Author:
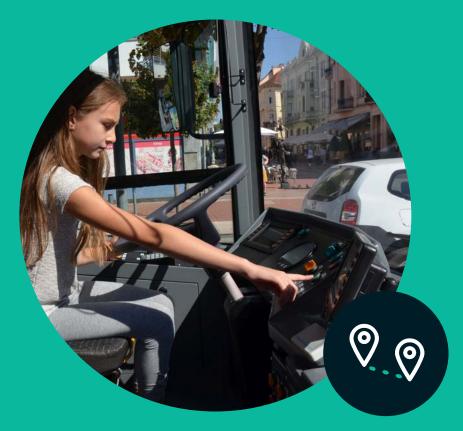**Zsuzsanna Kravalik**
UIA Expert

UIA | URBAN INNOVATIVE ACTIONS

The Urban Lab of Europe !

The SASMob project Journal N° 2

*Project led by the **City of Szeged***

URBAN MOBILITY

European Union
European Regional
Development Fund

Région
Hauts-de-France

The SASMoB project

The **SASMob** project aims to tackle congestion, poor air quality and noise exposure by building a data-driven intelligent transport system based on a structured multi-governance model with both public and private companies and transport providers.

It is based on two interconnected pillars: employers mobility pledges coupled with a data driven intelligent transport system. The mobility pledges will adapt a successful practice already in place in Austin (Texas) by creating cooperation agreements between the urban authority and local employers in order to change institutional working arrangements (including commuting and telework deals). The intelligent responsive IT platform will collect and monitor commuting in order to shape a co-designed policy process based on human-vehicle infrastructure communication.

Partnership

- Municipality of the City of Szeged

- Szeged Pólus Development Non-profit Ltd - Non-profit organisation

- Regional Environmental Center - Non-profit organisation

- Urban Management of Szeged Municipality Nonprofit Ltd - Non-profit organisation

- 1 higher education and research institute: University of Szeged

- Szeged Transportation Ltd - Transport provider

- Centre for South-Alföld Transport Ltd - Transport provider

- Griffsoft Ltd - private company

- IT Services Hungary Ltd - private company

- Pick Szeged Ltd - private company

- evosoft Hungary Ltd - private company

Table of Contents

1. Executive summary

The city of Szeged within the SASMob project initiated a strategic cooperation with beacon local businesses, the university and transport providers in an effort to co-design and tailor sustainable commuting solutions for employees, the biggest car-dependent mobility group addressed in the project. This process is well on its way, as this second SASMob journal attests it.

In this second Journal the reader will get to know the most relevant progresses in this decisive 2nd half-year period of project implementation, and how the partnership is managing to overcome the challenges of implementation and what can be expected in the coming next period.

What was most striking to me and I would invite you all to contemplate about is how – through personal atonement and escalating commitments from project managers– the partnership got inspired and is continuously filling up the written project documentation with energy, new ideas and creative solutions.

2. General impressions of project implementation

The SASMob partnership in Szeged has completed an extremely important 6-month period with considerable success. The project is on full steam; as a preview of the SASMob work that illustrates the different aspects of the project and the diversity of actions within SASMob, here are three outstanding examples from three different partners, on three different areas can help you get a taste of what is being done in Szeged.

I. As early as January 1st, employees of SZKHT can already collect bike-commuting days to get an extra paid holiday. With the use of the enlarged bike storage space and the access control system SZKHT has daily data on the commuting patterns of the employees, which can also support the newly introduced benefit system.

II. This period was also exciting for the proposed technological innovation of the project. The prototype of the innovative and complex traffic monitoring system has been installed during February on the Inner-City bridge connecting Szeged centre to the housing and recreational areas of Újszeged on the other side of the river. This sensor will be able to "look inside" the vehicles and give an expert guess on the number of passengers, which will be a forceful new tool for mobility predictions and planning.

III. Another great news is that there is already a new applicant to join the Mobility Pledge: University of Szeged will implement mobility planning also at GTK (Economics Department) campus besides the already established

Installing the prototype of traffic data collection sensor

mobility plan of the Central Clinics campus. This is already one of the most important steps towards upscaling project results.

The learning process has started within SASMob: there is a great momentum among employer partners to commit themselves to implement the agreed mobility plans and work together with mobility providers to forge innovative solutions and create favourable conditions to sustainable mobility. As one of the mobility managers working for the Central Clinics campus said:

„It is good to be together, to plan together, to learn from each other. It is good to get out from the daily routine and imagine new services we can provide for the employees." The work and enthusiasm of forerunners, such as SZKHT is inspiring for all partners and shows the strengths of the Mobility Pledge. If employers work together, they learn from each other, can go home with new ideas to implement, which could give life to the SASMob cooperation on the long term.

Labour market tide is also for SASMob: labour market scarcit*y incline employers to reward employees* and are more open to listen to their voices and needs. One of the options is to support their commuting.

3. Most relevant progress since October

When we left the project in October, the partnership was ahead of many important actions. We were expecting progress on many different fronts:

3.1 Signing the Pledge

Seems to be a formality, but it was more than that: the Municipality of Szeged together with the 7 employer partners signed the Mobility Pledge. You may ask: why such an agreement is necessary when partners have already committed themselves to do their work within SASMob project? A good question, indeed. However, SASMob will pave the way – hopefully – for many more employers to work together with the city of Szeged. Therefore, it was important to create the framework of cooperation for future engagements. It was important to find the most suitable and comfortable form of cooperation, which can also achieve results; finding this form was a long-lasting process. Gábor Heves, mobility expert of REC was the key expert to harmonize all the interests and requirements of the employer partners. In his words:

„The Szeged Mobility Pledge is exceptional in Europe. We studied many different models and came up with our own form of cooperation. Austin Pledge, which was our major point of reference, is only a solemn declaration with the final aim of reaching 20% modal shift. This document sets out this ambitious target without any legal guidelines or obligations. This was too vague for our employer partners. On the other end of the spectrum, the city of Antwerp signs a binding contract with the employers, which was just too strict for our partners. Therefore, after many feedback loops we came up with the final form: a cooperation agreement. It is less than a contract, but more than a memorandum of understanding.”

The Mobility Pledges were signed on the 30th of January 2019. According to the Pledges,

Signing the Mobility Pledge

employers will undertake the Mobility Plans, but there is no formal responsibility to achieve certain outcomes. The Municipality of Szeged will provide the IT Jobs App, will grant access to online tools, and will support them through expert consultations. So far, the employers are very enthusiastic and optimistic regarding the achievements of the plans.

3.2 Employer based mobility plans are ready to be implemented

As a groundwork for the Mobility Pledge, all employers have created their mobility plans. This was conducted according to a general methodology, one that will be acquired by Szeged University, to build up local knowledge and expertise. The methodology included the conducting of a mobility pattern survey and training sessions on possible mobility improvements and actions, followed by a participatory planning process to agree in the Mobility Plans.

The participatory planning process brought up key messages towards urban mobility planning, such as speed being the major decisive factor on commuting choices and an ever-growing trend towards individual mobility solutions. It is also important to note that abundance of car parking availability at workplaces is the highest single contributing factor on modal split, which highlights the importance of restricting "push" measures. The process also highlighted the hidden fact that there is still a strong unmet desire to use own car for commuting, which could further undermine public transport service usage and utilization. Through these mobility surveys, one can glimpse into the future of mobility in Szeged.

Good luck to all Employers in implementing the plans!

Co-designing mobility actions

New commuting bikes arrived to SZKHT employer

3.3 Representative household survey to baseline actions

The large scale representative household survey has also been conducted during the last 6 months. It has many different objectives:
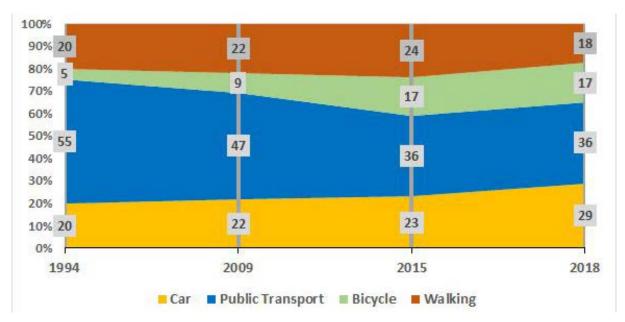
- since it is compatible with the previous (2015) survey, it is also suitable to see the long-term mobility trends

- it serves as baseline for many indicators, such as satisfaction levels with public transport services, or city-wide mobility options

- it also supports project implementation shedding light on smart phone saturation and usage

- it also gives reflections on public perception of mobility options

Let's dive into its results.

Mobility habits are constantly changing. Seems that the data on which the project was based are already outdated. Options to use own car for mobility is gaining regardless all public efforts to curb traffic flows.

- Although Szeged is the capital of cycling, there is still some scope for action, since still more household owns cars than bikes (62% of households have a car, while only 50% have at least 1 bike)

- There is a constantly growing trend in car usage, although public transport could maintain some of its positions. In the last 15 years car usage "only" grew with 9%, which is itself a success in European comparison

- On the other hand, walking is to lose. While all over Europe walking is getting trendy and more and more people are willing to walk, it decreased from 24 to 18% in Szeged in the last 3 years.

Changes in modal split in the last decades

Information related to smart phone usage is important to plan the IT Urban, the App for citizens

- More than 1/4th of citizens does not own smartphone (26%), thus they will not be able to benefit from the new services. For this, quite high, but gradually decreasing portion of citizens other types of communication channels, such as billboards and on the spot timetables should be designed.

- 40% of those who own a smartphone use mobility related Apps (parking, travel planner, etc), while 80% use Facebook Messenger. This knowledge guides IT developers to tailor the new IT Apps.

Perception of public transport services

- There are conventional arguments for own car transport: it is more comfortable and convenient; these answers are clearly visible from the survey responses. However public transport option is losing against car traffic also in terms of cost and speed considerations. 32% of respondents gave very good for cars against 23% for bus/tram/trolley for speed and against 28% for bus/tram/trolley for price. This is a tricky situation, when car traffic is perceived more comfortable AND cheaper and quicker. What can be the trigger for public transport in such a situation – this is a question to ask for Szeged!

- 16% of total population did not know about WiFi on board exists on PT in Szeged, while 60% never used it. 23% of regular PT commuters use the service. No wonder that younger generations are the one hooked on the service: 40% of 15-18 cohort uses it, while the 65+ generation usage is negligible.

- A fascinating question was within the survey how environmentally damaging is a given type of transport. It turned out that people perceive own car transport more environmentally friendly even than trams. 38% of respondents gave rather bad for buses while only 19% of them for cars and 20% for trams and trolleys. While the environmental effect of a single vehicle could be worse for buses, the aggregated effect of car usage is much worse than any kind of public transport. There is a lot of awareness raising activity to be done in this field!

To sum up the survey was rather useful for the project and emphasize the need of communication actions among the citizens. Walking should be promoted as the most environmentally friendly and healthy mode of transport – with maps dedicated to walking times and distances. Public transport infrastructure developments should also be promoted together with awareness raising campaigns on the negative effect of single vehicle mobility.

3.4   Technological innovation: IT URBAN sensors installed

As the main part of the technological innovation within the SASMob project, the first IT URBAN sensors have been installed on the Inner-city Bridge during February. The sensor is unique in Europe: it analyses camera images about the passing vehicles, bicycles and pedestrians and it analyses WiFi signals from smart phones. Connecting these two types of data will help to provide a full picture of mobility in the city.

While the first prototype is being piloted, engineers and IT experts are building the second version, which will also include solar panels, so that the sensor will not require energy supply and will be self-reliable and thus, could be installed literally anywhere.

Why is this sensor a unique innovation in Europe? Let's hear Vilmos Bilicki who dreamt this sensor and built it with his team at the University of Szeged:

"There are similar traffic flow monitoring solutions in Europe, but we are not aware of any other solution which integrates information from WiFi and Camera in order to provide passenger level traffic monitoring. Our sensor processes

"Look inside the box" of IT URBAN travel flow monitoring

visual information, while observing GDPR privacy protocols. We can „teach"/ programme this device to „peep into" the passing vehicles (cars and buses as well) and not only register that there was a car passing, but also to understand (statistically) that how many people were sitting in the car. It also means that we must teach the social-economic structure of the city of Szeged to this device (how many people use mobile phones, use WiFi, etc.)

This is going to be a very forceful tool for mobility planning in the future. Since we managed to build the monitoring system from ready-made parts, so the price will be the fraction of similar devices available on the market. Therefore, we will be able to install at least a few dozen devices which

enables us to study not only local traffic but also the properties of traffic flows such as the average speed of the vehicles and origin-destination flows too."

Features of the IT URBAN system include:

- local data processing thus minimal communication with server/data storage

- AI (artificial intelligence) algorithms through neural network processing

- high "resolution": 10-30 images per second

- self-sustainable modules: no energy power connection is necessary

- data connected to local air quality, noise and meteorological information

4. Overcoming challenges

Challenges are manifold in implementing a complex project like SASMob. There are the ones, which we can plan and get ready for, and others, which come like a thunder. The project lost important partners already twice due to internal problems to these organisations, which is always difficult to manage, and had to involve new partners, share the already acquired knowledge and get them to the rhythm of the project. So far, SASMob has managed these difficult times quite well; new partners are well integrated and have caught up the pace.

The SASMob community is a great place to be. People are enthusiastic about their job, they really enjoy what they are doing and therefore most of the activities are running smoothly. The working culture and processes are different from partner to partner, but it only gives a distinctive flavour of working together. In addition, as both employers and public transport service providers sit at the table, the different interests and arguments are confronted within the partnership facilitating discussion and promoting creative brainstorming.

TABLE 1: MAPPING SASMob AGAINST THE ESTABLISHED UIA CHALLENGES

Challenge	Level	Observations
1.Leadership for implementation	Low	• continuous political support • own project structures and capacities are building up to run the project • smooth project delivery at partner level • Leadership is necessary for understanding work package connections and supporting communication and behaviour change campaigns
2.Public procurement	Medium	• Procurements so far ensured high quality and incorporation of existing knowledge • Creative, innovative awareness raising actions require additional attention, media content provision will not be enough to raise public awareness and induce behaviour change
3.Integrated cross-departmental working	Low	• Employee mobility mapping ensured high awareness of project within PPs • Employees are intrigued and engaged which imposes responsibility on partners to deliver change • Coordination of SASMob with other running mobility projects and infrastructural developments are fluent (SUMI and Low Carb, ROP projects)

Challenge	Level	Observations
4. Adopting a participative approach	**Low**	• Canalization of ideas for innovative mobility actions from pro-active partners fuels mobility plan implementation among partners • Repeated withdrawal from partnership hit the project hard, although is managed smoothly, REC has been replaced by an equally experienced organization in transport management, Mobilissimus Ltd. • Cooperation with local organisations (schools, civic organisations, bike repair shops, etc) to support and upscale the project results is cumbersome.
5. Monitoring and evaluation	**Medium**	• Preparation of monitoring activities started, setting baseline data for all indicators is an ongoing challenge • IT URBAN mobility mapping through data management requires extra caution for data management rules • Clear processes and indicators are necessary to measure the impact of the employer based mobility interventions
6. Financial Sustainability	**Medium**	• To move the focus of mobility improvements from infrastructural investments to less tangible soft measures and campaigns will ensure financial sustainability • Mobility campaigns and soft measures are harder to organize at city level, it requires higher cooperation among partners and external city entities (civic organisations, art groups, schools, etc.)
7. Communicating with target beneficiaries	**High**	• Many marketing items (stickers, banners, influencer videos) have been created, but prioritization among activities would focus communication activities • Creative and bold presence of SASMob project at city wide sustainable mobility events would require coordination, leadership and timely preparations • Visibility could be strengthened • Creative spirit within SASMob partners could be better fuelled into communication actions. (flashmobs, guerrilla videos, funny posters, collectible magnets, jazz tramway nights, etc)
8. Upscaling	**Low**	• Upscaling of the project depends on the quality of activities at partner and at city level and on the visibility of the project. • If the partnership will be able to set the trend than upscaling will not be a problem

I was quite curious about how the people involved with project implementation are viewing these challenges. So, I took the opportunity and made a small survey at the Project Coordination Team meeting on 28th of March. It was a moment of reflection for all the partners and a great input for the MUA as well.

It was reassuring, that partners scored alike my perception. Partners are indeed satisfied with the coordination and cooperation within the partnership, the learning process, the participative working methodology and the cross-departmental working. Leadership and public procurement scored high, but some discontent was also visible. Stronger coordination and more guidance would be beneficial. Challenges, which are yet to be met, include communication with citizens and upscaling the project. Since a clear majority of partners are not satisfied with communication and marketing activities, this is a challenge which will have to be taken seriously and acted upon in the coming few months. Indeed, what are we expecting to happen in the coming months?

5. Mobility context – concluding questions

A project like this raises many questions for mobility policy making. The public perception of mobility options and mobility behaviour can certainly be influenced by communication activities but at the same time, we should not underestimate hard factors, such as speed, price and comfort of travel. I made three groups of policy questions. I hope that by the end of the project we can answer, at least partially, some of these questions.

- Is it possible to curb car traffic without first letting traffic congestions to happen? Can a city build up public support for parking fees to maintain and develop high quality public

transport? What would make you choose public transport if car traffic is still quicker, more comfortable and perceived as cheaper?

- What can make public transport attractive? How would employers feel their kids safe on public transport and let them travel alone so that they themselves can choose public transport?

- How the perception of "long distance" can be changed for the benefit of more walking in the city? How can a city promote walking for short everyday trips in local areas in order to benefit people's health?

Guerrilla traffic sign appeared showing extreme road crossing style

Understanding sustainable urban mobility - SUMI project connections
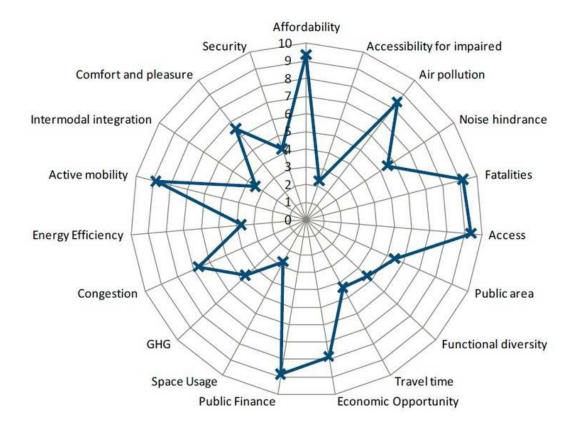
The "SMP2.0 Sustainable Mobility Indicators" developed by WBCSD, the World Business Council for Sustainable Development, has been identified by the European Commission as a suitable set of sustainable urban mobility indicators for urban areas in the EU. A consortium led by Rupprecht Consult has been selected by the European

Commission to support the testing of Sustainable Urban Mobility Indicators (SUMI).

While SASMob project has also identified SMP2.0 as a suitable set of indicators, Szeged has been selected as one of the 50 benchmark cities in which to test SUMI indicators.

This connection gives an extra embeddedness to SASMob.

- it supports the local SASMob team with technical assistance and personal training on data gathering

- gives terminological and definition support for SASMob primer data gathering activities

while also supporting SUMI project in understanding financial and organisational costs of data preparation

- SUMI creates an important benchmark for Szeged in peer-to-peer exchange and makes local situation more explicable and comparable in a European context.

WBCSD Sustainable Mobility Indicators Spider Chart
© WBCSD

6. What will happen during this spring and summer in Szeged?

The SASMob experience will further evolve both for the employees of SASMob partnership and will get visible for the whole city. During the coming half year we expect to see progress in 4 different domains.

1) IT URBAN monitoring ready to provide travel information

We expect to have a fully-fledged IT URBAN monitoring system after the testing period. This would include a few dozen installed sensors also installed in a sequence and on many different arteries of the city to study mobility flows. We also expect new sensors on different public transport means to be integrated to the system.

We will have the first data images on mobility flows and a new validation citizen App will be created on which interested citizens can add own travel information and see the aggregated travel flows in the city.

SQR system for smart city storage capacity will be procured and installed at Szeged Municipality.
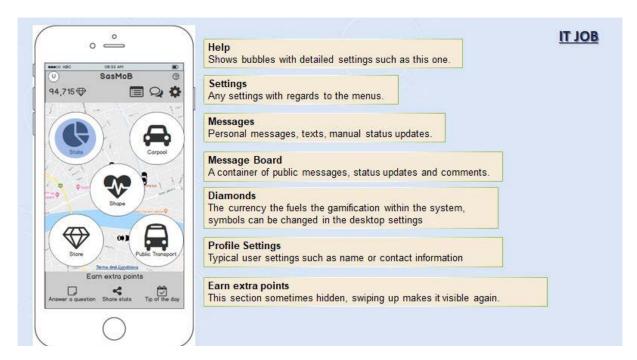
2) Visibility actions, mobility campaigns in full fledge

Spring heralds the start of the biking season with many open-air city festivals and events, such as Children's Day, City Festival Week, Tramway running night, Earth's day, Health day etc. Spring calls everyone out to the nature, to the city parks and out from your car. The partnership is eager to build on these numerous events and promote the SASMob message to the citizens of Szeged. This is a crucial element of the project, since the IT Trans App will work only if it gets high interest among the citizens.

An important element of the visibility campaign is to link the project to the *Bike to Work* national campaign. The unofficial aim of Szeged Municipality is to become the second city after Budapest to mobilise its citizens within this campaign.

3) App supporting the implementation of mobility plans

IT JOB will finally also be ready for testing during this summer. The most important and expected feature of the App will be the carpooling option within the given employers, it will also be supported by some gamification for which the "store" will be uploaded by the employers themselves.

Features of the IT Job App in preparation

4) Launching of upscaling activities

The key to sustainability of Szeged SASMob mobility pledge will depend on inviting and persuading new employers into the Pledge. Therefore, the partnership is getting ready to develop the necessary skills, knowledge and processes to reach out to as many employers as possible.

Szeged University will acquire mobility planning skills to get it in-house, while promotional materials and events will be organised to raise the awareness of new employers.

Urban Innovative Actions (UIA) is an Initiative of the European Union that provides urban areas throughout Europe with resources to test new and unproven solutions to address urban challenges. Based on article 8 of ERDF, the Initiative has a total ERDF budget of EUR 372 million for 2014-2020.

UIA projects will produce a wealth of knowledge stemming from the implementation of the innovative solutions for sustainable urban development that are of interest for city practitioners and stakeholders across the EU. This journal is a paper written by a UIA Expert that captures and disseminates the lessons learnt from the project implementation and the good practices identified. The journals will be structured around the main challenges of implementation identified and faced at local level by UIA projects. They will be published on a regular basis on the UIA website.

Urban Innovative Actions

Les Arcuriales
45D rue de Tournai
F- 59000 Lille

+33 (0)3 61 76 59 34
info@uia-initiative.eu
www.uia-initiative.eu

Follow us on **twitter**
@UIA_Initiative
and on **Facebook**.