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DREAM_PACE

D3.2.3 Final Action plans and take up

Pavia-Oltrepò

Final Version

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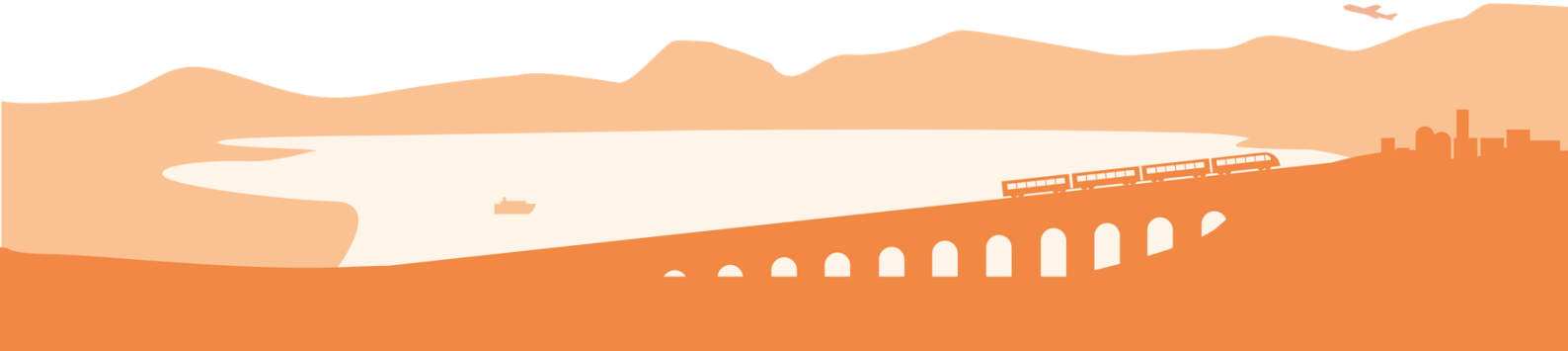

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3	AG	Monica Marconi Marco Cirtoli	Input from Pavia pilot 1.1 for draft Action plan	1.2
8	ATE	Florian Kressler	Draft comments to draft Action plan	1.3
3	AG	Monica Marconi Marco Cirtoli	Input from Pavia pilot 1.1 for draft Action plan	1.4
4	Mobilissimus	Nikolett Csörgő Rita Petrovácz	Draft revision 1 of draft Action plan	1.5
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3	AG	Monica Marconi Marco Cirtoli	Update for the final Action plan	1
2	Redmint	Gabriele Grea Anja Seyfert	Consolidation of the contribution	2
1	SRM	Chiara Lepori Dario Marchini	Edited approved version for inclusion in D3.2.3 as Annex	Final

Contents

1. Executive summary

This document is the final Action plan for the DREAM_PACE pilot region of Pavia-Oltrepò and is part of deliverable D3.2.3.

The draft Action Plan (D.3.2.1) built on the analysis and diagnosis of governance and planning (Activity 1.1) and of operational trends and approaches to DRT (Activity 2.1) and on the DRT strategy elaborated in D3.1.2 and for which the consultation process is being completed. Updating the draft Action plan presented in D3.2.1, this deliverable defines the final Action plan delivered at local /regional level, integrating final strategy and solutions. It includes the documentation on the adoption and description of the approval process by decision makers.

This document is organized as follows.

Chapter 2 provides an overview of the pilot region, outlining the purpose and scope of the Action plan.

Chapter 3 outlines the strategic background and the scenarios developed in the pilot area.

Chapter 4 describes the development of the Action plan, highlighting the needs and priorities identified, the challenges addressed, and the stakeholder involvement process. It also outlines the pilot actions and its components, specifies the measures that are consequently implemented in order to achieve the objectives of the Action plan.

Chapter 5 provides information on the monitoring and evaluation process for the Action plan, including the expected results of implementation and the estimated relevant impacts.

Chapter 6 serves as the concluding chapter, outlining how the Action plan will be officially approved or taken up, summarizing the overall approach, and presenting the next steps.

Chapter 7 provides a comprehensive list of references, offering background information and sources supporting the document.

Finally, the Annex presents some pictures from the LL activities in Pavia-Oltrepò.

2. Introduction

The **Oltrepò Pavese** is a mainly hilly rural area, composed of about 30 small municipalities; Stradella (main urban municipality of the area) is the main destination of travel from other municipalities, for work reasons, thanks to the considerable development of all production sectors (especially logistics), for study reasons, thanks to the presence of secondary schools and for leisure and shopping reasons, thanks to the presence of some commercial activities and an important market on a bi-weekly basis.

Miobus is a DRT service with free itineraries between a predefined set of stops, available in the following service hours: in the school period, from Monday to Friday 9.30-11.30 / 16.30-18.30; Saturday 6.00-10.00 / 12.00-14.00 / 17.00-19.00; in the non-school/summer period, Monday to Saturday 6.00-10.00 / 12.00-14.00 / 17.00-19.00. During the booking phase, the passenger can choose the departure stop, the arrival stop and the desired departure or arrival time; the management system accepts the request and organises the trip according to the availability of the buses for the requested stops and departure/arrival time. In the same area, in addition to the DRT service, there are some fixed lines to reach other destinations outside the area (e.g. line 132 Stradella-Voghera; line 95 Castel S. Giovanni-Stradella-Pavia-Milano Famagosta), where interchange with the DRT service is possible; there are two railway lines as well (Piacenza-Voghera and Piacenza-Pavia-Milano via Stradella and Broni).

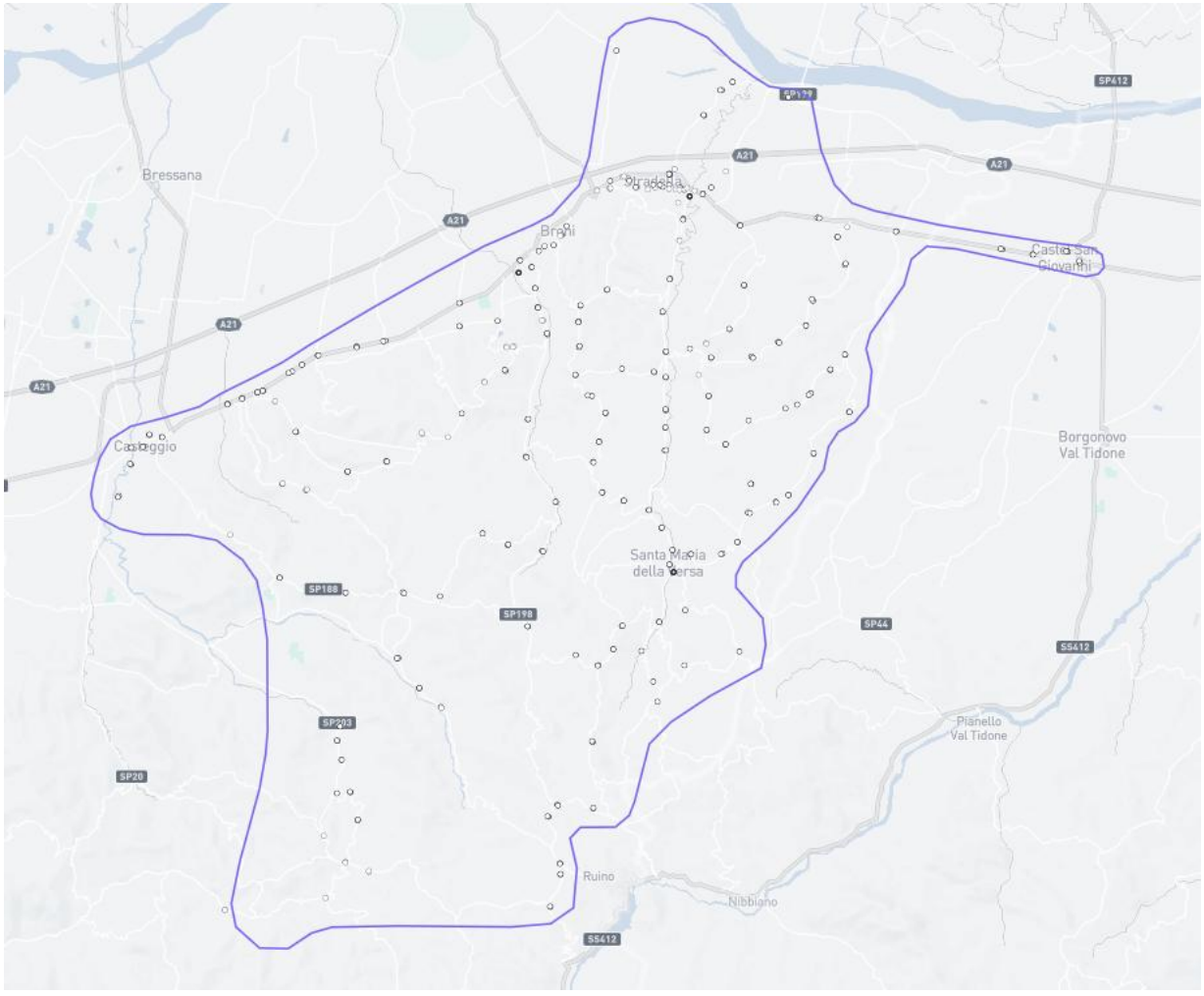

Figure 1. Pilot area Oltrepò Pavese

The **main recognised advantages** of the existing Miobus service are the following:

- Completely digital experience for the customer: booking, change (up to 30 minutes before departure time), confirmation, real-time notifications, check-in and travel;
- Fully digital service experience for the driver: list of journeys to be made and passengers to be accompanied, and check-in on a special device installed on board the bus;
- Optimisation of routes between booked stops according to actual travel requirements to ensure environmental sustainability;
- Integration with traditional scheduled services within the customer app.

The **main challenge** was to address the weaknesses in the system: the service should be able to integrate flexibility and reliability and help address mobility needs of the different target groups, even the elderly, of the population. Filling these gaps required a more composite approach to the service planning and the digital and operational innovations.

The **main purpose** of the Action plan is to increase the potential of DRT solutions in the Pavia – Oltrepò area through a mix of planning, technological and soft measures putting citizens and local communities at the centre of the network. The measures proposed in the Action plan can also be considered as a targeted strategy for the extension and implementation of integrated DRT solutions in new areas, aligned with the broader business strategy of the company.

3. Strategic background and scenarios developed in the area

Starting point of the activities were Living Lab workshops, held on 21 and 29 November 2023, 13 March and 28 August 2024, 8 e 17 July 2025 (these last two ones for testing activities and validation). They were carried out with the involvement of several Municipalities, a regional public Authority and some Miobus users. The meetings focused on showing the service in practice, sharing with the stakeholders the main digital functionalities of the new system to be tested, discuss the next innovations and prepare for the testing phases.

They highlighted the main challenges of the territory and validated the strategy and the scenario perimeter. Main elements that emerged are:

- Accessibility;
- Improvement of reliability and flexibility;
- Better communication of the services on the territory.

The activities were enriched with the involvement of local stakeholders to become "ambassadors"[1] and supporters of the service, in particular where there was a lack of information and knowledge on how to use it.

The stakeholders involved can be clustered in three main groups:

- Stakeholders with competences in public transport governance and planning, selected on a territorial scope basis (responsible for the testing area or other pilot areas);
- Stakeholders with competences in public transport operations, selected on a type of operational territory basis (responsible for services in low demand areas, with similar characteristics);
- Stakeholders with competences in digitalization and DRT, selected considering experiences and market scope (one is a SME with strong focus on phone market, one has experiences at EU level, and the third is a global company).

Their contribution was useful to validate the approach from three different perspectives and identify potential for improvement to be consolidated in the validated solutions.

The scenario development and discussion process brought to the identification of the following elements for the enhancement of the DRT service through operational and digital innovations:

- The integration between the Miobus (DRT) and the Autoguidovie (PT) Apps, in order to support a multimodal and efficient use of the services;
- The testing and implementation of measures to increase the user-friendliness and inclusiveness of the DRT solutions for the engaged territories;
- A targeted communication approach increasing knowledge and acceptance of the DRT network and its potential among the citizens.

[1] These ambassadors are small local activities (e.g. newsagents, tobacconists, meeting points such as bars or centres for elderly people)

4. Development of the Action plan

4.1. Activities developed on the territory and objective of the plan

The Pavia-Oltrepò area is interested in the activities of Pilot: 1.1 **"GOVERNANCE AND PLANNING of INTEGRATED DRT public transport in a MaaS logic for peripheral and low demand areas"**. Within this framework, a **new model for the identification of DRT services in the network, and for the analysis of economic performance and compensations**, was tested. The business planning tool for flexible management of DRT-PT (tested of running services) was designed to support the planning of DRT services in low demand areas according to relevant territorial, socioeconomic and mobility data. The tool was tested on existing services, to identify: a) the parameters to be taken in consideration for the identification of DRT suitable areas, b) the applicable DRT operational models, c) the optimal layout of flexible and scheduled options. The tool was tested internally on defined areas and routes within the network, then validated by relevant stakeholders. A second round of testing was conducted by the other partners involved in the pilot action (SRM, BKK) for a comprehensive validation.

Within the framework of co-design solutions components tested in Pilot 2.1 **"enhancing existing DRT networks responsiveness in rural and peripheral areas through DIGITAL/OPERATIONAL INNOVATIONS"**, the activities in the Pavia-Oltrepò area focused on:

1. **Digital integration between DRT and PT;**
2. **New approaches to inclusiveness.**

In particular, concerning the first point, the digital/operational innovation is represented by the **display of information on traditional public transport services as well as DRT services on the same interfaces**, namely the Miobus (DRT) app, the Autoguidovie (PT) app and website, and the web app designed to be integrated in the interactive screens (totems) to be installed at bus stops. The abovementioned digital systems provide the following information/functionalities:

- Timetables of bus lines with interchange at the DRT stops (routing POIs);
- Possibility of booking DRT service in connection with bus line service;
- Points of interest near the DRT stops (public services, touristic attractions, cycling routes, etc.).

With relation to the new approaches to inclusiveness, as mentioned, the installation of **interactive screens (totems) was finalised at three selected bus stops (3 central stops in the municipalities of Stradella, Broni and Santa Maria della Versa respectively)**, facilitating the access to information (e.g. real time position of the vehicles) and booking of services. Screens were tested before the installation and a demonstration of the digital functionalities to the citizens was organised on the territory.

The reference area is represented by the territory of about 30 small municipalities in the area, where Stradella (main urban municipality in the area) represents the main travel destination for commuters (workers and students) as well as for leisure purposes. In this area, the DRT service operates with free itineraries between a predefined set of stops, in the following service hours:

- In the school period:
    - From Monday to Friday h.9.30-11.30 / 16.30-18.30;
    - Saturday h.6.00-10.00 / 12.00-14.00 / 17.00-19.00.
- In the non-school/summer period:
    - From Monday to Saturday h.6.00-10.00 / 12.00-14.00 / 17.00-19.00.

It is worth adding here that, as emerged during the Living Lab co-design process, one of the major challenges for the success of DRT in the Oltrepò area is represented by the difficulties of communicating the existence as well as the user friendliness of the service. So, the testing activities were accompanied by tailored communication and engagement activities on the territory, with the triple objective of raising awareness on the service and its potential, training current and potential users in using digital features, and monitoring the impact of tests through surveys and interviews.

In summary, the work carried on within the project identified **three interlinked objectives** (or strategic streams) that guided the definition and future implementation of measures to enhance DRT planning and operations in the Pavia-Oltrepò area and beyond:

I. Proceed towards a deep **integration between traditional and DRT services based on intermodality and enhanced accessibility**, starting from the network planning to the digital integration and optimisation of operations;

II. **Guarantee inclusiveness and easy access**, by designing services and digital tools around local communities and participation;

III. Establish an **effective communication approach** with local communities on the territory, in order to increase the knowledge and the use of the service.

4.2. Pavia-Oltrepò Action plan measures

Connected to the three objectives summarised above, the following set of measures was initially drafted, then validated with stakeholder and finally adopted by Autoguidovie within its strategic planning approach for low demand territories.

4.2.1. Measure 1: Apply the planning model/tool to new areas to define low demand and design effective and efficient services

The measure refers to the objective (I), and consists in the application of the solution component **"New model for the identification of DRT services in the network, and for the analysis of economic performance and compensations"** (tested in Pilot 1.1), to different peripheral and remote territories, in order to better understand the potential of DRT solutions, and the conditions under which their development can be provided. The ambition is to make this model a tool for the assessment of business and network development opportunities, and to use the outcomes of the analysis to promote new DRT applications.

Main facts

The measure is implemented according to the opportunities of market and network development (tendering procedures), in order to design and propose innovative solutions to the authorities awarding the service contracts and considering also benchmarks with other areas where DRT services are present.

As the tool will be publicly available after the conclusion of the project, the costs of implementation of the measure are related to the data collection, estimation of inputs and processing. Furthermore, the model can be continuously improved and adapted to different purposes and scopes by refining parameters according to experience and specific studies.

4.2.2. Measure 2: Apply Integration principles and IT approaches to different contexts and areas

The measure refers to the objective (I) and consists in the application of the solution component **"Display of information on traditional public transport services as well as DRT services on the same interfaces"** (tested in Pilot 2.1), to DRT services in different areas. The ambition is to scale up the tested solution components to support a consolidated DRT digital model for low demand areas.

Main facts:

The measure is implemented in other territories where the company is providing DRT services (e.g. Crema urban area, Crema extraurban and Pavia urban area). Costs of implementation are integrated in the digital mapping, set up and licencing of the DRT software for new areas. The solution provided confirmed to be scalable, eventually depending in some cases on other apps and IT systems with which it should be integrated in a MaaS logic (e.g. when a local/regional MaaS architecture is established).

4.2.3. Measure 3: Reuse the concept of totems

The measure refers to the objective (II) and consists in the replication of the solution component **"New displays facilitating information and booking, proximity info points and digital gyms"** (tested in Pilot 2.1), in selected bus stops. The ambition is to scale up the tested solution in other stops and low demand areas.

Main facts:

The measure is implemented at other three stops in the area, and it could be replicable in other territories where the company is providing DRT services. Technologies might differ according to the scope and functionalities to be activated: the most important element is non technological and refers to the engagement actions on the territory to reduce the digital divide and increase participation. The costs of equipment might represent a barrier, so simpler solutions might be considered.

4.2.4. Measure 4: Develop a communication strategy for DRT in low demand areas

A communication strategy focused on the promotion of digital and DRT services in low demand areas is developed to support the launch of future services and the extension of DRT, building on the experiences of DREAM_PACE and other projects.

Main facts:

The measure is implemented beyond the scope of the project, in synergy with other initiatives. A joint communication strategy will be used as blueprint for targeted campaigns in different territories with similar characteristics and challenges.

5. Monitoring and evaluation

The monitoring and evaluation plan for the measures was designed according to the following approach.

Measure 1 - Apply the planning model/tool to new areas to define low demand and design effective and efficient services.

Results of the implementation: assessment of DRT in new areas (Crema urban area, Crema extra-urban and Pavia urban area).

Risks associated to planning and implementation: the number of areas for the analysis depends on the business development opportunities (new DRT services, tenders, etc.).

Relevant impacts: improved planning of "natively integrated" DRT services; increased accessibility of low demand areas (increase of territorial coverage, measured in number of stops or sq-kms of territory covered).

Measure 2 - Apply Integration principles and IT approaches to different contexts and areas.

Results of the implementation: new services digitalised and integrated (Crema urban area, Crema extra-urban and Pavia urban area).

Risks associated to planning and implementation: the number of digitalised/ integrated services depends on the business development opportunities (new DRT services, tenders, etc.).

Relevant impacts: increased intermodality (increase of integration, measured in number of traditional and DRT services matched, increased number of users, increased number of users utilising both services).

Measure 3 - Increase inclusiveness, reuse of the concept of totems.

Results of the implementation: three new stops equipped; replicability in other territories where the company AG is providing DRT services confirmed.

Risks associated to planning and implementation: cost and permissions for installation; however, other technological simplified solutions might be considered.

Relevant impact(s): better knowledge of services, user friendly access, measured in number of stops covered, but also increase of users and number of bookings via totems.

Measure 4 - Develop a communication strategy for DRT in low demand areas.

Results of the implementation: a communication blueprint to promote DRT to be adopted in different areas.

Risks associated to planning and implementation: timing for the take up of the strategy depends on several factors at local level.

Relevant impacts: better knowledge of services, higher acceptance, increase in the number of service members and active users.

6. Conclusions and next steps

The measures proposed were shared at two different levels, in order to be validated:

- Internally, different companies and departments within the Autoguidovie Group were engaged to discuss the measures, their strategic relevance, applicability, scope and time for implementation;
- Externally, engaging the stakeholders of the Pavia-Oltrepò area, and especially the PTA, to validate the framework of measures and discuss their relevance and the possibility of integrating them in the mobility planning process.

The uptake of the Action plan was finalised in February 2026 with a formal decision (Letter of Commitment, Annex to D3.2.3) of the company board on the final set of measures validated and agreed upon. The Action plan will also be mentioned as relevant project output in the company's Sustainability Report.

The validation processes (internal and external) were carried out between April and August 2025 and the final version was consolidated between September and October 2025.

Internal peer reviews, focus groups and meetings were organised to discuss the objectives and measures.

External Living Lab and bilateral meetings with stakeholders took place in order to assess the acceptance of the measures proposed and collect feedback and recommendations.

The measures envisaged will support the evolution of DRT services as strategic option in the mobility network development with specific focus on peripheral and remote areas and guarantee their sustainable and durable implementation by enabling integration and inclusion.

7. References

1) DREAM_PACE Application Form, Version 2.0. 2023.
2) DREAM_PACE D1.1.1 “Report on governance and planning for public transport, mobility innovations and DRT in CE Regions”. 2023.
3) DREAM_PACE D1.1.2 “State of the art report on governance structures and planning processes for DRT in the pilot areas”. 2024.
4) DREAM_PACE D1.1.3 “Development scenarios for DRT innovative governance and planning approaches”. 2024.
5) DREAM_PACE D1.2.2 “Living labs meetings documentation on the co-design process for governance / planning in pilot areas. 2025.
6) DREAM_PACE D1.2.3 “Co-designed solutions blueprint of integrated DRT implemented /tested through pilot activities”. 2025.
7) DREAM_PACE D2.1.1 “Analysis report on DRT digital and operational innovations in CE Regions and engaged areas”. 2023.
8) DREAM_PACE D2.1.2 “State of the art report on digital and operational approaches for DRT in the pilot areas”. 2024.
9) DREAM_PACE D2.1.3 “Development scenarios for DRT innovative digital and operational approaches”. 2024.
10) DDREAM_PACE D2.2.2 “Living labs meetings documentation on the co-design process for governance /planning in pilot areas. 2025.
11) DREAM_PACE D2.2.3 “Co-designed solution blueprint improving existing DRT, implemented /tested in pilot activities”. 2026.
12) DREAM_PACE D3.1.3 “Topic guide DRT 3.0 in Sustainable Urban Mobility Plans (SUMPs)”. 2026.
13) DREAM_PACE D3.2.2 “Report on strategy-setting workshops for action plans' implementation”. 2026.

8. Annex: Pictures from Pavia-Oltrepò LL activities

Figure 1: The Miobus vehicle in service in the Oltrepò Pavese area

Figure 2: The first Living Lab meeting in Stradella

Figure 3: Group of participants at the second Living Lab meeting in Stradella

Figure 4: Living Lab participants during the on-board session (third Living Lab, August 2024)

Figure 5: Stakeholders and users during an on-site Living Lab session (July 2025)

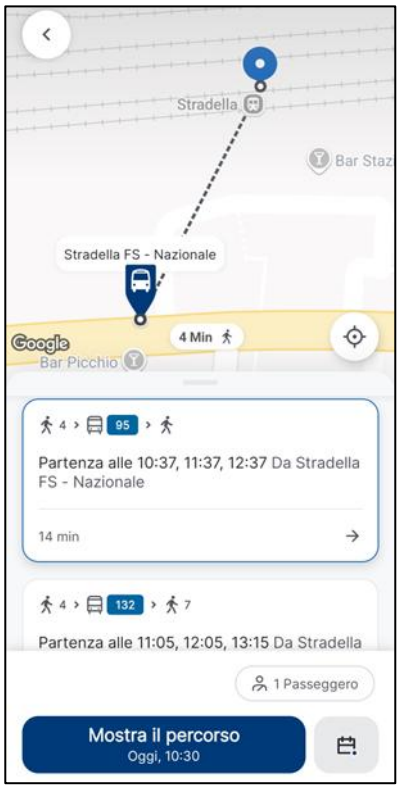

Figure 6: The Miobus app routing interface showing intermodal journey planning

Figure 7: The interactive totem installed at the municipal office for the on-site testing sessions

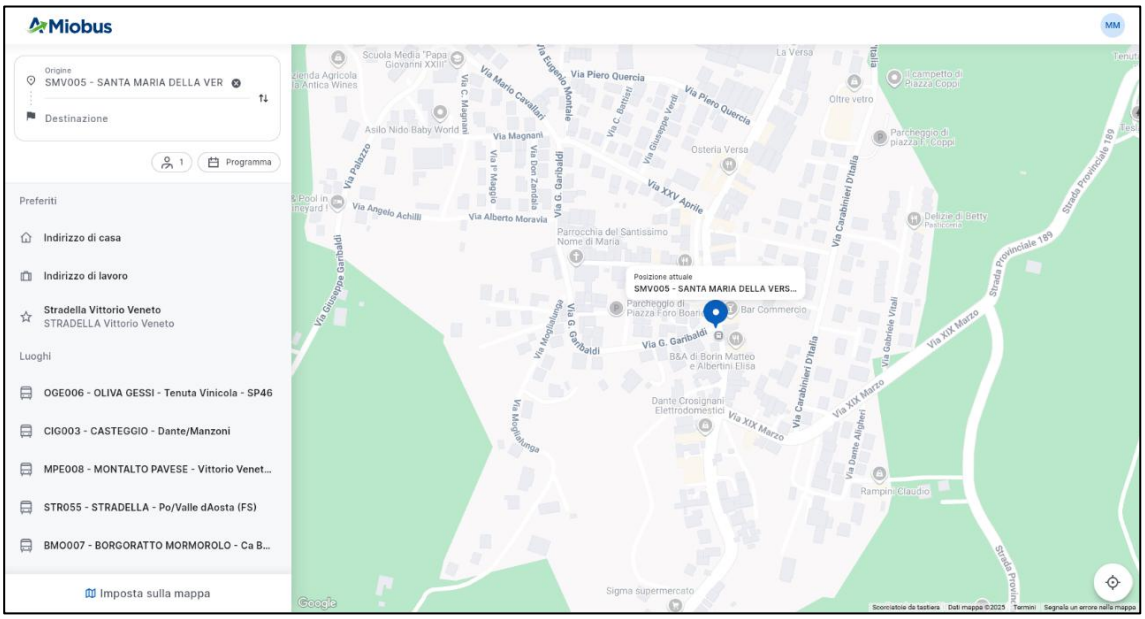

Figure 8: The Miobus Web App map interface

Figure 9: Autoguidovie staff interviewing a user during on-site testing activities

TRANSPORT

Tpl: Autoguidovie conclude la sperimentazione dei totem digitali per prenotare il servizio a chiamata

di R.S.

Ven 25 Luglio 2025 — 3 min, 28 sec

Autoguidovie ha coordinato il caso pilota dell'Oltrepò Pavese, uno dei quattro living lab europei insieme a Spalato (Croazia), Budapest e Lienz (Austria)

Figure 10: An example of press release about the testing phase