scale, medium-scale and large-scale retail establishments for the preparation of spaces dedicated to the sale of bulk or draught food and detergent products or for opening new stores that exclusively sell bulk products. As of 1 January 2024, companies operating in southern Italian regions (Special Economic Zone—SEZ) can benefit from a subsidy of up to 60 percent in the form of a tax credit. Several incentives have turned their attention to the development of community composting in recent years. A tax credit for composting facilities was introduced (Article 1, paragraphs 831 to 834, of Law 30 December 2021, no. 234) amounting to 70 percent of the expenses related to the installation and operation of composting facilities [43]. The tax credit can be used as an offset. The National Incentive Plan “Industria 4.0” provides variable fiscal benefits for composting machinery, amounting to 20 percent of the cost for investments up to 2.5 million euros. The tax credit can be extended until 30 June 2026 provided that the order is accepted by the seller by 31 December 2025. The Sicilian Regional Department of Water and Waste regularly publishes notices to incentivize community composting (most recently with DDG no. 1494 of 17 September 2024) for granting fiscal benefits to municipalities, including in the duly established associative forms (Ambiti di Raccolta Ottimali, Optimal Collection Areas), for the support of proximity organic waste composting activities [44].

The table below (Table 3) presents a sample list of devices for major collection streams that have pretreatment features and devices for selling draught products. The functions and machine and total costs derived from the estimated sizing for the tourist route are described for each type. These are expeditious and modular solutions that the administration may decide to partially activate. In addition, given the incentives described above and the economic return produced by recycling supply chains, the payback time could be very short. Finally, vehicle-based collection would benefit from the volumetric reduction in the material to be collected.

Table 3. Expeditious solutions for improving MSW collection service (cost and quantity for the area of influence of the tourist route ca. n. 6 waste stations).



Device	Description		Average Cost (€)	Quantity	Tot. (€)
Aluminum-plastic compactor	Environmentally friendly trash compactor system with up to 96% reduction in initial volume. Waste separation and automatic compaction. Dimensions W × D × H 400 × 550 × 1830		3900	3	11,700

Table 3. Cont.

Device	Description		Average Cost (€)	Quantity	Tot. (€)
Aluminum-plastic-unrecyclable compactor	System articulated in no. 3 departments including 2 with waste compaction with up to 96% reduction in initial volume. Waste separation and automatic compaction. Dimensions L × W × H 880 × 620 × 1530		8200	3	24,600
Volumetric paper collector	Volumetric collector. Fixed preset maximum weighing. Standard equipment of bonus/coupon printer for awarding points upon delivery. Dimensions L × W × H 700 × 620 × 1600		8900	3	26,700
Volumetric glass collector	Glass packaging collection and counting system. Standard equipment of bonus/coupon printer for awarding points upon delivery. Dimensions L × W × H 880 × 620 × 1590		7900	3	23,700
Automated WEEE waste collection system	Storage system in three 120 L bins. Can handle user recognition and record delivery data. Unlocking access according to material type. Materials collected: cell phones, light bulbs, small power tools, batteries. Dimensions L × W × H 1560 × 780 × 1700		9900	2	19,800
Community composter	Rotary cylinder composter with the ability to modulate the continuous flow of the entire composting process from the waste loading stage to the automatic compost rejection stage. Shredding system and biofilter capable of breaking down odors. Dimensions W × D × H 1525 × 800 × 1055		38,000	1	38,000
Water dispenser	Automatic water dispenser with integrated refrigeration system, hermetic compressor, and ventilated condenser. Water treatment kit complete with filtration system. Dimensions W × D × H 560 × 645 × 1800		3900	6	23,400
Raw milk dispenser	Automatic milk dispenser with refrigerated cell for one milk tank with electronic temperature control. Milk tank 200 L, stainless steel, removable for washing. Steam jet for washing the withdrawal compartment at each dispensing. Dimensions L × W × H 780 × 1000 × 2020		10,000	3	30,000
Bulk vending machines	The size of the compartments allows the dispensing of products that cannot be dispensed with standard vending machines, such as fruits and vegetables. The columns are based on modular units forming a single large dispensing system. The system can be refrigerated or kept at room temperature. Dimensions L × W × H 1140 × 1015 × 2140		10,800	6	64,800
Dispenser for various bulk liquids	Possibility to sell various types of liquids, from water, juice, beer, and various beverages, as well as detergents and other liquids free of particles and suspensions. Models for freestanding or recessed installation in existing structures. Dimensions L × W × H 500 × 600 × 800		1500 each	4 × 6	36,000
Recycling bins	Recycling bins help separate waste in a simple and intuitive way with a color-coded display. The baskets are made of galvanized stainless steel and can be painted in a selectable color. Dimensions W × H 500 × 1000		600 each	13	7800

Table 3. Cont.

Device	Description	Average Cost (€)	Quantity	Tot. (€)
Underground containers	<p>Each basket corresponds to an underfloor container. Compared with traditional bins, the collection volume is larger, odors are eliminated, and the waste is not in sight. Users can deliver continuously. For emptying, the platform can tilt 90° sideways, and the container can be lifted by a hydraulic press.</p> <p>Aboveground dimensions W × D × H 500 × 500 × 800, belowground dimensions W × D × H 1600 × 1600 × 1900</p>	 <p>3500 each</p>	4 × 5	70,000
				323,100

4. Conclusions

The crisis of smaller towns goes beyond the purely numerical issue related to population shrinkage. It is a phenomenon affecting the quality of life of the inhabitants of these centers who are denied not only services now considered essential but also opportunities to imagine possible futures in the place where they live. While the potential within these centers is widely recognized, it is equally clear that it is necessary to work on policies, strategies, and projects for reversing or at least slowing the current negative trend. In the article, an attempt was made to look at the Naro area from the perspectives of different stakeholders: inhabitants, potential users, policy makers, and administrations. At the same time, an attempt has been made to outline a place-based development project through a complex urban strategy in which services such as mobility, water, and waste management are considered not only in terms of efficiency but also regarding their ability to affect people's well-being. This also leads to enhancing places and improving their attractiveness. While it is true that tourism, linked to the enhancement of tangible and intangible heritage, is a key driver of development, it is equally true that inhabitants' well-being—also regarding the usability of the services offered—ensures the human presence in places otherwise destined for abandonment. Clearly, strategies for the regeneration and reactivation of these territories must balance all these aspects in a unified, virtuous process capable of reactivating ecosystem cycles as well as virtuous economic cycles.

Recent development policies move beyond the purely competitive view of the 'place-blind' approaches that have characterized European and national development policies for the past 30 years. Not only do they address again the specificities of places, the differences in local contexts, and their capacity to produce new economies, but rediscover the non-'neutrality' of the territory by strongly asserting the value of actions for the well-being of inhabitants. In this sense, the proposed method, due to its incremental and adaptive nature, works 'on' places' and 'for' places. It does not propose rootless interventions but finds solutions within the elements of the area by looking at the plurality of subjects who live there or will potentially enjoy that urban context. They are small interventions and yet affect the overall perceived urban quality with limited budgets, which is in compliance with those available to small and medium-sized municipalities. They are replicable interventions because they are designed for people in paradigmatic places, based on the typical physical, morphological, historical-architectural, economic, and social conditions of Sicily's inland municipalities.

Thus, the proposed development model moves from the active role and potentially "competitive" weight attributable to the well-being that can be derived from the quality of urban space and under the banner of a broad and "dense" meaning of interaction between people and places. According to this order of reasoning, it is possible to argue, at the same time, that the proposed method can be a possible tool and stimulus for the self-construction of a "sustainable society" by stimulating a common perception of "virtuous" social rules

that in some way should respond to the intent of achieving a wider diffusion of these eco-sustainable practices, even in historically deficient contexts such as Sicily.

Development models that do not suit local rhythms and contexts or that aim exclusively at the utilization and consumption of irreproducible resources can no longer be recognized as valid and acceptable today. In this way, all actions aimed at strengthening the identity of places (with reference to “non-consumable” assets, and thus the man-made, historical, and environmental landscape) can make an important contribution to the local development of these areas. The proposed method moves precisely in this direction: it offers some critical insights and ways of operating on a relevant issue within the policy agendas, which point to place-based approaches as the prevailing strategy for action in the coming years.

In synthesis, the proposed method inverts the logic of policies for the tourist enhancement of minor centers by founding the project on the well-being of the inhabitant, whether temporary or permanent. This is because it is not built on the base of a generic ‘tourist’ target: instead, it is a human-centered strategy. We believe that this kind of approach can open new areas of investigation and future experimentation both for cohesion policies involving municipalities in marginal areas and policies for the tourist enhancement of Europe’s cultural heritage.

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