

D3.1 Urban WeGeneration Action Plan and Implementation Roadmap for Cesena



WeGenerate

PEOPLE-CENTRIC SUSTAINABLE NEIGHBOURHOODS



Co-funded by
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DOCUMENT INFORMATION

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LIST OF ABBREVIATIONS

ACER – Emilia Romagna public Housing Company that carries out management, maintenance and qualification activities of the public residential building heritage in the provincial territorial area

ASP Cesena Valle Savio – Public Company for Personal Services of the Cesena Valle Savio district

CILS Cesena – Social Cooperative for Job Placement Onlus based in Cesena

CityGML – open standardised data model and exchange format to store digital 3D models of cities and landscapes

DT – Digital Twin

ENVI-met – high-resolution 3D modeling for Climate Adaption (software)

IHCs – Innovation Hub Clusters

INA-Casa – Post-World War II social housing program managed by the Italian National Insurance Institute

KPIs – Key Performance Indicators

OFF_LINE - Architectural Technology Study Workshop, Energy Innovation and Efficiency Laboratory (UNIBO research lab)

PNRR – Italian National Plan for Recovery and Resilience

PUG – Urban General Plan (urban planning instrument)

RFI – Italian Railway Network Company

SECAP – Sustainable Energy and Climate Action Plan

SIT – Territorial information system (cartographic and data collection portal)

SS9 – State Road n.9 (Emilia route)

SUMP – Sustainable Urban Mobility Plan

UHI – Urban Heat Island

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EXECUTIVE SUMMARY

This report outlines the plan and roadmap for implementing the actions conceived within the WeGenerate project at the 'Vigne-Railway' Cesena Demo site, which encompasses two urban areas separated by a railway line.

The analysis of the area's characteristics, challenges, opportunities, and potential served as the foundation for developing a series of integrated actions. These actions aim to enhance the quality of the specific urban environment, positioning this site as a pilot project for testing improvements in environmental sustainability, accessibility, and the usability of public spaces.

The actions that will be carried out during the project in pursuit of these fundamental objectives – aligned with WeGenerate's key topics – focus on raising awareness of sustainable mobility systems, enhancing social cohesion, promoting and implementing urban greening, supporting the redevelopment of public space and testing a digital twin as a decision-support tool for historic building renovations. The success of these actions will rely heavily on active community involvement and the integrated support of enabling digital technologies, which will serve as key drivers for their implementation.

The Action Plan and the Implementation Roadmap provides a detailed overview of the strategy designed to address the various challenges of the Cesena Demo site. It includes the planned activities, the stakeholders involved, the methodologies employed, and key implementation milestones to track process.

INTRODUCTION

“Reactivating urban space from the city gateway to the neighbourhood” outlines the manifesto of intent for the Cesena Demo, encompassing the ‘Vigne’ residential neighbourhood and the Cesena railway station district, which are physically divided by the railway tracks. These two areas comprise the operational focus of the WeGenerate project.

The project tackles issues with a transversal approach and urban regeneration pilot actions to advance Cesena’s ecological and environmental transition and advance the city’s path towards climate neutrality by 2050. Although working through small-scale interventions in a limited urban area, the WeGenerate actions aim to support this process in a manner coordinated with the medium and long-term needs of the territory and its community.

The Cesena Demo addresses the project’s key thematic axes: Integrated Planning & Digital Applications, Social Innovation & Participatory Action, Energy in the Built Environment, Sustainable Mobility, and Monitoring & Impact Assessment. These are tackled through actions guided by cross-cutting objectives, including:

- enhancing the connection between the Demo’s two urban districts to establish its role as a city gateway.
- improving the quality, accessibility, and usability of public spaces.
- promoting sustainable mobility by influencing citizens’ daily travel habits.
- strengthening social cohesion through democratic engagement.
- raising awareness of environmental issues and the value of energy efficiency in renovating the built environment.

Four action packages have been designed to achieve these objectives. These packages work transversally across the Demo area or target specific sites/buildings, complementing ongoing municipal projects.

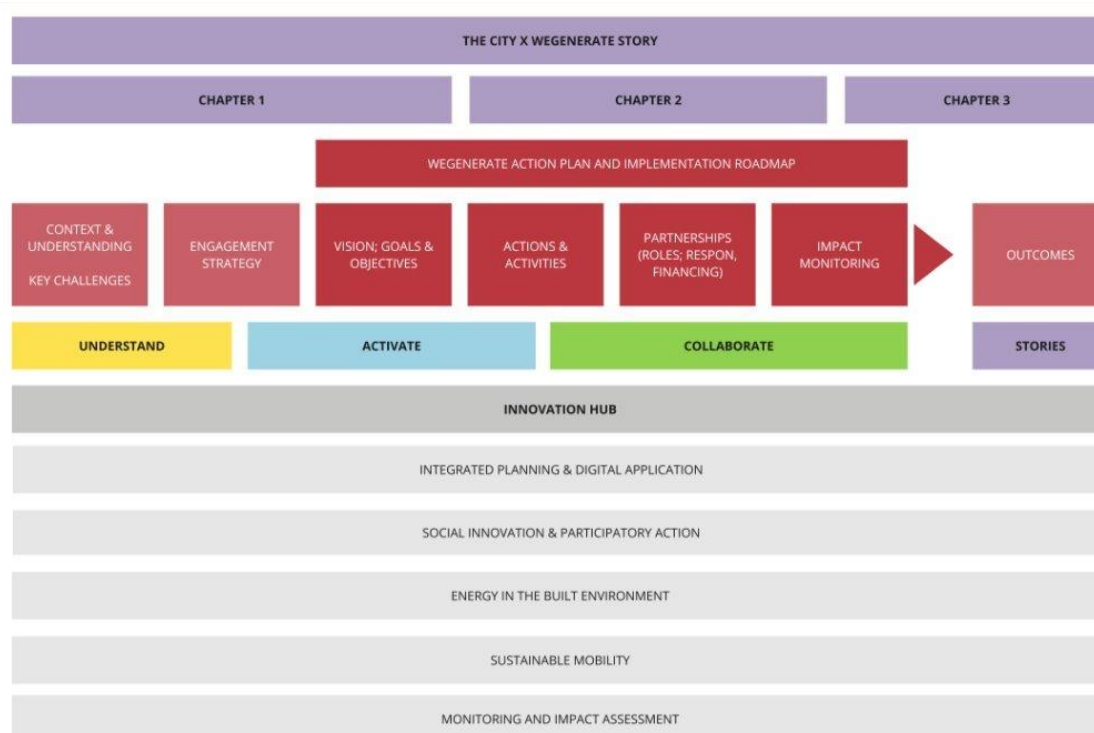


FIGURE 0 - WEGENERATE ACTION PLAN & IMPLEMENTATION ROADMAP PROCESS DIAGRAM (CREDITS: WEGENERATE)

This document is organized into two main sections: the Action Plan and the Implementation Roadmap - each with structured sub-sections. The document guides the process, from prioritising initiatives and engaging stakeholders, to allocating resources efficiently and monitoring progress. A detailed breakdown of these sections is provided below:

Sections	Main contents/objectives
Action Plan	Describing the <i>(we)regeneration</i> strategy of the Demo area
1. Demo Intervention Site Overview	Critical analysis of the peculiarities, problems and potential of the Demo area as a basis for the strategy that systematizes the individual project actions.
2. Local Stakeholders Engagement Strategy	Identification of the main groups of stakeholders who will be involved in the project activities and description of the engagement modalities (objectives, timing and tools).
3. Co-Created Visions	Framing project actions within a broader medium-long term programme of objectives and strategies.
4. Pilot Transformation Activities	Detailed description of individual actions highlighting objectives and the planned implementation process.
Implementation Road Map	Planning The key moments of <i>(we)regeneration</i> strategy of the Demo area

TABLE 0 – MAIN SECTIONS OF THE DOCUMENT

ACTION PLAN

1. Demo Intervention Site Overview

Understand the problems and opportunities: place, people, plans and policies

1.1. Demo Site Location

Cesena is a municipality located in the Emilia-Romagna region, in the central-northern area of Italy. The city of 96,014 inhabitants is also the capital of the Forlì-Cesena province, together with the city of Forlì. The 65-hectare 'Vigne-Railway' Demo area ("Demo Area") is situated north of the historic city centre and extends across the *Ancona-Bologna* railway line.

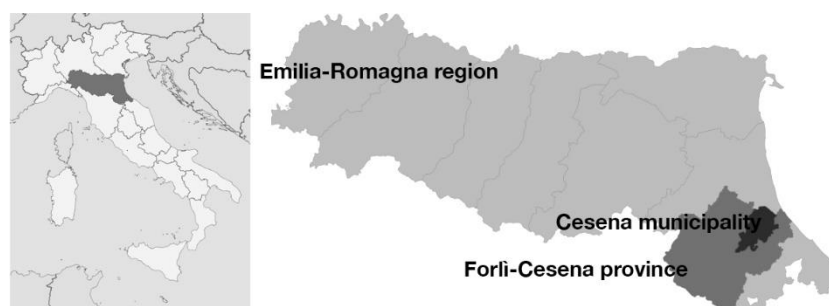


FIGURE 1.1 – CESENA IN THE REGIONAL TERRITORY OF EMILIA-ROMAGNA (GRAPHICS: SERENA ORLANDI UNIBO – CARTOGRAPHIC BASE FROM WIKIPEDIA)

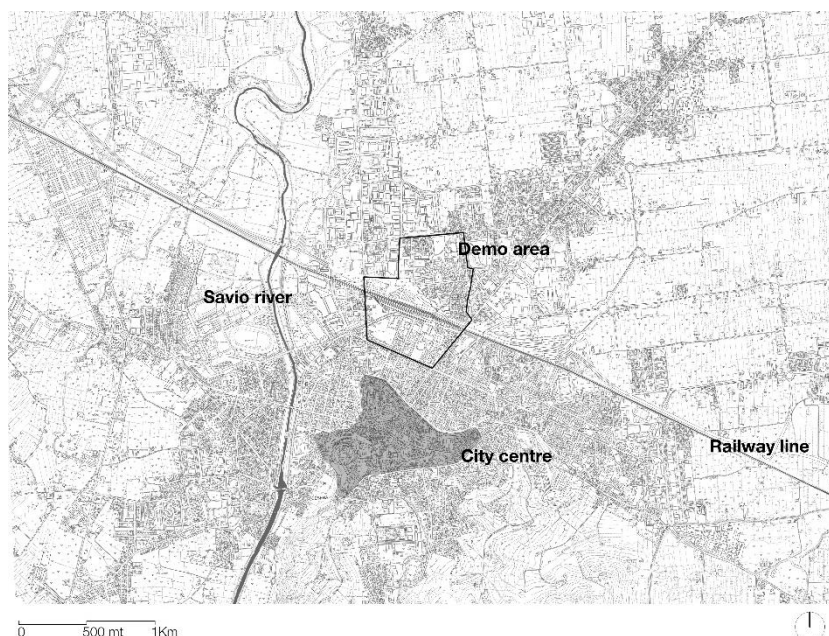


FIGURE 1.2 – DEMO AREA IN CESENA MUNICIPALITY, HIGHLIGHTS ALSO INCLUDE THE HISTORIC CENTRE, THE SAVIO RIVER AND THE RAILWAY LINE (GRAPHICS: SERENA ORLANDI UNIBO – CARTOGRAPHIC BASE FROM THE EMILIA-ROMAGNA REGION GEOPORTAL)

1.2. Demo Area summary

The following describes the Demo Area's characteristics, in terms of geographic location, transportation infrastructure, land use/facilities, architectural/landscape landmarks, resident population, historical development, and recent and on-going urban transformation processes.

Boundaries

The Demo Area includes two urban districts divided by the railway line: the 'Vigne' neighbourhood (named after a social housing neighbourhood built after the Second World War) is situated north of the railway line, and it is part of the '*Cervese sud*' (*Cervese south*) larger neighbourhood;

the "Railway District", in proximity to Cesena's railway station, is situated south of the railway line, and it is included in the '*Centro Urbano*' neighbourhood (Urban Centre).

The Demo Area is bounded on the north by the *Via Madonna dello Schioppo* road and to the south by the *Viale Giovanni Bovio* road, which follows the historic Via Emilia route – SS 9 (the ancient Roman communication axis that crosses the Emilia Romagna region in a straight line, and connects the cities of Rimini and Piacenza from south to north). The eastern and western boundaries are less precisely defined but can be roughly delineated by *via Ravennate* to the west and *via Cervese* to the east (Figure 2.1).



FIGURE 2.1 – CESENA DEMO BOUNDARIES (GRAPHICS: SERENA ORLANDI - UNIBO, CARTOGRAPHIC BASE FROM SIT)



FIGURE 2.2 – EAST-WEST VIEW OF THE DEMO AREA (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.3 – NORTH-WEST VIEW OF CESENA DEMO AREA (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.4 – NORTH-SOUTH VIEW OF CESENA DEMO AREA: LOOKING OVER THE VIGNE NEIGHBOURHOOD TO THE SOUTH (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.5 – SOUTH-WEST VIEW OF CESENA DEMO AREA: LOOKING OVER THE ‘RAILWAY DISTRICT’ TO THE SOUTH-EAST (CREDITS: CESENA MUNICIPALITY)

Connections and road infrastructures

The Demo Area benefits from its proximity to the train and bus station in terms of access to the local and regional public transport network. The area is also served by a designated urban bicycle route network, part of an urban scale connection network named '[Bicipolitana](#)', involving the lines n.4 (*Cervese*); n.5 (*Ravennate*), and n. C (*Circular*) connecting the historic/urban centre to the northern areas of the city.

The two areas are connected by three bicycle/pedestrian crossing points: on the edges of the Demo Area through underground passages *via Cervese* and *via Ravennate*; in the centre of the Demo Area via an underground passage through the railway station, which also provides access to the train platforms. The vehicle crossings are located outside the Demo Area limits, corresponding to *via Cavalcavia* (west), and the Kennedy Viaduct (east): road axes that are connected to the accesses to the underground highway/tunnel (*Secante*) that runs parallel to the railway on the north side.

The roads that internally cross the 'Vigne' side are largely equipped with sidewalks and are subject to compliance with reduced speed limits (30km/h) – formally imposed for all residential areas of the city. On the 'Railway' side, except for the access avenue to the train and bus station (*Viale Europa*), the crossing paths are mostly pedestrian. The new mobility hub project (including the Bike Station, the bus station, the railway station and Karl Marx square redevelopment) and the renovation currently underway will significantly highlight the area's vocation for sustainable transport (pedestrian, cycle and public transport).

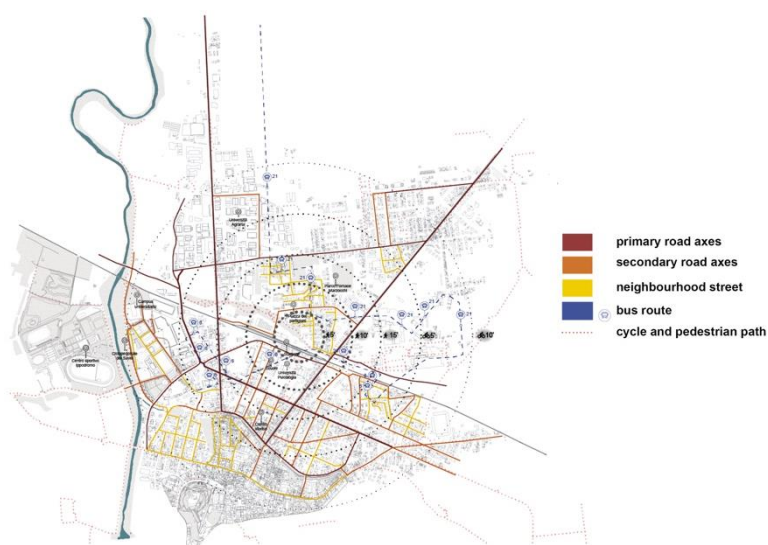


FIGURE 2.6 – CESENA DEMO AREA: MAIN ROAD INFRASTRUCTURES (GRAPHICS: UNIBO STUDENTS)

Green infrastructure

The Demo Area, particularly in its 'Vigne' northern sector, is characterized by the presence of many parks and green areas of different sizes that provide important green infrastructure, and define a potential ecological corridor. The assets include: the *Soprasecante* Linear Park (partly under completion) running parallel to the railway line on the east-west axis; the *Fornace Marzocchi* Park, on the site of an abandoned clay quarry; the *Iqbal Masih* Park,

another neighbourhood garden adjacent to a kindergarten; the small scale green spaces within the complex of public housing *Vigne INA-Casa* block. The green areas are used frequently by neighbourhood residents, but could benefit from greater care, maintenance and connection.



FIGURE 2.7 – CESENA DEMO AREA: GREEN AREAS (GRAPHICS: UNIBO STUDENTS)

Land use and facilities

The ‘Vigne’ area – north of the railway line – is predominantly characterized by residential with some primary services with relevance at neighbourhood level (i.e., kindergartens and primary schools, small retail shops, a church, sports equipment, etc.) and several parks.

The ‘Railway’ area – south of the railway line – stands out for the presence of infrastructures and public services with an urban scale relevance, in particular: high school complexes, University headquarters, the main bus station, and the railway station. Activities related to the tertiary sector, some shops, housing blocks and offices are also located on this side.

The limited extension of the area makes the various services easily accessible on foot or by bicycle. There are some car parks in both sectors of the Demo area: those near the railway station are mainly used by commuters or users/workers of schools and offices.

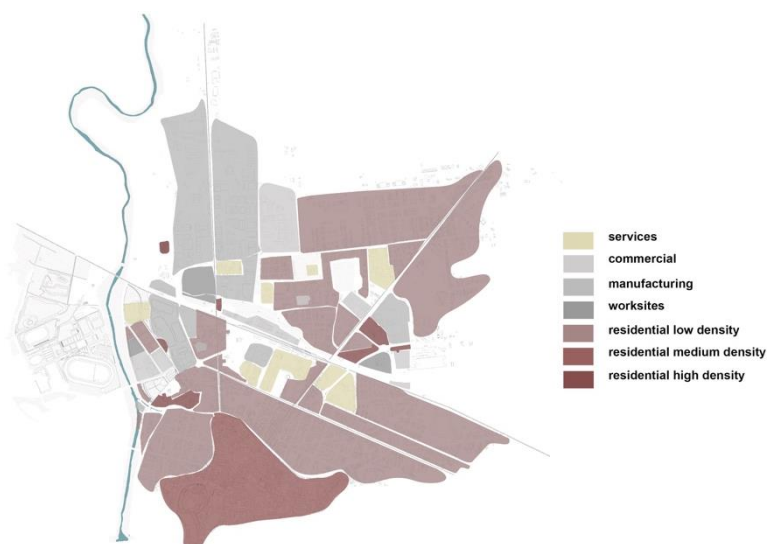


FIGURE 2.8 – CESENA DEMO AREA: LAND USE (GRAPHICS: UNIBO STUDENTS)

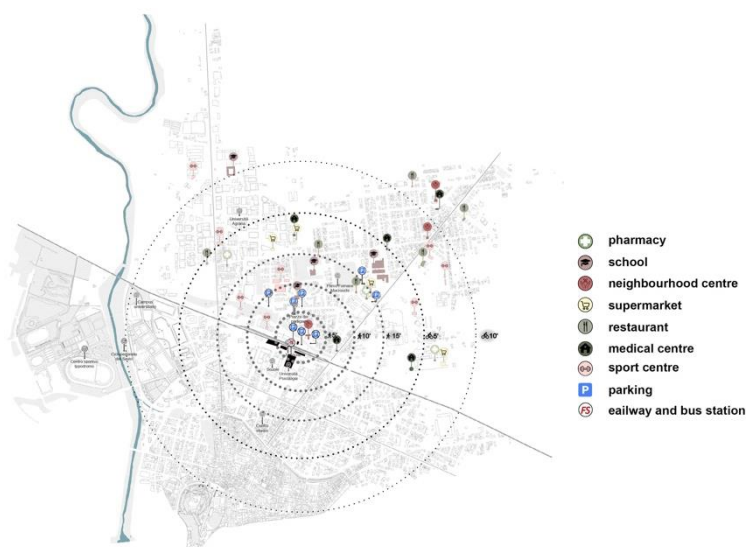


FIGURE 2.9 – CESENA DEMO AREA: SERVICES AND FACILITIES (GRAPHICS: UNIBO STUDENTS)

Demographic data

From an administrative point of view, the northern area ('Vigne') is part of the '*Cervese sud*' (*Cervese south*) south' district, while the southern area ('Railway') is included in the '*Centro Urbano*' (*Urban Centre*) district. The demographic data available refers to the entire district, thus the information was extrapolated based on the boundaries of the Demo area.

Type of data	unit	Vigne-Railway
Inhabitants	no.	2,735
Elderly (over 65 years old)	%	≈ 28
Kids (0-9 years old)	%	≈ 7
Teenagers (10-16 years old)	%	≈ 13,5
Migrants	%	≈ 14

TABLE 2.1 – DEMOGRAPHIC DATA ESTIMATE OF DEMO SITE (SOURCE: CESENA MUNICIPALITY – SIT)

Historical notes

The history of the Demo area is particularly linked to the presence of the station and the railway line - built in the mid-nineteenth century - which led to the establishment of some industrial plants for the processing of fruit and vegetables, clay and sulphur, which historically characterized the economy of the city, and which remained in operation until the mid-1970s and early 1980s. Some traces of the industrial past of the Demo area are still visible in some existing and refurbished buildings, while in other cases its memory is entrusted to historical documents, the shape of the urban blocks, or the names of the streets. The main urban sectors which testify to the history of the area are listed below and identified on the map (Figure 2.10).

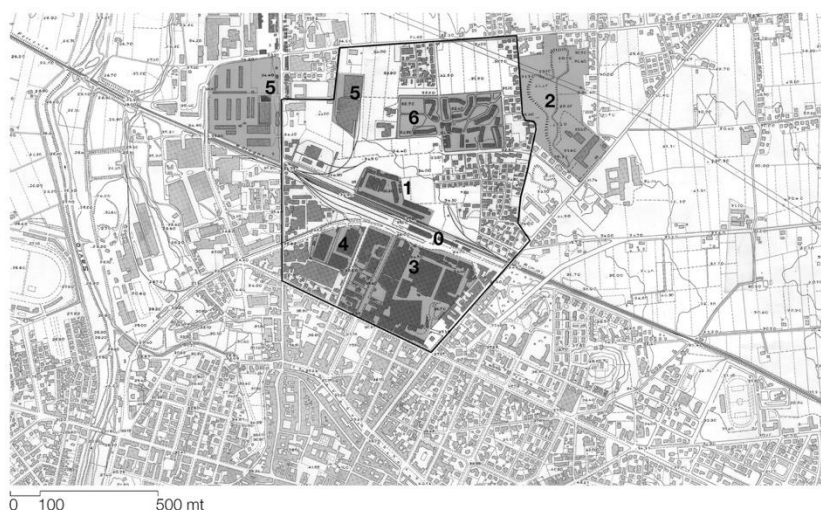


FIGURE 2.10 – DEMO AREA HISTORICAL SETTLEMENTS, 1968: 0. RAILWAY STATION; 1. *MONTECATINI*; 2. *MARZOCCHI*; 3. *ARRIGONI*; 4. *MANUZZI*; 5. CRAFT DISTRICT; 6. *VIGNE INA-CASA*. THE BORDER MARKS THE DEMO AREA (GRAPHICS: SERENA ORLANDI, UNIBO - AERIAL PHOTOGRAMMETRY OF THE MUNICIPALITY OF CESENA)

(1) The *Montecatini* Company sulphur refinery (1917-1962) was located north of the railroad: today, there are essentially no traces left of this settlement, as its buildings were demolished and replaced with other constructions hosting craft and commercial business.



FIGURE 2.11 – THE SULPHUR REFINERY OF THE *MONTECATINI* COMPANY, 1926 (CREDITS: DELLAMORE ARCHIVE)

(2) The *Marzocchi* furnace, adjacent to a clay quarry (1911 - 1977) was located in the north-west area: the building was demolished but the site is still recognizable by the concave topography of the former quarry, transformed into a public park.



FIGURE 2.12 – THE FORMER MARZOCCHI FURNACE (CREDITS: DELLAMORE ARCHIVE)

(3) The *Arrigoni* canning factory for the transformation of agricultural products (1920s – 1960s) occupied a large urban block defining the entire southern front of the railway station. In the 1970s, after the factory was moved to another part of the city, due to its strategic

position, the area undergone important transformations which led it to take on the main characteristics that it still maintains today. The project envisaged the recovery of some existing warehouses and the creation of an important city hub with school complexes, public services, and the bus station.



FIGURE 2.13 – THE ARRIGONI PLANT, LAST YEARS BEFORE DECOMMISSIONING (CREDITS: DELLAMORE ARCHIVE)

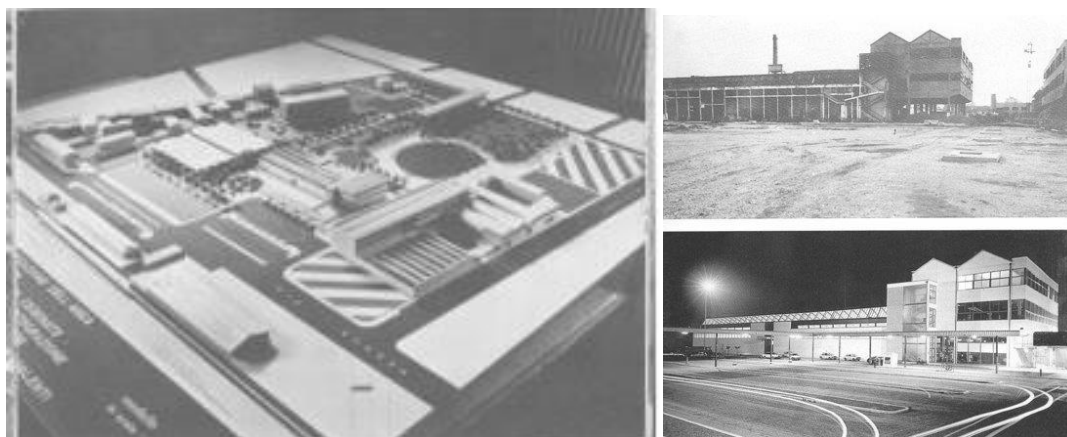


FIGURE 2.14 – URBAN PLANNING PROJECT OF THE CESENA PLANNING OFFICE FOR THE ARRIGONI AREA, 1977-18 (SOURCE: COMUNE DI CESENA, *CESENA DIECI ANNI DI RECUPERI (75-85)*, 1985)

(4) the *Manuzzi* company plant, related to fruit and vegetable exports, was located in a large lot in the south-west side, adjacent to the former *Arrigoni*. The area, after the transfer of the factory, was designated for the construction of a complex of residences, offices and services (Urban Regeneration Program '*Parco Europa*', 2004 - 2021), only partially realized. The area today describes an urban void awaiting a future destination.



FIGURE 2.15 – THE *DINO MANUZZI* WAREHOUSE, 1957 (CREDITS: ZANGHERI ARCHIVE)

(5) In the north-west sector, starting from the 1950s, a large district of craft and fruit/vegetable warehouses began to develop and expand: at the beginning of the 2000s, part of this area was destined to be transformed by the *Novello* Urban Regeneration Programme (2008 – 2021) into a residential sector.

(6) Another sector of the Demo area of historical importance is the *Vigne INA-Casa* neighborhood, built between 1957 and 1963 on the design of the architects Ilario Fioravanti and Saul Bravetti, as part of a national program for post-war reconstruction and increase of workers' housing. The district was designed as an 'autonomous unit' of housing and primary public services (kindergarten, square, local shops, a social centre, sport facilities, the church, green spaces) due to its peripheral location in relation to the city centre. The urban fabric was characterized by an irregular layout, generated by the distribution of built volumes creating a sequence of open spaces and green areas of various sizes, connected by pedestrian paths. The neighborhood, which at the time of construction was surrounded by the countryside, is today integrated into the built environment and still maintains the peculiar characteristics of its urban layout.



FIGURE 2.16 – AERIAL VIEW OF THE *VIGNE INA-CASA* NEIGHBOURHOOD, 1950S-1960S (SOURCE: FACEBOOK)



FIGURE 2.17 – *VIGNE INA-CASA* NEIGHBORHOOD (CREDITS: ILARIO FIORAVANTI ARCHIVE)



FIGURE 2.18 – PIAZZA PARTIGIANI IN VIGNE INA-CASA NEIGHBOURHOOD (CREDITS: ACER ARCHIVE)

More recent transformations

In recent years, the Demo area has been affected by some transformation programs and interventions, while others are under realisation or planned for the next period in accordance with the General Urban Plan of the Municipality of Cesena.

- The **Framework from General Urban Plan (PUG)** provides for the area the following main objectives:
 - Improvement of inter-modality, in particular local and sustainable public transport, with appropriate structures (e.g., bike station, bus terminal, etc.) and upgrading of networks (cycle and pedestrian);
 - Strengthening the role of "urban gateway" with localization of equipment and functions of a collective nature, from education, cultural and social facilities, public services and innovation services;
 - Improvement of the aesthetic quality, security and urban comfort, with attention to the design of open spaces in particular public – including roads, to be transformed into spaces for pedestrians;
 - Improvement of connections - in particular the routes between the station and the historic centre - and of rail underground crossings;

-



 Co-funded by
the European Union

- **Urban Regeneration ‘Program Novello’ (2008 – ongoing) and ‘Soprasecante’ Park (2008 – 2015/ongoing) - Urban Regeneration Program Novello (2008 –ongoing) and ‘Soprasecante’ Park (2008 – 2015/ongoing)** - The intervention initiated with the International Ideas Competition in 2008, which recognized a design team led by architect Simona Gabrielli and the GAP studio, alongside contributions from LAND S.r.l. for the open spaces and green areas. Following the competition, S.T.U. *Novello S.p.a.* was established to spearhead the planning and design efforts for the transformation of the *Soprasecante* park and the *Novello* neighborhood. The *Soprasecante* park, a linear green space, saw partial completion in 2015, after the underground construction of a new fast road designed as an alternative to SS9 (Emilia Street) within the urban area. Despite facing several delays, the construction phase of the *Novello* neighbourhood is currently underway.

Despite facing several delays, due to the severe economic crises that occurred in the following years, the construction phase of the *Novello* neighbourhood is currently underway.

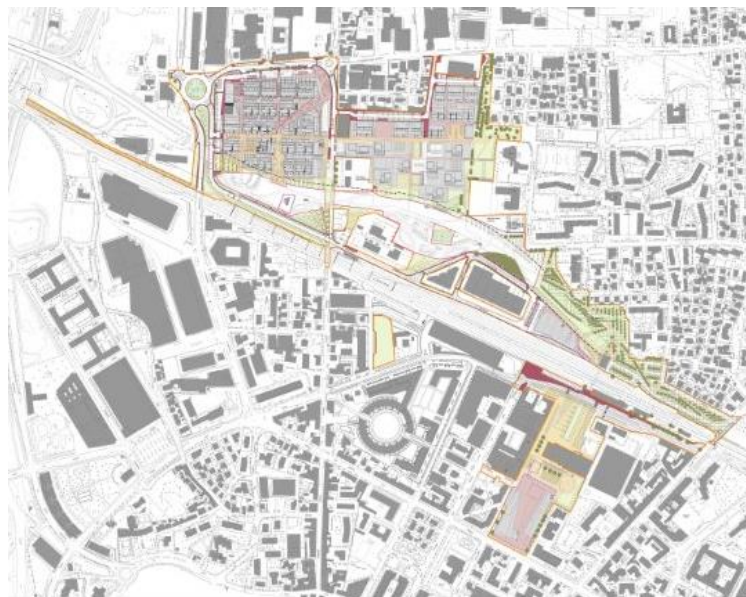


FIGURE 2.21– URBAN REGENERATION PROGRAMME *NOVELLO*, 2008-ONGOING (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.22 – SOPRASECANTE PARK, 2008-2015/ONGOING (CREDITS: CESENA MUNICIPALITY)

Ongoing and future transformations

- **Railway station renovation** - the project, realized by the Italian Railway Service (RFI), foresees a series of interconnected intervention aimed at regenerating Cesena Railway Station building and surrounding outdoor spaces (Figure. 2.24). The focus is on four main areas: (1) renovation and seismic improvements of the train station building itself with priority works on the atrium, waiting room, restrooms and facade; (2) restoration of platform canopies to preserve their historical features; (3) redesign of surrounding outdoor spaces such as creating a Kiss & Ride parking area, a new bus shelter, taxi parking, and spots for people with reduced mobility; (4) development of a bike station service, in collaboration with the municipal administration (see paragraph below).
- **The RECOVERY FUND (PNRR) - National Plan for Recovery and Resilience** - together with some REGIONAL and LOCAL FUNDS are supporting the realisation of an **intermodal and sustainable Mobility Hub**. Key projects are:
 - **New Bus Station** (≈ 5.9 mil.€) - the realisation of the new city bus terminal, currently in its building phase, foresees in 2025 the shifted of the bus station from the actual location – *i.e.*, Karl Marx square - in order to transform this space in the new city gateway (Figure 2.25).
 - **Karl Marx square regeneration** (≈ 10 mil.€) - the project, to be implemented by 2026 according to the PNRR timeline, works on outdoor open spaces regeneration through innovative solutions for adaptation to climate change - such as realisation of rain gardens, use of permeable surfaces for pavements

and increase in vegetation and shaded areas. The project for the square aims to enhance green spaces, increase accessible areas, and ensure better connections towards schools and the city centre by creating a direct connection (Figure 2.26).

- **Bike station** (≈ 1.5 mil.€) - will be realised converting the spaces of the former goods warehouse placed nearby the train station. A covered and secure bike parking area for station users, as well as a range of services related to urban cycling will be implemented, promoting a change of mindset towards active mobility, as most of city shifts are in a ray of a 2/3 km distance (Figure 2.27).
- **Retrofit *Ex-Fricò* building** (≈ 3 mil.€) - a mix of regional and local funding will lead to *Ex-Fricò* renovation and refunctionalisation. The building will host a polyfunctional hub with hybrid spaces mixing start-ups incubator, city employment centre, co-working spaces, meeting rooms, laboratories, auditorium, etc. (Figure 2.28).



FIGURE 2.23 – INTERVENTIONS IN THE RAILWAY AREA PNRR FUNDING: RED BOUNDARY – BUS STATION; GREEN BOUNDARY – KARL MARX SQUARE; BLUE BOUNDARY – RAILWAY STATION AND BIKE STATION (CREDITS: CESENA MUNICIPALITY)

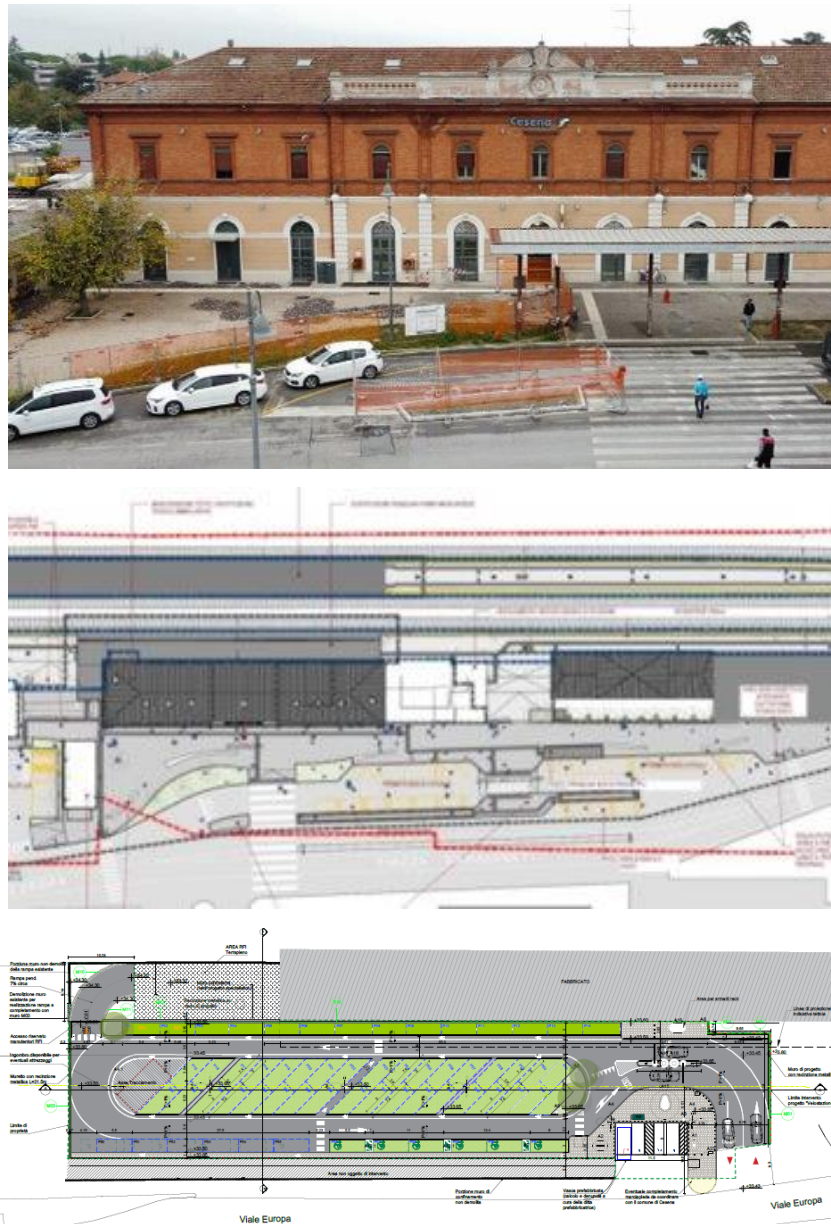


FIGURE 2.24 – RAILWAY STATION RESTORATION BY FERROVIE DELLO STATO COMPANY (CREDITS: CESENA MUNICIPALITY)

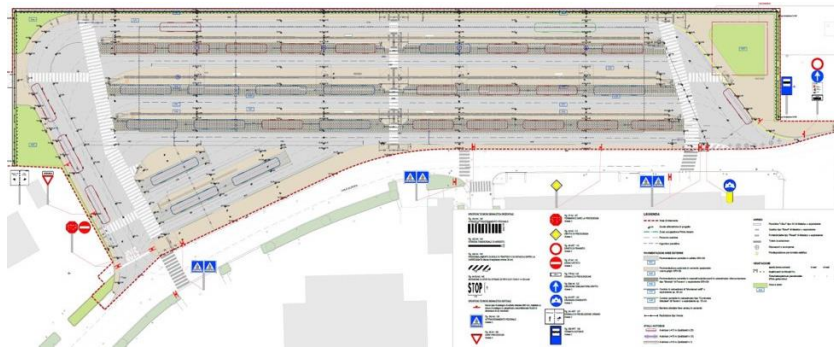


FIGURE 2.25 – NEW BUS TERMINAL, 2022 – 2025, PNRR FUNDING (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.26 – NEW KARL MARX SQUARE, 2022 – 2026, PNRR FOUNDED (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.27 – NEW BIKE STATION, 2022 – 2026, PNRR FUNDING (CREDITS: CESENA MUNICIPALITY)



FIGURE 2.28 – EX-FRICÒ BUILDING RETROFIT, VIEW OF THE FACADE AND PORTION OF THE EXISTING BUILDING AFFECTED BY THE INTERVENTION (CREDITS: CESENA MUNICIPALITY)

Other past, recent and ongoing community-based initiatives

The Demo Area, in recent years, has been the subject of several projects and initiatives promoted by different stakeholders (municipality, Academia, cultural associations) which have involved the local community, and inspired by objectives of improving the quality and use of public spaces, supporting citizens energy empowerment, recovering the historical and collective memory of this part of the city.

- **2023 – ongoing, [School Street](#):** an initiative that temporarily closes the stretch of road in front of the Vigne primary schools, to allow students to enter and exit the school in complete safety. Pedestrians, bicycles and vehicles for the transport of disabled people are allowed to pass.



FIGURE 2.29 – SCHOOL STREET IN 'VIGNE': TEMPORARY TRAFFIC STOP SIGNAL (CREDITS: CESENA MUNICIPALITY)

- **2022 - 2023, ['La fabbrica diffusa. Produzione e architettura a Cesena'](#) (The Factory Spread. Production and Architecture in Cesena):** a research project by the Department of Architecture of the University of Bologna which resulted in an exhibition, public talks, a call for photos collection, and the publication of a book on the industrial past of the area.
- **2019 – 2022, ['KAIRÓS. Il patrimonio culturale come opportunità di rigenerazione urbana'](#) (Cultural Heritage as an opportunity for urban regeneration):** an URBACT Programme founded project focusing on the use of cultural heritage as an opportunity for urban development and social sustainability, that led to the draft of an integrated action plan defining the strategic vision for the railway station, underlying its role of 'Urban Gateway' for Cesena City.



FIGURE 2.30 – TEMPORARY TACTICAL URBANISM INTERVENTION REALIZED IN THE RAILWAY AREA BY THE ‘KAIROS’ PROJECT (CREDITS: CESENA MUNICIPALITY)

- **2019 - 2022, ‘Un’altra stazione’ (Another station):** a competition for young artists to create large-scale murals on the facade of one public building in front of the bus station.

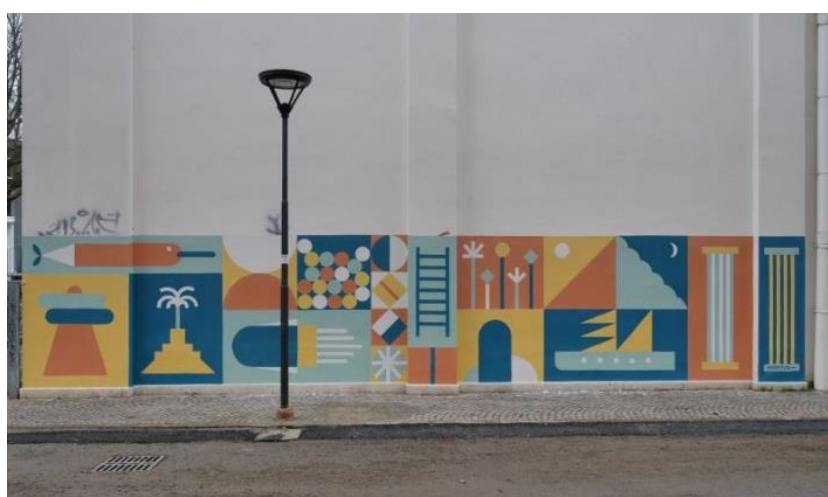


FIGURE 2.31 – STREET ART INTERVENTION REALIZED WITHIN THE ‘ANOTHER STATION’ INITIATIVE (CREDITS: CESENA MUNICIPALITY)

- **2022 - ‘En-Action - Energy Citizenship in action - by (and with) students toward the city and the territory’** (University of Bologna - Alma Idea call): the project focuses on produce knowledge on energy issues and ecofriendly behaviours initiating awareness and involvement processes starting from the student's community of the Cesena University Campus. As many universities students are also commuters, the railway station area plays a central role in their everyday transport habits.

- **2023 - 'Tutti Insieme Tutti Green'** (All together, all green): the participatory process, led by Cesena in-house society *Energia per la città*, deals with the multi-stakeholder development of a practical guide towards the development of Energy Community (EC) experiences in Cesena local context, leveraging on the regional and national legislative framework and incentives. Even if the project worked at the city-scale level, the Vigne-Railway area – thanks its mix of functions (residential, schools, tertiary, etc.) – can be a promising area for testing EC model., deals with the multi-stakeholder development of a practical guide towards the development of Energy Community (EC) experiences in Cesena local context, leveraging on the regional and national legislative framework and incentives. Even if the project worked at the city-scale level, the Vigne-Railway area – thanks its mix of functions (residential, schools, tertiary, etc.) – can be a promising area for testing EC model.
- **2021 – ongoing, 'Green city Cesena'**: a seasonal summer program of sports, cultural and recreational activities in parks and public green areas proposed by local associations based on a partnership agreement with the Municipality. The *Fornace Marzocchi* park is among the green areas hosting sport activities.
- **2021 – ongoing, 'Piedibus' (Walking bus)**: a voluntary-based project that promotes the reduction of air pollution in the surrounding areas schools and pedestrian transport within neighborhoods involving children, families and school staff. Within the 'Vigne' area there is a walking bus line that starts from the *Fornace Marzocchi* Park and crosses the *Vigne-INA Casa* block to reach the 'Rita Levi Montalcini' primary school.
- **2021 – 2023, 'Cambiamo marcia' (Change transports habits)**: two campaigns were performed – *Eppur ti muovi* (2021) and *Ogni viaggio conta* (2023) to promote the adoption of sustainable behaviors in the mobility shifts through a practice of self-observation of citizens transport-related behaviors. The railway and bus station area play a pivotal role in citizen's change of attitude in transport habits.
- **2021, 'Ina Casa Una Casa per uno Una casa per tutti' (One house for one. A home for all)**: a cultural project curated by the AIDORU association focusing on the Vigne neighborhood and aimed to revive collective memory through mapping, archival research, and interviews.

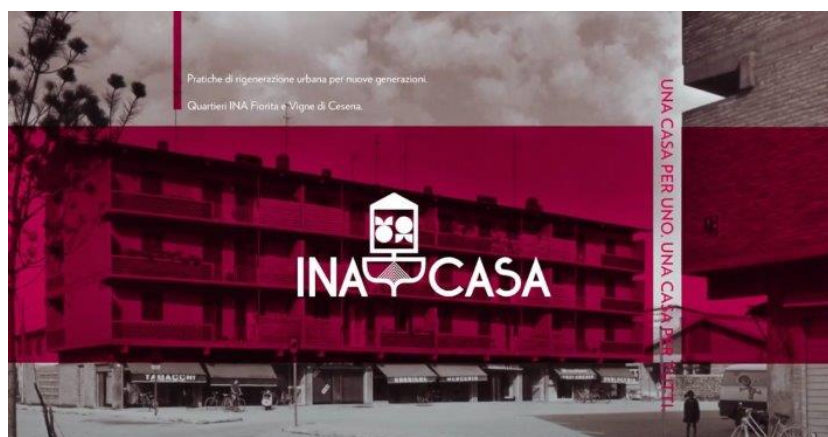


FIGURE 2.32 – MANIFESTO OF THE INA-CASA PROJECT (CREDITS: AIDORU)

- **2020 – 2021, 'Le ciminiere', 'Fornaci o dell'Identità', and 'InOpera' projects** by [Alchemico tre](#) cultural association, resulting in storytelling, digital mapping, short films and videos production aimed at the recovery of the industrial memory of the area.

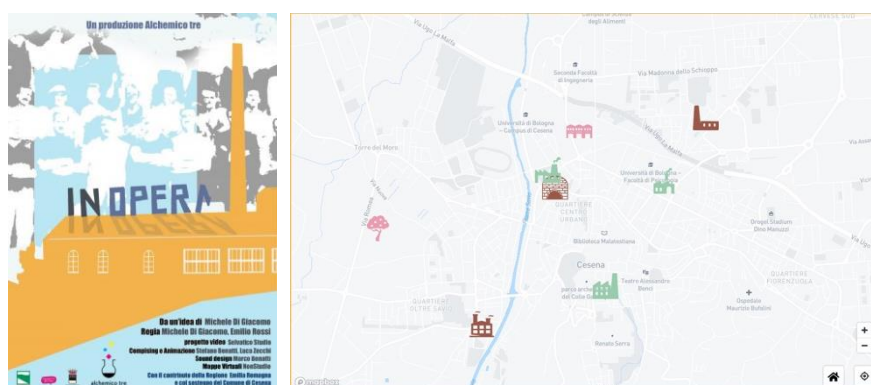


FIGURE 2.33 – POSTER AND DIGITAL MAP DEVELOPED WITHIN THE 'IN OPERA' PROJECT (CREDITS: ALCHEMICO TRE)

- **2015 – 2018, 'Resistenza mAPPe Emilia Romagna':** a digital mapping and cultural itineraries on the scenarios of resistance to fascism in Emilia Romagna.



FIGURE 2.34 – 'RESISTENZA MAPPE' DIGITAL MAP (CREDITS: EMILIA ROMAGNA REGION)

1.3. Policy & Regulatory Framework Analysis

The actions of the WeGenerate project in the Demo area fit into and seek synergy with a series of ongoing and planned initiatives, at different levels of scale.

Commitments and involvement in International Networks

In recent years, the Municipality of Cesena has been advocating for a comprehensive and integrated planning strategy aimed at creating a sustainable and resilient urban environment. To advance this goal, it is essential to address a range of emerging needs—such as developing climate-adaptive and resilient outdoor spaces, establishing a multi-modal and active mobility framework, renovating the built environment for energy efficiency, and enhancing awareness of energy and environmental issues. Achieving this requires coordinated efforts through extensive inter-departmental collaboration, multidisciplinary expertise, and well-structured public-private partnerships with local stakeholders.

Cesena has undergone a series of commitments to meet the ambitious challenges associated with urban transition. In 2016, the city became a signatory to the **Mayor Adapt** initiative, continuing the journey initiated in 2009 with its participation in the Covenant of Mayors. Following this commitment, in 2019 Cesena adopted its Sustainable Energy and Climate Action Plan (SECAP), which sets targets for reducing emissions (-40% CO₂ reduction by 2030) and outlines integrated strategies and actions for adaptation and mitigation. In 2020, Cesena became one of the first cities in Europe—and the first in Italy—to sign the **Green City Accord**, with the goal of achieving ambitious targets by 2030 across five environmental matrixes: air quality, water management, urban greening, circular economy, and noise reduction. In 2021, the city joined the **Green City Network** by signing the Charter that commits Italian cities to climate neutrality objectives.

Additionally, the city has engaged with several strategic international networks- including **ICLEI** (since 2022), **Scalable Cities** as an Observer (since 2023), **COST Action 'PED-EU-NET'** (since 2023) and **NetZeroCities** as a follower city in **LET'SGOV project** (since 2024) — to learn best practices, share experiences, identify barriers and enabling factors, and seek new funding and collaboration opportunities to build capacity towards climate transition.

Planning tools

In Cesena a series of urban planning tools were recently updated and they act as the framework within which WeGenerate's actions will be planned and implemented according to a multi-level and multi-stakeholder approach. The most relevant tools are listed below:

- **Urban General Plan 2022** (PUG - available online [here](#)) - according to Regional Law 24/2017, in 2022, Cesena adopted the new Urban General Plan, promoting a significant reduction in soil consumption and fostering large-scale regeneration interventions with a positive environmental impact. In parallel, a specific **Regulation for Ecosystemic Services** was approved in 2024 (available [here](#)), supporting a climate-responsive transformations of the built environment by promoting widespread use of Nature Based Solutions (NBSs) and Sustainable Urban Drainage Systems (SUDs) both in private and public interventions;
- **Sustainable Urban Mobility Plan 2022** (SUMP - available online [here](#)) - fostering a multi-modal mobility system, Cesena adopted the SUMP with a specific focus on active mobility, thanks to the implementation of the Bikeplan (*VeloCE* - available online [here](#)), as well as a series of sensibilisation campaigns (*Cambiamo Marcia* – available here). The SUMP strictly support the development of the Railway station are as the new 'Mobility Hub' for the entire city;
- **Sustainable Energy and Climate Adaptation Plan 2019** (SECAP - available online [here](#)) – the Municipality approved the plan promoting mitigation and adaptation strategies at city level.

Strictly aligned with the tools at city level, a series of policies, plans and strategies – both at regional and national level - guide and support the long and challenging pathway towards climate neutrality.

Regional Level (Emilia Romagna)

- **Pathway towards Climate Neutrality before 2050 2024** (available online [here](#))
- **Pact for Work and Climate 2023** (available online [here](#))
- **Law promoting Renewable Energy Communities 2022** (available online [here](#))
- **Strategy for Adaptation and Mitigation 2018** (available online [here](#))

National Level (Italy)

- **Decree to incentivize Renewable Energy Communities 2023** (available online [here](#))
- **Energy and Climate Integrated Plan 2023** (available online [here](#))

1.4. Problems and opportunities

The Demo area is a highly strategic district for the city of Cesena. Both the 'Vigne' and Railway' sectors present some problems and challenges that the project intends to address in terms of potential to be developed.

The railway line caesura

First, the railway line is undoubtedly a physical barrier which limits accessibility and permeability between the two sides despite their proximity.

Vigne

On the 'Vigne' side, the weak pedestrian and cycle connection towards the city centre do not adequately support 'sustainable' daily transport habits despite the short distance to be covered. A lack of recreational and social spaces and a well-organised parking system for residents describe another weak point of the area. Although the green spaces component is marked, connections are not efficient and some of these are under-used or not frequented by all citizens. The area is mainly residential, and some basic services are available, but it can be considered a 'dormitory district' not particularly lively in terms of urban life. Finally, the built environment present poor energy and anti-seismic performances.

Some strategical indications for the area are collected in the planning tools but there are no already scheduled interventions. Such guidelines/strategies mainly aim at:

- enhancing green spaces connection in view of a better fruition of open spaces and Urban Heat Island (UIH) phenomenon mitigation through climate-adaptive paths;
- favouring active mobility through capillary pedestrian paths and efficient cycling lanes, and valorising the strategic position in the territorial context - i.e., near to train/bus station and high schools;
- preserving the typological characteristics of *INA Casa* social housing block, simultaneously fostering business model to support private owners in retrofit intervention;

- boosting cohousing/cooperative model to increase sense of community and mutual exchanges, as well as the share of resources - e.g., energy (sufficiency - having enough, but not using too much concept).

The WeGenerate project assumes such guiding strategies and include among its objectives the valorisation of the green spaces system of Vigne with the ambition to reconnect this area to the city centre (15MC concept) and, at the same time, to improve the outdoor space quality for the socialising and recreation of the local community, as well as to test the use of Digital Twin model for evaluating different building renovation scenarios for the *INA-Casa* social housing stock.

Railway

On the 'Railway' side the main problems relate to the common conditions that can be often observed around railway stations: mainly daytime use, micro-criminality, degradation, poor safety perception. The value of cultural heritage of the area, linked to its industrial past, is not sufficiently communicated and therefore not recognized by citizens.

The improvements to the station building and the surrounding spaces, integrated with the interventions related to the mobility hub financed by the PNRR programme, should improve the conditions of accessibility, circulation, use and quality of the urban landscape.

According with these ambitions, the WeGenerate project aims to enhance the vision of the 'Railway' area as a new 'Gateway' to Cesena city centre: an innovative hub for multimodal mobility and an inclusive, accessible and green public space for commuters, students and local community.

2. Local Stakeholders Engagement Strategy

Connect with people on the ground to ensure ownership, accountability and strengthen the local community

Cesena Demo is planning to have a **multiple-stakeholder engagement approach**, supported by a facilitator who will directly manage targeted meetings and activities with local communities.

The facilitator subject

The Aidoru association (<https://www.aidoru.org/aboutus.html>), founded in Cesena in 2002, is the subject appointed by the Municipality, after a market analysis of the available subjects on the market, to support the process of local stakeholders' engagement in the WeGenerate project's activities.

Aidoru promotes cultural activities in various fields which include:

- musical and performance projects linked to the world of contemporary artistic production and new art forms in the name of innovation around the theme of the urban landscape, its mutations and the reconquest by art of the city spaces of everyday life;
- productions and teaching for children in the field of sensorial and participatory theatre, performing arts and urban regeneration practices with the aim of retelling and re-inhabiting the material and immaterial heritage of the different territories it explores.

In addition to the association's areas of expertise, in line with the project objectives and activities, Aidoru counts on a network of contacts already established with some of the local communities in the Demo area, thanks to a previous project – “INA CASA. A home for one. A home for everyone. Urban regeneration practices for young generations” – developed between 2021 and 2022 in the *Vigne INA-Casa* neighborhood, involving residents and a group of students from primary and secondary schools in the area.

Territorial analysis supporting main stakeholders' groups identification

The analysis of resident population data of the area provided by the Territorial Information System (SIT) of the Municipality led to the identification of the main stakeholder groups: a

stable elderly population in the area (28.15%), a population under 16 years old (20,84%), and a foreign origin population (14.55%).

In addition to the residential data, the area is heavily frequented by many young people due to the presence of schools (high schools and universities) in the 'Railway' District, as well as kindergarten, primary, and secondary schools in the 'Vigne' neighboring area and *INA-Casa* Block.

Many of these young people (both minors and of legal age) use public transport daily, including buses and trains in the Railway area, thus falling into the 'commuter' category, alongside adult workers.

The VIGNE-RAILWAY Local Community: Main stakeholder groups and specific objectives

Three main stakeholder groups have been identified considering the characteristics and current vocation of both areas ('Vigne' neighbourhood to the north and 'Railway' district to the south) defining the Demo site.

- The **YOUNG**, in particular **students** - from the Department of Architecture, UNIBO (19-24 years old), one high school - 'Technical Institute Garibaldi - Da Vinci' (14-18 years old), one secondary school – 'Tito Maccio Plauto' (11-14 years old) based in the nearby area, and one primary school – 'Rita Levi Montalcini' (6-11 years old) based inside the boundaries of the Demo site.

These educational institutions were selected due to their location within the urban district of direct influence of the project (central or peripheral areas). Additionally, some of the schools had participated in the 2021-2022 project "INA CASA. UNA CASA PER UNO. UNA CASA PER TUTTI" – an urban re-narration initiative by the Aidoru Association implemented in the Demo area (*INA-Casa* Block – 'Vigne' District): a condition which helps strengthen the network relationship in the area, creating a design process with stakeholders who are already somehow familiar.

In particular, for students from the 'Garibaldi Da Vinci' Professional Institute who are training as surveyors, participation in WeGenerate activities constitutes an opportunity to actively experience an integrated design process, as well as to have a direct contact with the Department of Architecture. The choice to involve educational institutions catering to

different age groups allows for the activation of multiple talents and skills: it enables a collective and concrete experience of the city they live in, as well as providing students with an inter-generational bridge experience, valorising each age group and its specificities. In doing so, the analysis and interpretation of the territory is enriched with different and multiple points of view, responding to various inputs stimuli and needs. This approach allows future designers to develop broader applications and connections between the citizens and the territory, thanks to a more comprehensive collection of both technical and imaginative data.

Students will primarily be involved in action A3.1, providing different contributions:

- *Primary school 'Rita Levi Montalcini' (6-11 years old):* the process and exploration of the territory will also involve the search for imaginative words and ideas to envision the future of the city, using an informal and multidisciplinary approach to engage children in an active participation experience and a poetic rediscovery of the territory.
- *Lower secondary school 'Tito Maccio Plauto' (11-14 years old):* the process will begin with their input, as well as insights gathered from other classes, to build hypotheses for enhancing the reality-based data. Together, they will identify what is lacking in the area, what they imagine, and what spaces could be created to suit their needs.
- *High school 'Technical Institute Garibaldi - Da Vinci' (14-18 years old):* the work will produce more analytical contributions (based on data previously collected with other schools and interviews with residents), such as area mapping, analysis of the current state, and connections to future design, in collaboration with UNIBO, to shape new ideas on uses, movement, perception, and sense of belonging in the area. In the second phase of the project, the class will be involved in the co-design and co-implementation of the intervention, guided by students, professors and tutors from the Department of Architecture.
- *Department of Architecture, UNIBO (19-24 years old):* considering the specific skills and area of competences, the involvement refers to the preparatory process of mapping and analysis of the area, the design of the temporary greening intervention, the active participation in the self-construction workshop.

The **objectives of youth involvement** are:

- Raise awareness of different critical thinking approaches, reflections on the landscape and its socio-cultural transformations.
 - Guide individuals to see themselves as part of a collective identity, fostering the development of conscious citizens who are responsible for the common good.
 - Encourage and promote more autonomous and active mobility, engaging with the reality of the area in its dynamic nature.
 - Increase the empowerment of younger generations by fostering protagonism and using the logic of peer education within a participatory and dynamic perspective.
- The **SITE-BASED CIRCLE**, referred to people who reside, work or regularly frequent the Demo area, will be involved across various actions and using different tools, both directly (e.g., actions A1, A2.1, A3.1), both indirectly for data collection and information provision (e.g., actions A3.2, A3.3, A4). Their involvement is essential and central to the facilitation process, as it allows for gathering and receiving contributions, sharing historical and personal memories. This creates an opportunity for reflection on the territorial and social changes that have taken place in recent years from the perspective of those who have experienced them firsthand.

The category of residents includes inhabitants, local shop owners, and some former residents who still regularly visit the neighborhood. Central to the process will be the contact and punctual presentation of the various steps, in particular starting from the opening of the working table on action A1 with the Neighborhood Council. Within the group of residents, there are several vulnerable sub-groups, including elderly people, people with disabilities, and individuals with a multiethnic background.

Various resident groups will be engaged through local associations and organizations, including the CILS social cooperative, which was chosen for its work promoting the employment and empowerment of people with disabilities. Other partners to be involved include ACER (Emilia Romagna Housing Agency) of Forlì-Cesena, as well as ASP (Public

Company for Personal Services) Valle Savio district, which offers intercultural and social mediation services, family and senior citizen centres. These organizations will help reach a diverse range of participants and ensure a more widespread and heterogeneous involvement in the project for those who are interested.

The **objectives** of the **site-based circle involvement** are:

- Support the decision-making process and the commitment of residents in the potential long-term renewal of the area.
 - Stimulate stable participation within the process to cultivate a collective social perspective on the territorial and social changes that have occurred in recent years.
 - Build greater collaboration between private individuals and public entities, leading to a better understanding of real issues and more thoughtful design.
 - Create a dynamic group atmosphere in which the current or perceived problems and ideas for improving the neighborhood and its services can be addressed.
 - Improve citizens' trust in institutional projects and reduce the perceived gap, thereby fostering dialogue and proposals.
 - Increase knowledge and cohesion within the territorial network and include a diverse range of participants, including those usually isolated from established social and relational networks.
- **COMMUTERS** crossing and using the 'Railway' area in relation to their daily/weekly journeys/activities. The latter category is mainly represented by adult workers and many students (legal age and minors), as well as vulnerable people (elderly, migrants, persons with reduced mobility). In addition, station users will also be involved, including railway workers and nearby shop owners. Involving these subjects, considering their daily but temporary presence in the area, will be useful to better understand the real dynamics of the district. Their involvement will be less stable compared to the two previous groups and will primarily aim to gather insights on the strengths, weaknesses, and potential dangers of the area (at different times of day), as well as to improve the accessibility and services of the area.

The **objectives** of **commuters' involvement** are:

- Provide input on areas perceived as problematic in relation to the different ways people experience the spaces in the Vigne-Railway area.
- Inform and be informed through quick communication systems about the area and changes in mobility, as well as the availability of new services (A2.1 active mobility – i.e., new bikestation service and A2.2 Park&Ride service).
- Identify the real dynamics of the area for those who traverse it daily, its shortcomings, and the desired improvements.

Additional stakeholders could be involved at a later stage, depending on what emerges from the initial stages of consultation on the potential vocation of the area.

In general, the youth are recognized as the driving force behind the transformation of the ‘Vigne-Railway’ area. This initiative needs to be part of a broader vision that involves their engagement in the general city's future goal of achieving climate neutrality, as until now a proper plan or roadmap is still missing in Cesena. In relation to these objectives, the different target groups will be involved in the co-creation process towards a greener and human-centric vision for the district, with a specific attention on open public spaces. In addition to this, on the Railway station side, the participatory approach will be aimed at informing and raising awareness on the active and multi-modal mobility concept related to the creation of the new mobility hub of the city. Problems and needs of vulnerable subjects will be taken into consideration in the process/strategy.

Mode, timing and process

The **preliminary consultation phase** will start from autumn-winter 2024, after initial contact with the neighbourhood council (public presentation of the project) and a door-to-door dialogue with residents and shopkeepers. These contact persons could act as local enabler to mediate the dialogue with the rest of the community throughout the process, always accompanied by the support of the facilitator.

The **participatory process** will be activated in the implementation phase of the project (from early 2025), following specific methods for each group of stakeholders. The activities with **youth** from high, secondary and primary schools will start in the school year 2025-2026 (September 2025-June 2026) within the framework of educational activities, supported by

the appointed facilitator subject. In parallel, the **site-based circle** (i.e., residents, business owners, associations, etc.) will be involved through a series of talks, urban trekking and workshops to firstly collect inputs and needs on the area supporting the co-creation activities that will follow. The knowledge base built during this data collection and consultation phase will prepare the ground to identify a pilot area for a temporary transformation, co-designed, and co-constructed with the local community, specifically involving students from the Department of Architecture, UNIBO for the design aspects. This process will be also supported by results from microclimatic simulations. The final co-construction workshop might be organized in spring 2026 (April 2026). A potential final round of participatory activities aimed at monitoring results, will be activated in the last period of the project (from summer/autumn 2026 to spring 2027). This step may also serve to experiment with forms of collaboration and long-term commitment with the local community: an aspect that will be better fine-tuned during the project in relation to the results of the co-planning. The involvement of **commuters** will mostly be indirectly through surveys and interviews with the aim of understanding expectations, problems and needs about the area, as well as being reached by awareness and information campaigns about the future mobility hub.

In addition to raising awareness on the ‘Active City’ concept – fil rouge of the Demo site actions, and on sustainable mobility issues linked to the future mobility hub, specific sectors of the local community will also be involved in other project actions, in particular: the Park&Ride service experimentation (A2.1) - i.e., commuters, residents and interested citizens; the creation of the digital platform (A3.3) - i.e., youth and interested citizens.; and the experimentation developed with the digital twin (A4) – municipal technicians, professionals, and interested residents.

TABLE 2.2 – COMMUNITY ENGAGEMENT STRATEGY IN THE DIFFERENT PROJECT PHASES

Project phase	Time period	Stakeholder groups	activities	Demo action/s
2024 September / 2024 December PREPARATORY PHASE	2024 Sept/Oct	Neighbourhood Council	Public presentation of the project	A1
	2024 Oct	'Vigne' Residents, Shopkeepers, local community	Door-to-door dialogue and interviews	A1
	2024 Oct	Railway/Piazzale K. Marx shopkeepers	On-site informational meetings (with the support of a project explanatory flyer)	A1
	2024 Oct	Testimonials from 'Vigne' neighbourhood	Narrative of life experience in Vigne Neighbourhood during the Site Visit of Consortium Meeting	A1
2025 January / 2026 June IMPLEMENTATION PHASE	2025 Jan/Mar	Students (high, secondary and primary schools)	First contact with the schools and workshop planning	A3
	2025 March/June	Neighbourhood Council, Residents, Shopkeepers, ACER, associations based on the area, interested citizens	Informative e-mails, one to one and work group meetings	A1
	2025 March/June	Vigne residents	Possible data collection	A4
	2025 March/2026 April/May	Commuters (adult and minors), vulnerable subjects (CILS, ASP, ACER, Vigne Parish/Church), Schools in the Station Area, Railway workers	Surveys (digital and printed surveys)	A2.1 A2.2 A3.1
	2025 June/2026 June	Residents, Youth, Commuters, Citizens	Informative posters in Railway Area and flyers, Vigne/Railway group chat and socials, press release/newspaper	A2.1 A3.3
	2025 Sep/2026 Apr	Students (high, secondary and primary schools)	Workshop led by an external expert	A2.1
	2025 Sep/2026 Apr	Commuters, Neighbourhood Council, Residents, Shopkeepers, associations based on the area, interested citizens	Workshop led by an external expert	A2.1 A3.3
	2025 Dec/2026 Apr	Students (high, secondary and primary schools)	Workshops and urban trekking led by Aidoru Association	A3.1
	2025 Dec/2026 Apr	Technical Institute Garibaldi Da Vinci, residents, UNIBO students	Co-design and/or co-construction workshop	A3.1

Project phase	Time period	Stakeholder groups	activities	Demo action/s
	2025 Nov/ 2026 Jun	Vigne and Railway residents, interested citizens	Informative and awareness-raising meetings	A3.2 A4
	2026 Jan / 2026 May	Vigne and Railway residents, interested citizens	Urban trekking in the area and interviews led by Students and Aidoru Association	A3.1
2026 July / 2027 August MONITORING PHASE	2026 Jul / 2026 Sep	Neighbourhood Council, Residents, Shopkeepers, ACER, associations based on the area, interested citizens	Conclusion of the Working Group and feedback collection	ALL ACTIONS

3. Co-created Visions

Collective ambition setting and storytelling

The WeGenerate interventions are strictly aligned with the initiatives and projects currently ongoing in Cesena and with a set of choices outlined in the political guidance and planning documents of the Municipality, aiming to move steadily toward climate-neutrality. Specifically, the WeGenerate actions are part of a broader, more ambitious plan for the ‘Railway-Vigne’ area. Some parts of this vision are already underway, like the transformation of the train station's south side, while others are still subject to future projects and proposals. The Municipality of Cesena is dedicated to supporting this area's transition, positioning it as a pilot for innovations that advance the city's climate-neutral goals. This approach reflects the wider efforts many Italian cities are making, driven by their participation in the “100 Climate Neutral and Smart Cities” Mission and their work on the Climate City Contract. Although Cesena is not formally part of this mission, the city is closely following these efforts and actively participating in various networking activities to learn from them. This includes Cesena’s involvement in the Follower Observatory of the Let’s GOv project (GA101036519), which is working with the nine Italian cities in the Mission and 16 other follower cities across Italy to overcome governance barriers in the climate transition (e.g., internal, external, and multi-level barriers).

When looking at different timeframes, WeGenerate's actions can be considered short-term interventions that should be extended and enhanced over the medium term (3-5 years after the project) to align with the long-term goals for 2050. The diagram below shows how WeGenerate actions in Cesena fit into a larger, long-term strategy that begins with the project and aims to help the city in envisioning a transition pathway toward climate neutrality (Fig. 3.1).

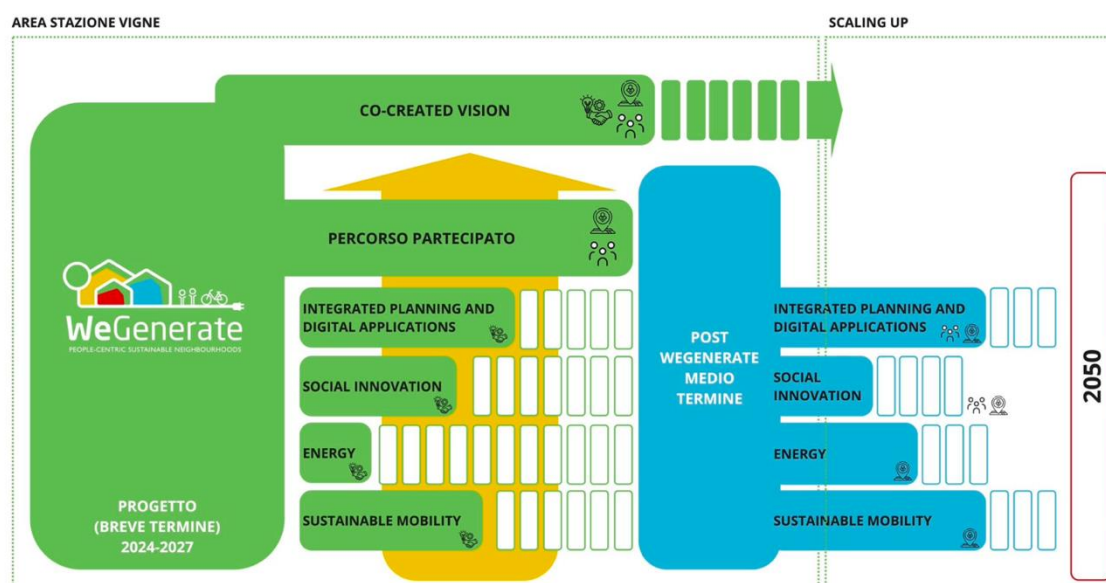


FIGURE 1.1 – A SCHEME SHOWING HOW, STARTING FROM THE WEGENERATE PROJECT, THE CITY OF CESENA AIMS TO SUPPORT HIGHER GOALS OF DECARBONIZATION IN THE AREA AND, IN THE LONG TERM, IN THE ENTIRE CITY (GRAPHICS: SAVERIA BOULANGER, UNIBO)

The first part of the diagram (in green) highlights the WeGenerate actions, organized into four innovation groups: Integrated Planning and Digital Applications, Social Innovation, Energy, and Sustainable Mobility. Although these areas have varying levels of focus and specific actions within the project, they hold significant potential to continue driving the city's transition even after the project ends (shown in blue in the diagram).

In the first innovation group, the project envisions two core actions: the development of a transition framework for the area (A1) and the creation of a Digital Coffee Room (A3.3). This digital platform aims to support the storytelling of the project itself and, more broadly, future urban transformations and data-sharing initiatives. It is intended to provide a space for sharing the evolution of the area and for engaging stakeholders in the project's journey.

The second innovation group focuses on developing and implementing co-created approaches and participatory practices. These practices are designed to guide both the creation of a long-term vision for the area and the definition of specific physical interventions. By involving local communities and stakeholders, the project seeks to ensure that the urban transformation reflects the needs and aspirations of those living in the area.

In the third innovation group, the project plans to carry out small-scale, temporary interventions—"acupuncture" interventions—and conduct microclimate analyses to understand the different outdoor comfort conditions and variable fluctuations (A3.1).

Additionally, energy efficiency improvements will be analysed and proposed for the area (A4), aiming to make it more sustainable and aligned with climate decarbonization goals.

Finally, within the fourth innovation group, the project foresees experimenting with innovative parking solutions and running awareness-raising campaigns (A2). These initiatives aim to promote more sustainable mobility practices and foster a greater understanding of innovative solutions and their impact on the city.

These actions are supported by the participatory approach that aims to support and guide part of the transformation during the project but also to set more detailed transition visions for the area. The co-created vision, in fact, should come from: the necessities of the city, the technical analysis and studies made by the Local Circle and the participatory approach, aiming to involve citizens and other local stakeholders. The co-created vision should also evolve in time to adapt to changes and new necessities.

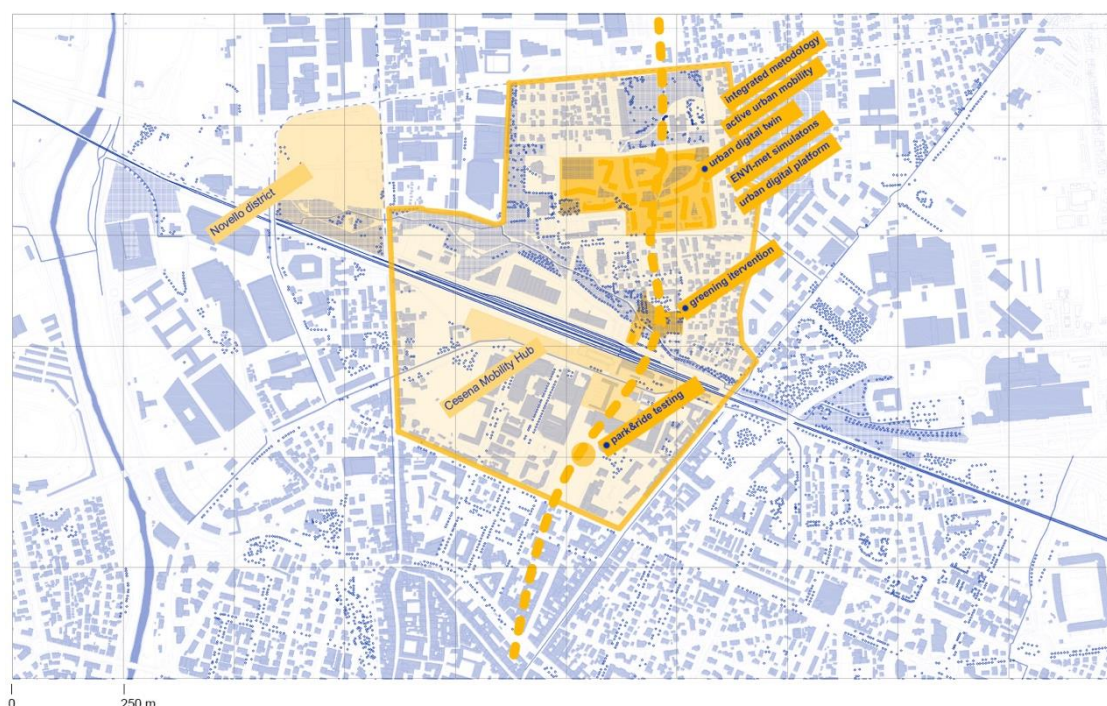


FIGURE 2.2 – THE WEGENERATE ACTIONS IN RELATION WITH THE OTHER ONGOING TRANSFORMATION IN THE AREA (GRAPHICS: SERENA ORLANDI, UNIBO).

Within this context, the ‘Railway-Vigne’ area is at the centre of potential future transformation. Figure 3.2 shows how the WeGenerate actions (in dark yellow) are combined with the other interventions in the same area (in light yellow). Together, these actions have the potential to transform the area into a new central hub for Cesena, by physically

reconnecting the north and south sides of the railway. The vision for the medium and long term is to strengthen this reconnection, enhancing the area's centrality within the city. The WeGenerate actions and intervention could prepare the ground for the implementation of a future possible masterplan for the area (figs. 3.4 and 3.5) emphasizing how reconnecting these two sides could play a pivotal role in creating a more cohesive urban fabric and improving city dynamics.



FIGURE 3.3 – THE MEDIUM-LONG TERM VISION FOR THE AREA AS THOUGHT BY THE CESENA LOCAL CIRCLE (GRAPHICS: UNIBO STUDENTS).

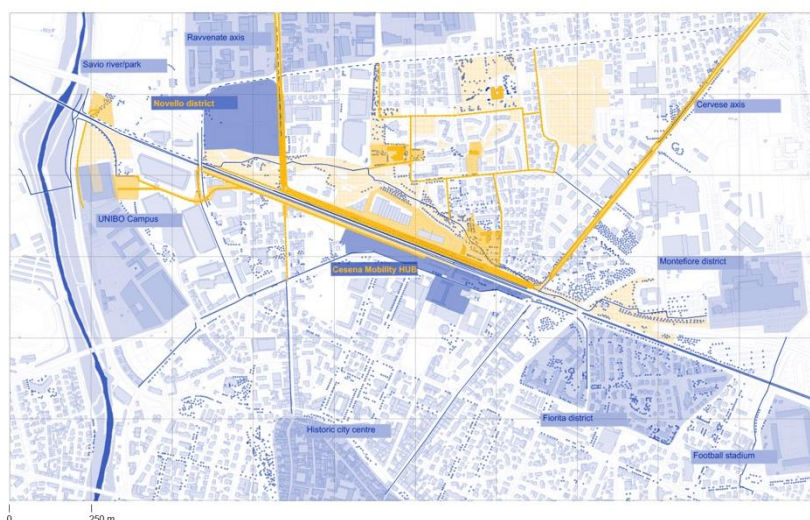


FIGURE 4.4 – THE MEDIUM-LONG TERM VISION FOR THE AREA AS THOUGHT BY THE CESENA LOCAL CIRCLE (GRAPHICS: SERENA ORLANDI, UNIBO)

4. Pilot Transformation Activities

Actions planned in the GA and refined activities

Actions implemented in the Cesena Demo will be the base for a climate-neutral ambition that can be scaled at urban level in a long-term perspective (e.g., 2040-2050) working in synergy with other relevant urban transformations (e.g., Mobility Hub and other interventions funded under the NextGenerationEU programme), projects (DUT project POSEIDON, Action grant C.LEVER, NetZeroCities project LETSGOV) and initiatives (e.g., Covenant of Mayors, Green City Accord, Scalable Cities, COST Action PED EU NET, etc.) towards climate neutrality, in which the city is currently engaged. A common and integrated vision capable of tracing a clear link between the different initiatives in a systemic way is still missing, thus WeGenerate may be the opportunity to define this general framework, within which to fine-tune a long-term strategy linked to a specific context-based implementation plan for grounding the project actions in 'Vigne-Railway' Demo area - intended as a pilot experimentation tentative towards climate-neutrality ambitions.

The actions envisaged for the Cesena Demo site contribute to the project objectives according to the four thematic axes/innovation clusters (Integrated planning and digital application, social innovation and participatory actions; energy in the built environment; and Sustainable mobility) acting in a transversal manner on the entire area (A1 - methodology, A2.1 - actions on active mobility, A3.2 - microclimatic simulations, A3.3 - digital coffee room) and targeted to specific areas/buildings (A2.2 - Park&Ride testing; A3.1 - greening intervention; A4 - digital twin). WeGenerate actions, complement the current projects (PNRR and other plans) and aim to strengthen the north-south and east-west axis, to better connect the 'Vigne' and 'Railway' sides - intended as part of an integrated system that strengthens the area role as the 'city gate'.

4.1. Action A1 – Integrated and systemic approach

4.1.1 A concise description of action

The action **frames the overall** long-term **vision** that holds together and will be implemented through all the different actions and sub-actions developed on crucial themes of the project such as sustainable mobility, support of digital enabling technologies, active citizen participation, urban regeneration, greening, and improvement of the built environment through energy efficiency. The action will work as a sort of red thread (*fil rouge*) and is aimed at the development of a co-created **regeneration methodology based on the ‘Active City’ concept** and with the broader vision of progressively **decarbonising the city**, involving key local actors in a participative perspective.

4.1.2 Connection to the Innovation Hub Clusters

The action, considering its role as a transversal connector, has links with all Innovation Hub Clusters: Integrated planning and digital application; Social innovation and participatory actions; Energy in the built environment; and Sustainable mobility.

4.1.3 Affected stakeholders, roles and responsibilities, governance considerations

The participatory activities, in line with the planned engagement strategy (see paragraph 2) will be managed by a facilitator appointed by the Municipality who will support the project in organising targeted meetings and activities involving the main stakeholder groups identified (1. youth and students from the Department of Architecture – UNIBO, one high school, one secondary school, one primary school; 2. residents, economic operators and associations based in the area, interested citizens; 3. commuters). WeGenerate project’s themes and objectives will form the basis of the dialogue and working table that will be set up with the local community in the Demo area, with the aim of gathering input and specific needs, to carry out the various actions envisaged in the project.

4.1.4 Implementation timeline and dependencies

The action A1, considering its objective of operating as a cross-cutting element to the others, will follow the implementation phases foreseen for the other project sub-actions (M15, January 2025 – M36, September 2026).

4.1.5 Available financial and human resources e.g., funding, financing and/or partnership options (existing or emergent), inclusion of other ongoing EU funded projects, etc.

Action A1. Actually, the resources available for this action are primarily the WeGeneration resources (staff from the municipality, researchers from the universities and the related budget). However, the city is contributing to the transformation of the area (south side of the train station) with PNRR funded projects. Additionally, the city has proposed part of the north entrance of the train station as part of an EUI call of proposals to support the evolution and the completion of the co-created vision for the area (results will be available in 2025).

4.1.6 Pilot monitoring and evaluation: describe how the actions will be monitored and evaluated for impact throughout the project. The description should be aligned with the relevant KPIs developed in WP7, as well as with any existing KPIs currently in place in the Demo city to evaluate impact.

The monitoring and evaluation of the action will go hand in hand with the implementation - and related monitoring - of the more operational sub-actions of the project. The main KPIs to which this action might contribute are the following (also according with WP7 impact framework).

KPI Category	KPI Title	Action/sub-actions
3 – Social Inclusion and Citizen Participation	3.1 - Democratic process	A1
	3.2 - Sociability	
	3.3 - Social engagement	
4 – Socio-Economics	4.4 - Investments Triggered	A1
5 – Sustainable Mobility	5.2 - Urban Accessibility	A1

TABLE 4.1 - KPIS IDENTIFIED TO ASSESS THE IMPACTS OF THE ACTION A1

4.2. Action A2 – Multi-modal mobility system

4.2.1 A concise description of action

The action deals with citizens' sensibilization on active and intermodal mobility concept, working through two main sub-actions: organisation of workshops/roundtables to favour a mindset change in transport habits, mainly leveraging on the design and promotion of a new Bike Station service as part of the city mobility hub (A2.1); and the implementation of a parking solution for Park & Ride facilities customised for the Cesena Demo aimed at prioritising parking spots for public transport users (A2.2).

4.2.2 Connection to the Innovation Hub Clusters, identification of the innovation beyond business-as-usual in relevant Clusters.

The action has links with three Innovation Hub Clusters: Integrated planning and digital application – considering the synergy with the digital application to be developed by the project (see action A3.3 - Digital coffee room); Social innovation and participatory actions – due to the role of community involvement; and Sustainable mobility – due to the focus of the action.

4.2.3 Affected stakeholders, roles and responsibilities, governance considerations

The participatory activities in line with the planned engagement strategy (see paragraph 2) and will be managed by a facilitator appointed by the Municipality who will support the project in organising targeted meetings and activities involving the main stakeholder groups identified (1. Youth and students from the Department of Architecture – UNIBO, one high school, one secondary school, one primary school; 2. residents, economic operators and associations based in the area, interested citizens; 3. commuters).

4.2.4 Data needs, expertise / capability needs (if needed)

Data: commuters' numbers, flows and habits in reaching the train station / bike flows

Examples and best practices: management models of integrated mobility systems/ management and systemisation of different services/ business models/ Community involvement and activation methods.

Technological partner: ParkUnLoad is a smart parking platform based on Apps and micro-location technology to regulate, control, monitor and analyse restricted and time-limited parking zones in several market segments as well as Park&Ride facilities close to the Public Transportation network. ParkUnLoad will lead Park&Ride technical implementation in Cesena Demo

4.2.5 Implementation timeline and dependencies

Sub action A2.1. The organisation of specific initiatives focused on raising awareness on sustainable mobility habits will be developed as part of participatory activities with local communities. This action will be strictly connected to the participatory process planned as a key part for the new Bike Station service development, following the implementation phases foreseen by the project (M15, January 2025 – M33, July 2026). A participatory workshop on Bike Station service needs and priority will be organised concurrently with the Mobility Week annual event (planned in September 2025, tbc) and in strict alignment with other ongoing projects and campaigns on sustainable mobility. A potential round of participatory activities for monitoring results (from M36, September 2026 to M42, April 2027) will be evaluated during the implementation period.

Furthermore, a demonstrative workshop or site-specific event might be organized in synergy with Action A3.1, for instance, when carrying out the temporary transformation (M31-M32, May-June 2026). Another link with project actions concerns the creation of the digital platform focused on news, insights and data on environmental, energy and ecological themes (A3.3).

The scope of intervention for action A2.1 concerns the area at various levels of scale:

- the entire experimentation zone of 'Vigne-Railway', with the aim of enhancing its centrality within the urban context – in the perspective of a 15-minute city;
- the spaces that will define the future hub of intermodal mobility (under transformation until December 2026) - namely the bus station, Karl Marx square, the new front of the train station, and the bike station - with the goal of clarifying the services in relation to public transport infrastructures (bike lanes, bus lines, etc.);
- the management service for the bike station, which will be established in the renovated building of the former goods storage warehouse (September 2025), will

undergo a specific consultation, with the aim of designing and assigning its management.

Sub action A2.2. The preparatory phase - including the definition of the specific areas inside the Demo site, the signs design and the definition of the customised service/facilities - will closed at month 14, December 2024. According to this preliminary feasibility studies the specific location, the n. of parking spots and the week and daytime schedule for the pilot Park&Ride service experimentation has been identified. The pilot experimentation (sub-action A2.2) will be held from March to June 2025, followed by a Park&Ride monitoring and fine-tuning phase in view of its future implementation – foreseen from M26, November 2025 to M33, July 2026. The Park&Ride extended experimentation monitoring will then last until M42, April 2027.

Both sub-actions find a direct connection with the ongoing project for the new mobility hub (e.g., New bus station, Bike station/workshop, Bike and scooter sharing service, etc.), thus its time schedule – and potential delay - will have to be considered in order to create an effective synergy:

- the bike/scooter service is expected to be active at the end of 2024;
- the new bus station is expected to be finalised in 2025;
- immediately later the works for the new Karl Marx square will have to start in 2025 and finish by 2026;
- the BikeStation spaces are expected to be available at the end of 2025 (renovation intervention by RFI), but the service/management is still to be planned/designed.

Additional synergies could come from two funded project (regional and international) regarding urban logistic: (1) integrated plan for sustainable urban logistic and (2) last mile delivery in the city centre.

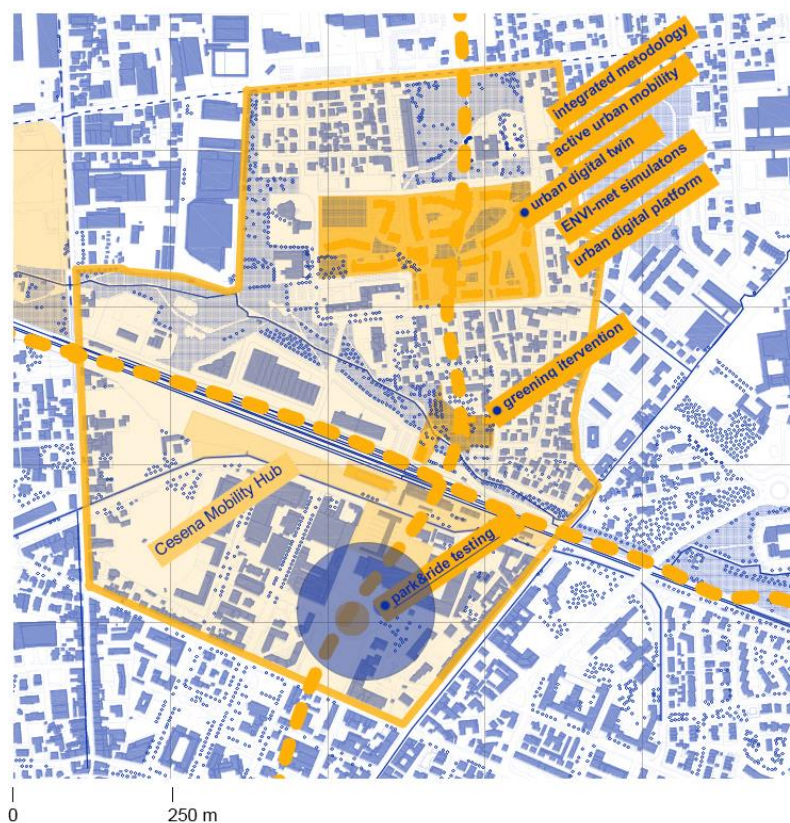


FIGURE 4.1 – AREA IDENTIFIED FOR ACTION A2.2 (GRAPHICS: SERENA ORLANDI, UNIBO)

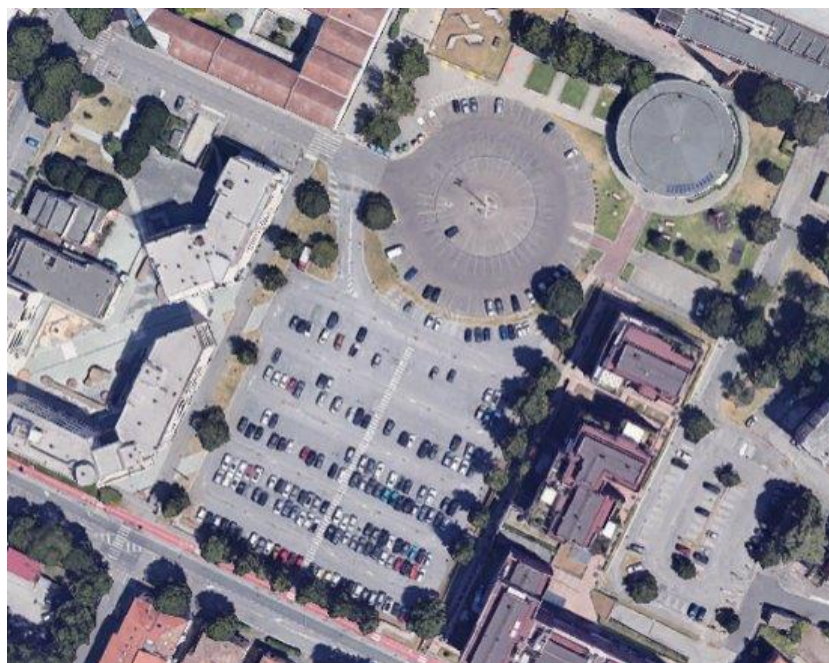


FIGURE 4.2 – THE PARKING AREA (ALDO MORO PARKING) IDENTIFIED FOR THE PARK&RIDE PILOT ON THE ‘RAILWAY’ SIDE (SOURCE: GOOGLE MAPS)

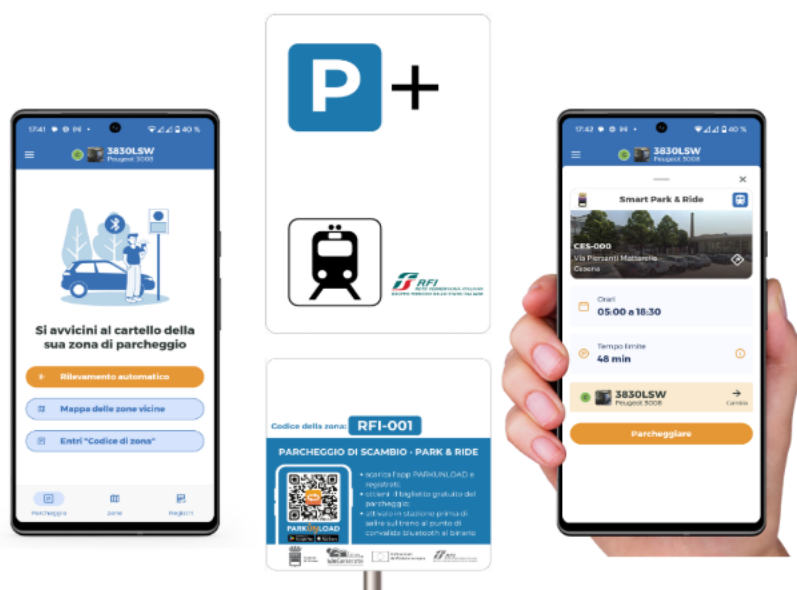


FIGURE 4.3 – PARK&RIDE – APP MOCK UP & COMMUNICATION SIGNS (CREDITS: PURKUNLOAD)

4.2.6 Available financial and human resources e.g., funding, financing and/or partnership options (existing or emergent), inclusion of other ongoing EU funded projects, etc.

Actually, the resources available for this action are primarily the WeGenerate resources (staff from the municipality, researchers from the universities and the related budget). In addition, some specific budgets from the project are foreseen for this action.

4.2.7 If possible, indicate where a policy, regulation, or other structural process needs to change to enable the action / portfolio to be implemented faster

Some pay parking lots will be transformed in free parking reserved to the Park&Ride service; for that reason, the involvement of the city parking manager (ATR) as well as a study for the economic feasibility of this intervention are needed. The installation of the Bluetooth sensor and related signal inside the Railway station need to be agreed with *RFI*. A review of the 'job ticket' - *i.e.*, monthly subscription to ease the parking costs for commuters – need to be aligned with the Park&Ride service.

4.2.8 Pilot monitoring and evaluation: describe how the actions will be monitored and evaluated for impact throughout the project. The description should be aligned with the relevant KPIs developed in WP7, as well as with any existing KPIs currently in place in the Demo city to evaluate impact

The main KPIs to which this action might contribute are the following (also according to WP7 impact framework). The monitoring and evaluation of the action will follow the phases

defined by the project, except for action 2.2 for which a monitoring and fine-tuning phase is planned after the first experimentation, as described above.

KPI Category	KPI Title	Action/sub-actions	
2 – Environment	2.1 - GHG Emissions Performance	A2.1	A2.2
	2.2 - Air Pollution from the Energy Consumption	A2.1	A2.2
3 – Social Inclusion and Citizen Participation	3.1 - Democratic process	A2.1	
	3.2 - Sociability	A2.1	
	3.3 - Social engagement	A2.1	
	3.4 - Demographic Composition	A2.1	
	3.5 - Safety and Security	A2.1	
	3.6 - Energy and Environmental Consciousness	A2.1	
4 – Socio-Economics	4.1 - Access to services and Amenities	A2.1	
	4.4 - Investments Triggered		A2.2
	4.5 - Global Cost		A2.2
5 – Sustainable Mobility	5.1 - Transport Behaviour	A2.1	A2.2
	5.2 - Urban Accessibility	A2.1	A2.2
	5.3 - Multi-modality	A2.1	A2.2
	5.4 - Cycling path supply	A2.1	
	5.5 - Renewal of Walking and Open Spaces	A2.1	
	5.6 - Physical activity	A2.1	
6 – Integrated Urban Regeneration	6.5 - Uptake of Digital Applications in Urban Regeneration Processes		A2.2

TABLE 4.2 - KPIS IDENTIFIED TO ASSESS THE IMPACTS OF ACTION A2

4.2.9 Long-term implementation partnerships for replication and scaling

For action A2.2, the possibility of implementing the service in other parts of the city will be evaluated in relation to the results of the implementation. The service will be the responsibility of the public body in charge of managing the parking areas. In both cases, a long-term implementation partnership could be found in another project output - the digital platform focused on news, insights and data on environmental, energy and ecological themes (A3.3), that could serve as a means of raising awareness on the issue of sustainable mobility. In addition to this, the long-term connection with the new mobility hub could be better envisaged when it will become operative, in a subsequent phase.

4.3. Action A3 – Climate-adaptive open spaces

4.3.1 A concise description of action

The action deals with the experimentation of small-scale (probably temporary) greening interventions using low-impact materials, co-developed and co-constructed with the local community and supported by experts (A3.1). The experimentation will be additionally enabled using microclimatic simulation to evaluate greening intervention and installation of environmental sensors to monitor outdoor conditions. The ENVI-met (or equivalent) simulations will be carried out in the OFF_LINE Laboratory of UNIBO with an advanced workstation composed of different components (i.e. thermal sensors, high-performance computer, etc.) for running the simulation (A3.2). An additional sub-action within this ambition refers to the development of an urban digital platform (Digital Coffee Room) where all the relevant news, insights and data on environmental, energy and ecological themes are communicated to citizens. Vigne-Railway Demo will act as an experimental district where a participatory transition process is taking off (A3.3).

4.3.2 Connection to the Innovation Hub Clusters, identification of the innovation beyond business-as-usual in relevant Clusters

The action links with specific Innovation Hub Clusters, in particular: Integrated planning and digital application – considering the digital application (sub-action A3.3) to be developed by the project and the development of microclimatic simulation (sub-action A3.2); Social innovation and participatory actions – due to the crucial role of community involvement in all the three sub actions; Energy – in particular for microclimatic simulation (sub-action A3.2); and Sustainable mobility – due to the direct and indirect impacts of the action.

4.3.3 Affected stakeholders, roles and responsibilities, governance considerations

The participatory activities, in line with the planned engagement strategy (see paragraph 2) will be managed by a facilitator appointed by the Municipality who will support the project in organising targeted meetings and activities involving the main stakeholder groups identified (1. youth and students from the Department of Architecture – UNIBO, one high school, one secondary school, one primary school; 2. residents, economic operators and associations based in the area, interested citizens; 3. commuters). The different stakeholders' groups will

be involved in specific activities (e.g. education activities, public meetings, urban trekking, performances, workshops, etc.) organized under the scope of the specific sub-actions, in particular: to collect inputs and needs on the area and the digital coffee room service; to co-design of the small-scale greening intervention, also supported by the results from microclimatic simulation. More detailed information on objectives and modalities of community engagement in Action A3.1 is described in the dedicated section of this report (see paragraph 2).

4.3.4 Data needs, expertise / capability needs (if needed)

This action requires specific data and expertise that have been appointed within the project resources or activated by the partners, internally.

Sub Action A3.1. The activities will count on the support of experts for technical co-development and co-construction of the small-scale intervention and for the implementation of engagement activities (facilitator).

Sub Action A3.2. The implementation of the microclimatic simulations will be carried out in the OFF_LINE Laboratory of UNIBO with an advanced workstation composed of different components (i.e. thermal sensors, high-performance computer, etc.) for running the simulation. The data needed for the simulations will be collected from the sensors installed in the area (installation timing still being defined).

Sub Action A3.3. Additional expertise refers to the technical support from the digital and communication sector of the Municipality for the definition of the digital platform, its realisation and its management.

4.3.5 Implementation timeline and dependencies

Sub action A3.1. Survey and site analysis, collection of case studies and good practices have been carried out during the preparatory phase foreseen by the project (till M14), resulting in a set of documents describing the demo area and a preliminary identification of possible areas where to co-design the small-scale intervention: documentation that will be the baseline to start working with local communities.

Based on what emerged from preliminary analyses, the Local Circle has identified the north entrance of the train station as a critical location for both the physical transformations

within the project and potential medium-term interventions. This area could serve as a key starting point for reconnecting the two sides of the city, playing an important role in bridging the urban divide.

Several key actions have been identified that could improve the area around the north entrance. One possibility is enhancing the system of public spaces, starting from this location and extending to the north, south, east, and west. The role of the north entrance and the *Bocciofila* building (bowling club) could be strengthened, transforming them into a gateway for the neighbourhood, with improvements to accessibility, permeability, and use by the community. Additionally, integrating new services could support residents, visitors, and commuters more effectively. The green space in front of the north entrance could also be enhanced by adding shading and urban amenities such as seating, bike parking, trash bins, a connection to Emilia Romagna WI-FI, and ticket vending machines.

During the construction phase in the southern area, the northern area could potentially host temporary services and spaces to offset the reduction in available or usable areas. An analogue signage system could be introduced to clarify pedestrian and cyclist connections with neighbouring districts such as Vigne, Parks, Campus, *Novello*, *Montefiore*, and key infrastructure like underpasses and *Velostazione*. Additionally, the park's amenities, including the playground and sports area, could be made more visible. Finally, a second Park&Ride experiment could be evaluated for the parking row adjacent to the entrance, with plans to integrate this with tree planting to improve the overall environment.

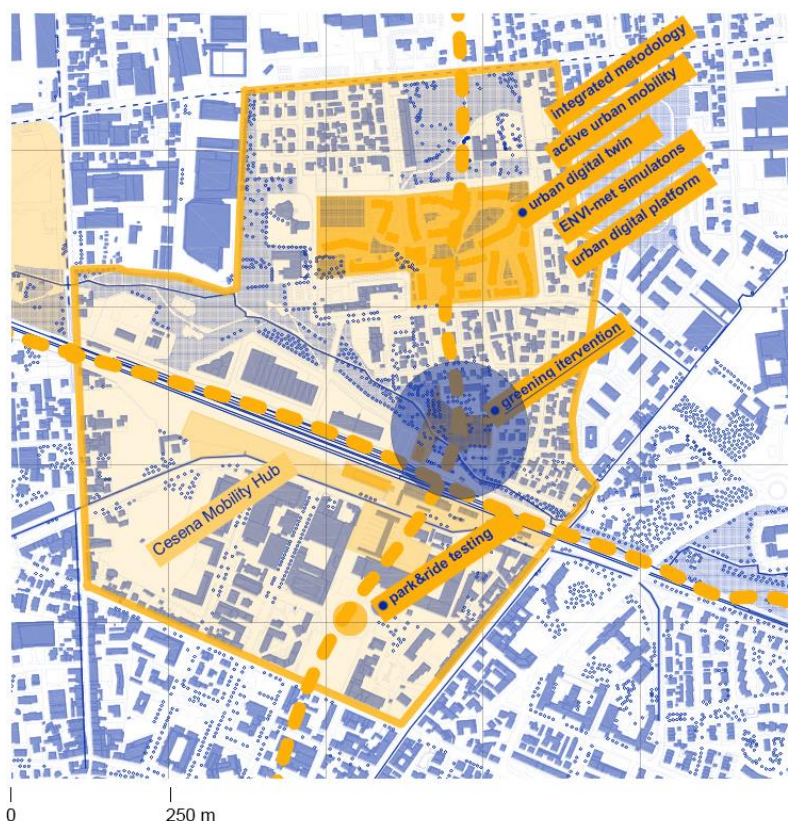


FIGURE 54 – AREA IDENTIFIED FOR ACTION A3.1 (GRAPHICS: SERENA ORLANDI, UNIBO)

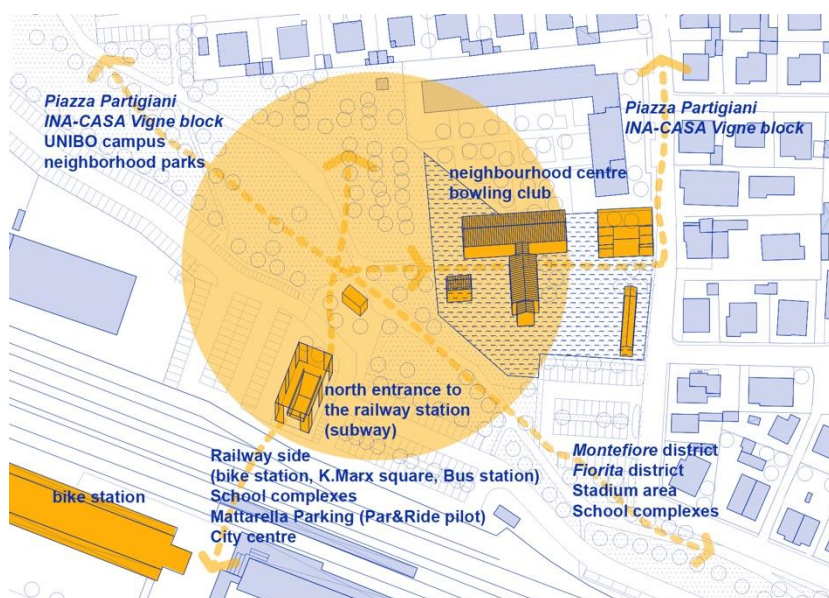


FIGURE 4.5 - THE NORTH ENTRANCE TO THE RAILWAY STATION AND ITS SURROUNDINGS (GRAPHICS: SERENA ORLANDI, UNIBO)

Co-design with stakeholders (see section 2 and section 4.5) will take place during the implementation phase (M15, January 2025 – M33, July 2026) with the aim of schedule the

co-construction workshop in the early summer of 2026 (May 2026). The last period will be dedicated, as per the project, to monitoring the results.

The sub-action has a potential synergy with sub-action A2.1, e.g., demonstrative workshop or site-specific event on sustainable mobility during the co-construction activities. Other dependencies and synergies to consider referring the site work related to the new mobility hub (e.g., new bus station, Bike station/workshop, Bike and scooter sharing service, etc.), thus its time schedule – and potential delay:

- the bike/scooter service is expected to be active at the end of 2024;
- the new bus station is expected to be finalised in 2025;
- immediately later the works for the new Karl Marx square will have to start in 2025;
- the BikeStation spaces are expected to be available at the end of 2025, but the service/management is still to be planned/designed.

Sub action A3.2. The preliminary activities related to microclimatic simulation with Envi-met will end in M14 with the project preparatory phase (M14). The first round of simulations in a set of identified areas describing the state-of-the-art and pre-intervention situation will be carried out in the first half of 2025 (M15 – M20), in order to provide the necessary outputs to support the choice of site/s for co-design and experimentation activities. A second round of ENVI-met simulations in the transformed areas will be implemented in the monitoring phase (M33-M42).

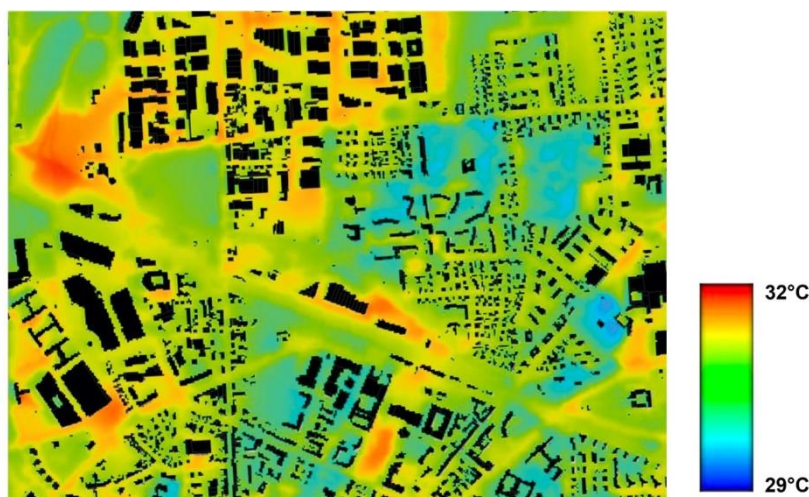


FIGURE 4.6 - ENVI-MET SIMULATION OF AIR TEMPERATURE - SURVEY DATA: 27 JULY 2024, 3 PM (CREDITS: UNIBO STUDENTS)

Sub action A3.3. A preliminary work for the Digital Coffee Room design has been developed during the preparatory phase of the project, in particular concerning: the definition of technical aspects (e.g., hosting, main access point, maintenance in the long term, etc.); the definition of the platform structure (e.g., sections, contents, etc.), the graphical aspects and of the platform layout; Identification of the main subjects/figures to be involved (Contents providers, technicians, professionals, designers, internal responsible offices, etc.); and the definition of main target users (e.g., Youngs, citizens, commuters, local associations, etc.). A survey template has been drafted to collect inputs from local communities and municipal offices with the aim to be released in January 2025. This first stage of activities will last until M14-M17. The University of Bologna has activated an internal internship for developing a Master's Thesis in Advanced Design on this topic. The student is working to propose a preliminary prototype of the platform and a service behind it in February-March 2025. Starting from this prototype a consultation with the Municipality of Cesena will be activated in order to understand how to start an implementation of the platform. Part of this work might also see the involvement of some participatory activities (see paragraph 2) if needed (e.g. involvement of design/architecture students and/or citizens). The objective will be to develop a pilot platform within the implementation phase, able to support part of the project's storytelling and potentially scalable to other projects or urban interventions at the end of the WeGenerate project.

4.3.6 Available financial and human resources e.g., funding, financing and/or partnership options (existing or emergent), inclusion of other ongoing EU funded projects, etc.

Actually, the resources available for this action are primarily the WeGenerate resources (staff from the municipality, researchers from the universities and the related budget). In addition, some specific budgets from the WeGenerate project are foreseen for this action. For the **sub-Action A3.1** there is allocated budget for building materials, tutors and technical support for the co-construction workshop. **Sub-Action A3.2** will use some budget from WeGenerate for technical appliances. In addition, for this action, the OFF_LINE laboratory will also make available different types of sensors (bike-sensors and others) and technical staff to support the completion of the activity.

4.3.7 If possible, indicate where a policy, regulation, or other structural process needs to change to enable the action / portfolio to be implemented faster

The sub-action A3.1 finds a crucial synergy with the ‘Regulations for the Implementation and Evaluation of Multi-retention and Environmental Land Allocations and Environmental Compensations’ recently adopted by the municipality: it will be important to align with these recommendations for the design of the intervention, albeit temporary or small-scale. In relation to the type of intervention – resulting from the co-design process – a formal authorisation by the competent municipal office (e.g. public works) may be necessary.

4.3.8 Pilot monitoring and evaluation: describe how the actions will be monitored and evaluated for impact throughout the project. The description should be aligned with the relevant KPIs developed in WP7, as well as with any existing KPIs currently in place in the Demo city to evaluate impact

The monitoring and evaluation of the action will follow the phases defined by the project (M33, July 2026 –M45, August 2027). The KPIs identified to assess the impacts of three A3 sub-actions are listed below.

KPI Category	KPI Title	Action/sub-actions		
2 – Environment	2.1 - GHG Emissions Performance	A3.1	A3.2	
	2.2 - Air Pollution from the Energy Consumption	A3.1	A3.2	
3 – Social Inclusion and Citizen Participation	3.1 - Democratic process	A3.1		A3.3
	3.2 - Sociability	A3.1		A3.3
	3.3 - Social engagement	A3.1		A3.3
	3.4 - Demographic Composition	A3.1		A3.3
	3.5 - Safety and Security	A3.1		
	3.6 - Energy and Environmental Consciousness		A3.2	A3.3
4 – Socio-Economics	4.1 - Access to services and Amenities			A3.3
	4.4 - Investments Triggered	A3.1		
	4.5 - Global Cost	A3.1		
5 – Sustainable Mobility	5.1 - Transport Behaviour	A3.1	A3.2	A3.3
	5.2 - Urban Accessibility	A3.1		A3.3
	5.3 - Multi-modality	A3.1	A3.2	
	5.4 - Cycling path supply	A3.1		
	5.5 - Renewal of Walking and Open Spaces	A3.1		
	5.6 - Physical activity	A3.1		A3.3
6 – Integrated Urban Regeneration	6.1 - Recycling and circular economy initiatives	A3.1		A3.3
	6.2 - Resource Recovery	A3.1		
	6.3 - Urban Heat Island	A3.1		
	6.4 - Flood Risk	A3.1	A3.2	
	6.5 - Uptake of Digital Applications in Urban Regeneration Processes		A3.2	A3.3
	6.6 - Digital Competence			A3.3

TABLE 4.3- KPIS IDENTIFIED TO ASSESS THE IMPACTS OF A3 ACTION

4.3.9 Long-term implementation partnerships for replication and scaling

The possibilities of long-term implementation partnerships for replication and scaling-up of action A3 are applicable to the management/care of the artefacts that will eventually be realised as a result of the co-construction intervention (A3.1), as well as for the digital platform, when realised. Part of the design activities of the Digital Coffee Room (A3.3) concern the definition of possible management scenarios.

4.4. Action A4 – Renovated built environment

4.4.1 A concise description of action

The action envisages testing the use of the Digital Twin (DT) to support the decision-making process and users' engagement in the potential building renovation of Vigne Neighbourhood - focus on INA Casa block. A 3D model will be designed and represents the visual interface of the DT database, designed according to the CityGML standard v. 2.0, able to integrate multiple layers of information of the city on a very large scale. Indeed, the aim is using 3D city models as geometry visualization to scale up environmental, economic and energy related analysis to the district urban level, moving from an analysis of the state of the art, and then designing potential scenarios of intervention. Monitoring device can also support both the design and operational phases. The Innovation Hub Clusters (IHCs) will offer the wide perspective of potential solution to be adopted and integrated in the Renovated built environment.

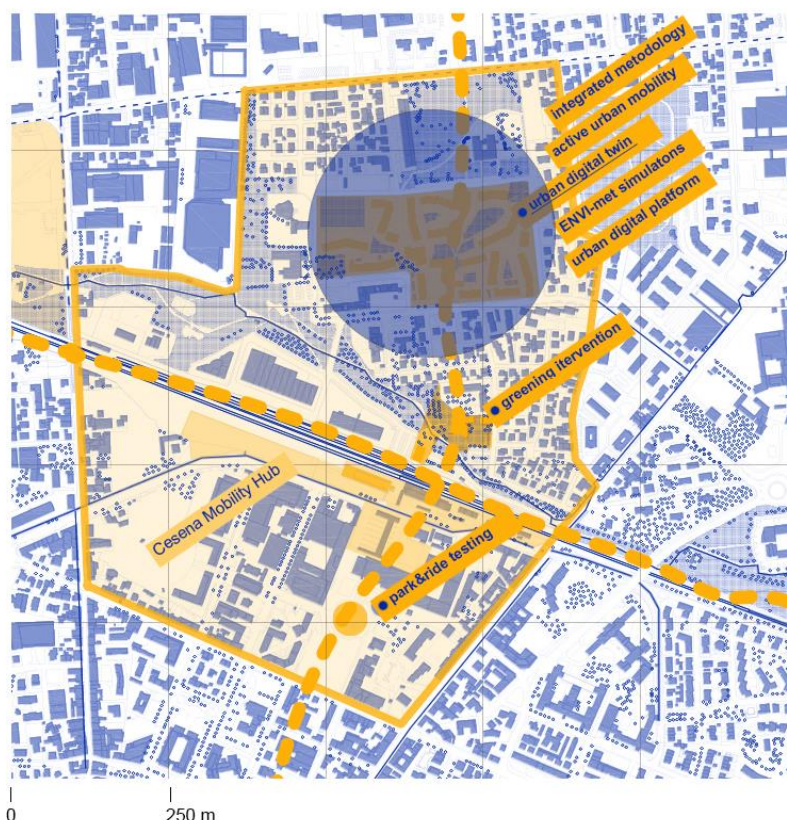


FIGURE 4.7 – AREA IDENTIFIED FOR ACTION A4 (GRAPHICS: SERENA ORLANDI, UNIBO)

4.4.2 Connection to the Innovation Hub Clusters, identification of the innovation beyond business-as-usual in relevant Clusters.

The action has links with three Innovation Hub Clusters: Integrated planning and digital application; Social innovation and participatory actions; and Energy in the built environment. Furthermore, the synthesis of information coming from many different sources and gathered within the DT, is made possible only by the use of open standards such as CityGML. Mutual learning and exchanging of information will facilitate the creation of harmonized methods and tools that can support a cocreation design process.

4.4.3 Affected stakeholders, roles and responsibilities, governance considerations

The target group that will be mainly involved in this action refers to the Cesena on-stop-shop focusing on Environmental Issues ([*Energie per la Città*](#)); professional working on building renovations; *Vigne INA-Casa* residents but also interested citizens. Results from testing could support an awareness campaign to promote intervention on the existing building heritage of the neighbourhood and more in general to inform citizens on the basis of a documented case study.

4.4.4 Data needs, expertise / capability needs (if needed)

Specific data, mainly open data are needed for both the design of DT Database and the renovation scenarios. A complete list of input data will be gathered in a systematic framework, and covers geometrical, semantic, physical, etc. accordingly.

4.4.5 Implementation timeline and dependencies

The preparation phase foreseen the Digital Twin ambition fine-tuning (till M10, August 2024), followed by the Digital Twin datasets identification and database structure design - including the data collection, the organisation of the datasets according to an implementable database structure, and the collection of missing data from alternative sources or similar datasets (M11, September 2024 – M16, December 2024). The implementation phase will be structured in two subsequent steps. In the first one, the Digital Twin queries, solutions and calculation algorithms for renovation intervention will be defined (M15, January- M24, October 2025) - including the target stakeholders to be involved and all technical characteristics (area extension, level of detail, considered matrix, etc.). The “queries” to simulate different scenarios for renovation interventions will be better defined, considering both existing building stock and open spaces, and calculation algorithms. A possible additional round of

data collection will be implemented. The next stage refers to Digital Twin testing for renovation interventions' scenarios (M25, November 2025 - M32, June 2026). The last step – to be run in parallel with the project monitoring phase (M33 – M42) - refers to Digital Twin replication and scalability potential assessment.

4.4.6 Available financial and human resources e.g., funding, financing and/or partnership options (existing or emergent), inclusion of other ongoing EU funded projects, etc.

The action presents a strong alignment with other ongoing project in which the Municipality is involved (POSEIDON project and C.Lever action grant), that could possibly allow to invest more effort in the DT testing in 'Vigne-Railway' area.

4.4.7 If possible, indicate where a policy, regulation, or other structural process needs to change to enable the action / portfolio to be implemented faster

GDPR, data availability, local community's support for data collection.

4.4.8 Pilot monitoring and evaluation: describe how the actions will be monitored and evaluated for impact throughout the project. The description should be aligned with the relevant KPIs developed in WP7, as well as with any existing KPIs currently in place in the Demo city to evaluate impact.

The monitoring and evaluation of the action will follow the phases defined by the project (M33, July 2026 –M45, August 2027). The KPIs identified to assess the impacts of the action (simulations of potential building renovation of Vigne Neighbourhood) are listed below.

KPI Category	KPI Title	Action/sub-actions
1 – Energy	1.1 - Total Primary Energy Balance	A4
	1.2 - Renewable Energy Ratio	
	1.3 - Net Energy/Net Power	
	1.4 - Grid Delivered Factor	
2 - Environment	2.1 - GHG Emissions Performance	A4
	2.2 - Air Pollution from the Energy Consumption	
4 – Socio-Economics	4.2 - Affordability of Energy	A4
	4.3 - Energy Renovation Rate	
	4.4 - Investments Triggered	
	4.5 - Global Cost	
	6.1 - Recycling and circular economy initiatives	A4

KPI Category	KPI Title	Action/sub-actions
6 – Integrated Urban Regeneration	6.3 - Urban Heat Island	
	6.5 - Uptake of Digital Applications in Urban Regeneration Processes	
	6.6 - Digital Competence	

TABLE 4.4 - KPIS IDENTIFIED TO ASSESS THE IMPACTS OF THE ACTION A4

4.4.9 Long-term implementation partnerships for replication and scaling

A possible long-term partnership for replication and scaling the action to other areas of the city could come from the synergies with other new or already funded projects (e.g., POSEIDON project and C.Lever action grant), or in collaboration with the Municipality *Energie per la Città* one-stop-shop focused on built environment and energy issues.

4.5. Summary of the Pilot Transformation Activities

TRANSFORMATION ACTION	DESCRIPTION OF TASKS	RESPONSIBLE PARTNERS	MONTH (START-END)	INNOVATION HUB INTERACTION ¹				RELATED KPIS
				2.1	2.2	2.3	2.4	
Action A1	Task A1.1 Develop a regeneration methodology based on the 'Active City' concept, involving key local actors in a participative perspective.	CESENA, UNIBO, RM3, PARK, FRHF, ICLEI, EIT-UM + AIDORU	09.2024 - 09.2026	X	X	X	X	3.1; 3.2; 3.3 4.1; 4.4 5.2
	- <i>Preparation of basic communication material aimed at local communities; Public presentation of the WeGenerate project to the District Council; Door-to-door dialogues and interviews with residents, shopkeepers and local community; on-site meeting with Railway district, Karl Marx square shopkeepers; Testimonials from the Vigne neighbourhood during the Consortium meeting</i>		09.2024 - 10.2024					
	- <i>First contact with schools and workshop planning</i>		01.2025 - 03.2025					
	- <i>Informative e-mails, one to one and work group meetings with Neighbourhood Council, Residents, Shopkeepers, ACER, associations based on the area, interested citizens</i>		03.2025 -06.2025					
	- <i>Conclusion of the Working Group and feedback collection</i>		07.2026 - 09.2026					
Action A2	Task A2.1 Raise awareness on the active mobility concept - e.g., organisation of workshops/roundtables to favour a mindset change in transport habits.	UNIBO, CESENA, EIT-UM, VTT, PARK + AIDORU	01.2025 - 07.2026 09.2027 - 04.2027 (TBC)		X		X	2.1; 2.2 3.1; 3.2; 3.3; 3.4; 3.5; 3.6 4.1 5.1; 5.2; 5.3; 5.4; 5.5; 5.6
	- <i>Community involvement activities (youth, site-</i>		01.2025 - 09.2026					

¹ Innovation Hub Solution Clusters: 2.1 Integrated Planning and Digital Application, 2.2 Social Innovation and Participatory Action, 2.3 Energy in Built Environment, 2.4 Sustainable Mobility.

TRANSFORMATION ACTION	DESCRIPTION OF TASKS	RESPONSIBLE PARTNERS	MONTH (START-END)	INNOVATION HUB INTERACTION ¹				RELATED KPIS
				2.1	2.2	2.3	2.4	
	<i>based circle, commuters)</i>							
	Surveys (digital and printed surveys) - 1st and 2nd release aimed at Commuters (adult and minors), vulnerable subjects (CILS, ASP, ACER, Vigne Parish/Church), Schools in the Station Area, Railway workers		03.2025 / 04-06.2026					
	Informative posters in Railway Area and flyers, Vigne/Railway group chat and socials, press release/newspaper aimed at Residents, Youth, Commuters, Citizens		06.2025 - 06.2026					
	Informative and awareness-raising meetings with Vigne and Railway residents, interested citizens		11.2025 - 06.2026					
	Demonstrative workshop or site-specific event might be organized in synergy with Action A3.1		05-06.2025					
	Event organisation or participatory workshop on Bike Station service needs and priority will be organised concurrently with the European Mobility Week annual event (tbc)		09.2025					
	Potential round of participatory activities for monitoring results		09.2026 - 04.2027					
	Task A2.2 Implement a parking solution for Park & Ride facilities customised for the Cesena Demo.	PARK, CESENA, UNIBO, EIT-UM + AIDORU	09.2024 -04.2027					2.1; 2.2 4.4; 4.5 5.1; 5.2; 5.3 6.5
	Definition of the specific areas inside the Demo site, signs design and definition of the customised service/facilities		09.2024 - 02.2025	X	X		X	

TRANSFORMATION ACTION	DESCRIPTION OF TASKS	RESPONSIBLE PARTNERS	MONTH (START-END)	INNOVATION HUB INTERACTION ¹				RELATED KPIS
				2.1	2.2	2.3	2.4	
	- <i>First pilot experimentation</i>		03.2025-06.2025					
	- <i>Surveys (digital and printed surveys) - 1st and 2nd release aimed at Commuters (adult and minors), vulnerable subjects (CILS, ASP, ACER, Vigne Parish/Church), Schools in the Station Area, Railway workers</i>		03.2025 / 04-06.2026					
	- <i>Monitoring and fine-tuning phase</i>		07.2025 - 10.2025					
	- <i>Second/Enlarged pilot experimentation</i>		11.2025 - 07.2026					
	- <i>Monitoring</i>		08.2026 - 04.2027					
Action A3	Task A3.1 Experiment small-scale (also temporary) greening intervention through the use of low-impact materials, co-developed with the local community - e.g., co-design workshops with experts.	CESENA, UNIBO, NTNU + AIDORU	06.2024 - 05-06.2026	X	X		X	2.1; 2.2 3.1; 3.2; 3.3; 3.4; 3.5 4.4; 4.5 5.1; 5.2; 5.3; 5.4; 5.5; 5.6 6.1; 6.2; 6.3; 6.4
	- <i>Data collection, survey, site analysis, case studies collection supporting the identification of the project area/s</i>		06.2024 - 12.2024					
	- <i>Co-design activities with site-based circle</i>		01.2025 - 05.2026					
	- <i>Surveys (digital and printed surveys) - 1st and 2nd release aimed at Commuters (adult and minors), vulnerable subjects (CILS, ASP, ACER, Vigne Parish/Church), Schools in the Station Area, Railway workers</i>		03.2025 / 04-06.2026					
	- <i>Informative posters in Railway Area and flyers, Vigne/Railway group chat and socials, press</i>		06.2025 - 06.2026					

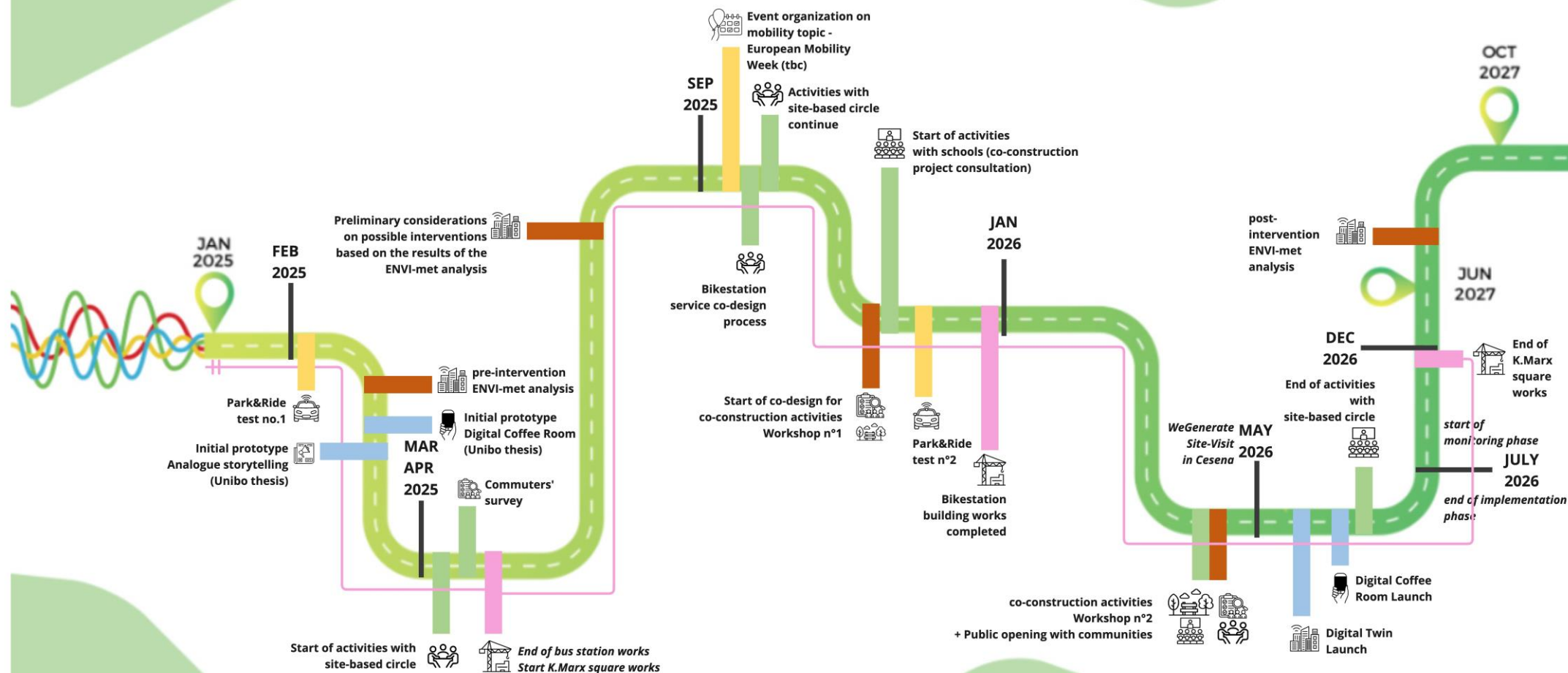
TRANSFORMATION ACTION	DESCRIPTION OF TASKS	RESPONSIBLE PARTNERS	MONTH (START-END)	INNOVATION HUB INTERACTION ¹				RELATED KPIS
				2.1	2.2	2.3	2.4	
	<i>release/newspaper aimed at Residents, Youth, Commuters, Citizens</i>							
	- <i>Co-design activities with schools (high, secondary and primary schools) - Workshops and urban trekking led by Aidoru Association</i>		09.2025 - 04.2026					
	- <i>Urban trekking in the area and interviews led by Students and Aidoru Association aimed at Vigne and Railway residents, interested citizens</i>		01.2026 - 06.2026					
	- <i>Co-design workshop supported by experts (university students with schools and site-based circle)</i>		02-03.2026					
	- <i>Co-construction workshop</i>		04-05.2026					
	Task A3.2 Use of microclimatic simulation to evaluate greening intervention and installation of environmental sensors to monitor outdoor conditions. The ENVI-met (or equivalent) simulations will be carried out in the OFF_LINE Laboratory of UNIBO with an advanced workstation composed of different components (i.e. thermal sensors, high-performance computer, etc.) for running the simulation.	UNIBO, RM3, CESENA + AIDORU	10.2024 - 06.2027	X		X		2.1; 2.2 3.6 5.1; 5.5 6.4; 6.5
	- <i>Preliminary activities related to microclimatic simulation with Envi-met, including mapping through bike mobile sensors (preparatory phase)</i>		10.2024 - 12.2024					
	- <i>First round of simulations in a set of identified areas describing the state-of-the-art and pre-intervention situation (implementation phase)</i>		01.2025 - 05.2025					

TRANSFORMATION ACTION	DESCRIPTION OF TASKS	RESPONSIBLE PARTNERS	MONTH (START-END)	INNOVATION HUB INTERACTION ¹				RELATED KPIS
				2.1	2.2	2.3	2.4	
	Second round of ENVI-met simulations in the transformed areas (monitoring phase)		09.2026-06.2027					
	Task A3.3 Develop an urban digital platform (Digital Coffee Room) where all the relevant news, insights and data on environmental, energy and ecological themes are communicated to citizens. Vigne-Railway station Demo will act as an experimental district where a participatory transition process is taking off.	UNIBO, CESENA, CVUT, RM3 + AIDORU	06.2024 - 06.2026					3.1; 3.2; 3.3; 3.4; 3.6 4.1 5.1; 5.2; 5.6 6.1; 6.5; 6.6
	Definition of technical and graphical aspects; Identification of the main subjects/figures to be involved and target users.		06.2024-12.2024					
	Survey release to collect inputs from local communities and municipal offices		01-02.2025	X	X			
	Preliminary prototype of the platform and a service behind it.		02-03.2025					
	Consultation process based on the first prototype to understand how to start an implementation of the platform.		05.2025 - 03.2026					
	Launch of the Digital platform		06.2026					
Action A4	Task A4.1 Test the use of the Digital Twin to support decision-making process and users' engagement in the potential building renovation of Vigne Neighbourhood - focus on INA-Casa block.	RM3, CESENA, IREC + AIDORU	05.2024 - 06.2027	X	X	X		1.1; 1.2; 1.3; 1.4 2.1; 2.2 4.2; 4.3; 4.4; 4.5 6.1; 6.3; 6.5; 6.6
	Digital Twin ambition fine-tuning, datasets identification and database structure design - including the data collection, the organisation of		05.2024 - 12.2024					

TRANSFORMATION ACTION	DESCRIPTION OF TASKS	RESPONSIBLE PARTNERS	MONTH (START-END)	INNOVATION HUB INTERACTION ¹				RELATED KPIS
				2.1	2.2	2.3	2.4	
	<i>the datasets according to an implementable database structure, and the collection of missing data from alternative sources or similar datasets (preparatory phase)</i>							
	- <i>Digital Twin queries, solutions and calculation algorithms for renovation intervention, including the target stakeholders to be involved and all technical characteristics (implementation phase – step 1)</i>		01.2025 - 10.2025					
	- <i>Possible data collection with Vigne residents + Informative and awareness-raising meetings with Vigne and Railway residents, interested citizens</i>		03.2025 -06.2025					
	- <i>Digital Twin testing for renovation interventions' scenarios (implementation phase – step 2)</i>		11.2025 - 06.2026					
	- <i>Digital Twin Launch</i>		06.2026					
	- <i>Digital Twin replication and scalability potential assessment (monitoring phase)</i>		09.2026 - 06.2027					

¹Integrated Planning and Digital Application (2.1); Social Innovation and Participatory Action (2.2); Energy in Built Environment (2.3); Sustainable Mobility (2.4)

IMPLEMENTATION ROADMAP



LEGEND



CESENA

Demo Implementation Roadmap



Co-funded by the European Union

CONCLUSIONS

The actions that the WeGenerate project intends to implement on the Cesena Demo describe a first step towards the implementation of a medium-term scenario for the area (3-5 years after the project), outlining a possible direction of future transformation and linking physical interventions, programmatic actions and key actors to be involved in the process.

In parallel and opening up to a broader perspective, the guiding strategy for the Cesena Demo aims to pave the way for a long-term vision, based on: the critical reading of the peculiarities of the area in ecological, social, functional and cultural heritage terms; the exploration of the potential of the northern area as a complementary centrality to the southern side of the station; the identification of the railway front (both to the south and to the north) as an axis of functional reactivation and connection between the areas of the city; the link to the sustainable mobility system (cycling, pedestrian and public transport) at district, urban and territorial scales starting from the new mobility hub; the enhancement of public spaces and widespread green areas with a view to creating ecological corridors and 'safe' climate routes; testing prototypes of energy improvement of the existing building heritage.

According to these ambitions, Cesena Demo's four main packages of interventions (1) set a shared strategy for approaching decarbonisation (A1 - *Integrated and systemic approach*); (2) address the issue of sustainable mobility through awareness-raising initiatives with a possible main focus on the new bike station, and a Park&Ride system (A2 - *Multi-modal mobility system*); (3 - 4) highlight the importance to consciously intervene on open spaces and buildings by testing a self-construction greening pilot (A3.1 - *Greening Intervention*) supported by urban microclimate analysis (A3.2 - *Microclimatic Outdoor Monitoring*), by the creation of a digital twin to simulate energy improvement scenarios for a portion of the area – the *Vigne INA-CASA* block (A4 - *Renovated built environment*) and a digital platform that can foster dialogue on environmental issues and data communication (A3.3 - *Digital Coffee Room*). Within this system of actions, local communities will play a key role in co-creating this vision, providing perspectives, wishes and feedback, and finding direct involvement.

The action plan and implementation roadmap collect and describe the pathway that Cesena Demo intends to trace during the duration of the WeGenerate project and beyond.

PARTNERS LOGOS

