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Regional Action plans to better integrate peripheral areas (Budapest, HU)

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1. Introduction

Remote regions in central Europe share the same risks and issues related to being at the periphery of main transport networks. Inadequate and under-used services, excessive costs, lack of last-mile services and proper intermodality, poor communication and information to users and car commuting are the challenges that many central European regions face.

The SMACKER project addresses those disparities to promote public transport and mobility services that are demand-responsive and that connect local and regional systems to main corridors and transport nodes.

Within SMACKER mobility issues related to peripheral and rural areas, and main barriers are assessed and addressed by providing solutions that draw on the best international know-how. SMACKER promotes demand-responsive transport services to connect local and regional systems to main transport corridors and nodes: soft measures (e.g. behaviour change campaigns) and hard measures (e.g. mobility service pilots) are used to identify and promote eco-friendly solutions for public transport in rural and peripheral areas to achieve more liveable and sustainable environments, better integration of the population to main corridors and better feeding services. SMACKER helps local communities to re-design their transport services according to user needs, through a coordinated co-design process between local/regional partners and stakeholders; SMACKERS also encourages the use of new transport services through motivating and incentivizing campaigns. The direct beneficiaries of the actions are residents, commuters and tourists.

Participation reflects the overall integration of citizens and groups in planning processes and policy decision-making and consequently the share of power. In particular, transport planning and transport relevant measures are often the subject of controversial discussions within the urban community. The concept of Sustainable Urban Mobility Planning has established the principle that the public should be included from the very beginning of the transport planning process and not only when the plans are largely completed and only minor amendments can be carried out. For that reason, public authorities need to open-up debate on this highly specialised and complex subject area and make participation a part of the planning process. In order to ensure participation throughout the process, development of an engagement strategy would be necessary.

This document is the Regional Action Plan for the Budapest SMACKER pilot area. It is based on regional and transnational strategies developed in SMACKER WP.T1 and on joint reflection/evaluation of the Budapest pilot results achieved through the pilot action developed in WP.T2. The Regional Action Plan serves the Regional Government to support common practices in the area and provides hints for planning a better integration of the peripheral area/s in the regional transport system. It also prepares public discussion for mainstreaming the SMACKER achievements into the local policies.

The Budapest pilot develops an online service request system for the already available demand responsive public transport lines.

This Regional Action Plan has the objective to provide a standardized but non-exhaustive list of actions and tips to be used to implement an online service request for already available DRT lines, or a new service (in this case, the document only support the online service request system implementation).

This document is organized following the common SMACKER approach and framework provided in D.T3.3.1. It is composed by ten chapters.

Chapters 2 to 10 present each one a section of the Regional Action Plan, which detail its Aims, Stakeholders to be involved, Key actions to solve the problem/s and to reach the proposed objective/s, Implementation time plan, Risk analysis, Funding resources, Key action monitoring schemes, Key stakeholders' involvement strategies in the medium/long terms, Conclusions.

2. Aims

Similarly, to other cities, a lot of citizens form the agglomeration are commuting to Budapest every day, but in the case of Hungary, there is no regional public administration, public transport within the city limits are organized by the Municipality of Budapest, while on national level, including every line crossing the city limits, the Ministry is, and its background institutions are responsible for that. Budapest is the largest city in and the capital of Hungary with 1.7 million inhabitants. The surroundings of Budapest have about 3 million inhabitants.

Services at these peripheral areas of the city and in the agglomeration are very limited during off-peak hours and on public holidays and consequently only private car usage can satisfy such mobility demand. There are parts of the functional urban area (FUA) of Budapest, that have no access to public transport to reach the main points of interest, and even less towards the capital city centre. A smaller part of the population cannot use any car at disposal (this is particularly valid for old and young people) and remains therefore isolated and unable to reach the core public transport network of the city.

The main objectives of the Regional Action Plan are the followings:

- supporting regional municipalities and the national responsible bodies to set up DRT lines with online service request system in the surroundings of Budapest
- exploring and expanding the potential use of public transport by encouraging the use of public vehicles instead of private vehicles through behaviour change campaigns and nudging initiatives;
- improving the usability and the accessibility to the public transport DRT service through the introduction of an application to enable passenger booking and ease the trip management;
- making more comfortable the whole journey for public transport users living in external areas of the city;
- decrease the modal share of private cars in Budapest and the agglomeration.

3. Stakeholders to be involved

This chapter illustrates the main stakeholders to be involved in developing DRT transport solutions in the FUA of Budapest.

Based on the Budapest pilot experience, the table below provides a list of these stakeholders who should be engaged in order to reach the objectives listed in the previous chapter.

In the Budapest pilot implementation, local and regional policy makers, transport operators and stakeholders are involved in the pilot planning, implementation and monitoring through the Local Mobility Forum (LMF). The LMF is involved also in pilot communication and nudging activities, as to better connect the pilot with the local communities who are the first customers and also the first promoters of the pilot action.
The plan for involving stakeholders in SMACKER pilots is detailed in deliverable "D.T2.2.2 Stakeholders and users group involvement". The table below provides the full picture of the SMACKER Target Groups involved in this specific pilot activities.

Table 1: Stakeholder to be involved in developing DRT transport solutions in the FUA of Budapest

SMACKER TARGET GROUP	STAKEHOLDERS	INVOLVEMENT IN Budapest pilot	ROLE(S)
Local public authority	Dedicated PTA or the responsible municipality	Yes	Responsible for the PT organization (dedicated body or part of the local Municipality)
Infrastructure and/or (public) service provider	Private and public PTO-s	Yes	Responsible for the infrastructure, vehicles
General public	Existing and potential passengers of the DRT lines	Yes	Give feedback through surveys(s), forums.
SME	Local professional SME-s	Yes	Local SME-s with experts in the topic provide professional feedbacks
Higher education and research	Local professional higher education institution	Yes	Experts provide feedback.
Interest group including NGOs	Local professional NGO-s	Yes	Local NGO-s supporting the implementation with expertise.
National public authority	Ministry responsible for national level PT organization	No	If the city is not dealing with local PT, the national body is responsible for that.

4. Key actions to solve the problem/s and to reach the proposed objective/s

Several problems and barriers could arise during the planning phase and the online service request service operation. Recommendations for key actions and strategies to solve the problems and to reach the proposed objectives – especially in terms of regional integration - are described in the table below, which is inspired by table 2 of D.T2.4.11.

The actions and strategies are listed in a sequence that starts from the occurrence of the problem / barrier in different implementation phases and ends with the overcoming of the identified issue; this is also propaedeutic to the mainstreaming of the Action Plan at regional level (see D.T3.3.12).

Table 2: Problems/barriers and related overcoming strategies in different implementation phases

IMPLEMENTATION PHASE	DESCRIPTION OF PROBLEM/BARRIER	SOLUTION OR MITIGATION STRATEGY ADOPTED FOR COPING / AVOIDING / OVERCOMING IT
Pre-planning	Expensive IT development	Ask for several bids from different possible developer companies, prepare well the technical description.
Pre-planning / planning	Changes on the decision maker level.	Continuous discussion with the decision makers, support the implementation with clear goals, strategy.
Implementation	Less passengers than expected - lockdown	No strategy for that, the performance should be measured in lockdown-free period
	Less passengers than expected – lack of communication	Use proper communication channels
	Less passengers than expected – poor quality of service	Develop an IT solution with high User Experience (UX)
	Lower share of online request than expected	Develop an IT solution with high UX and provide support for the users.

5. Implementation time plan

This chapter provides a suggested time plan for the implementation of an online service request system for a DRT service in the FUA of Budapest, not including the implementation of a DRT system, where that is not existing. The time plan links the steps and actions to a timeframe and is also important as a basis for the setting-up of a proper online service request system.

The required time is depending on the size and complexity of the network, but in magnitude it does not influence that, as basis the following timing is applicable in all the cases:

- mapping stakeholders - 3 months
- discuss the planned development with them – 3-6 months
- preparing the description of the IT development – 3-6 months (involved the stakeholders)
- procure the IT developer – 3 months
- develop the online service request system – 6 months
- test the system internally – 1 month

Based on the above-mentioned points, from the scratch (with an existing DRT system), the development of an online service request tool takes 1,5- 2 years.
After the launch of the system, the continuous monitoring of the performance, and fine-tunings are also important steps, they are not included in the mentioned time period, as this is a continuous task during the operation.

6. Risk analysis

The risk analysis lists all the possible negative issues that may affect the implementation of the proposed Regional Action Plan.

Generally speaking, these risks include both the risks directly affecting the Regional Action Plan implementation and the disruptive trends, such as new technologies that may change the perception or the way to manage the entire PT system at local and regional levels.

The following table summarizes the main risks that might arise in the Emilia Romagna Region case and the potential measures that could be adopted to solve or mitigate them.

Table 3: Risks of DRT establishment in the FUA of Budapest and the potential mitigation measures

RISK FACTOR	LOW / MEDIUM / HIGH	POTENTIAL SOLUTIONS
Lack of cooperation with regional, national bodies	Medium	Involve them to LMF and share the result with them regularly
Lack of internal support	Medium	Involve the management, show the evidences about the positive effect
Hight cost of IT development	Medium	Ask several bids, involve internal IT experts to the technical description preparation
Pandemic	High	Postpone activities, take into account the effect of the pandemic as well at the evaluation
Low penetration of the new system	Medium	Promote well the system, develop attractive UI
Ban of physical event organization	Medium	Strengthen the online communication, promotion
Decreasing number of PT users	Medium	Provide comfortable, competitive service, in-line with the sustainable goals of the city, the mode share of sustainable modes has to grow, the comfortable DRT is also a tool for it.

The strong cooperation is very important during the planning and the implementation with the internal and external stakeholders. Without it several barriers could appear, and it could take much more time and effort to overtake them.

7. Funding resources

DRT service is available in Budapest since 2006, and the number of DRT routes has been increased during the previous years. DRT service is a public service in Budapest, considered as part of the regular public transport network, the service is available with the normal fares, for regular users with monthly pass, for occasional users with single ticket. Similarly, to other public transport services, the ticket income does not cover the cost of the operation, in Budapest around 40% of the public transport operation cost is covered directly by the passengers, the rest is by the Municipality and the state. If DRT system is a part of the normal PT in the FUA of Budapest, that would also work with the normal tariffs, which is only partly covering the operational costs – as in most of the cases in public transportation.

The cost of the online service request development is depending on several factor. It the case of the Budapest pilot the fee of the IT developer, including one-year operation was around €70.000, and the personal cost of the in-house involved staff was an another €70.000. As the Budapest pilot provide best practices, experiences, the personal cost related to the development could be lower, but the IT development cost is not depending on it, neither the size of the network – the sum cost of an online service request system would be at least €100.000. It could be scientifically decreased for a dedicated area, if a common system would be developed for several areas in the FUA of Budapest.

The implementation of a new DRT system in the FUA of Budapest could be funded by the local Municipality, or the responsible ministry, and also from EU funds. For areas, where regular, timetable-based service is already available, but the demand is low, a demand responsive solution could provide a better, more flexible solution for the passengers, and also could be cheaper the operation, so in some cases no extra fund is required.

The implementation of an online service request system also could be funded from the above-mentioned sources, for new DRT services the parallel implementation is recommended.

8. Key action monitoring schemes

The key action monitoring scheme defines the Key Performance Indicators (KPIs) to be adopted in order to monitor the implementation of the Action Plan for establishing a DRT service in the rural and peripheral areas of the Emilia Romagna Region.

It is very important to identify the suitable KPIs as they can provide useful information for both the service fine-tuning and follow-up.

The following table provides a potential list of KPIs based on the experience of the Bologna pilot developed within the SMACKER project. This list could be modified on the basis of specific peculiarities of the DRT service.

It is noted that the KPIs should support also in consideration of the potential effects of the integration of a DRT service at a regional level, and the list can be enriched with this purpose.

Table 4: Key action monitoring approach suggested for a DRT in the FUA of Budapest

	KPI	INDICATOR [UNIT]	MONITORING METHOD
MUST-HAVE	Quality of public transport/ DRT (Basic version of KPI)	Average number of operating hours per day	Report from the IT platform
		Average number seat kilometres offered per day	Report from the IT platform
	Usage of supply in the course of the pilot action	DRT/ public transport users per day	Report from the IT platform and from the drivers or passenger counters.
NICE-TO-HAVE	Quality of public transport/DRT (Extended version of KPI)	Average load factor in peak time [pass./veh.]	Report from the IT platform and from the drivers or passenger counters.
		Number of available booking options for DRT [number + description]	-
	Visibility of public transport/ DRT	Number of distributed leaflets [number]	Report from the communication department.
	Complaint management	Number of complaints at services hotline of PT operator regarding DRT services [number/year]	Report from the operator.
	Online booking tool	DRT bookings via online booking tool [bookings/month]	Report from the online tool.

9. Key stakeholders' involvement strategies

General stakeholders and target groups were identified in this report under chapter 3 "Stakeholders to be involved". This chapter is dealing with the involvement strategy of them.

External and internal experts are mostly involved through the LMF meetings, before the first event the proper mapping of them is an important action point. Their involvement is important to learn about best practices, and use their knowledge to work out the details the technical description. To make sure, they are available on a selected date, before officially invite the participant, one-o-one discussion with some key stakeholder about him/her availability is useful.

The involvement of the users is also an important point, as the main service was already available in Budapest, the easiest way to implement it was to ask them on the vehicles in-person, to answer some questions, fill a quick questioner.

Finally, the in-house involvement is very important as well. A development and launch of a new DRT service request option is very complex, several transportation related units has to be involved, but also the operator, the IT, legal, communication departments has an important role. If some of them are not involved from the beginning, that could slow down or stop the internal processes. Their involvement can be implemented easily, but the proper mapping at the beginning is essential.

10. Conclusions

This Regional Action Plan is intended to ensure upscaling of the online service request tool pilot of Budapest in the FUA of Budapest. In Budapest the online service request tool is continuously operated after the end of the pilot, as it was successful.

To replicate the Budapest successful case, it is important to involve from the beginning the relevant stakeholders listed in chapter 3 to make sure that the implementation of the key actions identified in this Regional Action Plan can be a success.

The key actions for solving problems identified in this Regional Action Plan are reported in chapter 4.

In chapter 6 several possible risks have been collected, together with the possible solutions.

Chapter 7 is summarizing the required funding for launch an online service request system for already available DRT service.

Chapter 8 defines the KPIs to be monitored to assess the success of the identified key actions. These KPIs are identified according to a common approach of the SMACKER pilot project.

In chapter 9 it is possible to find the key stakeholders´ involvement strategy, as it is important to work with experts, users and the in-house stakeholders on the topic mobility on an ongoing basis and not just in context of a few specific pilot actions or project. Raising awareness of the issue and the need of sustainable mobility is a long-term process and needs to be implemented into the regional development strategy.

The main conclusions drawn based on this Regional Action Plan are passengers basically likes DRT services, but it has to be reliable and comfortable, including the service request method. For most of the passengers, the online service request method is the most convenient, but it is important to provide solution for the service request for people who is not familiar with the usage of internet. When developing an online service request system, the most important points are: to involve the internal and external stakeholders from the beginning, to continuously cooperate with the IT developer, and to communicate well the availability of the new solution.

In the FUA of Budapest there are no DRT services available, even if there are several low-density areas where this kind of service would be sufficient. Budapest is strongly supporting the development of public transport services in the surroundings of Budapest, including demand responsive ones, because where a comfortable public transport solution is not available for the first mile,the citizens more likely choose private transport mode for the whole trip, including the part of the trip within the city limits of Budapest. The online service request system could increase the attractivity, make easier the usage of a DRT service, and convince more passengers to choose public transport, so where DRT service will be implemented, the parallel implementation of the online service request system is strongly recommended.

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