



WP.T2 - D.T2.3.6

Pilot action implementation -
Budapest (HU) - App All-in-One for flexible
transport

Final Version
06 2022



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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 deliverable provides the report on the implementation of the Budapest pilot activities.

Chapter 2 contextualizes the pilot implementation, making explicit the impact of the COVID-19 pandemic on the rolling out of the activities foreseen in the pilot plan and reporting the role of the LMF in the pilot phases.

Chapter 3 reports on the pilot action implementation. It also describes the pilot framework, clarifying the actors involved and presenting the information useful to understand the pilot implementation timetable that is presented in a tabular form. Furthermore, it reports on the implementation of the pilot communication and nudging activities.

Annexes detail the pilot activities implemented in collaboration with the LMF through providing the meeting minutes (Annex 1) of the LMF meetings that took place between June 2021 and November 2021, and report the communication and nudging material developed and used for the pilot action (Annex 2).



2. References for the pilot implementation

The Budapest pilot plan is presented in D.T2.2.7, which was built taking into account specificities of the pilot site, the existing mobility plans, the results from the collaboration with the local LMF (D.T1.2.9, D.T1.2.16), and the local strategies elaborated with the SMACKER scientific partners (D.T1.2.22, chapter 4).

Policy makers, transport operators and stakeholders are involved in pilot activities through the LMF (D.T2.2.2).

2.1. Impact of COVID-19 pandemic on the pilot action

The COVID-19 pandemic was officially declared by the World Health Organization (WHO) on 11 March 2020¹.

It impacted first the drafting of the pilot plan, as the original timeline outlined in the SMACKER AF has been reorganized following the pandemic contingency since the planning phase. This is clearly explained in D.T2.2.7 chapter 4.1.1 “Modifications of pilot action vs AF and impact of COVID-19”, which content is reported here below for the sake of the reader.

In the specific Budapest case, it is noted that the COVID-19 emergency and the consequent lockdown of activities in Hungary lasting from mid-March to May caused a slight delay in the SMACKER pilot activities. The main issue is that the procurement of the DRT IT development took longer time than expected, because of the COVID-19 lockdown caused home office and uncertainty. The original pilot launch date was May 2020, while the postponed was autumn 2020, so the delay is some months, but as the usage of the DRT system in Budapest is no seasonal, and the planned length of the pilot is one year, this delay can be handled easily, it does not lead to any mayor issue.

Now (June 2022) the COVID-19 situation has eased a lot, but at the start of the pilot there were some delays, for example in signing contracts and holding in-person LMFs. It has also affected the implementation of the pilot plan presented in chapters 4.3 and 4.4 of D.T2.2.7. This is clarified in the following chapter that reports on the pilot implementation by adding a column to the pilot plan table.

The results of the pilot KPI monitoring plan presented in chapter 4.5 of D.T2.2.7 are included in D.T2.4.5, chapter 4.3.

2.2. LMF activity report

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 Budapest LMF role in the various pilot phases can be appreciated in the table below, which was presented first in the SMACKER deliverable D.T2.2.2 “Stakeholders an users group involvement” and recalled in D.T2.2.7, chapter 2.2.

¹ <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>



Table 1: Budapest LMF role per pilot phase [Source: SMACKER D.T2.2.2]

<i>Pilot action</i>	<i>LMF role</i>	<i>LMF planned meetings</i>	<i>Involved stakeholders</i>	<i>Result</i>
<i>Planning</i>	<i>Provide information about DRT and feedback about the planned pilot action, including the IT development.</i>	<i>First LMF meeting, 29.10.2019 Second LMF meeting, 13.02.2020</i>	<i>Local authorities, Higher education and research, Infrastructure and (public) service providers, SMEs and/or Large enterprises, Interest groups including NGOs</i>	<i>D.T2.2.7</i>
<i>Implementation and monitoring</i>	<i>Provide feedback on pilot implementation from both from the users and the experts. Start considering the potential extension of DRT service to further areas and provide suggestions and feedback.</i>	<i>Third, Fourth and Fifth LMF meetings, July 2020, October 2020, February 2021 (indicative dates)</i>	<i>Local authorities including the ones from areas already covered and planned to be covered by DRT, Higher education and research, Infrastructure and (public) service providers, SMEs and/or Large enterprises, Interest groups including NGOs</i>	<i>D.T2.3.6 D.T2.4.5</i>
<i>Evaluation</i>	<i>Evaluate the pilot action, provide feedback on pilot implementation, discuss the next steps (“after SMACKER project”) based on them, also considering the enlargement of the area covered by DRT service.</i>	<i>Sixth LMF meeting, September 2021 (indicative)</i>	<i>Local authorities including the ones from areas already covered and planned to be covered by DRT, Higher education and research, Infrastructure and (public) service providers, SMEs and/or Large enterprises, Interest groups including NGOs</i>	<i>D.T2.4.11</i>

The involvement of the Budapest LMF in the pilot planning phase is reported in D.T2.2.7, chapter 2.2.1, Table 2. For the sake of the document, such a table is reported below.



Table 2: Budapest LMF meetings held by 30 June 2020 in the pilot planning phase [Source: SMACKER D.T2.2.7]

LMF meetings	Date	Scope (ref. also D.T1.2.9)	Minutes
First LMF meeting	29 October 2019	Receive information about DRT from experts, inform them about the project and the planned pilot action, receive their feedback.	D.T1.2.9, chapter 7.1
Joint SMACKER LMF & SMACKER LTG training	20 February 2020 <i>(originally foreseen on 13 February 2020, but based on stakeholders availability it was postponed)</i>	Inform the political and user levels around existing DRT lines about the planned IT development regarding the DRT service, receive their feedback, discuss that together with the experts.	D.T1.3.7, chapter 5

The involvement of the Budapest LMF in the pilot implementation, monitoring & evaluation activities is reported in the following table.

Table 3: Budapest LMF meetings held during the pilot implementation, monitoring & evaluation phase

LMF meetings	Date	Scope (ref. also D.T1.2.9)	Minutes
Third LMF meeting	03 June 2021	Receive the first feedback after the pilot launch both from the users and the experts.	D.T2.3.6, chapter 5.1.1
Fourth LMF meeting	16 November 2021	Evaluate the pilot action, receive feedbacks, discuss the next steps (“after SMACKER project”) based on them.	D.T2.3.6, chapter 5.1.2

Unlike what is foreseen in the pilot plan (Table 1 above), BKK organized the third LMF meeting on 3 June 2021: the theme was the pilot implementation and monitoring. The last, fourth LMF meeting was held on 16 November 2021: the theme of the meeting was the pilot evaluation. BKK received sufficient input from stakeholders during the LMFs, so it was considered sufficient to hold 4 LMFs instead of the 6 originally planned.



3. Budapest pilot implementation report

Chapter 4 of D.T2.2.7 reports the pilot plan as designed in September 2020, including the planned interactions with stakeholders and the KPI monitoring plan. The pilot plan includes also nudging and communication activities.

In the following, the status of pilot activity implementation is reported referring to such a plan, adding a column to the pilot plan timetable to clarify the impact of the COVID-19 pandemic on the pilot implementation.

3.1. Framework of the pilot action implementation

The Budapest pilot implementation was coordinated by BKK involving various actors:

- The Budapest pilot Local Mobility Forums (LMFs);
- BKK staff from several directorates, IT developer, transport operator
- One company contracted through public procurement procedures to support BKK for develop the online request system: CELL-LINE IT SECURITY LTD

- **Framing of the pilot in the region - from D.T1.2.9, chapter 2**

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 the majority of which is working or learning in this area. Budapest is one of the most important industrial cities, the economic and cultural centre of the country and the Carpathian Basin. The capital is popular among the tourists worldwide owing to the famous buildings, the geographic situation on the two riversides of the Danube with the Buda Hills and the well-known spas and baths from the middle ages.

The areas interested by the Budapest pilot are located in Budapest's peripheral districts that are low-density built and have recently got a new DRT bus line to have connection to the nearest suburban railway line or that are provided by a fixed bus line of low utilization. These areas are located in the north-western and north-eastern part of the city.

Budapest was enlarged in 1950 when suburban areas, such as smaller cities and villages were incorporated into Budapest. In the 60's and 70's public transport network reached these areas on the main streets and new parts of the districts were developed later.

Some of these areas were integrated into the public transport network during the 2010's when the DRT system was already available in Budapest. There are also locations where this system could be extended. Meanwhile Budapest has some peripheral bus lines the passenger flow of which is low so that DRT system is to be implemented during possibly developing the service by increasing the frequency of the vehicles in off-peak hours, on weekends or public holidays.

On the affected areas due to the large extension of the territory and the low population density, traditional public transport services are not economically viable and effective. In particular, the mobility requests usually remain uncovered, except for study or work-related needs (commuting mobility).

Services at these peripheral areas of the city 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 city 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.



- Description of planned pilot action - from D.T1.2.16, chapter 2.2

In Budapest, the aim of the pilot was to develop, test and implement a new web based online application, where passengers have direct access in order to book a ride and can follow whether the bus goes on the demanded route. They can also have the possibility to cancel or rebook their requests if they cannot ride the pre-booked service. This (web based) application can also be available on smart phones in order to allow for a better access and give bigger flexibility to the users. The (web)application has a backend for the dispatcher, who can follow the bookings and the cancellations. The aim of the application is to automatically advise the respective drivers on their to do list satisfying the trip requests, without direct involvement of the dispatchers.

BKK implemented the online service request system for the local DRT lines. In Budapest there are 7 DRT lines (Figure 2), the first DRT line was built in 2005 with the 937 night busline. In 2013 the Telebusz system was extended to include daytime operation with the 219 line, this line is served by a minibus, which can easily turn around in narrow streets. Some of them operate fixed route with flexible transport for part of the operating time (269, 297, 298), fixed route with demand responsive section (65, 157, 937) and fully demand responsive route (219). The last DRT line was built in 2019 (line 269). During the SMACKER pilot implementation (December 2020 - October 2021), the system was very popular among the users, 527 passengers registered to the system, 60% of them travel regularly with the DRT and frequently used the new request system. As both the users and the transport operator were satisfied with the new system, BKK decided to continue the operation after the pilot end, so the online request system is available for at least one further year.

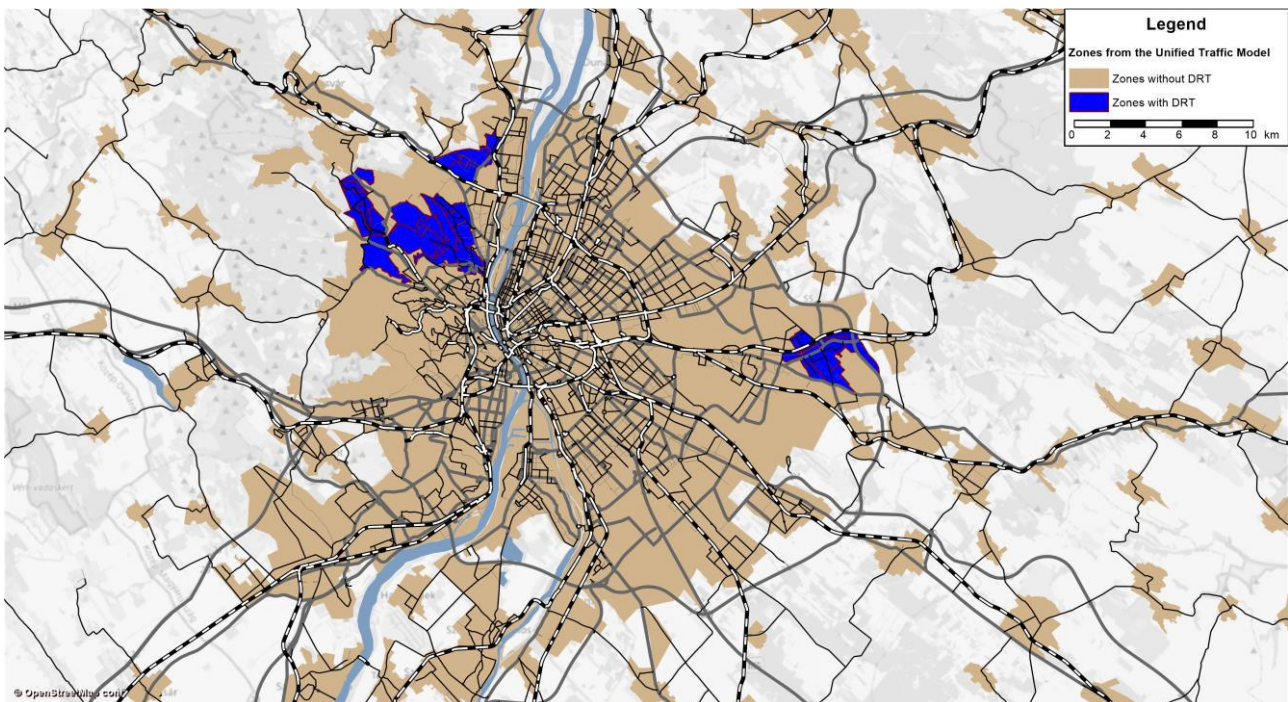


Figure 1: Budapest pilot area (with blue)

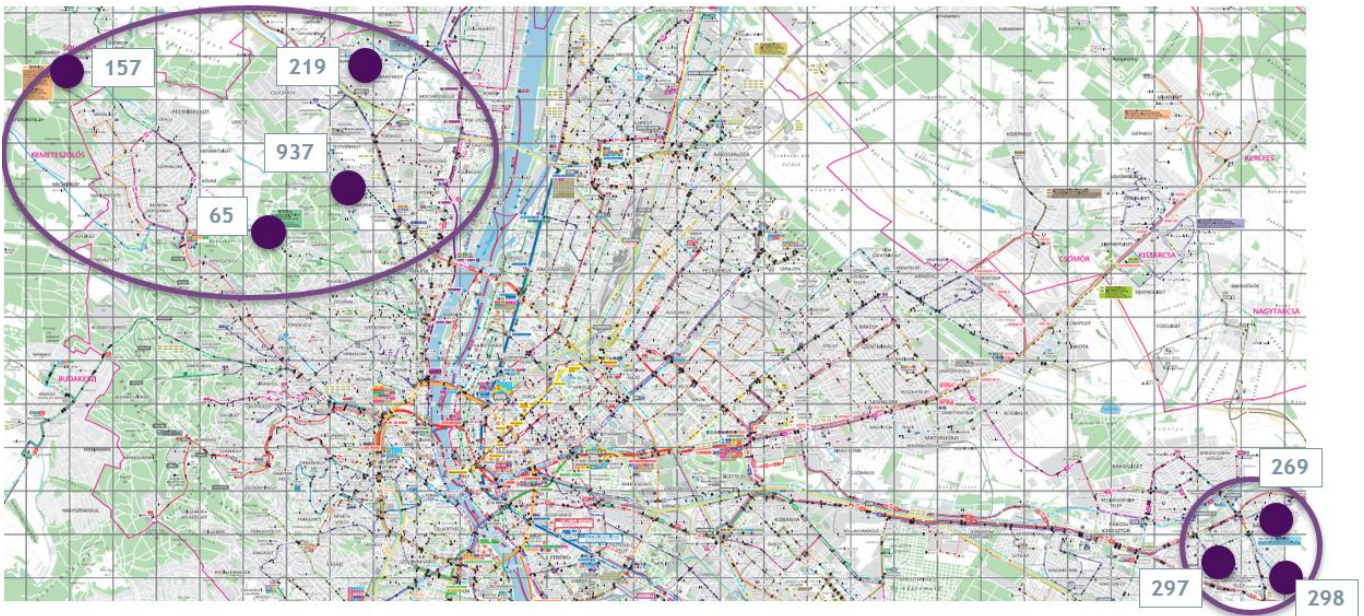


Figure 2: DRT lines in Budapest

The communication and nudging materials elaborated and used within the pilot action are reported in Annex 2. These materials were posters and flyers in the customer centres, busstops and buses which were printed by an external and covered by an existing contract between the external and BKK, so were not charged to the project.

3.2. Pilot implementation timetable

The pilot action implementation report is presented below in a tabular form. It includes the time plan related to the development of the IT solution and the related app for booking DRT services ([blue ink](#)). The report on the implementation of the pilot nudging activities is presented in a separate table in chapter 3.3.

Table 4: Budapest pilot action implementation report, including [IT platform / app](#)

ID	When	Actual implementation on date	What	Involved stakeholders	Details	Achievement / scope (milestone)	Impact of COVID-19 pandemic
IT1	July 2020	August 2020	Contract the DRT IT developer	Selected IT developer	Sign the contract for the DRT IT development with the IT developer	IT platform procurement process started	Delayed consultations with key stakeholders
	August 2020	August 2020	Support the IT development	BKK staff from several directorates, IT developer, transport operator	Regular meetings with the IT developer		



ID	When	Actual implementation date	What	Involved stakeholders	Details	Achievement / scope (milestone)	Impact of COVID-19 pandemic
IT2	September 2020	October 2020	Internal test the DRT online platform	BKK staff from several directorates, IT developer, transport operator	In the first period the DRT online service request system functions (frontend, backend and complex) were tested by the employees of BKK and the IT developer. Security test will be conducted also, as the service is running on the servers of BKK, and personal data is stored of the registered users	IT platform for service request tested and ready to go live	Signing the contract with the IT developer delayed
IT2	October 2020	December 2020	Launch the pilot for the public (online service request is available for public)	Transport operator, IT operator	Make the online service request system available for the public	IT platform for service request final version is used by passengers	Signing the contract with the IT developer delayed and the testing of the system, fixing bugs needed more time.
IT3	November 2020	December 2020	Pilot running	Transport operator, IT operator			Delay because of the above



ID	When	Actual implementation date	What	Involved stakeholders	Details	Achievement / scope (milestone)	Impact of COVID-19 pandemic reasons (delay of signing contract and testing the system)
			Apply the new driver notification system	Transport operator, IT developer	Install the developed application for the smart devices of the bus drivers on DRT routes	Driver notification system final version ready for use	
			Fine tuning the DRT IT system based on feedbacks on LMF	IT developer		IT platform fine tuned	
	December 2020	December 2020	Pilot running	Transport operator, IT operator			
	January 2021	January 2021	Pilot running	Transport operator, IT operator			
	February 2021	February 2021	Pilot running	Transport operator, IT operator			
			Fine tuning the DRT IT system based on feedbacks on LMF	IT developer		IT platform fine tuned	
	March 2021	March 2021	Pilot running	Transport operator, IT operator			
	April 2021	April 2021	Pilot running	Transport operator, IT operator			
	May 2021	May 2021	Pilot running	Transport operator, IT operator			
	June 2021	June 2021	Pilot running	Transport operator, IT operator			



ID	When	Actual implementation on date	What	Involved stakeholders	Details	Achievement / scope (milestone)	Impact of COVID-19 pandemic
			Fine tuning the DRT IT system, also based on feedbacks on LMF	IT developer		IT platform fine tuned	
	July 2021	July 2021	Pilot running	Transport operator, IT operator			
	August 2021	August 2021	Pilot running	Transport operator, IT operator			
			Organisation of pilot monitoring data	Transport operator, IT operator			
IT4	September 2021	October 2021	End pilot service	Transport operator, IT operator		Pilot finished	
			Decision about continuous operation of the service	Decision makers in BKK/Municipality of Budapest		The final version of the online service request system ready, owned by BKK	
	October 2021	June 2022	Organize pilot evaluation involving LMF	LMF, BKK staff from several directorates, Transport operator		Release of D.T2.3.6 "Pilot implementation - Budapest, HU" Release of D.T2.4.5 "Pilot action monitoring -	Postponement due to delays in collecting pilot data and reporting them



ID	When	Actual implementation date	What	Involved stakeholders	Details	Achievement / scope (milestone)	Impact of COVID-19 pandemic
						Budapest HU”	
	November 2021	November 2021					BKK has decided to continue the operation of the online request system for one further year
	December 2021	May 2022	Evaluation of pilot results			Release of D.T2.4.11 “Pilot action evaluation - Budapest, HU”	Due to postponement of several pilot and nudging activities evaluation is delayed
	January 2022	January 2022					
	February 2022	February 2022					
	March 2022	June 2022	End of SMACKER				Project extended by 3 months



3.3. Nudging and communication activity implementation

Budapest pilot selected nudging and communication activities are presented in D.T2.2.7, chapter 2.1. Activities are named and numbered following SMACKER deliverable D.T1.1.4, and the activities performed until 30 June 2020 are reported in deliverable D.T1.2.16.

The following table summarizes what was done to implement the foreseen nudging and communication activities. It is noted that the plan of these activities originally presented in D.T2.2.7 has been reorganized following the real pilot implementation timing as well as the impact of the COVID-19 pandemic on the specific communication and nudging activities, among others the impossibility of running public events as a consequence of the COVID-19 pandemic.

It is noted that the communication and nudging activities have been evaluated and the results of such evaluation are reported in D.T2.4.11.

Table 5: Budapest pilot nudging and communication activity implementation report

ID	When	Actual implementation date	Nudging / communication activity (ref. D.T1.1.4 coding)	Details	Impact of COVID-19 pandemic
	October 2019 - March 2022	October 2019 - June 2022	(5.1) <i>Mobility stand on local and regional event</i> (5.3) <i>Presentations at periodic local meetings, establishment of a local mobility forum</i> (5.8) <i>“Car-free day”</i>	Budapest has organized several events during the European Mobility Week (that takes place in September every year) for a long time (5.1, 5.3, 5.8): BKK always has a tent, and provides information about ongoing R&D projects, and the public transport services	“Car-free day” was cancelled in 2020 and 2021, so action 5.1 and 5.8 have not been implemented. Action 5.3, even if partly (2 out of 4 LMF meeting held online), has been implemented
	May 2020 - September 2021	May 2020 - October 2021	(5.14) <i>Use of social media to make (flexible) transportation visible</i>	The social media is one of the most important communication channels between the Public Transport Authority and the passengers, so news about services and developments are published on the official Facebook page of BKK, which has more than 175.000 followers. About SMACKER project, some news items have been published since the project start, while news about pilot launch has been published on BKK Facebook page,	-



ID	When	Actual implementation date	Nudging / communication activity (ref. D.T1.1.4 coding)	Details	Impact of COVID-19 pandemic
				what has been shared by the Municipality of Budapest as well(5.14).	
	September 2020 - September 2021	December 2020 - October 2021	<p>(5.17) Customized PT information packages on paper about selected topics</p> <p>(5.23) Time table and other information as APP for mobile devices</p> <p>(5.24) Making public transport visible on public places where people meet and likely need mobility supply</p>	Social media might be the most important communication channel for potential users, while for existing users BKK provided information through posters on DRT bus stops and vehicles, 500 leaflets were available on the related vehicles and in BKK customer centres, and information about the new service request possibility was provided on the timetable page of the related lines (5.17, 5.23, 5.24).	-
	October 2021	November 2021 - May 2022	Organisation of pilot implementation information including nudging and communication activities	Release of D.T2.3.6 “Pilot action implementation - Budapest (HU)”	Delays in collecting pilot data and reporting them led to the postponement

It is noted that online communication skills have been strengthened thanks to the impact of COVID-19 pandemic.



4. References

1. SMACKER Application Form, Version 27 February 2019
2. SMACKER “D.M.2.1 Internal Quality Handbook”, September 2019
3. SMACKER “D.T1.1.4 Review of behaviour change and nudging initiatives”, September 2019
4. SMACKER “D.T1.2.9 Creating Communities (Budapest, HU)”, January 2020
5. SMACKER “D.T1.2.16 Data collection on users mobility needs and expectations (Budapest, HU)”, February 2020
6. SMACKER “D.T1.2.22 Review for matching needs and services for a comprehensive planning (Budapest, HU)”, April 2020
7. SMACKER “D.T2.2.2 Stakeholders and users group involvement”, February 2020
8. SMACKER “D.T2.2.7 Pilot action planning (Budapest, HU)” September 2020
9. SMACKER “Pilot Monitoring and Evaluation Plan” (internal document), draft version June 2020



5. Annexes

Annexes report on the pilot activities implemented in collaboration with the LMF (Annex 1) and on the communication and nudging material developed and used for the pilot action (Annex 2).

5.1. Annex 1: LMF meetings during the implementation, evaluation & monitoring phases

5.1.1. Third Budapest LMF meeting, 3 June 2021



1. Participant / Distribution list

Company	Name of participant
Municipality of Budapest	Éva Anka
ATÜI Kelenföldi Divízió Forgalmi Szolgálat	János Bajczár
BKV	Pál Bakó
BKV	Zsolt Bekker
BKV	Béla Beszterczey
BME	Dr. János Tóth
BKK	Andrea Elek
BKV	Mária Elekes
BKK	Balázs Fejes
Fleischer Kutatási Periféria Ltd.	Tamás Fleischer
BKK	László Gelencsér
BKK	Tamás Halmos
Széchenyi István University	Balázs Horváth
BKV	Sándor Kalmár
BKK	Anita Kántor
BME	Dr. András Lakatos
Municipality of Budapest	Melinda Madarász
BKK	Martin Márku
BKK	Júlia Miczki
BKK	Vivien Nagy
KTI	Vilmos Oszter
BKK	Máté Török
Municipality of Budapest	Ákos Ulmer
BKK	András Vágány
Municipality of Pest County	Péter Wolf



2. Agenda

16:30-16:35	Greetings	Vivien Nagy (BKK)
16:35-16:50	General description of the SMACKER project	Vivien Nagy (BKK)
16:50-17:10	SMACKER pilot, Telebus application experience description	Pál Bakó (BKK), Kántor Anita (BKK)
17:10-17:30	Casual conversation, sharing experiences, opinions	All (Moderated by Tamás Halmos)
17:30	Closing the meeting	Vivien Nagy (BKK)



3. Summary of discussion

1. Welcome

2. Description of the SMACKER project - Vivien Nagy, BKK

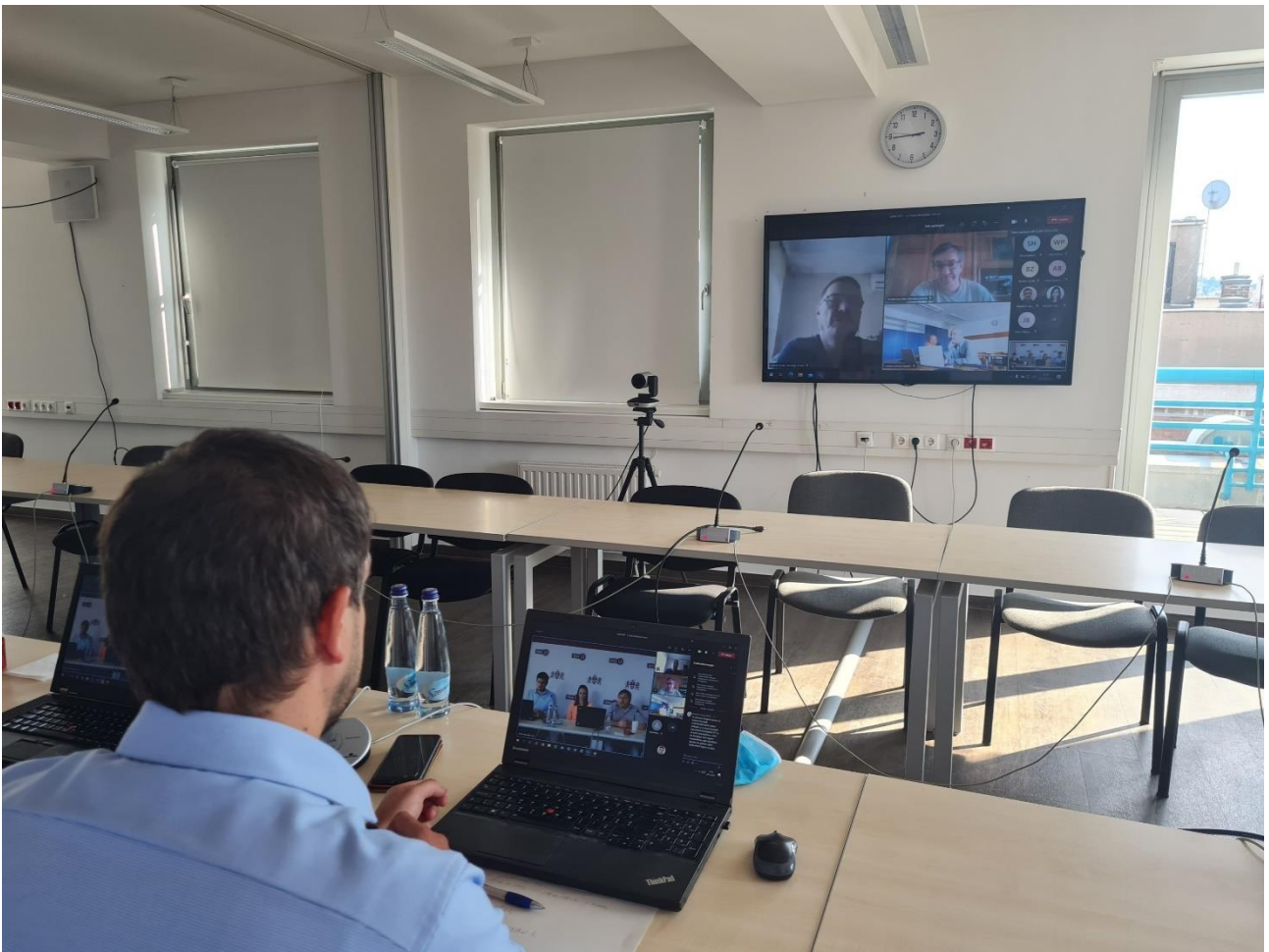
3. SMACKER pilot project presentation: Presentation of „Telebusz” application experiences - Pál Bakó, Anita Kántor; BKK

4. Sharing experiences and opinions - moderated by Tamás Halmos, BKK




- Report of Dr. András Lakatos (BME-KUKG) and Dr. János Tóth (BME-KUKG) in connection with the elaboration of the action plan in Szombathely within the framework of SMACKER. Currently, the elaboration of the State of Art document has been completed, in which the needs and supply were assessed on the development of DRT. The next step will be to develop an Action Plan. The development of the city's DRT transport can take place in two potential areas:
 - in an unserved area in space and / or time
 - by making low-occupancy relationships demand-driven
- András Lakatos's question for the presented pilot project: What is the goal of the current web system (administration, passenger tracking, operation development?) Is the goal to create a unified database?
 - Answer: Digitization and integration is one of the main goals of BKK, MaaS is an important goal to achieve
- László Gelencsér's (BKK) answer: the goal is to further develop the application, to create an integrated application. Mention should also be made of the driver side usage application. In this context, the aim is to integrate the driver application into on-board equipment
- László Gelencsér's question: What kind of feedback are there from the passenger side?
- János Bajczár's answer: Those who use the application love it. However, its use depends on age. There is sometimes a problem with the application due to the lack of internet coverage in some areas for drivers.
- Anita Kántor's answer: It might be worth thinking about appearing in the form of an application instead of a web interface.
- Tamás Fleischer's question: Are there any plans to change the structure of the DRT (flexible routes)?
 - Answer: There are such plans to make it easier to get to the airport
- Pál Bakó's (BKK) answer: BKK still has this kind of service: BKK operates a door-to-door service for the transport of people with reduced mobility
- Béla Beszterczey's remark: in order to solve loop problems, it would be advisable to number the stops.



5. Closing the meeting






SMACKER - 3. Helyi Mobilitási Fórum

33:27 Request control     





VARGA Márk (BKK)   Kalmár Sándor (Vendég) (Guest) Beszterczey Béla (Vendég) (Guest) WP +18

Participants

Invite someone or dial a number 

 Share invite

Attendees (22) 

 NAGY Vivien (BKK)  Anka Éva Borbála Outside your organization  Bajczár János (Vendég) (Guest)  Bekker Zsolt Outside your organization  Beszterczey Béla (Vendég) (G...  ELEK Andrea (BKK)  Elek Andrea (Guest)  Elekes Mária (Vendég) (Guest)  EFES B... (BKK)



TRENDEK AZ ÜGYFELEK MEGKERESÉSEIBEN

2021.02.08-IG

■ Telefonon igényelt ■ Sofőrmél igényelt
 ■ Online igényelt

Időpont	Telefonon igényelt (%)	Sofőrmél igényelt (%)	Online igényelt (%)
65	85%	15%	0%
157	85%	12%	3%
219	26%	70%	4%
269	95%	10%	35%
297	63%	15%	22%
298	50%	34%	16%
937	100%	0%	0%

- Az előző, kizárólag telefonos rendszerben 316 utasunk volt, az online felületen eddig 364-en regisztráltak
- 2021. február 8-ig 261 ügyfél regisztrált az új felületre, akik közül 51-en használták rendszeresen a szolgáltatást

NAGY Vivien (BKK)  TAKING COOPERATION FORWARD 



5.1.2. Fourth Budapest LMF meeting, 16 November 2021



1. Participant / Distribution list

Company	Name of participant
BKK	Pál Bakó
Mobilissimus	György Benda
BKV Óbuda	Béla Beszterczey
KTI	József Pál Liszkovszky, Dr.
BKV	Mária Elekes
Fleischer Kutatási Periféria Ltd.	Tamás Fleischer
BKK	Tamás Halmos
BKK	Péter Herbert
BKK	Viktória Hideg
BKV	Ferenc Jaksa
BKV	Sándor Kalmár
BME	András Lakatos, Dr.
BKK	Martin Márku
BKK	Júlia Miczki
BKK	Sándor Papp
BKV ATÚI	Pnyakovics Gergely
KTI	Botond Rajna
Cell-Line IT Security Ltd.	András Sárközi
BKK	Máté Török
BKK	András Vágány



2. Agenda

16:30 - 16:35	Greetings, opening the forum	Tamás Halmos (BKK)
16:35 - 16:45	Presentation of the SMACKER project	Tamás Halmos (BKK)
16:45 - 17:00	Presentation of the Budapest pilot project, experiences with the online application system	Pál Bakó (BKK)
17:00 - 17:15	A developer's view of the Telebus application	András Sárközi (Cell-Line IT Security Ltd.)
17:15 - 17:30	A vision for demand-responsive public transport	Máté Török (BKK)
17:30 - 17:55	Discussion on the development directions of the Budapest Telebus system	All (Moderated by Tamás Halmos)
17:55-18:00	Closing the forum	Tamás Halmos (BKK), Viktória Hideg (BKK)



3. Summary of discussion

1. Greetings, opening the forum
2. Presentation of the SMACKER project - Tamás Halmos, BKK
3. Presentation of the Budapest pilot project, experiences with the online application system - Pál Bakó, BKK
4. A developer's view of the Telebus application - András Sárközi, Cell-Line IT Security Ltd.
5. A vision for demand-responsive public transport - Máté Török, BKK
6. Discussion on the development directions of the Budapest Telebus system
 - **Tamás Halmos, BKK:** In previous forums, we have seen examples of routes that do not run on a fixed route, but on a demarcated area where the bus runs between the given stops as required. Do you consider such a system feasible in Hungary? How is it technically feasible in terms of IT equipment?
 - **Máté Török, BKK:** In principle, it would be feasible to build such a system in Hungary, but we need to find an area that is sufficiently large and sparsely populated. He sees two difficulties: the population of Budapest is very sensitive to where buses are running, it is important to know in which streets they expect bus traffic, several locations have to be tested. The other problem is the accounting with service providers, how to define the route, how to administer what route was taken, how long it took, is an exciting challenge.
 - **András Sárközi, Cell-Line IT Security Ltd:** On the technical side, the method used in taxi transport could be applied: you can assign a route by specifying two end points, which can be limited to a specific zone.
 - **András Lakatos, BME:** Currently, capacity management requires administrative intervention? For example, if a number of trip requests exceed the capacity of the bus, should they be handled by a dispatcher?
 - **András Sárközi:** No, currently the capacity of the bus is capped at 15 passengers, if it reaches that, the system will alert the passengers.
 - **András Lakatos:** It has been suggested that noise pollution could be reduced by replacing a regular service with a demand-driven service, either in the morning or in the evening. He fully agrees with this, adding that it would be a huge improvement in service quality, as it would be much better adapted to demand.



- **Máté Török:** Agrees, and notes that it could even provide a busy schedule during peak periods, with departures every 15-20 minutes, thus increasing the quality of service even more.
- **András Lakatos:** Is there any data on the age group using the online application system?
 - **Pál Bakó, BKK:** The system does not ask for such data when registering, the age range of the users is wide, based on the time of the applications. For example, regular claims in the morning 4-5am may come from people going to work, 7-8am from people going to school, and off-peak in the morning may come from the older, retired age group.
- **Béla Besztercey, BKV Óbuda:** In the case of the 219 circular bus line, if the passenger wants to get off from an upward stop, he/she has to submit two travel requests in the system, one up and one down. However, this is not seen by the driver as the same passenger, but as two passengers, and therefore the driver has to go to the end stop instead of arriving at that end stop, which results in a loss of money and time. There is a need to solve this problem.
 - **Máté Török:** In the case of the roundabouts, they try to design the routes in a user-friendly way, indeed, where the up and down direction is split, so the stops are in different places, we call this the beginning of the loop. For a loop, the route should be interpretable all the way through, and this is the case for the 219. He will look into the problem, thanks for pointing it out.
 - **András Sárközi:** From the IT side, the reason for this is that although the 219 is a loop, it has two tabs, one outbound and one return, based on the loaded timetable. A good example of this is that we are also talking about the 60a 60b routes as a circular service, but it has a one-way departure and the arrival is the same stop from which it departs. If the 219 operated the same way, double booking could be eliminated.
- **József Pál Lieszkovszky, Dr., KTI:** Does BKK have data on the afternoon peak hour occupancy on the Rákoscsaba lines? Maybe they are less used than the shuttle services. What are the routes that are expected to be replaced by demand-driven services during peak hours?
 - **Máté Török:** On the Rákoscsaba routes, there are always passengers during the fixed periods, and during the demand-driven periods, services are scheduled at different times, typically 50-70% of the time with 1-3 passengers. 298 bus line is the most important route extension requested.

The substitution of regular services during a given period is still an idea, it needs to be worked out how to communicate this to passengers.
- **Viktória Hideg, BKK:** Thank you all for your participation, further questions and comments are welcome after the forum via email or phone.

7. Closing the meeting



Microsoft Teams

Irányítás kérése

Kilépés

BKK – Budapesti Közlekedési Központ

VARGA Márk (BKK) Kalmár Sándor (Vendég) Beszterczey Béla (Vendég)

AGENDA

SMACKER projekt, 4. Local Mobility fórum, 2021 november 16, 16:30-18:00

- A SMACKER projekt bemutatása - *Halmos Tamás Zoltán, Stratégiai Tudásközpont osztályvezető, BKK*
- A budapesti pilot projekt ismertetése, az online igénybejelentő rendszer tapasztalatai - *Bakó Pál, szakkoordinátor (forgalomfelügyelet), BKK*
- A Telebusz alkalmazás fejlesztői szemmel - *Sárközi András- Cell-Line IT Security Kft.*
- Az igényvezérelt közösségi közlekedés jövőképe - *Török Máté, Községi közlekedési szolgáltatástervezés vezető, BKK*
- Szakmai beszélgetés a budapesti Telebusz rendszer fejlesztési irányairól

Részvevők

Írjon be egy nevet

Meghívó megosztása

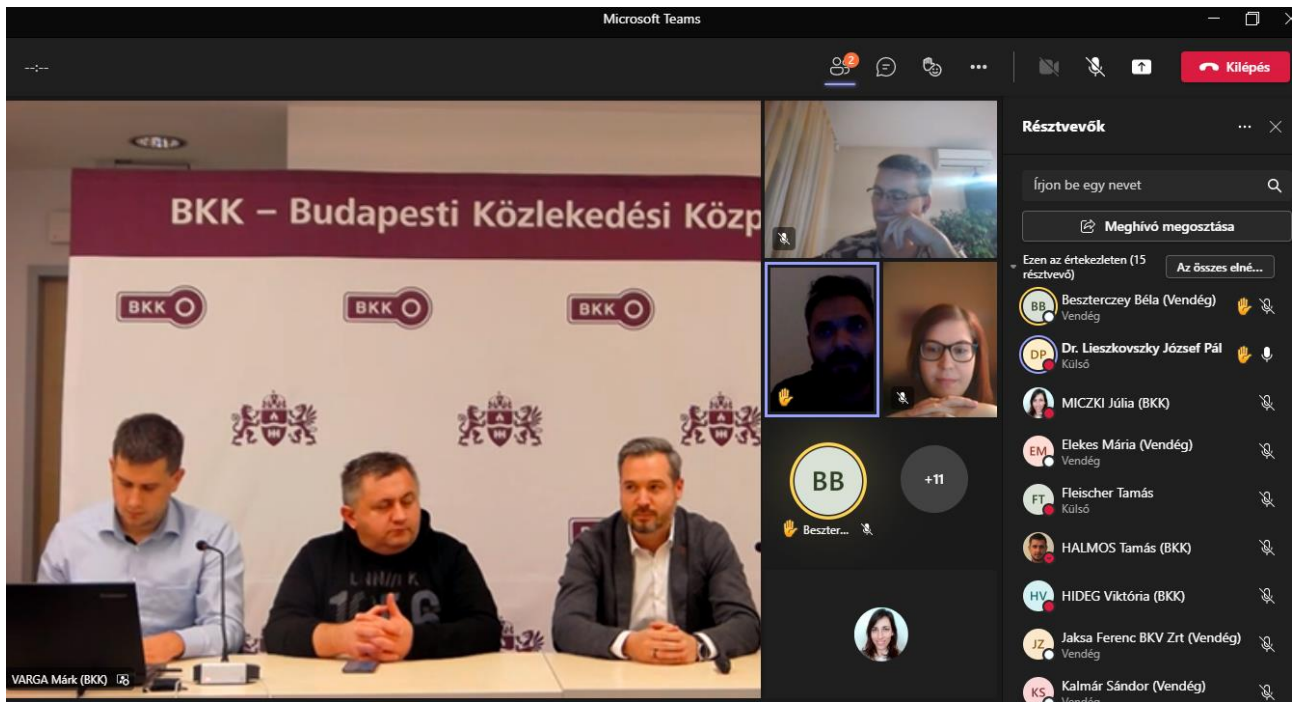
Ezen az értekezleten (16 résztvevő) **Az összes elné...**

- MICZKI Júlia (BKK)
- Benda György Külső
- Beszterczey Béla (Vendég)
- Dr. Lieszkovszky József Pál Külső
- Elekes Mária (Vendég)
- HALMOS Tamás (BKK)
- HERBERT Péter (BKK)
- HIDEG Viktória (BKK)
- Jaksa Ferenc BKV Zrt (Vendég)

HALMOS Tamás (BKK) TAKING COOPERATION FORWARD



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BKK – Budapesti Közlekedési Központ

Részvevők

Írjon be egy nevet

Meghívó megosztása

Ezen az értekezleten (15 résztvevő) **Az összes elné...**

- BB Beszterczey Béla (Vendég)
- DP Dr. Lieszkovszky József Pál (Külső)
- MICZKI Júlia (BKK)
- EM Elekes Mária (Vendég)
- FT Fleischer Tamás (Külső)
- HALMOS Tamás (BKK)
- HV HIDEG Viktória (BKK)
- JZ Jaksa Ferenc BKV Zrt (Vendég)
- KS Kalmár Sándor (Vendég)

VARGA Márk (BKK)



5.2. Annex 2: Nudging and communication material for the Budapest pilot implementation (Telebusz service 2020 - 2021)

The marketing material was prepared for the SMACKER pilot, to promote the new online request system and the Telebusz system that - thanks to SMACKER - was endowed with the new online booking system. The posters and flyers printing was funded by an existing contract between an external and BKK, so it was not charged to the project.



Figure 3: Bus stop



Figure 4: BKK customer centre



Figure 5: DRT service flyers exposed at BKK customer centre



Figure 6: DRT service information exposed on the bus