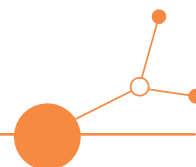


SUSTANCE

D.1.3.4. Roadmap n.4 based on pilot action 4: Demand Responsive Transport in Romagna /Emilia-Romagna



Version 1
122025

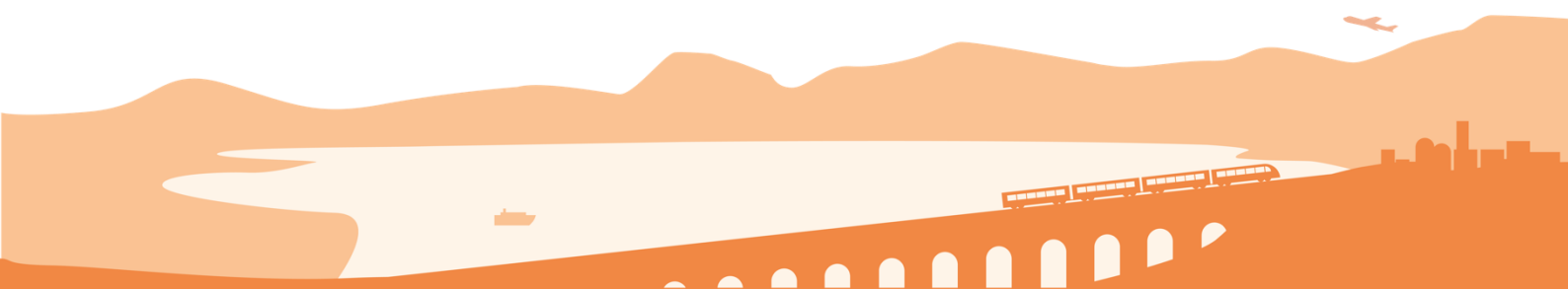




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1 Introduction

This roadmap (D.1.3.4) is aimed to design a realistic path for improving public transport services in rural/peripheral areas beyond the project closure. The roadmap is prepared by SUSTANCE project partner PP6-ITL1 in cooperation with associated partners AO4 “AMR-Agenzia Mobilità Romagnola” and AO5 “Emilia-Romagna Region-General Directorate for Territorial and Environmental Care.

The Sustance pilot action in the Emilia-Romagna Region focused on the hilly areas of the southern part of the Region, in particular on the Valmarecchia and Valconca peripheral areas. The studies and pilot action carried out in the framework of the project analysed how to improve the connectivity of the little villages in these areas to the main public transport networks, in particular train lines and main bus lines along these valleys.

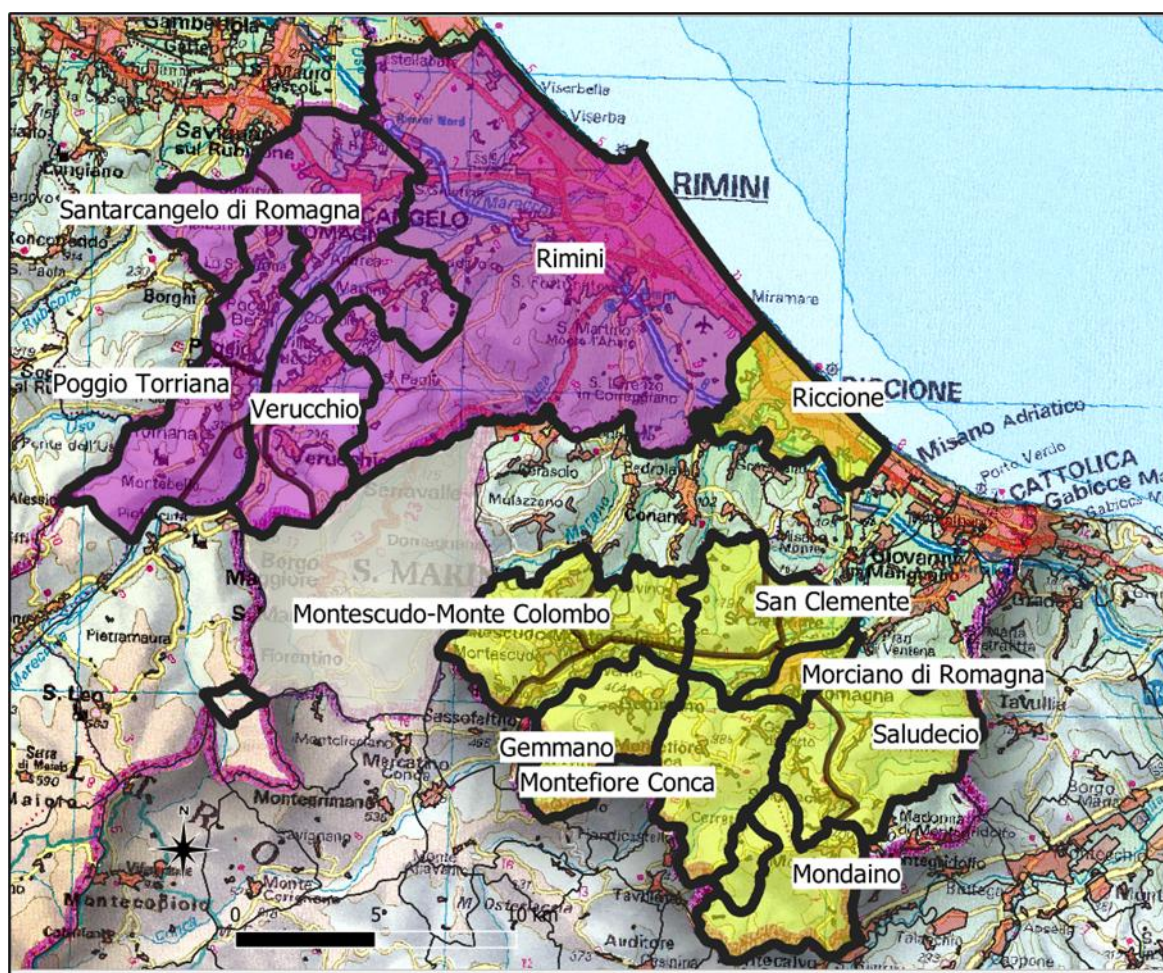


Figure 1. Map representation and zoning of the identified study areas for the Marecchia Valley and Conca Valley areas.

The roadmap is based on the findings and results from the following SUSTANCE deliverables:

- PT Accessibility report 4, study area: Accessibility assessment in peripheral areas in Romagna(D.1.2.3),
- Transnational Public Transport Accessibility Report (D.1.2.3),



- Pilot Action Report Pilot action n. 4 (new ICT booking service of DRT in RER: Rimini - Ravenna -Forli) (D.2.4.1) and
- Long-term sustainability guidelines for solution no.4 Long term sustainability guidelines for solutions in Emilia-Romagna Region (D.2.5.1).

The three consultation meetings with the local stakeholders in February 2024, September 2024 and February 2025 provide additional insights to the findings in the deliverables listed above. The local meetings were organized by PP6-ITL in collaboration with the two associated partner AMR-Agenzia Mobilità Romagnola and Emilia-Romagna Region. In these three local roundtables, the key local stakeholders were involved to develop and validate the WebApp for supporting digitalization of two existing demand-responsive transport (DRT) services in Valmarecchia and Valconca. The subject of the meeting's discussion, conclusions were reported in the Emilia-Romagna pilot local meeting reports (D.3.3.1, D.3.3.2, D.3.3.3).

2 Existing public transport accessibility and key challenges

The studies and analysis conducted in the Sustance project show that Valmarecchia and Valconca are indeed reachable by public transport, but the access relies heavily on a hybrid model of regular buses for main corridors and on-demand services for remote villages. The public transport accessibility to these areas is limited compared to the urban centres in the valley part. Most connections from the coastal areas, especially from Rimini, are provided by regional bus services operated under the AMR/Start Romagna mobility network. Main towns, such as Novafeltria, San Leo, Pennabilli, Morciano di Romagna and San Giovanni in Marignano are served by scheduled bus lines. Smaller villages and hill towns rely on two existing demand-responsive transport services such as ValmaBass in Valmarecchia and ConcaBus in Valconca.

Based on the accessibility analysis conducted in the Sustance project, the two stated demand-responsive public transport services seem to be essential for last-mile connectivity of the most rural areas. Frequencies in both valleys are lower during evenings, weekends and holidays. Travel times are often longer than by car due to indirect routes and multiple stops. The network is designed primarily for essential mobility rather than high tourist flows. For this reason, the main focus of the Sustance pilot action is on the info-mobility support, bringing digitalization of the two existing DRT services.

Ticketing is integrated into the regional transport system. Accessibility is generally sufficient for basic travel needs if planned in advance. Private cars still remain the most practical option for flexible mobility. Nowadays, public transport plays a supportive but not dominant role in everyday mobility in Valmarecchia and Valconca.

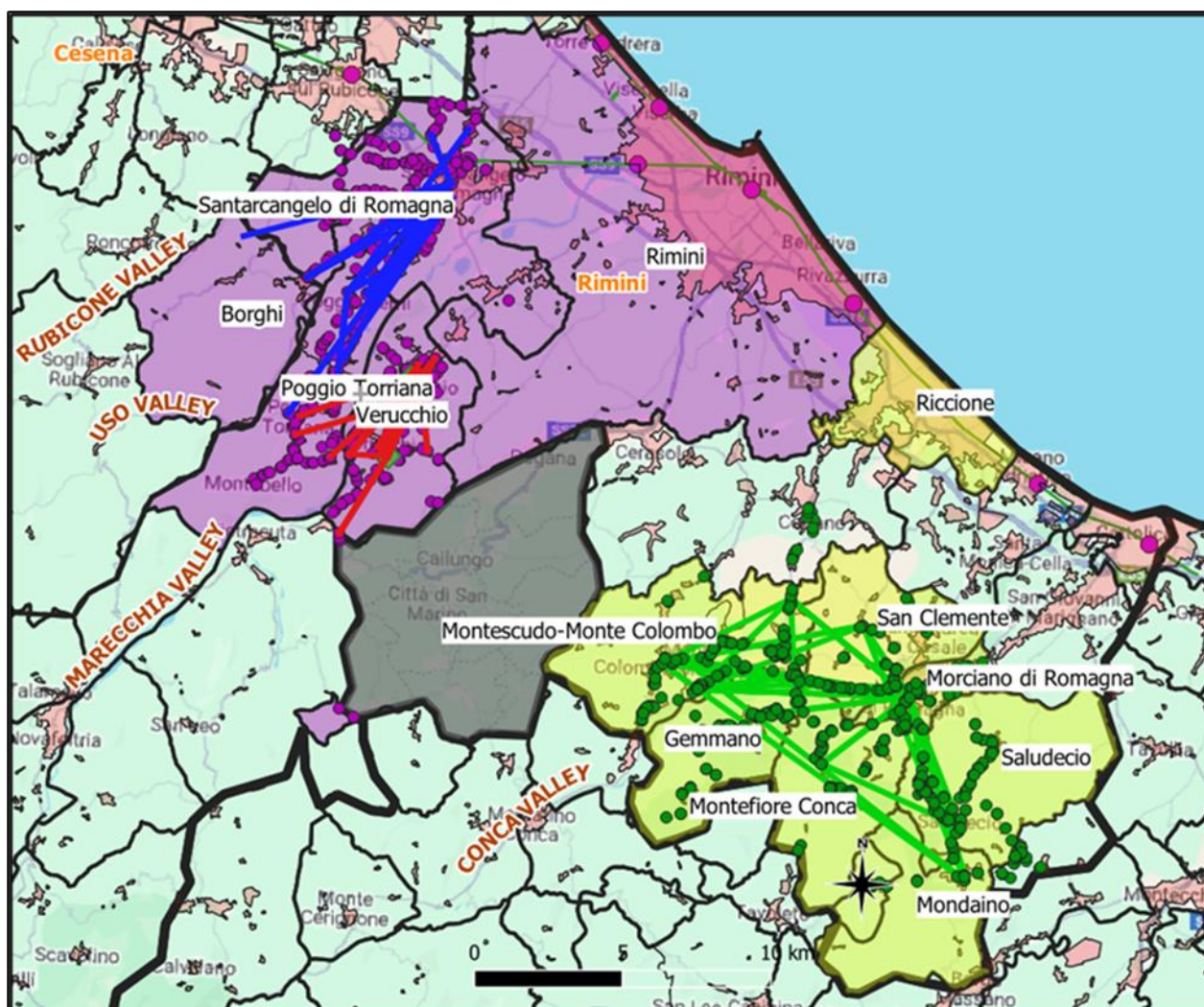


Figure 2. Geographical area and main connections of the Valmabass and Concabus services.

3 Impact of pilot action on public transport accessibility

The pilot action developed by PP6-ITL in the Sustance project is related to the development of an open-source WebApp, providing digital management of two existing demand-responsive transport (DRT) services in the Emilia-Romagna territory.

The Sustance pilot in the Emilia-Romagna pilot areas demonstrates how digital innovation can enhance demand-responsive transport (DRT) services, particularly in rural and peripheral areas where traditional public transport solutions are often inadequate. By introducing the Sustance WebApp, the project improved both the efficiency of transport operators in managing and reporting these services to the local public transport authority (AMR) and the accessibility of services for users living in more rural areas. The WebApp has simplified booking procedures, enhanced real-time communication both with users and bus drivers, and provided valuable data for better service planning and reporting to public transport authorities. As a result, trust in DRT services has increased, encouraging greater adoption among users who previously relied on less favourable means of transportation.



Based on the collected data until November 2025, more than 7,000 bookings were managed by the SUSTANCE (commercial name: Sustant) WebApp. Moreover, as the SUSTANT WebApp is open source, the interests of other local stakeholders were collected and will be assessed in 2026.

4 Vision and goals for public transport accessibility improvement

Three mid-term/long-term goals have been identified for the continuation of the Sustance pilot action after the project conclusion:

- **Goal 1.** Increasing use of the Sustance WebApp after the project conclusion, both in the Romagna area and in other interested areas.
- **Goal 2.** Improvement of the Sustance WebApp using an open-source approach.
- **Goals 3.** Expansion of the Sustance WebApp at the regional level.

The key actions to be adopted for reaching these ambitious goals are:

- Definition of a clear and effective governance scheme, with clear responsibilities and, if possible, with formal agreements/memorandum of understanding signed among the different stakeholders.
- Smoother and better data transfer among the public transport operators and the local transport agency, allowing a better planning of the public transport services in peripheral areas.
- Incremental improvements of the WebApp code thanks to feedback of other interested stakeholders using the same open-source license
- Creation of an EU-wide community interested in developing similar DRT management solutions.
- Definition of a regional Maas scheme including DRT solutions as an effective way for providing public transport services in peripheral areas.
- Other Emilia-Romagna rural communities using the WebApp for the provision of on-demand services.
- Public-private schemes allowing private operators to provide targeted sustainable transport solutions (for example, sportive associations, etc).

In a short time, the ambition is to continue to use the WebApp and collect data and evidence on real users and effective impacts in terms of better connectivity of these rural/peripheral areas to the main regional transport nodes.

The vision of this Roadmap is closely aligned with the **SUSTANCE Transnational Action Plan for Better ICT Solutions (D 1.4.3)**, translating its broader objectives into a concrete development pathway for DRT services in the rural and peripheral areas of Emilia-Romagna.

The Action Plan identifies digitalisation of DRT as a particularly relevant response to the lower accessibility of peripheral areas, where conventional fixed-route public transport is less able to respond efficiently to dispersed and low demand. It also highlights fragmented passenger information, insufficient availability and interoperability of public transport data, and weak integration of digital and multimodal services as important barriers to accessible and user-oriented mobility.

The Roadmap directly addresses these challenges by envisaging the continued use, improvement and progressive regional expansion of the SUSTANCE WebApp, whose open-source architecture allows the solution to be adapted and replicated by other rural communities and DRT operators. Particular consistency with the Action Plan is provided by the Roadmap's objective of improving data exchange between transport operators and the local transport agency, progressively integrating DRT into a regional MaaS framework and using the operational data generated through the WebApp to support more effective service planning.



These actions contribute to the wider ICT Action Plan objective of moving from fragmented digital services towards interoperable, data-driven and integrated info-mobility systems, while the use of common European public transport data standards and the open-source approach can facilitate interoperability, reduce implementation barriers and enable replication of the solution in other peripheral territories.

In this perspective, the Roadmap positions digital DRT not simply as a booking tool, but as an enabling component of a more accessible, flexible and integrated regional public transport system, capable of strengthening first- and last-mile connections between rural communities and the main regional transport network.

In the context of Governance and institutional dimension. The achievement of these digital and territorial objectives requires an appropriate governance framework capable of ensuring institutional ownership, operational continuity and progressive scaling of the DRT solution.

This is fully consistent with the **SUSTANCE Governance Strategy (D 3.4.1)**, which specifically identifies for PA4 three complementary elements supporting its durability and transferability: open-source publication and technical guidance, the identification of a Lead Coordinating Authority, and the possible use of Public-Private Partnership arrangements for service implementation.

The Roadmap translates these principles into the Emilia-Romagna context through its proposed definition of a clear governance scheme, formal agreements or Memoranda of Understanding among the relevant stakeholders, strengthened data exchange between public transport operators and the local transport agency, and public-private arrangements where appropriate.

In this framework, a competent public authority or mobility agency should provide strategic coordination and ensure consistency with regional mobility planning, while transport operators and technical providers can contribute to service operation, data management and continuous technological improvement.

The open-source model further broadens this governance perspective by enabling other territories and stakeholders to participate in the development and replication of the solution, supporting the Roadmap's ambition to create a wider community around DRT management solutions. Consequently, governance should be understood as an enabling framework for the regional uptake and mainstreaming of the SUSTANCE solution, ensuring clear responsibilities, interoperable data management, cooperation between public and private actors and the gradual integration of DRT into the wider regional MaaS and public transport ecosystem.

5 Key measures and steps to achieve goals

The following table, drawing from the Sustance Long-Term sustainability document, summarizes the key measures to be adopted in the short, medium or long-term for a continuation of the pilot actions activated in the Sustance project and a full capitalisation of the experiences and lessons-learned during the project.

MEASURES		STEPS		
No.	Description	Description	Timeline	Involved stakeholders
M1	Use of the Sustance WebApp after the project conclusion and replicability by other stakeholders	<i>M1.S1: Signature of a letter of intent among the key local stakeholders for the use of the SUSTANT WebApp after the project conclusion.</i>	Short	- AMR-Agenzia Mobilità Romagnola - Merli Servizi



		M1.S2: Adoption of the EU and regional public transport data standards (NeTEx approach in particular) for an easy and effective update of the Sustance WebApp in the long-term perspective. M1.S3: Promotion of the Sustance WebApp at the EU and regional levels to find new stakeholders interested in replicating/improving the developed solution.		Cooperativa la Romagnola
M2	Improvement of the Sustance WebApp using an open-source approach	M2.S1: Publication online under the open-source license of the developed solution. M2.S2: Publication of the technical guidelines for SUSTANCE WebApp full replicability and modification/adaptation to the specific local needs. In this way, every interested stakeholder can replicate both the solution and the governance scheme in their specific territories. M2.S3: Finding synergies with other EU and regional projects working on the same Sustance topics for further WebApp development.	Short/Medium	- Emilia-Romagna Region. Transport Department - EU institutions - Other EU projects' partners
M3	Scalability of the Sustance WebApp at the regional level.	M3.S1. Integration of the Sustance solution in the Emilia-Romagna regional MaaS scheme developed by the regional authority with national funds. M3.S2. Replication of the Sustance solution in other rural/mountain municipalities/association of municipalities in the Emilia-Romagna regional territory for the replication and scalability of the Sustance WebApp.	Medium/Long	- Emilia-Romagna Region. Transport Department - Other interested municipalities

Figure 3. Key long-term objective for the Sustance Emilia-Romagna pilot action.