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Deliverable 4.4

CREATE Stage 1 City Reports

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

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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.

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?

CREATE - City Report

Skopje, Republic of Macedonia

Past, Present and Future mobility challenges and opportunities in Skopje

17-10-2017

By Clemence Cavoli, UCL Centre for Transport Studies

I. Introduction

II. Context & Methods

III. Skopje Monograph

Understanding the past

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

Defining the present

Skopje's institutions

Skopje's population

Transport and urban plans in Skopje

What are the biggest challenges for urban transport and mobility in Skopje?

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 Skopje is likely to face in the coming years?

Future opportunities in Skopje

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 summarises research findings in the city of Skopje, Republic of Macedonia. A monograph reports on the analysis of the Skopje's Focus Group, complemented by relevant data from the City Profile. This report will serve as the basis for CREATE's cross-city comparison.

II. Context & Methods

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

On the 14th of March 2017, the city of Skopje hosted a Focus Group that aimed to gather key stakeholders to discuss past, current and future issues related to urban transport in Skopje. In total 14 participants attended the Focus Group. The participants were carefully chosen as stakeholders representative of different key sectors in Skopje and in the Republic of Macedonia. A range of experts, who all demonstrated deep understanding of Skopje's past, present and future transport and urban planning, took part in the Focus Group. Six participants represented Skopje's local authority, including three local transport policy-makers from the transport department, one participant from the planning department, one participant from the Mayor's office and one participant from the international co-operation department. Three participants were academics. Of those three, two were from technical science departments and one from an urban planning department. Two participants represented the Ministry of the Interior, Department for Traffic Affairs. In addition, two participants came from the Spatial Planning Agency in Skopje and one participant from the Institute of urbanism.

The focus group was conducted in Macedonian (with translation 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 Skopje's past relating to urban transport and planning. The second part addresses the present situation, including defining the biggest challenges the city faces. Finally, future challenges and opportunities related to urban mobility and planning in Skopje 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 Skopje 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. Skopje 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 Skopje?’* 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?*

Shift from Communism to Capitalism negatively affected public transport

Following the collapse of communism in 1989, the Socialist Republic of Macedonia seceded from Yugoslavia in 1991. This marked a radical shift from Communism to Capitalism in the country. This change was felt strongly in Skopje, capital of the newly named Republic of Macedonia.

One of the most noticeable changes in the transport sector was the deregulation of public transport, which *“had deep consequences on the modal share in Skopje”*, as described by participants. In Skopje, public transport was deregulated *“overnight”* without proper planning or preparation, recall participants. Initially, private operators were allowed to operate *“without any control”*. This led to a decline in the quality of collective transport. Bus drivers were *“racing and fighting over who was going to take more passengers at the next stop”*, remembers a participant.

These changes, in parallel with the rise in private cars, led to a decline in the number of public transport passengers. Figure 1 below illustrates the changes in modal share between 2000 and 2010 in Skopje. It is estimated that in 1989 up to 150 million passengers used public transport in Skopje every year. In 1997 it went down to 43 million passengers per year, according to estimates. *“This was a great setback for public transport in the city of Skopje”* recalls a participant, and it has been *“very difficult to correct this change, even 20 years later”*.

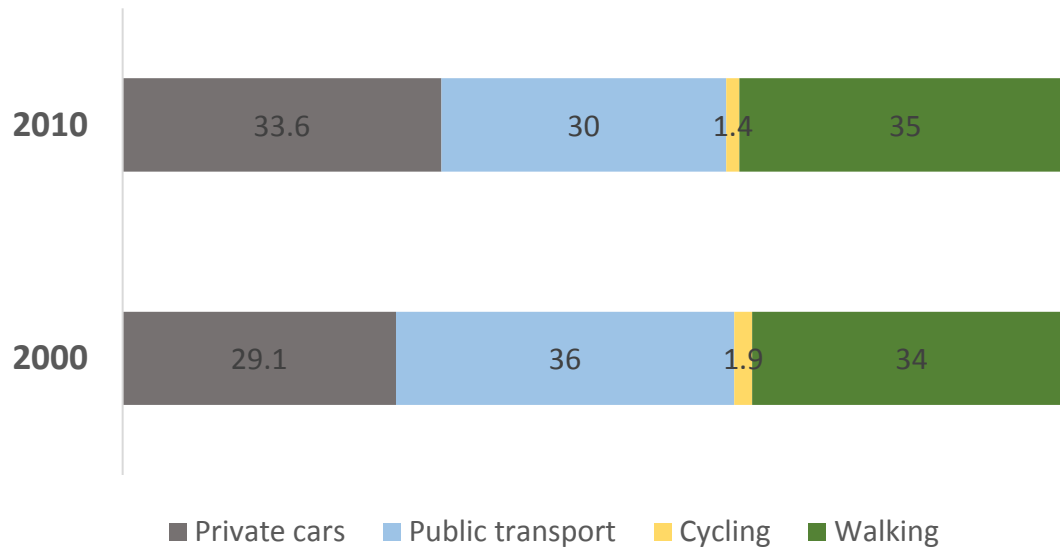


Figure 1 Evolution of Modal Share in Skopje. Source: Traffic studies for traffic system of Skopje from 2000 and 2011

Radical changes in urban planning

In 1963 a magnitude 6 earthquake occurred in Skopje. It is estimated that it destroyed circa 80% of the city. After the catastrophe, the city was rebuilt “*following a Western [planning] model*” with the support of international donors (such as the United States of America or the United Nations), recalls a participant. From this point onward, the objective was to build “*a city for fast motorways*”. Skopje’s “*primary traffic*” network was established then. But participants point out that what was planned then “*wasn’t fully realised*”, and a high percentage of planned highway was not developed.

Another key turning point for urban planning in the city of Skopje, was the change of ownership that occurred post communism. From 1991, private developers and private land owners became key stakeholders in the planning process. It led to a construction boom which was not fully controlled by public authorities.



Figure 2 Settlement Zelezara, newly built prefabricated buildings (29 December 1963). Source: The State Archives of the Republic of Macedonia (DARM), Skopje Department

Unplanned increase in population affected land-use

Another factor that explains current land-use and mobility issues in Skopje is linked to demographics. From the 1990s rural-urban migration accelerated in the Republic of Macedonia. Population growth in the 1990s and early 2000s is also due to the influx of refugees during the Yugoslav Wars in Slovenia, Croatia, Bosnia and Kosovo. The city was not “*prepared*” for this sudden growth in population, as reflected in Skopje’s 2001 and 2012 Master plans. This urban migration has contributed to urban sprawl in the greater Skopje area. The city developed following the “*shape of a butterfly*” instead of being dense, as initially planned. Figure 3 below illustrates the city of Skopje’s 10 municipalities, and Figure 4 shows Skopje’s additional 7 municipalities that forms the metropolitan area.

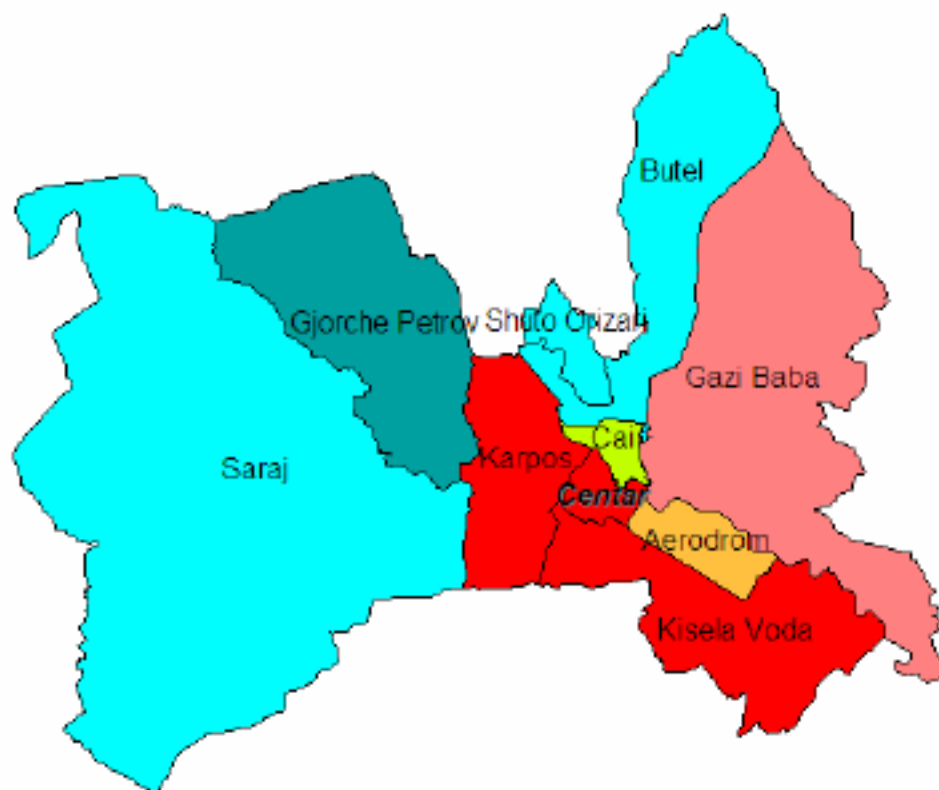


Figure 3 Map of Skopje. Source: Skopje Transport Master Plan 2011, IDOM

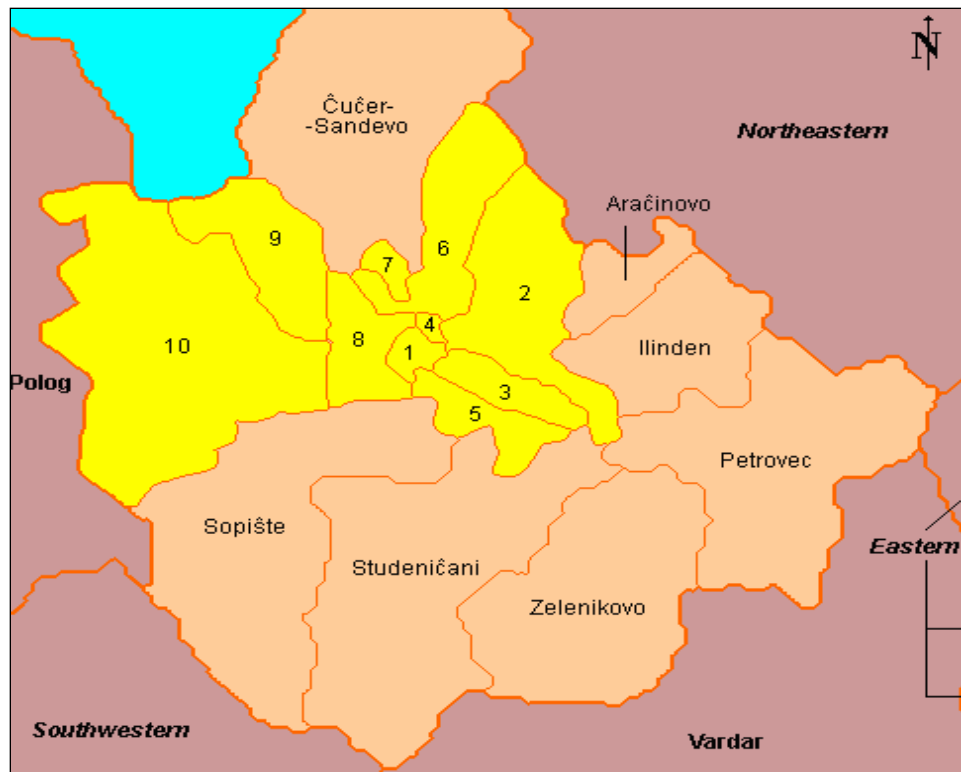


Figure 4 Map of the Metropolitan Area of Skopje. Source: Traffic study for traffic system of Skopje from 2011

Urban sprawl has increased pressure on Skopje's transport network

These changes in land-use have impacted Skopje's transport system which was not designed to cope with increased population. Daily trips from Skopje's suburbs to Skopje's city centre have increased rapidly and are still rising as urban sprawl continues. It is estimated that up to 95,000 commuters from the Greater Skopje travel to Skopje's city centre every day (According to a traffic study from 2011). This put "*intense pressure*" on the transport system in Skopje, describes a participant. Road corridors and public transport facilities between Skopje and its neighbouring cities are saturated.



Figure 5 Traffic Jam in Skopje 2008. Source: [i_pinz](#)

Rapid growth in private vehicle use

The fall of communism and the start of the market economy in the Republic of Macedonia led to a rapid increase in motorisation rates. *“We cannot avoid the mass buying of vehicles”* describes a participant. Estimates suggest that in the 1990s there were approximately 150 vehicles per 1000 inhabitants in the Republic of Macedonia, whereas now it is closer to 330 vehicles per 1000 inhabitant. Figure 6 below illustrates the increase in car ownership levels since 2007.

A participant describes how the local authority made many efforts to accommodate the need for car use by *“building road networks and parking facilities”*. Skopje has now become *“a paradise for motor vehicles”*, as defined by another participant.

The lack of quality and capacity of public transport explains why people rely on their private vehicles to commute, as described by several participants. As previously described, the quality of public transport in Skopje has been falling since the 1990s. The range of issues described by participants include: the lack of *“reliability”*, *“security and safety”*, *“comfort”* and convenience. As a result, participants describe the fact that for many in Skopje, having access to a motor vehicle is a necessity. *“Cars are a basic need at the moment”*, explains a participant.

On the other hand, psychological factors linked to social status and vehicle ownership explain the increase in car ownership. Car ownership is strongly associated with social success in the Republic of Macedonia. As described by a participant, *“the size of the motor vehicle corresponds to the individual’s wealth”*. Residents aspire to own a vehicle.

Car ownership in Skopje (cars/1000 inhabitants)

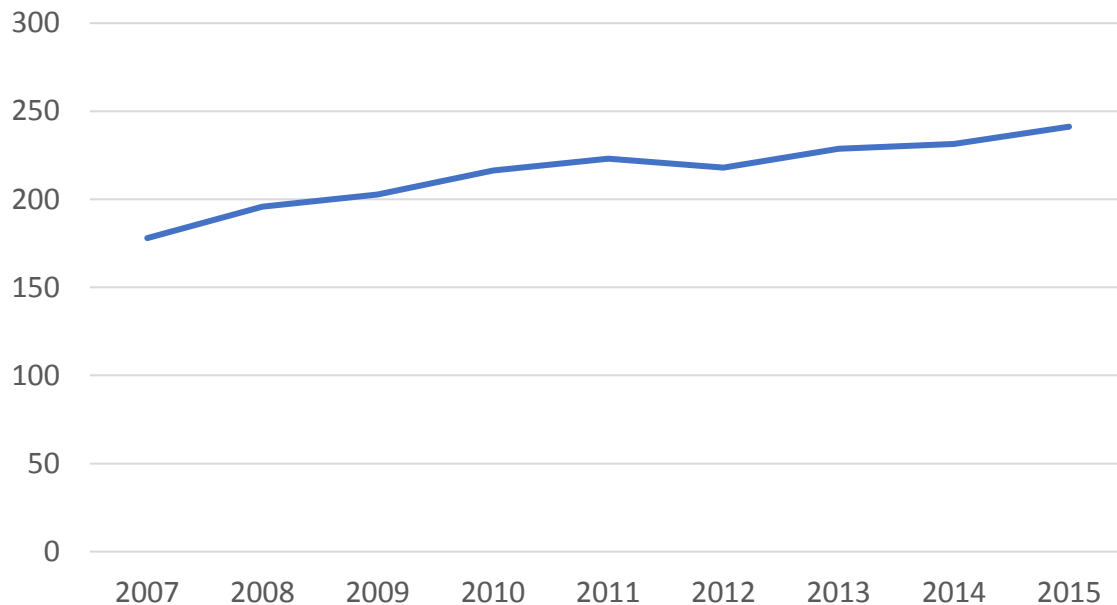


Figure 6 Increase in car ownership in Skopje since 2007. Source: State statistical office of the Republic of Macedonia

Easy access to private cars

Another factor that explains why car ownership has increased over the years is the fact that buying a second-hand vehicle in the Republic of Macedonia is “*cheap*”, as mentioned by participants. In the late 2000s, the national government approved the import of second hand vehicles (Euro 1 & 2) from Western Europe. “*These vehicles are available at a very low price*” highlights a participant. “*Even students who used to take public transport started buying motor vehicles*” describes another participant. These were “*bought from countries which were removing them from utilization*” and contributed to increased pollution and car use levels.

In parallel, Gross Domestic Product (GDP) per capita has been gradually increasing in Skopje as illustrated in Figure 7 below, increasing residents’ purchasing power. Fuel prices in the Republic of Macedonia have also been going down since 2012 (see figure 8 below).

Evolution GDP per capita in Skopje (in €)

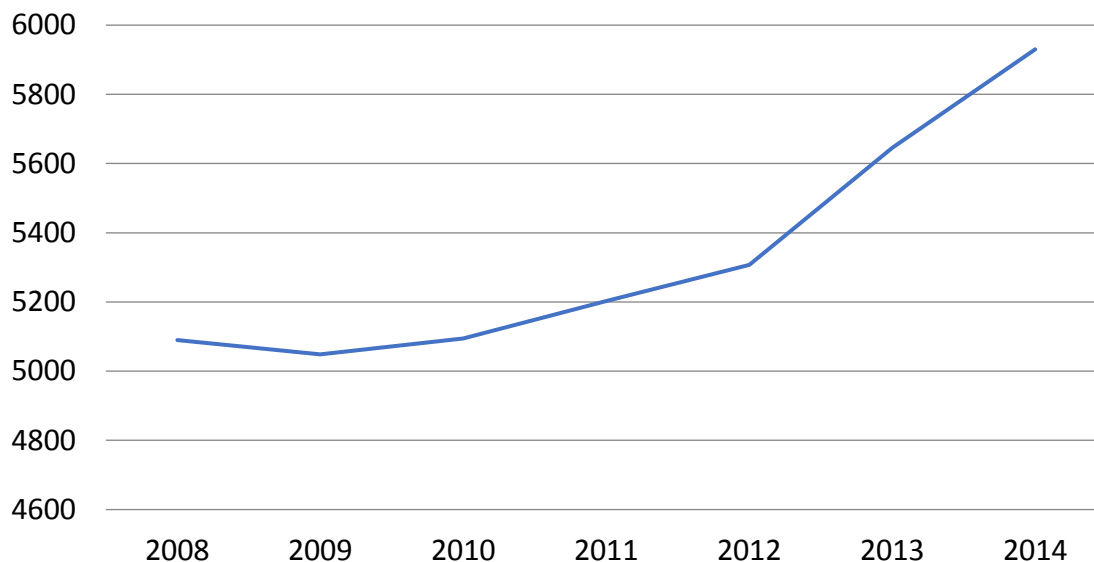


Figure 7 Gross domestic product (GDP) per capita in Skopje metropolitan area. Source: State statistical office of the Republic of Macedonia

Annual average fuel prices in the Republic of Macedonia (in €/Litre)

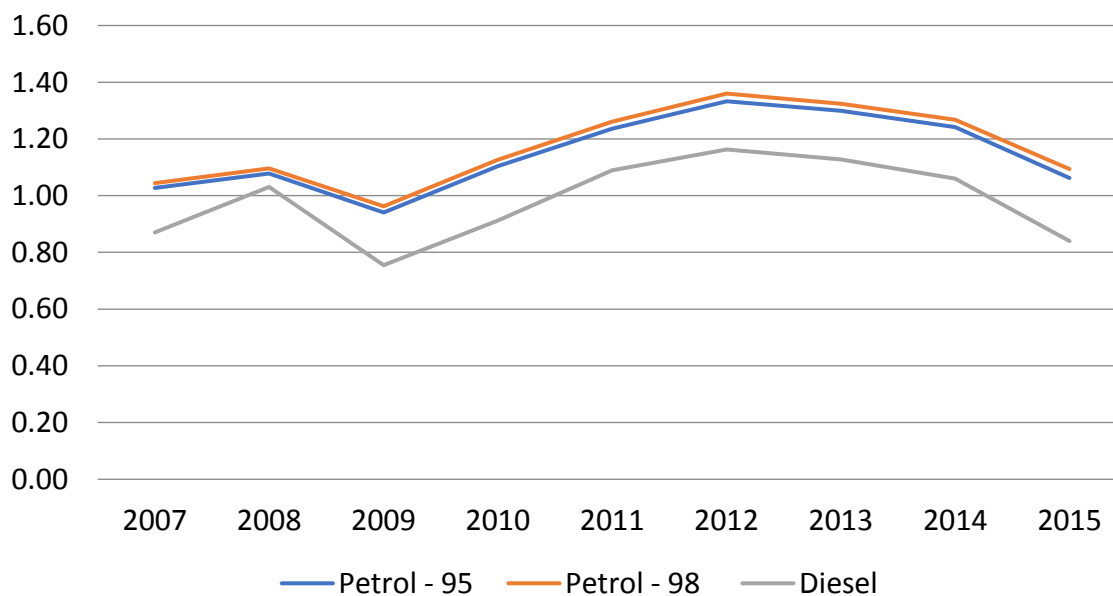


Figure 8 Annual average fuel prices (diesel and petrol). Source: Energy regulatory commission of the Republic of Macedonia

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

Land-use and mobility policies are not integrated

The lack of cohesion between land-use and mobility policies in Skopje was highlighted. This lack of integration has “*caused pressure on the overall infrastructure network*”.

Lack of investment in public transport

Public authorities’ investments in public transport have been insufficient, according to participants. Bus fleets have not been renewed, as a result buses “*quickly became obsolete*” in Skopje. Furthermore, the network has not been updated to match the changes in passenger demand and the changes in urbanisation. A participant gave the example of the bus route number 16 that used to connect one of Skopje’s large factories to the city center. Even though the factory no longer operates, public buses still operate on route 16. A participant summarizes: “*Workers no longer go to the factory but the buses still function*”. The public transport network has not been updated to reflect new demographic and social changes in Skopje.



Figure 9 Private Bus operator in Skopje. An old Mercedes-Benz O 317 bus in Skopje, Macedonia. Source: [Guitardemon666](#)

Investments to improve and integrate public transport

Over the past five years the city of Skopje has made efforts to reorganize Skopje’s transport system and to improve collective transport. The aim has been to integrate public and private transport systems. To do so, an integrated timetable, payment and real-time information systems were established and jointly implemented by public and private operators in 2016. “*Passengers are more satisfied compared to before because users can now use all modes of collective transport thanks to the integrated payment system*”, highlights a participant. The integration of the privately and publicly run buses has also contributed to improved collective transport’s reliability. Thanks to the automatic payment system, public authorities are now able to monitor operations and operators “*are subject to sanctions if they do not respect the rules*”. Before, operators “*were operating only during peak hours and were not regular*” mentions a participant.

Private bus operators are individual traders who own one or several buses. To better control the system, Skopje’s municipality made it compulsory for private bus operators to form large associations regrouping various owners. Two associations were formally established prior to 2017 and now have representatives

who engage with the local authority. This has contributed to better regulate the system. Prior to this change it was common to “*see many races between operators that caused bottlenecks*”, recalls a participant. The routes that private bus operators can operate on are decided by the local authority.

Public transport is subsidised so that the price of the ticket remains low. Transport is free for over 64 year olds and students. Private bus operators are not subsidized. Since January 2017, when the automated ticketing system was put in place, they have been paid by kilometer. In total approximately 70% of all buses are publicly operated and 30% are privately run.

In addition, between 2009 and 2013 the city renewed its bus fleet; the public transport enterprise received 312 buses (double decker and standard buses). In addition, smart ticketing, automatic location and real-time information systems were established in 2015.



Figure 10 New Bus Fleet in Skopje. Source: Skopje's local authority

Defining the present

The second part of the focus group raised questions related to the present situation in Skopje. Participants were first asked ‘*What are the biggest challenges for urban transport and mobility in Skopje?*’ Then they were requested to describe *current policy priorities for urban transport in Skopje*. Finally, participants were asked ‘*What influences transport policies in Skopje?*’ for example, regional, national or supranational influences or demands coming from local citizens such as lobby groups or the press, etc.

Skopje's institutions

The city of Skopje is governed by an elected mayor. Each of the 10 municipalities within Skopje also have an elected mayor. Table 1 below illustrates the various institutions responsible for transport policy, operation and traffic management in Skopje. Transport policy is the responsibility of Skopje's mayor in collaboration with Skopje's transport department. 70% of all public transport operations are managed by Skopje's public transport operator called JSP. Two private transport operators manage the rest of the bus network. Skopje's transport department is responsible for traffic management in the city of Skopje. It receives supports from, and requires approval from the Ministry of the Interior. In addition, a public enterprise is responsible for road maintenance and another is responsible for parking management.

Transport Policy	Public Transport Operations	Traffic Management
Skopje's mayor	Public transport operator 'JSP'	Transport department in the city of Skopje
Transport department in the city of Skopje	Two private transport operators: "Mak ekspres" and "Slobdaprevoz"	Ministry of the interior
		Public enterprise for streets maintenance "Uliciipatista"
		Public enterprise for parking "Gradski parking"

Table 1 Institutions responsible for transport policy, operation and traffic management in Skopje

Skopje's population

In 2015, the state statistical office estimated that Skopje had **544,086 inhabitants**. The population in Skopje has been slowly increasing since 2007. According to public authorities, this trend is likely to continue and by 2030 the city of Skopje could have 675,946 inhabitants.

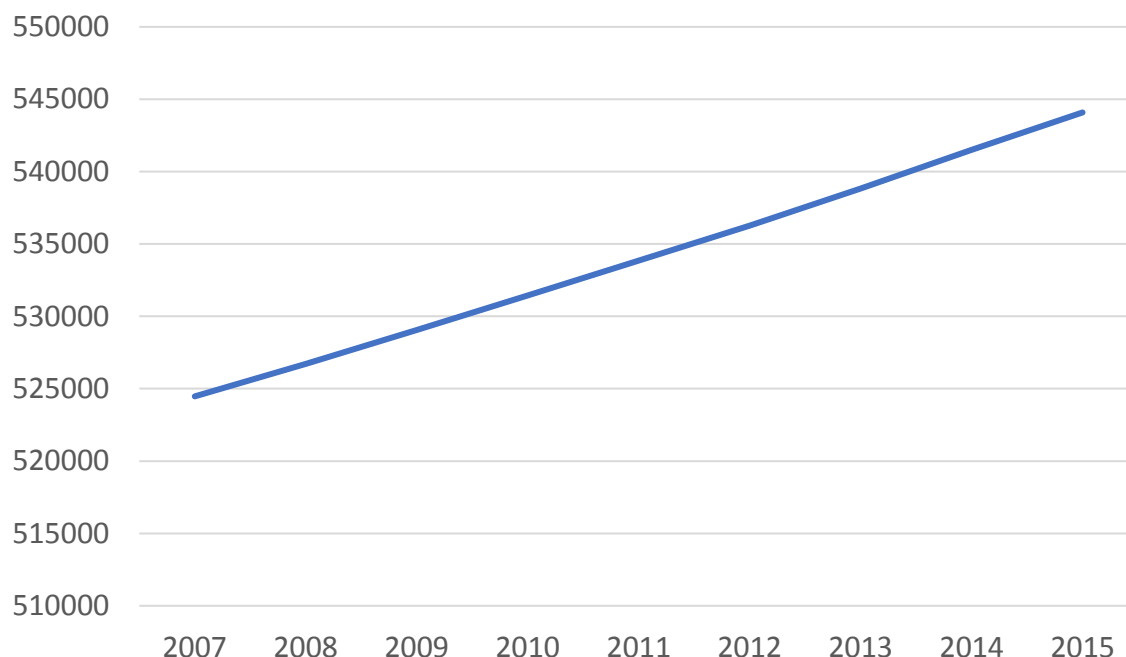


Figure 11 Evolution of population in Skopje. Source: State statistical office of the Republic of Macedonia

Transport and urban plans in Skopje

Several urban and transport plans have been adopted in Skopje since 2008. A *Strategy for developing public transport in Skopje* between 2008 and 2018 was established by Skopje's Traffic and Transport Department in collaboration with the faculty of technical sciences from Bitola.

In 2011 a Transport Plan was established for the Greater Skopje area. It was commissioned by the Ministry of Transport and Communications of the Republic of Macedonia and produced by IDOM, a Spanish Engineering company. The establishment of this plan was “*a good opportunity to generated transport data and establish a database*”, mentioned participants. The plan covers the Greater Skopje area. It is called: “*Study for the traffic system of the city of Skopje*” and includes detailed plans to design roads. In the context of this project, a household survey was undertaken in 2009 sampling circa 11000 residents.

In parallel, the City of Skopje established a Sustainable Urban Mobility Plan, prepared as part of the CIVITAS RENAISSANCE project and adopted by the City Council in 2011.

The City of Skopje also has a *General Urban Plan* for 2012 - 2022 adopted by the City Council in 2012.

What are the biggest challenges for urban transport and mobility in Skopje?

Reducing car use

One of the biggest challenges for Skopje's local authority is how to reduce the use of motorised vehicles and increase the use of active travel and public transport, without having an impact on congestion. In 2009 over 30% of trips in Skopje were made by private vehicles (or taxis), as illustrated in figure 12 below. It is estimated that circa 188,000 car drivers commute through Skopje on a daily basis. This corresponds to circa 0,79 cars per household. It is acknowledged that infrastructure for sustainable modes of transport needs to be improved. However, states a participant, *“the fear is that by reducing road capacity for car users to give it to other modes, traffic congestion will worsen”*. It is a *“political risk”* which is difficult to assume for most politicians. Yet, as highlighted by a participant, *“If public transport becomes faster than private transport, people will start using it”*.

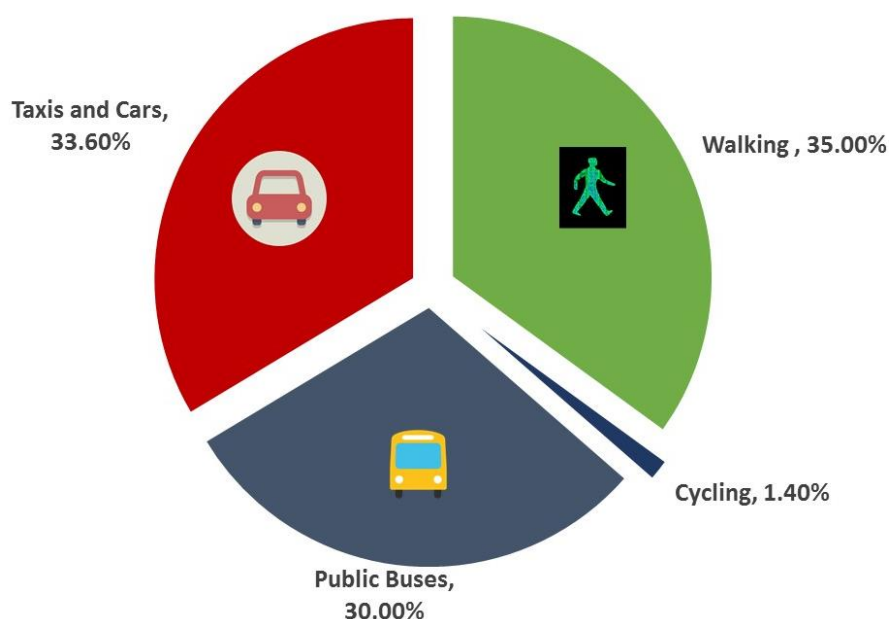


Figure 12 Modal Share Transport in Skopje in 2009. Source: Skopje's regional transport plan, IDOM

Need to improve public transport in Skopje

The quality and capacity of public transport services in Skopje remains unsatisfactory. A study undertaken in 2014 indicates that circa 70% of public transport passengers must change buses to get to their destination. The public transport network needs to be updated to reflect current demand. Skopje *“needs a high-performance public transport system, in particular regarding capacity and speed”* stresses a participant.

Need to understand transport demand

To improve the public transport network in Skopje, public authorities need to better understand transport demand in the city. One participant highlights: *“There is a disconnection between the needs and the demand for mobility and the urban planning itself.”* Another participant mentions that there is a need to *“study the real needs of transportation for people”*.

Lack of integration between land-use and mobility

The continued lack of coordination between urban planning and transport policies in Skopje is highlighted by several participants. Urban plans are being approved without plans anticipating the traffic and mobility needs new developments are likely to generate. There are no legal requirements for transport and land-use planning to be integrated. Skopje’s regional transport plan adopted in 2011 recommends that Skopje’s city council ‘concentrates’ land-use and transport policies and establishes a Metropolitan Authority for Transport.

Enforcement problems

One of the difficulties public authorities face in Skopje is the lack of compliance with traffic and parking rules. Participants mentioned that bus lanes are not respected in Skopje, *“people do not comply with the lanes for buses”* stress participants. Car drivers frequently park on side-walks or on bicycle lanes (as illustrated in figure 13). Enforcement is the responsibility of the police force, which is managed by the Ministry of the Interior. Part of the solution is to build concrete barriers to deter people from using or parking illegally, according to some. Participants also complain that taxi drivers tend to park at bus stations, disrupting traffic flow for buses.

There is a need to increase fines and implement them to ensure that citizens and taxi drivers comply with the rules. Improved collaboration between the Police (and the Ministry of the Interior) and the local authority is needed. In addition, in order to ensure compliance, the *“public needs to be prepared”* before any major change such as bus lanes is implemented.



Figure 13 Illegal parking in Skopje. Source: Cavoli, C.

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

Conflicting views about the need to increase road capacity

In Skopje, the local authority is under pressure from the public to expand the road network to reduce congestion. Several participants mention that the road network should be expanded to ‘relieve pressure’ on existed roads, as highlighted by Skopje’s Master Plans. It is mentioned that there is a need to finalise Skopje’s ring road and to build additional highways to “*relieve the primary traffic network*” and “*contribute to the reduction of congestion in the city*”. There is a need to “*build a secondary road network*” according to a participant, to relieve congestion and pollution. Another participant suggests: “*Maybe the next step for the planners is to build multi-level intersections*”. The construction of these roads has been planned for many decades but it has not “been realised” or finalised. “*It is very difficult to decrease congestion without those networks in place*” stresses a participant. To improve traffic flow, traffic management control was established in 2013.

However, different views were expressed. Other participants mentioned that the City of Skopje’s road building strategy is flawed and outdated. “*Alleviating Skopje’s congestion problems by building new roads*” is likely to be increasing car use demand as journey time will be reduced. A participant stresses: “*We will reach great conditions for the use of motor vehicles*”, “*the more we increase traffic capacity the more traffic we will generate*”. Congestion might be reduced temporarily but car use is likely to increase in the longer term. As highlighted by a participant: “*The question is whether we should build a city to have more motor vehicles or build a city where people’s quality of life will be better*”.

The city of Skopje “*does not have clearly defined transport policies*” which it “*supports, stands behind and implements*” highlights a participant. The local authority seems to have contradictory policies stresses a participant: “*We have a mixture of policies, on the one hand the use of motor vehicles is being encouraged by the construction of highways, and on the other end the city tries to encourage alternative mobilities*”.

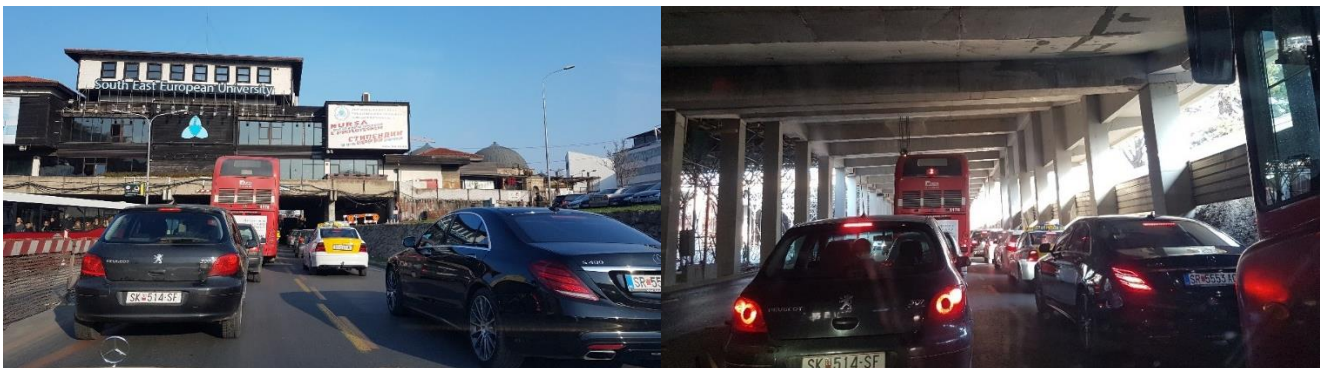


Figure 14 Highway construction& traffic jam in Skopje. Source: Cavoli, C.

Improving public transport

Skopje's local authority is aware that public transport in the metropolitan area needs to be improved. The municipality is *“working on its improvement”*. The city council plans to implement dedicated bus lanes to improving public transport flow. Initially, bus lanes (or yellow lanes) will be established *“in segments”* in certain parts of the city, *“so that people can get used to it”*. The plan is then gradually to increase the number of bus lanes and ultimately to create corridors. Skopje's local authority is also considering purchasing 50 electric buses (18 meters long) to increase public transport's capacity and reduce pollution in Skopje.

The city council aims to make public transport more reliable and faster to make it more attractive than using a private motorised vehicle. *“We hope that those changes will encourage people to use public transport in Skopje”*, highlights a participant.

Pressure to decrease pollution

Air pollution and CO₂ emissions are very high in Skopje. The city council is under pressure to address pollution issues. A high percentage of particulates are generated by vehicle exhaust. According to a participant *“the City of Skopje is amongst the most polluted cities in the world”*. When Skopje joined the Covenant of the Mayors in 2009 it committed to reduce its CO₂ emissions of 20% by 2020. The Energy efficiency office was opened in 2010. A sustainable energy action plan was then established. The local authority invested in 10 electric motorbikes, two communal electric vehicles (used to clean streets), 10 electric buses, several municipal electric vehicles and two charging points for the use of electric vehicles for citizens (as illustrated in figure 15 below). In addition, when pollution levels are extremely high in Skopje public transport becomes free for all citizens. Addressing pollution issues in Skopje is an opportunity to *“implement different policies which could support sustainable mobility”*, stresses a participant.





Figure 15 Skopje's municipality's electric vehicles

Investment in bicycle facilities

The city of Skopje has started to invest in bicycle facilities to encourage the take-up of bicycles as a mode of transport as part of the “Velo Skopje” project. In 2014 a working group was established to design plans for four bicycle lanes, “*uninterrupted*” that could connect the 10 different boroughs within Skopje. Local Non-Governmental-Organisations have been involved in the process. Two cycle routes of circa 30 kilometres were successfully built. Another two are scheduled to be completed by the end of 2017. In addition, the city of Skopje has ear-marked 10 million Denar (circa 16000 euros) to subsidise the purchase of private bicycles. The objective is “*to offer alternative means of transportation to citizens*”.



Figure 16 Cycle Lane in Skopje. Source: Skopje's local authority

What influences transport policies in the city?

Several participants mentioned that Skopje’s participation in EU urban mobility project has had an influence on transport policies. Sustainable urban mobility projects have contributed to change the mindset of local policy-makers; as highlighted by a participant: “*Taking part in European projects has changed mindsets within the Transport Department in Skopje*”. The city of Skopje participated in the CIVITAS

Renaissance project and established a Sustainable Urban Mobility Plan (SUMP) as a result. Skopje's public officials stated that the SUMP “*should help to establish a new way of thinking by the professionals and politicians, [...] when it comes to problems of planning the city transport system*”¹. The city also participated in the H2020 FLOW project.

Shaping the future

During the last part of the focus group participants discussed the future of mobility in Skopje. 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 Skopje.

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

Increasing levels of car use

Skopje's General urban plan (for the years 2012 – 2020) expects that car ownership levels will continue to increase, up to 31% by 2030. The predicted number of registered cars and car ownership level in Skopje's region is illustrated in table 2.

Year	Predicted number of registered cars	Predicted car ownership level (motorisation rate) in cars/1000 inhabitants
2020	170508	267
2025	187425	285
2030	205240	304

Table 2 Predicted number of registered cars and car ownership level (motorization rate) in Skopje. Source: General urban plan for Skopje 2012 - 2020

Demographic changes

The proportion of young people living in Skopje is decreasing. This is due to increased emigration rates amongst young people (i.e. young people leaving the Republic of Macedonia) combined with low fertility rates. This is likely to impact transport trends.

¹ Source: <http://www.civitas.eu/content/plan-development-sustainable-urban-transport-system-skopje>

Future opportunities in Skopje

Improving public transport

Public transport should become more reliable, enjoyable and fast. In addition, public transport capacity should be increased according to participants. *“The bus transport system is insufficient for Skopje”* stressed a participant., *“we should start thinking about public transport with better performance such as light rail transit”*.

Investing in light rail infrastructure represents an opportunity for Skopje to improve its transport system and to alleviate congestion. Light rail offers a solution to connect parts of Skopje that are distant from each other. One of the participants strongly supported the development of light rail to solve Skopje’s transport problems. Skopje’s SUMP adopted in 2011 recommends the establishment of a light rail system that can rely on buses as ‘feeders’ by 2030.

In addition, participants mention that the public transport network should be further integrated and connected. *“Transport corridors need to be connected and a comprehensive network should be developed”* highlights a participant.

Alternative means of transportation

Developing attractive alternatives to car use is essential in Skopje to discourage people from using their *“comfortable”* private vehicle. A participant states: *“We should enable the introduction of solutions which would alleviate the use of cars.”* Park and Ride could be part of the solution, for cars but also for bicycles. Car-pooling could also provide an answer.

Bicycles facilities should be increased and improved. For instance the city needs more bicycle lanes and parking spaces. ‘Road safety’ and ‘security’ issues are still too common for cyclists in Skopje.

Improved walking environment

“Walking is and will always be an essential part of living in a city” highlights a participant. To encourage citizens to walk more the city’s urban environment should be ‘pleasant’. *“Individuals will always walk, so the walking environment should be pleasant”* stresses a participant, adding that the *“Journey itself is more important than the destination”* and that there should be ‘excitement’ in walking. There are too many ‘empty spaces’ in Skopje that are not conducive to walking. There might be an opportunity to plan trees in those areas.



Figure 17 Skopje's public square. Source: Cavoli.C.

Raising awareness

Raising public awareness on transport issues in Skopje could be an opportunity to generate behavioural change. If the public's expectations change it will become easier for politicians to implement bold policies. *"There is a need to increase people's awareness that a different approach is needed [to improve transport problems in Skopje]"*, stresses a participant.

Pollution

In Skopje, residents often complain about high pollution levels. This might represent an opportunity for policy-makers to justify unpopular transport measures. *"Maybe it [the pollution] is an opportunity to change people's mindsets"*, mentions a participant.

Cross-sectorial collaboration & Public debate

Implementing sustainable mobility solutions will require the participation of different actors across sectors; such as Non-Governmental-Organizations, public officials, experts, traffic officers, police, media. It is also important to *"engage the public"* stresses a participant. These issues *"should be debated in public"*, there is a *"need for more debate"*, states another participant.

Smart city and liveable city

Technological innovations have the potential to improve the transport system in Skopje, in particular public transport and cycling. On-demand services via smart phones can improve services such as cycling.

A participant summarises his views by saying: *“The city should become green, smart, sustainable, pleasant for living, healthy. The vision for the city should go towards that direction.”*

Mobility As A Service

Multi-modal transport systems that incorporate public transport and cycling could improve mobility in Skopje.

Decentralisation

Medium size cities such as Skopje should not expand *“beyond a certain number of citizens”*, *“it should not have more than 600 000 citizens”*, mentions a participant. The national government should support the economic development and the expansion of secondary cities to relieve pressure on the capital city.

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.