



WP.T1 - D.T1.2.18

**Review for matching needs and services for
a comprehensive planning (Bologna, IT)**

**Final Version
04 2020**



Dissemination level	Public
Activity	<i>A.T1.2 - Understanding the users' need</i>
Deliverable	<i>D.T1.2.18 - Review for matching needs and services for a comprehensive planning (Bologna, IT)</i>
Coordinating partner	<i>ITL</i>
Contributors	<i>Denis Grasso, Irene Sabbadini, Giuseppe Luppino Chiara Lepori, Marco Amadori, Giuseppe Liguori</i>
Due date of deliverable	<i>30.04.2020</i>
Actual date of deliverable	<i>30.04.2020</i>
Status (F: final, D: draft)	<i>Final</i>
File name	<i>037_SMACKER_D-T-1-2-18_2020_04_30_Final</i>



TABLE OF CONTENTS

1. Introduction	4
2. Review of mobility needs in SMACKER pilot area	5
2.1. Basic information	5
2.2. Mobility needs	8
3. Assessment of coherence between mobility needs and SMACKER activities in pilot regions	9
3.1. SMACKER pilot action in relation to mobility needs	9
3.2. SMACKER nudging activities in relation to mobility needs	12
3.3. Matching mobility needs to SMACKER pilot action and nudging activities	14
4. Lessons learned and outlook for the future.....	15
5. References.....	17



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 deliverable deals with the review for matching needs and services for a comprehensive planning in Bologna metropolitan area (IT). The necessary matching between needs and possible offer is the key for a transport solution useful and sustainable. The report assesses the results of mobility needs and expectations reviews to deliver analysis useful for training and planning and is organized as follows.

Chapter 2 summarizes the mobility needs in the Bologna pilot area.

Chapter 3 assesses the coherence between mobility needs and the foreseen pilot activities, dedicating a particular attention to reviewing the nudging activities.

Finally, chapter 4 elaborates the lessons learned and defines the main outcomes of the deliverable in terms of both useful insights for the pilot planning (input to D.T2.2.3 “Pilot action planning (Bologna)”) and relevant outlook for the future that could be used for training activities and workshops too. As not all the user needs are addressed through the pilot action, activities emerging as necessary / useful in the lessons learned can be considered as a proposal for further future development.

In the specific Bologna case, LTG training (D.T1.3.3) has been postponed due to the COVID19 emergency, therefore the lessons learned could be also discussed during such LTG training.



2. Review of mobility needs in SMACKER pilot area

2.1. Basic information

The Bologna pilot will be implemented in a mountainous area of the Bolognese Apennine that includes twelve small municipalities.

This is a wide but scarcely populated area. These characteristics are the cause of the poor level of public transport services. Indeed, except for peak hours during which some specific bus lines serve students and commuters, the mobility requests usually remain uncovered, as traditional public transport services are not economically viable and effective. As a consequence, only private cars can satisfy such mobility demand, and cars are the most used vehicle by residents. Furthermore, this area has a specific touristic profile: thermal sources and health spa, ski areas and other touristic sites are affected by the scarce public transport offer and suffer of lower attractiveness because of their scarce accessibility.

The Bologna pilot designs and tests a transport service with the aim of complementing the existing transport services in the Bolognese Apennine and the Alto Reno Terme areas, thus paving the way towards a mixed transport system and targeting the future drafting of municipal regulations for an improved access and use of such services. The main objective is to encourage last mile mobility between scattered villages and municipalities, where train/bus stations are located, granting therefore accessibility to TEN-T corridors and vice-versa to major tourist attractions in the Bologna Apennines area.

The goal of the SMACKER Bologna pilot is to improve an existing DRT service by increasing the offer and its flexibility and by serving both the touristic and residential uses. This means a wider operating area, a bigger network of routes and stops, the possibility of booking the DRT service through an app and with shorter advance.

In the framework of the SMACKER project, the Bologna pilot identifies an updates the network to be served by the DRT service, which is different in summer and in winter in terms of frequency and served stops. Furthermore, the Bologna pilot endows the DRT service in the pilot area with an IT solution for a smoother and more flexible service exercise; the IT solution also makes available app for an easier booking of the service itself, while still ensuring the possibility of booking via the traditional call-center. Such measures are completed by the improved communication of the service to both the tourists and the residents, and by the implementation of nudging activities that are summarised in the next paragraph.

The map of the Bologna pilot presented below allows to have a comprehensive overview about the actual mobility needs in the Bologna pilot area.

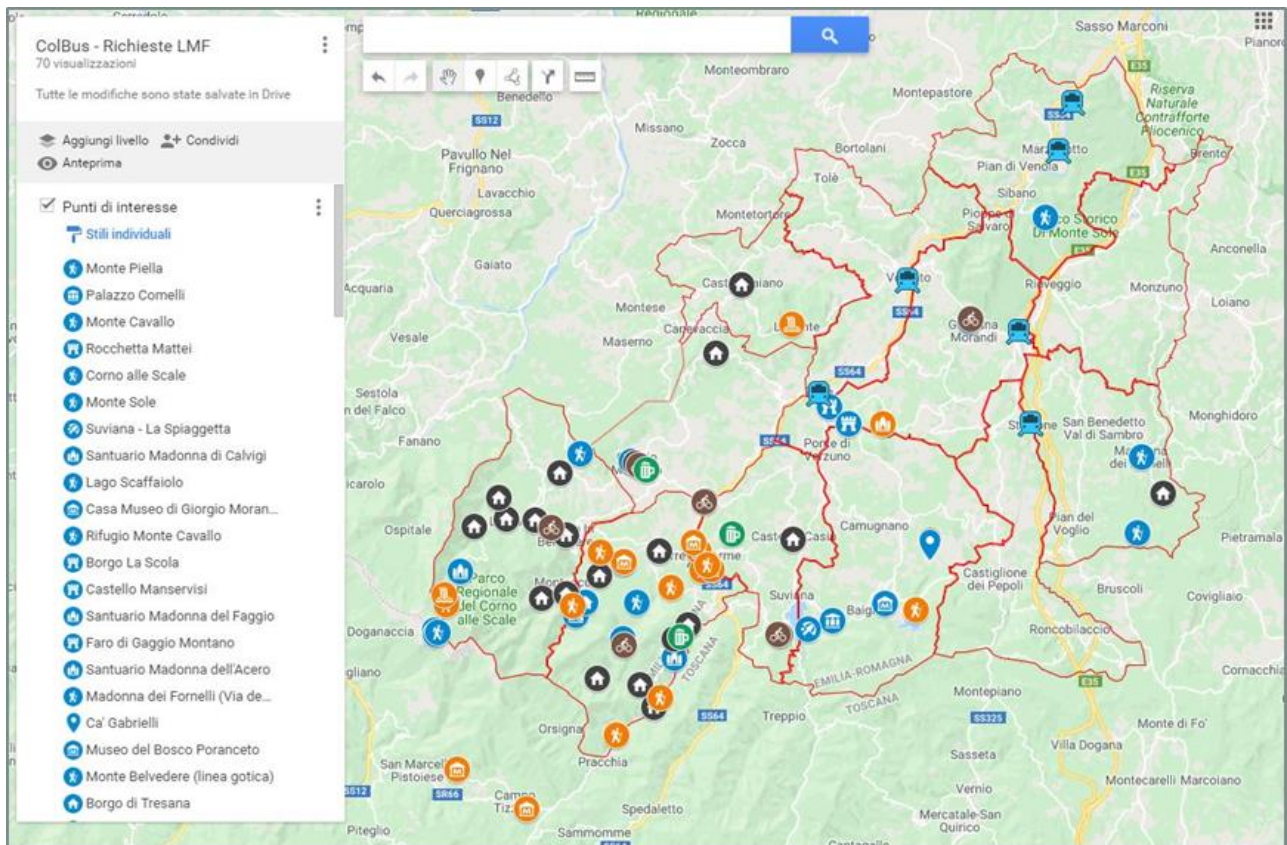


Figure 1: Geographical position of Bologna pilot area [Source: SMACKER D.T1.2.12]

Transport infrastructure lies at the core of mobility as stated in the 2011 Transport White Paper: “Infrastructure shapes mobility” thus a short overview of existing transport infrastructure and mobility services in the Bologna pilot area is presented in the table below. The table provides a simplified insight into transport infrastructure and mobility services that are important for understanding of specific conditions in which SMACKER pilot activities are to be implemented.



Table 1: Overview of existing Transport infrastructure and mobility services in Bologna pilot region

AVAILABILITY OF TRANSPORT INFRASTRUCTURE					
		Comprehensive	Appropriate	Incomplete/limited	Not applicable
Existing network (scope, coverage)	Roads	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Rail	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Light rail/tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cycling paths	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Pavements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
QUALITY OF TRANSPORT INFRASTRUCTURE ¹					
		Good	Adequate	Poor	Not applicable
Condition of infrastructure	Roads	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Rail	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Light rail/tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Cycling paths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Pavements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DENSITY OF PUBLIC TRANSPORT INFRASTRUCTURE					
		Good	Adequate	Poor	Not applicable
Density of transport stops / stations	Bus	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Rail	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Light rail/tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
AVAILABILITY OF MOBILITY SERVICES:					
		Available	Planned	Under consideration	Not applicable
Existing or planned mobility services	Bus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Rail	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Light rail/tram	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Car sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Bike sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Park and ride	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e-scooter sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The Bolognese Apennine and the Alto Reno Terme areas are well connected thanks to an adequate and modern road network connecting all towns and villages in the area. There are two railway lines serving the two main valleys: Porretta Terme, Riola and San Benedetto Val di Sambro train stations are the main train hubs in the pilot area. Park and ride areas are available next to these train stations. Sustainable transport infrastructures are developed but widening and improvement of such infrastructures are both required. Nowadays, no mobility sharing services are available in the project area.

¹ Legend: Good - infrastructure in optimal condition, no intervention needed; Adequate - infrastructure in average condition, interventions/maintenance needed; Poor - infrastructure in bad conditions, interventions needed.



2.2. Mobility needs

The **Mobility needs and issues of Bologna pilot area** were collected during two **Local Mobility Forum meetings** held in **October and November 2019**. They can be summarized as follows:

- a) The intermodality bus+train in the Bologna Apennine area must be improved, exploiting train services offered on the rail lines (TEN-T corridors) Bologna-Pistoia and Bologna-Firenze;
- b) The night public transport service should be improved, particularly in summertime;
- c) The DRT booking procedure should be facilitated, allowing to implement it both by an app and a call center;
- d) Accessibility to DRT services for elderly people (mainly in terms of improved accessibility to new technologies);
- e) Improvement of the DRT services communication to final users through tourist points and dedicated campaigns;
- f) Improve the accessibility by public transport to trekking, hiking and mountain biking pathways;
- g) DRT service should give the possibility of carrying bikes and mountain bikes on the bus;
- h) Improve the tourist accessibility of the pilot area relying on an improved DRT service.



3. Assessment of coherence between mobility needs and SMACKER activities in pilot regions

3.1. SMACKER pilot action in relation to mobility needs

Bologna pilot action in SMACKER has the following objectives and measures to achieve a better use of flexible mobility services by locals and tourists:

- Starting from the existing DRT service, widen the operating area, improve usability of the network of routes and stops, add the possibility of booking the DRT service through an app and with shorter advance;
- Encourage last mile mobility between scattered villages and municipalities;
- Grant accessibility to TEN-T corridors and vice-versa to major tourist attractions in the Bologna Apennines area.

In the past two years, a first DRT service was experimented in the Bologna Apennine area targeting mainly the tourist use. This service was running during weekends and its features changed from winter to summer to meet the different tourist needs (i.e. skiing vs. hiking). Service booking was possible only by contacting a call center by phone and at least one day in advance. The routes and the stops were mainly predefined: the flexibility of the service was related to the trip departure time and to some short-allowed deviations of the pre-established routes.

Table 2: Main DRT technical parameters of Bologna pilot action

Key parameters addressed	Set of parameters	BOLOGNA PILOT
How does the user book their journey?	<ul style="list-style-type: none"> - Telephone call - Internet (website/app) 	<ul style="list-style-type: none"> - Telephone call - Internet (website/app)
When is booking required?	<ul style="list-style-type: none"> - On the day/when required - In advance - Repeating booking 	<ul style="list-style-type: none"> - In advance
How frequently should the service run?	<ul style="list-style-type: none"> - Only when requested - Set number of journeys per day 	<ul style="list-style-type: none"> - Only when requested
How flexible is the route?	<ul style="list-style-type: none"> - Fully set, but only runs when there is demand - Deviations possible within a set corridor - Fully flexible 	<ul style="list-style-type: none"> - Deviations possible within a set corridor
Where are users picked-up or dropped-off?	<ul style="list-style-type: none"> - Many-to-many - One-to-many / many-to-one - One-to-one 	<ul style="list-style-type: none"> - May-to-many
What area is the service covering?	<ul style="list-style-type: none"> - Rural - Suburbs - Mixed 	<ul style="list-style-type: none"> - Rural
Who are the main users?	<ul style="list-style-type: none"> - All public - Disadvantaged groups - Private groups 	<ul style="list-style-type: none"> - All public
What size of vehicle should be used?	<ul style="list-style-type: none"> - Car 	<ul style="list-style-type: none"> - Minibus



Key parameters addressed	Set of parameters	BOLOGNA PILOT
What is the price for the user?	<ul style="list-style-type: none"> - Minibus - Bus 	- Bus
How is the DRT system financed?	<ul style="list-style-type: none"> - Free - Paid 	- Paid
What competition is there with other Transport solutions?	<ul style="list-style-type: none"> - Subsidised - Partly-subsidised - Commercial 	- Subsidised
	<ul style="list-style-type: none"> - High - Low 	- Low

Based on Enoch, M.P et al (2004), “INTERMODE: innovations in Demand Responsive Transport” [4], it is possible to identify four key technical areas related to the development and improvement of DRT services: changes in communication channels/tools, changes in type of service, changes in level of service and changes in fares level and structure. Even though the Bologna pilot action is not establishing and/or testing a demand responsive transport service, it is still applying a change in communication channels and/or tools as shown below.

Table 3: Bologna pilot interventions level of change

Categories	Changes in	Level achieved (yes / no)
Communication	Change in communication channels/tools	Yes
Type of service	Change in type of service - change in type/size of vehicles	No
	Change in type of service - degree of route flexibility	Yes
	Change in type of service - degree of timetable flexibility	No
	Change in type of service - changes in mode of booking	Yes
Level of service	Change in level of service - changes in frequency	Yes
	Change in level of service - in operating hours	Yes
Level of fares integration	Change in fares level and structure - fares integration	No
	Change in fares level and structure - MaaS Approach	No

The SMACKER Bologna pilot is characterized by a high level of maturity as it tackles all the most important dimensions related to the development and improvement of a DRT service in a rural area. Fares are already integrated in the existing transport service, as tickets for the SMACKER DRT pilot services in the Bologna Apennines are the same used for the regular Public Transport (PT) service. This theme is a key topic in the Emilia-Romagna Region sustainable mobility promotion strategy. One of the key action implemented in this direction by the Region is the App Roger (<https://rogerapp.it/>), an App that allows to buy public transport tickets valid in the whole Emilia-Romagna Region PT services (bus and trains).

The change in type/size of vehicles is not addressed as the available buses already provide an adequate public transport service in relation to the existing passenger demand.

In relation to level of services, in the SMACKER Bologna pilot the operating time windows will remain the same as they are in the current on-demand service. As regards the frequency, it does not make too much sense to refer to this parameter for the on-demand services; anyway, it can be said that the improvement



of potential frequency will be achieved thanks to an increased number of transport means available for running the DRT service and improvement of the usability of the network of routes and stops.

Table 4: Correlation between identified mobility needs and Bologna pilot action

Mobility needs (as identified in pilot region)	SMACKER pilot action's interventions in relation to specific mobility need.	Correlation of pilot with identified needs (low / medium / high)
a) Intermodality promotion	The pilot foreseen an integration of the DRT bus services with the trains serving the Bologna Apennines area (Grizzana, San Benedetto Val di Sambro, Riola, Marzabotto and Porretta Terme train stations).	High
b) Night DRT services	/	Low
c) Facilitation DRT booking services	The pilot foresees the launch of a dedicated app for the DRT service booking, a telephone booking service and the possibility to book bus trips with shorter advance.	High
d) Elderly accessibility	The telephone booking service via the traditional call-center foreseen in the pilot is thought for elderly people with low technological skills.	High
e) Communication improvements	The pilot foresees the launch of a dedicated app allowing a better communication of the existing DRT services both for residents and tourists.	High
f) DRT accessibility improvement	The pilot foresees an increase of the number of stops and of the road network covered by the improved DRT service. Moreover, the pilot foresees specific measures aimed to improve the quality of public transport service during off-peak hours.	High
g) Bikes carrying service in buses	Some of the transport means used in the SMACKER pilot allow the possibility of carrying bikes and mountain bikes in tow. The bike transport services should be booked via the call center.	Medium
h) Tourists accessibility	The pilot foresees specific measures aimed to better fit the needs of tourists considering both summer (hiking) and winter (skiing) specific needs.	High

All the mobility needs are adequately tackled by the SMACKER Bologna pilot. The night DRT service need is not addressed for two main reasons: it is not the specific target of the pilot and it requests a considerable amount of funds that is not available at the moment. Such a need can be considered for further future improvements of the DRT services activated in the SMACKER Bologna pilot area.



3.2. SMACKER nudging activities in relation to mobility needs

Main target groups for the nudging activities in Bologna pilot area are:

- Tourists, both winter tourists related to skiing and summer tourists more related to hiking and visiting tourist attractions (museums, castles, etc.);
- Residents.

Following the list presented in D.T1.1.4, SRM as Bologna pilot coordinator identified a number of nudging initiatives that could be reasonably feasible and useful in the specific context; this was done in collaboration with the Bologna Permanent LMF. The identified initiatives are:

- (5.1) Mobility stand on local and regional event
- (5.3) Presentations at periodic local meetings, establishment of a local mobility forum
- (5.7) Personal Mobility assistants for elderly people at major transport interchanges
- (5.12) Bonus mile programme for (flexible) PT
- (5.14) Use of social media to make (flexible) public transport visible
- (5.21) Salient implementation of PT information on webpages
- (5.23) Time table and other information as APP for mobile devices
- (5.24) Making public transport visible on public places and places where people meet and likely need mobility supply
- (5.27) Mobility packages for tourists at origin
- (5.28) Mobility packages for tourists at destination

In relation to activities (5.1), (5.7), (5.12) and (5.24), SRM published a public tender for getting external support in their implementation: the tender gave the competitors the possibility of proposing the type of nudging initiatives to be implemented selecting at least 3 different types among these four. Following the granting of the tender, activity (5.12) will not be implemented.

The correlation between identified needs and nudging activities that will be implemented is depicted in table below.

Table 5: Correlation between identified mobility needs and nudging activities planned in Bologna pilot area

Mobility needs	SMACKER nudging activities in relation to users' needs	Correlation of nudging activities with identified needs (low / medium / high)
a) Intermodality promotion	<ul style="list-style-type: none"> - (5.23) Time table and other information as APP for mobile devices - (5.27) Mobility packages for tourists at origin - (5.28) Mobility packages for tourists at destination 	High
b) Night DRT services	Nihil	Low
c) Facilitation DRT booking services	<ul style="list-style-type: none"> - (5.7) Personal Mobility assistants for elderly people at major transport interchanges - (5.23) Time table and other information as APP for mobile devices 	High
d) Elderly accessibility	<ul style="list-style-type: none"> - (5.1) Mobility stand on local and regional event 	High



	<ul style="list-style-type: none"> - (5.7) Personal Mobility assistants for elderly people at major transport interchanges - (5.24) Making public transport visible on public places and places where people meet and likely need mobility supply 	
e) Communication improvements	<ul style="list-style-type: none"> - (5.1) Mobility stand on local and regional event - (5.3) Presentations at periodic local meetings, establishment of a local mobility forum - (5.14) Use of social media to make (flexible) public transport visible - (5.21) Salient implementation of PT information on webpages - (5.27) Mobility packages for tourists at origin - (5.28) Mobility packages for tourists at destination 	High
f) DRT accessibility improvement	<ul style="list-style-type: none"> - (5.3) Presentations at periodic local meetings, establishment of a local mobility forum - (5.24) Making public transport visible on public places and places where people meet and likely need mobility supply 	High
g) Bikes carrying service in buses	<ul style="list-style-type: none"> - (5.14) Use of social media to make (flexible) public transport visible - (5.21) Salient implementation of PT information on webpages - (5.24) Making public transport visible on public places and places where people meet and likely need mobility supply - (5.27) Mobility packages for tourists at origin - (5.28) Mobility packages for tourists at destination 	High
h) Tourists accessibility	<ul style="list-style-type: none"> - (5.1) Mobility stand on local and regional event - (5.14) Use of social media to make (flexible) public transport visible - (5.21) Salient implementation of PT information on webpages - (5.24) Making public transport visible on public places and places where people meet and likely need mobility supply - (5.27) Mobility packages for tourists at origin - (5.28) Mobility packages for tourists at destination 	High

The SMACKER nudging activities foreseen for the SMACKER Bologna pilot tackle adequately all the main users' needs. As already highlighted, the need related to night DRT services is not tackled as it is not the focus of the pilot and basically request a large amount of funds.

In details, the preparation of the mobility packages for tourists (5.27 and 5.28) includes the realization of a dedicated logo and a coordinated identity of the DRT pilot service. This logo and the coordinated identity will be used also in social media (5.14) and in PT information on webpages (5.21). The DRT service timetable and other information are available only in the IT solution with APP for mobile devices (5.23) that will support the exercise and the booking of the DRT service. Moreover, SRM is working on the development of synergies to implement the SMACKER nudging activities with local operators acting in the whole Apennine area.



3.3. Matching mobility needs to SMACKER pilot action and nudging activities

Table 6 provides an overview of identified and addressed issues within Bologna pilot action and nudging activities.

Table 6: Overview of identified mobility needs in relation to pilot action and nudging activities

MOBILITY NEEDS MATCHING WITH PILOT ACTION AND NUDGING ACTIVITIES					
		Issue/need recognized	Issue/need addressed by the pilot	Issue/need addressed by nudging activity	n. a.
Geographical scope	Inter-urban	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Urban-rural	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Rural	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Intra-regional	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Inter-regional	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	First/last mile	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
User groups	Residents	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Commuters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Tourists	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Elderly	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Vulnerable groups (mobility impaired)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Time related availability of PT	Availability on weekdays - daytime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Availability on weekdays - evening/night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Availability on weekends - daytime	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Availability during weekends - evening/night	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flexibility of public transport	Fixed itineraries and flexible time tables	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Fixed itineraries with deviation on demand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Flexible itineraries with predefined bus stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Flexible itineraries and flexible stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Access to information on mobility options	Residents	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Commuters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Tourists	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Elderly	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Vulnerable groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

As shown above, the foreseen pilot action and nudging activities are well aligned with identified mobility needs.



4. Lessons learned and outlook for the future

The analysis conducted in this report shows as the Bolognese Apennine and the Alto Reno Terme areas are well connected thanks to an adequate and modern road and rail networks connecting all towns and villages in the area. Sharing services are not present but this is related to the low population density in the area.

Basically, all the mobility needs are adequately tackled by the SMACKER Bologna pilot. The night DRT service need is not addressed but there are two main reasons: it is not the specific target of the pilot and it requests a considerable amount of funds that is not available at the moment.

In relation to the SMACKER nudging activities foreseen in the Bologna pilot, all the main users' needs are adequately tackled with the exclusion of the night DRT for the same reason evidenced above.

Nevertheless, there are some suggestions that can be drafted and could be beneficial for the pilot planning activities (D.T2.2.3) and for the SMACKER Local to Global training (D.T1.3.3) that will be hold in the pilot region². Also, some recommendations for potential future developments beyond SMACKER can be elaborated, as follows.

SMACKER pilot planning recommendations:

- Consider how to further develop the app into/towards a mobility as a service tool where more modes are included (e.g. trains, taxi, etc.). In order to reach this objective, consider if further integrations with the regional Roger app are possible, in particular in relation to direct DRT booking service.
- For such a pilot, based on the improvement of an existing service, the communication activities are fundamental in order to attract people today not using the existing public transport services. It is recommended to continue in working on communicating how the existing services are improved and which are the key benefits of these improvements.
- As this area is characterized by relevant touristic flows, it is important to further develop strong synergies with the local touristic and commercial operators in the Apennine area, to boost communication activities and give the highest visibility to the SMACKER pilot.
- Offer further information and support at a mobility information point of the transport operators, where (also elderly) people can go with their smartphone and get installed the app and a booking will be demonstrated. In particular it is important to provide these services in the two main interchange points in the train stations.
- Consider, if the drivers could be trained to support (and advertise) the usage of the app as well. They should be able to answer the frequent questions of the potential users in the bus (as usually they are the only direct contact for the people with the transport operator). Instructions should be provided for the drivers.
- An open and regular communication with users (both residents and tourists) is fundamental. It is recommended to collecting feedbacks and make them part of the process during the pilot implementation.

Suggestions for SMACKER Local to Global training activities:

- Encourage participants to share their personal travel experiences, starting with the speaker's own example. If possible, do a field exercise and measure travel times by different modes of transport

² Bologna LTG training was planned to be hold in March 2020 but had to be postponed due to the COVID19 emergency and the National lockdown.



showing the reliability of the DRT service developed. Present the findings at the training session and use them for nudging activities.

- Discuss with all the local relevant stakeholders on how all the training and promotional initiatives can survive the SMACKER project.
- Discuss with the local touristic operators the possibility to provide discounts for people using the DRT services (for example discount in bike rental services, hotels, etc.).
- Nudging activities. Discuss where and how to best forward the information to the residents and where and how forward them to tourists.
- As already done with the first SMACKER Extended LMF, develop also the next SMACKER training activities in synergies with local operators in the Apennine area.
- Discuss, how to further develop the app into/ towards a mobility as a service tool where more modes are included (e.g. trains, taxi, etc.).

Suggestions for activities beyond SMACKER:

- Consider the possibility to activate a night DRT services using others EU and/or national projects.
- Address the “mobility as a service” idea in the pilot area and at regional level, continue improving the public transport supply with sustainable transport modes by expanding the offers.
- Think of other possible sustainable transport means and infrastructures to implement in the district (e.g. further bicycle paths, bike sharing hubs, car sharing solutions, carpooling initiatives in both the public and the private sector).



5. References

Enoch, M.P. et al (2004), INTERMODE: innovations in Demand Responsive Transport. [Report for] Department for Transport and Greater Manchester Passenger Transport Executive. Final report. London: Department for Transport.

European Commission, 2011: Transport White Paper Road Map to a Single European Transport Area - Towards a Competitive and Resource Efficient Transport System, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52011DC0144>

Interreg Europe (2018), A Policy Brief from the Policy Learning Platform on Low-carbon economy

SMACKER Application Form, Version 27 February 2019

SMACKER “D.M.2.1 Internal Quality Handbook”, September 2019

SMACKER “D.T1.1.1 Review of service level and technical level for rural and peripheral areas”, November 2019

SMACKER “D.T1.1.4 Review of behaviour change and nudging initiatives”, July 2019

SMACKER “D.T1.2.12 Data collection on users mobility needs and expectations (Bologna, IT)”, February 2020

SMACKER “D.T1.3.1 Planning and reasons for training”, January 2020