

# re-value

## Detailed Roadmap for the Waterfront Pilot in Rimini

Re-Value Deliverable D5.1

## Report information

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**Front page photo:** Municipality of Rimini (View of new Rimini waterfront - Parco del mare)

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## Executive summary

This deliverable aims to describe the regeneration of two significant areas in Rimini: the *Parco del Mare* and the *San Giuliano* district, within the framework of the Re-Value Horizon Europe project. It outlines the regulatory frameworks, systemic challenges, and governance issues for the city, alongside the engagement of stakeholders. In this context, the Municipality of Rimini shares a unified vision for regenerating the waterfront pilot areas, working towards climate neutrality by integrating the research and innovation sectors.

Through the Re-Value project, we learn to incorporate diverse tools and methods, adopting a fresh approach to urban planning. The project allows us to delve deeper into the identity of our city and the history of the local territory, transforming this knowledge into new scenarios for the city's future using innovative tools and platforms. These steps are essential for advancing a more collaborative approach and implementing concrete solutions to enhance living conditions in urban areas.

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## 1. Introduction

Rimini, located on the Adriatic coast in northern Italy's Emilia-Romagna region, is a renowned seaside destination with a population of 150,423 (as of December 2023) and over 15 million annual visitors. Known for its sandy beaches, Roman heritage, and vibrant culture, Rimini has embarked on a transformative urban project called the *Parco del Mare*, redefining its waterfront infrastructure to enhance well-being and sustainability.

### The *Parco del Mare* Project

Over the past decade, Rimini has designed and partially implemented the *Parco del Mare*, which spans 15 kilometers of its coastline, divided into two main areas:

- North *Parco del Mare*: A 6-kilometer stretch from Torre Pedrera to San Giuliano Mare, featuring the Marina Turistica.
- South *Parco del Mare*: A 7-kilometer stretch from the Port through Marina Centro.

The project replaces traditional infrastructure dominated by roads and parking with green spaces, pedestrian and cycling paths, outdoor gyms, and leisure facilities, creating a vibrant, sustainable waterfront.

### Integration with the *Re-Value* Project

Through the *Re-Value* initiative, Rimini identified two pilot areas to further integrate climate-neutral urban planning:

- Waterfront Pilot 4: The *Parco del Mare* area.
- Waterfront Pilot 1: The San Giuliano riverfront.

Study visits were conducted to analyze urban characteristics, including land use, mobility, energy, greenery, and socioeconomic factors. The project also assessed how these areas align with existing urban planning regulations and strategic objectives.

### Collaborative and Holistic Approach

Using innovative methodologies developed in the *Re-Value* project—such as impact modeling, data-driven scenario building, and investment partnerships—the Municipality of Rimini mapped ongoing and planned interventions across pilot areas. This approach emphasized:

- Building stronger connections among projects, actors, and actions.
- Identifying synergies and co-benefits to enhance project outcomes.
- Moving beyond "business as usual" to create integrated and forward-looking urban strategies.

This holistic approach supports Rimini's ambition to balance its rich heritage with contemporary urban sustainability, setting a benchmark for coastal urban regeneration.

## 1.1 The city of Rimini

Rimini lies at the heart of the *Romagna Destination*, a prominent tourist district spanning from Ravenna to Cattolica, which attracts over 5.4 million tourists annually, generating 27 million overnight stays. Despite comprising just 3% of Emilia-Romagna's territory, Rimini alone accounts for one-third of the region's total tourist arrivals. Renowned for its top-tier seaside establishments and exceptional customer service, Rimini faces growing competition and the pressing challenge of urban regeneration.

To sustain its appeal and competitiveness, the Municipality of Rimini aims to revitalize its tourism infrastructure by enhancing environmental, cultural, and artistic quality, alongside improving services. A key focus of this renewal is the redevelopment of the waterfront, blending innovation with tradition to ensure a sustainable and attractive future for the city as a premier destination.



Figure 1 - Territorial framework.

## 1.2 Rimini as a touristic place-the origins

Rimini is a town, and an area of land, traditionally with the calling of being a tourist place. Its own geographical location, at the crossroads among three consular ways (the Flaminia, the Popilia and the Emilia roads), made it the connecting “door” between the center and the north of Italy and, through here, a corridor towards Europe since ancient times. A vocation confirmed also in the following Middle -Age and Renaissance eras, as a crossroad of religious pilgrimage itineraries and of artistic and cultural movements at the cutting edge. Some centuries after, starting from the middle of the 19th century, this vocation started to turn also into a sheer entrepreneurial mission when the frequentation of the seaside and the practice of sea-bathing started to spread. From the setting of the first seaside facilities building (1843), the celebrity of Rimini grew relentlessly until reaching its acme in the early 20th century, with the construction of the Grand Hotel (1908).

After World War 1, Rimini was ready to change again, discovering its new vocation to the “familiar” hospitality. This was facilitated by the increasing construction of a great number of hotels and guesthouses. Also in the Fascist era, due to the rhetoric of fitness and wellness, Rimini had a very

high reputation.

During the Second World War Rimini was almost completely razed (80% of the town destroyed by bombs between 1943-44). In the following decade, tourism was the leverage for the reconstruction and the renaissance of Rimini, but this time it was rather turned into a more popular mass dimension, with an extraordinary capacity of attracting also tourists coming from the Northern and Central European countries (such as Germany and Scandinavia), or enormous attractiveness to the countries of Northern and Central Europe who were just about to leave behind the tragedies and economic troubles of the War.

Between the 60s and 70s, the fame of Rimini as “the capital of holidays” was the highest in Italy as well as in the old continent, thanks to the dimensions of its accommodation network and to its ability in creating original fashion and trends influencing whole generations. The popular model of holiday or the popular holiday model reached its peak, but not without its problems, in the 80s. In that decade the town started to address decisively to the “night life” and youngster tourism market and, consequently, to be seen as an ambiguous and controversial “funhouse”. An image further reinforced after the environmental crisis of the end of the 80s, which led (even unconsciously) to react immediately emphasizing the “night life” style, which was potentially risky though.

That is why the town decided to turn its trajectory of development into a different direction and to work on a strategy aiming at promoting tourism all over the year instead of in the only four hectic summer months.

The construction of the new Trade-Fair Center (the 2nd in size and the 1st for income in Italy) and the new Congress Palace, both realized in the first decade of 2000, are the backbone of this change of a 50-year-old paradigm.

## 1.3 Description of the pilot areas

The Rimini waterfront stretches over about 15 kilometres, divided into two big swathes: NORTH SEA PARK (more than 6 kilometres long), starting from Torre Pedrera and coming – through Viserbella, Viserba, Rivabella – to San Giuliano Mare, where the Tourist Marina is located; SOUTH SEA PARK (more than 7 kilometres long) which, starting from the Port, crosses Marina centro, Bellariva, Marebello, Rivazzurra and arrives at Miramare, located before the boundary with Riccione.



Figure 2 - Municipality of Rimini.

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### 1.3.1 Introduction to pilot “Parco del mare”

The North Waterfront presents a situation of physical and urban, including buildings, degradation with a consequent loss of competitiveness for the numerous existing tourist economic enterprises. This means the loss of attractiveness and value of the main economic sector, impinging also on the social structure, typically characterized by family businesses. The loss of value in the tourist economy produces, in this particular social and economic fabric, a growing marginalization, causing itself a physical degradation with forms of abandonment of buildings and whole parts of urban areas. Rimini North presents also a marginalization due to a physical separation from the downtown centre and the rest of the territories, because of the scarcity of connections and the gradual loss of the few urban centralities. In other words, it is about a situation of fragmentation and separation that led overtime to a relentless loss of attractiveness, of excellent functions and of urban places with social identity. Facing this growing degradation, the Municipality – also thanks to the continuous integration with participatory actions – has developed a comprehensive project of urban regeneration aiming at reducing the fragmentation, increasing the urban attractiveness of the tourist product, improving and reconstructing the identity places of citizens and city-users, raising the level of the services for inhabitants and tourists.

The South Waterfront represents, especially in the area of Marina Centro, the most well-known part of the Rimini seaside and the most linked to the historical beach tourism identity. Here the first



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seaside building opened in 1843, the culture of the healthy swim in the sea took birth, the Kursaal was built (1873), as the socialite place of Rimini, the famous “villini” (little liberty villas) were built, and the fame of Rimini gained an international reputation, in particular following the construction of the Grand Hotel (1908). Again in this area, the tourist success of Rimini grew in the following decades of the XX century, until the entertainment of the 70s and to more recent years. Today, though, the Rimini seaside can be described mainly as a wide area serving the beach and the hotels: a combination of parking areas, a seaside street, seaside buildings crowded in summer and deserted in winter constitute the daily landscape of that which was one of the most valuable areas of Rimini. That is why the “Sea Park” project wants to regenerate, together with the Northern area, all this wide area, turning it into a new attractive urban place, able to reinstate an international reputation to the Rimini territory.



Figure 3 - Waterfront pilot 1



Figure 4 - Waterfront pilot 2.

Over the last 10 years the city of Rimini has conceived and partly implemented the 'Parco del Mare' project, one of the most profound urban transformations, both material and immaterial. The Sea park project envisages the regeneration of Rimini's North and South Promenades, adopting two different procedures and guidelines, in consideration of the different morphology and territorial configuration of the two macro areas: Sea Park South and North. The city intends to replace the existing grey infrastructure, dominated by car parks and roads, with a new "Parco del Mare" (Sea Park) that will run in front of the beaches and will consist of green infrastructures, bicycle and pedestrian paths, open-air gyms and other functions and attractions aimed at attracting people in search of wellness and relax.

The choice of the Pilot location had to be based on compliance with certain criteria that referred to possible guidelines to be followed in order to give the project choices homogeneity and overall cohesion. The design of Parco del mare sections 4 and 5 will consider the swot analysis that derives from monitoring the constructed sections of the Parco del Mare (1-2-3-6-8) and the will to integrate the principles and objectives of the proposed Impact Model.

### **1.3.2 Introduction to pilot San Giuliano**

The ATUSS strategy identifies as its geographical area of reference the urban area crossed by the

terminal part of the river port (right and left) and embraced by: the Marecchia river deviator up to its mouth (to the north), the Ponte dei Mille bridge (to the west), the port/ Piazzale Boscovich (to the south) and the "bay" located between the tourist Marina and the Marecchia deviator (to the east). This is the area where the port of Rimini is located, in a barycentric position between the north and south coasts and located at the mouth of the Marecchia river. The port is in itself a destination, a point of interest, a point of arrival, a reference point for both citizens and tourists, and contains a strong relationship with the current waterfront. The heart of this area is represented by the San Giuliano Mare neighbourhood, known to the people of Rimini as the "Barafonda", a name of uncertain etymology, which historically coincided with a portion of the city that was marshy and linked to Rimini's seafaring identity, an element that has accompanied its evolution over the centuries. With the construction of the Marecchia deviator, in the first half of the 20th century, defining the northern side of San Giuliano Mare, the area acquired an almost insular configuration that still characterises it today. Beginning in the 1950s, San Giuliano became one of Rimini's leading villages during the economic boom. In those years, apartment blocks, hotels, restaurants, dance halls, a cinema and shops flourished, transforming Via Ortigara, San Giuliano's seafront promenade, into a lively commercial street. The tourist success does not, however, undermine San Giuliano's seafaring vocation. In fact, while the right -hand side of the canal port, belonging to Marina Centro, is traditionally used for commercial traffic, the left -hand side, of San Giuliano/Barafonda, remains dedicated to fishing and boat building, repair and maintenance. This was also the site, in the 1960s, of the new fish market, later refurbished in 1989 and now destined to find a new suitable location in the shipyard area.

In recent decades, San Giuliano has lost much of its tourist-hotel sector and waterfront. At the beginning of the new millennium, San Giuliano Mare was involved in a new development project, the construction of the tourist Marina, including a vast area for storing and shipbuilding, an activity in continuity with the tradition of the shipwrights historically operating at the Barafonda. However, the real estate 'engine' connected to the new 'Darsena' - the so-called 'Prua' - did not achieve the commercial success hoped for and, also due to the eco-fin crisis that broke out a few years later, the district ended up remaining, somehow, suspended between a lost identity and a new identity yet to be built. Even the link with Marina Centro, the beating heart of tourist Rimini, has remained unfinished due to a lack of connection to the sea, thus exacerbating the partial isolation of San Giuliano Mare. Moreover, the San Giuliano coastline, as it was already reorganised in the early 2000s with the construction of the Darsena (dock), has so far remained excluded from the extensive 'Parco del Mare' (Sea Park) project, for the regeneration of the southern and northern waterfronts, which is currently underway.

Twenty years after its reorganisation, the San Giuliano's seafront now needs a redevelopment project to bring it into line with the new attractiveness of Rimini's new waterfront. In addition to the San Giuliano Mare area, which naturally includes the left side of the port, the area covered by the ATUSS includes the right quay and some stretches of the left quay of the canal-fluvial port up to the Ponte della Resistenza bridge, in order to create a true urban 'blue boulevard' that constitutes the central pivot of the great urban regeneration process that, over the last 12 years, thanks to the Strategic Plan and the Strategic Master Plan, has given Rimini a new urban quality to reposition it among contemporary European tourist destinations.

## 1.4 Urban green and Sustainable Mobility

Rimini's waterfront consists of heavily urbanized areas where the predominant element is the road axis that runs parallel to the coastline. The natural element consists only of rows of trees along the roads, or a few park areas. In the already realized areas of the 'sea park,' there is a strong increase in green and permeable areas.

Rimini is located in an area with very high levels of urbanization, with strong anthropic pressure unbalanced towards the coast, historically the engine of development of the local economic system. The infrastructure system consisting of the main road network crossing the municipal territory (A14 freeway, SS16 Adriatica and SS9 Emilia) and the railway network of lines converging at the Rimini node (Bologna Ancona and Ravenna-Rimini) have contributed, over time, to the compression of the city's urban development. The tourist strip is compressed by the railway lines. Driveway, bicycle and pedestrian access, from the city to the sea, is not continuous but provided by crossings, underpasses to the railway line. Along the coast runs the driveway, which, with the new Sea Park project, has been partly eliminated in areas already redeveloped.



Figure 5 - Metromare.

Metromare is a new mass transit line. It stems from the need to create an alternative mobility system to relieve traffic congestion, especially in the summer season. It is a trolleybus with electric traction that operates on its own seat, without interfering with urban traffic. In the summer period the public transport service is implemented by the Lilliput tourist train and the Sea Shuttle, an on-demand service.

## 1.5 Sustainable Energy

The Municipality of Rimini has equipped itself with the Sustainable Energy and Climate Action Plan (PAESC). It identifies the territory's critical issues, risks and opportunities in relation to the promotion of Renewable Energy Sources and Energy Efficiency, and allows for increasing the territory's adaptive capacity to climate change.

It is a planning action that should give rise to public, private or mixed capital initiatives in the sectors. The Plan builds an emissions inventory from the year 2010, when the value was 797,576 t CO<sub>2</sub>, or 5.56 t CO<sub>2</sub>/inhab.

Sintesi risultati ottenuti dalle azioni della scheda							
Settore di intervento del PAESC	N.Azioni	Risparmio energetico [MWh]	Nuova produzione di EE da FER [MWh]	Riduzione emissioni [Ton CO2]	Investimenti pubblici [€]	Investimenti privati [€]	Investimenti totali [€]
a. Edifici e attrezzature pubbliche	3	13.497,7	42.837.527,86	2.174,6	21.418.764 €	- €	2.917.000 €
b. Settore Terziario	2	74.801,0	80.588,00	54.006,0	68.269.941,18 €	45.513.294,12 €	113.783.235 €
c. Settore Residenziale	3	134.131,6	38.666,05	49.660,0	198.106.580,00 €	162.758.261,00 €	166.713.261 €
d. Settore Industriale	1	8.510,0	-	3.240,0	- €	- €	- €
e. Settore Agricoltura	1	1.630,0	-	520,0	- €	- €	- €
f. Settore dei trasporti	6	475.983,5	-	130.953,46	- €	823.633.527 €	823.633.527 €
g. Produzione locale di Energia Elettrica	1	271.138,0	269.067,00	98.210	- €	595.050.980 €	595.050.980 €
h. Produzione di energia termica	1	-	10.613,98	2.515,51	0,00 €	8938089	8.938.089,00 €
J. Altro	0	-	-	-	- €	- €	- €
<b>TOT</b>	<b>18</b>	<b>437.416,0</b>	<b>43.236.462,9</b>	<b>341.279,6</b>	<b>287.795.285 €</b>	<b>1.635.894.151 €</b>	<b>1.711.036.092 €</b>

Figure 6 - Summary diagram of the mitigation actions that the municipality intends to implement, grouped into the ten action areas.

In order to achieve the goal of a 55 percent reduction in emissions in 2030, the plan has identified 19 actions that are estimated to lead to a decrease in emissions of -3.06 t CO<sub>2</sub>/inhab by 2030. From the table below, it can be seen that the actions already taken already lead to a CO<sub>2</sub> emission reduction of -0.83 tCO<sub>2</sub>/in hab. Mitigation actions are 15 to 2030 and will contribute to a total CO<sub>2</sub> reduction of 102,849 tCO<sub>2</sub>/year, which corresponds to a 55% reduction from 2010 emissions. The transport sector is the largest contributor to Rimini's emissions.

## 1.6 Digital infrastructure

The municipality of Rimini is increasingly evolving towards an efficient digital infrastructure system, both physical such as cameras, sensors and networks and virtual such as software, mobile applications, websites, digital payment systems and customer relationship applications. The municipality is equipped with Sit, a territorial information system that analyzes georeferenced data, and provides the administration with the necessary cognitive elements for the definition of general and sectoral programmatic choices and for territorial planning and project activity. Examples of this include: physical facilities such as cameras, sensors, and networks. In addition we make use of software such as mobile applications, websites, digital payment systems, and customer relationship applications.

The Municipality is equipped with the Sit, a tool that consists of a spatial information system that analyzes georeferenced data, a useful tool to support local government as it provides the cognitive elements necessary for the definition of general and sectoral programmatic choices and for spatial planning and project activity. Remote sensing, is widely used for the control of heating systems in the municipality of Rimini, to have a monitoring of the energy consumption of buildings.

In addition, the Municipality is following a path toward the digitization of services, simplification and accessibility of information content and services aimed at citizens, according to a vast program of progressive computerization and digitization Digital Public Services-Digital PA- Digital Openness. Among the initiatives: introduction of the Chatbot, a virtual assistant, available H24 / seven days a week, which accompanies and supports the citizen in the search for information related to all services, new portal of the Municipality of Rimini complying with the new design guidelines of the Agency for Digital Italy (AgID).

## 1.7 Societal and economic characteristics

Strong emphasis on tourism as a dominant sector. This tourism-centric economy is highly seasonal, peaking during the summer months when the city's coastline attracts large numbers of visitors. The area's core infrastructure, particularly along the waterfront, is designed to cater to this seasonal demand, with numerous beach resorts, restaurants, and entertainment venues thriving during this period.

However, the surrounding areas of influence also include a range of services and facilities that play a complementary role in sustaining the tourism supply chain. These services are predominantly concentrated in the hospitality sector, with a significant number of hotels and accommodations catering to both short-term visitors and extended stays.

Many of these establishments focus on summer tourism but have started diversifying their offerings to remain operational throughout the year.

At the same time, the presence of year-round facilities and activities highlights the area's growing effort to reduce dependency on seasonal tourism. These include wellness centers, cultural spaces, and local businesses aimed at serving both residents and off-season visitors. This diversification not only supports the local economy but also aligns with broader strategies to enhance the area's resilience and attractiveness beyond the summer months.

By integrating sustainable and multi-seasonal activities into the economic landscape, the pilot areas are working toward creating a balanced socio-economic ecosystem that benefits both the local community and tourists, contributing to long-term urban and economic vitality.

## 2. Regulatory Guidelines

Regulatory frameworks for urban transformation encompass the laws, policies, and guidelines that govern how cities evolve and adapt to changing social, economic, and environmental conditions. These frameworks are designed to ensure that urban development aligns with broader societal goals, such as sustainability, equity, and economic vitality. Key components often include: the zoning laws and urban land use, building codes, environmental regulations, and cultural heritage protection. In the waterfront of Rimini during the transformation process we noticed further challenges related to these topics, especially the environmental ones, as we did interventions in nature commons.

### 2.1 Introduction

By urban planning instruments we mean the set of acts that have the aim of protecting the territory and regulating its use and transformations. These tools cannot be in conflict with national laws and are approved in compliance with the rules that govern them.

The Municipality approved the Municipal Structural Plan (PSC) and the Urban Building Regulations (RUE) in 2016, they are only two of the three instruments provided for by the regional urban planning law L.R.20/2000 which should have been completed with the Municipal Operational Plan (POC).

### 2.2 Policy and Regulatory Framework

The new Regional Urban Planning Law n. 24 of the 21 of December 2017 "Regional regulations on the protection and use of the territory" came into force. The new regional urban planning law obliges the Municipalities to start the process of forming the General Urban Plan (PUG) by 01/01/2021 which will replace the urban planning tools provided for by LR 20/2000 (PSC-RUE-POC).

With the entry into force of the new regional urban planning law of the 21 of December 2017 n. 24, article 72 modified article 3 of Regional Law 31/05/2002 n. 9 regarding maritime state property, regulating the procedure for the approval of the Beaches Plans. The Beach Plan, with the new legislation, therefore takes on the role of a general urban plan (PUG) and is no longer detailed as in the previous legislation which configured it as a "detailed plan". The Municipal Administration took on the proposal for the new Beach Plan with the Resolution of the Municipal Council n. 465 of 12/12/2023.

## 2.3 Adapted policies

In July 2024, section number 6 of the 'Parco del mare' was inaugurated and opened to the public. As of summer 2024, therefore, 6 out of a total of 8 sections are completed. The action is more than 50 per cent started and completed. The 'Parco del mare' plays a crucial role in reducing the impact of climate change, while at the same time mitigating the intense tourist impact on the character and urban quality of the area. In all sections, the promenade has been transformed, eliminating concrete and making room for sustainable materials, green areas and spaces for relaxation, play and sport. The wooden pedestrian promenade is located close to the seashore and is, moreover, separated from the parallel two-way cycle path, which runs along the entire seafront. The total of 6 km of the 'Parco del Mare' will connect the Lungomare Nord - Rimini Centro and the Lungomare Sud - Rimini Miramare.

In addition, the Centre de Cultura Contemporània de Barcelona, CCCB, has included the Parco del mare among the finalist projects of the European Urban Public Space Award 2024, a biennial competition that identifies the best interventions in the creation, transformation and recovery of public spaces in European cities. The Municipality is focusing on increasingly widespread dissemination actions to support the growth of citizens' awareness of the ecological transition, starting with the very young age.

The CEAS of the Municipality of Rimini, is a sustainability education centre, supporting the sustainability education system in Emilia-Romagna, aimed at implementing educational activities and paths for schools, families, citizens and local communities. It is an open reality, which connects the educating networks active on the territory for the design and implementation of educational paths and programmes for schools and citizens (projects on correct lifestyles, environmental sustainability and energy saving, thematic paths in factories, educational visits in decentralised classrooms: parks, museums, sustainable vegetable gardens, etc.) methodological support, didactic assistance to teachers and schools, training and refresher courses;

The development of communication projects and/or information to citizens, seminars, awareness-raising campaigns on sustainable lifestyles, conferences and public events.

On the theme of prevention and health, it deals with education on correct lifestyles and environmental protection, the use of organic food and in the preparation of school menus, environmental and affective education of children.





Figure 7 - School in Nature.

School in Nature involves the implementation of various actions with the aim of creating a non-episodic contact with nature during the early childhood period, radically rethinking the classic relationship between 'inside' and 'outside'.

The activities include training and experimentation meetings dedicated to pre-school and primary school teachers and information meetings in the area with families and experts on the opportunities offered by outdoor spaces (gardens, courtyards, squares, parks) and the organisation of weekends with families. Documentation and educational research is carried out in collaboration with the University of Bologna.



Figure 8 - SBAM! Bioclimatic School of Adaptation and Mitigation.

The Municipality of Rimini has joined, within the framework of the MITE call for proposals 'Experimental programme of interventions for adaptation to climate change in urban areas', the training course SBAM! Bioclimatic School of Adaptation and Mitigation organised by ANCI Emilia-Romagna with the technical support of AESS.

The course dealt with the topics with an operational and participatory approach, based on the

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analysis of real case studies, ongoing experiments and regional, national and international good practices, on site visits and guided tours, and on a series of workshop activities simulating NbS designs; where possible, the participants themselves were invited to propose real case studies as the object of analysis. The Parco del mare was among them.

Specifically, the training course investigated the theme of the design and urban regeneration of public spaces for climate change, illustrating strategies and pilot actions to increase their quality and social function, rethinking the use of greenery, rainwater management, the use of permeable materials and the integration of infrastructures for soft mobility.

The initiative involved around 20 technicians from the public works, green management, environment, urban planning, energy and mobility sectors who deal with the management of municipal public assets daily.

Moreover, the Municipality of Rimini, in 2024, joined the training course 'TECLA, Ecological Transition for Climate and Adaptation, promoted by AESS and financed by the European Funds of the Emilia-Romagna Region PR ERDF 2021-2027. The course, which was offered free of charge, aimed to strengthen the administrative capacity and skills of the employees of the local authorities that took part in it on the topics of energy and ecological transition, which were addressed in seven meetings held between March and May 2024, in face-to-face lecture mode, also transmitted via online streaming.

## 3. Development of the pilot regeneration project

The development of the pilot areas in Parco del Mare and San Giuliano represents a pivotal step in Rimini's urban transformation. In San Giuliano, the focus is on reconnecting the waterfront with the city, creating inclusive public spaces, and preserving cultural and natural assets. Meanwhile, Parco del Mare reimagines the seafront as a hub for wellness, green mobility, and sustainable tourism. Both pilots aim to enhance environmental quality, foster year-round activities, and set a benchmark for resilient and inclusive coastal development.

### 3.1 Urban planning and design approaches

Rimini's regeneration efforts are advancing through two key complementary actions:

1. **Completion of the "Blue Boulevard":** This involves the redevelopment of the canal and river port along both banks, extending to the Ponte della Resistenza bridge. It includes regenerating the slipway area and shipyards on the left side, improving fishing harbor infrastructure to enhance safety, working conditions, and environmental protection.
2. **Development of the San Giuliano Mare Sea Park:** As the final section of the *Parco del Mare* yet to be addressed, this project will integrate climate adaptation measures, such as protection against marine intrusion, and the creation of green infrastructure with a focus on accessibility, quality, and sustainability.

These initiatives align with Rimini's Strategic Plan, which prioritizes urban regeneration, connecting the redevelopment of the city's coastal and historic areas. San Giuliano has also been designated as a pilot area for the *Re-Value* project under Horizon Europe, serving as a testing ground for innovative approaches in climate adaptation, urban green planning, and community engagement.

The San Giuliano area will exemplify the city's new Green Plan, aimed at increasing ecosystem benefits, expanding urban greenery, and fostering long-term sustainability. Through an integrated and community-driven approach, these projects will cultivate a new relationship with nature, emphasizing education for younger generations and aligning with the principles of the New European Bauhaus and climate change adaptation policies.

### 3.2. Interventions in waterfront pilots

The pilot projects in San Giuliano and Parco del Mare embody Rimini's commitment to sustainable urban transformation. Both initiatives prioritize *soft mobility*, enhancing connectivity, and fostering *renewable energy communities* to drive climate neutrality. Additionally, the *Parco del Mare* pilot emphasizes the integration of arts and culture, creating a vibrant, dynamic waterfront that harmonizes environmental sustainability with creative and social engagement. These efforts aim to redefine Rimini's urban spaces as inclusive, innovative, and resilient hubs.

## 3.2.1 San Giuliano Project: the main pillars

### Soft Mobility

One of the objectives of the Municipality of Rimini, described within the PUMS, is to guarantee easy accessibility for all types of users in all parts of the city and in San Giuliano; for example: by improving public transportation (called Shuttlemare) and cycling paths, by building the new section of the Metromare from the railway station northward to the fairgrounds and with interventions for reducing speed on the driveways.

San Giuliano Mare is an area of the city which, situated between the old Port canal and the diversion of the Marecchia River, has naturally separated itself from the rest of the city. From a mobility point of view, supported by feedback from residents, it follows that local public transport should be improved and it would be necessary to provide a connection with the Rivabella district.

The Municipality, in collaboration with Start Romagna, launched an on-call service called Shuttlemare in 2021. Using the completely free service is very simple; the user can book, with a dedicated application, a shuttle. The pickup takes place from existing bus stops or from select car parks. In this way the user does not waste time searching for parking spaces on the seafront, which, given the recent regeneration works, are increasingly lacking. Given the success achieved in past years, for the summer 2024 the service has also been extended to the San Giuliano Mare area, encouraging more visitation and enabling better economic recovery for the activities present. The planned and foreseen interventions for this area, such as the regeneration of the seafront and the “Adriatic Cycle Route” will allow easy access even by bicycle. The “Adriatic Cycle Route” is a long-distance cycle-path of national importance that connects Trieste to Santa Maria di Leuca and the Rimini section of the route is entirely developed. The cycle path offers an opportunity to further develop bicycle infrastructure in a predominantly flat city where all parts of the city can be reached in a short time. Cycle tourism also represents an opportunity to promote climate-friendly travel, to support local economic development and, above all, to reduce the influx of cars, especially in the summer when an estimated 450.000 visitors arrive to enjoy the city’s holiday offers.

### Metromare (TRC) extension and connections

The TRC (or Metromare) is an electric bus rapid transit line that opened in 2019 and has since helped reduce the use of private vehicles to reach the beaches, especially in the summer period. The Metromare connects Rimini to Riccione and serves as the strategic foundation of a new mobility system for the region. By 2026 the METROMARE line will be extended to the North of Rimini, connecting the central train station to the Exhibition Centre, passing through dense areas of the city, including San Giuliano Mare. The target is to have 15 kilometres of Bus Rapid Transit Full Electric.



Figure 9 - The new section of the Metromare line from the railway station northward to the fairground. In the red rectangular the San Giuliano Pilot boundary.

## Mobility strategies and goals

The Municipality of Rimini goal is to give citizens and users of the city (tourists, students, commuters, etc.) a welcoming, functional, vital city, where everyone can move safely, easily and quickly, where the quality of life is better both in social and environmental terms and in urban spaces, where territorial competitiveness and its economy are also improved through transport. In 2018, the SUMP was adopted which deals with mobility systems and takes into account collective transport modes as well as cycle -pedestrian mobility. The PUMS is a long-term strategic document that intends to guide and plan choices on the topic of mobility, placing people and not individual traffic components at the center of the policies to be adopted.

The strategic actions of the SUMP are part of a planning framework that includes not only the development of sustainable mobility, but also involves environmental and urban quality, social and economic relations that must interact harmoniously with the Plan; within the urban mobility system, space will also be given to solutions for more sustainable urban logistics as well as the development of communication, training and promotion actions of healthier lifestyles that are attentive to environmental conditions.

The planned interventions are part of an integrated mobility system which must guarantee better urban accessibility and a road system capable of rebalancing the relationship between public transport and the use of private cars. The Administration's goal is to create "active cities" where we can move more quickly to improve the quality of life and health of citizens. This objective must be achieved through the development of different modes of transport, encouraging the use of the most sustainable ones, thus also reaping the results of reducing air pollution and improving the quality and liveability of urban areas, which today are in fact held hostage by ', so to be clear about the

absolutely pre-eminent presence of the car.

We are working for a road system that has the objective of improving and making road traffic more fluid by rebalancing the relationship between travel by private car and other means of transport, also achieving the result of a lower rate of air pollution and better liveability of the urban centers areas today very often sacrificed by the occupation of urban space by cars. The SUMP therefore intends to define mobility policies, placing people and their needs at the centre, with the aim of improving the quality of life and improving the liveability of the city.

Through the SUMP it is possible to outline the following synthetic objectives, which can be summarized as follows:

- **guarantee high accessibility** to the city, with particular reference to key services, through the optimization of the offer and the integration of the various public and/or private transport systems, and services related to parking;
- **reduce dependence on private vehicles**, in favor of lower impact modes of transport, in particular by encouraging bicycle travel, with the creation of cycle paths, bicycle storage and rental services and the promotion of safe home-school routes -Work;
- **increase pedestrian and cycle travel**, both for work and leisure reasons, for distances of up to 5 km, improving not only the environment, but also the health and personal well-being of citizens;
- **increase the attractiveness and effectiveness of the Local Public Transport**, also through the increase in preferential lanes and the improvement of traffic flows and commercial speed, as well as the redevelopment of stops to promote accessibility and the overcoming of architectural barriers;
- **promote intermodality**, starting from the integration between rail transport and LPT, developing other forms of sustainable mobility already in use (including the transport of bicycles by train), but to be strengthened such as bike sharing, including new generation, car sharing, car pooling, etc.;
- **improve the efficiency and cost-effectiveness of transport and urban logistics of goods**, promoting environmentally sustainable delivery systems, also in relation to the redevelopment of particular areas of the city, as envisaged by the Masterplan of the Strategic Plan and the objectives of the Municipal Department;
- **promote and encourage the renewal of the private vehicle fleet**, facilitating the access of vehicles with low environmental impact in the areas of the Limited Traffic Zone and in compliance with parking policies, also in relation to the application of limitations on the movement of private vehicles, as defined in the 2020 Regional Integrated Air Plan, for the mobility and transport sector;
- **reduce air and noise pollution**, greenhouse gas emissions and energy consumption, also in relation to the actions envisaged by the PAES of the Municipality of Rimini;
- **develop infomobility systems and intelligent transport systems(ITS)**, as they can contribute to the formulation of strategies, the implementation of policies and the monitoring of each of the measures developed within a sustainable mobility plan, also with reference to Stimer (integrated pricing) and the Informed Mobility Management

project;

- **use big data and the open data system** to study and plan mobility flows, both systematic and erratic;
- **create** a participatory and collaborative context with all potential stakeholders;
- **define a specific budget for the interventions** that takes into account the costs of the different mobility systems, public and private, and the actions that are intended to be carried out. 72% of the total modal trips in Rimini are carried out with private motor vehicles to cover distances which in most cases do not exceed 4/5 km. The same distances can be covered by an able-bodied person in 15/20 minutes by bicycle without considering that, often, more time is spent in the car during rush hours due to traffic and congestion than by bicycle.

The Bicipolitana was born on the basis of best practices at national and European level: a strategic network of cycle-pedestrian and cycle-pedestrian routes in an urban area with the aim of mending the current existing routes, connecting the main meeting places of the city with the centre, the sea and the different neighborhoods and improve the safety of users in systematic travel from home to school and home to work. The routes that are part of the Bicipolitana serve the travel needs of citizens and allow connections with the hinterland and long-distance cycle routes. In consideration of all these aspects Rimini has become a city at human scale. Rimini's transformation into a green city started some time ago, so much that the slogan «Rimini is Green» is often uttered by people aware of the city's recent history characterised by regeneration of urban areas and green development to create an environment-friendly city.

Rimini is greener than ever with many outdoor sports facilities, an increased number of cycle paths and ecological transportation system. Rimini has chosen an eco-friendly way to redesign its image, together with art and culture. The city is now more and more wellness-minded, lively and inclusive. One of the most important strategies of SUMP is to create a continuous network of cycle lanes named "Bicipolitana". Rimini's Bicipolitana is a network of bicycle routes that stretches about 130 km between the sea, the city and the countryside.

The strategic network is made up of 8 lines that cross the city and 1 ring lane. Each line allows to reach strategic points of the city, generally used for commuting from home to work. These networks are very important for changing citizen's habits and to improve the use of sustainable means, such as bikes. Since 2011 Rimini, cycle lines have been developing till 50km, and other lane yards sites are underway.

Nearby the development of the "support" cycle network in the municipal area, there are other interventions to be carried out in the infrastructure programme. As in many other European countries, the design of cycle paths is accompanied by the creation of "Zone 30". A "Zone 30" is an area of the urban road network where the speed limit is 30 kilometers per hour instead of the usual 50 established by the highway code in urban areas. The lower speed allows for better coexistence between the different categories of traffic, cars, bicycles and pedestrians. The projects for the creation of Zone 30 include interventions that favor pedestrians and cyclists such as the reduction of space for car circulation in favor of those reserved for cycle paths and pedestrian paths, and the creation of areas used for social purposes.

The main critical issue to be resolved for private mobility is represented by the fact that Rimini is a fractured city: the seaside area does not communicate with the rest of the urban body and with the places of the city's historical identity as the railway line acts as a separator physical nature of the territory. The strategies for private mobility aim to reconsolidate the territory, limiting crossing traffic and discouraging the non-essential use of the car, enhancing the valuable and tourist areas of the city and aiming to improve air quality and road safety.

## **Renewable energy communities (CER)**

The Municipality of Rimini has been awarded the call PR - ERDF 2021/2027 - Actions 2.2.3. Call for proposals to support the development of renewable energy sources for an amount of 50,000.00 Euro thanks to which it will be possible to start up the establishment of the CER and carry out a feasibility study of the photovoltaic plants that the CER will use.

The plants will be placed on municipal buildings and in particular in the hamlet of Spadarolo on residential buildings under ACER agreement and school buildings in Via Mirandola (Nursery, Kindergarten and Primary School) and in the hamlet of Viserba on residential buildings under ACER agreement.

In addition to the environmental benefits that the emergence of CERs can bring with the increased production of energy from renewable sources, it is expected that the Communities can generate benefits from an economic and social point of view, especially through the involvement of economically disadvantaged people, in order to combat energy poverty. More specifically, one photovoltaic system will be installed on the roof of the 'Madre Teresa di Calcutta' Primary School in Via Sforza, which is a public school in San Giuliano mare close to the Pilot area.

Through these communities the aim of the Municipality is to democratise access to energy, allowing everyone, without 'material' discrimination, to actively participate in the energy transition. They are the basis of a model of social cohesion and collective responsibility towards our planet, highlighting how the joint action of public, private and citizens can generate positive local and global impacts. It is a perspective that lays the foundations for a future in which clean energy, innovation and inclusion go hand in hand, leading our city towards a horizon of sustainable growth and collective wellbeing".





Figure 10 - Presentation of the project September 2024.

## **Desealing, softscaping and heat island mitigation**

The project is part of the ATUSS-Agenda Transformative Urban Sustainable Development Strategy of Rimini, called “Rimini, by green and blue. A city of the sea for the green and blue economy.” as a strategic intervention related to and aimed at the completion of the redevelopment project “Park of the Sea of San Giuliano.”

It provides for interventions that will be implemented with specific arrangements aimed at climate adaptation, particularly against marine ingress and experiments that will be conducted on green areas to pursue mitigation strategies, to enable the great urban green and blue physical infrastructure of the Parco del mare, to fully achieve the dimension of environmental and economic sustainability, giving an articulated and sustainable response to the needs of nature, well-being, space and social cohesion.

### **Actions taken by the Municipality concern:**

1. Mitigating the effects of marine ingression:  
creating a dune system, on which an elevated bicycle and pedestrian path will be established, integrated into the new green system.
2. The predominant material used for pedestrian paths and collective spaces will be the wood “Massarandouba,” having a thickness of 38 mm. fixed, by means of a substructure in laths of the same wood having a double warp thickness of mm. 40. The outdoor hardwood planks (massaranduba) will be mounted planed, with exposed non-slip knurled side.
3. This wood comes from protected forests (FSC) located in South America and meets the parameters of the circular economy. FSC certification ensures social and economic environmental benefits. There are no local woods that can guarantee the durability and

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mechanical strength of Massarandouba.

4. Use of drainage cement, necessary to regularise the laying surface while maintaining the permeability of the soil.
5. Increase in tree/arbustive species: resistant to salt spray, exposure to cold winds.
6. New cycle and pedestrian pathways.
7. New access to the area.
8. Greenery and biodiversity are increasing.



Figure 11 - San Giuliano Pilot area, layout of new pedestrian pathways.



Figure 12 - San Giuliano Pilot area, view of the new pedestrian pathways.



Figure 13 - San Giuliano Pilot area, view of the new pedestrian pathways.

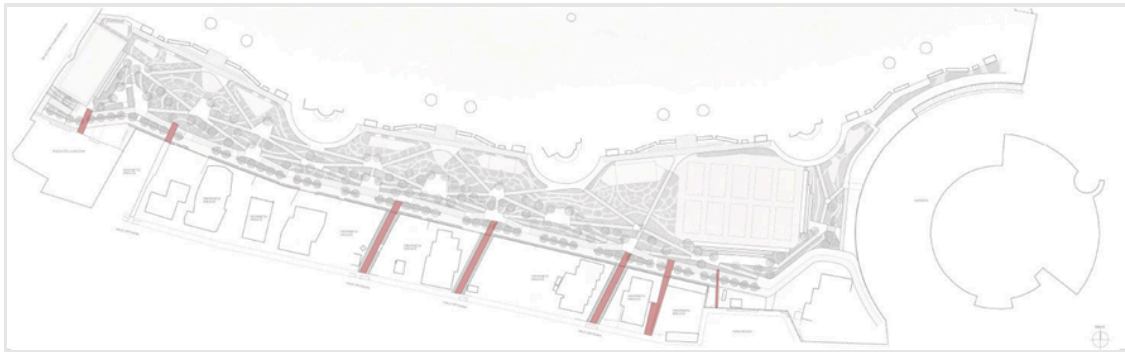


Figure 14 - San Giuliano Pilot area, layout of new access.



Figure 15 - San Giuliano Pilot area, views of new access to the beach, new functions.

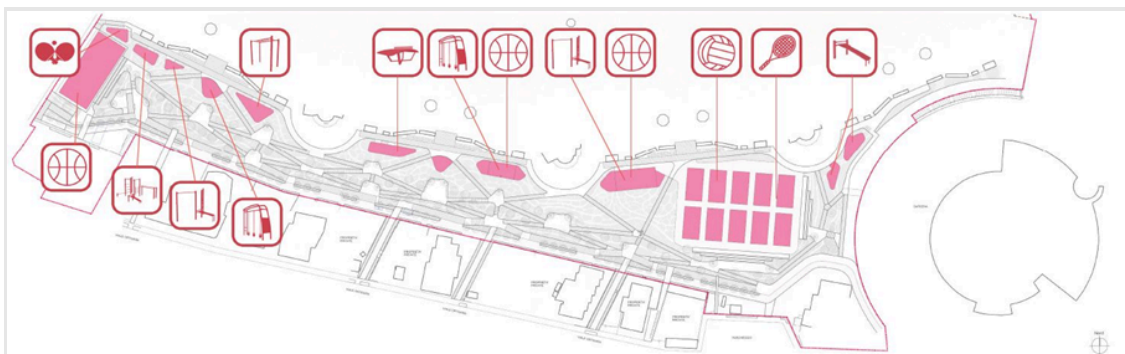


Figure 16 - San Giuliano Pilot area, scheme of the new functions.

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Figure 17 - San Giuliano Pilot area, view of the new functions (outdoor gym, playground).



Figure 18 - San Giuliano Pilot area, layout of the green areas.



Figure 19 - San Giuliano Pilot area, view of the green areas.

This new green infrastructure will increase the existing quantity of trees and shrubs resistant to the saline environment (salty winds and salty fog). These solutions will be effective for pollution reduction (CO2 emission) and environmental safety (marine ingress / shoreline stabilisation, microclimate, nature-based solutions). IoT solutions will also be implemented, using sensors and remote sensing data with physical quantities (temperature, humidity, climate and soil parameters) and data pertaining to the vegetative state of plants (changes in diameter, leaf area, stability,

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monitoring of tree health using satellite data). This technology will cross-reference hourly weather data collected by UBIMET such as temperature, wind (m/s), rainfall (mm), snow, humidity, sunlight with the water requirements of the tree species, evapotranspiration and through a special algorithm determine a geo-referenced alarm that induces watering. Plantings will be done by planting native and low-water-demanding shrub species to ensure greater weather resistance and significant water savings.

Regarding the San Giuliano Pilot area, we have prepared studies related to wave movement and the extent of concentration of silt/clay material. These pictures show the erosive effect of sea movement on the coast north of the San Giuliano Pilot area. In order to address this problem, the mitigation action includes the creation of dunes for the protection of the coast from marine ingressions.

This solution will also restore to the places their original naturalistic vocation.

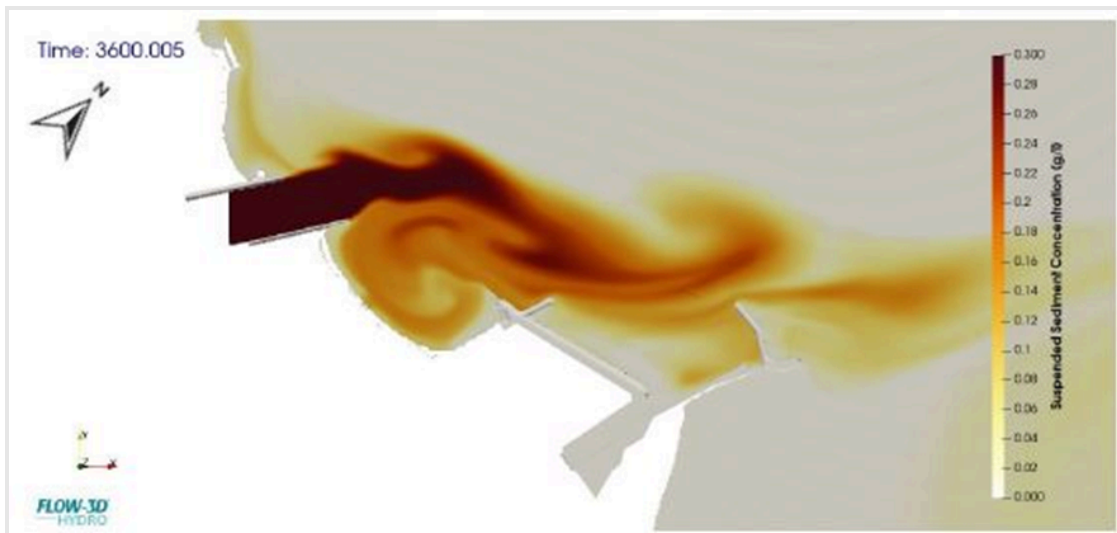


Figure 20 - Before actions.

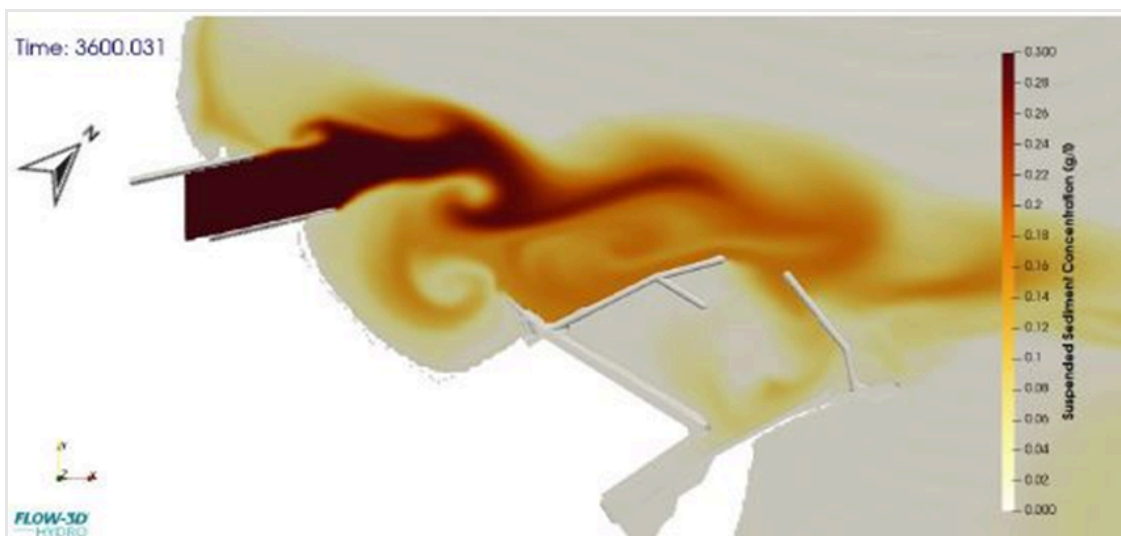


Figure 21 - After actions.

There was a desire to include a phytoremediation system for stormwater, but it could not be included due to a lack of space, as the catch basins have specific dimensions that are too large for the area.

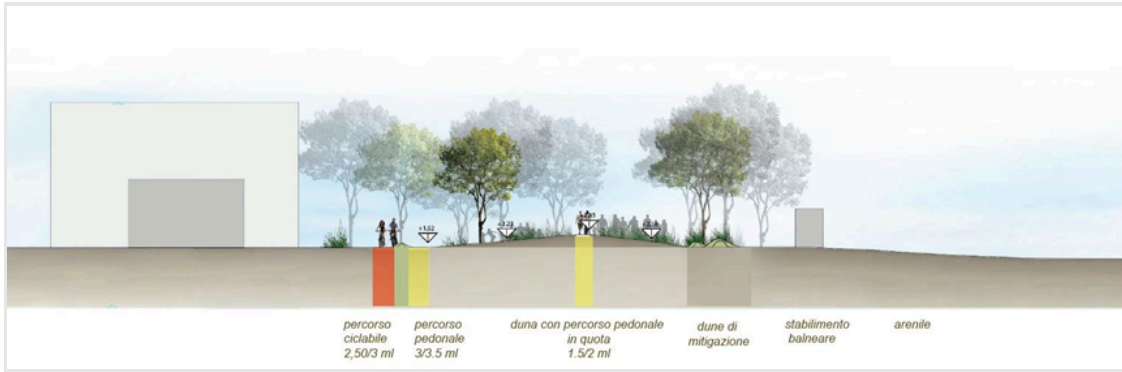


Figure 22 - San Giuliano Pilot area, cross section.



Figure 23 - San Giuliano Pilot area, view of the new dunes system.

### 3.2.2 Parco del mare Project

Rimini is greener than ever with many outdoor sports facilities, an increased number of cycle paths and ecological transportation system. Rimini has chosen an eco-friendly way to redesign its image, together with art and culture.

The city is now more and more wellness-minded, lively and inclusive. To guarantee the continuity of the interventions already partially carried out to regenerate the southern seafront, it will also be planned for these sections to move vehicular traffic away from the seafront.

This too will become a vehicular traffic area in which access will only be permitted to authorised

persons and will be regulated with the use of surveillance cameras. In this way the objective is to guarantee the cycle and pedestrian use of the area, allowing citizens and tourists to experience the seafront and a large park within which it is possible to move in total freedom, safety and breathing clean air.

As anticipated also for the pilot action in San Giuliano Mare, the Adriatic Cycle Route extends along the entire Rimini seafront and in this case represents an excellent development opportunity for cycle tourism.

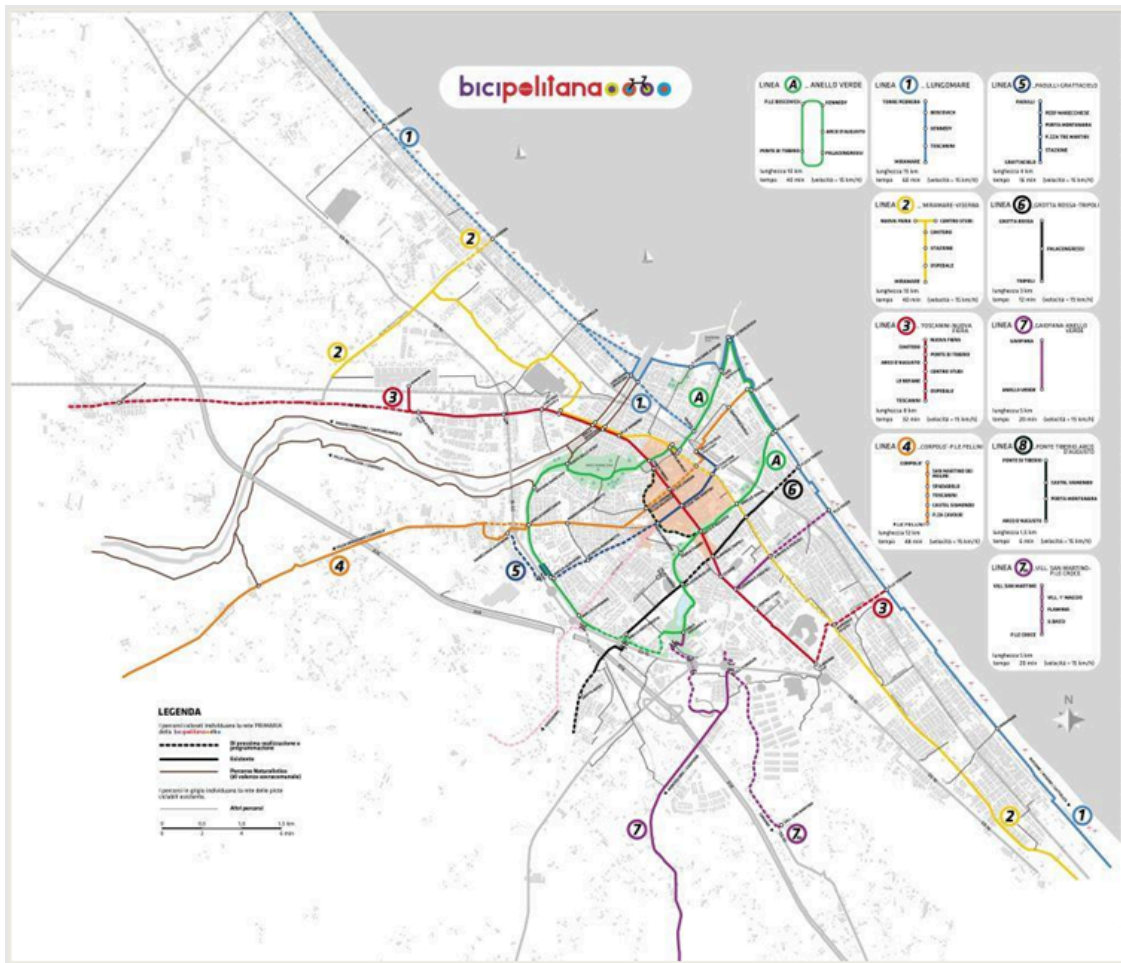


Figure 24 - "Bicipolitana" map.

One of the most important strategies of SUMP is to create a continuous network of cycle lanes. Rimini's Bicipolitana is a network of bicycle routes that stretches about 130 km between the sea, the city and the countryside. The strategic network is made up of 8 routes that cross the city and 1 ring lane. Each line allows to reach strategic points of the city, generally used for commuting from home to work.

This network is very important for changing citizen's habits and to improve the use of sustainable means, such as bikes. Since 2011 Rimini, cycle lines have been developing till 50km, and other lane yards sites are underway.

## Interchange car parks-Shuttle mare -TRC and connections

The transformation of Rimini's waterfront from the Parco del Mare project, combined with the introduction of the Shuttlemare on-call service (described in chapter 02.1.1) and the realisation of the TRC (or Metromare), have contributed in recent years to a reduction in use of private vehicles to reach the beaches, especially in summer period. Besides bikes, in Rimini you must find eco-mobility possibilities in local public transport.

In Rimini people move around more and more in a smart, fast and economical way. The Metromare is a sustainable, fast, reliable, ecological, safe, technological and silent mobility system to connect places, people and ideas. It's the new public transport system that connects Rimini to Riccione, a strategic project that will help to redesign the mobility of the entire area. In 23 minutes from Rimini to Riccione you can get on and off at 15 intermediate stations. From November 2022 on all START vehicles (public transportation) it is possible to bring folding bikes and scooters on board, free of charge, while in September 2023 the experimentation of bike transportation has started, on the Metromare only.



Figure 25 - Metromare line map.

## Desealing, softscaping and heat island mitigation

Consistent with the Municipality's objectives, the Parco del mare intervention almost completely replaces the asphalted parts with green or permeable surfaces. Like the existing constructed sections of the Parco del Mare, the seafront promenade in the Pilot is characterised by a wooden deck has a sub-base made of draining concrete on whose composition laboratory tests were carried out to ensure that its characteristics would guarantee the maintenance of the permeability coefficient even in the presence of fine sand, typical of the Romagna sandy shore.



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Figure 26 - The waterfront driveway (Lungomare Tintori) before the Parco Mare interventions.



Figure 27 - The deck instead of driveway after the Parco del mare interventions.

In relation to the objectives of the Parco del mare the realised ornamental fountains improve the comfort and microclimate of the Promenade by helping to reduce heat island effects and at the same time create an opportunity for families.

## **Greenery and Biodiversity increasing**

The choice of vegetation is dictated by the consideration of the role that certain species plays in shaping the collective memory of a place, constituting its identity value, and by the need for environmental adaptation of the species themselves. Since the intervention is located a few metres from the beach in an area exposed to winds rich in marine aerosols, native coastal vegetation was

planted, capable of spreading spontaneously in these places if left to the natural course of events. In particular, the main arboreal species are *Pinus halepensis* - ALEPPO PINE, *Pinus pinaster* - SEA PINE, and the third largest: *Elaeagnus angustifolia* - BOEMIA OLIVE, *Tamarix gallica* - TAMERICE. The main shrub species include: *Teucrium fruticans*, *Rosmarinus officinalis*, *Polygala myrtifolia*, *Phillyrea angustifolia*, *Myrtus communis*, *Lavandula spica*, *Mesembryanthemum spectabilis*.

In terms of greenery, the criteria that inspired the project were:

- increase in the number of tree species on the promenade by differentiating the species that until now were represented by *Tamarix*;
- Increase in the number of shrub species used both in the flowerbeds and along the dunes.
- Choice of tree and shrub species made considering all climatic-environmental issues and considering the aesthetic characteristics and landscape value of each individual species and variety.
- Creation of the flowerbeds with particular care for the composition and quality of the substrates.
- Creation of new green areas considering future maintenance requirements with a view to containing management costs.
- Creation of spaces with a modern conception both in terms of design and in terms of the choice of essences.
- Adherence to the Design Guidelines for all areas of the Promenade, particularly about the use of pine, tamarisk and olive trees.
- increase in the number of trees on the promenade by differentiating the species that until now were represented by the *Tamarix*;
- Increase in the number of shrub species used in the flowerbeds.
- Compliance with the CAM (minimum environmental criteria) in accordance with Ministerial Decree No. 63 of 10 March 2020, especially regarding the supply of green management products
- Choice of tree and shrub species made considering all climatic and environmental issues related to the site.
- Selection of shrub plants considering the aesthetic characteristics and landscape value of each individual species and variety.
- Creation of the various flowerbeds in such a way as to create the best conditions for the life and future development of the plants, paying particular attention to the composition and quality of the substrates.
- Creation of the new green layouts considering future maintenance requirements and adopting all measures to keep management costs down.
- Creation of flowerbeds equipped with an automatic irrigation system.

The objective that has been pursued, also through the vegetated park areas, is to reconnect the tree-lined inner promenade with the area facing the beach. This strategy increases environmental continuity and interconnection through the environmental and ecological value of the system. In this perspective, the Parco del mare becomes an environmental hinge on a territorial scale.

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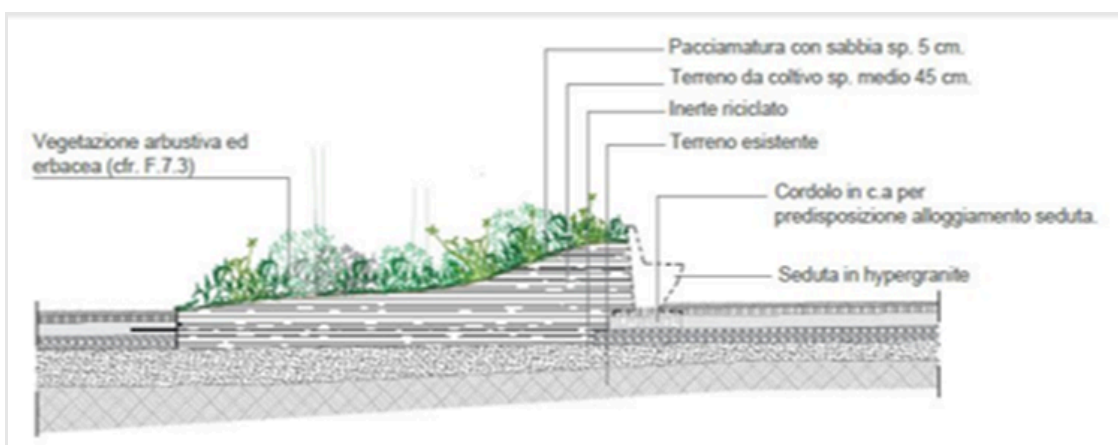
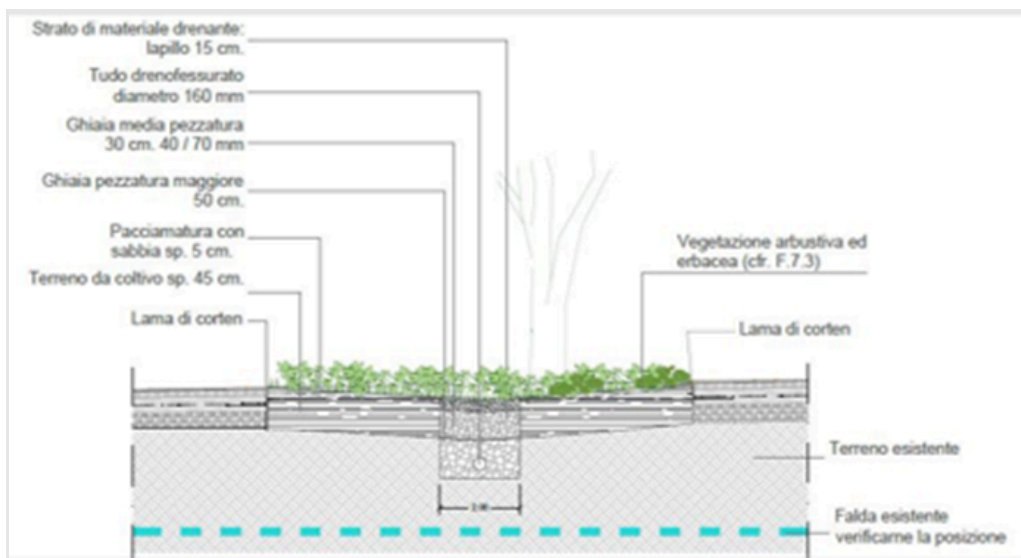
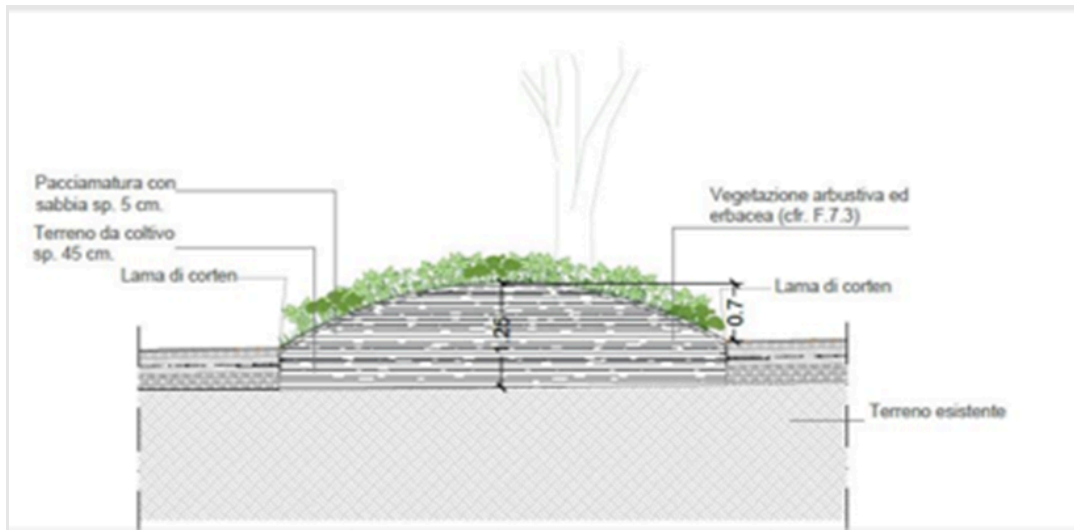


Figure 28 - Three types of customized supplies and flowerbeds.

## Coastal management

The Municipality commissioned a hydraulic study on the entire Seaside Park (Lungomare sud), on the basis of which the local authority decided to build the new promenade along Lungomare Tintori raised from the average sea level by about 285 cm, i.e. about 80 centimetres higher than before the work, in order to mitigate the effects of sea ingression. The Massarandouba wood plank paved promenade was therefore built in compliance with this new elevation, with a straight edge coinciding with the state boundary and an irregular sinusoidal edge towards the city.



Figure 29 - Scenario at 2050 which represents the reduction of the city areas affected by the risk of flooding due to the elevation of the new waterfront created by the Parco del mare intervention.

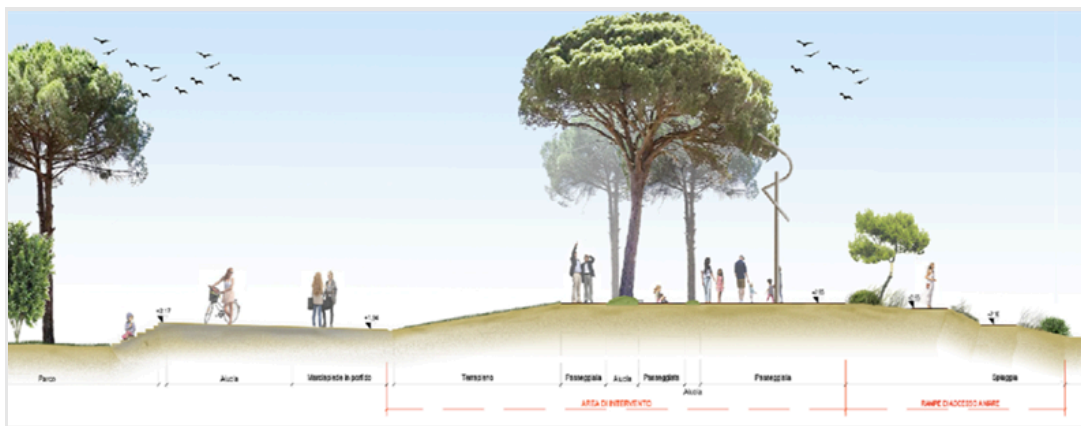


Figure 30 - Cross section highlighting the raised elevation of the promenade (deck) in relation to the results of the marine ingression study.

The raised level of the wooden pedestrian promenade was connected to that of the sandy shore with the construction of a new dune cordon along the entire waterfront, parallel to the sea for a depth of approximately 6 metres, planted with heliophilous shrubs (amophyllous and scabious shrubs), in particular grasses and with tree specimens such as Tamerici (*Tamarix gallica* and *africana*).

The dunes, in addition to being one of the main elements for joining all the sections of the promenade, also respond to the need to decrease the differences in elevation between the sandy shore and the promenade, thus managing, almost imperceptibly, to eliminate the impact of a vertical barrier (parapet) that would eliminate the continuity between the city, the promenade areas, the sandy shore and the sea.

The dunes begin in strip A of the sandy shore, gently connecting the beach level to that of the promenade, which is at a higher elevation. In this area, through low shrub vegetation, the dunes consolidate, becoming an element of fundamental importance for the waterfront vegetation. In fact, the dunes play the role of protection from the sea aerosol and allow the growth of taller tree vegetation in the green areas along the promenade. The Massarandouba wood plank promenade is fixed on a grid of regularly spaced wooden morals fixed on a draining concrete screed necessary to regularise the laying surface while maintaining the permeability of the soil.



Figure 31 - View from the beach of the dunes connecting the promenade (deck) level with the sand. Dunes accompany the horizontal view of the sea from the deck and expand the public space on the sand.

## Water management/PSBO strategies and Piazzale Toscanini project

The Optimised Bathing Safeguard Plan is an ambitious project that will allow Rimini to be the first coastal city to definitively solve the problem of discharges into the sea thanks to a series of strategic sewage reclamation interventions throughout the territory. The programme, launched in 2011, received a further boost in 2019 with the aim of providing answers not only in terms of bathing protection, but also on the hydraulic safety front.

The PSBO initially envisaged 11 environmental remediation interventions for a total of investments, to which were added in 2019 the Ausa Dorsale project, the revision of the interventions on the Rodella, Colonnella I and Colonnella II ditches, as well as works carried out by the Administration such as the construction of the lifting plant in Via Santa Chiara and the Mavone spillway.

In detail, the Plan provides for the optimisation of the networks of the South Ditch basins, with hydraulic strengthening and rationalisation works that will lead to the reduction of overflowed volumes by approximately 95%, and structural works will be carried out on the Rodella Ditch and on the Colonnella I and II Ditches, in both cases increasing the capacity of the water drainage system in order to make the most of the hydraulic capacity of the collector and allow a reduction of the volume of the lamination. The proposal will allow a significant increase in the resilience of the system, making it possible to cope in terms of hydraulic safety even with extreme events characterised by large-scale return times (50 years and more) even for the minor reticulum of the Colonnella II and Rodella Ditches. These works are to be integrated with the interventions already carried out to improve hydraulic safety: the Via Zavagli water drainage system (2016), the former Ausa torrent lamination basin (2019), the conversion of the former Marecchiese purification plant into a lamination area (2020), the Mavone spillway (2019) and the Via Santa Chiara lifting plant (nearing completion).

From 2011 to 2020, thanks to the separation interventions on the northern basins, we have witnessed an 80% decrease in bathing bans and, no less important, a reduction in openings in the face of similar amounts of rainfall. Today, in addition to concluding the process of enhancing the sea resource, we are investing in hydraulic safety to protect the entire territory.



Figure 32 - View of the design of a new “Belvedere” planned for Toscanini Square within the Parco del mare Pilot area above the water transformation tank (i.g. Piazza Kennedy Belvedere).

## Wellness valley strategies/New lifestyle



Figure 33 - Outdoor gym at Parco del mare (Lungomare Tintori).

The Parco del Mare strategic project envisages the development of sustainable tourism, integrated with soft mobility and intermodality, as a prospect of socio-economic growth, a better quality of life and the enhancement of space with particular reference to outdoor sports activities. The Municipality of Rimini leader of the Strategic Project has identified the collaboration with the Department of Sciences for the Quality of Life of the University of Bologna Rimini Campus and Uni.Rimini Spa, in general for an integrated management integrated assessment, administration and monitoring, aimed at the correct practice of sport and motility and specifically to identify the correct contents and programmes to be conveyed through the fitness areas of the Parco del mare. The priority objective is to develop a widespread wellness approach for the citizens, tourists, university students as well as research activities. The aim will be for everyone to make the area liveable and the possibility of accessing quality public services and benefiting from favourable socio-environmental conditions that certainly have an impact on wellbeing, citizen satisfaction, and the trust they place in institutions and beyond.

Exercising the body is fundamental for the well-being of everyone at any age. This conviction gives rise to the idea of fitness areas open to all and with equipment suitable for all physical abilities with the advantage of increasing public use and the target group. The Parco del Mare will entail a gradual and complete transformation of the strip of waterfront facing the waterfront and of the adjacent free areas, both upstream and downstream, generating a new relationship of the city with the sea, displacing traffic and replacing the carriageway with a new system of linear urban greenery and new services and attractive functions. The naturalisation and redevelopment of the public space, both from a functional point of view and in terms of image and environmental and urban quality, will be

the driving force for the modernisation and revitalisation of the ageing hotel industry, as well as for the redevelopment of the seafront.

In addition to the complete pedestrianisation of the seafront, the redevelopment includes the creation of green areas for resting, physical activity, play, and additional services that will be available to both residents and tourists, for which the Park's guidelines have identified the 'sardine' shape that is suitable for the various intended uses. The choice of conformation was dictated by the consideration that 'sardines' adapt to external stresses and the shoal takes on different conformations depending on the context in which it is found, and furthermore, although they are different, they share in the construction of a single large organism. The public functions defined in sections 1 to 9 can be grouped into five macro-categories (culture, sport and wellness, services, business and mobility).

In its entirety, the waterfront has been designed with a focus on wellness and fitness combined with the coastal landscape. These activities constitute the characterising elements of the Park, through walking or cycling, free body activities in dedicated spaces or under the shelter of trees. The guidelines of the Parco del mare propose a system of outdoor gyms to be realised through limited size structures equipped with equipment for outdoor fitness activities, in some cases covered with pergolas to offer shelter from the sun or uncovered and differentiated with the objective of creating a circuit of free body fitness activities that can be reached by gentle mobility routes at urban level.

Sport and wellness are fundamental activities to favour a general requalification of the tourist offer and realise the desire to specialise the receptivity by directing it towards tourism with a wellness vocation. The intervention of the Parco del mare as a green and equipped infrastructure has as its objectives the improvement of quality in the urban environment.

1. **URBAN AND LANDSCAPE QUALITY:** the realisation of equipped areas for outdoor sports: constitutes a series of attractive polarities along the Seaside Park placing the sea at the centre of urban qualification
2. **TOURIST ATTRACTIVENESS:** The objective in creating a network of areas equipped for sport is to innovate the tourist product by creating a new place, rich in opportunities for use, thus expanding the possibilities of using natural spaces, meeting and relations between residents, and between residents and tourists. Another goal should develop a different and quality tourism, integrating wellness, culture and nature and deseasonalize the tourism product in order to distribute the flow of tourists throughout the year.
3. **SOCIO-ECONOMIC SYSTEM:** The attractiveness constituted by a new urban situation that, in a city known throughout the world as the capital of seaside tourism, 'relaunches' the offer by generating a system of public areas and services of unprecedented quality, will have consistent and lasting effects over time. A first effect will be the prolongation of the tourist season with a consequent growth in 'temporary residents' over time. As regards commercial activities, public establishments and beach activities, the qualitative growth of the offer will generate both a growth in the number of customers and consumption, and a prolongation of these presences over time. The success of commercial areas and, in general, of personal services (including those most closely linked to tourism and the beach) increasingly requires an environment that is able to make people appreciate the liveability of the situation and the



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ease and pleasantness of the experience. From the social point of view, the strategy envisages the usability of spaces currently used only as passageways, and the creation of meeting places. In addition to this, the creation of large urban spaces that are totally accessible makes the city usable for people with different degrees of disability (temporary or permanent), achieving a very important social inclusion objective. The sports areas will be equipped with devices that can also be used by weak users (elderly and disabled).

4. TERRITORIAL-LANDSCAPE SYSTEM: The redevelopment of the seaside strip transforms this part of the city from a backside of both the city and the seashore into an urban terrace, rich in quality and with a wide range of services and functions. The landscape project stems from the reading of both the anthropic and natural transformations that have shaped this area, from the analysis of its potential and criticalities, in order to accompany its evolution in a sustainable form. Following the design guidelines, the intervention aims to offer a new extended strategic space characterised by a strong urban green component that is configured as a central element of continuity capable of encompassing various attractive and cultural functions, services, commercial and recreational-sports activities.



Figure 34 - Overhead view of Parco del mare (Lungomare Tintori).

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Figure 35 - Outdoor gym at Parco del mare (Lungomare Tintori).



Figure 36 - Overhead view of Basket playground at Parco del mare (Lungomare Murri).

## 4. Systemic challenges for Rimini

Systemic challenges are complex, interconnected issues that transcend individual sectors or disciplines, requiring coordinated, multi-level approaches to address them effectively. These challenges often emerge in areas such as climate change, social inequality, urban development, and governance, where solutions necessitate collaboration among diverse stakeholders. They are characterized by their dynamic nature, feedback loops, and unintended consequences, making them resistant to simple, linear solutions. Addressing systemic challenges involves embracing interdisciplinary research, innovative policy-making, and adaptive strategies to create resilient systems capable of evolving in the face of change.

### 4.1 Introduction

Rimini Municipality is now working on two pilot areas: Waterfront pilot 1 San Giuliano Mare area and Waterfront pilot 2 “Parco del mare” south. As we are at an urban design level, we can continuously integrate results of the Re-Value activities by using new planning tools as insight mapping of Re-value Impact Model. The city has been in the process of adopting various urbanistic plans for a few years now in order to implement a strategic program of land redevelopment and to be able to address the major issue of climate change and the goals of the European Community. To achieve climate neutrality and spatial quality for the Re-Value pilot areas the main goals are:

- to increase the san Giuliano attractiveness for residents and tourists.
- To engage private stakeholders (investments)
- To develop the connections between san Giuliano area and the City centre
- To measure the outcomes of recent works (Parco del mare south already built) as a guide for future urban planning (to embrace citizens' needs and achieve climate neutrality).
- To combine social integration, entertainment, culture, experimentation, sustainability.

The contribution of Re-Value for Rimini is based on several aspects:

1. The birth of the “Revalue group” as Community of practice and internal team of the Municipality of Rimini
2. The analysis of the pilot area within the roadmap engaging departments (Urban Planning, Mobility Departments)
3. Workshops and Community Engagement
4. Innovation camps and Impact Model workshop

#### Systemic challenges

These systemic challenges of urban planning and design are aligned with the Cities Mission. The challenges are:

- Systemic changes in governance, regulatory structures, advocacy. The challenge is to implement an idea of sustainable city that favours territorial urban regeneration rather than

new land consumption and to implement the municipality plans on the basis of the nature based solutions (the urban green plan and the beach development plan)

- Societal and spatial quality. The challenge aim at the completion of the green and blue urban physical infrastructure of Rimini (ATUSS 2021-2027 strategy ER Region) and the creation of new bike paths and public spaces for leisure and sport activities (e.g. Parco del Mare project, Parco Marecchia Area). This will be fully in line with the 2030 Agenda in all its dimensions of sustainability, economic, social and environmental, creating at the same time a cohesive governance model also through an active participation of the new generations.
- Data-driven co-creation, digital twins. The challenge is assessing flood risk in climate projection . Select, design and evaluate mitigations options and reduce damages providing flood maps for a better risk profiling.
- Energy and mobility. The challenge is to implement a SUMP plan that deals with the mobility systems and takes into account collective transport modes as well as cycle and pedestrian mobility. To transform a huge parking area into a green and car free zone dedicated to leisure and to improve sustainable mobility solutions for citizens, tourists and good delivery services including new connections between Parco del mare and railway station. We aim also to achieve a sustainable way to provide energy. The final aim is to extend this policy to the existing structures that are close to the “Parco del Mare, such as hotels, restaurants, bars, beach services which require a large amount of energy. We also want to increase the new connection with Metromare between the Railway station and Fiera district and improve the new connection with Shuttle mare between the city and the Parco del mare project.
- Nature-based solutions. The challenge is to regenerate the local ecosystem around San Giuliano and Parco del Mare with NBS, improving urban drainage systems and smart irrigation, encouraging the biodiversity in an “urban forest”.
- NEB Impact Model: The impact model workshop contributed to build a multi-modal impact model for value-based urban design and planning. The workshop was based on a dialogue with the community of practice (local stakeholder) and the main actions were directed to reach spatial transformation. To achieve sustainability, the pilot areas will represent a mix of functions and thematic zones, the green areas will increase the same thing with slow mobility. These proposals generated from the Impact Model Workshop and field activities with participants from the Re-Value project.

## 4.2 Short and long term plan in Rimini waterfront pilots

In the Rimini waterfront pilot areas short-term plans focus on immediate improvements to public spaces, infrastructure, and accessibility. These include:

- Enhancing Mobility: Developing pedestrian pathways and bike lanes to reduce car traffic and promote sustainable transport.
- Public Space Upgrades: Requalifying parks, promenades, and beaches to improve usability and aesthetics.
- Tourism Infrastructure: Modernizing beach facilities and supporting seasonal businesses to attract visitors.

## 4.2.1 Short-Term Goals

In this strategic process, in which the city of Rimini finds itself, the decision to elect the San Giuliano Mare and Parco del Mare (stretch 4-5) as pilot areas for the European project Re-Value (Horizon Europe) is highly motivated. These areas will also serve as a test bed for the city's new Green Plan, which will act as a further supplementary tool to the general urban planning able to establish the priorities and needs of the territory, the increase in ecosystem benefits, the development and enhancement of urban and peri-urban green areas in the long term, the economic resources to be invested, and the monitoring methods, also and above all through the involvement of the community. In this sense, a new approach to nature will also be initiated, starting with the new generations, thus favouring new behaviours and values, in line with both the principles of the New European Bauhaus and the policy of adaptation to climate change.

With a holistic approach, the Re-Value project will offer the opportunity to fully realise the potential of such interventions, contributing to raise awareness in the local community on the positive impacts they will bring in terms of improving urban quality, increasing territorial safety and urban resilience, enhancing the renewal of the tourism offer and making an area of the city that traditionally 'lived' only in the summer season livable all year round. This could also offer a contemporary and fully sustainable response to the need for healthy and active lifestyles, which people increasingly express, even on a cross-generational level.

This is also the context for the activities of the 'Rimini Blue Lab', a social and cultural innovation laboratory, created from the awareness and willingness to support the blue soul of Rimini, to develop and promote urban reflection and co-design on green and blue economy issues, adopting the sea as a perspective from which to approach the city. A new approach to nature has been initiated, starting with the new generations, thus fostering new behaviours and values, in line with both the principles of the New European Bauhaus and the climate change adaptation policy.

## 4.2.2 Long-Term Vision

Since 2007 the city has initiated a multi-actor participatory process to create a long-term Strategic Plan that would collectively set the city's vision and propose specific interventions to guide Rimini's future. This multi-level and multi-stakeholder governance and engaging with the community process would ensure that the strategic vision and work would be successfully carried across election cycles.

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Figure 37 - Rimini Waterfront.

The Strategic Plan elevated the status of the sea, shifting it from the background to become a central element of a redevelopment concept to radically regenerate the tourism sector. Conceptually branded as “sea wellness”, the sea became the heart of a new tourism concept that focuses on the principles of health, quality and connection. This has been later translated into the Parco del mare project, conceptually branded as «sea wellness park» with the change of function of Rimini’s 15 km waterfront, focusing on the principles of health, quality and connection. The sea still today represents a primary factor of wealth for the Rimini area as the main driver of the coastal tourist economy and has become a key player of the urban “health” and the real “engine” of a new economic, social and environmental attractiveness. The Parco del mare includes all Rimini waterfront, about 15 kilometres, divided into two big swathes, NORTH Parco del mare and SOUTH Parco del mare.

The Park guidelines were drawn up in 2019 by RTP Miralles Tagliabue (team leader), Massarente Architettura s.r.l, Abacus s.r.l, Arch. Marcello Mamoli, Made Associati, aims to define the guidelines for the design of the entire new waterfront. The analysis and assessments that have emerged cover multiple aspects including:

- analysis of the urban context;
- assessment of the functions that can be located;
- requirements of the works to be designed;
- infrastructure networks and accessibility and mobility systems;
- environmental protection and sustainability;
- landscape value.

The design of the completed sections (1-2-3-6-8) was based on the results of this study and the proposed general concept. From the reflections produced, five major areas of intervention have been highlighted:

- a new relationship with the sea, an element that returns central in relation to the city;
- the great challenge of mobility, which animates the new development model.
- a new enterprise system;
- the quality of a recomposed and cohesive territory;

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- the culture that shapes and informs people, creating a new image.

The settlement strategies are applicable to all stretches of the See Park and combine the different activities belonging to the five identified categories (culture, sport and wellness, services, enterprise, mobility). In fact, the project area varies considerably in size in the different stretches and therefore it is not easy to define proper compensation and integration between the different private and public functions. In general, from the first analysis of the current state of places on Rimini's seafront, it was clear that there was a lack of public spaces that could favour the meeting and aggregation of people. The design of sections 4 and 5 also considers the evaluations and analyses of locatable public functions, the overall concept and landscape values highlighted by the guidelines.

The new waterfront has the ambition of becoming a place of great attraction and is the heart of the “Parco del mare” project, which in its final arrangement also involves the beach, with the redevelopment of the bathing establishments (Beach Plan). The project is proceeding in parallel with the impressive work on the “underneath”-the PSBO, the water sewage system-and in close synergy with the interventions of the Bathing Safeguard Plan.

The sections to the north were completed in 2020, those to the south are largely funded and completed (sections 1, 2, 3, 6, 8 from 2020 to now). Pilot Waterfront 4 is included in Parco del mare and called “Tracts 4 and 5,” while Pilot Waterfront 1, San Giuliano Mare, which is very different in morphology and history, has always been excluded and postponed to future planning.



Figure 38 - Parco del Mare overview.

The Rimini municipal administration recently promoted to the public the objectives and interventions contained in the “Rimini of Green and Blue” program, the sustainable urban development strategy of the Municipality of Rimini (Atuss), 80% co-financed with European resources from the Emilia-Romagna Region.



Figure 39 - “Rimini of Green and Blue” program.

Thanks to the Atuss strategy, a number of important public works, including the Parco del mare in San Giuliano, which includes two projects, one related to the urban regeneration and completion of the San Giuliano seafront, and the other to the environmental and landscape redevelopment of the seashore, with bicycle and pedestrian paths, public spaces for sports and recreational use, accessibility systems for disabled people, and low environmental impact facilities, within a green infrastructure, which restores to the places their original naturalistic vocation. A new project of San Giuliano Mare, financed by the funds of the Emilia-Romagna Regional Program 2021-2027, which has as its priority the promotion of the blue economy, through the enhancement of the sea resource and other blue resources of the territory as an ecosystemic lever of benefit for the entire community, reducing pollution related to fishing and other human activities, promoting sustainable mobility, but also enhancing research and experimentation on issues of environmental sustainability. At the same time, the city has, for some years now, been adopting various urban plans to implement a strategic program of land redevelopment and to be able to address the major issue of climate change and the goals of the European Community:

- Beach Plan.
- Green Plan.
- Social Inclusion Plan.
- Plan for the Elimination of Architectural Barriers.
- Qualitative monitoring of the PAESC - in progress.



- PUMS (only adopted).
- Sulp (only adopted).

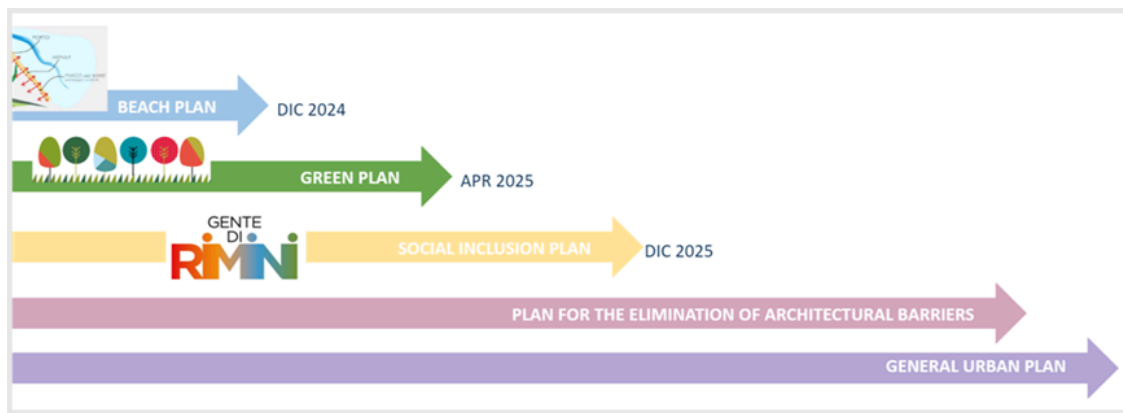


Figure 40 - timeline.

In addition, the Emilia Romagna region requires all municipalities to have a single General Urban Plan (PUG), geared to promote and regulate urban regeneration processes and limit land consumption. Thus, the Municipality of Rimini in recent months has started the procedures of a 4-year-long process for the implementation of the General Urban Plan (PUG) and new building regulations. The aim is to encourage the urban regeneration of urbanised territories and the improvement of urban and building quality, about the livability conditions of urban areas also in terms of environmental and ecological quality. In particular, the General Urban Plan:

- is oriented towards the reuse and regeneration of urbanised territory;
- establishes a specific “strategy” for the qualification of the public city;
- limits and discourages the possibility of new sprawl settlements.

## Beach Plan

The New Beach Plan of the Municipality of Rimini identifies a future Vision of the beach and divides it into four Plan Scenarios that give concreteness to this Vision: Cosy beach, Safe beach, Green beach, Smart beach. The cognitive analysis focused on an area that includes both the beach and the areas defined as "complementary to the beach": these consist of the areas of the seafront on which the Parco del mare has been created or for which its construction is planned completion. The analysis first highlighted the complexity of the Rimini beach both in terms of extension (about 15 km in length) and heterogeneity also due to the diversified ownership regime of the areas; this leads to the identification of three different coasts: north coast, San Giuliano Mare and south coast. These last two areas are precisely the pilot areas analysed within the Revalue project.

The local strategy for San Giuliano mare promotes:

- the conservation of the recently redeveloped beach structures, with the maintenance of existing surfaces already reduced by 10%;

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- the creation of the protection of urban buildings from coastal floods, through the creation of a sandy barrier to reach the safety level of 2.85m above sea level. which targets the time horizon of climate change to 2100;
- the deseasonalization of the beach, providing for the inclusion of non-seasonal recreational functions in the areas upstream from the beach establishments. The "areas complementary to the beach", given their position and conformation, represent an opportunity for achieving the more general objectives of the Plan.

The local strategy for Waterfront Pilot 1: South Parco del mare provides:

- the reduction of the existing surface area to an extent consistent with the total reduction of 10% on the entire Rimini beach;
- increase in visual permeability, organising the transformations in such a way as to concentrate them at the access route to the beach from the seafront;
- the creation of free beaches in correspondence with the road axes leading towards the sea and the squares of the Parco del mare;
- the qualification of the existing building stock through:
- the complete demolition of non-valuable and non-redeveloped beach structures;
- forms of aggregation that allow a unitary design of multiple factories e
- public establishments for better optimization of spaces and diversification of services.
- the completion of the raising of the waterfront level and the creation of a mitigation strip between the dune and the factory, with vegetation typical of the marine environment;
- the creation of a continuous pedestrian path to the sea of public businesses to strengthen the connection with the Parco del mare;
- the strengthening of the functions and services traditionally present on the Rimini beach;
- interventions aimed at dealing with climate change and coastal flooding phenomena through the placement of public businesses in a setback position compared to the current one, at an altitude of 1.90 m above sea level. and prescribing the adoption of risk mitigation works, aimed at reaching the quota of 2.14;.

The "areas complementary to the beach", given their position and conformation, represent an opportunity for achieving the more general objectives of the Plan.



Figure 41 - Overview Area near the beach in Parco del Mare project.

## Green Plan

One of the main tasks of the Municipal Administration concerns the implementation of a new model of urban planning and design, more attentive to mitigation and adaptation in response to the increasingly evident phenomena of climate change. The Green Plan, a strategic tool that the Municipal Administration intends to equip itself with in the coming years, will make it possible to determine an organic program of interventions for the qualitative and quantitative development of Urban Green, as well as its maintenance and management, in relation to national strategic objectives and the specific needs of the urban area and territory. In line with the “National Urban Green Strategy” and in line with

The National Green Plan, designed to contribute to the country's effort to achieve the goals of sustainable and environmental growth established in COP21, particularly in the direction of curbing emissions and combating climate change, the Green Plan of the Municipality of Rimini will have to develop strategies that set criteria and are guidelines for the promotion of “urban and peri-urban forests” (understood as a new urban ecological system) consistent with the environmental, historical-cultural and landscape characteristics of the places.



Figure 42 - SDGs goals.

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The Green Plan will make it possible to address the “urban green theme” in a systematic way by providing for the proper design, management and use of green spaces to maximise their many environmental benefits while minimising risks.

These are the strategic objectives that the Green Plan tool intends to pursue, in dialogue with other land management tools:

- equip the city with a network of green/blue infrastructure through the construction of a continuous and no longer fragmented ecological network;
- protecting the integrity of natural resources by recognizing the Green as an ecological system;
- medium- and long-term planning for the management and maintenance of Green infrastructure, capable of producing benefits for people and providing ecosystem services;
- equipping the city with greater resilience in the face of future challenges.



Figure 43 - “Facciamo un Piano”.

The drafting of the Green Plan will be developed over several years as a complex and multifaceted tool, involving stakeholders and necessarily multidisciplinary expertise to develop suitable operational approaches.

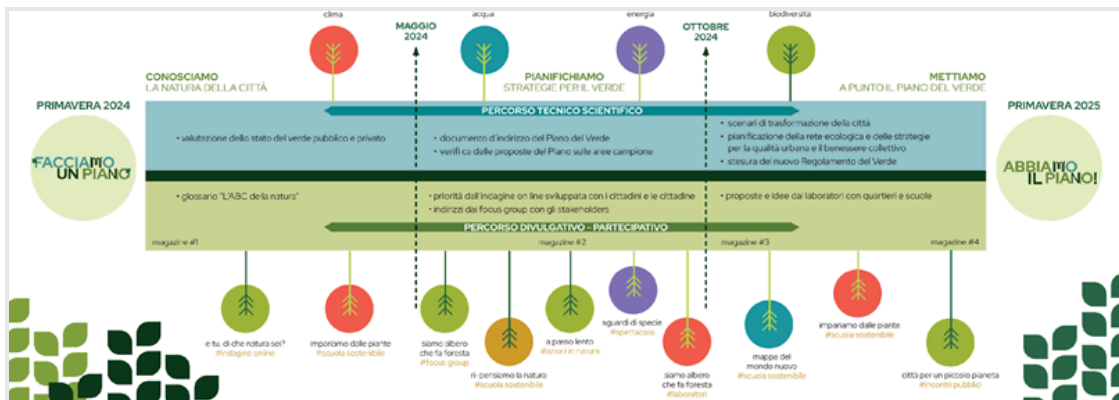


Figure 44 - “Facciamo un Piano” approach.

## Social Inclusion Plan

Starting last March, the Municipality of Rimini launched a series of meetings, thematic and local in some key areas of the city, for Gente di Rimini. This is the participatory journey that will lead to the writing of the Social Inclusion Plan of the Municipality of Rimini, which is structured around 4 key themes with a strongly intersectoral slant:

- community spaces 3;
- the accessibility of the city;
- job placements;
- the involvement of young people in Rimini's community life.



Figure 45 - "Gente di Rimini" values.

The path activated so far has been aimed at listening to different actors in the area (external and internal to the administration, insiders or even new to these reflections) on these areas meeting more than 300 participants in more than 20 meetings and gathering a great interest of the Rimini community to confront these four focuses, recognized as of strategic importance. The Social Inclusion Plan of the Municipality of Rimini will be the outcome of the listening, activation and experimentation action that will help determine the new strategy. which focuses on community building and widespread engagement, proximity, interdisciplinarity and intersectionality, experimental activities and attention to both whole path but also process results, in the belief that

working methodologies should be geared toward promoting knowledge, building relationships and trust.

## Plan for the Elimination of Architectural Barriers

The City of Rimini is drafting the Plan for the Elimination of Architectural Barriers (PEBA). The process of constructing the plan consists of 5 stages:

1. Assessment of the state of the art.
2. Communication and participation.
3. Action design.
4. Action planning.
5. Drafting of standards to adapt other plans.

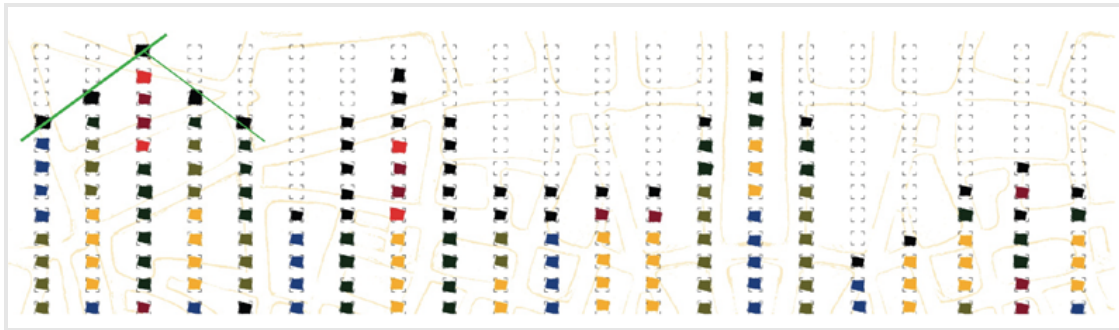


Figure 46 - “Plan for the Elimination of Architectural Barriers”.

The Plan aims to make public and private buildings and spaces accessible to citizens regardless of gender, age, health status, ability, culture, ethnicity, class, etc. The Region supports municipalities in designing PEBA through funding, training and the drafting of guidelines and best practices.

The work is teamed with “CERPA Italia Onlus,” European Center for Research and Promotion of Accessibility, a group made up of associations, volunteers, voluntary sectors, technical experts, architects, engineers. This aims not only to build good practices, but to spread the culture of inclusive design. This approach addresses new challenges in different areas:

- City of all.
- Public space.
- Building.
- Tourism.
- Cyclelogistic.
- Leisure.
- Safety Prevention.
- Digital.

## PAESC - Sustainable Energy and Climate Action Plan

In 2008, after the adoption of the “European Climate and Energy Package EU2020,” (as part of EUSEW 2008), the European Commission launched the Covenant of Mayors (Covenant of Mayors) campaign, an initiative to actively engage European cities in the path to energy and environmental sustainability. On a voluntary basis, European local authorities of all sizes have since 2008 had the opportunity to develop an energy transition action plan based on detailed knowledge of the processes taking place in their area. The Covenant of Mayors, in a short time, has become the largest international movement involving cities in climate and energy actions; it adopts European emission reduction targets to 2030 and proposes an integrated approach in addressing mitigation and adaptation issues. Local governments that sign on, commit both to reduce their CO2 and climate-changing gas emissions by at least 40 percent by 2030 and to increase the climate change resilience of their territories. The Strategy is reinforced by defining the three pillars on which it is based:

- Mitigation.
- Adaptation and safe.
- Sustainable and affordable energy.



Figure 47 - Covenant of Mayors logo.

The tool through which to achieve these goals is the Sustainable Energy and Climate Action Plan (PAESC). It consists of four parts:

1. The **BASE EMISSION INVENTORY (BEI)**, which provides information on the current and future CO2 emissions of the municipal territory, quantifies the share of CO2 to be abated, identifies critical issues and opportunities for a sustainable energy development of the territory and the potential in relation to the exploitation of renewable renewable energy sources;
2. **MITIGATION ACTIONS to 2030**, which identify the activities that the Administration intends to carry out in order to achieve the CO2 reduction targets defined in the BEI.
3. The **EVALUATION OF VULNERABILITIES** and risks related to climate change in the territory under the competence of the local authority.
4. The **ADAPTATION ACTIONS to 2030** that identify the activities that the administration intends to pursue to increase the resilience of the territory.

5. The PAESC then identifies the territory's weaknesses, risks, strengths and opportunities in relation to the promotion of Renewable Energy Sources and Energy Efficiency and allows for increasing the capacity of the adaptation of the territory to climate change. A planning action can give rise to initiatives public, private or mixed capital in energy-related manufacturing and service sectors that foster the creation of new workforce; helps define the quality of life of citizens; provides opportunities for the enhancement of the territory and participates in the sustainability of development.

The Municipality of Rimini as part of the Covenant of Mayors has identified 2010 as the base year for the compilation of the baseline emissions inventory, this being the furthest year for which it was possible to collect the data necessary for the construction of the inventory. It is therefore based on the values of that year that the municipality must calculate the reduction of 40 percent of CO<sub>2</sub> emissions, and this figure will be parameterized to the demographic changes in the municipal area. It is a planning action that should give rise to public, private or mixed capital initiatives in the sectors. The Plan builds an emissions inventory from the year 2010, when the value was 797,576 t CO<sub>2</sub>, or 5.56 t CO<sub>2</sub>/inhab. To achieve the goal of a 55 percent reduction in emissions in 2030, the plan has identified 19 actions that are estimated to lead to a decrease in emissions of -3.06 t CO<sub>2</sub>/inhab by 2030. Mitigation actions are 15 to 2030 and will contribute to a total CO<sub>2</sub> reduction of 102,849 tCO<sub>2</sub>/year, which corresponds to a 55% reduction from 2010 emissions. The transport sector is the largest contributor to Rimini's emissions.

The municipality's climate change adaptation actions have been organised into three categories:

- green and blue infrastructure;
- optimization of infrastructure maintenance and management;
- training and awareness raising.

For each action, a responsible party, time horizon, progress status, any possible costs, vulnerable population groups, monitoring indicators and climate events and areas of adaptation. The municipality is therefore in the process of qualitative monitoring of the PAESC for the year 2024, within the European Covenant of Mayors initiative, to be approved in the City Council.

## 4.3 New perspectives for the waterfront pilots

Waterfront regeneration pilots present a unique opportunity to reimagine urban spaces, transforming underutilized or neglected areas into vibrant, sustainable, and inclusive environments. The vision for these projects emphasizes creating dynamic hubs that integrate economic activity, public spaces, and environmental stewardship. By embracing innovative urban planning, adaptive reuse, and participatory design, waterfront pilots aim to reconnect cities with their waterways, enhance quality of life, and foster resilience against climate challenges. These spaces can become symbols of regeneration, blending cultural heritage with modern needs while prioritizing accessibility, sustainability, and community well-being. Thus, the interventions in “Parco del mare” and San Giuliano pilots propose an engagement of all critical factors towards climate neutrality.



Within the Re-Value project, Rimini's transformation activities focus on the development of an integrated urban strategy through the pilots, aiming to revitalize and enhance the city's coastal areas. Specifically for each pilot we have to analyse the following key points:

## 1. San Giuliano Mare:

- **Focus:** This area emphasizes reconnecting the waterfront with the urban fabric while preserving and enhancing its natural and cultural heritage. The project involves creating public spaces that encourage pedestrian and cyclist mobility, reducing car dominance, and fostering a greener environment.
- **Activities:** Urban regeneration efforts here may include requalification of public spaces, better integration of maritime infrastructure, and improved accessibility for residents and visitors.
- **Outcomes:** The aim is to create a vibrant, accessible waterfront that supports tourism and local community needs while maintaining ecological balance.

## 2. Parco del Mare South:

- **Focus:** This area is part of a larger vision to redefine the Rimini seafront as a destination for leisure, wellness, and sustainability. It combines urban design, environmental restoration, and cultural programming.
- **Activities:** Interventions include modernizing beach facilities, creating green corridors, and introducing energy-efficient infrastructure. Additionally, there's an emphasis on promoting sustainable tourism and outdoor activities.
- **Outcomes:** The transformation aims to establish a flagship model for sustainable coastal development, aligning with EU climate and urban resilience goals.

These pilot areas act as a testing ground for broader urban policies, fostering cross-sectoral collaboration among stakeholders. The Sea Park Project demonstrates how environmental, social, and economic factors can converge to create a more sustainable urban ecosystem.

## 4.4 Pilot 1 - The San Giuliano area

The project for the physical redevelopment of the San Giuliano Mare seafront (Pilot 1) is one of the main operations of the ATUSS-Agenda Trasformativa Urbana Sviluppo Sostenibile di Rimini strategy.

The project, the design of which is currently in progress, is made up of interventions aimed at: improving the quality of urban environment, re-use and re-functioning of public areas, increasing territorial safety and urban resilience, sustainable mobility, but also with the objective of becoming a fundamental component for the recovery of the tourism sector.

The results expected from the whole regeneration project envisage: a unitary design of the San Giuliano beach, which will include the first built-up area facing the seafront, in order to create a large

urban park that will guarantee the full integration of spaces, both between the different types of public areas and between public and private areas.

A further result will concern the mitigation of the effects of marine ingression, which will be guaranteed by the construction of a dune system, on which an elevated cycle/pedestrian pathway will be built, integrated into the new green system. These paths/collective spaces and cycle paths will be designed guaranteeing accessibility for all sensory, motor, intellectual and psychic disabilities.

The experimentation derived from the Re-Value project made it possible to read the expected results of the project also through the lens of the NEB principles, reinforcing their value and making them more comprehensible in terms of co-benefits for the local community. Nonetheless, some critical issues, particularly related to the poor connections of the San Giuliano area with the rest of the city, remain on the agenda and will have to be addressed with further action.

An initial analysis of the future projection of the impacts of the activities planned in the San Giuliano pilot area was carried out thanks to the collaboration with the technical partner UNIBO, which cross-referenced the activities planned in the area with the Re-Value Impact Model to identify co-benefits or linkage with existing KPIs.

As far as the management modalities are concerned, the San Giuliano project affects a public area currently given in concession to the Consortium of Beach Operators, a concession that will be partially withdrawn in relation to the areas where the new sports functions will be placed. Once the works have been completed, the Local Government will evaluate whether to launch a public evidence procedure in order to contract the management of the sports functions envisaged in the ATUSS area to third-party operators. The issue of management also intersects with the elaboration process of the new Beach Plan, which will redefine the overall organisation of the Rimini beach, also envisaging solutions for the seasonal extension of its use.

On the topics: financing mechanisms (Innovation Cycle 3), new business models for the management of the new functions and for the maintenance of public green areas, and monitoring of the potential socio-economic impacts of these activities, the support of Re-Value's technical partners is very much desired.

As part of the project, a co-design process has been initiated with the local stakeholders of the San Giuliano Mare area, which will accompany the definition of the project also in the coming months, in order to stimulate community involvement, public participation and consultation. A path aimed at fostering the sustainable development of our territory and that, through occasions of exchange and sharing, will also include the involvement of the younger generations.

## 4.5 Pilot 2 - The Parco del mare south

The Parco del Mare Sud project is being implemented in functional stages on the basis of the strategic master plan drawn up by the group headed by Miralles tagliabue EMBT, which defined the design guidelines.

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The public works involve 9 main stretches that together cover the Rimini South Promenade: this division is motivated by the fact that each single stretch has strongly characterised itself over time and has, in the imagination of residents and tourists, well-defined characteristics and vocations.

The implementation of the various functional stretches of the Parco del mare will allow the redevelopment of the seafront including the sandy shore and the functionally connected areas to create a continuous system between the waterfront and the beach and the comprehensive reorganisation of the existing and new activities and services (recreational, sports, cultural, environmental).

The still missing stretch 4 of the South Sea Park has been identified as a pilot area within Re-Value. To date, only the final/executive design has been financed with national resources ('Italia City Branding' call for tenders - Investitalia Mission).

Squares represent the main theme of this stretch, in fact the beach plan provides for the co-presence of multiple functions and new volumes in connection also with the beach activities.

Public functions such as parks, outdoor playgrounds, fountains, and parks will be favored by promoting the use of recycled materials, draining, reclaiming first rainwater, or otherwise promoting its natural drainage into the ground.

The Re-Value project approach will guide the further implementation of the pilot design also through the lens of NEB principles, reinforcing their value and making them more understandable in terms of co-benefits for the local community.

In terms of management modes, the pilot 2 areas affect a public area, but its management also intersects with the elaboration process of the new Beach Plan, which will redefine the overall organisation of the Rimini beach, also envisaging solutions for the seasonal extension of its use.

On the topics: financing mechanisms (Innovation Cycle 3), new business models for the management of the new functions and for the maintenance of public green areas, and monitoring of the potential socio-economic impacts of these activities, the support of Re-Value's technical partners is very much desired.

## 5. Re-valuing the Rimini Waterfront pilots

The Re-Value project plays a crucial role in Rimini's urban transformation by fostering innovative, sustainable, and inclusive development strategies. Through initiatives like the Sea Park Project, it redefines the city's relationship with its coastline, enhancing public spaces, promoting green mobility, and supporting climate resilience. By integrating environmental, social, and economic goals, Re-Value helps Rimini become a model for coastal cities, bridging heritage preservation with modern urban needs and setting a benchmark for sustainable urban regeneration.

### 5.1 Governance challenges

The interventions planned for the waterfront pilots find their origin and substance in the community strategic plan of the city of Rimini.

One of the strengths of Rimini's Strategic Plan has always been the participatory process: working together to study trends, understand them, produce and share analyses, elaborate visions, decide on development guidelines and design projects, coherently work on strategic places, develop new planning methodologies and transfer them to the public administration system. Moreover, in the city's vision resulting from the Strategic Plan, public space plays a fundamental role in liveability.

Indeed, public spaces fulfil multiple functions of a social, cultural and economic nature, making them one of the fundamental components of urban sustainability: they improve public health by enabling a healthy lifestyle, they foster social relations and community cohesion. They also make a fundamental contribution to urban safety.

A specific participatory process has been running in the San Giuliano Mare area since 2019 up to the present, having started also thanks to a project financed by the Emilia-Romagna region under the regional law on participation. In this participatory project called 'RIMINI CIVO, CI TENGO. Verso "un regolamento di amministrazione condivisa dei beni comuni della città di Rimini"', San Giuliano Mare was identified as the pilot area for the experimentation and co-design of a first pact of collaboration for the shared administration of common goods. The process saw the realisation of consultation and engagement activities of economic operators, citizens and visitors that led to the co-design of a Masterplan and related Action Plan summarising the actions/opportunities, including structural ones, identified for the urban and tourist regeneration of the San Giuliano area. This document constituted an important reference for an initial definition of the projects included in the ATUSS strategy.

Within the Re-Value project, this work has been implemented, set as part of an internship at the Strategic Plan Foundation of a researcher of the University of Bologna, through a stakeholder analysis and a mapping of stakeholder engagement inside and outside the city-ecosystem. Stakeholder mapping involved three steps namely, identification, categorization and investigation of relationships (Reed et al., 2009). Different categories were identified with additional attention to the tourism sector. To complete the mapping, the stakeholders were surveyed to understand their relation towards the physical and socio-economic dimensions of the strategy. The survey distribution was planned as a follow up of the press conference taking place on June 22, 2023, when the Municipality

of Rimini and the Region of Emilia Romagna signed the new Urban Transformative Agenda for Sustainable Development (ATUSS). Data and results from this stakeholder survey conducted in San Giuliano mare in summer 2023, were presented during the Rimini study visit in October 2023. Overall, there was a high satisfaction with public money spent on improving destination attractiveness, but private attitude was not homogeneously sharing a vision on climate neutrality goals.

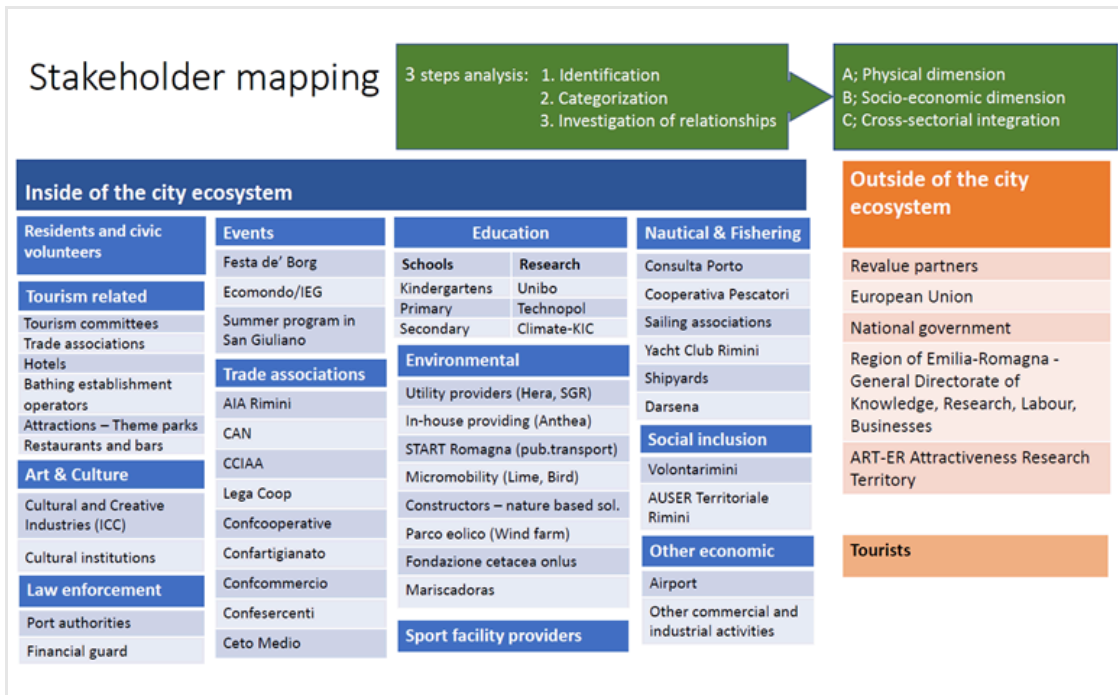


Figure 48 - Stakeholder mapping.

The Impact Model workshop with the stakeholders, which was held on 23-24 May 2024 in Rimini, turned the spotlight on some critical issues that will have to be considered in the further design of the San Giuliano mare pilot area's projects, also thanks to the active listening of the invited stakeholders who were able to freely express their needs. The workshop allowed an exploration and reflection on the San Giuliano pilot area also through indicators (domino cards with explanations), to glimpse possible connections, not only environmentally and therefore more related to technical aspects, but also socio-economic (e.g. reflection on new cooperative business models of sport and tourist services). Another objective is also to understand the effect of urban transformation and regeneration and measure it, thus evaluating the projects not only in the forecast phase, but also after the intervention.

A second IM stakeholder workshop & co-design process is currently being designed to accompany the overall development of the project's design and implementation.

In addition to the co-design meetings and workshops that will concern the two main public works projects envisaged by the ATUSS strategy in the San Giuliano area (Parco del mare and blue boulevard), in the coming months the Administration plans to contract a study and data analysis (observatory) on the impacts, in particular socio-economic, produced on the Rimini waterfront in the

post-completion period of the first sections of the Parco del mare infrastructure. This activity will be functional to determine possible corrections and adjustments on the planning and designing activities of future public and private interventions.

Regarding governance, the actions planned in the pilot areas are part of strategies and plans that are implemented through multi-level governance, involving not only the local government, but also the region and the state (Superintendency of cultural assets).

The ATUSS Agenda is in fact a multi-level governance tool functional to the achievement of common objectives that, in the sharing of resources and commitments, involve the Region, local authorities, economic and social representatives in a network. The interventions envisaged therein are implemented through the integrated territorial instrument (art. 30 of Regulation (EU) 2021/1060), which regulates the relations between the Emilia-Romagna Region (Managing Authority of the ERDF and ESF+ European resources) and the Municipality of Rimini as beneficiary.

In addition, to ensure unity and coordination in the implementation of the ATUSS strategy as a whole, three levels of governance have been activated through the Rimini Blue Lab project: the Advisory Board, the Blue Forum, and the Multidisciplinary internal Group. The Advisory Board - Technical, Cultural and Scientific Steering Committee - sees the collaboration among the Municipality of Rimini, the University of Bologna - Rimini Campus, the Consortium society for the university in the Rimini area (Uni.Rimini) and the Technopole, the Interdepartmental Center for Industrial Research on Renewable Sources, Environment, Sea and Energy (CIRI FRAME) and the Ecomondo-Rimini Fair. Since 2024 it also sees the participation of additional entities, experts on green and blue economy issues, such as: ART-ER (Attractiveness Research Territory Emilia-Romagna), the Clust-ER Tourism (Association that connects business, research and higher education on tourism), the University of Bologna Department of Life Sciences and Quality of Life (QuVi) of Rimini - Outdoor Education Research and Training Center, the UN Decade Collaborative Centre for Coastal Resilience (UN DCC-CR) of University of Bologna, the Euro-Mediterranean Center on Climate Change (CMCC Foundation). A Memorandum of Understanding between the Municipality of Rimini and the scientific partners and experts of the Rimini Blue Lab Advisory Board will be formalised in the coming months, to support and accompany the intangible actions of the ATUSS strategy.

The Blue Forum is a technical committee for consultation and intangible project co-design on green and blue economy issues, involving stakeholders, both public and private, and school autonomies.

Moreover, a Multidisciplinary internal Group involves the different sectors of the Municipality and is responsible for ensuring the technical coordination, implementation and monitoring of activities, through an integrated approach.

Regarding the governance on the management of the areas on which the Parco del mare is to be built, it intersects with the process of the new Beach Plan, which the Municipality is currently carrying out, and which will redefine the overall organisation of the beach of the entire Rimini's coast. The approval process for the plan envisages, after adoption by the City Council, the approval of the Region and the Superintendency before returning to the City Council for final approval.

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The Beach Plan should also provide solutions for extending the season for using the beach. In fact, the current regulation of bathing establishments sets the end of their activities by mid-September, not any more satisfying the need for beach use, both by citizens and tourists, which is increasingly prolonged in the autumn season and brought forward in the spring season, due to the narrowing of the most climatically inhospitable periods.

The Municipality of Rimini is also experimenting, thanks to the European project “Life Help”, a new model of intersectoral governance of environmental policies - to be tested in Rimini and replicable in other cities - promoting an integrated and intersectoral approach aimed at more effectively achieving the environmental and climate objectives set by the EU and the 2030 Agenda. The project will be implemented through a series of strategic actions acting on three main dimensions: the environmental decision-making and planning system of the Municipality of Rimini (with the establishment of an Environmental hub within the Administration); the collection, management and use of environmental data also aimed at monitoring environmental performance; the knowledge and awareness of the community with respect to environmental issues and sustainability policies implemented by the Municipality.

Finally, regarding consistency with the principles of inclusiveness and diversity, mention should be made of the programme of intangible actions to be implemented through the Rimini Blue Lab. Acting as a social and cultural innovation laboratory, it is central to the ATUSS strategy, focusing on young education, empowerment, guidance and awareness raising, giving a voice and a perspective above all to the youth component of the community (childhood and adolescence), commonly excluded from decision-making processes.



Figure 50 - Rimini Blue Lab, citizen science activities with schools on National Sea Day 2024.

A final consideration concerns the demographic dimension of the pilot area of San Giuliano Mare, which is significantly populated by foreigners (20.1% of residents in the area are foreigners, against 13.4% of Rimini's total population, and many of them are employed in the marine and fishing sectors). Therefore, improving the quality of the living environment and employment opportunities in this area also means investing in that part of the population which, in Rimini and in our country in general, currently represents the only hope of significantly counteracting the megatrend of decreasing birth rates and the progressive decline in the active population. Moreover, restoring new attractiveness to the fishing and coastal tourism sectors also means generating a new capacity for retention of young people by an area that, unfortunately, suffers more than others from the brain drain phenomenon and the inability to retain the talent it trains (in particular through the many qualified offers of the Rimini University Campus, which is also among the first in the region in terms of internationalisation rate).

## 5.2 The Impact Model as a tool to discuss

In May 2024, Rimini hosted an Impact Model Workshop in collaboration with the University of Bologna (UNIBO) and the Norwegian University of Science and Technology (NTNU). This event brought together participants from various departments within the Rimini Municipality to explore how the Impact Model, initially developed as a discussion tool, could evolve into a comprehensive framework for assessment and monitoring in urban development.

### Key Questions Explored:

1. **Transforming the Impact Model:** Participants examined how the model could transition from a conceptual dialogue tool to a robust mechanism for evaluating and monitoring progress, particularly in areas such as climate and urban development.
2. **Learning from Indicators:** The discussion centered on what insights the model's indicators could provide regarding the effectiveness of policies and initiatives, and how they might guide future interventions.
3. **Tracking Progress:** Participants focused on identifying methods to measure whether Rimini is on the right path toward achieving its climate and urban sustainability goals.

**Goals and Outcomes:** The workshop's primary objective was to propose Key Performance Indicators (KPIs) to monitor progress, particularly in relation to Rimini's urban initiatives like the Sea Park Project. Participants also identified the types of data necessary to effectively track development and suggested ways to collect it.

### Example Proposals for KPIs and Data Collection:

- **Understanding Residents' Perceptions:** Conduct surveys where different groups visit various city areas to share how they feel about the spaces—what they think is missing, how they use these areas, and their comfort levels.
- **Learning from Peer Cities:** Examine whether other cities have implemented similar



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measurement practices and adapt relevant methodologies.

- **Combining Quantitative and Qualitative Approaches:** Balance statistical data (e.g., air quality, mobility patterns) with qualitative insights (e.g., interviews, community workshops) to create a holistic understanding of urban impact.

The workshop underscored the importance of co-creating measurement tools with stakeholders to ensure they are relevant, actionable, and reflective of community priorities. By aligning the Impact Model with the municipality's strategic goals, Rimini can better assess whether its projects, such as the Sea Park, contribute to long-term resilience, inclusivity, and environmental sustainability.



Figure 49 - The IM Workshop with the San Giuliano stakeholders held in Rimini on 23-24 May 2024.

## 5.3 The Impact Model as a tool to assess and monitor

The Impact Model offers a structured framework for assessing and monitoring the progress of urban development initiatives, providing a bridge between strategic goals and measurable outcomes. Its utility lies in translating complex urban dynamics into actionable insights, enabling stakeholders to track the effectiveness of interventions over time.

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Figure 50 - Impact Model wheel.

By leveraging a combination of quantitative data (e.g., environmental indicators, mobility statistics) and qualitative feedback (e.g., resident surveys, stakeholder consultations), the Impact Model supports a multi-dimensional evaluation of projects.

This allows for:

- **Dynamic Assessment:** Monitoring the evolving impact of initiatives such as the Sea Park Project and pilot areas in San Giuliano Mare and Parco del Mare.
- **Informed Decision-Making:** Providing real-time insights to guide policy adjustments and resource allocation.
- **Stakeholder Engagement:** Facilitating dialogue among residents, businesses, and public authorities by visualizing outcomes in an accessible way.

Additionally, the Impact Model's adaptability allows it to integrate Key Performance Indicators (KPIs) tailored to specific urban contexts, such as climate resilience, social equity, and economic

sustainability. These indicators help measure progress toward long-term goals, such as reducing the carbon footprint, improving accessibility, and fostering community well-being.

Crucially, the model also encourages comparative analysis by learning from similar initiatives in other cities, enabling Rimini to benchmark its progress and adopt best practices. Over time, the Impact Model can evolve into a monitoring system that not only evaluates existing projects but also anticipates future challenges, ensuring the city remains on the path toward sustainable development.

### 5.3.1 First application on San Giuliano pilot project

To assess the impact of the urban regeneration project in San Giuliano, a set of tailored indicators was selected to highlight the project's benefits and measure its transformative effects. These indicators, developed through a literature review, include Key Performance Indicators (KPIs) for evaluating design choices, such as "Active and Public Transport."

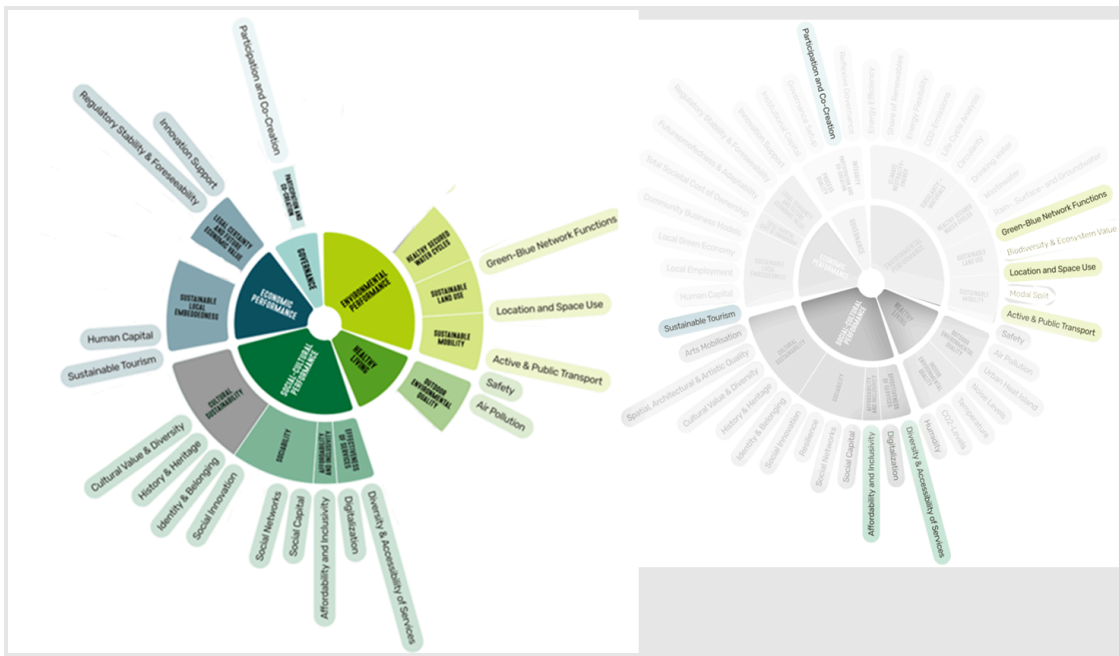


Figure 51 - Selection of the sub-indicators.

## Methodology

### 1. Key Performance Indicators (KPIs):

KPIs measure the success of interventions in promoting sustainable mobility. Examples include:

- Increased pedestrian pathways or cycling lanes.
- Enhanced accessibility to public transport.
- Reduced car dependency.
- Growth in public transit ridership.

## 2. Scale of Analysis:

KPIs are evaluated at different spatial scales:

- *Local scale*: Effects on individual streets or neighborhoods.
- *District scale*: Broader impacts on urban areas.

## 3. Scoring System:

Each KPI is rated from 1 (minimal impact) to 5 (significant transformation) using benchmarks from best practices.

### "Active and Public Transport"

This sub-indicator was analyzed to demonstrate the methodology. Thematic maps were used to visualize improvements in active mobility, such as enhanced pedestrian and cycling infrastructure.

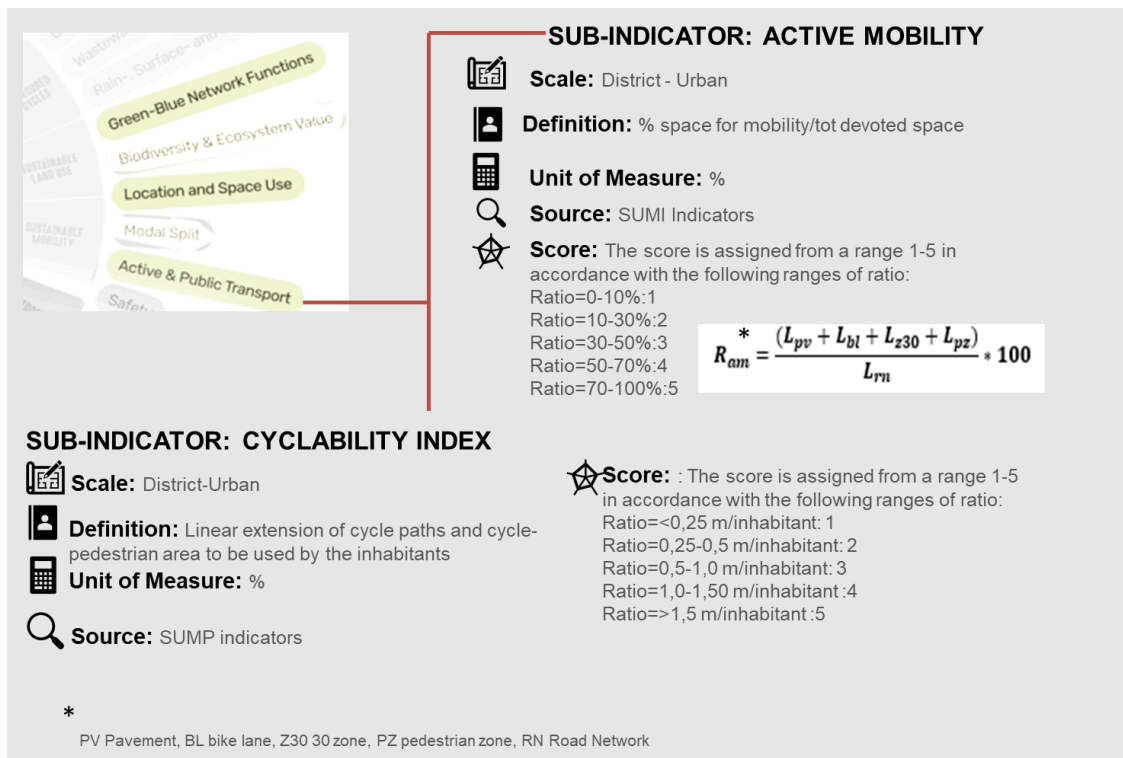


Figure 52 - Calculation of the sub-indicators.

The calculated scores were compared with baseline conditions, showcasing the project's impact on urban mobility.

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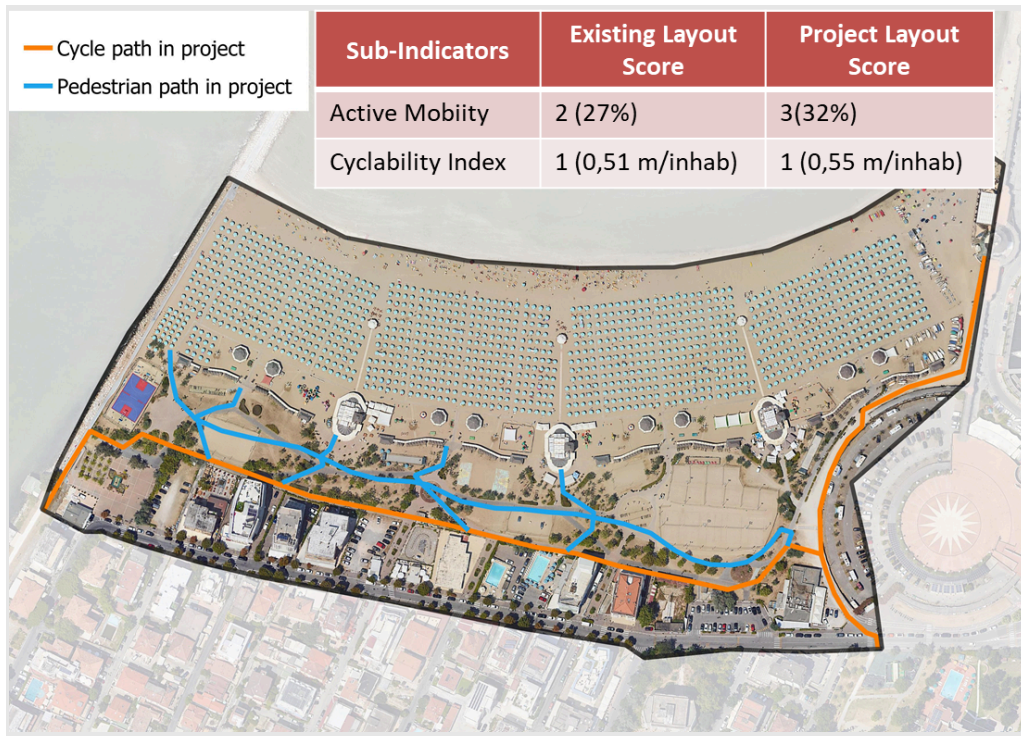


Figure 53 - Selection of the sub-indicators.

This evaluation contributes to an overall *Impact Score* for the regeneration project, providing a structured tool for urban planning. The model can:

- monitor project performance at various stages.
- Identify weaker areas requiring targeted interventions.
- Support integration with urban planning tools like SWOT analysis

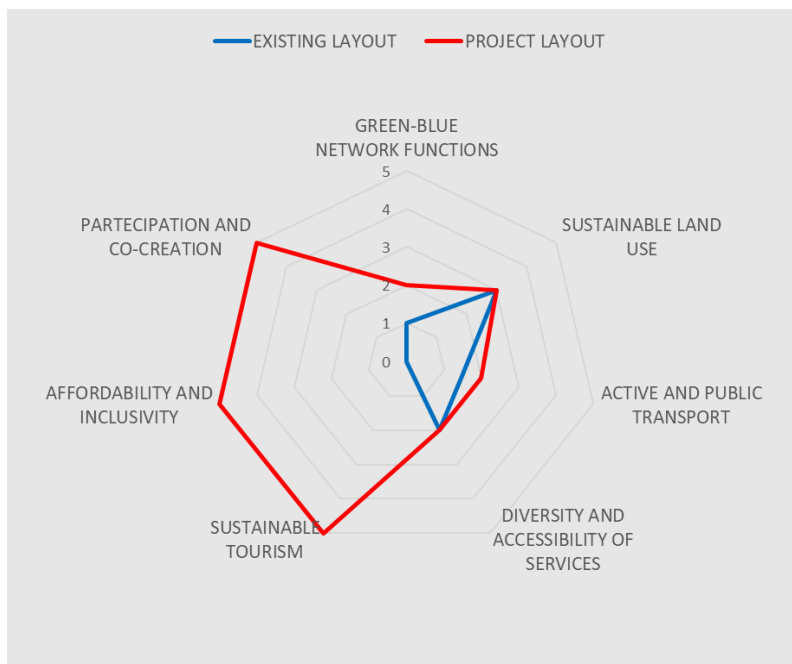


Figure 54 - Existing layout and project layout.

## **Future Potential**

The model allows scalability and customization, with options to include surveys and questionnaires for assessing social, cultural, and governance aspects. It can also be adapted and shared across cities involved in similar projects, fostering collaborative improvement in urban regeneration efforts.

## 6. Conclusions and next steps

The pilot projects in Parco del Mare and San Giuliano represent a crucial step toward reimagining Rimini's waterfront as a model for sustainable and inclusive urban regeneration. By combining environmental restoration, inclusive urban design, and innovative governance approaches, these initiatives lay the groundwork for a more resilient and vibrant urban future. The integration of tools like the Impact Model ensures that development is not only visionary but also measurable and adaptable over time.

### Key Conclusions

#### 1. Urban regeneration:

The pilots have demonstrated the potential for transforming coastal areas into spaces that balance environmental preservation with economic vitality. The focus on green mobility, public space upgrades, and modern infrastructure supports both residents and tourists.

#### 2. Impact Model utility:

The Impact Model has proven effective as both a planning tool and an evaluation framework. Its ability to integrate qualitative and quantitative data enables a holistic assessment of Re-value projects and supports decision-making.

#### 3. Socio-economic factors:

The socio-economic dynamics of the pilot areas, including the dominance of tourism and seasonal activities, underscore the need for economic diversification. Expanding year-round activities and services is essential to ensuring long-term viability and reducing reliance on peak-season revenues.

#### 4. Evaluation and monitoring:

Robust systems for tracking progress are critical. Using KPIs developed through stakeholder engagement, Rimini can monitor outcomes in climate resilience, mobility, social equity, and economic development.

### Next Steps

#### 1. Scaling Up:

Extend the successful strategies from the pilots to other areas of Rimini, creating a unified approach to urban regeneration along the entire coastline.

#### 2. Refining the Impact Model:

Develop the Impact Model into a comprehensive monitoring tool, incorporating advanced data collection methods such as GIS mapping, digital surveys, and real-time environmental sensors.

#### 3. Community engagement:

Strengthen collaboration with local stakeholders, ensuring that future development aligns with the needs and aspirations of residents, businesses, and visitors.

#### 4. Long-term resilience planning:

Integrate climate adaptation strategies into all aspects of waterfront development, from



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infrastructure design to urban greening projects, to future-proof the city against environmental challenges.

**5. Socio-economic interventions:**

Implement programs to support local entrepreneurship, cultural activities, and wellness tourism, ensuring a balanced socio-economic ecosystem that thrives year-round.

**6. Evaluation frameworks:**

Continue refining and applying KPIs to track progress across environmental, social, and economic dimensions. Use findings to adjust strategies and share insights with other cities facing similar challenges.

By combining visionary urban regeneration with practical tools like the Impact Model and a focus on socio-economic balance, Rimini is well-positioned to become a leader in sustainable coastal development. The lessons learned and successes achieved will not only benefit the city but also provide a blueprint for similar efforts in the other lead and replicate cities to improve the quality in waterfront areas.

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## About Re-Value – Re-Valuing Urban Quality & Climate Neutrality in European Waterfront Cities

The Re-Value partnership consists of nine European waterfront cities and selected European organisations that work to make the urban transition irresistible for everyone. This is done by demonstrating how climate neutrality and urban quality can be aligned, by re-valuing the cities’ connection to their waterfronts, strengthening co-benefits and mitigating potential adverse impacts.

Ålesund (Norway), Bruges (Belgium), Burgas (Bulgaria), and Rimini (Italy) demonstrate how integrated urban planning and design can be optimally deployed to achieve climate neutrality and significantly reduce GHG emissions by 2030. In addition, Cascais (Portugal), Constanța (Romania), İzmir (Türkiye), Písek (Czechia), and Rijeka (Croatia) learn, replicate and develop their own participatory story-building, data-driven scenarios, and financial and partnership models on integrated urban planning and design to accelerate their journeys to climate neutrality.

The partnership is coordinated by the Norwegian University of Science and Technology (NTNU) and is funded by the European Union's Research and Innovation funding programme Horizon Europe under grant agreement 101096943.

Learn more about the partnership and the outcomes on [re-value-cities.eu](https://re-value-cities.eu).

### Partners



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