TRAM Study Visit Report
Northern Transylvania, Romania
(North-West Region)

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Summary report

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Abbreviations

SUMP	Sustainable Urban Mobility Plan
NWRDA	North West Regional Development Agency (Agenţia de Dezvoltare Nord Vest)
ADR	Agenţia de Dezvoltare Nord Vest
ERDF	European Regional Development Fund
ROP	Regional Operational Program
PP5	Project Partner 5
SV	Study Visit
SG	Stakeholder Group

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1. Introduction

Like most European cities, Romanian cities are also facing severe problems with congestion and air pollution generated by traffic. For example, Bucharest ranks 5th in the TOMTOM Traffic Index while CO2 emissions from traffic in Romania increased by 92.5% between 1989 and 2011[1]. Unlike most western cities, Romanian cities are just developing their first generation of SUMPs (Sustainable Urban Mobility Plan). This is the moment when cities from Romania start to make the shift from a car oriented transport system and policies to the idea of sustainable urban mobility where priorities are placed on public transport, cycling and pedestrian areas. During the last multiannual financing framework of the EU (2007-2013), funds were mostly used for modernizing road infrastructure. Just a few cities invested in projects that fit to the idea of sustainable urban mobility. Some of them are included in the practices visited on the study trip.

Today a part of ERDF funds covering urban mobility projects is directly linked to the existence of a SUMP. The SUMP develops a list of projects, some of them being eligible to be funded through the Regional Operational Program[2]. Making SUMP an instrument to access EU funds is why most Romanian cities are rushing to finish their SUMP, may they be small (5.000 inhabitants) medium (50.000-250.000 inhabitants) or large (over 250.000 inhabitants).

In this regard, considering that many of Romania's cities, including those in the N.W Region, are considered starter cities when it comes to urban mobility projects, the possibility to see and understand good practices from other sites is an essential step towards implementing their SUMPs. On the other hand, cities from the N.W Region also managed to implement some interesting urban mobility projects during the last years which can be definitely considered as good practices.

The study visit in Romania is the second within the TRAM project, after the first visit was organized in Karlskrona, Sweden. For two days, the 21st and 22nd of June (2017) the SG representatives and ITRE experts of all partners and other local stakeholders visited the 4 case studies from Northern Transylvania. Due to logistic challenges, good practices from just 2 cities could be included to the visit.

2. Agenda of the study visit

Location: Cluj-Napoca and Oradea, North-West Region, Romania

DAY 1

09.00 – 10.30 Visit to the Cluj City Hall for BP No. 49 - Traffic safety and management system

The traffic monitoring center, the video cameras on the street and the data transmission service have been established since 2010 with the main aim to ensure a higher level of traffic safety for the inhabitants and visitors of Cluj-Napoca. The main activities were related to the installation of 300 surveillance cameras at major junctions or crowded areas in the city, to monitor the development of car traffic and to be able to intervene in real time to decongest traffic according to needs. The system is compatible with other

[1] Romania – EU partnership agreement

[2] Mostly projects that cover cycling and pedestrian infrastructure, public transport or ITS.

intelligent transport systems such as: management system for public transport, video surveillance, passenger information systems etc.

11.00 – 13.30 Travelling to Oradea

13.30 – 14.30 Light lunch at the Oradea City Hall

14.30 – 16.30 Visit to the Oradea City Hall for BP No. 59 – Pedestrian policy for central area as well as the rehabilitation, modernization and reconstruction in the Unirii Square

The city of Oradea is between the few examples in Romania that have kept large pedestrian streets in the central area over time. The Republicii Boulevard, Oradea's traditional pedestrian street, was remodeled and extended in the recent years. The new pavement, new creative urban furnishing, a few new squares and the expansion of the pedestrian access area contributed to the rebirth of the pedestrian axis as a representative part of the city, shared by local community and tourists. The pedestrian axis was recently extended with the revitalization of the Saint Ladislau bridge and the Unirii Square. The project of Unirii Square consists of the rehabilitation of a renaissance square, reducing the space allocated for car traffic. The square is also crossed by the tram.

16.30 – 19.00 Travelling back to Cluj

19.00 – 21.00 Dinner (location TBA)

DAY 2

09.15 – 09.30 Welcome words – Marcel Boloș, general director of the North-West Regional Development Agency

09.15 – 11.15 Presentation of BP No. 48. at the headquarters of the NWRDA by the representatives of PITECH+PLUS – Intelligent routing application which helps drivers find the nearest available parking spot

The Parking Plus mobile application helps drivers to find the nearest free parking spot. The application provides routing services to the nearest available off street parking place, reducing the traffic generated by drivers looking for an available parking place. The list of available parking places varies from private parking garages (for example malls) to off street parking places in the central area. The application is being further developed, in order to also include on street parking and has already been successfully implemented in several cities all around the world.

11.15 – 11.45 Coffee break

11.45 – 13.00 Presentation of BP No. 51. at the headquarters of the NWRDA - GetPONY - Car sharing system

The initiative is based on developing a smartphone application with which one can easily get access to a car for a starting fee of 1 leu (aprox. 0,3 Euro) / minute. After using the car, one can leave it wherever in the city. The first 25 test cars (VW UP!) have arrived in September 2015, followed by 25 more cars (Smart) in early 2016 and 30 more (Mini) a few months later – all of them used in a floating fleet system. In parallel the company has started developing a new stationary based fleet of electric vehicles (BMW i3) mainly for corporate use.

13.00 – 14.00 Light lunch

14.00 – 15.00 Conclusions for the Study Visit, discussions with the members of the SG from the North-West Region

15.00 – 15.15 Closing of the SV

3. Overview on the good practices visited

3.1. Traffic safety and management system (ID 38)

The traffic management system from Cluj Napoca was built to have a better overview of traffic flows in the city but also to spot vandalism or other behavioral problems. Cameras positioned in strategic places can register the nameplates of cars passing by to build a large database essential for traffic management. The goal of the project is to generate real time data and use it within a traffic management system. The information gathered is used to sync the traffic lights along the main traffic corridors but can also be accessed by the local police to fine drivers or as evidence in various criminal investigations. The whole system has a dedicated room within the city hall from were representatives of the local police oversee the places where cameras are placed.

Figure 1 TRAM site visit at the traffic management room

The installation, maintenance, repair and cleaning of the surveillance cameras is provided by a private company. City Hall pays monthly from 55-70 euro / camera. The whole system is planned to be extended in 2017-2018 so that 700-1000 additional cameras with HD resolution should be bought. Success-safety – good prospects when the link with green light will be made.

Lessons learned

Even if the population is more reluctant in the first phase, the feeling of "Big Brother" disappears in a relatively short time and people begin to appreciate the feeling of safety provided by the operation of this system.

Attention must be payed to guarantee skilled labor, able to operate with the system more than just at a basic level. This is essential in getting more data out of the system and using it in various GIS analysis able to sustain and measure the impact of new urban mobility projects. A simple example would be checking the evolution of traffic incidents in places where surveillance cameras are installed, this could be a proof of success for the project.

As technology advances fast it is important to choose the right system and to decide if owning it, is better than renting it. In the case of Cluj Napoca they decided to consider switching from renting to owning, this move however needs trained staff which is able to use the system at its maximum potential.

Understanding local laws is also essential when it comes to the usage of data (ex. Storing license plate numbers) or to the ability to use pictures and footage from cameras as evidence in court.

Figure 2 Evaluations of the practice from the study visit representatives (Traffic management system - Cluj)

The analyzed outcomes/results are potentially able to be transferred to other organizations (max. 5)	3.33
Social dimension (max. 4)	3.00
Environmental dimension (max. 4)	2.67
Economic dimension (max. 4)	2.33

Replicability potential and feedback from the participants

The traffic management system from Cluj Napoca was appreciated by the participants and the discussions were extremely useful for PP4 Miskolc considering that they are in the process of implementing a similar system. The main concern of ITRE experts and SG representatives was related to the fact that the whole project is rather oriented towards safety than mobility. This is mostly related to the fact that the traffic management system doesn't include a prioritization of certain flows at traffic lights. On the other hand, data generated by the system was considered an extremely useful tool for management of urban mobility. Unfortunately, evidence of success is missing due to lack of ways to measure the impact. This was also highlighted by ITRE experts as being one of the problems considering that the presentation held was focused on describing the system more than explaining the impact it had on urban mobility. On the other hand, the beneficial effects of the surveillance system on public safety are quite evident and are the main reason why this system is extremely important for the local police.

Transferability of the case was considered average, as most cities prefer to purchase more advanced and integrated traffic management systems which include prioritization of certain flows. Also in order to start this kind of acquisition a large feasibility study has to be made in order to understand which kind of system should be bought and if it is better to buy or to rent it.

3.2. Rehabilitation, modernization and reconstruction in Unirii Square and other pedestrian streets in the central area (ID 40)

The rehabilitation of the Unirii Square is just a part of the urban regeneration of Oradeas historical center. The Unirii Square is therefore a part of a "L" shaped axis starting from the Republicii street, crossing the Cirşul Repede river, passing 1st December Park and finishing at the old city fortress. The intervention is a mix of shard space, public square for large events and rehabilitation of historical buildings surrounding the site. It is one of the very few shared space projects within Romania and one of the few public space rehabilitation projects that managed to support the rehabilitation of surrounding buildings. Other interventions linked to the rehabilitations are: a new public transport station and modernization of public lightning. The overall objective of the project is to increase the quality of life in the city of Oradea by rehabilitating urban infrastructure and improving urban services, improving transport conditions and population mobility, as well as increasing tourist attractiveness of the historical center. Today Unirii Square

is a striving place often used by locals as a gathering place for large public events (culture, sports, etc.) but even more by tourists visiting the city.

Figure 3 Tram team at Unirii Square, Oradea

Lessons learnt

Permanent dialog with local community is essential to guarantee the success of the project but also to obtain beneficial side effects like the rehabilitation of nearby buildings. This is directly linked with the design of the square and how it respects and highlights the local identity (Oradea as an Art Nouveau city). In this way, inhabitants got a representative square to be proud of, which manages to showcase the glorious history of the city.

A good understanding of ROP and the financing conditions were essential for the implementation. It was also very important to reach towards additional funding sources or options to sustain a larger urban regeneration of the area.

Supporting the project with events, including it into touristic guides and linking it to the city identity / brand are essential steps to guarantee success.

Figure 4 Evaluations of the practice from the study visit representatives (Pedestrian area - Oradea)

The analyzed outcomes/results are potentially able to be transferred to other organizations (max. 5)	4.57
Social dimension (max. 4)	3.57
Environmental dimension (max. 4)	3.71
Economic dimension (max. 4)	3.28

Replicability potential and feedback from the participants

Political will and the large public consultations were perhaps the most important factors which assured the success of this project according to the feedback gathered. Among the positive effects of the project following were mentioned: 25% air pollution, 10 % more tourists and less energy consumptions. However, it is still unclear if these indicators refer to the square and its surroundings, to the city center or to a larger area. Also, what was missing is data about the impact of the surrounding neighborhoods considering that usually closing streets for cars tend to generate spill over and congestion in the surroundings. Not including an underground parking was also considered a good decision as this could have increased traffic in the area. Another interesting result of the project is that the surrounding buildings were renovated during the rehabilitation of the square or after. It is important to notice that these buildings are privately owned so that the leverage of local administration is limited. Tree factors managed to achieve this result: 1. continuous negotiation between local administration and the owners, 2. the success of the project as a public space that gathers a large amount of pedestrian flows and therefore potential customers for the business operating in the surrounding buildings and 3. a law that allows local administration to increase the property tax for abandoned buildings by 500%.

Considering the replicability of the practice the most important factors were the large public consultation process, the great design but also an increased attention to the project plan so that delays could be minimized. Also, a dedicated unit for this kind of projects within the city hall was considered an important asset in terms of management. The high replicability is mostly due to the fact that it is mostly a public space project which has rather low limitations regarding implementation. This kind of intervention are already mainstream in most European cities. The only difficulty arises when using the concept of “shared space” as it is not yet harmonized with the law in many countries.

3.3. Parking Plus – Intelligent Urban Parking Solution (ID 37)

Parking Plus (www.parkingplus.ro/) is perhaps the first smart parking software developed in Romania. The basic features of the app are implemented in Cluj Napoca where one can use it to find the way to the nearest off-street parking available and to pay the fee. In this regard Parking Plus is looking to drastically decrease the time spent by drivers in search of a parking place. The advanced version of Parking Plus also includes on street parking routing and payment solutions and should be implemented in Cluj Napoca in the near future.

The main goal is addressing key smart city characteristics (Smart People, Smart Mobility, Smart Environment). The concept is part of an initiative (Smart City pilot programme) covering a variety of characteristics. The solution is expected to allow better usage of parking spots, reducing the time to final parking position, avoiding payment queues and need for cash. Parking fees collection is optimized and better monitored.

Lessons learnt

Before a city, goes for smart parking it has to understand the basics of parking management, and obviously accept that parking should not be a service provided for free by the city[3]. Even if the project can work as a starting point without the local administration (by just mapping private parking places[4]), for it to be sustainable it has to also refer to public parking places, especially on street parking. However, starting with private parking places can be a good way to prove the utility of the technical solution and in this way to convince the local administration to adapt it.

In order to have success, technology used has to be accessible for all kind of users, even elder people. This is mostly related to the payment solutions used. Also, the trend is to use smart parking solutions with as less hardware as possible, due to the high implementation costs.

Replicability potential and feedback from the participants

The Parking Plus GP was considered to be perhaps the most inspiring of all projects presented, mainly because of the fact that it represents the latest technology in Smart Parking. Considering replicability, the GP could be implemented easily in any kind of city because it's mostly a technological project with low amount of infrastructure. Only impediments are local regulations which might restrict its implementation, like not being allowed to use surveillance cameras in the public. Also, the difficulty of users to adapt to the new technologies used for parking (smartphones) could be an important impediment in the applicability of the project. Other difficulties mentioned during the presentation relate mostly to the way in which infrastructure like sensors are integrated in areas of cities with a high degree of protection (historical center – case of Italy) and how they overcome unfavorable weather conditions like snow. Perhaps the biggest difficulty in transferring the practice relates to local laws. This is usually a problem encountered by the Parking Plus team when selling the solution abroad. Law barriers relate mostly to how data about vehicles can be used, how fines are applied or how the solution is managed. Some countries do not permit the storage of date regarding the nameplates in other cases it is hard to externalize the parking management as it is considered a service covered completely by the local administration without involving private entities.

Figure 5 Evaluations of the practice from the study visit representatives (Parking Plus)

The analyzed outcomes/results are potentially able to be transferred to other organizations (max. 5)	3.6
Social dimension (max. 4)	2.83
Environmental dimension (max. 4)	2.67
Economic dimension (max. 4)	2.67

[3] With small exceptions like people with reduced mobility.
[4] It is important to understand that at the moment Parking Plus in Cluj Napoca is focused on private parking areas.

Figure 6 The Parking Plus presentation

When it comes to evidence of success the main factor considered is the reduction of traffic (drivers looking for a parking spot) and the reduction of Co2 emissions. However, it is still hard to measure and prove this kind of statements. The possibility to reserve a parking place was considered to be a key factor in the success because even if the driver can get real-time information about the availability of free places, the status can change very fast.

3.4. GetPony Car sharing system (ID 39)

GetPony (www.getpony.ro/) is the first Car sharing scheme in Romania. The idea has been launched in the spring of 2015 through the GetPony website, announcing the debut of the car sharing system in autumn. In a few months, the project has attracted more than 300 early adopters, making it clear from the start that the initiative would have a large number of users. The first 25 test cars (VW UP!) have arrived in September 2015, followed by 25 more cars (Smart) in early 2016 and 30 more (Mini) a few months later – all of them used in a floating fleet system. In parallel the company has started developing a new stationary based fleet of electric vehicles (BMW i3) mainly for corporate use while also extending the service to the airport.

Figure 7 The two Ponies brought for the presentation

The cars are procured in an operating lease system, the investments being related to developing the mobile platform, the website and the supporting software system as well as the GPS monitoring boxes which are currently rented, although the company is working on developing its own solution.

Lessons learnt

Contact and a good relation to public administration can greatly help in the functioning of a car sharing scheme, however, this is not the most important factor. There are other bigger difficulties in this process, like: finding financial capital to buy the cars, identifying a company willing to insure the cars or understanding the habits of actual and potential users. From the perspective of a car sharing provider it is essential to understand the target groups and identify the best means to reach them and to convince them to use the service. These difficulties relate mostly to the owners of car sharing services, from the perspective of a city things are different[5]. It is essential for a local administration to understand the benefits of having a car sharing service. Perhaps the most important benefit in this case is the potential to reduce car ownership which could free vital resources of land used for residential parking. Also, the shift toward electrical vehicles in the case of car sharing providers can have an essential impact on reducing Co2 emissions.

Replicability potential and feedback from the participants

With GetPony Cluj Napoca finally joins the large group of cities that already have car sharing schemes. Even if in western countries people tend to switch from car ownership to car sharing, in Romania this process just started. Therefore, the tendency of Romanians to prefer to own things (cars, houses etc.) is perhaps

[5] Car sharing is a service provided by private entities and not by public bodies.

the biggest difficulty in making a car sharing scheme economically effective. The other two challenges encountered in the development of the project were related to obtaining funding and insurance[6] for the cars to be shared and establishing a partnership with the local administration to rent parking places. If GetPony managed to sort the first problem, the second is still in progress. At the first meeting, local administration representatives thought that GetPony is a sort of Uber or Lyft however after a few discussions they managed to understand what the project is about. Now the struggle is to convince them to rent a few parking places and to start installing charging stations for electric vehicles. Even though charging stations are already installed at private offices or even some supermarkets. Regarding the possibility to rent parking places there might arise problems if other car sharing companies appear because they should perhaps bid for these benefits. The biggest surprize in the implementation of the project was how fast early adopters started to use the service. This was obviously also supported by a good marketing campaign (https://www.youtube.com/watch?v=BKvOlOBNPZw) targeting youth between 25 and 40 years.

The success of GetPony is visible in the fast increase of users. However, the impact on the city is still not measurable even though they state that emissions are lower. Perhaps this will be even more visible when the company will aquire more electric vehicle and go 100% electric. It will be interesting measure how many citizens will decide to not buy a car and chose car sharing instead. Unfortunately, this data isn't even covered in the SUMP of Cluj Napoca as the document was developed when GetPony was in the starting phase.

Figure 8 Evaluations of the practice from the study visit representatives (GetPony)

The analyzed outcomes/results are potentially able to be transferred to other organizations (max. 5)	4.3
Social dimension (max. 4)	2.83
Environmental dimension (max. 4)	3
Economic dimension (max. 4)	2.83

Transferability of the practice is quite obvious considering how many car sharing schemes there are already available in many major European cities. Scaling up and entering other markets is also an important step in the business plan of GetPony. However, it is important, to understand, that car sharing is a service provided by private companies and not by public authorities. In this regard, a city has to make itself attractive for car sharing operators to come and provide this service. This can be made by either providing a good market (ex. Size and density of population) or by offering good operation conditions like decent road infrastructure, reserved parking places (payed by operators) or charging stations for electrical vehicles.

4. Concluding remarks

Even though Romanian cities are just starting to make the shift to sustainable urban mobility some notable good practices were already implemented and are working for a few years. The first wave of SUMPs is ending, including a large amount of innovative urban mobility projects, programs and policies some of

[6] Insurance and the risk of having the vehicles damaged are reasons why you can drive a GetPony car just if you are more than 23 years old.

them definitely able to become best practices within Europe. But to be able to implement this high amount of mobility projects local administration representatives need to learn from other mistakes and good outcomes of similar projects implemented in other European cities. We therefore hope that the short trip to Romania managed to inspire our guests while also giving important advice to our local stakeholder group.

5. STUDY TRIP EVALUATION QUESTIONNAIRE

YOUR NAME:	
YOUR ORGANIZATION:	
STUDY VISIT NAME:	
LOCATION AND DATE:	

01. OVERALL EVALUATION
1. To what extent do you agree with these statements? (Rate from 5 (excellent) to 1 (very poor)) + Comments ☐ The study visit was well organized. ☐ The organized activities reached the expectations. ☐ The analyzed outcomes/results are potentially able to be transferred to other organizations. ☐ The aims set out for this study visit were reached. **Please, briefly explain your evaluation**

02. RESULTS AND OUTCOME
– What are the expected outcomes/impacts? Where there any unexpected outcomes/impacts? – What are the evidence of success of the experience? – What was the importance and the role of other relevant stakeholders? – What internal/external dissemination was/is planned by the local promoter/hosting partner to create a multiplier effect? – Can you indicate the impacts of the practice on each the following dimensions? (Rate from 4 (very positive) to 1 (negative)) ☐ social dimension ☐ environmental dimension ☐ economic dimension – What were the difficulties encountered in the effective implementation? **Please, briefly report your comments**

03. LEARNT LESSONS AND KEY SUCCESS FACTORS
– How was the local promoter/hosting partner affected on the difficulties? Which kind of changes occurred? Please mention any changes in practices, organizational aspects and policy awareness, aims and means – Could you identify the key success factors which can explain the successful replicability to other contexts?

6. LIST OF PARTICIPANTS

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