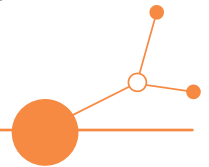


D1.1.2 Co-designed community-based services



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Sommario

1. Executive summary	2
2. Introduction and Methodology	2
3. Overview of the three pilots	3
4. Pilot 1 - Alpago (Italy).....	3
5. Pilot 2 - Heart of Slovenia (Slovenia)	6
6. Pilot 3 - Nyíregyháza (Hungary).....	10
7. Cross-pilot findings and guidance for testing	14



1. Executive summary

This deliverable documents the co-design process carried out in the three CO-MOVE pilot areas – Alpago (Italy), the Heart of Slovenia (Slovenia) and Nyíregyháza (Hungary) – and describes the community-based mobility services that resulted from it. For each pilot area it presents the stakeholders engaged, the activities through which they were involved, the needs and inputs collected, the resulting service concept, and the timeline, sharing of responsibilities and preconditions guiding the forthcoming testing phase.

The three pilots share a common rationale: in peripheral and mountain areas with dispersed settlement patterns, conventional scheduled public transport cannot economically serve all origin-destination pairs and time windows, leaving parts of the population – typically elderly residents, students, shift workers and households without a car – with limited access to work, education and essential services. All three pilots therefore test services designed to complement, not replace, the existing public transport network.

The solutions differ according to local conditions. Alpago is developing an app-based social carpooling service integrated with public transport timetables. The Heart of Slovenia is testing community-based carpooling through local social media groups while assessing the potential to extend demand responsive transport to municipalities that currently lack it. Nyíregyháza is extending an existing demand responsive transport service to the outer hamlet settlements, supported by an upgraded booking platform and dedicated digital-inclusion measures.

The three pilots have reached different stages of the co-design process. Nyíregyháza has completed both technical alignment and a public consultation with residents; the Heart of Slovenia is engaged in an ongoing cycle of municipal and stakeholder consultations; Alpago has completed the technical and institutional phase of co-design and will engage local political stakeholders and citizens once the technological solution is further consolidated. This difference in pace is documented transparently in the following chapters and is addressed in the cross-pilot guidance in Chapter 7.

2. Introduction and Methodology

Deliverable D.1.1.2 reports on the co-design process of the services to be tested in the CO-MOVE target areas, defined according to the territorial challenges identified and with the participation of the engaged stakeholders. In line with the Application Form, the deliverable includes the timeline, the sharing of responsibilities and the guidance for testing. It builds directly on D.1.1.1 - Stakeholder engagement and state of the art, which mapped the relevant actors and analysed the mobility conditions of each target area, and it precedes the pilot implementation activities under Work Package 2.

The document was compiled by Redmint on the basis of structured inputs provided by the partners responsible for each pilot area. A common template was circulated to all partners, structured around four questions: what is the territorial and mobility context, how was the service co-designed and with whom, what service will be tested, and how will the testing phase be organised. The inputs received were consolidated into the present document, harmonising terminology and structure while preserving the substance and the specific emphasis of each partner's contribution.

Chapters 4 to 6 present each pilot according to the common structure. Chapter 3 offers a comparative overview, and Chapter 7 draws together the findings that are common across the three territories and the guidance that applies to the project as a whole.



3. Overview of the three pilots

	Pilot 1 - Alpago (IT)	Pilot 2 - Heart of Slovenia (SI)	Pilot 3 - Nyíregyháza (HU)
Responsible partner	Dolomiti Bus	Development Centre of the Heart of Slovenia	Municipality of Nyíregyháza with Mobilissimus
Service concept	App-based social carpooling integrated with public transport	Community-based carpooling and assessment of DRT potential	Demand Responsive Transport as feeder to the urban network
Territorial context	Rural mountain area, secondary valleys of the Belluno province	Dispersed rural settlements across four municipalities	Scattered hamlet settlements and peripheral corridors
Main target users	Residents without car access, students, workers, elderly people	Residents of remote settlements, commuters, elderly people, youth	Hamlet residents, shift workers, students, elderly people, families
Digital component	Carpooling application integrated with GTFS data	Local social media groups, digital platform under assessment	Extension of the GyereBusz booking platform
Stage of co-design	Technical co-design completed; territorial engagement upcoming	Stakeholder and municipal engagement ongoing	Technical co-design and public consultation completed
Indicative testing start	Period 2-3, service launch expected mid-2027	Progressive, during the pilot implementation phase	November 2026, January 2027 at the latest

4. Pilot 1 - Alpago (Italy)

4.1. Territorial and mobility context

The Alpago area is a rural mountain territory in the Belluno province, characterised by a dispersed population and a strong reliance on private cars for daily mobility. Public transport is currently organised through bus services connecting the secondary valleys to the main valley floor, from which trunk bus lines depart, linking the area to Belluno towards the north-west and to the province of Treviso towards the south-east. A valley-floor railway line is also present, connecting Belluno and the more mountainous northern part of the Veneto region with the Po-Veneto plain.

As highlighted in the stakeholder mapping and state of the art carried out in D.1.1.1, these conditions particularly affect residents without easy access to a car – such as elderly people, students and workers – who struggle to reach essential services, jobs and the main public transport connection points. Building on this context, the pilot aims to test a social carpooling service, integrated with existing public transport, as a complementary mobility option for the area.



4.2. Co-design process

4.2.1. Stakeholders and citizens involved

Stakeholders were identified and are being engaged with different modalities depending on their role in the pilot. A first group includes political and community-level stakeholders, representing citizens through public administrations: the mayors of the municipalities involved, together with local associations and spontaneous aggregations that are particularly active in the area, given its strong sense of local identity – such as the Youth Council (Consulta Giovani), which combines a political dimension with the organisation of cultural events and activities, and the Local Action Group (GAL). These groups will be more directly engaged in the next phase of the co-design process.

At this stage, engagement has instead focused on infrastructural and technological stakeholders, in order to ensure that the proposed solution is technologically sound and sustainable. This included IT experts and a carpooling platform provider, who were involved and consulted through invitations, calls and presentation meetings, together with the transport operator, contributing its know-how in the design of transport service solutions. The engagement of citizens and local political stakeholders is therefore still being carried out, and is scheduled for the next phase of the pilot.

4.2.2. Co-design activities carried out

The co-design process started with the involvement of the project partners and a preliminary assessment of the municipalities to be engaged. On this basis, an IT expert was involved to support the definition of the system's functionalities, together with technical inputs. This step allowed the project team to collect the necessary information and to discuss it with the IT expert, in order to define the main functionalities of the service.

In parallel, an internal evaluation was carried out, drawing on the operator's know-how in designing travel solutions for users. This allowed the project team to identify the desired characteristics of the system and the type of output it should provide, in order to offer users concrete and flexible travel proposals, in line with the company's operating principles.

Concretely, the activities carried out so far consisted of an initial workshop held in April 2026 with the project partners, aimed at defining the scope of the pilot and identifying the municipalities and stakeholders to be involved, followed by targeted technical discussions with the IT expert and the carpooling platform provider, carried out through meetings and presentations, with the objective of collecting the necessary technical inputs and defining the main functionalities of the service.

4.2.3. Needs and inputs collected

The co-design activities highlighted a transport demand that is not always covered by existing public transport services. This is particularly evident during off-peak periods and school holiday periods, when public transport services are reduced: some citizens who need to reach workplaces, for example in industrial areas in the valley floor, lose the connection between their secondary valley and the main valley floor, and are therefore unable to access the trunk public transport lines. Similarly, some travel needs involve origin-destination combinations that are not well served by public transport, which mainly follows fixed trunk routes, making such trips difficult to cover even with existing services.

In terms of inputs, the main contributions collected so far come from the advice provided by the IT expert on what is technically feasible, from benchmarking with similar experiences in other European countries with characteristics comparable to the Alpage area, and from the internal know-how of the transport



operator, which has established capacity in designing point-to-point transport solutions tailored to users' specific needs.

4.3. Co-designed service to be tested

4.3.1. Service concept

The co-designed service consists of an app-based social carpooling solution, integrated with the existing public transport network, and includes the following concrete components:

Technological solution: through the involvement of the IT expert and the carpooling platform provider, the service aims to test an application able to propose concrete travel solutions to users. The carpooling component may cover the initial leg, the final leg, or the entire trip, depending on the case, and travel proposals are defined within set temporal and spatial parameters, so as to remain consistent with the user's actual request.

Role of municipalities: municipalities are asked to support the communication and promotion of this innovative travel solution among citizens, helping them understand and appreciate its potential, and to collaborate with the transport operator in monitoring the service over time – for example evaluating usage levels and identifying possible barriers, such as lack of trust, rigid schedules, limited supply or demand, or difficulties in accessing digital tools, particularly among elderly users.

Enhanced municipal involvement: in a more ambitious scenario, municipalities could autonomously decide to support the initiative more directly, for example by making a municipal car available for these trips, or by facilitating – through their own local networks, including volunteering initiatives – the matching of a driver willing to carry out certain trips at certain times, on a reservation basis. All such arrangements remain strictly voluntary, in line with the social carpooling model.

Hidden demand analysis: the service is also meant to help identify and better understand a share of transport demand that is currently not captured by the public transport operator, and which deserves to be studied further.

Regulatory framework: a set of authorisation-related aspects is being defined together with the Province of Belluno, as the competent transport-authorising body, including the use of public transport stops for passenger pick-up and drop-off (currently reserved for public transport under the highway code) and the identification of possible alternative locations close to existing stops. Incentive mechanisms (push-and-pull measures), such as facilitated parking areas for those offering rides, are also being considered.

4.3.2. Target users and geographical scope

The service targets the residents of the municipalities of Alpago, Chies d'Alpago and Tambre, with a particular focus on users who are less well served by existing public transport, such as residents of secondary valleys, students, workers and elderly people with limited access to a car or to digital tools.

4.3.3. Integration with existing mobility services

At a conceptual level, the co-designed carpooling service is designed to integrate with, rather than replace, the existing public transport network. The technological solution is expected to take into account public transport timetables and routes, through the GTFS data provided by the transport operator, in order to avoid overlapping trips that would generate inefficiencies. Depending on the user's request, the system may propose either mixed travel solutions – combining a social carpooling leg (initial, final, or in some cases the entire trip) with a public transport leg – or solutions fully based on the existing public transport service.



4.4. Guidance for testing: timeline and responsibilities

4.4.1. Timeline for testing

The testing phase for the Alpago carpooling pilot is expected to take place between Period 2 and Period 3 of the project. Before testing can start, further work is needed on the definition of the technological infrastructure, the completion of the co-design process with local stakeholders and citizens, and the evaluation of the integration of the travel solution with public transport GTFS data. The actual launch of the service, following the testing phase, is indicatively expected around June 2027.

4.4.2. Sharing of responsibilities

Dolomiti Bus: overall coordination of the pilot; provision of public transport data (GTFS) and operational know-how for the design of travel solutions; monitoring of service performance and integration with the existing public transport network; liaison with the competent transport authority for authorisation matters.

IT provider: development and technical management of the carpooling application; definition and implementation of the system's functionalities, including the matching algorithm and the temporal and spatial parameters for travel proposals; technical support during the testing phase.

Local stakeholders (municipalities, GAL, Consulta Giovani): support in communicating and promoting the service among citizens; facilitation of local engagement, including through associations and volunteering networks; feedback collection on service usage and potential barriers; where applicable, contribution of additional local resources, such as municipal vehicles, to enhance service flexibility.

4.4.3. Guidance and preconditions for testing

Before the testing phase can start, the following conditions and preparatory steps need to be finalised:

Validation with stakeholders: a validation step with local stakeholders (municipalities, GAL, Consulta Giovani) will be needed to confirm the service concept and the engagement modalities defined during the co-design process.

Authorisations: specific authorisation aspects need to be clarified with the competent transport authority and with the Province of Belluno, in particular regarding the possible use of public transport stops for passenger pick-up and drop-off. A preliminary verification of the conditions for using public transport stops will be required before testing starts.

Technical set-up: completion of the technological infrastructure and integration with GTFS data, as outlined in section 4.4.1.

5. Pilot 2 - Heart of Slovenia (Slovenia)

5.1. Territorial and mobility context

The Heart of Slovenia is a rural region characterised by dispersed settlements, limited availability of public transport and a high dependency on private cars. These conditions generate mobility gaps affecting in particular residents of remote settlements, elderly people, young people and households without access to a private car, whose ability to reach workplaces, schools, healthcare facilities and administrative services depends on connections that the current scheduled network covers only partially.



The pilot addresses these gaps across four municipalities – Kamnik, Litija, Šmartno pri Litiji and Lukovica – building on the mobility services already present in the area, including public transport, an existing demand responsive transport pilot in Šmartno pri Litiji, volunteer transport initiatives, tourist shuttles and bike-sharing systems.

5.2. Co-design process

5.2.1. Stakeholders and citizens involved

The co-design process engages seven groups of actors, each with a distinct function in the pilot:

Municipalities (Kamnik, Litija, Šmartno pri Litiji, Lukovica): participate in the co-design process by identifying local mobility challenges and priorities, provide input on existing transport services, target groups and potential locations for testing solutions, support communication with citizens and local organisations, and evaluate the feasibility of proposed solutions and their integration into future local mobility planning.

Mobility service providers (the Public Transportation Management Company, public transport operators, demand responsive transport providers, bike-sharing providers): provide information about existing mobility services, operational conditions and possible integration opportunities, share experience and lessons learned, and support the assessment of how new community-based services could complement existing transport networks.

Community and volunteer organisations (Sopotnik, Prostofer, local associations): provide knowledge about the mobility needs of vulnerable groups and existing community-based transport practices, support the identification and engagement of potential users, and contribute feedback on accessibility and usability.

Tourism stakeholders (destination management organisations and local tourism providers in the pilot municipalities): provide information on seasonal mobility needs and identify opportunities to connect tourist mobility with everyday mobility services.

Citizens and target groups (elderly people through the local Pensioners' Associations, youth, families with school-age children, commuters, residents of remote areas): participate in workshops, consultations and testing activities, share daily travel needs, barriers and expectations, and provide feedback on the acceptability and practicality of the proposed solutions.

IT and digital solution providers: provide expertise on possible digital tools for connecting mobility services and assess technical requirements and opportunities for future digital solutions.

Development and regional organisations (Development Centre of the Heart of Slovenia, LAG Heart of Slovenia): coordinate the overall co-design process and communication between stakeholders, organise engagement activities and collect feedback from the territory, analyse results and prepare recommendations, and support knowledge exchange between municipalities.

5.2.2. Co-design activities carried out

Meetings with municipalities, held during the initial phase of the pilot in 2026, aimed at identifying the specific mobility challenges and priorities of each municipality, discussing existing mobility services, available resources and potential opportunities for introducing community-based solutions, and defining possible areas and target groups for further testing.

Stakeholder workshops, held during the co-design phase in 2026 with schools, social institutions, tourism stakeholders, local associations, transport providers and non-governmental organisations, aimed at collecting local knowledge and practical experience, identifying mobility gaps and underserved groups, and



discussing the feasibility of social carpooling, demand responsive transport and improved coordination of existing services.

End-user engagement activities, addressed to elderly people, young people, families, commuters, residents of remote settlements and people without access to a private car, aimed at understanding daily travel patterns, barriers and expectations, identifying willingness to use shared and flexible mobility solutions, and collecting feedback on the proposed service concepts.

Learning and awareness activities, carried out during the pilot implementation phase, aimed at increasing awareness of available mobility options, supporting digital inclusion among less digitally skilled users, and encouraging behavioural change towards shared and sustainable mobility.

Decision-makers are involved throughout the process through individual meetings with municipalities, a study visit to the FURA RADLJE demand responsive transport initiative to gain practical insight into its organisation, operation and governance model and to discuss its transferability, and the subsequent presentation of pilot findings and recommendations on service options, governance and financing models, and priorities for future investments and mobility planning.

5.3. Co-designed service to be tested

5.3.1. Service concept

The pilot tests the feasibility and potential of introducing community-based mobility solutions in the rural areas of the Heart of Slovenia, through the following components:

Social carpooling: a peer-to-peer shared mobility model in which residents can offer and request shared rides, especially for connections between remote settlements, local centres and transport hubs. In operational terms, a resident identifies a travel need and publishes it – or publishes available seats – through a dedicated local social media group, indicating departure point, destination, travel time and frequency. Passengers and drivers are then connected directly and agree on the practical arrangements for the shared ride. Activity, requests, offers and feedback are monitored to assess demand, acceptance and the potential for further development, including a dedicated digital platform.

Flexible mobility services: an assessment of the potential for introducing or extending demand responsive transport in municipalities where such services do not currently exist. Existing good practices – in particular the FURA RADLJE model and the ongoing demand responsive transport pilot in Šmartno pri Litiji – are presented to municipalities and stakeholders, including through a study visit. On this basis the pilot will produce an assessment of the potential for expanding such services in the region and recommendations for further development. If a municipality expresses sufficient interest and suitable conditions are identified, a short-term demonstration may be carried out at a selected micro-location to validate the approach.

Improved integration and coordination of existing mobility services: exploring how public transport, volunteer transport, tourist shuttles, bike-sharing and other local initiatives could be better connected and made more visible to users.

Digital support tools: assessing the potential need for digital solutions that would help residents identify available mobility options and combine different transport modes for a selected journey.

5.3.2. Target users and geographical scope

The social carpooling component targets residents of remote settlements, commuters, young people, families, elderly people without access to a car, and other residents interested in sharing rides, for daily commuting to work and education, access to healthcare, administration and shopping, participation in social



activities, and connections to public transport hubs. Geographically it covers connections between dispersed rural settlements, municipal centres, neighbouring municipalities and the main bus and railway stations.

The flexible mobility component targets elderly people, young people, residents without a private car, people with reduced mobility and other groups facing limited transport options, for access to local services, schools, healthcare, shops and public transport connections. Geographically it focuses on peripheral settlements with limited public transport, particularly connections between remote areas and local centres or transport hubs.

The mobility information and coordination component, should it be developed, would address all residents and visitors of the wider Heart of Slovenia area, with particular attention to groups less familiar with digital mobility tools.

5.3.3. Integration with existing mobility services

The pilot is designed to complement and better connect existing mobility services rather than replace them, exploring how community-based solutions can fill mobility gaps in rural and peripheral areas. It builds on public transport, by improving first- and last-mile connections and supporting access to transport hubs; on existing demand responsive transport initiatives, particularly the pilot in Šmartno pri Litiji and the FURA RADLJE good practice, to assess their transferability to other municipalities; on volunteer transport services such as Sopotnik and Prostofer, by identifying complementarities and avoiding duplication; and on tourist shuttle services and bike-sharing systems, by exploring how they could become part of a more integrated local mobility offer.

The pilot also assesses the potential for a digital mobility information platform that would provide users with an overview of all available options for a selected journey. The overall objective is to improve coordination between existing services and identify opportunities for future integration into a more user-friendly and connected rural mobility system.

5.4. Guidance for testing: timeline and responsibilities

5.4.1. Timeline for testing

Preparation: organisation of meetings with municipalities and identification of key stakeholders; mapping of existing mobility services, identification of local mobility needs and definition of the scope of the pilot.

Co-design: workshops and consultations with municipalities, stakeholders and end users; assessment of the potential for social carpooling and demand responsive transport solutions; finalisation of the co-designed service concept.

Pilot implementation: launch of the social media groups to test demand for community-based carpooling; promotion of the pilot and collection of information on mobility requests and offers; study visit to the FURA RADLJE initiative and assessment of the transferability of the model; where justified, a short-term demand responsive transport test in a selected municipality or micro-location.

Evaluation: analysis of the results of the carpooling test, of stakeholder feedback and of the demand responsive transport assessment; evaluation of user interest, feasibility and potential for future implementation.

Action planning: preparation of the regional Action Plan, including recommendations for the future implementation of community-based mobility services, possible digital solutions and the integration of successful measures into local and regional mobility planning.



5.4.2. Sharing of responsibilities

Development Centre of the Heart of Slovenia: organisation of meetings with municipalities and identification of local mobility needs; engagement of local stakeholders and end users through workshops and consultations; mapping of existing mobility services and identification of gaps and opportunities; preparation and implementation of the social carpooling test; collection and analysis of data on carpooling requests and offers; assessment of the potential for demand responsive transport expansion and preparation of recommendations; preparation of the regional Action Plan; coordination with project partners and reporting on pilot progress.

Municipalities: cooperation in the promotion of the pilot and support to citizen participation; participation in the FURA RADLJE study visit and in the assessment of the transferability of the model.

Mobility providers, community organisations, tourism stakeholders and citizens: contribution to the co-design activities according to the roles described in section 5.2.1.

5.4.3. Guidance and preconditions for testing

No procurement is planned at the current stage of the pilot. Depending on the outcomes of the co-design process and the needs identified, limited procurement may be carried out at a later stage. It may include services required for a small-scale demand responsive transport test – such as temporary vehicle rental, driver services, coordination and operational support – should a municipality or micro-location with sufficient potential be identified, and the development or adaptation of a digital mobility platform bringing together existing mobility services in the Heart of Slovenia, should the pilot confirm the need and feasibility of such a solution.

The launch of the community-based carpooling test further requires the identification and activation of the local social media groups, the engagement of a sufficient base of participants through municipalities and local organisations, and the definition of the monitoring arrangements described in the Action Plan phase.

6. Pilot 3 - Nyíregyháza (Hungary)

6.1. Territorial and mobility context

The Nyíregyháza pilot addresses the mobility challenges of the city's distinctive scattered hamlet settlement structure – the bokortanya system, served by the H40 corridor – and of peripheral underserved corridors such as the Tokaji Road corridor and Felsőpázsit. These areas face severe public transport disadvantages characterised by low service frequencies, long travel times, high car dependency and transport poverty affecting vulnerable groups such as elderly and young residents. The geographic scope, target areas and planned route coverage have remained unchanged since the state of the art analysis.

6.2. Co-design process

6.2.1. Stakeholders and citizens involved

The co-design process engaged a broad range of local and regional actors through structured public consultations and targeted technical alignment meetings:



Public authorities and municipal bodies: the Municipality of the City of Nyíregyháza, including its Urban Development Department, and local municipal representatives of the outer hamlet areas, engaged through internal coordination meetings and active in facilitating public dialogue.

Transport operator: the MÁV Group, responsible for regional and local public transport operations, which participated in operational co-design sessions and technical discussions to align vehicle availability, routing and system integration.

Civil society and community organisations: the Vajdabokor Community House, the Association for the Residents of the Bokortanyas, the Nyíregyházi Gyöngyszem Family Day Nursery and other local stakeholders, engaged as intermediaries to represent local community needs and support participant outreach.

Citizens and end users: residents of the outer hamlet settlements and underserved peripheral areas, directly invited to the public consultation forum held on 30 July 2026, where they provided feedback on mobility needs, potential schedules and digital readiness.

6.2.2. Co-design activities carried out

Co-design workshop, Milan, April 2026. A joint co-design and planning workshop bringing together the two Hungarian project partners – the Municipality of Nyíregyháza and Mobilissimus – who worked jointly on the co-design of the Nyíregyháza pilot, alongside transnational project partners presenting parallel outcomes for their respective territories. The workshop mapped out the core pilot components and operational roadmap, defining the core concept (an updated GyereBusz web application, flexible timetables with fixed end stations and flexible intermediate stop points, and defined stop points), the allocation of roles among IT developers, bus drivers and dispatchers, the MÁV Group, the Municipality, Mobilissimus and residents, and the structuring of key phases from initial concept definition through stakeholder analysis and meetings to contract preparation and pilot launch.

Public consultation forum, 30 July 2026. An open forum with a question-and-answer session, attended by twenty participants including local residents from the pilot areas, local municipal representatives and delegates from the MÁV Group. Its objectives were to present the planned demand responsive transport extension to end users, collect direct feedback on travel needs and operational windows, and assess the digital literacy of the local population regarding the use of a mobile application for ride booking.

6.2.3. Needs and inputs collected

The public forum of 30 July 2026 provided end-user and operational inputs that directly refined the service concept:

Digital support: while smartphone adoption is high, experience with online booking is low. Residents requested simple printed flyers and clear guides, both online and offline, which will be provided alongside the IT development.

Infrastructure and vehicle choice: road conditions in the outer hamlets, for instance in Salamonbokor, cannot accommodate standard or mid-sized buses. Midibus feasibility and potential new stop infrastructure are being evaluated to shorten access walks, currently up to thirty minutes, and to optimise outer hamlet coverage.

Scheduling and key destinations: timetables are being tailored around shift and school hours, and route design is under way, including an evaluation of whether specific scheduled runs could directly serve major facilities such as the local hospital.

Booking features: users requested advance and group booking options, for example reserving a full working week. To avoid confusion with the fixed H40 buses, the test service will run under a new line name.



Dispatcher workflows: in response to resident dissatisfaction with central call centres, clear guidelines will be created for MÁV dispatchers.

6.3. Co-designed service to be tested

6.3.1. Service concept

The pilot tests an upgraded demand responsive transport service providing a dynamically organised transport solution for the outer hamlet settlements and peripheral corridors on the basis of actual travel demand. The service does not replace existing scheduled public transport but operates as a complementary element, aiming to improve connections, strengthen the integration of the transport network and better connect peripheral areas to the city's transport system. Users indicate their travel needs in advance through digital or other available channels; on the basis of the collected requests, the system optimises vehicle routes taking into account the spatial and temporal characteristics of the trips and the available capacity, enabling the service to respond flexibly to actual mobility needs while ensuring more efficient vehicle utilisation.

The concrete components resulting from the co-design process are:

IT platform development: an extension of the GyereBusz platform supporting trip booking, dynamic route planning, operational coordination, map-based visualisation and dedicated user interfaces for both dispatchers and bus drivers. IT procurement is planned to be launched by the end of August 2026.

New route name: to avoid passenger confusion with the regular fixed-route H40 buses, the pilot service will operate under a new line name during the testing phase.

Operational and infrastructure alignment: operation of test vehicles provided directly by the MÁV Group, planned to start in November 2026, incorporating an integrated mid-term evaluation for service fine-tuning; schedule alignment with early morning shift work, for instance arrivals at six o'clock, and with school hours, with route planning currently assessing options to serve key facilities such as healthcare clinics and hospitals on specific scheduled runs.

User support and capacity building: development of printed information flyers and simple instructional user guides, and direct hands-on application training conducted during upcoming public forums, to support digital inclusion and guide passengers towards online booking.

The long-term objective of the pilot is to develop a sustainable and adaptable mobility model that can also be applied in other areas with similar territorial characteristics.

6.3.2. Target users and geographical scope

The primary target group consists of residents of the hamlet settlement areas and peripheral corridors, with particular attention to older people facing mobility constraints, young people and students commuting to educational institutions, families with children, daily commuters travelling to work during early morning shifts, and transport-disadvantaged residents for whom the existing fixed public transport system provides limited or indirect access to essential public services. The main travel purposes for these groups are commuting to work and school, accessing healthcare services and pharmacies, shopping, and reaching public administration services.

Geographically, the pilot covers two peripheral focus areas within the municipality of Nyíregyháza. The first comprises the outer hamlet settlements in the H40 line area, in the western and south-western part of the municipality, including Salamonbokor, Szabadságbokor, Jánosbokor, Szelesbokor, Benkőbokor, Kazárbokor, Vargabokor, Antalbokor, Rókabokor, Sulyánbokor, Gerhátbokor and Kovácsbokor. The second is the Tokaji Road corridor, serving Felsőpázsit and the surrounding areas, including the airport.



6.3.3. Integration with existing mobility services

The pilot complements existing scheduled public transport rather than replacing it, focusing on strengthening first- and last-mile connections between peripheral areas and the urban network. It acts as a flexible feeder to regular city buses, in particular line H40, and to regional main-road routes, bridging long access walks and connecting the hamlets to transport hubs.

In terms of digital integration, the service will be displayed on the Menetrendek.hu route planning platform in addition to the GyereBusz website. While the ultimate goal is full integration into the major national journey planners, the feasibility, associated timeframe and financial implications are currently under discussion and review.

6.4. Guidance for testing: timeline and responsibilities

6.4.1. Timeline for testing

August 2026: drafting of the first version of the operational timetables and route concepts for the pilot areas.

Late August 2026: launch of the procurement process for the extension and development of the GyereBusz IT platform.

September-October 2026: finalisation of the exact operational schedules, route parameters and flexible stopping rules for integration into the IT platform; development of the platform extension, including the interactive map, the driver and dispatcher interfaces and the group and recurring booking features; operational alignment with the MÁV Group regarding test vehicle provision and dispatcher workflow protocols; preparation of promotional and educational materials and organisation of follow-up public consultation forums with application training for residents.

November 2026: official launch of the demand responsive transport pilot service serving the outer hamlets and peripheral corridors.

November 2026 - July 2027: active pilot operation and data collection, with a mid-term evaluation around March 2027 to analyse operational performance, passenger feedback and dispatcher experience, allowing adaptive adjustments to routes and timetables.

The official launch is planned for November 2026; it depends, however, on the progress of IT development, preparatory activities and administrative lead times, with the latest launch targeted for January 2027.

6.4.2. Sharing of responsibilities

Municipality of Nyíregyháza: overall pilot coordination and strategic management; IT platform procurement; community engagement and public forums, supported by local representatives and civil society organisations.

Mobilissimus: methodological support, technical planning and evaluation.

Municipality of Nyíregyháza, Mobilissimus and MÁV Group jointly: drafting of the initial timetables and route concepts.

Municipality of Nyíregyháza and Mobilissimus jointly: IT platform functional specifications; preparation and distribution of educational and promotional materials; user training on the application, together with the



IT developer; pilot performance data collection and mid-term fine-tuning analysis, with operational data input from the IT developer.

External IT contractor, to be procured: IT system development and platform maintenance.

MÁV Group: provision of test vehicles and fleet operation; driver operation and daily route execution; dispatch centre.

6.4.3. Guidance and preconditions for testing

Formal agreements and institutional alignment: finalisation of the operational agreements with the MÁV Group regarding vehicle allocation, driver capacity and dispatching protocols for the pilot duration.

Technical set-up and IT readiness: procurement, development and thorough testing of the upgraded IT platform, including the driver application, the dispatcher interface and the map-based visualisation.

Operational parameters and route design: finalisation of timetables and routes in consultation with MÁV Group experts.

Dispatcher protocols and training: establishment of standard operating procedures for the MÁV Group call-centre dispatchers, to handle telephone requests effectively and guide users towards digital channels.

Community outreach and user preparation: printing and distribution of educational flyers, publication of clear user guides, and organisation of follow-up public forums with application training, to overcome resident hesitation towards digital tools.

7. Cross-pilot findings and guidance for testing

Common territorial rationale

The three pilots start from the same structural condition: dispersed settlement patterns make a fully scheduled network economically unsustainable, and the resulting gaps fall on the same population groups in all three territories – elderly residents, students, shift workers and households without a car. In each area the gap is concentrated in the same two dimensions, namely the connection between peripheral settlements and the trunk network, and the time windows that scheduled services cover only thinly, such as early morning shifts, off-peak hours and school holidays.

Complementarity as a shared design principle

None of the three services is designed to replace scheduled public transport. In all three cases the co-designed service operates as a feeder or a complement, addressing first- and last-mile connections and the origin-destination pairs that fixed routes cannot serve. This principle has direct operational consequences that all three pilots will have to manage during testing: avoiding duplication with existing lines, and making the complementary service visible to users alongside the conventional offer.

Digital access as a recurring constraint

All three pilots rely on a digital booking or matching layer, and in all three the co-design process identified the digital divide as a barrier rather than an enabler, particularly among elderly users. Nyíregyháza has translated this into concrete countermeasures – printed flyers, offline guides and hands-on training sessions – that offer a directly transferable approach for the other two pilots.

Different stages of co-design maturity

The three pilots have reached the testing threshold at different speeds. Nyíregyháza has completed both the technical alignment with the operator and a public consultation with residents, and has a dated launch



plan. The Heart of Slovenia is in an ongoing cycle of municipal and stakeholder engagement, with the service scope deliberately kept open pending the outcome of that engagement. Alpago has completed the technical and institutional dimension of co-design and has scheduled the engagement of local political stakeholders and citizens for the next phase, once the technological solution is consolidated enough to be presented as a concrete proposal.

Guidance applying to all three pilots

On this basis, three conditions apply across the project before testing can be considered ready in each territory. First, a validation step with local stakeholders confirming the service concept and the engagement modalities, which in the Alpago and Heart of Slovenia cases coincides with the completion of the territorial co-design phase. Second, clarity on the legal and regulatory framing of the service, which takes a different form in each territory – authorisation matters and the private-transport nature of the ride in Alpago, operational agreements with the transport operator in Nyíregyháza, and the conditions for a possible small-scale demonstration in the Heart of Slovenia. Third, the readiness of the digital layer together with the accompanying measures that make it usable by the intended target groups.

Link with the following activities

The service concepts documented here constitute the basis for the pilot implementation activities under Work Package 2, where the services will be tested and their performance assessed. The evidence generated during testing, together with the co-design experience reported in this deliverable, will feed the Action Plans developed in the final phase of the project.