SMARTA-NET

Sustainable Rural Mobility for Resilience in Support of Ecotourism

Supported by the European Commission

WORKING VERSION

Guidance on Rural Shared Mobility solutions

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SUSTAINABLE RURAL MOBILITY FOR RESILIENCE IN SUPPORT OF ECOTOURISM

Guidance on Rural Shared Mobility Solutions

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Cover pictures

Background image: Mobility hub in Gieten, Drenthe Province, The Netherlands - © Õnne Kask
Upper circle: Bürgerbus in Oberes Glantal Community, Germany (https://buergerbus-og.de)
Lower circle: Bus shuttle service in Anterselva Valley, Italy

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Flugs e-car sharing in East Tyrol, Austria - © E. Bachmann - *Source:* https://www.osttirol.com/it/mobilita/mobilita-in-osttirol/flugs-e-carsharing/

Foreword

Dear Reader,
Rural mobility is one of the fundamental enablers for the development of rural territories, as stated in the European Long-Term Vision for Rural Areas. People in rural areas, now even in rural towns, have become increasingly forced to travel more often and longer distances for the most basic requirements of a normal life. However, public transport and shared mobility services are minimal in most rural areas throughout Europe. This places extreme limitations on where a person can go without a car. As a result, in rural Europe, most people have little or no choice about how they travel.

As part of the response to these challenges, the SMARTA-NET project is establishing the first European network on rural mobility, aimed initially at rural municipalities and others who can act at the local level. The European Rural Mobility Network is about bringing people together to share their experiences, learn from each other, find ways to improve things, and become a common voice for the sector. Over the next year, to the end of 2024, SMARTA-NET is committed to helping the knowledge sharing, and networking.

This document is the first of a set of four Guidance documents that SMARTA-NET is preparing, to foster the capacity of municipalities to develop and implement sustainable, inclusive, and integrated mobility solutions in their territories.

A wide range of rural mobility solutions, which can be packaged to meet the local needs, and connected to the regular public transport, already exists in different rural EU contexts. These solutions, demonstrated in multiple European projects including SMARTA, SMARTA2, LAST MILE, MAMBA, INCLUSION, MARA, MELINDA, Hi-Reach, include Flexible Transport Services, Ride Sharing services, such as, carpooling and shared-taxi services, and asset sharing services, including car and bike sharing. These can be packaged to meet the local mobility needs, and connected to the regular public transport.

This guidance is aiming to fill in the key gaps in sector-specific know-how, access to funding for operations, and administrative/regulatory space for local actors to act. It will provide you with in-depth knowledge on rural shared mobility solutions, grounded by the assessment of more than 30 mobility services investigated in the project.

Whether you are a representative of a rural municipality, a regional authority, a mobility or transport operator, or of a local community, this Guidance will help you in the planning and delivery of a blend of formal and informal forms of mobility services. Implementation of new generations of rural mobility schemes throughout Europe can be done rapidly if the enabling conditions are there. It requires very little infrastructure or capital financing. What's more, communities generally have a good capacity to mobilize and implement locally.

We wish you a good reading, confident that your work at the local level will be a voice in the orchestra of many local authorities and practitioners that are working on similar issues, with the ambition to increase the accessibility and liveability of the rural territories in Europe. ■

Source: Freepik

1. Introduction

The SMARTA-NET Project

SMARTA-NET is an initiative of the European Commission, managed under DG-MOVE with support from DG AGRI, that aims to promote sustainable and resilient mobility connections between rural areas, within remote areas such as islands, and between remote rural areas (including isolated regions) and urban areas, taking into account the need to support ecotourism. SMARTA-NET follows on from the SMARTA project (2018-2020) which dealt with rural shared mobility (including DRT) linking with public transport.

Mobility is what allows people to access everything related to their daily life, whatever that entails. If you can't get where you need to or wish to go, your life is being constrained. Throughout Europe today, most people living in rural areas have limited choice other than the personal car, far too many people have no choice at all.

SMARTA-NET looks to help break this cycle, showing what can be done and building capacity among local authorities and other implementers.

SMARTA-NET has three main strands:

- **Establish a European Rural Mobility Network** (ERMN), to provide a forum and a voice for those working on rural mobility.
- Develop **Guidelines** on a number of topics, including **(i)** good practice in rural mobility; **(ii)** mobility supporting rural tourism; **(iii)** extending SUMPs to incorporate aspects of rural mobility; and **(iv)** financing structures for rural mobility.
- Implement **training** on the Guidelines in target member countries, in own language, for the ERMN members and other interested stakeholders.

SMARTA-NET is led by MemEx of Italy, partnering with TIS (Portugal), E40 (Hungary), NIT (Germany) and Panteia (Netherlands). This brings together excellent know-how in mobility, local development, tourism, SUMPs and evaluation, all with deep experience of rural areas and their needs.

What is SMARTA-NET doing?

1. Sustainable mobility solutions
Look into the long-term sustainability of mobility solutions proposed in SMARTA and SMARTA 2 projects and beyond. Identifying success factors and transferability of solutions.
www.smarta-net.eu/solutions

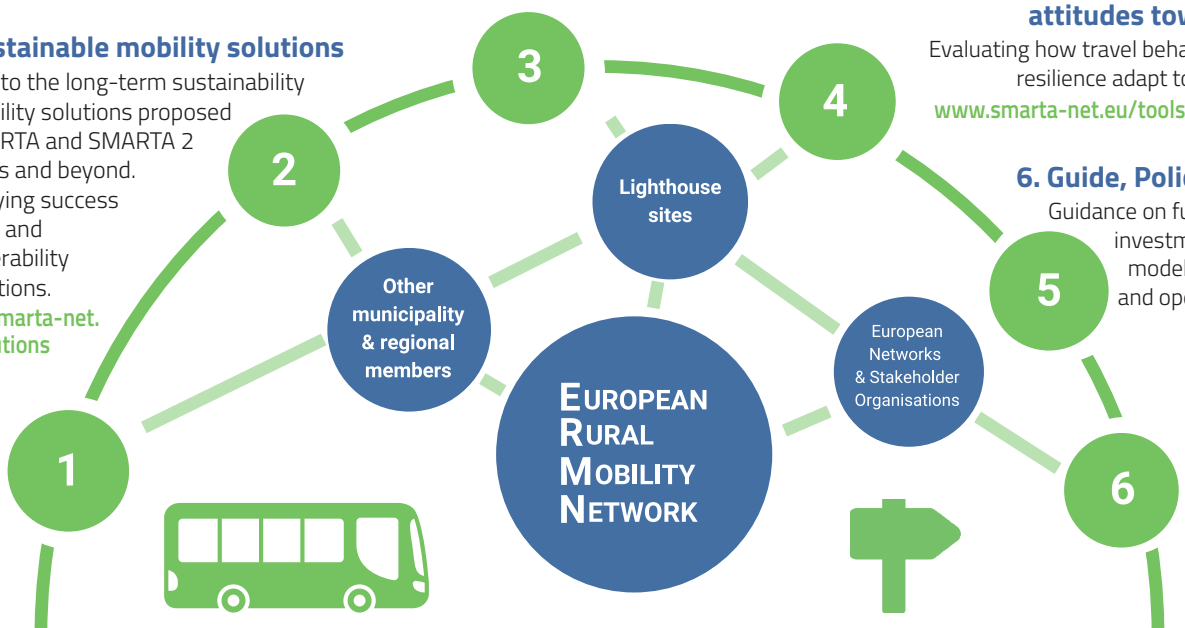
2. Guidance on tourism & mobility
Guidance on how to connect their touristic destinations to resilient sustainable mobility networks based on a classification of rural tourism environments and mobility patterns, including self-check tool.
www.smarta-net.eu/tools-guides/tourism

3. Integrating the rural dimension into urban mobility plans
Guidance on how to integrate the rural dimension into existing Sustainable Urban Mobility Plans (SUMPs), based on the assessment of mobility & transport independencies between urban and rural areas.
www.smarta-net.eu/tools-guides/sustainable-mobility-plans

4. Training for municipalities
Fostering the capacity of the municipalities to develop and implement sustainable, inclusive, and integrated mobility solutions. Training in the local languages on mobility solutions, synergies with tourism, SUMPs and financing.
www.smarta-net.eu/events/training

5. Evaluating changing attitudes towards mobility
Evaluating how travel behaviour, services and resilience adapt to a changing world.
www.smarta-net.eu/tools-guides/evaluation

6. Guide, Policy & Financing
Guidance on funding sources and investments and business model options to finance and operate rural mobility solutions.
www.smarta-net.eu/tools-guides/policy-financing



Rural Shared Mobility solutions

SMARTA-NET aims to support rural municipalities and practitioners in the delivery of a blend of formal and informal forms of mobility services.

Sustainable and Shared Mobility and Transport Good Practices are currently operated in different rural EU contexts exist.

This can be inspirational for other territories in Europe in which accessibility and connectivity are major issues.

A wide range of rural mobility solutions, which can be packaged to meet the local needs, and connected to the regular public transport, already exists in different rural EU contexts.

These solutions, demonstrated in multiple European projects including SMARTA, SMARTA2, LAST MILE, MAMBA, INCLUSION, MARA, MELINDA, Hi-Reach, can be clustered in three main types, as shown in Figure 1:

i) Flexible Transport Services, including on-demand transport;

ii) Ride sharing services, such as, carpooling and shared taxi services;

iii) Asset sharing services, including car and bike sharing.

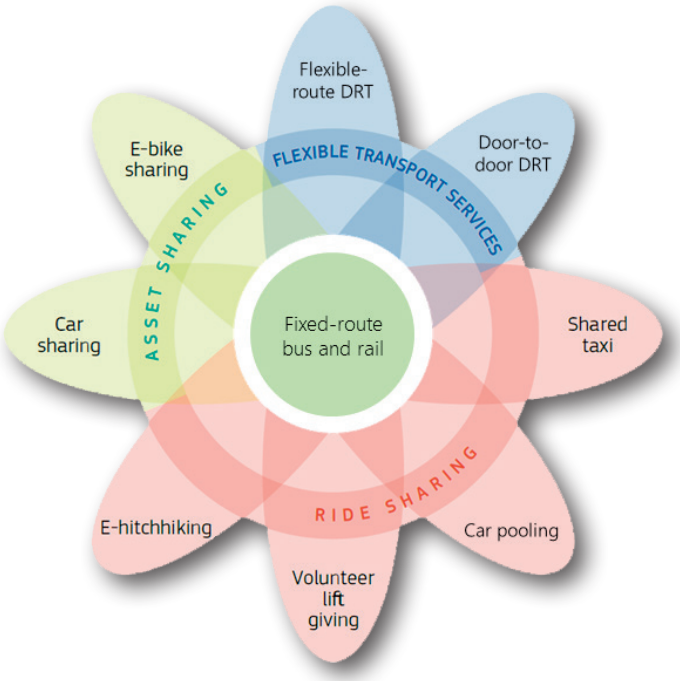


Figure 1 - Rural Shared Mobility solutions.
Source: SMARTA Project

Fixed-route bus and rail

The conventional (fixed route and timetable) bus and rail public transport network plays an important role in rural areas. It provides the "backbone" of the mobility offer, being a structuring network that connects towns, cities and regions. However, it does not reach everywhere.

Flexible Transport Services (DRTs)

DRTs are services scheduled to pick up and drop off people in accordance with the actual needs of passengers. DRT is best viewed as a range of intermediate transport solutions that span the wide space between taxi and public transport.

Ride Sharing services

Ride sharing services include a range of services that allows the aggregation to the mobility demand for sharing a ride in the same vehicle (e.g. carpooling); and/or to use the same service (e.g. taxi) together with other persons.

Asset sharing services

This kind of services allows the traveller to utilise/pick-up a specific means of transport (bike, car, e-scooter, etc.) without any property issue; users must be registered to common platforms. Rural Car Sharing services are usually organised by the community themeselves.

Other types of initiatives include school services of general access, mobility hubs, non-emergency medical transport, mobility in support of rural tourism, community lift-giving, autonomous shuttles. Rural shared mobility solutions offer a range of distinctive features that cater specifically to the needs of rural communities.

Long-lasting durability, community engagement, innovative technology, are key elements that make or break these initiatives. By leveraging these features, rural shared mobility solutions have the potential to enhance accessibility, connectivity, and overall quality of life for residents in rural areas.

These become much more effective when they are coordinated or integrated with the fixed-route bus and rail services. They can extend the coverage of the conventional public transport network, reaching additional areas and offering higher levels of service than would be feasible or affordable with larger vehicles.

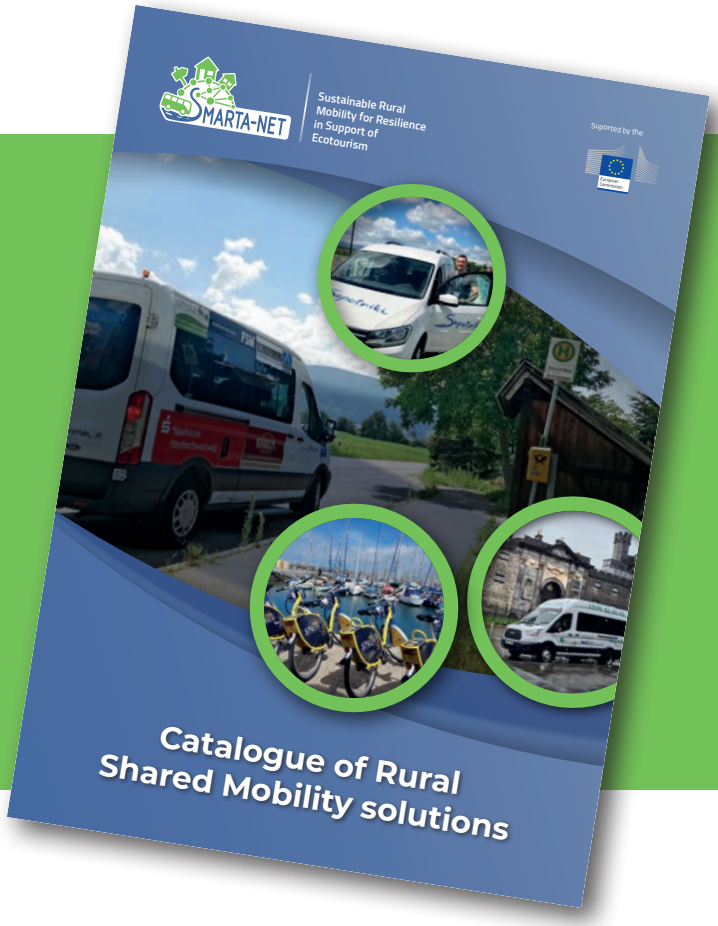
As part of this Guidance, SMARTA-NET produced a specific Catalogue of rural mobility solutions. The Catalogue aims to share the experiences and key insights from target rural mobility schemes implemented across Europe. It includes lessons learnt, barriers and drivers, and transferability considerations per each of the solutions identified. These can provide hints and suggestion on the mobilisation phase of a new mobility service – in terms of identifying need, building the consensus for action, bringing stakeholders together, developing the strategy, getting finance, etc.; and the operational phase - dealing with service design, IT platforms, technical approach, outreach, marketing, building up the business, etc. Users can then be guided to identify what works and how to sustain it in the long-term.

Rural shared mobility solutions offer a range of distinctive features that cater specifically to the needs of rural communities. Long-lasting durability, community engagement, innovative technology, are key elements that make or break these initiatives. By leveraging these features, rural shared mobility solutions have the potential to enhance accessibility, connectivity, and overall quality of life for residents in rural areas.

Whether you want to improve the mobility situation in your territory, you are interested in the distinctive features of rural mobility solutions, or you might be in a position to influence certain components of the transport system, you are invited to go through the document and to find those solutions with the highest potential to give you some inspiration.

Do you want to learn more about other mobility solutions implemented across Europe?

At this **LINK** you can access the SMARTA-NET Catalogue of rural shared mobility solutions, detailing more than 30 good practices implemented in different European territories



Who should read this Guidance?

This Guidance has been prepared primarily for those who have the capacity to act for rural mobility, in the broad sense of planning, operating, financing, or supporting the implementation of rural shared mobility solutions. On this basis, the Guidance has the four main targets, as shown below.

2. Developing a package of mobility solutions

Any mobility strategy or initiative should start from the issues around understanding and responding to the range of mobility needs in the community. In turn, how to harness the available resources; understanding whether a mix of paid and volunteer means of mobility can be developed; and, going beyond pilots to plan and deliver at a different scale.

The check list below provides you with a direction on the key issues to be addressed when planning a strategy to develop a package of mobility solutions:

- How to **mobilise** a set of stakeholders who will act together with common purpose to solve problems in their locality?
- How to **identify** what needs to be done, which solutions are best suited to the situation, and how to prioritise in different phases?
- How to mobilise the **resources** of different kinds that will be needed for a mobility service?
- How to develop **capacity** at organisational, operational, legal, and financial levels?
- How to build on the initial **launch** to increase the usage of the service and achieve (or even exceed) what was hoped for it?
- How to **adapt** and **develop** the service so it remains relevant and continues to improve? Indeed, how to know and decide if continuing the service isn't worth the effort?
- How to **sustain** and **expand** the service over the years, so it becomes durable and an integral part of the community, even as the initial implementers move on?

Source: Freepik

Broadly speaking, rural mobility schemes can be viewed as having three distinct phases:

Mobilisation and preparatory phase

Development of Solutions phase

Operations and long term sustainability phase

Each Phase has a number of distinct steps, shown in Figure below and briefly introduced in the following sections. While some of this guidance will also be relevant to implementing specific measures or pilots, it is primarily geared towards schemes aimed at meeting the overall mobility needs of an area.

It is important to appreciate that the three phases are not of equal duration. The Mobilisation and Preparatory phase may be quite considerable, even up to a decade, as awareness of the need to act, the basis for working together, and consensus is built. The Operations phase could be for several decades, hence the need to embed it in the strategy for long-term sustainability.

By contrast, the Development of Solutions phase could be relatively quick, especially with the assistance of know-how transfer and off-the-shelf solutions. It could also be applied multiple times throughout a period, as additional solutions are tried and tested, or layered over each other.

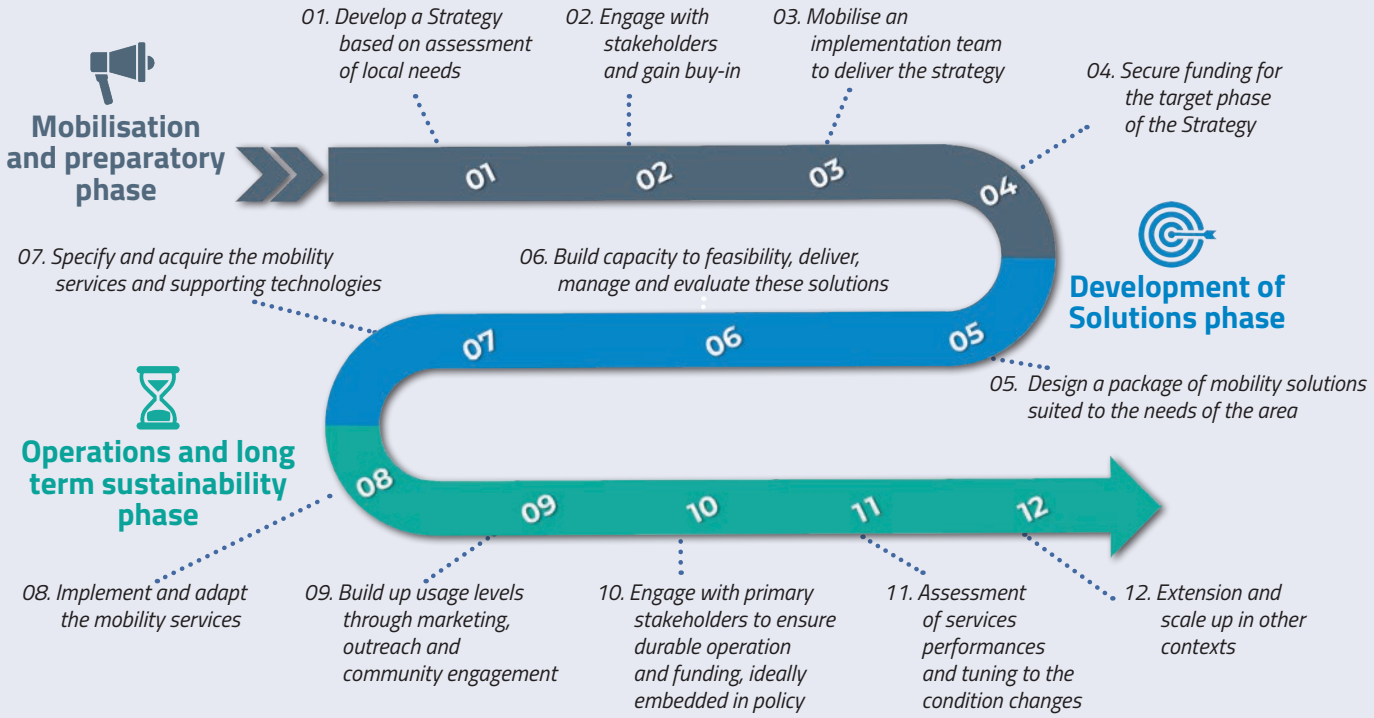


Figure 2 - Distinct phases of rural mobility schemes

As with everything else regarding rural mobility, the approach and structure must always be adapted to the context. This is a generalised structure, with guidance based on observation. Different places will work in different ways.

Some will already be better prepared, such as already having some mobility services in place or having previously mobilised the stakeholders for projects in other domains. Some will have access to agencies (e.g. LEADER groups) that are proactive and supportive of the community groups, whereas others will need to be more self-sufficient.

Nevertheless, this guidance provides a useful checklist which, especially for newcomers, raises awareness of what will need to be done.

Bürgerbus in Dreisam Stromer, Germany - *Source:* taken by the author of this report

Mobilisation and preparatory phase

This is the Phase in which a set of stakeholders identify that a rural mobility intervention is needed, identify what is required, agree to work together, build consensus and establish collective capacity to act. The modality may be different for "top down" and "bottom up" contexts, although the steps remain the same.

1 Develop a Strategy based on assessment of local needs

A comprehensive and relevant Strategy is the most fundamental element to achieve effective rural mobility services for an area. This needs to be based on a good understanding of the mobility needs of the area, which identifies the people, activities and businesses in need of improved mobility services, what are their mobility needs (coverage, destinations, ...), what is already available and the mobility deficits to be addressed. Above all, it needs to be clear on what the stakeholders seek to achieve and the target outcomes.

This process can take several years as it involves raising awareness, research, consensus building, and mobilising the capacity to develop such as a strategy. It also may be an iterative process. Individual initiatives can be implemented while a Strategy is in development, but without a Strategy they will be neither comprehensive nor integrated.

Further, a documented Strategy, accepted by Stakeholders, may be necessary to gain institutional and political support, approvals and access to funding.

Source: Freepik

2 Engage with the key relevant Stakeholders and gain buy-in

A complementary and parallel process to developing a Strategy is engagement with the key relevant Stakeholders. Depending on the context, this may consist of local or national agencies, the political layer, community leaders, local businesses and activity centres, mobility service providers, funding sources, etc. It is likely that there will be an initial core set of key stakeholders who can get the process started, but this will need to expand to include all relevant stakeholders in the area. This may include external stakeholders who will determine permissions, access to funding, etc.

Above all, it will need to include community stakeholders. In some cases, community stakeholders may be part of the initial core stakeholders; in other cases, the community stakeholders may not be active at the outset but will be gradually included in the process.

The more comprehensive the strategy and set of actions, the more thorough the stakeholder engagement process needs to be. It may require multiple iterations, beginning with discussions and assessment of needs, moving to consultation about options and concepts, and then to the specifics of the strategy. Building of trust is central to the process.

Over time, buy-in needs to be obtained and concerns addressed sincerely, so that there is genuine acceptance of the strategy and the actions when the time comes to act.

Developing an inclusive hub network in the Groningen Drenthe Province (NL)

One of the cornerstones of the Mobility Strategy developed by the public transport authority of Groningen-Drenthe is the assumption that people should be able to reach every desired destination with their preferred travel mode. In order to reach this objective, the Province created a network of mobility hubs located at maximum 15km distance from people's home mainly at train and bus stations or park and ride locations. These hubs therefore represent nodes in the public transport network that connect at least one train, or high-quality bus, with an on-demand transport solution.

The strategy has been put into practice thanks to a collaboration and partnership among several stakeholders, including the Province of Groningen, the Province of Drenthe, the Municipality of Groningen, the Public Transport Authority Groningen-Drenthe (OV bureau), the Publiek Vervoer Groningen-Drenthe (i.e., a body created as a collaboration between all municipalities in Groningen and Drenthe), the public transport operator (Qbuzz), local stakeholders (e.g. Groningen Bereikbaar) and national level asset managers and landowners (e.g. NS, ProRail).

The project is a success and is anchored in the long-term mobility strategy of Groningen and Drenthe. The programme team considers 'learning-by-doing' a strong point of the project. Starting from the co-location of different transport (and its ancillary) services, the two provinces are aiming to improve accessibility to the facilities for everyone, promote suitable transport options for all users, and create a capillar transport network.

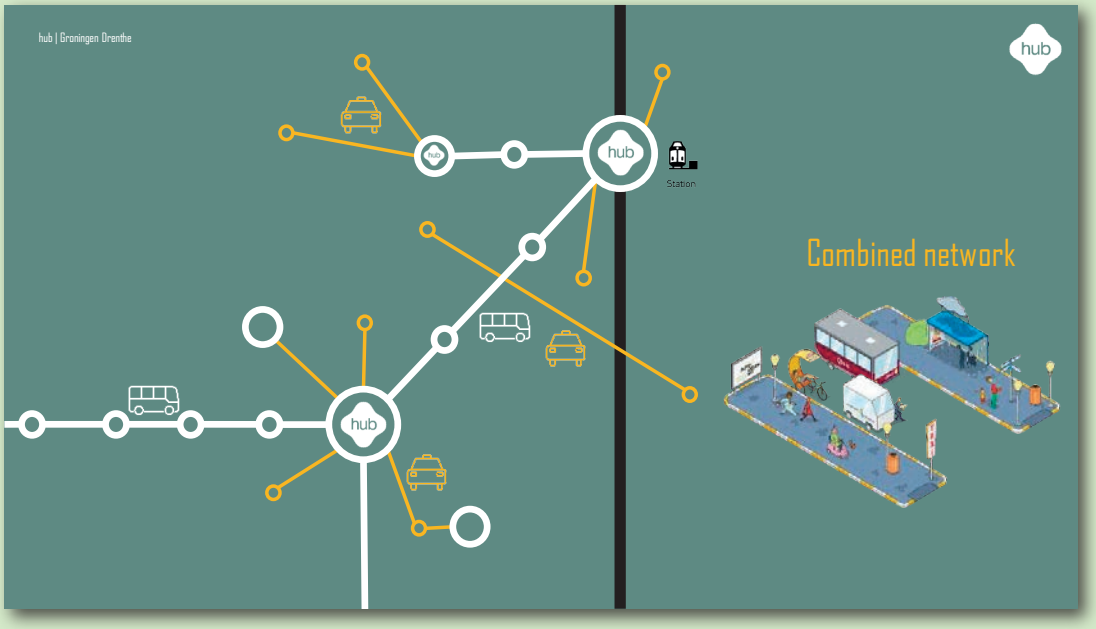


Figure 3 - Network of Mobility Hubs concept in Groningen Drenthe, The Netherlands

Source: Taken from the presentation from Martin Courtz at the ERMN meeting on 6th June 2023. Presentation available at this link.

3 Mobilise an implementation team to deliver the Strategy

The Strategy needs to be implemented as a set of structured actions. Due to the typical lack of agencies with comprehensive capacity for rural mobility, this will invariably require a number of stakeholders to work together in project mode, some who might not have worked together before.

In some cases, the implementation may be led by agencies who have professional resources; community stakeholders who do so on a part-time or volunteer basis; in yet other cases, it may be a blend of agencies and community stakeholders.

At a minimum, it will require structures for project planning and implementation, a project program, clear allocation of responsibilities, a core management team and a governance structure.

4 Secure funding for the target phase of the Strategy

Funding must be mobilised to achieve any implementation. In general, it is advisable to develop a funding strategy before getting into the detailed design stage. This will indicate the scale of what can reasonably be achieved, whether a phased approach is required and how to prioritise.

There is a wide range of potential funding sources including public finance allocations (e.g. public transport allocation, healthcare/social agency budgets), LEADER and other rural development programs, innovation grants, etc. Local funding may be leveraged through local business sponsorship, volunteer input, fund-raising, etc.

For some mobility services, commercial firms may be willing to invest, especially if they can be grant-aided or receive other forms of co-funding. It is advisable to sound out the potential funding sources at an early stage, to understand the application process, to understand scope and limitations of the various funding sources and, where possible, to initiate discussions as a first step to gaining provisional approval.

The organisational framework of the Sopotniki good practice (SI)

Sopotniki is a door-to-door transport service operated in 16 Municipalities and beyond in Slovenia, catering to the social needs of the elderly, such as social inclusion, more accessible access to healthcare, and other public services.

The service, run by the Sopotniki NGO institute, has a reliable and efficient management, coordination, and organisation structure, which enables the provision of a transport service across different regions in the country and an efficient management of resources. The Institute has a dedicated team, distributed between the headquarters and local units, which manages the daily operations and coordinates with the network of volunteer drivers to provide these services. The total resources involved in Sopotniki are 19 full time employees for the coordination of local groups and overall coordination (4 employed by Sopotniki Institute at headquarters, 13 employed by project partners – municipalities, Red Cross, Social Work Centres etc.). The total drivers' network consists of 263 volunteers coordinated in 2022. As with many non-profit organizations, Sopotniki Institute faces the challenge of ensuring stable funding to support its programs and services.

To mitigate this risk, the organization continues to diversify its funding sources, strengthen relationships with existing sponsor and donors (more than 120 active partnerships in 2023), and explore new opportunities for funding, including cross border programs and partnerships.

Sopotniki on-demand service in Slovenia

Source: https://www.facebook.com/Sopotniki

The funding framework of the Bummelbus good practice (LU)

Bummelbus is an On-demand, door-to-door transport service in Luxembourg where each route has a flat rate set according to the route length. It complements public and private transport and is currently present in the northern region of the country, serving 45 municipalities.

The project relies on the cooperation of the "Forum pour l'emploi", an NGO that supports the reintegration of long-term job seekers.

The Forum is entrusted by the municipalities for the management of the project. The main financing source (70%) is the Ministry of Labour. Municipalities are also co-financing it (30%).

Bummelbus on-demand service in Luxembourg
Source: https://www.interregeurope.eu/good-practices/bummelbus-dial-a-bus-service-occupying-long-time-unemployed-people

How to assess users needs

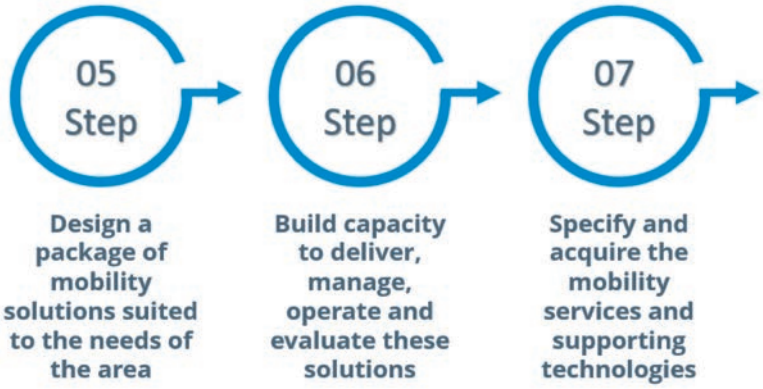
Many methodologies to assess local mobility needs have been developed and tested in European-sponsored projects such as SAMPO, SAMPLUS, SUNRISE, FLIPPER, MINDSETS. Relevant materials are now available on the SMARTA website. There may also be national/local resources with valuable reference data. Whatever tools are used, the fundamental approach is to talk to people. However, this must be done in a structured way so that the results are reliable. The main tools are focus groups, surveys, interviews and travel diaries. For villages and rural areas, it is also important to talk with local businesses, activity points, clinics, etc. as they also have a core need – that people can reach them. They will often have very good insights into the needs and patterns of people who visit them. User needs analysis from other projects can offer a good checklist. It is always advisable to test the initial findings with the community to see if anything has been missed. These methodologies are very effective at identifying needs, a bit less at quantifying demand.

If you are specifically looking to design a survey to assess mobility behaviours, and how people in your region travel and how these habits have changed as a result of COVID-19 and the inflation in the last years, you may design a survey assessing four main aspects:

- **Personal Characteristics** (age, household composition, etc.)
- **Mobility** (user profile, commuting habits, main trips motivation, etc.)
- **Travel behaviour** (impacts of COVID-19 on willingness to be in collective and shared transport, use of private car, etc.)
- **Attitude** (on environmental issues, on shared mobility issues, etc.)

Development of solutions phase

This is the phase in which the specific mobility services and/or technical solutions are selected and acquired, and the capacity to utilise them is established. It is context specific, such as whether it is the first implementation or it builds on existing services; or, if it is agency-led, community-led, or commercially-led.



5 Design a package of mobility solutions suited to the needs of the area

The measures to be implemented will be based on a combination of the identified needs of the area, the strategic approach, what already exists, what is feasible within the regulatory and organisational constraints, what can be financed, and what the host community has indicated it would find most useful.

Almost certainly, a package of complementary measures will be more effective than trying to solve all mobility needs with a single approach. The "SMARTA Atomium" in Figure 1 indicates the range of generic options (flexible routes, ride-sharing, asset-sharing), while the Good Practice cases assessed in SMARTA-NET indicate specific measures.

The mobility solution package can consist of mobility services, supporting technology services, organisational methods, and human support (e.g., accompanying more vulnerable users).

For each measure, the target users, the level of service, the mode of use, pricing strategy, etc. should be considered. Whether/how the services should integrate with conventional public transport, and whether/how potential users should book the service should also be considered.

6 Build capacity to deliver, manage, operate and evaluate these solutions

The implementing stakeholders will need to assess what capacity they need to develop to successfully and safely implement the selected mobility measures.

Depending on the context and their prior experience, they may need to develop and staff an operational structure and booking/customer support capacity, the ability to operate and manage services directly, to ensure regulatory and safety compliance, to manage contracted services, to procure and manage technical solutions, to manage finance and administration, etc.

They will also need to ensure capacity for communication, outreach, marketing and customer support. Clearly the specific capacity gaps will be different for agency-led and community-led contexts, but in either case they need to be able to competently implement the selected measures, manage and grow the business and monitor that they are achieving the mobility goals.

Source: Freepik

The Shared Use Mobility Agency in Elba Island, Italy

The Shared Use Mobility Agency (SUMA) is a platform designed for planning, offering, coordinating and managing a set of ride-sharing services (e.g. shared taxi and volunteer lift-giving) integrated with the (conventional and/or flexible) Public Transport (PT) services and for providing info-mobility services to better answer to resident and tourist mobility requirements.

SUMA was designed for Elba Island (Tuscany, Italy) within the Horizon 2020 CIVITAS DESTINATIONS project. SUMA allows the centralization of information relating to PT and mobility services, as well as the networking/coordination of different service providers (in particular operators of bike/scooter/car/boat rent services). SUMA's innovative aspect mainly lies in the fact that users have a unique point of access to all information on the overall mobility offer of the island in a consistent and efficient way (information, booking, etc.). It functions as a "broker" for the management of the user's trip request and the different flexible and ridesharing services offer integrated with conventional PT services. Finally, SUMA was designed for being easily adapted to a wide range of transport service schemes, territorial contexts and background conditions and is also open to a wider range of other added-value tourist service.

SUMA was implemented but did not enter into operation due to the difficulties in i) the definition of the appropriate management structure for the maintenance of the Agency and ii) the detailed business agreements with the mobility (rental services) operators. Nevertheless, it is an inspiring approach with relevant potential to be replicated and tested in rural and low-density areas with high presence of tourists

Source: https://www.elbasharing.com/

7 Specify and acquire the mobility services and supporting technologies

The elements of the mobility solution package will need to be specified and acquired. A low-technology, direct-operated/in-house approach will obviously be simpler than where mobility services are outsourced, using an advanced technology platform.

Contracting of mobility services needs to be carefully managed, if there is not prior experience of doing so, as attention needs to be paid to service specification, quality, flexibility, payment terms and incentives. It may also be an innovative service for the mobility service provider. When acquiring supporting technologies, it is advised to make use of expert support for both the specification and procurement phases and, to the extent possible, to acquire proven off-the-shelf solutions.

For both mobility services and technologies, attention needs to be paid to the full life-cycle of the services and the contract, to future adaptation and scaling-up, to integration with other systems, and to data standards and exchange.

Mobility Apps in shared mobility services

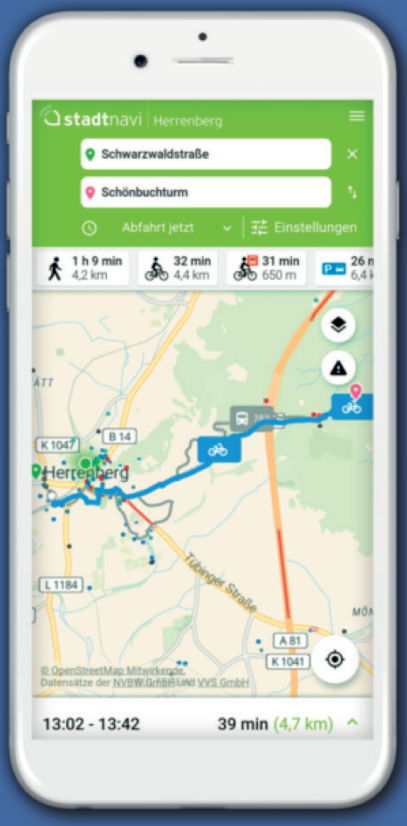
In the last decade, many different APPs have been introduced in the market, both by the transport and mobility operators and by the emerging Transport Networking Companies, with different objectives and roles. On that basis, what are the key issues to be addressed when designing or purchasing an app?

The implementation of an APP in the transport sector is based on an IT platform able to access a wide range of base data stored/generated by target company systems/tools (database, applications, web services/file transfer). The platform usually updates, integrates and elaborates such data in a common standardized layer (middleware) and provides added-value services on mobile devices (Android and iOS platforms) and web portal. Broadly speaking, three main typologies/categories can be identified; the APPs operated in the real environment are usually a combination of them; nevertheless, the knowledge of such classification is useful at the beginning of the design phase to identify the required functionalities and then to analyze the required data.

- **Type 1:** APPs presenting information on target transport services. These apps display PT timetable, PT real time information, location of car sharing parking lots, etc. For this category, the platform combines the data provided by Public Transport/Mobility Operators in one or more areas (or Town, Province, Metropolitan areas)
- **Type 2**: APPs presenting information services and allowing a wider set of end-users' services (e.g. tickets purchase, journey planning, etc.). The services are operated by a Public Transport/Mobility operator in one or more areas (as in "Type 1"), but additional data need to be gathered and commercial agreements need to be fixed
- **Type 3**: APPs integrating data/services from/for different Mobility Operators (in one or more areas) and/or extending the end-users' services to innovative services such as crowdsourcing, demand behaviour triggering (gamification), demand aggregation (ridesharing), etc.

The main "common sense" recommendations to start the needs analysis and APP design can be summarized in the following:

- The APP typology (and related functionalities) to be designed depends on the available data and on the objectives to be achieved
- Once the functionalities to be provided by the APP have been identified, the related data sources should be linked to each functionality
- The identified dataset must be verified in terms of data quality and completion
- For each dataset involved, the data exchange protocol (i.e. webservices) and data format (such as SIRI for PT data and DATEXII for traffic data) between the data source and the APP (platform) should be specified
- Appropriate monitoring procedures and alert notifications should be received when one of the data sources is not duly working
- Open data opportunity should be explored as one of the available options for data source

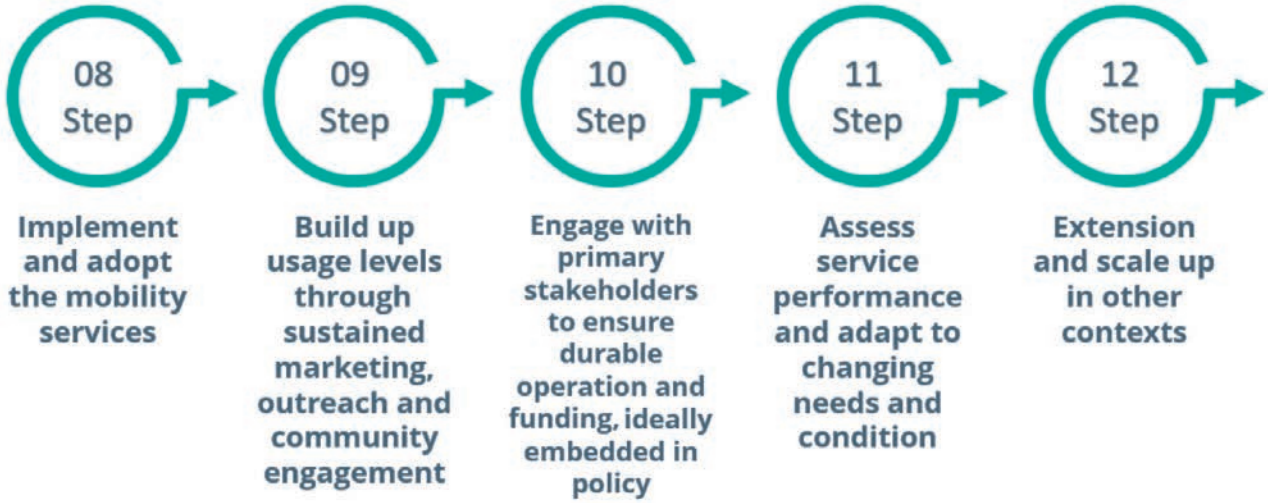


Stadtnavi web platform - Source: https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/stadtnavi-drives-cleaner-air-open-source

Operations and long-term sustainability phase

This phase delivers the mobility services. It is about much more than simply launching a service. A pilot might be short-lived and consider only Step 8, but rural areas need longer-term, durable services on which people, business and communities can plan and rely.

New approaches are needed to achieve long-term sustainability



8 Implement and adopt the mobility services

The implementation step spans:

(i) the pre-launch actions including the detailed service design and plan, operational procedures, training, customer information, installation of equipment and signage, setting up the booking, payment and information channels (where applicable), advance publicity, etc.;

(ii) the "go-live" phase, where the service becomes operational, which may include a test phase and may be progressively implemented, and in which problem-solving, adjustments and fine-tuning are done;

(iii) a stable operation phase in which the service is fully bedded-in and enters the full and normal operation.

This is generally a well-managed step for which there is much good practice. Especially for innovative mobility schemes, implementers are strongly advised to visit counterparts elsewhere to gain from their experience.

9 Build up usage levels through sustained marketing, outreach and community engagement

This is one of the most important steps in the entire process, as the primary goal of any scheme is to improve people's lives and their community by the increased mobility it enables. However, from observation, it is all too often not done well, not well planned for, and insufficiently resourced. It has to be borne in mind that people cannot change their travel patterns overnight and it will take time for them to adjust to new patterns and new means of travel.

People need to understand the possibilities of the new mobility service, how it works, which are its limitations, and to gain trust in the service. This requires a sustained process of marketing and outreach to the various target groups, using whatever forms of community engagement work in that particular area.

In some cases, this can include leveraging the healthcare, training, and support agencies; in others, it can be through working with activity centres and businesses, while in further cases it can be through working with community groups, clubs, etc. It is essential to make this a two-way communication to hear of any problems, dislikes, concerns or misunderstanding about the new mobility services.

Transporte a pedido, Médio Tejo, Portugal

The *Transporte a pedido* DRT service with predefined routes schemes and predefined stops was firstly introduced in 2012 in the Medio Tejo region in Portugal to cover places and times of the day not served by the conventional bus transport offer. This service is operated by a poll of about 30 taxi operators, serving sparsely populated villages, and by 3 mini-vans (called ´Link´) offering a convenient direct connection between the main cities.

The DRT services have had a great success and have been progressively extended from an initial pilot implementation in the rural area of Mação to the full coverage of all the 13 municipalities of the region, due to the increase of the demand.

The long term durability of the service is guaranteed by: - the active involvement of the local Municipalities through an intermediate level authority, the Comunidade Intermunicipal Medio Tejo (CIMT), that manages all the offered services; - the good cooperation established with taxi operators who recognized the flexible services as an opportunity to increase revenues, rather than the opposite; - the strong coordination mechanism put in place by CIMT with the use of a centralised booking/dispatch centre; - the constant monitoring of the service, requiring all users to be registered.

The funding of the services is sustained and managed by the Municipalities through the coordination of the CIMT. A reduction of deficits in the operational costs has been registered in the recent years together with an increase in the percentage of service costs coverage guaranteed by the revenues (from 2013 to 2016); this demonstrates the high potential in terms of costs optimization and the effectiveness of the established monitoring/tuning process.

On-demand transport in Médio Tejo, Portugal

Source: https://mediotejo.net/torres-novas-com-duas novas-paragens-do-transporte-a-pedido-link/

10 Engage with primary stakeholders to ensure durable operation and funding, ideally embedded in policy

If the mobility service is accepted by the users and indicates that it can meet the objectives of the stakeholders, the next step is to ensure that it can be sustained over a long period.

This has two key aspects, which are closely linked but may need to be assured separately.

First, management and operation of the mobility service (which may have different parts – service operation, booking centre, technical system, integration, ...) must become embedded in the activities of permanent or secure special-purpose entities, who commit to them.

Second, sustainable funding needs to be assured. Quite often a mobility service will be implemented with support from innovation funds, LEADER program, grant aid, etc., all of which are not intended for long-term commitments. Inevitably, the implementers will need to work with institutional stakeholders, and will thus need to prepare the justification for allocation of public or private funds for this purpose. For public support, ideally a policy commitment would be made towards both the provision of mobility services and its funding.

Services that are fundamentally of a commercial nature are less likely to be able to secure public funding, but may be facilitated by policy, for example to allow them access to infrastructure and to be included in the integration schemes.

11 Assess service performance and adapt to changing needs and condition

Whatever the intended timeframe of a mobility service, it is important to build in two monitoring processes.

The first process is to monitor service performance, both at the level of technical performance (service reliability, technical system responsiveness and accuracy) and at the level of user satisfaction with performance, ease-of-use, quality, comfort, etc. This allows problems to be identified and resolved and, more positively, to continuously improve the service quality in line with user expectations.

The second process is to monitor changes in user requirements and travel patterns, including new users in need of mobility service, and to monitor any relevant changes in the context and applicable conditions.

This allows the implementing stakeholders to adapt and evolve the mobility service over time, keeping it relevant. Clearly, if there are good working relationships among all relevant stakeholders, contextual changes will be known in advance and can be planned for.

12 Extension and scale up in other contexts

The long-term goal would normally be to achieve sufficiently good-quality mobility throughout the target area, so that all mobility needs are met. Mobility services are likely to implemented in a phased manner, as resources and capacity are developed. The spatial and temporal coverage may be gradually increased, along with service intensity and capacity, and the target groups may be gradually increased.

The initial targets may be those most in need of mobility, then extending to offering mobility choices to those who currently drive cars. The mobility services might be launched in one part of a District or County, then deployed to other areas, until there is full coverage through as much of the area as possible.

The degree of integration with the conventional public transport may also evolve, for example moving from simple co-location, to coordinated services, to integration at payment and information levels. The Strategy would normally map out a broad approach, which will then be fine-tuned or revised with experience.

Ring a Link – Ireland

Ring a Link was established in 2001 as a community-based provider of local transport services to combat social exclusion and rural isolation, which was the core mission of the Irish pilot Rural Transport Initiative (RTI) launched that year. Starting from scratch as a grassroots organisation and leveraging various funding opportunities, Ring a Link established a range of community and social mobility services plus the enabling booking and reservation capacity. In 2005, the RTI was put on a permanent footing and became the Rural Transport Program (RTP), providing a more secure long-term future and financing for the 37 participating schemes. This allowed Ring a Link to strengthen its capacity and services, to develop daily and regular DRT and scheduled services and to expand its coverage area. In 2012, Ring a Link became one of the now-15 Transport Coordination Units (TCUs), linked to the National Transport Authority, with operations in three counties in the southeast of Ireland. Annual ridership grew from over 50,000 (2009) to 136,000 in 2016 (in part due to expansion of the coverage area). Total ridership across all services in 2022 was just over 200,000, up from the 180,000 passengers in 2019 (the last pre-COVID year) having fully recovered ridership lost during the pandemic period. Becoming a TCU gave Ring a Link a new funding structure and some additional funds, higher requirements for professionalisation, and an increasing level of standardised IT tools and products. It is now part of the national LocalLink brand and renamed as “Local Link Carlow Kilkenny Wicklow”.

Ring a Link transport service, Kilkenny, Ireland

Source: https://twitter.com/locallinkckw/status/1395732090654691332

How to engage local communities

Local communities in various countries have taken the initiative to address the issue of rural mobility by mobilizing, implementing, or supporting shared mobility solutions. In such cases, the social context and dimensions play a crucial role. Community initiatives are beneficial for society as they can cater more effectively to social needs than existing alternatives and they have the potential to create new relationships, opportunities, and peer-to-peer collaborations. Moreover, these initiatives can be less expensive as they rely on volunteers' availability and are generally more flexible. However, models dependent solely on volunteers may suffer from disruptions or inefficiencies when there is a decrease in participation levels or a high turnover of volunteers.

The analysis of the SMARTA-NET good practices demonstrated different layers of engagement of rural communities in the management and operation of rural shared mobility services

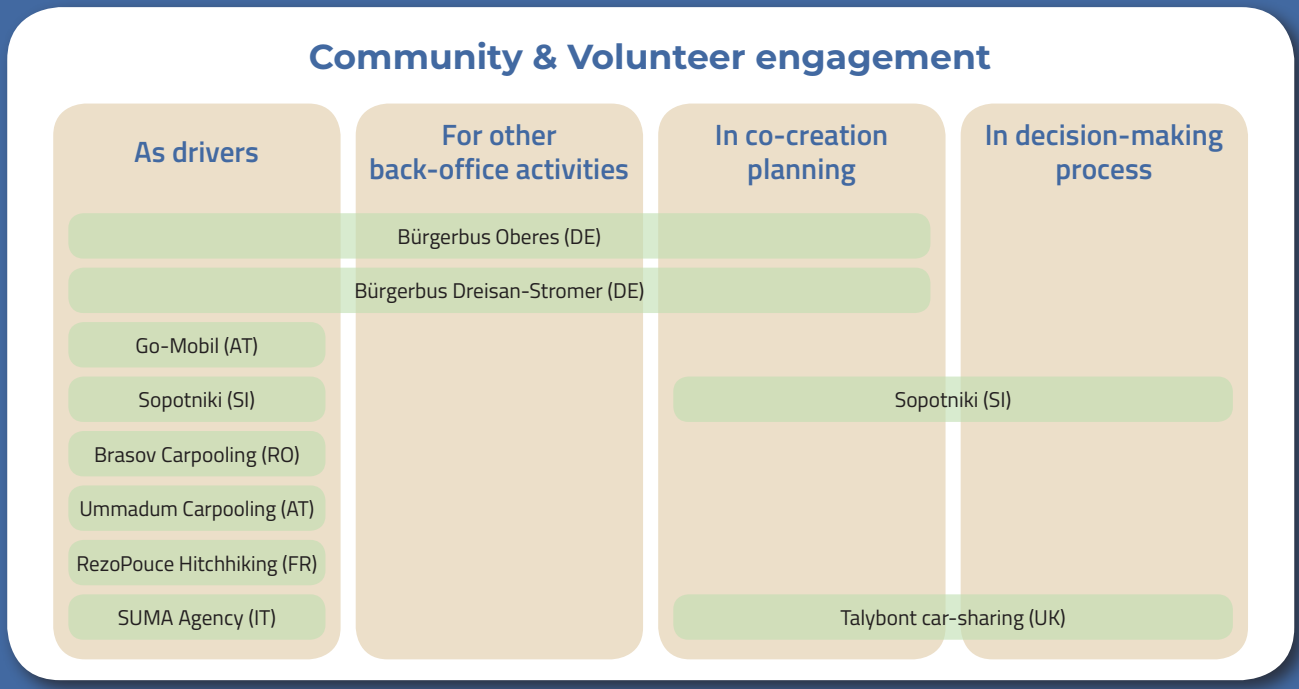


Figure 4 - Community & Volunteer engagement (own elaboration)

Mobilising community-based initiatives

Community-based mobility solutions are often dependent on the community's spirit and engagement, with the active involvement of volunteers being crucial. To find reliable individuals, it is important to define specific skills needed for the task and clearly state the expected commitment of the volunteer position. Additionally, setting up a smart volunteer work system can help facilitate communication between the managing organization and volunteers, leading to better coordination of services provided and ongoing contact with volunteers.

Volunteers should strongly believe in their role in the organization and need to feel that their work is precious, valuable and appreciated. Offering formal training that aids in their professional development could be a way to support and show them how much the organisation values their contribution.

In this regard, the Slovenian community-based door-to-door lift service Sopotniki represents a good example of volunteers' engagement, with a reliable and efficient management, coordination, and organisation structure, which enables the provision of a transport service across different regions in the country and an efficient management of the volunteer resources.

Acceptance and participation of the local communities/stakeholders

It is crucial to have a positive public perception and acceptance of community-based mobility solutions to improve existing or new transport services and attract more volunteers and users.

The key to achieving this is to bring together individual volunteers, specific user groups and associations such as the elderly, and community partners who face similar challenges through focus groups, fora, and other engagement tools. There are several strategies that can be set up to achieve this level of collaboration, such as:

- Crowdsourcing and co-creation techniques; these can be really effective to analyze in depth the real needs of user groups and different stakeholders, having in mind that "a group, in the right circumstances, can be smarter than its smartest member";
- Customised marketing and promotion campaigns, including cultural/educational initiatives realized with an effective collaboration among several actors;
- Participatory approach and continuous dialogue (through meetings) among different citizens groups or associations, public transport operators, local authorities, to increase the level of the offered services in terms of capacity to respond to the people's real needs.
- Small incentives, e.g. discount coupons, vouchers, etc., can be a suitable means to improve the direct engagement of local partners.

A very good example of a service deeply-grounded in the community is represented by Ring a Link established in 2001 as a community-based provider of local transport services in three counties in the southeast of Ireland with focus on combatting social exclusion. Currently, it functions as a Transport Coordination Unit linked to the National Transport Authority. Ring a Link Board has always involved several voluntary sector representatives, plus one elected Councillor, from each of the served counties.

Long lasting and transferable solutions

In order to assure that community-based initiatives can be long-lasting and transferable solutions, it is necessary to help community-based services becoming self-maintained organizations without having to rely totally on volunteers. This obviously improves the level of the services that can be provided. Ensuring stable funding is in fact one of the main challenges to be faced. A very good example is represented by the Bürgerbus initiative, a type of volunteer-based community transport service. These operate in different areas of Germany and are most widespread in Baden-Württemberg, Lower Saxony and North-Reine Westphalia. In addition to the direct involvement of local communities in the organisation and development of the transport service, reinforced by the creation of a national brand, these services receive financial support from the State of Rhineland-Palatinate in addition to other public and private funding.

It is of the utmost importance that local authorities from one side maintain the role of supporting and/or facilitating the conventional transport related to the main mobility requests and needs and, from the other side, support the community-based approach for the shared mobility services and the needs not covered by conventional transport.

Sopotniki staff

Source: picture taken from the presentation from Marko Zevnik at the ERMN meeting on 11th October 2023. Presentation available at this **link**

3. Deepening target mobility practices

Now that you are acquainted with the 12-step implementation pathway of rural mobility services, you can peek at the main features of different rural transport service schemes, looking into the experience gathered from the implementation of mobility solutions in European territories. This section presents an in-depth cross-analysis of target mobility solutions, clustered per service scheme. Key features of different transport service schemes are illustrated to give you a solid ground for a possible transferability or scalability assessment, or, in any case, to provide inspiration with respect to a potential implementation of similar services.

Demand Responsive Transport services

Demand Responsive Transport (DRT) services are scheduled to pick up and drop off people in accordance with the actual needs of the passengers. The service is adapted to accommodate or better answer to customers' requests.

DRT is best viewed as a range of intermediate transport solutions that span the wide space between taxi and public transport.

Over the last two decades, there have been many implementations of DRTs in rural areas, of different types and in different contexts. This indicates that DRT could be the primary model for rural shared mobility, especially if it is well coordinated with the regular public transport network serving towns and inter-urban corridors.

What's more, since the late-1990s, the ability of DRT to provide efficient and affordable transport services has been greatly enhanced by the use of technology (progressively tested through target EU projects, such as, SAMPO, FAMS, and others[1]) For example, services are also more attractive, especially for young people, thanks to the possibility to book a trip via mobile app, through which reservations can be made up to 10 or 15 minutes in advance.

There are two main types of DRT:

- **Flexible route DRTs**

  Increases the penetration and coverage area by permitting routes to deviate to predefined stops where there is demand; usually also the time scheduled can be modified as well.

- **Door-to-door DRT**

  Provides highest level of coverage and usability by basing the routes around real-time demand.

  Can provide "door-to door" or "near-to-near" options. If using smaller vehicles, can access rural areas with poorer road access.

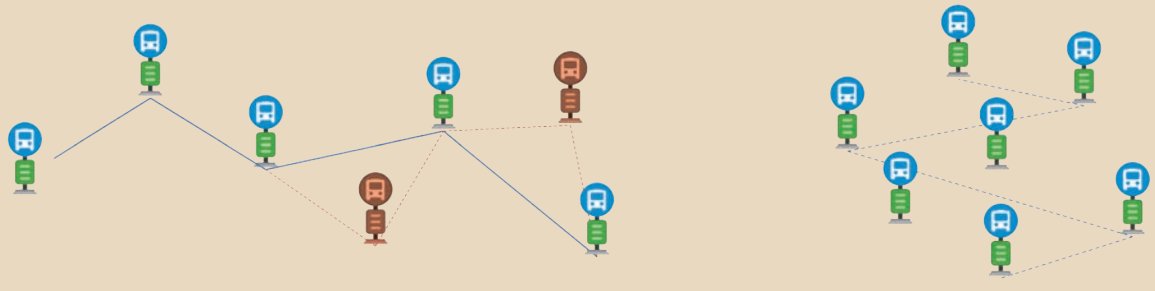


Figure 5 - Main types of DRT services. *Source:* MemEx

[1] https://ruralsharedmobility.eu/resources/

The organisational and management framework can be of three main different types:

- ancillary to public transport services;
- private-sector led
- community-based

The level of engagement of the municipality varies from case to case.

In the community-based solution, local authorities usually provide some forms of financial contribution to operate the services. In the private-sector led solutions, they usually set up the procurement process and allocate specific resources. For those services specifically linked with the conventional public transport (which are normally regulated under specific service contracts), municipalities could provide specific guidance on operational aspects (e.g., areas with high level of demand).

SMARTA-NET assessed 14 practices of Demand Responsive Transport services, whose main features are summarised in the following table.

DRT service	Country	Area covered [Km²]	Type	Organisational framework	Main features
Ring a Link, Kilkenny	Ireland	5.000	Primarily DRT services and some fixed route services	NGO wich now functions as a Transport Coordination Unit linked to the NTA	In operation since 2002, 17.000 passengers/ month, good territorial coverage, integration, with PT, long-term durability, cooperation with LEADER
Bürgerbus Oberes Glantal	Germany	155	Door-to-door DRT service	Registerde association (no profit or not) operated by volunteers	Fully managed and operated by volunteers, social service, sense of community, Responsive to vulnerable users
Castlla y Leon DRT	Spain	94.226	Mostly Fixed-route DRT	Centralised organisation (at the level of the Regional Administration)	In operation since 2004, Connecting 3.557 villages/settlements, regional travel dispatch center
Vallibus	Spain	23	Mixed scheme on-demand and scheduled bus transport	Contracted to the local public transport operator	Well-established brand, innovative technology, high level flexibility of the service, Municipal commitment
Bummelbus	Luxembourg	1.164	Door to door DRT service	Framework of professional driver training for long-term unemployed	Funded by the Ministry of Labour, about 600 passengers/day, in operation since 2001, established brand
Transport on-demand Biesko Biala (Wilkowice)	Poland	33	Door-to-PT stop DRT service	Managed by the District Mobility Centre in Bielsko Biala city	DRT combined with a "one-stop shop" providing information on all types of mobility options, novelty pilot experience for the local context
Go-Mobil door-to-door	Austria	9.536	Nearly door-to-door DRT service	20 private non-profit local associations belonging to the holding company GMZ	About 160.000 pass/year, empowering vulnerable users a self-determined life, good territorial coverage
Texelhopper	The Netherlands	162	Demand-influenced stop-to-stop flexible transport service	Subcontracted to the local taxi company by the PT operator Connexion-Transdev	Local taxi operators as a subcontractor of the public transport operator, smart ticketing system
Medio Tejo	Portugal	2.283	Predefined routes schemes and pre-defined stops	Managed at the intermunicipal level and operated by local taxi companies	Centralised booking/dispatch centre, managed by the Comunidade Intermunicipal Medio tejo
Alpine Bus	Switzerland	29.000	Fixed routes & on-demand transport services	National Managing Board and several regional partnerships	National-branded initiative, in operation since 2006, connecting rural mountains area in the whole Swiss territory
Prontobus Modena	Italy	410	On-demand service with pre-defined routes and stops	Operated by the PT operator under a specific service contract	Smart app to book the service and good marketing and promotion well-integrated with the public transport offer
Narni Chiamabus	Italy	197	On-demand service with pre-defined stops	Operated by the PT operator, in collaboration with a local cooperative	Established brand, highly used by all target users, strong municipal commitment
Sopotniki	Slovenia	2.432	Door-to-door DRT service	Sopotniki non-profit institute, in collaboration with municipalities	Meeting social and basic needs of elderly, more than 250 volunteer drivers, strong organisational framework
Transport-on-demand Vidzeme	Latvia	19.809	Door-to-door DRT service	Subcontracted to two local transport companies	Pilot initiative wich fostered discussions in the Parliament to establish regulations for on-demand services

Table 1 – Main features of the DRT services assessed by SMARTA-NET

Where to start: feasibility study

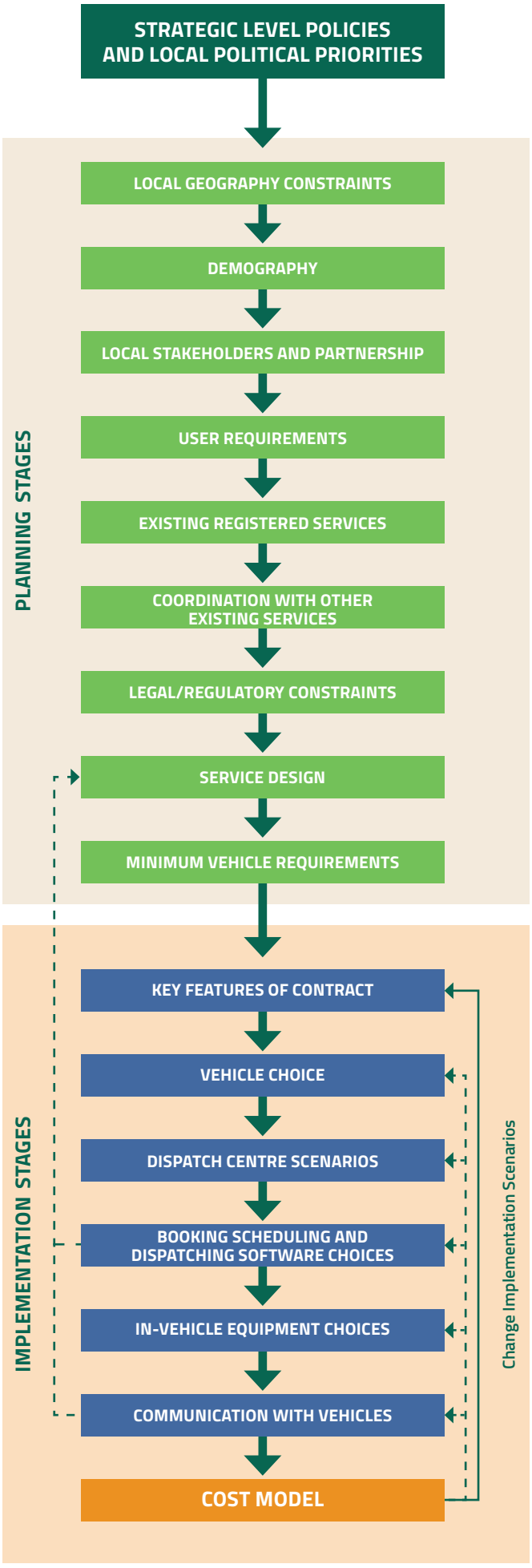
If you are planning to design and implement a new flexible transport service, a good place to start is the guidance produced in the FLIPPER project[2], summarised here.

FLIPPER - "Flexible Transport Services and ICT Platform for Eco-Mobility in European Urban and Rural Areas"; was a Project within the INTERREG IVC Programme (2008-2011). The overall objective of the Project, involving 11 partners from 7 different countries, was the transfer of experience, knowledge and good practices about Flexible Transport Services (FTS)[3] among different European Regions with the aim of increasing the social inclusion of disadvantaged citizens groups and/or areas, reducing energy consumptions and environmental impacts.

The FLIPPER consortium identified the main factors which need to be considered in the decision process when designing and delivering a flexible transport service. More specifically, the project developed a structured framework consisting of 17 factors; 10 related to planning, 6 related to delivery and a cost model factor.

Factors visited early on in the tool relate to planning decisions and generally describe the environment into which the service is to be introduced, identify strategic policy goals and user needs and establish constraints (related to geography, legislation, and organisational structures of local stakeholders) in meeting these goals and needs. Existing service provision, opportunity for joint working and promoting shared use of resource is also considered. This leads to a set of requirements for specifying the service design and to a narrowing of the options for selecting vehicle designs and choosing appropriate operators.

The final 7 factors relate to the implementation of the service and allow the user to choose suitable service providers, vehicles and technology components for effective delivery of the planned flexible transport service. Associated with each choice at the implementation stage are estimates of both capital and operating costs which feed into the final cost model along with estimates of revenues generated through fares.



[2] https://keep.eu/projects/479/Flexible-Transport-Services-a-EN/

[3] FTS is a broad concept that includes, but is not limited to DRT

Where to find examples

Good practices in the spotlight from the SMARTA-NET Catalogue

Vallibús Connecta't DRT, Vallirana, Spain

Case study no. 1.5 of the SMARTA-NET Catalogue

Vallibus is a DRT solution implemented in the lower density areas of the Vallirana municipality (Barcelona Metropolitan Area Spain), where the public transport was experiencing low demand levels. It is operated as a mixed scheme, consisting of on-demand (with pre-defined stops) and scheduled bus transport services. An IT platform has been implemented, consisting of a management module and different interfaces (for passengers, drivers, operator, and the Authorities).

Vallibus DRT service, Vallirana, Spain - *Source:* https://ruralsharedmobility.eu/demonstrators/vallibus-connectat/

Go-Mobil DRT, Austria

Case study no. 1.8 of the SMARTA-NET Catalogue

Go-Mobil is a door-to-door flexible transport service operating in 36 peripheral and rural areas in the region of Carinthia, Austria.

The service complements conventional public transport systems and provides residents access to groceries, doctors, post offices and bus stops, serving about 160.000 users per year with a service offered every day.

Go-Mobil is based on a non-profit mobility model.

GO-MOBIL in Krumpendorf am Wörthersee, Carinthia, Austria - *Source:* https://www.krumpendorf.gv.at/buergerservice/verkehr/go-mobil-krumpendorf/

Texelhopper, The Netherlands

Case study no. 1.9 of the SMARTA-NET Catalogue

Texelhopper is a demand-influenced stop-to-stop flexible transport service on the Isle of Texel, operated as a combination of a regular bus line and the flexible use of smaller buses.

It enhances intermodal coordination between ferry, train, and bus, and is provided by the local taxi operators as subcontractors of the public transport operator.

Texelhopper on -demand service, The Netherlands - *Source:* https://brandguide.transdev.nl/texelhopper/home/

Prontobus DRT, Modena, Italy

Case study no. 1.12 of the SMARTA-NET Catalogue

Prontobus aims to integrate the urban and extra-urban public transport services of Modena Province with a demand-responsive solution in the neighbouring villages and rural areas, including Carpi, Castelfranco, Maranello, Mirandola, and Pavullo.

Within the framework of the RUMOBIL EU Project, in 2017, a new software has been developed with the aim of improving the quality of information of the service. In 2022, the Prontobus service registered 55139 travellers.

Prontobus on-demand service in Modena Province, Italy - *Source:* https://www.prontobus-rumobil.eu/progetto-rumobil/

MAMBA Project

Many rural areas of the Baltic Sea region have experienced decreasing and ageing populations. This makes serious challenges in retaining facilities and services such as public transport.

The MAMBA project (2017-2020), sponsored by Interreg Baltic Sea Region, worked with 9 pilots in six Baltic region countries. Six of the pilots were people-to-service mobility solutions, including Demand Responsive Transport (DRT), ride-sharing, village car, carpooling and MaaS; the other three pilots sought to bring services to the people.

The MAMBA team produced an excellent set of reports including three guidelines, thematic studies and good practice cases.

SMACKER Project

SMACKER project aimed at addressing disparities in mobility in peripheral and rural areas, designing and promoting efficient and sustainable public transport services. The Project delivered pilot implementations in 6 pilot regions in Italy, Poland, Czech Republic, Slovenia, Hungary and Austria, 4 of which also include investments n equipment.

It also produced 6 Regional Action Plans to better integrate peripheral areas using DRT, and delivered 10 transnational trainings to non-partner CEU Authorities. An additional outcome was the publication of 4 Guidelines on DRT planning and implementation for Policy Authorities, Public Transport Service providers, Users, Business & Enterprises.

LAST-MILE Project

LAST-MILE project (2016-2020), sponsored by Interreg Europe, dealt with sustainable mobility for the "last mile" in tourism regions. It examined implementation conditions for a range of connectivity solutions and developed regional action plans for six European regions, and also produced a best practices analysis.

The regions included East Tyrol, which is a SMARTA-NET Lighthouse site. The LAST-MILE team developed an excellent brochure covering good practice cases, success factors, framework conditions and means of overcoming barriers.

Tips and Tricks

Ring a Link, Kilkenny

Smartly planning a mixed network of fixed-route bus service supplemented by DRT to more remote areas optimize the resources and increase ridership.

Bürgerbus, Oberes Glantal

Complement conventional PT services with community-based services thanks to volunteer drivers to improve access to services, especially for vulnerable users.

Transporte a la demanda, Castilla y Leon

Regional Administration managing the operation of the centralised dispatch centre partnering with bus, vans and taxi companies to reach small and isolated villages.

Vallibus, Vallirana

Provide accurate pick-up time and estimated time of arrival, as well as information about walking directions towards a pick-up point and from the drop-off point to the final destination to improve service usability and convenience.

Sopotniki, Slovenia

Efficient coordination, and organization structure with a central management team and local units to provide a multi-region service and high level of community engagement.

Bummelbus, Luxembourg

Cross-sectoral partnership working between different public department (social, health, education, work) or ministries to meet fundamental mobility needs and efficient use of public resources.

Go-Mobil, Carinthia

Ensuring that Go-Mobil can be found in the timetable information of the public transport operator ÖBB, as well as in the route planner of "Kärntner Linien", makes it easy to plan routes that go beyond the service area of Go-Mobil.

Transporte a pedido, Médio Tejo

Cluster of metropolitan and local authorities commonly pooling their resources to ensure possibility to join human resources for launching a new service and manage a DRT call centre.

Texelhopper, The Nedelands

Leverage advanced ICT solutions offering performant algorithm for calculating best routes to propose based on the past, journey reservation, e-ticketing, real time monitoring, etc., to maximise service efficiency.

Alpine Bus, Switzerland

Establish partnership combining public authorities and private companies (bus and taxi operators), as well as sponsors such as local hotels and businesses, to enhance financial sustainability.

Prontobus, Modena

Providing the option to book via a number of means of communication (telephone, SMS, email, website and app) to ensure inclusivity and usability of the service.

Chiamabus, Narni

Efficient cooperation between the public transport operator, providing the drivers, and the local NGO managing booking to optimize the resources.

Ride-sharing services

Ride-sharing is not a new concept, but has found renewed popularity, and is considered a real alternative to provide accessibility and mobility to citizens in sparsely populated areas.

Ride-sharing services cover a wide range of services that allow the aggregation of the mobility demand for sharing a ride with other persons in the same vehicle[4].

This vehicle makes multiple stops along a route to pick up and drop off passengers, reducing the need for multiple cars on the road. These services can integrate and complement the public transport offer and could have a pivotal role to tackle mobility issues in rural environments lacking an adequate conventional public transport offer. Examples of ride sharing services are:

- Carpooling, in which people share the journey in the same car at the same time, usually with prearranged agreement among them;
- Shared taxi, in which people share the same taxi; this is a high flexible scheme with no timetables, that usually follows a predefined path and that may stop anywhere to pick up or drop off the passengers.;
- E-hitchhiking that is an organised form of shared mobility, which can be implemented at very little cost and needing no assets.

Source: Pexels

Where to start from and main issues

When investigating, planning, and assessing the potential of a new (or existing) ride-sharing service, first, you should identify the target users and their needs, and secondly, analyse the target area to determine whether a ride-sharing service could be the proper answer.

Once the feasibility studies are done and the technology is in place, it is crucial to raise awareness of the service and educate the public about how to use it.

Behaviour change towards the ride-sharing concept should be encouraged more than the characteristics of the vehicle.

This can be done with targeted awareness campaigns, meetings, ads, and more. Users should perceive the usefulness of ride-sharing services with respect to environmental impacts and increased social value.

Keeping the level of ridesharing users' satisfaction high is also a must: this can be ensured by offering a good service quality and paying attention to safety issues.

It is important to note that rural transport provision, and in particular, ride-sharing services are not necessarily only a task for the public sector.

Volunteer-driven vehicles/minibuses have also been emerging as a solution for rural areas but they are not necessarily comprehensive in their coverage.

Voluntary approaches are often constrained by lack of sufficient number of volunteers to cover broader areas and services.

For this, an important prerequisite for the development of new ride-sharing services is the removal of constraints on permitting coverage of costs incurred by those providing the service through fees charged to the users of those services. Ride-sharing schemes may provide a fairly comprehensive service for different trip-purposes.

Similar to volunteer-driven services, the challenge is to maintain sufficient pool of volunteers/drivers to secure adequate service levels .

Finally, policy-makers should consider ride-sharing services as a component of the overall mobility system especially as complementary and feeder part of the PT services and not as competing services.

[4] Ride-sharing differs from ride-hailing, such as Uber, where drivers are salaried by the company

The NaboGO service in Vejle, Denmark

NaboGO is an app-based carpooling service implemented in 30 Danish municipalities as well as in regions in the Netherlands, Sweden and Norway and aiming to encourage people to share car trips when travelling from rural areas to nearby cities.

The mobility solution is a carpool app that was first introduced for the village of Smidstrup-Skærup, which is part of the municipality of Vejle in South Jutland, Denmark. The service was led by the Municipality of Vejle, in cooperation with the app developer NaboGO, which owns the intellectual property rights to the solution. The app enables users to organise trips between villages and the surrounding area, including the cities of Vejle, Kolding, Odense and Fredericia. Car owners can register on the app if they are planning trips or regular journeys to nearby urban areas such as Kolding or Odense and are willing to offer a ride to other people in their community. Other users can use the app to search for rides to their desired destination. Drivers can pick up passengers at pick-up points located around the Smidstrup-Skærup village area and in nearby towns.

The NaboGO app not only connects drivers and potential passengers, it also allows people to see how their shared car journey can be combined with other public transport such as bus or train journeys. In this way, people can plan their entire journey from home to their destination, combining different modes of transport.

Today, drivers receive a small payment for sharing their car journey, based on a fixed rate (€ 0,10 Km), and payments are made through the app. Furthermore, both drivers and passengers get a subsidy from NaboGO for the first 10 km of each ride to make local trips more relevant/attractive

NaboGO service in Vejle, Denmark - *Source:* https://nabogo.com/en/about-us

RezoPouce hitchhiking, France

RezoPouce is an organised hitch-hiking service currently active in more than 1800 French municipalities covering between 10 and 20% of rural France. The pilot is well integrated in a broader vision of sustainable mobility as well at local as at departmental level. The aim of the broader vision is to reduce individual car use for different types of trips. The RezoPouce service wants to reduce car use on the short distances and for the trips to the main urban centres. It also wants to contribute to greater cohesion in the local communities and provide mobility solutions to people that have no mobility solution now.

rezo pouce
Un service mobicoop

Source: https://www.rezopouce.fr/

Regiotaxi, The Netherlands

Regiotaxi is a demand-based type of transportation, in the form of a regional taxi service with shared rides. It operates like a traditional taxi service although it can pick up other users along the way, thus charging lower prices than a traditional taxi service.

The Regiotaxi is a nationwide service complementary to the public transport network. It is an intermediate transport solution between a taxi service and public transport, targeting short-distance travels. This solution addresses the lack of public transportation and transport options for disabled people.

The practice is showing a collaborative approach between municipalities and also with operators which contributed to the continued operation of this service over years and enabled a seamless and spread transport connections in rural areas across the whole region where the public transport is absent or weak.

Risk Factors

Some of the identified mobility solutions have proved to be not sustainable in the long-term, having encountered challenges and difficulties which led to the closure of the service. This in particular has been the case of the Brasov (Romania) and Trikala (Greece) carpooling platforms. In Brasov, a carpooling service enabled by a web-based platform was developed in the framework of the SMARTA 2 project and implemented in three communities in the Brasov Metropolitan Area in Transylvania (Romania). This solution was targeted to rural dwellers encouraging them to share their trips, thereby reducing the individual daily trips made with a private car. It was the first-of-its-kind initiative in the area, which aimed to reduce the traffic generated from rural areas to the city centre, which was delivered in conjunction with an awareness-raising campaign on sustainable mobility and public transport. The service is not operating anymore since it proved to be not sustainable for the following main reasons:

I) there was no business model behind it nor enough budget for maintaining a coordination team;

II) there was a high competition with similar carpooling apps having a proper business model.

Moreover, the service was launched just before the advent of COVID that hit extremely hard on the service usage.

The service was therefore not replicated in other Romanian areas.

Asset sharing services

Asset sharing services, such as car-sharing and bike-sharing, allow travellers to use the means of transport (namely car, bike, e-scooter, etc.) without owning them. It has gained ground in recent years and have become increasingly popular, especially in large urban areas and medium-sized towns. In rural areas, however, the challenges for implementing these kind of services are greater, mainly due to the lower demand (caused by the low density, the higher car ownership level, the low quality and frequency of public transport service, fewer or absent taxi service, etc.).

A different business model is usually required for their provision, more socially oriented with greater involvement of local municipalities and public transport operators, to be able to offer a service that is most likely at favourable prices. In fact, such services in rural areas are not profitable for commercial operators and, usually, they are organised by the communities themselves. The high costs of investment and maintenance, as well as the overhead costs related to the organization and operation, lead to these services rarely being implemented in rural areas.

For example, no car-sharing provider currently active in the market operates commercial services or applications in rural areas or in small communities.

Despite this, local public authorities tend to foster shared mobility services as an appropriate way to improve the range of mobility options for

Where to start?

Public authorities should start with the development of a robust and detailed feasibility study of the identified asset sharing services, that should take into account all the following elements:

- Definition of the study area and the main needs (demands) with respect to the different user segments/groups;
- Identification of the service scheme (P2P, free schemes, etc), service requirements, locations, etc) and awareness translation of the complexity in operation action and regulatory aspect and Authority role;
- Definition of a suitable organization structure and operation procedures (taking into account the need to guarantee simple accessibility and usability through IT tools and apps);
- Identification of the cost of investments (or procurement of services), the cost for the maintenance and staff management, estimation of the possible revenue and tariff by also benchmarking activities;
- Identification of the need for any support conditions (sponsors, PPP collaborations, etc.)
- Definition of specific KPIs for the monitoring of the service

residents in rural areas in order to supplement or integrate existing public transport services. As for commercial providers, the main challenge for a Local Authority remains the high costs as well as the need to have a very structured organisation and operation framework.

For asset sharing services, it is important to understand the impacts of implementing mobility services that require user interaction and technological support systems, such as booking and operations. It is crucial to have a roadmap for moving beyond the initial attractive phase, and for gaining insights into all potential impacts, to avoid wastage of resources and negative consequences for small communities and their residents.

This assessment will help in defining the business model in terms of "real" cost for the authority for the implementation of different schemes (including sponsors, advertising spaces, parking spots, shelters, etc.) as well as the dimensions and distribution of the fleets (considering the main origin/destination matrix) and parking areas.

These aspects should help the local municipalities to understand if asset-sharing services are the most appropriate solutions and the real benefit they bring at the mobility level. A Local Authority should have the capability to evaluate if this type of service is able to answer to the needs and requirements of the communities as well as to calculate a realistic estimation of the resources needed for its development, management and operation. In principle, asset-sharing services should be designed as a component of the overall mobility plan and should be integrated – thus, not in competition - with the available public transport services as, for example, first/last mile services.

Moreover, a feasibility study based on the results of the needs and transport demands and on the level of operation requested can also identify the most suitable service scheme and whether to appoint an external operator for managing the overall service on the "road"/network.

Another important aspect to be taken into account is the investment that should be done both in infrastructure (e.g. increased road safety, cycling infrastructure, in case of bike sharing) and in users' behavioural changes (e.g. with public awareness and sensitization events, public engagement, promotion and communication campaigns, incentives). Enabling people to learn and use more such type of services is of major importance in order to improve acceptance and operation in full capacity.

Flugs e-car sharing in East Tyrol, Austria

Flugs is an electric car-sharing station-based service with 13 electric vehicles available to individual users (with valid driver license) for hire in East Tyrol region in Austria. Launched in 2015 with one shared e-car in the city of Lienz, Flugs is now located in thirteen different areas of East Tyrol Region. The service is included in a broader sustainable vision consisting of providing an open, connected, multimodal, and rural environment where smart and sustainable mobility can be promoted for residents and tourists. In fact, it has been recently promoted to visitors and tourists as a flexible and affordable mobility solution for visiting the rural areas of the region. Flugs is integrated with the public transport information services and this contributes to increase the awareness for sustainable mobility, change the mobility behavior of the citizens away from private cars, thus trying to reduce the costs for private mobility as well as the need for owning a second or even third car.

Flugs e-carsharing in East Tyrol, Austria - © Regionalenergie Osttirol
Source: https://vcoe.at/news/details/gute-kombination-carsharing-und-oeffentlicher-verkehr?page_n168=51

However, eCarsharing is not yet as well accepted in the rural areas and its durability strongly depends on the subscriptions and use of the service. Flugs is partly outsourced with only one sponsor is the Regional East Tyrol Development Agency (RMO) with competencies on sustainable mobility project, initiatives and policies. RMO deals with, invests and believes in promotion and dissemination activities through the rural population to increase the popularity and use of the service.

beÁgueda bike-sharing, Portugal

beÁgueda is an e-bikesharing service implemented in Águeda, a small municipality in the Aveiro Region in Central Portugal. The service offers 16 bike-sharing stations and 45 bicycles situated in the city of Agueda and in 9 other villages along the Vouga river. The beAgueda project was implemented in 2011 in the city of Agueda through European funds and has been expanded since then leading to a significant dimension and organization of the overall bike-sharing system. The bike sharing stations are situated in central places within the city of Agueda and in the rural parishes (tourist office, parish and municipal council, among others).

The service aims to improve the connectivity of the rural parishes with the city centre of Agueda encouraging the practice of healthier and more environmentally sustainable behaviours; the main target group is represented by the students living in rural areas who use the service to easily reach the railway station and their schools. In fact, the main origins and destinations are the train stations and the schools, although an increasing demand from workers of the industrial parks around the Agueda city centre (still not served by the bike-sharing service) has been registered throughout the years.

The service has served as inspiration to other municipalities especially in Portugal, but also in Galicia (Spain). Further extensions to other areas would require a higher level of organization, which will increase operating and maintenance costs, that are all covered by the municipality of Agueda. The main challenge is to define and start-up a different business model for funding the service that currently is highly dependent on external funds.

beÁgueda bike-sharing, Aveiro Region, Portugal
© Câmara Municipal de Águeda

Source: https://projects2014-2020.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1654794478.pdf

Risk factors

A first simple but relevant consideration for answering to the different mobility needs of the rural areas is that Asset Sharing solutions should be studied, designed and implemented as component of the overall Mobility Plan and integrated – thus, not in competition – with the other public transport services available in the area.

Public administrations face several challenges before deciding to operate a car- or- bike sharing service. First, there is the need to have specific Municipal regulations to ensure the correct use of bike lanes, dock areas, parking areas, the access to pedestrian zones, recharging stations, etc. These rules should also facilitate the integration and interconnection of the different transport systems, through certain tools (e.g. mobile applications for booking and paying for different services), data sharing (infomobility) and the opening of reservation and payment systems to third parties.

Then, there is the need to monitor the compliance of the service to a certain minimum pre-defined KPIs, as well as to have a proper structure dedicated to the operation and organisation of these services in order to guarantee their maximum efficiency.

Another important aspect to take into account is that these types of service often struggle to remain economically sustainable and need to cover the difference between operational costs and revenues. Sponsorship may be taken into consideration as a possible contribution to reduce the operational costs and find a new viable business model.

Moreover, assets sharing service can be more efficient if the price could be integrated with other mobility service tariff schemes.

Lessons learnt from previous experiences

There are several examples of asset sharing services that proved to be not sustainable over the long-term, or which encountered challenges and difficulties which led to the closure of the service. One example is Talybont Energy, which was an e-car sharing service implemented in Talybont-on-Usk, a village in the heart of the Brecon Beacons National Park in in Powys (Wales, UK). In this area, the scattered population and low demand prevented the development of a conventional car-sharing run by a commercial operator.

The implemented e-car sharing service therefore mainly relied on voluntary effort of Energy Talybont, a local non-profit company, of the local council and of a local funding authority. Initially, members only paid a low-cost tariff for using the service, but, during the last year of business, vehicle rental insurance became extremely expensive. The increased and high running cost as well as the limited revenue scheme led to the closure of the service. The service could have remained economically sustainable only if the purchase of the cars was financed by the local community and if the operating costs were supported by the Municipality or other body(ies)

Other risk factors are associated to incident management, episodes of thefts or vandalism, maintenance of the vehicles and problems related to the associated technology (e.g. booking systems and on-board technology; battery, connectivity and GPS coverage). Providing such mobility services also requires access to and use of sensitive user data and sensitive safety-related functions vulnerable to cyberattacks.

Talybont car sharing community, UK
© Talybont-on-Usk Energy

Source: https://talybontenergy.co.uk/about/our-directors/

Source: Freepik

4. Towards seamless multimodal transport

Once a package of transport services is in place, it is important to ensure their integration. This might seem an easy issue, but the fact is that we are dealing with things and stakeholders of very different natures. Besides the fixed-route bus services, there are different forms of shared mobility services, including the ones that are in the style of public transport (like DRT door-to-door), and others where people are combined in a car (like carpooling). With integration we can talk about planning, operations, scheduling, information, etc.

One of the main challenges lies in the fact that there are different sizes of operators. In many cases, there are "small players" operating a shared mobility service trying to connect with "big players", i.e., the operators of the railways and of the conventional bus service. The issue is then how to manage the asymmetry between the local players and the large conventional public transport network.

The integration approach, in practice, involves different levels of "engagement" from the concepts, design and scheduling to the coordination of operation and reporting. These levels, especially in rural areas, are also impacted by the different typology/size of involved transport operators and the related organization and digital context.

Based on the mobility practices investigated in SMARTA-NET, the issue of "integration" can be outlined as shown in Figure 5.

Quite often, we can have the most basic layer, so-called Level 1, where we get a passive connection at the bus stop (the user is just brought as far as the bus stop).

In Level 2, we co-locate the stops and, eventually, the timetables of different services are shown in the same place.

Many practitioners are currently working at Level 3 - here we get a simple coordination unit managing the service, and in particular, real-time passenger information.

Going a step further, we start to get connection management (Level 4), in which we are actively trying to ensure that the local service and the public transport connect with each other, that people make their connections on time.

In such cases, agreements between operators are signed, particularly to manage the different vehicle tracking systems, including procedures to deal with cases where a connection is not made.

Level 5 and 6 are those where the rural mobility services are fully integrated with the operational layer, and also at the customer service layer, with integrated payment, intermodal trips, etc.

Main integration layers between rural shared mobility and conventional public transport	
Level 1	Passive connection at bus stop
Level 2	Co-location and coordinated timetable of the PT services
Level 3	Coordination/simple management of services, information and digital solution
Level 4	Connection management, with porocesses, data sharing and digital solution
Level 5	Near fully, integrated, including the Operational layer
Level 6	Fully integrated at Operations and Customer Service layers

Figure 5 - Main integration layers

Physical integration - Hubs and interchanges

Looking at the physical layer, we might have a situation in which we have (i) a fixed route which stops along the way, which might be either rural areas or villages, and (ii) different mobility services operated in a target area; and we try to connect the two at the bus stops.

However, the physical integration might be more efficiently developed through a mobility hub, i.e., a specific point/area developed to facilitate the integration, enabling the transfer from one means of transport to another.

Hubs usually have the PT stops featuring the timetables and the real-time displays, and one (or more) shared modes and related components (e.g., docks for e-bike sharing service, pick-up or drop-off areas, etc.).

More recently, the concept of "inclusive hub" has been developed, in which a variety of other services and facilities are offered.

A wide variety of hubs is offered in different rural contexts. Some of them present the Level 2 of integration, as introduced above, while others are more advanced and offer not just mobility solutions, but also other services and facilities.

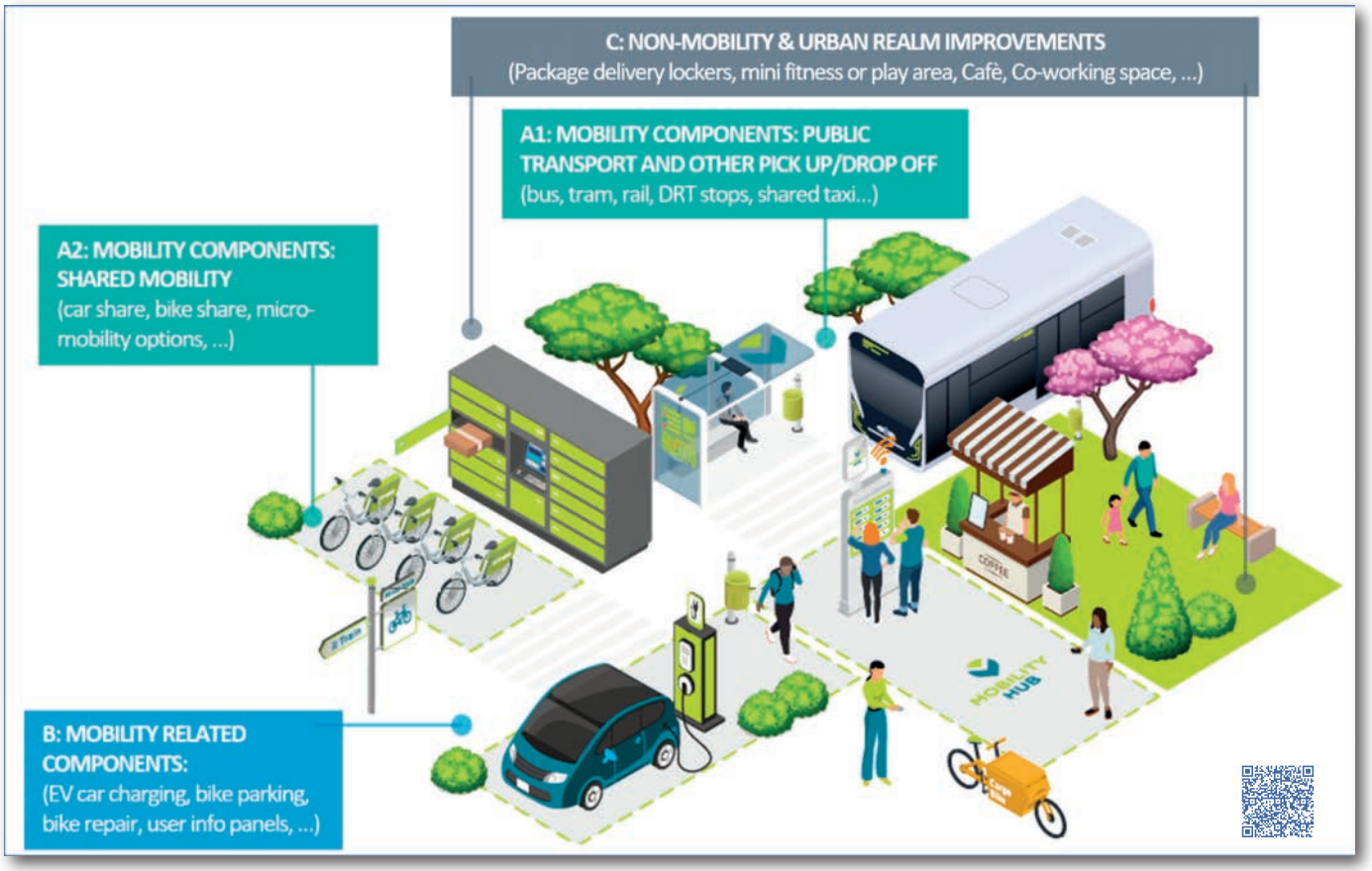


Figure 6 - Main components of a mobility hub - *Source:* https://bit.ly/440y0Sz

Do you want to learn more about Mobility Hubs? Smart Hubs Project & Open Data Platform

The SmartHubs project developed an online platform where is it possible to view, edit and compare mobility hub learning examples.Integration levels, developed by the SmartHubs project team, allow standardized benchmarking and the planning of development goals for hubs. The platform allows to have a look on all hubs in table view or see which hubs are organized through a hub network. At the end of 2023, the Project collected 155 Hubs (9 of which are Case Studies in the SmartHubs Project), and 26 Mobility Hub Networks.

The Project has also collected on a specific **webpage** the main research and innovation projects involving case study hubs.

Technology and operations

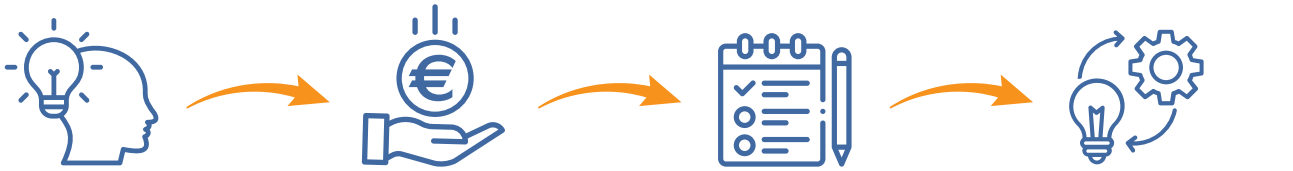
Digital tools and ICT enable and support the collective and innovative transport services availability, operation and integration covering different functions, such as data collection, service control and monitoring, performance assessment interoperability and accessibility and service reporting and analysis.

Reference systems or digital solutions responding to the main needs of passenger services (fleet/asset control, ticketing, user information, etc.) and different levels of integration with the other services (and related support systems) are already well consolidated and widely available on the market. The main challenge (or need of public authorities or communities) is to have sufficient understanding of the complexity related to these solutions in terms of: Objectives, Requirements, Organization, Operation level, investments-management and operation costs, as specially assessed in Kilkenny (for the Real Time Passenger Information (RTPI) Project, Case Study no.1.1 of the Catalogue), or in ELBA (for the Shared Use Mobility Agency, Case Study no. 4.5 of the Catalogue).

The digital tools and ICT systems produce a huge amount of data (GPS, arrival/departure times, transactions, boarding and alighting, etc), allowing datamining and aggregation (running time, headway, O/D, delay, tickets origin, missed runs, service KPI, Routes, line behaviour, services reliability, schedule adherence regularity, etc.).

This requires to evaluate in details the resources and skills needed for the management of the implemented solutions, especially for a transport operator acting in rural areas. It is not advisable to set up a technological or digital context without understanding the different impacts on day-by-day operation and the related costs; therefore, it is necessary to develop a specific technical study for avoiding the main risk to transform the use of ICT into an "additional problem" rather than a support solution for improving the specific service.

The stepwise approach below provides a simple practice-based guide to help practitioners to navigate the complex issues around technology and digital tool integration.



UNDERSTANDING

Analysis of services schemes, cooperation and business models, legal/commercial aspects. The collaboration between the system provider, the contract responsible, and the service operator should be the backbone of the PTO and PTA objectives achievement.

The Fleet/asset control/AVL system is the grassroots digital solution for service data collection and assessment and ancillary for ticketing and user information. Take care of spending efforts to guarantee the supporting conditions: operation, organization, data quality, system reliability, commercial agreements, etc.

As digitisation has become essential to enable both the back-office functions and the integration with other service providers, organisers of mobility schemes are required to develop new skills/capacities, and to have more formal data arrangements with each other.

INVESTING

In terms of investment needed, different digital aspects or elements are already available or offered by the market (open data and architecture, mobile network, mobile devices, cloud connectinìvity, sensors, etc.) and usually consolidated as "Software as a Service" model (web and data API, open source, implemented locally or CLOUD, etc.). A first investment shall be dedicated to data management, integration, aggregation and availability.

Changes in how technology is structured requires a rethinking of the investments to be made, how to prioritise, phasing/upscaling, and means of financing. New ongoing costs must be anticipated.

PLANNING

Integration can be mobilised starting from a simple structure. In the beginning, start with the definition of common criteria: cooperation priciples and relations among different actors and business models; then, the integration can be scaled up through a step-by-step process, leading to a more complex structure (depending on the functions to be added, such as journey planner, travel booking, etc.).

Appoint a specific company (if not possible to do that with the existing capacity) to do:

- Benchmarking
- Feasibility
- Architecture design
- Procurement Documents
- Tender Evaluation
- Contract Negotiation
- Contract Management

IMPLEMENTING

Define the key milestones to be achieved in the implementation, as well as testing procedure (functional & performances) for each step and at the end of the implementation.

In case of data sources managed by different stakeholders, a close cooperation is required: identify one stakeholder (eg.. the Public Administration, at municipal level) who takes care of coordinating the different actors involved and the responsibility of the data validation.

Allocate resources for guaranteeing the system operation (data providers) and system KPI (reliability, quality, etc.). Moreover, specific funds should be reserved for extending base systems (AVL, AFC, User information) to all mobility service oprators acting in the same rural area.

Marketing, promotion, customer facing

Taking care of marketing and user information on public transport services in rural areas is crucial. Users can have a bad or wrong perception of the current transport offer, for several reasons. An insufficient number of stops, low-grade stops (absence of safe and sheltered waiting place, timetable information, map), frequent breakdowns of the service, low frequency, etc., are some of the causes that can negatively impact perception.

Effective and sustained marketing campaigns ensure that rural residents are aware of available and new public and shared transport services, and encouraging their use.

Clear communication through marketing materials helps potential users understand the routes, schedules, and benefits of the services, boosting ridership by attracting more passengers.

PAY ATTENTION

In the many rural areas which lack any public transport service, local people have no habit or experience of using PT, except perhaps when they visit urban areas. It is a completely different travel experience from what they are used to – self-driving or getting a lift.

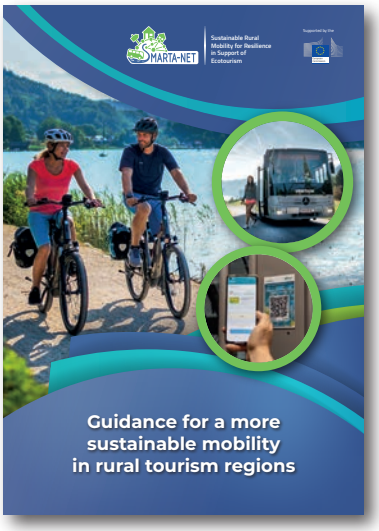
At many levels, it is extremely inconvenient compared to the freedom of going by car where and when you want, with capacity to carry things. It requires a fundamental change in how you approach travelling, as well as learning where and when the PT goes, how to use it, etc.

This requires not only education about the services, but also explanation and persuasion on whether and why you should even consider to use PT in the first place. It requires a rebalancing of the value set around travel, which in turn requires well-structured, sustained marketing and communication campaigns. This is additional to “standard” marketing that informs people about the transport offer.

Relevant actions to be delivered to promote the use of shared modes of transport include the following:

- Connection points should be designated and well-publicised;
- Timetables should be coordinated (or shared mobility services timed to connect);
- Basic facilities at designated stops should be improved (safe and sheltered waiting place, timetable information, map);
- Parking facilities for car or bike near main stops and hubs should be available - in remote rural areas, it may be that some villages and settlements are far from the public transport network.

Whenever there is a service improvement to the public transport or to connecting shared mobility, it is important to encourage people to reassess if public transport can now meet their needs. It is not enough to make changes and hope that people will come – there must be active outreach through channels that are relevant to the target users (website, local newspaper, signposts, etc.).



SMARTA-NET prepared a specific Guidance on more sustainable mobility in rural tourism regions. The Guidance provides practical advice on how to inspire and inform about mobility options, before the trip and during the trip, with good practice examples on what information to disseminate and how. If you want to learn more, you can download it from the SMARTA-NET website.

5. Conclusion

The Good Practice solutions and related innovative dimensions assessed by SMARTA-NET have mostly been initiated by local-level actors, in some cases under their own mandate and constrained finances; in other cases, initiated by non-transport actors (e.g. local communities, LEADER partnerships) taking it upon themselves to find solutions when the mandated authorities do not.

During this period of change, rural mobility has become a high priority for European policy and decision-makers. However, in order to achieve significant improvements in the quantum, availability and quality of rural mobility, it is crucial to harness the will, the capacities and the local knowledge of local stakeholders. As there are tens of thousands of communities throughout Europe, with great diversity, the only practical way is to put the local stakeholders at the centre of the process, and to give them substantial autonomy and flexibility to achieve both global and local goals in the way they see fit. This means bottom-up design and mobilisation, within guiding and enabling frameworks. This also has significant implications at the local level. While national and regional governments can provide funds, high-level guidance and increased authority to act, there remains the issue of capacity.

Most local rural stakeholders, including local authorities and agencies, have limited or no prior experience of planning and organising mobility services, of current and emerging good practice, of the operational and logistical skills required, or of durable financing for such services. Likewise, they have limited or no capacity in how to integrate the mobility approach for their specific area with the broader regional network or with their nearby urban areas.

This guidance aims to contribute to addressing these challenges. As briefly introduced in this Report, there are various examples of sustainable and shared mobility solutions being implemented in different rural territories. These examples can serve as inspiration to other regions in Europe that face issues related to accessibility and connectivity.

Your local community may have limited resources, but knowledge of these good practices can help you and your stakeholders in selecting the most appropriate solutions. This will help you avoid starting from scratch and save valuable resources!

Therefore, we wish you good luck, and for more information on specific mobility solutions, please refer to the Catalogue available **here**.

Do you want to learn more about examples of sustainable mobility solutions for rural areas?

Please have a look at the ***SMARTA-NET Catalogue*** *on "Rural shared mobility solutions".*

Do you want to understand how to makes it easier and more pleasant for locals and guests to use alternative modes of transport?

Please have a look at the ***SMARTA-NET Guidance*** *for "more sustainable mobility in rural tourism regions"*

Do you want to know more about the integration of the rural dimension into existing Sustainable Mobility Plans (SUMP)?

You like our ideas, but don't know how to finance them?

https://www.smarta-net.eu/