

TERRITORIAL ANALYSIS

PROVINCE OF LIVORNO | PP7

SEPTEMBER 2024

1.	The Regional Context and the Current State of Cycling Mobility	4
1.1	The provincial road network	4
1.2	Accidents	5
1.3	The Cycling Network	5
1.4	The Tyrrhenian Cycle Route.....	6
1.5	Bike Sharing.....	7
1.6	Analysis of people's mobility demand	7
2.	The strategic context.....	8
2.1	European Declaration on Cycling Mobility C/2024/2377	8
2.2	EU Road Safety Strategic Framework 2021-2030	8
2.3	General Plan for Urban and Extra-Urban Cycling Mobility 2022–2024 in Italy	8
2.4	Piano Regionale della Mobilità Ciclistica della Toscana – Tuscany Regional Plan for Cycling Mobility (PRIIM)	9
2.5	LRT June 6, 2012, no. 27 "Interventions to Promote the Development of Cycling Mobility" (as amended by LRT 13/2022).....	9
2.6	TUSCANY REGION - Guidelines for Directional Signage and Rest Area Equipment for Regional Cycle Routes.....	10
2.7	PTC.....	10
2.8	Vast Area PUMS	10
2.9	The PUMS of the Municipality of Livorno.....	11
2.10	The Urban Cycling Mobility Plan (BiciPlan) of the Municipality of Livorno.....	11
2.11	Other Municipal PUMS/PEMS.....	12
3.	Overview of Achievements during the 2014-2020 Programming Period.....	12
3.1	INTENSE Project.....	12
3.2	ISTRICE Project – Integration of Transport Systems for Sustainable Mobility Solutions for Public Transport and Cycling-Pedestrian Mobility in the Province of Livorno (Por Creo Fesr 2014-2020 - Action 4.6.1)	13
3.3	Modì Project	13
3.4	ThreeT Project	14
4.	Overview of Plans and Current Results for the 2021-2027 Period.....	14
4.1	Collaboration Agreement Between the Tuscany Region and the Province of Livorno for the Definition of the Final Route of the Tyrrhenian Cycle Route in the Section Between the Province of Livorno and the Province of Grosseto	14
4.2	Agreement between the Tuscany Region and the Province of Livorno for the Implementation of the Elba Island Cycle Route	15

4.3 HINGE Project.....	15
4.4 D.1 Green Community Costa degli Etruschi Project	16
5. Projects Proposed in 2024 Within the Framework of Community Cooperation Programs .	16
5.1 INTENSEible	16
5.2 GAREible	17
6. SWOT Analysis on Project Themes	18
7. Good Practices	20
7.1 GP1: Massa Marittima and the Union of Mountain Municipalities of the Metalliferous Hills	20
7.2 GP2: Multimodal Travel Planner "B On Time"	20
7.3 GP3: "Grand Trail Costa degli Etruschi – D.1 Green Community"	21

TERRITORIAL ANALYSIS

1. The Regional Context and the Current State of Cycling Mobility

The Province of Livorno covers an area of 121,372 km² and is home to 327,262 people, thus having a population density of 26,964 inhabitants/km², a higher figure compared to the national average (19,610 inhabitants/km²). The province extends along the Tuscan coast, overlooking the northern part of the Tyrrhenian Sea, and includes not only mainland municipalities but also the islands of Elba, Gorgona, Pianosa, Capraia, and Montecristo.

The province includes the municipalities of Bibbona, Campiglia Marittima, Campo nell'Elba, Capoliveri, Capraia Isola, Castagneto Carducci, Cecina, Collesalveti, Livorno, Marciana, Marciana Marina, Piombino, Porto Azzurro, Portoferraio, Rio (created after the merger of the Elban municipalities of Rio nell'Elba and Rio Marina), Rosignano Marittimo, San Vincenzo, Sassetta, and Suvereto. Among these, the main settlements in the area are the cities of Livorno (provincial capital with about 154,483 inhabitants), Piombino (32,304 inhabitants), Rosignano Marittimo (30,072 inhabitants), and Cecina (27,898 inhabitants).

The main characteristics of the territory are described in the Provincial Territorial Coordination Plan., which divides the provincial area into several Territorial Systems: portions of the territory with similar geomorphology, hydrography, settlement contexts, and naturalistic elements.

As for the provincial capital, the territory of the Municipality of Livorno, which includes the island of Gorgona, has over 150,000 inhabitants and is transport-wise influenced by the presence of the Port of Livorno (falling under the jurisdiction of the Northern Tyrrhenian Port Authority), the Aurelia Bypass (which connects the Livorno area to the A12 and the Fi-Pi-Li road), and the Pisa-Florence railway line. In terms of airports, the closest one is Pisa's "Galileo Galilei" airport, which, while located outside the province, is closer to the city than Elba's airport, the only one within the Province of Livorno. Moreover, in Guasticce, a hamlet of Collesalveti near the city, there is the Amerigo Vespucci Interport, an important logistics and intermodal center for the area.

The Province of Livorno has 327,262 residents. However, the demographic trend shows a steady decline in population compared to the previous decade, with the number of residents now approximately equal to that recorded in the early 2000s. The significant presence of students, elderly citizens, and foreign residents highlights the need to consider the mobility needs of these population groups, who are often unable, due to income or age, to rely on private car or motorcycle transportation for their travel requirements.

1.1 The provincial road network

According to the functional classification adopted by the Tuscany Region, the road network within the Province of Livorno spans a total of about 4,000 km, of which just over 160 km constitute the primary network. This includes the A12 motorway section, the Firenze-Pisa-Livorno expressway (SGC), and the Aurelia Bypass. Approximately 1,900 km are made up of extra-urban roads (primary and secondary), while about 1,350 km consist of local and urban roads.

The primary network within the Province serves, on the one hand, to gather traffic flows generated from areas with higher mobility demand (Port of Livorno, Port of Piombino, and coastal tourist zones) and direct them towards the primary road network. On the other hand, it distributes traffic from the primary road network towards the areas with higher mobility demand.

1.2 Accidents

Another key issue in a Sustainable Mobility Plan is the topic of accidents involving vulnerable road users (pedestrians and cyclists), which represents a primary road safety concern. This is primarily due to the lack of priority given to vulnerable users by drivers. Other circumstances leading to the involvement of vulnerable users in road accidents include failure to yield, distracted driving or indecisive driving, and failure to respect speed limits.

Detailed information on accidents are available in the document: “Knowledge Framework PUMS Vast Area Province of Livorno” version 02, section 3.1.2.

1.3 The Cycling Network

Current Network

Cycling mobility in the Livorno provincial area is not supported by a fully developed network. A proper network would involve the continuous connection of various cycle paths, dedicated signage, bike parking points, and clear access to strategic locations such as ports, schools, and health centers - elements that are not currently structural to the cycling system.

Planned Interventions and Projects

Several projects and programs for the redevelopment of mobility and the integration of public transport and cycling-pedestrian systems are currently underway. These are relatively small-scale interventions aimed at creating and developing an integrated transport system that supports various mobility needs (systematic, tourist, and occasional). Notable among these are the Biciplan, drafted as part of the PUMS of the City of Livorno, the interventions planned by the Municipality of Rosignano Marittimo through its PUMS, and the Istrice Project of the Municipality of Cecina, which foresee the infrastructural development of the cycling system, recognizing the importance of this form of mobility in the current socio-economic-environmental context.

Developing the network of cycling paths within the Municipality of Rosignano Marittimo primarily means addressing certain environmental challenges such as the coastal morphology (characterized by cliffs and sandy stretches) and the presence of impactful elements like the railway network and the SS1 Aurelia highway that run through the urban area, as well as the need to create intermodal hubs between different types of transport.

In Rosignano Marittimo, particularly in the three coastal districts of Castiglioncello, Rosignano Solvay, and Vada, the administration has focused on two aspects:

- Building a cycle route connected to the Tyrrhenian Cycle Route that links the three districts and extends further south;

- Constructing two intermodal hubs: a train-bike hub in Castiglioncello and a bike-bus hub in Rosignano Solvay to facilitate connections to the hill districts.

The interventions promoted for the creation, completion, and connection of new cycle paths include:

- Cycle connection between Castiglioncello and Caletta;
- Urban cycle connection in the Rosignano Solvay district between Caletta and Vada;
- Connection of cycle paths in the Vada district towards the Mazzanta area (border with the Municipality of Cecina);
- Construction and/or adaptation of protected routes for home-school and home-work commutes.

The city of Livorno will undergo a renewal of its current urban cycling network, which will include strengthening and rationalizing the existing network of links between different parts of the city, as well as actions aimed at improving the overall safety and efficiency of the entire cycling system. The new cycling network for the city of Livorno will be composed of three main axes:

- Main routes that ensure the crossing and connectivity of the urban area;
- The secondary network, consisting of all the neighborhood cycle routes included within 30 km/h zones and some secondary sections of cycle paths that serve as key nodes connecting the various main network routes and greenways;
- Greenways, closely linked to the vast area, formed by access routes to the city that provide an important link between the sea and the hills.

The greenways are five cycling routes that will meet the need for soft mobility, using bicycles to connect Livorno with the surrounding hills. These routes will serve a dual function: allowing hill residents access to the city via soft mobility and offering recreational routes for city dwellers and tourists who visit this part of Tuscany each year for vacation. The creation of the greenways will not always require infrastructural interventions; in some cases, improving the quality of existing countryside paths and providing adequate signage will be sufficient to ensure that the routes are clearly identifiable and accessible to all.

1.4 The Tyrrhenian Cycle Route

The Tyrrhenian Cycle Route is a strategic project for the integrated development of sustainable mobility and tourism, started on April 7, 2016, with the signing of a memorandum of understanding between Lazio, Liguria, and Tuscany regions. In particular, this initiative, in addition to defining lines of collaboration within national and European projects and sharing a vision for the development of sustainable mobility and tourism, identifies a cycle route extending along the Ligurian and Tyrrhenian coasts from the French border to Rome.

The Tyrrhenian Cycle Route (identified as Bicalitalia Route No. 16) extends for 1,200 km, of which 700 are already accessible on separate or mixed-use paths. In Tuscany, specifically, there are 560 km of the cycle route, which, as stated on the Region's website, includes "multimodal connections with railway stations and ports, including the port of Piombino, which integrates Elba Island into the cycle route path. The route passes through archaeological sites of interest (e.g., the Etruscan site of Populonia), characteristic villages, the Versilia, the

Etruscan Coast, and art cities such as Pisa. It also crosses several protected natural areas, including the Tuscan Archipelago National Park, the Migliarino San Rossore and Massaciuccoli Regional Parks, and the Maremma Regional Park.”

As can be seen, the project will strongly boost sustainable tourism in the Province of Livorno, not only due to the route along the entire Etruscan Coast but also due to the connection to important tourist attractions such as Elba Island and the archaeological site of Populonia.

1.5 Bike Sharing

Examples of bike-sharing applications are available for the municipalities of Livorno and Cecina.

1.6 Analysis of people's mobility demand

Bicycle trips account for an encouraging 5% of the total, as shown in the table below.

Transport Mode	Number of Trips	% of Total
Walking	23.483	14,0%
Other Means	599	0,4 %
Private Car (as driver)	74.984	44,6 %
Private Car (as passenger)	22.008	13,1 %
Company or School Bus	2.785	1,7 %
Urban Bus or Trolleybus	6.930	4,1 %
Bicycle	8.189	4,9%
Coach or Extra-Urban Bus	3.698	2,2 %
Motorcycle, Scooter, or Moped	19.381	11,5 %
Tram	48	0,0 %
Train	6.044	3,6%
Total	168.229	

2. The strategic context

2.1 European Declaration on Cycling Mobility C/2024/2377

The declaration acknowledges that cycling mobility is one of the most sustainable, accessible, inclusive, low-cost, and health-promoting forms of transport and leisure, recognizing its fundamental importance to European society and economy. The declaration should serve as a strategic compass for current and future cycling mobility policies and initiatives.

The declaration lists principles for promoting cycling mobility that will guide future actions in the EU. Specific commitments are needed to improve the quality, quantity, continuity, and attractiveness of cycling infrastructure across all Member States, such as safe cycling networks, better connections with public transport, secure parking, widespread charging points for electric bicycles, and cycle highways linking cities to rural areas.

2.2 EU Road Safety Strategic Framework 2021-2030

(Reference: European Parliament Resolution of October 6, 2021, on the EU Road Safety Strategic Framework 2021-2030 – Recommendations on the Next Steps Towards the "Zero Victims" Target (2021/2014(INI)) and the Commission's June 19, 2019, Working Document titled "EU Road Safety Policy Framework 2021-2030 – Next Steps Towards 'Vision Zero'")

European institutions emphasize the urgency of addressing the safety of vulnerable road users, such as cyclists, and call on Member States to recognize the importance of modal shift towards active modes such as walking and cycling, as well as sustainable public transport, as essential tools to reduce road hazards. Adequate investments should be allocated for this purpose.

The resolution calls for greater synergies between the EuroVelo network of cycle routes and the TEN-T network to make cycling infrastructure safer and better connected. It notes that new forms of infrastructure, such as advanced stop lines, bike boxes, cycle lanes, or cycle highways, offer new possibilities for safe active mobility. It stresses the need to harmonize and apply road signage rules to avoid confusion and improve safety and ease of use.

The European Parliament calls on the Commission and Member States to closely collaborate with regions and cities to complete any missing last-mile infrastructure and intermodal and cross-border connections across the TEN-T network, thus ensuring more harmonious and efficient use of infrastructure and services and improving road safety.

2.3 General Plan for Urban and Extra-Urban Cycling Mobility 2022–2024 in Italy

2018/2 "Provisions for the Development of Cycling Mobility and the Implementation of the National Cycling Network" has the goal of establishing the National Cycling Mobility System. In particular, the plan promotes the development of the national tourist cycle network in connection with urban ecosystems, creating a complete system that enables the daily use of bicycles, supported by infrastructure (e.g., bike parking and bike stations).

The plan aims to enhance cycle tourism as a resource for territorial development through initiatives that establish major national cycle routes, support local tourism initiatives, and promote services connected to cycle tourism and the bike economy, creating new opportunities for national tourism development. Finally, the plan includes the development of a regional network that supplements the major national routes and is strategy for regional-scale cycling mobility, facilitating connections between territories for both urban and tourist routes. The network will be promoted and managed by the Regions and Autonomous Provinces in collaboration with local authorities.

2.4 Piano Regionale della Mobilità Ciclistica della Toscana – Tuscany Regional Plan for Cycling Mobility (PRIIM)

The “Integrated Regional Infrastructure and Mobility Plan,” approved by the Regional Council Resolution no. 18 on February 12, 2014 (PRIIM), includes the following provisions:

- Identifies the regional-scale cycling system
- Sets intermodality objectives with public transport for cycling mobility to be achieved at both regional and local levels
- Sets goals and strategies for converting roads into cycling and pedestrian paths
- Specifies criteria, tools, and funding for the development of plans and interventions for cycling mobility.

2.5 LRT June 6, 2012, no. 27 "Interventions to Promote the Development of Cycling Mobility" (as amended by LRT 13/2022)

The Region pursues the development of sustainable mobility by promoting the use of bicycles as a means of transportation for both daily needs and for sports and recreational-tourist activities.

Strategic objectives for extra-urban cycling mobility include:

- a) Creating routes and circuits connected to collective mobility
- b) Creating a protected and dedicated network of interconnected cycling and pedestrian routes through areas of environmental, landscape, cultural, and tourist value, along with a network of services and facilities
- c) Establishing dedicated routes and support structures in rural and mountainous areas
- d) Establishing a network of bike stations equipped with information services for users, secure bicycle storage, technical assistance, and rental services to promote intermodality between bicycles and other means of transport, located near airports, train stations, bus stations, metro stations, and maritime, river, and lake transport stations.

2.6 TUSCANY REGION - Guidelines for Directional Signage and Rest Area Equipment for Regional Cycle Routes

For the definition of directional/informative signage to be placed on cycle paths, as well as the specific instructions for creating rest areas serving cycle routes, reference is made to the document “Guidelines for Directional Signage and Rest Area Equipment for Regional Cycle Routes” by the Tuscany Region, which is in the process of adoption and has been shared with provincial and municipal public authorities.

One of the main goals of the document is to contribute to ensuring uniformity and continuity in the regional cycling network, which develops in a heterogeneous context. It is essential to qualify the recognizability of the routes and harmonize various existing architectural, visual, and signage languages within the territory.

The guidelines aim to promote bicycle use by:

- Defining a common approach for all signage-related projects
- Standardizing the type of rest areas and their equipment along all regional cycle routes
- Increasing the visibility and recognizability of regional cycling routes.

Cycling signage is a central element in promoting bicycle use as it provides orientation and guides cyclists to safe sections, allowing them to follow the route without fear of getting lost. This is achieved through a standardization of signs and symbols that facilitate route recognition in any situation. Moreover, in cycle tourism, coherent signage is a key marketing element and a prerequisite for perceiving and communicating the product.

The installation of signage includes a primary system of directional signage that will provide users with necessary indications on how to access the cycle route, stay on the route, and reach locations outside the route. This is done using signs with images and dimensions already provided by the Highway Code, which are familiar to users, with some simplifications made to improve readability where necessary.

2.7 PTC

The Provincial Territorial Coordination Plan (PTC) (2009) of the Province of Livorno is defined as a territorial tool in accordance with Legislative Decree no. 267/2000 and the Regional Law no. 1 of January 3, 2005, "Norms for Territorial Governance." The PTC is drafted following the principles of shared territoriality, sustainability, hospitality, territorial renewal capacity, participation, and institutional cooperation to achieve a range of objectives related to territorial development, growth, local population quality of life, and safety aspects, both human and material resources.

2.8 Vast Area PUMS

The Ministerial Decree of Infrastructure and Transport of August 4, 2017, Article 3, established at the national level that Vast Area Authorities may proceed with the definition of Urban

Sustainable Mobility Plans (P.U.M.S.), using the guidelines adopted with the mentioned decree.

The P.U.M.S. is configured as a strategic planning tool that, over a medium-long term horizon (10 years), develops a systematic vision of mobility and proposes the achievement of environmental, social, and economic sustainability goals through actions aimed at improving the effectiveness and efficiency of the mobility system and its integration with urban and territorial development. It is a plan that can identify mobility problems for which it is necessary to find financial resources and technical implementation times through complex and intersectoral territorial policies.

In this context, the Provincial Administration has taken the opportunity to conceive the coordination and systematization of both territorial planning (P.T.C.) and mobility planning (P.U.M.S.), along with the new hierarchical management of public local transport (T.P.L.). Furthermore, the provincial office is in the initial phase of developing the urban and extra-urban T.P.L. network project through the Associated Management with the new AT Company, which has been entrusted with public transport for the next 11 years. This project is aligned with many other ongoing projects of the Provincial Administration, with special attention to ThreeT Project for enhancing the route of the Tyrrhenian Cycle Route, a crucial part of the ongoing plans funded by European programs.

In 2022, with D.C.P. no. 16 of March 9, the guidelines for drafting the Vast Area Urban Sustainable Mobility Plan were approved, and the first phase of the participatory process for knowledge building aimed at defining the strategies was completed.

Following the definition of the knowledge framework initiated by data collection from the territory, involving local administrations in synergy with the T2 project (for the new contractual season with AT), the collected data were systematized and partly geolocated to investigate the emerging phenomena in the area and delve into specific themes and/or peculiar areas. During the 2024-2026 period, the work aimed at drafting the strategic project scenarios and sharing them through public participation meetings is expected to be concluded. The strategic scenario definition will also find synergy with European-funded projects on mobility in a holistic sense (green communities, energy communities, circular economy, etc.) initiated in 2023.

2.9 The PUMS of the Municipality of Livorno

The interventions in the PUMS were identified by following 24 coordinated action strands. The key focus areas include interventions for the 2025 scenario and those projected for the 2030 scenario. The PUMS aims to increase the share of sustainable transport by 18%, given that currently only 31.9% of trips are made in a sustainable manner. This marks a significant prevalence of private car and motorcycle use, including the BiciPlan.

2.10 The Urban Cycling Mobility Plan (BiciPlan) of the Municipality of Livorno

The Biciplan is the Urban Cycling Mobility Plan and is an integral part of Livorno's PUMS. It serves as the primary tool available to the Municipal Administration for defining the set of

projects and actions designed to make cycling in the city easier and safer, encouraging more efficient, economical, and sustainable mobility.

The main objective of the Biciplan is to promote the use of bicycles as a real "means of transport," with particular reference to commuting between home and school or work, integrating it where possible with urban, regional, and national public transport services.

At the same time, the Biciplan identifies actions aimed at improving cyclist safety, combating bike theft, and improving the availability of parking spaces for bicycles near major modal interchange points and public buildings, especially schools.

2.11 Other Municipal PUMS/PEMS

- PUMS Rosignano Marittimo (approved in 2017):

Rosignano municipality area faces challenges in the cycling network, which is characterized by interruptions, poor interconnection with other forms of transport, limited safety, and problematic crossings, especially in areas where the railway network crosses urban zones.

- PUMS Piombino (in drafting phase):

It aims to strengthen the soft mobility network and improve safety for "vulnerable" users by creating cycling and pedestrian networks and implementing traffic-calming measures. It also plans to monitor the actual results and update actions through a participatory process.

- PEMS Elba Island (approved in 2021):

Among the various interventions is one for soft mobility: restoring the 1848 Leopoldino cadastral roads to create a network for soft mobility with historical and environmental value. This also includes restoring the route between Rio Marina and Portoferraio (which can be integrated with maritime connections to Piombino and the Tyrrhenian cycle path) and setting up charging stations for electric bikes.

3. Overview of Achievements during the 2014-2020 Programming Period

3.1 INTENSE Project

The INTENSE project – Sustainable Tourist Itineraries – is a strategic project involving five regions (in Italy: Tuscany, Liguria, and Sardinia; in France: Provence-Alpes-Côte d'Azur - PACA and Corsica) led by Tuscany Region and co-financed by the Interreg Italy-France Maritime Program 2014-2020.

The project sought to address some critical issues related to cycle tourism by identifying a cross-border cycle route connecting these regions, with particular attention to naturalistic, landscape, and cultural sites of interest. It also approved design and implementation standards aligned with existing Eurovelo itineraries, with the goal of creating uniformity throughout the route. Additionally, technical guidelines for unified cross-border governance were developed to strengthen territorial connections and enhance the area's competitiveness.

3.2 ISTRICE Project – Integration of Transport Systems for Sustainable Mobility Solutions for Public Transport and Cycling-Pedestrian Mobility in the Province of Livorno (Por Creo Fesr 2014-2020 - Action 4.6.1)

ISTRICE Project included both material interventions (by the Municipalities of Cecina, Livorno, and Rosignano Marittimo) and immaterial interventions (by the Province of Livorno, the project lead partner) aimed at the creation and development of an integrated transport system that supports diverse mobility needs (systematic, tourist, occasional).

The project promoted interventions to encourage cycling mobility (cycle paths, bike-sharing stations, installation of bike racks, etc.) and to create dedicated lanes for local public transport lines to improve the regularity and reliability of the service.

To support modal integration, the project developed a Provincial Information System (SIT) in Livorno, enhancing access to structured information about the cycling and pedestrian system. Specifically, cycling routes and bike parking areas at intermodal nodes were added to the database used by the provincial Travel Planner for planning public transport trips within the province.

The Travel Planner, developed by the Province of Livorno, is based on the Open Trip Planner open-source system and allows users to plan trips using public transport within the provincial area. It also supports bicycle trips and the "Park and Ride" function for bicycles. This routing system can account for bicycle parking (if properly tagged) and propose intermodal bicycle/public transport travel solutions.

3.3 Modì Project

Modì project, financed 80% by the Ministry of Environment, aims to promote sustainable mobility through interventions that increase both the use of soft transport modes and the development of integrated public transport solutions in low-demand areas.

The project is promoted by the Province of Livorno and the municipalities of Livorno, Cecina, Collesalveti, and Rosignano. The interventions include infrastructural and organizational improvements, as well as initiatives to promote the completed interventions.

The main focus areas of the project involve cycling and pedestrian mobility, taxibus services, car-sharing (urban and corporate), and bike-sharing services.

As part of Modì project, two similar services dedicated to the employees of the Province of Livorno and its municipalities were introduced. For bicycles, the service was also made available to school staff and employees of companies and institutions within the Province.

3.4 ThreeT Project

ThreeT Project (Thematic Trail Trigger) is a European project funded by the Interreg Europe Program aimed at improving and protecting sites of natural and cultural interest by creating or enhancing thematic trails dedicated to above sites. The project's goal is to maximize the eco-tourism potential of those sites.

The project partners include various organizations from other European countries, with the Province of Livorno as lead partner. In the Livorno area, strategies were adopted in line with the Regional Development Plan, focusing particularly on sustainability. The project created tourist trails that improved access to natural heritage, especially in less accessible areas such as the islands. It also sought to mitigate the impact of seasonal tourism by promoting sustainable mobility and introducing "experiential tourism" trails to enhance the entire tourist experience along the route.

One notable initiative is the "Silence Areas" project, aimed at leveraging the absence of noise in tourist areas as a factor of attraction.

4. Overview of Plans and Current Results for the 2021-2027 Period

Below is a summary of the main projects and initiatives included in the current programming period.

4.1 Collaboration Agreement Between the Tuscany Region and the Province of Livorno for the Definition of the Final Route of the Tyrrhenian Cycle Route in the Section Between the Province of Livorno and the Province of Grosseto

The Tuscany Region, in implementation of Regional Law no. 78/2022, has initiated the procedure for the creation of the Tyrrhenian Cycle Route, a cycle tourism route of about 800 kilometers that stretches along the Tuscan coast from Marina di Carrara to Marina di Pisa. The Province of Livorno, as the competent territorial authority for the construction of the cycle route in its section between the provinces of Livorno and Grosseto, has started a process of consultation with the Tuscany Region to define the final layout of the route with some initial activities undertaken.

The objectives of the agreement are as follows:

- Define the final layout of the Tyrrhenian Cycle Route in the section between the provinces of Livorno and Grosseto, ensuring continuity and safety of the route;
- Assess the impact of other infrastructure on the territory to find compatible and sustainable solutions;
- Promote sustainable mobility and enhance the region's value.
- The parties agree to:
- Define a study perimeter for the route, based on indications provided by the Tuscany Region;

- Gather the necessary information for defining the route through consultations with interested public and private entities;
- Develop route proposals that will then be discussed and evaluated by the parties.

The final route of the Tyrrhenian Cycle Route between the provinces of Livorno and Grosseto must be defined by December 31, 2024.

4.2 Agreement between the Tuscany Region and the Province of Livorno for the Implementation of the Elba Island Cycle Route

The cycling network of Elba Island cannot be integrated into the Tyrrhenian Cycle Route. Given the island's internationally recognized tourism appeal, known for its natural beauty, history, and culture, the Province of Livorno has proposed elevating the importance of Elba's soft mobility to a regional interest and integrating related interventions into the PRIMM.

In line with Regional Law no. 78/2022 and in response to the requests of the Province of Livorno, the Tuscany Region has initiated the procedure for creating the Elba Island Cycle Route, a cycle tourism route of approximately 100 kilometers that runs along the entire perimeter of the island. The Province of Livorno, as the competent territorial authority, has begun consultations with the Tuscany Region to define the terms of implementation.

The objectives of the agreement are:

- To create a safe and accessible cycle route that can be used by cyclists of all ages and skill levels
- To promote sustainable mobility and enhance the region of Elba Island.

The Tuscany Region has committed €10 million, while the Province of Livorno will provide €5 million for the construction of the cycle route. The cycle route is expected to be completed by the end of 2025.

4.3 HINGE Project

HINGE project aims to assist the European Union in achieving its climate objectives by pursuing decarbonization pathways and protecting the health of its citizens. To contribute to this transition, the project promotes cycling and other modes of transport (transit) in a synergic manner, aiming to reduce traffic congestion and improve efficiency in urban and rural mobility.

The project's goal is to foster more integrated mobility systems between bicycles (as a mode of transport for work or leisure) and public transit, supported by the exchange of good practices among project partners: Province of Livorno (Italy), VAS County (Hungary), and Brasov County (Romania).

Each partner has formulated a Strategic Action Plan, which was completed in November 2023 and is currently in the implementation phase.

4.4 D.1 Green Community Costa degli Etruschi Project

The D.1 Intervention "Creation of Eco-Sustainable Paths" is a comprehensive action aimed at improving and systematizing naturalistic trails and routes across municipal territories, connecting them through both cycling and pedestrian mobility. The main goal is to improve access to these routes for both local residents and tourists. Additional goals include enhancing the naturalistic dimension of the routes and incorporating them into the "Silence Trails" network, part of the European cooperation project ThreeT.

Expected outcomes include:

- Physical improvement of the paths and their maintenance
- Increased visitor traffic to the municipalities and territories during off-peak seasons (spring/autumn)
- Strengthening and expanding the environmental and hiking guide sector
- Raising awareness and fostering a culture of respect for the natural and environmental heritage, especially among young people.

This intervention is closely tied to the Tuscany Regional Action Plan, which was an outcome of the European cooperation project ThreeT. Action 4 of the Plan, promoted and coordinated by the Tuscany Region, aims to develop a network of sustainable routes, both pedestrian and cycling, linking minor centers in the Livorno territory with the Tyrrhenian Cycle Route, which is currently under construction.

The proposed intervention also aligns with the Destination Management Plan of the Costa degli Etruschi Tourist Area, contributing specifically to various actions of the DMP 2020-2021. The current proposal is closely related to multiple material and immaterial actions designed to enhance the Grand Trail Costa degli Etruschi, with the technical-economic feasibility of the over 300-kilometer route length completed in July 2024. The executive design is underway, and once completed in September 2024, work will begin on the route, including the installation of signage and the extraordinary maintenance works. The project is expected to be completed by the end of 2025.

5. Projects Proposed in 2024 Within the Framework of Community Cooperation Programs

5.1 INTENSEible

The Province of Livorno has submitted the INTENSEible project as the lead applicant under the second call of the Interreg Italy-France Maritime Program 2021-2027. The project aims to build on the results of the INTENSE project, with the goal of promoting and enhancing cross-border cycling mobility in the cooperation area of the program.

The shared challenge addressed by the project is to improve the accessibility and intermodality of transport systems, specifically promoting the use of bicycles as a sustainable and integrated means of transportation.

INTENSEible will integrate the INTENSE route to further strengthen its role as a key axis within a transport network catering to all cycling mobility needs (not just for tourism). Pilot interventions will be carried out, focusing on aspects of cycling mobility, such as safety, intermodality, accessibility for all, information provision, and completing the range of cycling route offerings.

Examples of innovative solutions include interventions designed to integrate cycling mobility with public transport, such as dedicated cycling paths and service structures (bike boxes and charging and repair stations) within port areas.

The project's outputs and results will include the development and adoption of an Action Plan to promote cycling mobility, as well as the creation and adoption of a solution that integrates cycling mobility with other transport modes.

5.2 GAREible

The Province of Livorno is a partner in the GAREible project (with the Liguria Region as the lead partner), submitted under the second call of the Interreg Italy-France Maritime Program 2021-2027.

The primary goal of the project is to promote and improve accessibility to local public transport and tourist railways within the cooperation area, particularly for people with reduced mobility (PRM), while also fostering intermodal connections and linking with the TEN-T networks to implement "mobility for all" in a cross-border context.

The key outputs of the project include:

- A joint definition of interventions to improve PRM accessibility to local mobility
- The drafting of a joint cross-border action plan addressing this issue across the cooperation area
- The implementation of a series of joint and cross-border interventions aimed at improving PRM accessibility to local mobility.

6. SWOT Analysis on Project Themes

Main themes	Strengths	Weaknesses	Opportunities	Threats
Urban cycling	<ul style="list-style-type: none"> - Presence of cycle paths in urban centers - Completed projects and in some cases already under construction in several urban centres 	<ul style="list-style-type: none"> - Cycle network perceived as unsafe by users. - Fear of theft. - Predominant image of the bicycle as a means of recreation, fun, leisure not perceived as a real alternative to public transport and the car. - excessive length of routes to be travelled (52.8%) * - traffic hazard (50%) * - inadequacy of the cycle track network * 	<ul style="list-style-type: none"> - Inclusion of measures to promote soft mobility in the urban planning tools of major centres (Livorno, Rosignano, Piombino, Elba Island) - Recent spread of electric charging stations that can also be used by cyclists 	<ul style="list-style-type: none"> - Competition in particular with private car transport - Disincentive effect on cycling as a result of the frequent occurrence of theft. This phenomenon strongly affects cycling and sustainable mobility in the city. The security of people's possessions is not an issue to be underestimated if one wants to change one's lifestyle and way of moving around.
Regional network	<ul style="list-style-type: none"> - Presence of a system of cycle paths, including on minor unpaved routes (white roads), currently being organized. - Presence of significant landscape/environmental and archaeological-cultural resources. - B On Time and experimentation with an 	<ul style="list-style-type: none"> - Lack of cycle paths throughout the territory and an extensive and well-signposted network of pedestrian or cycling routes, to be combined with cycle paths or logistics with public transport, to access areas of high naturalistic or scenic value. - Bike-sharing stations are not 	<ul style="list-style-type: none"> - The Tyrrhenian Cycle Route is currently in the design/construction phase in some sections: it will be able to ensure a main connection between neighboring regions, offering a cycling itinerary of European standard and value. - At the top of the factors that promote bicycle use, 	<ul style="list-style-type: none"> - Limited administrative cooperation at different territorial scales for authorisation procedures, concessions, etc.

	<p>integrated information service.</p> <ul style="list-style-type: none"> - Availability of general and specific guidelines for the creation of cycle paths. - Existence of a variety of search engines for visualizing routes in the territory: <ul style="list-style-type: none"> ▪ Costa degli Etruschi ▪ Tra Terra e Mare ▪ Visit Tuscany ▪ Sirio Blue Vision ▪ CAI Trails mapped for the Tuscany Region ▪ Waymarked Trails: Hiking trails ▪ Komoot Tour Planner ▪ Tuscany Coast Outdoor 	<p>sufficiently optimized according to demand/supply criteria.**</p> <ul style="list-style-type: none"> - Cycle network characterized by interruptions and poor interconnection with other forms of transport. 	<p>according to the perception of almost all regular cyclists, is the widespread presence of bike lanes, followed by the growing awareness of the issue of widespread pollution and the availability of secure parking points.</p> <ul style="list-style-type: none"> - Public transport interventions aimed at facilitating integrated bicycle use are also highly appreciated, as are incentives for bicycle use. 	
Multimodality	<ul style="list-style-type: none"> - Attractive hubs spread evenly throughout the territory and well served by public transport nodes (especially ports/rail/road public transport) especially in the coastal area. 	<ul style="list-style-type: none"> - Limited infrastructure of interchanges - The absence of reliable and up-to-date official data on cycling allows for limited demand analyses with potential sub-optimal intervention proposals, also for intermodality/multimodality 	<ul style="list-style-type: none"> - Existence of planning tools, including SUMPs and Destination Management Plans - Opportunities for financial support from EU programmes already identified or foreseeable in the short term 	<p>Possible resistance from shopkeepers and residents in streets where interventions are being carried out to reduce parking and motor vehicle traffic or to favor the exclusive passage of cyclists and/or public transport.</p>

* % of responses and other information from the HINGE project survey in the Province of Livorno (August 2022)

7. Good Practices

(At least two Good Practices to be presented during the Study Visit to Livorno)

Initially identified experiences:

GP1 - Massa Marittima

GP2 – B On Time

GP3 - Grand Trail Costa degli Etruschi - D1 Intervention, Green Community

7.1 GP1: Massa Marittima and the Union of Mountain Municipalities of the Metalliferous Hills

Massa Marittima is becoming a paradise for bikers, both for recreational and technical routes, offering various options suitable for families and experienced cyclists alike. The following initiatives are noteworthy:

- The Trail Brothers, a local amateur sports association, have built a tourism offering for cycling enthusiasts, particularly those interested in more adventurous off-road biking. They created Italy's first bike garage in 2020 in the historic center of Massa Marittima, close to the San Cerbone Cathedral and other major cultural attractions. The garage provides bike rentals, maintenance services, tourist information, and access to cycling routes.
- They also obtained permission to manage areas on Monte Arsentì Hill, where they maintain trails and have established a trail park, offering an extensive playground for mountain bike enthusiasts.
- Way-point: This safety system provides signs that inform cyclists and hikers when they enter areas with no mobile phone coverage in the forest. The signs, about 50 in total, offer instructions on what to do in case of emergency. This project is supported by Bike Garage & More and is endorsed by the Tuscany South-East Health Authority, which uses GPS coordinates from the signs to quickly locate people in need of help.

The Union of Mountain Municipalities of the Metalliferous Hills (including Massa Marittima, Monterotondo Marittimo, and Montieri) has approved a "Guidelines for the Management of the Tourist and Hiking Network of the Metalliferous Hills," establishing procedures and rules for the coordinated management of tourism infrastructure that contributes to the territory's development.

7.2 GP2: Multimodal Travel Planner "B On Time"

B On Time was first launched in June 2012, providing information on public transport in the Province of Livorno. The project won the Innovation Award at SMAU in both 2013 and 2016 for the category "Public Administration." It was also recognized in Tartu, Estonia, as one of three winners of the "Maximizing Data to Improve Public Transport" competition in 2014.

Today, B On Time is available as both a web application (<https://web.bontime.it>) and a mobile app (Android and iOS). Its main features include:

- Scheduled timetables for public transport services in the Tuscany Region (bus, train, ferry)
- Real-time schedules based on GTFS and AVM fleet monitoring systems
- Multimodal Travel Planner using Open Trip Planner technology, allowing users to plan cycling trips and providing the cost of bus travel
- Purchase and activation of travel tickets
- Informational layers on cycling paths and beaches, with a backend system for updating the information
- A tool for digitizing public transport services in GTFS format and managing service contracts
- User interaction, allowing users to report service disruptions directly from the app.

7.3 GP3: "Grand Trail Costa degli Etruschi – D.1 Green Community"

The D.1 "Realization of Eco-Sustainable Paths" intervention is a comprehensive action aimed at improving and systematizing naturalistic trails and routes that cross municipal territories and connect via cycling and pedestrian mobility. The main goal is to improve the accessibility of these routes for both local residents and tourists. Additional objectives include enhancing the naturalistic aspects of the routes and incorporating them into the "Silence Trails" network, part of ThreeT European cooperation project.

Expected results of the intervention include:

- Improvement of the physical condition and maintenance of the trails
- Increased visitor traffic to the municipalities and their surrounding areas, particularly during off-peak seasons (spring/autumn)
- Strengthening and expanding the employment opportunities for environmental and hiking guides
- Raising public awareness and fostering a culture of care and respect for the natural and environmental heritage, especially among young people.

The intervention includes both material actions (route improvement and safety measures, signage) and immaterial actions (information and communication) to enhance the Grand Trail Costa degli Etruschi, whose technical and economic feasibility study, covering over 300 km, has been now completed (July 2024). The detailed design is currently underway and, once completed in September 2024, will allow the start of route improvements and the installation of signage, with the project expected to be completed by the end of 2025.