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Deliverable 4.4

CREATE Stage 1 City Reports

Past, Present and Future mobility challenges and opportunities in five growing economies

(December 2017)

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1 CREATE Stage 1 CITY REPORTS

1.1 Introduction

As part of the CREATE project, research work was undertaken in all five Stage 1 CREATE cities to gain an overview of the conditions linked to mobility and assess data availability in each city. City partners provided relevant qualitative and quantitative information about their city and hosted a Focus Group involving key local stakeholders. This report summarises research findings in the city of Adana, Turkey; Amman, Jordan; Bucharest, Romania; Skopje, Republic of Macedonia; and Tallinn, Estonia. Each City Report has been included as an Annex to this Deliverable. This Deliverable will serve as the basis for the CREATE's cross-city comparison as part of Deliverable D4.5.

1.2 Methods

The CREATE Stage 1 City Reports are based on the combined analysis of the 'city profiles', including quantitative and qualitative data provided by each city partner (see questionnaire in Annex A), and the analysis of the Focus Groups conducted in each city.

Between January 2017 and July 2017, each stage 1 city hosted a Focus Group that aimed to gather key stakeholders to discuss past, current and future issues related to urban transport. Between 12 and 17 participants attended each Focus Group. The participants were carefully chosen as stakeholders representing different key sectors in each city. A range of experts, who all demonstrated a deep understanding of their city's past, present and future transport and urban planning, took part in the Focus Groups.

The focus group was conducted by Dr. Cavoli from UCL. It followed a topic guide which was sent to all participants prior to the session (see Annex B). The topic guide is divided into three parts. The first part focuses on understanding the city's past related to urban transport and planning. The second addresses the present situation, including defining the biggest challenges the city faces. Finally, future challenges and opportunities related to urban mobility and planning in each city were discussed. To analyse data from the Focus Groups and undertake a cross-city comparison, a framework matrix was established following the topic guide. First, key data was transcribed from the recording of the Focus Group. Second, content analysis was applied. The results are summarised in each City Report below.

The City Reports and the cross-city comparison work undertaken in the context of CREATE aim to improve policy-making and planning in partner cities by providing tailored advice for each city.

This Deliverable includes all City Reports: the Adana City Report in Annex C, the Amman City Report in Annex D, the Bucharest City Report in Annex E, the Skopje City Report in Annex F, and the Tallinn City Report in Annex G.

2 Annex A CREATE city profile questionnaire in stage 1 cities

Introduction:

The topic guide below has been compiled to provide the CREATE project basic data about your city. We would like you to complete the questionnaire below by collecting/gathering information about your city. The data should be **official public data** as far as possible. However, we understand that at times it might be difficult to find the relevant data within your organisation. Even though we would recommend that you not provide unofficial data, if you do provide unofficial data (for example online data from Wikipedia) please make an explicit reference in the document.

Your city's administrative structure

- Could you please define the boundary of your city's administration?
    - When we talk about transport in your city, which territory are we talking about? (e.g. city centre, metropolitan area, other?)
    - Could you provide surface of land use area (km2) data, an indicative map, and/or any other useful indicators.

Demography

- How many inhabitants does your city have?
- Do you have historic data about the total number of inhabitants in your city (throughout the past decade or two)?
- Do you have predicted population growth?

Transport institutions

- Which entities are responsible for transport policies and operations in your city? (e.g. which department within your local authority? Any national entities? Any private transport operators?)

Transport Demand and Car Ownership

- What is the modal share/split (% of trips per average workday) in your city?
- Do you have historic data recording the evolution of modal share?
- Could you provide information about the development of the number of private cars (car ownership levels) and the number of driving licences per inhabitants (city-wide)
- Do you have predictions related to future transport demand in your city?

Economy

- Could you provide data about the development of GDP (Gross Domestic Product) per capita in your city (over the years)?
- Could you provide current and historic data about the development of annual average fuel prices (diesel and petrol) distinguished between net values and taxes [€ per litre]

Local transport plan

- Does your city have a local transport plan and/or business plan or any other equivalent policy-making document? If so, do you have an English version?

Additional data

- Do you have additional data which would be relevant to establish an initial city profile?

Thank you very much for your collaboration. We would be grateful if you could complete and complement the questionnaire in the coming weeks. We need as much information as possible before the mid-term review report to be submitted to the EU Commission at the end of the year. Early next year we will ask you to gather further qualitative and quantitative information about urban transport and transport policy in your city.

3 Annex B CREATE Topic guide focus groups in Stage 1 cities

Understanding the past

1. How has urban transport evolved over the past 10 to 15 years? (for example, linked to societal and cultural changes, mobility demand, demographics…)
    a. How about land use?

2. How have urban transport policies evolved over the past 10 to 15 years?
    a. How about land use and planning policies?
    b. To what extent have those changes been affected by policies or legislation at the national or supranational level (for example changes at the EU level)?

Defining the present

1. What are the biggest challenges for urban transport and mobility in your city?
    a. What are biggest challenges at a policy level?
    b. What are the biggest political challenges?

2. What are the current policy priorities for urban transport in the city?
    a. What are the challenges in delivering those priorities?

3. What influences transport policies in the city? (for example, regional, national or supranational influences or demands coming from local citizens such as lobby groups or the press, or competition with other cities…)

Shaping the future

1. What are the future challenges the city is likely to face in the coming years (for example, demographic changes…)
    a. And the future opportunities?

2. What is the overall strategy for future urban transport policy in the city?

3. To what extent can technological developments help solve urban transport problems in your city?

4. Which innovative policies could accelerate sustainable mobility in your city?

6 Annex E Bucharest City Report

CREATE - CITY REPORT

Bucharest, Romania

Past, Present and Future Mobility challenges and opportunities in Bucharest

11-10-2017

By Dr. Clemence Cavoli, UCL, Centre for Transport Studies

Reviewed by CREATE- P.M.B. working group

I. Introduction

II. Context & Methods

III. Bucharest Monograph

Understanding the past

How has urban transport and land-use evolved over the past 10 to 15 years in Bucharest?

How did public authorities respond to changes in urban transport and land-use in Bucharest?

Defining the present

Bucharest's administrative structure

Bucharest's population

Bucharest GDP per capita

Car use levels

Master plans

What are the biggest challenges for urban transport and Mobility in Bucharest?

What are the current policy priorities for urban transport in the city?

What influences transport policies in the city?

Shaping the future

What are the future challenges Bucharest is likely to face in the coming years?

Which innovative policies could accelerate sustainable Mobility in your city?

ANNEX 1 – CREATE Topic guide S1 cities

ANNEX 2 – CREATE city profile questionnaire

I. Introduction

As part of the CREATE project, research work was undertaken in all ten CREATE cities to gain an overview of the conditions linked to Mobility, and assess data availability in each city. City partners provided relevant qualitative and quantitative information about their city and hosted a Focus Group involving key local stakeholders. This report summarizes research findings in the City of Bucharest, Romania. A monograph report on the analysis of Bucharest's Focus Group, complemented by relevant data from the City Profile. This report will serve as the basis for the CREATE's cross-city comparison.

This research report has been prepared by UCL in the context of the Research project CREATE, it does not necessarily represent the views of P.M.B or the Bucharest municipality.

II. Context & Methods

Bucharest's City Report is based on the combined analysis of the 'City Profile' quantitative and qualitative data provided by the City of Bucharest and the analysis of the Focus Group.

On the 22nd-23rd of March 2017, the City of Bucharest hosted a Focus Group that aimed to gather key stakeholders to discuss past, current and future issues related to urban transport in Bucharest. In total 15 participants attended the Focus Group. The participants were carefully chosen as stakeholders representing different key sectors in Bucharest. A range of experts, who all demonstrated deep understanding of Bucharest's past, present and future transport and urban planning, took part in the Focus Group. 10 participants represented Bucharest's local authority; including 3 local transport policy-makers from the Transport department, 1 participant from the Urban Planning department, 2 participants from the Implementation Policies Department, 2 from the Projects Management department, 1 participants from the External Affairs department and 1 participant from the Budget department. 3 participants represented public transport operators. 1 participant represented academia and 1 participant was an external consultant.

The Focus Group was conducted in Romanian - a translator provided assistance - and in English by Dr. Cavoli from UCL. It followed a topic guide which was previously sent to all participants (See Annex A). The topic guide is divided into three parts. The first part focuses on understanding Bucharest's past related to urban transport, land use and planning. The second part addresses the present situation, including defining the biggest challenges the city faces and the current policy priorities for urban transport in the city. Finally, future challenges and opportunities related to urban mobility and planning in Bucharest were discussed. In order to analyse data from the Focus Group and undertake a cross-city comparison, a framework matrix was established following the topic guide. First, key data was transcribed from the recording of the Focus Group. Second, content analysis was applied. The results are summarised in the monograph below.

The City Reports and the cross-city comparison work, undertaken in the context of CREATE, aim to improve policy-making and planning in Bucharest and other CREATE cities by providing tailored advice for each city.

Where opinions are expressed about the causes of change or the significance of specific aspects, these are with the sole intention of guiding further analysis under the CREATE programme and to act as a starting point for that further qualitative analysis.

III. Bucharest Monograph

Understanding the past

The first question discussed during the focus group was '*How has urban transport and land-use evolved over the past 10 to 15 years in Bucharest?'* Participants were asked to think about any significant societal, demographic or cultural changes, or changes related to Mobility demand. Participants were also asked to describe *how public authorities responded to those changes. How have urban transport and land use policies evolved over the past 10 to 15 years?*

How has urban transport and land-use evolved over the past 10 to 15 years in Bucharest?

Radical shift from Communist to Capitalist city

The most important social change in Bucharest happened from 1989 after the fall of Communism. With the inception of Capitalism, new property rules were put in place. This marked a drastic shift from a system where almost all urban properties were publicly owned, to a system mainly based on private ownership. As stated by a participant: "*In communist time all buildings were state property*". In addition, the urban space was reconfigured to reflect the city's new function and new role; shifting from being an industrial powerhouse to hosting a newly established service economy. These radical changes had a profound impact on Mobility needs and led to a exponential growth of car ownership levels.

Monocentric city

The reconfiguration of Bucharest post-1989 led to a concentration of core activities in the city centre. Zones of activities pre-1989 were spread across the city, in particular in the industrial areas located at the outskirt of Bucharest. Over the past 30 years, commercial activities have conglomerated in the city centre of Bucharest. Major brands, large supermarkets and even shopping malls established themselves in central areas. According to a participant, this was '*a mistake*' as it led to increased transport demand towards the same focal point and transport facilities were not established to accompany this change.

From high density to urban sprawl

Most of Bucharest's residential areas were built between the 1900s and the 1980s following a high-density model. These areas were composed of tall 5 floors (or more) floor buildings leading to high urban densities. A switch occurred from the 1990s when it became possible to build low density buildings and houses. The demand for increased living space and individual houses led to the development of low-

density areas in the outskirt of Bucharest and in neighbouring cities. As described by a participant: "*After 1989 everyone wanted to have their own house*" and this led to the "*creation of 6 cities around Bucharest*", which used to be rural villages. Urban sprawl increased around Bucharest, "*the city started to spread*". Meanwhile, many high-density buildings in the city centre were converted into office spaces. Tall buildings reserved for offices in the centre were constructed leading to increased density in the city centre. These changes led to an increase in car dependency and daily pendular movements from the outskirts of Bucharest to the city centre.

Lack of urban and transport planning

The City of Bucharest does not have an updated General Urban Plan, as the last one dates from the year 2000. The majority of the residential areas which were built post-1989 do not form part of a comprehensive planning strategy for the city and were not accompanied by public transport infrastructures. Consequently, newly built areas were developed with limited transport infrastructure in place and with no provision or access to public transport or other modes of transport.

Several '*dormitory districts*' at the outskirts of Bucharest were developed during the 1990s. Public authorities reacted by establishing radial roads to connect the city centre to the newly established '*dormitory districts'*. A number of those neighbourhoods can only be accessed via private vehicles. As a result, "*many people live outside Bucharest and commute by car to work inside the city*", summarised a participant.

Participants stressed that part of the problem is that there has never been joint urban planning strategy between Bucharest's local authority and the neighbouring cities. Bucharest City Council has no control over local policies in neighbouring cities, "*this is a major problem for us*" stated a participant. There is no planning at the regional level, and equally, there is a lack of coherent planning strategy at the national level in Romania. There is a lack of coherent planning across all levels of governance.

Car ownership became easier post-1989

Before 1989, purchasing a private vehicle was a complex process. Firstly, individuals who wished to purchase a car had to pay a deposit and had to wait, on average, for 5 years and "*were put on a list*" before receiving their vehicle. The cars available were exclusively made in Romania by Romanian factories that mainly focused on car export. "*There were no imports at the time*", said a participant. Secondly, the price of privately owned cars was high compared to salaries.

This changed radically after 1989. From the 1990s "*everyone wanted to buy a car*" and it became "*very easy to buy a car*", according to participants. Second-hand cars from Western Europe started to be imported, and the Romanian car industry increased its Romanian market production. "*People started to have easy access to cars*", as cars became affordable, recalls a participant. Imported cars and Romanian cars were affordable for a growing percentage of the population. Now, car production by Romanian industries "*is a key part of Romania's economic strategy*" and makes a significant contribution to Romania's economy. Romanian automobile manufacturers such as Dacia, which was bought by French manufacturer Renault in 1999, are "*a major employer*" in the country. As a result, Romanians now own more cars than in many other countries.

Price of oil decreased

During the communist era, Romania used to export most of the oil it produced. Oil production and oil prices were liberalized in the 1990s. Foreign companies entered the market and oil became more easily accessible. This contributed to the rapid increase in car use.

How did public authorities respond to changes in urban transport and land-use in Bucharest?

Continued but insufficient investments in public transport

From the beginning of the 20th century the City of Bucharest established one of the most extensive public transport systems in Europe. The austerity policies put in place by Ceaușescu's government in the 1980s led to the decaying of the public transport infrastructures in Bucharest. Post 1989, investments in public transport were renewed. Substantial investments in new bus fleets were initiated in 1993, thanks to the revenues from marketing on buses. In the mid-1990s, tram tracks were renewed and new trams were established, partly with the support of the EBRD[1], making Bucharest's tram network "*one of the largest in Europe*". Towards the end of the 1990s investments were put in place to improve the metro. Bucharest's local authority received support from various European and international donor agencies, such as JICA[2], to improve its public transport system. At the beginning of the 1990s participants mentioned that there were close to 60% of travelers in Bucharest who used public transport.

Even though the Municipality has been putting a lot of efforts into preserving its public transport network and to "*maintaining the high level of patronage in public transport (PT)"*, some participants felt that it had not been sufficient. A participant highlights the fact that: "*We did not invest sufficiently in public transport*", particularly as it became very easy to purchase individual cars. The demand of public transport outweighs the provision, leading to poor quality service. For instance, explains a participant, "*The metro's maximum capacity is 700,000 passengers, but during rush hour this number is regularly exceeded, and we cannot cope with this challenge"* (as illustrated in Figure 1 below). Further investments are needed to improve the quality of the service and deter users from using private vehicles.

[1] *European Bank for Reconstruction and Development*
[2] *Japan International Co-operation Agency*

	Metro	Tram	Bus	Trolley	Ilfov
# of lines	4	25	80	15	50
Vehicle Capacity	10222	200	50	50	16
Average Daily Departures	452	3,447	10,813	3,255	3,578
Average Daily Service Capacity	27%	35%	27%	8%	3%
Route length (km)	146	479	1,627	259	2,021
Average Daily Vehicle Km	9,948	33,527	103,340	22,897	54,672
Average Daily Vehicle Hours	1,885	2,547	8,054	2,068	1,366
AM operation begins	05:00	05:00	05:00	05:00	05:00
PM operation ends	23:00	23:00	23:00	23:00	22:00
Average Fare Lei (single trip)	2	1.3	1.3	1.3	3
Average passengers, Daily	624,191	489,706	885,428	198,028	40,000

Figure 1 Service Provision by Public Transport Mode. Source: Metrorex, RATB, Surveys conducted by consultants. Sustainable Urban Mobility Plan 2016-2030 - Bucharest – Ilfov Region. Rom Transportation Engineering Ltd and AVENSA

Public authorities have not been discouraging car use

Car use levels and car ownership levels grew rapidly in Bucharest from the 1990s. When car use levels started to increase "*Bucharest's local authority did not react*", recalls a participant. The Municipality started to invest in highway infrastructure to "*prevent car users from crossing the city centre*". As explained by a participant: "*We cannot limit the number of cars in the city because everyone has the right to own a car, but we can intervene to discourage car users coming from outside the city"* and crossing the city. The local authority has not been implementing measures to discourage car use. In fact, conditions tend to encourage car use in the city. For instance, participants pointed out the fact that "*In Bucharest all parking is free*".

Parking problem and lack of enforcement

The majority of the historic buildings built before the 2nd World War in Bucharest city centre are not earthquake resilient. For this reason, it is structurally impossible to build underground parking lots under them. Most parking in Bucharest is on-street. This, combined with the high percentage of car use in the city, has turned part of the Bucharest city into "*a giant carpark*".

One of the biggest challenges related to parking in Bucharest is the lack of enforcement. Illegal parking is overwhelmingly frequent. As stated by a participant, "*Illegal parking in Bucharest is difficult to handle*" as it is mainstream. This is due to the lack of institutional collaboration between the Police, mainly managed at the national level, and the local authority. Before 1990 enforcement policy was centralised.

From the 1990s, the national government became responsible for enforcement policy in urban areas but no collaboration mechanisms were put in place to ensure joint policy-making.

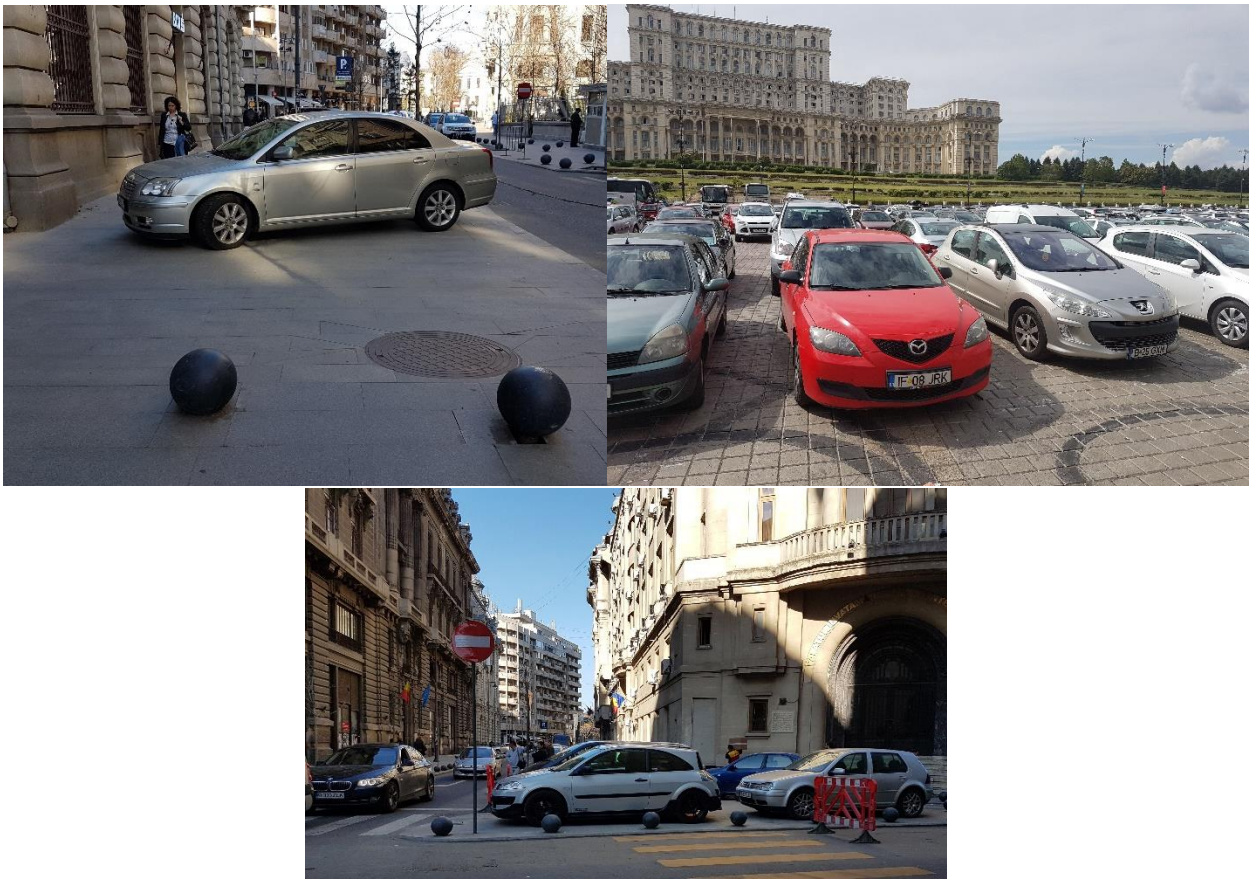

Figure 2 Pictures cars parked in Bucharest city centre. Source: Clemence Cavoli

Bus service outside of Bucharest

Public transport services in Bucharest's neighbouring cities are limited. As urban sprawl increased in the 1990s, private bus operators started providing bus services to link '*dormitory cities*' to Bucharest's city centre. The majority of these buses were minibuses (with approximately 20 seats). However, it created "*unfair competition with Bucharest's public transport operator*", mentioned participants. Consequently, from 1999, the number of licenses issued to minibus operators was reduced. Minibuses still operate near Bucharest but only outside the city.

In the northern part of Bucharest, a number of large companies offer a private bus service to their employees, in particular during rush hour. The local authority does not have data about this, but it is a well-known fact.

Defining the present

The second part of the Focus Group raised questions relating to the present situation in Bucharest. Participants were first asked '*What are the biggest challenges for urban transport and mobility in Bucharest?*' Then they were requested to describe *current policy priorities for urban transport in Bucharest*. Finally, participants were asked '*What influences transport policies in Bucharest?* for example, regional, national or supra-national influences or demands coming from local citizens such as lobby groups or the press, etc.

Bucharest's administrative structure

The Bucharest Municipality has a total area of 228 km^2. It forms part of the Bucharest-Ilfov Region, which comprises Bucharest Municipality and Ilfov County. Bucharest-Ilfov Region has a total area of 1.821 km^2, out of which 13,1% is the administrative territory of Bucharest Municipality, while 86,9% represents the administrative territory of Ilfov County. The Bucharest-Ilfov Region is connected to one of the 9 corridors of the core TEN-T network: Rhine-Danube1 (rail, road, fluvial-Pan-European Corridors IV and VII) that belong to the Trans-European Transport Core Network. The region is also connected to the Pan-European Corridor IX (rails and road) that belongs to the TEN-T network. Bucharest Municipality is divided into 6 districts and has 27 neighbourhoods.

Transport policy in Bucharest is the responsibility of the Bucharest Municipality and of the Ministry of Transportations of Romania.

Bucharest's population

Bucharest is the Capital city of Romania and the largest city in the country, with a registered population of 1.883.425 residents in 2011. It represents over 10% of the total population of Romania. Population density in Bucharest is estimated to be of 8.260 inhabitants per km^2. In comparison, Bucharest-Ilfov Region has a total population of 2.272.163 inhabitants (according to the 2011 Population Census) and a density of 1.248 inhabitants per km^2.

Population census (from 2011) indicate that Bucharest's population has been decreasing since the 2000s, a trend that is common throughout Romania (as illustrated in Figure 3). The total fertility rate in 2013 was estimated at 1.31 children born per woman, which is below the replacement rate of 2.1. The decrease in population is forecast to continue.

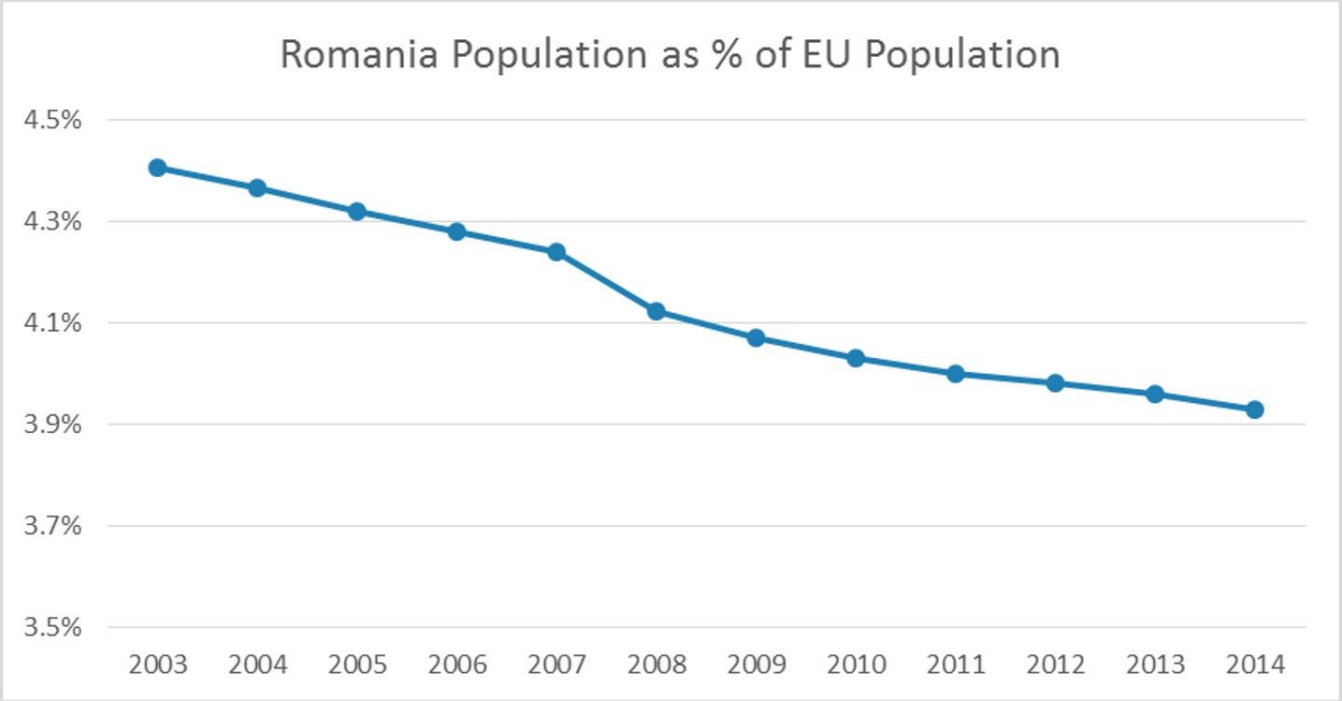

Figure 3 Romania's population since 2003. Source: SUMP 2016-2030 Bucharest-Ilfov, EN, pag.121. Data obtained from INS (National Institute of Statistics of Romania)

Bucharest GDP per capita

The *National Commission of Prognosis of Romania* forecasts a 4,9% GDP growth in the year 2017, one of the strongest in the EU. Bucharest's GDP per capita is the highest in Eastern Europe and has been growing steadily since the 1990s (as illustrated in figure 4 below).

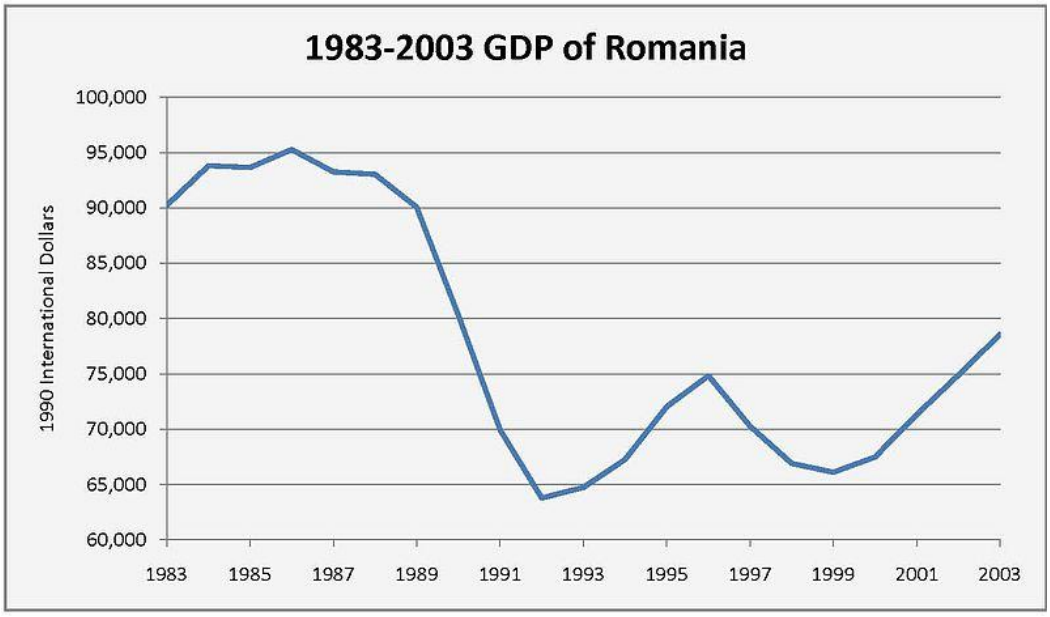

Figure 4 Evolution of Romania's GDP. Source: Angus Maddison (August 2007). "World Population, GDP and Per Capita GDP, 1-2003 AD" (XLS). University of Groningen: Groningen Growth and Development Centre

Car use levels

Estimates suggest that circa 55% of Bucharest's population owns a private vehicle, and 46% has a driving licence. In Bucharest there are nearly 1.1 million vehicles registered. This data does not include data from Bucharest's region.

Master plans

At the national level, Romania's government recently established a General Transport Master Plan for the country. It aims to develop a national transport infrastructure network – for passengers and goods - with the Bucharest-Ilfov Region at its heart.

In 2014 a 'Regional Development Plan' for the Bucharest - Ilfov Region was established by the Regional Development Agency Bucharest – Ilfov. It covers the years 2014 - 2020.

At the local level, a General Urban Plan, called PUG (Romanian acronym for "General Urban Plan"), was established in 2000 and covers the entire territory of Bucharest City. Bucharest's PUG is currently being updated, a new plan, "PUG 2025" is being established. The PUG regulates land use and urban functions, road network, future development areas, etc. It can also attribute lands to be reserved for future major infrastructure projects, like metro corridors, street widening, underpasses, overpasses, etc. The PUG covers the administrative boundaries of the city/locality.

In addition to the PUG, Bucharest's public authorities use 'Zonal Urban Plan' called PUZs. The scale of a PUZ can fluctuate, from the area needed to develop several apartment buildings to the area of a whole

sector (each of the six districts in Bucharest has a PUZ). The PUG 2000 has been amended to integrate the PUZs approved in the 2000-2014 period.

In 2016 a Sustainable Urban Mobility Plan 'SUMP 2016-2030 Bucharest-Ilfov Region' (approved by the General Council of the Bucharest City on March 2017) was established covering Bucharest's metropolitan area (Bucharest-Ilfov). The local authority's aim is that the 'SUMP 2016-2030 Bucharest-Ilfov Region' runs concomitantly with Bucharest's PUG. The SUMP has a legal obligation to be aligned with the PUG in order to ensure that urban planning in Bucharest-Ilfov Region is integrated. As a result, Bucharest-Ilfov's SUMP, is correlated with the PUG 2000 and with the ongoing work on the PUG 2025. The SUMP also took into account the major PUZs approved in this period, especially the ones with impact on major infrastructure, land purpose and use intensity.

What are the biggest challenges for urban transport and Mobility in Bucharest?

Discouraging car use

Several participants mentioned that one of the biggest challenges for Bucharest's local authority is to "*discourage the traffic going into the city*". Bucharest-Ilfov Region Sustainable Urban Mobility Plan (SUMP) for 2016-2030 approved in 2017- highlights the fact that if current trends continue, car use levels will increase leading to worsened congestion. The plan also highlights the fact that Bucharest is already amongst the most congested cities in Europe. Many participants expressed a concern that public authorities in Bucharest do not currently have "*measures to discourage car use*".

One of the main problems is the fact that a high percentage of commuters live in Bucharest's neighbouring cities and do not have access to public transport. "*These areas are not connected to public transport*" and their residents rely on car use, stressed a participant. New developments established within or outside Bucharest are being authorized without the consultation of public transport authorities.

Another issue that contributes to high car levels in Bucharest is the fact that private companies provide vehicles to their employees. *Service cars* are very common in Bucharest. "*Major companies offer employees a service car to attract them*" tells a participant. Even though public authorities started to regulate the practice, from 2005 large companies "*still provide cars to their employees*".

Most participants agreed that one of the most effective ways to discourage car use in Bucharest would be to put in place parking management policies.

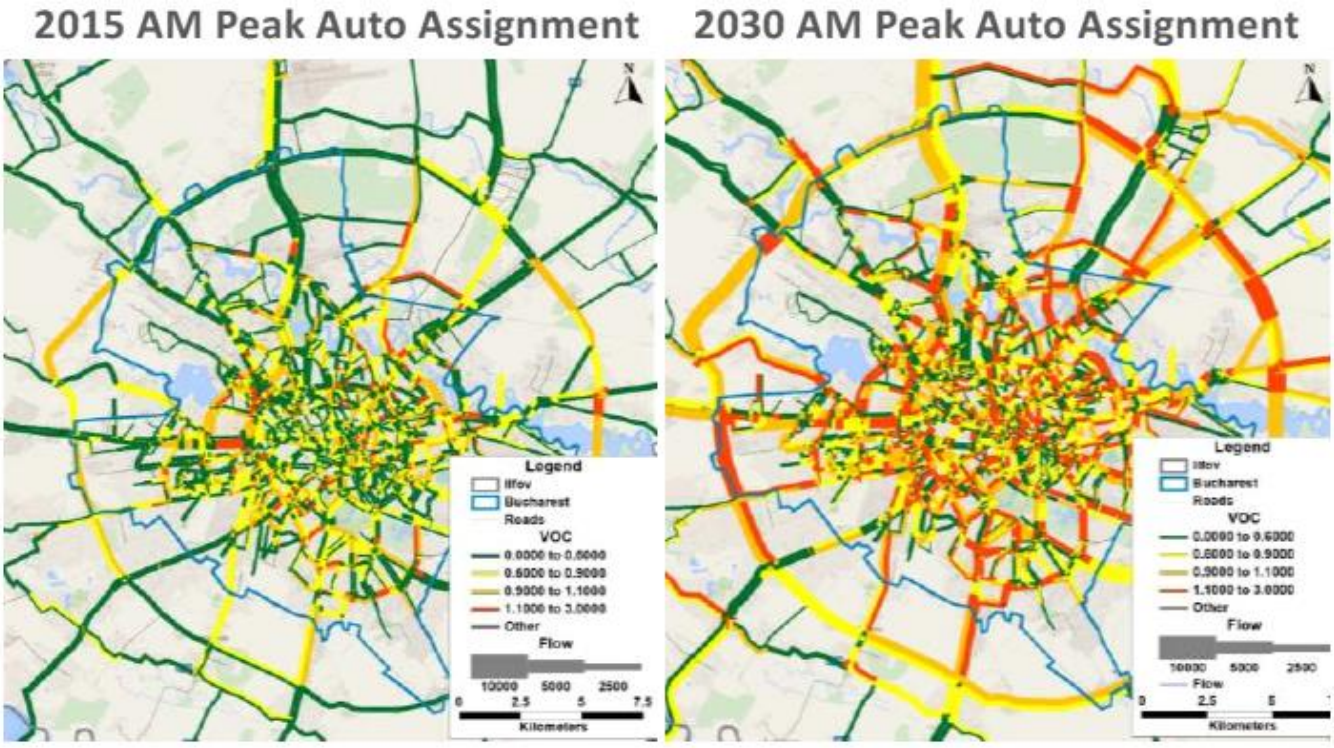

Figure 5 Predicted congestion levels in 2030 compared to 2015 in Bucharest. Source: Bucharest SUMP, AVENSA, ROM transportation engineering

Encourage Public Transport

Public transport should be actively encouraged in Bucharest to reduce car use levels in the city. Firstly, public transport capacity should be increased to provide viable alternatives to car use. Estimates suggest that a high percentage of the population already use public transport (as illustrated in figure 6 below). As stressed by a participant "*Public transport cannot currently accommodate the demand if private car use should decrease*". Participants highlighted the fact that the city "*lacks infrastructure*".

Secondly, the quality of PT in Bucharest should be improved. For this, investment is needed. Participants highlighted that "*people do not respect public transport*" for instance "*they do not pay*". As described by a participant: "*We do not have the culture of paying for services and infrastructures*". Certain participants estimate that only 10% of PT users pay to use the service. Enforcement policies should be put in place to prevent these issues.

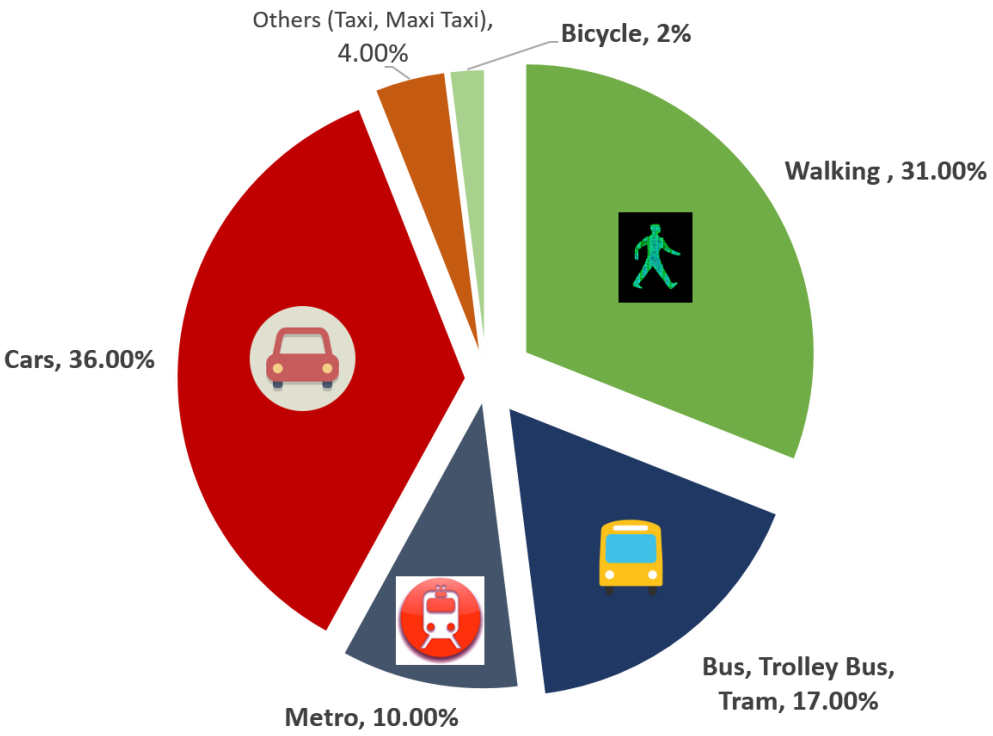

Figure 6 Bucharest estimated modal share 2015. Source: Bucharest SUMP

Parking management

One of the most problematic issues in Bucharest is related to the lack of parking management. Parking in Bucharest is mostly free. However, car users commonly park in areas that are not designated parking spaces. One of the priorities for the City of Bucharest should be to put in place parking fees, stressed several participants. Bucharest-Ilfov's SUMP highlights the fact that the majority of drivers would be willing to pay a small fee to park in Bucharest.

One of the major issues is that in Bucharest, the administrative procedure required to fine a car user who parks illegally is complex. "*In Bucharest you cannot fine the car*", summarised a participant, "*you have to track the driver of the car*". It is a complex process for enforcement authorities. The law was recently changed to make it easier for public authorities to fine illegal parking.

However, '*There is no political will to solve the problem'*. Proposals have been made to establish parking fees in Bucharest but "*No mayor wants to take money from on-street parking*"; as it is seen as an "*unpopular measure*".

Another issue is the lack of collaboration between the Police and the local authority which prevents parking management issues from being resolved. Part of the solution should be for the local authority to take back control over enforcement related to parking.

Behavioural change

There is a need to "*change the mentality of the people*" in Bucharest so that residents "*start to use public transport*" instead of private motorised vehicles, mentioned participants. Due to the restriction of freedom during the communist times, citizens were very attached to their freedom of Mobility. "*This is our heritage from communism"* summarised a participant. There is a need to change certain habits, for instance, describes a participant "*When it rains people take the car instead of the umbrella, and the city is congested*". A participant highlighted the fact that younger generations are more likely to change their travelling habits.

No walking habit

Participants highlighted the fact that "*people are not used to walking*". Yet walking could be a very efficient way to move in Bucharest. A large number of people think that they need a car to have greater flexibility. The walking environment should be improved to encourage people to walk more, mentioned a participant. In some of the new residential areas there are no proper pedestrian facilities, which is a problem.

Lack of data and centralised information

There is a lack of information and a lack of data relating to transport, in particular at the regional and local level. There is a lack of information in Bucharest about transport demand and transport operation in its neighbouring localities.

Administrative issues

Bucharest's local authority faces significant administrative issues. There is "*a lack of coherency and of continuity*". Bucharest-Ilfov's SUMP highlights the need to restructure relevant public institutions responsible for transport in Bucharest.

What are the current policy priorities for urban transport in the city?

Park and Ride Facilities

Public authorities in Bucharest aim to put in place Park and Ride facilities to improve parking management and discourage the use of cars in the city centre. Bucharest's metro operator, METROREX, is planning to establish a "*big parking lot at the entrance of the city*" connecting with a new metro station. It also plans to establish Park and Ride facilities close to Bucharest's arterial roads to facilitate access to the metro. It would contribute to "*limiting car access to the city and decreasing emissions*" and would increase the efficiency of the transport system in Bucharest.

Parking

Solving parking problems is one of the priorities highlighted in Bucharest-Ilfov's SUMP. In addition to discouraging illegal parking (as illustrated in figure 7), Bucharest's local authority plans to find adequate underground space to build additional parking lots. The Municipality of Bucharest hopes that this would "*ease parking problems and release space on street*".

Bucharest's local authority has plans to establish a public entity or a "*municipal company*" that would manage parking in the city.

Figure 7 Measures to discourage illegal parking in Bucharest

Pedestrian Streets

Bucharest Municipality plans to establish a pedestrian area in the city centre. This area would only be accessible "*by bike or on foot*". This could improve "*accessibility for tourism*". The street would link the North and the South of the city.

Ring Roads

Bucharest's local authority aims to finalise the construction of ring roads around Bucharest.

Integrated regional transport network

Bucharest's local authority plans to integrate different modes of public transport at the city and the regional level. One of the project's aims is to connect the railway network to the metro. This offers an opportunity to improve accessibility to neighbouring cities that are not currently linked to public transport facilities.

To better connect Bucharest's public transport system with its neighbouring cities, there is a need to create a "*metropolitan transport authority*" including Bucharest Municipality and the key local authorities surrounding Bucharest. The overarching objective is to create an integrated transport network, including rail, metro and bus, at the city and at the regional level.

Private minibus operators who operate outside Bucharest are reluctant to see the establishment of a transport metropolitan authority, as they fear they might lose the right to operate. Public authorities are trying to force minibuses to create a co-operative or umbrella association, and it will soon become compulsory.

Encouraging bicycle use

In recent years, Bucharest Municipality has been implementing numerous policies encouraging bicycle use in the city. In June 2017 the Municipality launched the "Cyclists in Bucharest" initiative. Under this scheme, the Municipality issued 5000 vouchers (one voucher equals 500 Romanian Lei) and offered them to residents interested in purchasing bicycles (or electric bicycles, portable scooters and Segways or similar). This scheme, named "Cyclists in Bucharest", subsidises the purchase of, and fosters the use of two wheelers in Bucharest[3]. The Municipality received over 30,000 requests from residents interested in receiving a voucher. Given the demand, the Municipality is considering issuing an additional 25,000 vouchers, the decision should be approved in 2018. Another project which would contribute to financing cycling infrastructures in the city, "*Implementation of a system of transport with bicycles in the central area of the Bucharest City*", is in the process of being approved by public authorities in Bucharest.

What influences transport policies in the city?

Towards the end of the 1990s Bucharest started to receive support from International Institutions to expand or improve public transport. Access to loans and grants from European financing institutions such as EIB[4] and ERBD[5] and also international funds, has increased since the 2000s. EU structural funds accessed in 2014 supported Bucharest's local authority for certain local investments.

Shaping the future

During the last part of the Focus Group participants exchanged views about the future of Mobility in Bucharest. Participants were first asked '*What are the future challenges the city is likely to face in the coming years*' for example, demographic changes? Finally, the discussion focused on potential innovative policies that could accelerate sustainable Mobility in Bucharest.

[3] Further information available at http://www.pmb.ro/institutii/primaria/directii/directia_mediu/biciclisti_in_buc/biciclisti_in_buc.php

[4] *European Investments Bank (EIB)/ European Fund* for Strategic Investments (EFSI)

[5] *European* Bank for Reconstruction and Development (*EBRD*)

What are the future challenges Bucharest is likely to face in the coming years?

Lack of public transport capacity during rush hour

One of the main issues faced by public transport operators in Bucharest is the lack of capacity during rush hour. This is likely to worsen in the future and could become unmanageable, as public operators "*can hardly manage*" at present. As stated by a participant: "*The main problem is that they all start at the same hour*". A passenger survey undertaken in 2015 highlights the scale of the problem, in total 5,106 bus passengers (public and private) responded to the survey. 26% of all respondents complained that public transport services are too crowded (as illustrated in Figure 8).

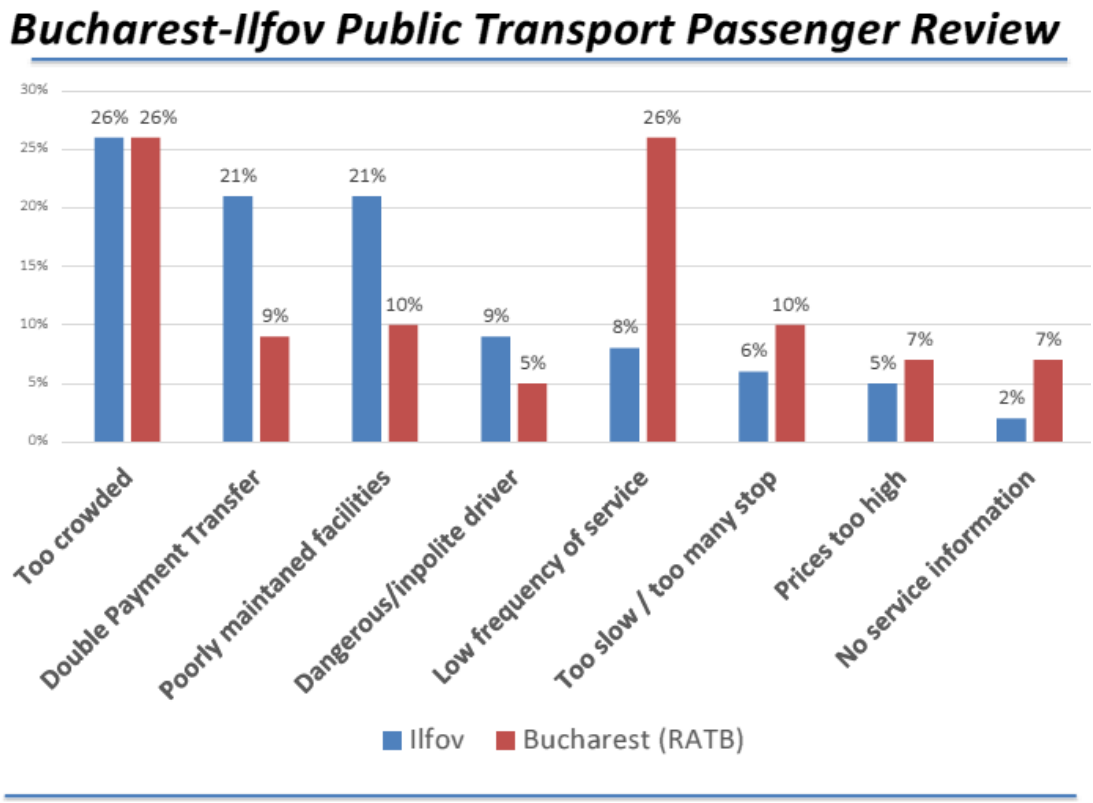

Figure 8 Public Transport Passenger Survey in Bucharest. Source: Bucharest SUMP, AVENSA, ROM Transportation Engineering

Urban Sprawl likely to increase

Urban sprawl is likely to continue in Bucharest as residents are looking for larger houses and clean air. Participants mentioned that the centre of the city has become less attractive, partly because of congestion

issues, "*Now the poorest people are living in the centre and the richest are going outside to get some fresh air*" summarised a participant.

Which innovative policies could accelerate sustainable Mobility in your city?

Integrated public transport

All public transport operators should increase their collaboration to improve the efficiency and the quality of PT service in Bucharest. Public operators should "*connect on-surface transport with underground transport*" by better connecting the bus network with the metro network.

Improved pricing policies for Public Transport

Bucharest's local authority could increase the price of public transport to improve the quality of its service. As pointed out by a participant: "*The price of the ticket has not changed since 2008*", "*we have the cheapest tickets in Europe*". Another participant highlighted that "*if we want quality we have to pay*". Yet there is a need to provide good quality service to attract increased numbers of users. In addition, PT operators should start introducing monthly or yearly payment options to increase the citizens' interest for public transport.

Small pilot project to implement parking management and bus lanes

There are opportunities in Bucharest to test parking management policies in specific streets before applying it to a larger zone. There are also possibilities to establish dedicated bus lanes. As highlighted by a participant "*Step by step we will spread it across the city*". But the Police need to be on-board to ensure that the rules are enforced.

Flexible working hours

Public authorities could foster the establishment of flexible working hours to discourage certain workers from commuting during rush hour.

Teleworking

Public authorities should encourage and facilitate teleworking to minimise commuting trips to Bucharest and decrease traffic. "*We should convince CEOs to offer flexible hours*" stressed a participant.

Travel plans

Public authorities should encourage the establishment of travel plans for major residential areas and large private companies.

Harmonised land-use and transport policies at the regional level

The law should be amended to ensure that land-use and transport policies are joined-up within Bucharest and between Bucharest and its neighbouring areas. New developments should not be permitted without a sustainable transport plan in place. As summarised by a participant, there is a need to establish "*One centralised vision for all*" by integrating the various policies.

Alternate-day travel

Bucharest Municipality could put in place road space rationing policies to reduce car traffic and air pollution in the city. This policy existed during the 1980s to save petrol consumption but it was only applied during the weekend.

SUMP

The SUMP represents an opportunity to ensure policy continuity in Bucharest.

ANNEX 1 – CREATE Topic guide S1 cities

Topic Guide Focus Group

Understanding the past

1. How has urban transport evolved over the past 10 to 15 years? (for example, linked to societal and cultural changes, mobility demand, demographics…)
    a. How about land use?

2. How have urban transport policies evolved over the past 10 to 15 years?
    a. How about land use and planning policies?
    b. To what extent have those changes been affected by policies or legislation at the national or supranational level (for example changes at the EU level)?

Defining the present

1. What are the biggest challenges for urban transport and mobility in your city?
    a. What are biggest challenges at a policy level?
    b. What are the biggest political challenges?

2. What are the current policy priorities for urban transport in the city?
    a. What are the challenges in delivering those priorities?

3. What influences transport policies in the city? (for example, regional, national or supranational influences or demands coming from local citizens such as lobby groups or the press, or competition with other cities…)

Shaping the future

1. What are the future challenges the city is likely to face in the coming years (for example, demographic changes…)
    a. And the future opportunities?

2. What is the overall strategy for future urban transport policy in the city?

3. To what extent can technological developments help solve urban transport problems in your city?

4. Which innovative policies could accelerate sustainable mobility in your city?

ANNEX 2 – CREATE city profile questionnaire

Introduction:

The topic guide below has been compiled to provide the CREATE project basic data about your city. We would like you to complete the questionnaire below by collecting/gathering information about your city. The data should be **official public data** as far as possible. However, we understand that at times it might be difficult to find the relevant data within your organisation. Even though we would recommend that you not provide unofficial data, if you do provide unofficial data (for example online data from Wikipedia) please make an explicit reference in the document.

Your city's administrative structure

- Could you please define the boundary of your city's administration?
    - When we talk about transport in your city, which territory are we talking about? (e.g. city centre, metropolitan area, other?)
    - Could you provide surface of land use area (km2) data, an indicative map, and/or any other useful indicators.

Demography

- How many inhabitants does your city have?
- Do you have historic data about the total number of inhabitants in your city (throughout the past decade or two)?
- Do you have predicted population growth?

Transport institutions

- Which entities are responsible for transport policies and operations in your city? (e.g. which department within your local authority? Any national entities? Any private transport operators?)

Transport Demand and Car Ownership

- What is the modal share/split (% of trips per average workday) in your city?
- Do you have historic data recording the evolution of modal share?
- Could you provide information about the development of the number of private cars (car ownership levels) and the number of driving licences per inhabitants (city-wide)
- Do you have predictions related to future transport demand in your city?

Economy

- Could you provide data about the development of GDP (Gross Domestic Product) per capita in your city (over the years)?

- Could you provide current and historic data about the development of annual average fuel prices (diesel and petrol) distinguished between net values and taxes [€ per litre]

Local transport plan

- Does your city have a local transport plan and/or business plan or any other equivalent policy-making document? If so, do you have an English version?

Additional data

- Do you have additional data which would be relevant to establish an initial city profile?

Thank you very much for your collaboration. We would be grateful if you could complete and complement the questionnaire in the coming weeks. We need as much information as possible before the mid-term review report to be submitted to the EU Commission at the end of the year. Early next year we will ask you to gather further qualitative and quantitative information about urban transport and transport policy in your city.