

# Challenges and Lessons Learned during the Initial Implementation of EU Urban Mobility Policy in Bulgarian Cities in the period 2007–2017

VASIL MADZHIRSKI<sup>24</sup> – ELENA DIMITROVA<sup>25</sup>

## Abstract

*The paper addresses the challenges that Bulgarian cities of today face in developing strategic planning instruments for sustainable mobility. Large Bulgarian cities have been developing integrated urban transport projects (IUTP) since the previous programming period (2007–2013); the plans should be upgraded during the current programming period (2014–2020). The sustainable urban mobility plans (SUMP), developed as strategic instruments of EU urban policy, have been already acknowledged by many cities in the country as part of the overall strategic development framework. Yet, the efforts of local authorities in taking action for mobility improvement have in some cases faced lack of awareness on urgent local imperatives and contradictory views among different stakeholders on the way to overcome difficulties. The analysis undertaken by the authors aims to outline: (a) the effectiveness of the policy measures already introduced in the country; (b) the opportunities for a more effective implementation of EU urban policy instruments; and (c) the degree to which local public authorities appreciate citizens' involvement in the process as an important success factor. Conclusions are drawn about the importance of lessons learned on both sides – by Bulgarian urban authorities and experts, in developing current mobility development framework; and by EU policies in supportively addressing the spatial, economic and socio-cultural context of urban mobility policy implementation in Bulgaria.*

**Keywords:** sustainable mobility, integrated urban transport, urban mobility plans

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24 Civil Engineering and Geodesy (UACEG), University of Architecture, Sofia, Bulgaria; vassil.madzhirski@gmail.com

25 Civil Engineering and Geodesy (UACEG), University of Architecture, Sofia, Bulgaria; eldim\_far@uacg.bg

## I. Introduction

Mobility is among the key factors of European urban

development policy at the beginning of the 21<sup>st</sup> century. That comes as a result of the close relation of mobility with a diverse set of components of

urban life – physical environment, transport, ecology, accessibility, energy efficiency, social inclusion, economic competitiveness, etc. Without paying a special attention to this unifying factor, it would be impossible to address the challenges in all urban sectors. The diversity of involved disciplines requires a holistic approach in urban mobility research and analysis, which should be the basis for integrated solutions. EU policy in the field of urban mobility is aimed at setting such an approach. EC policy documents outline shared European challenges defines common goals and introduces sets of instruments for undertaking practical steps under a variety of specific contexts in EU member states.

The first decade after the year 2000 witnessed a considerable enlargement of the EU: a number of Eastern and Central European countries joined in Bulgaria being one of them at the beginning of 2007. The 16 years of post-socialist and post-industrial transformations in the country had already resulted in significant impacts on urban development and had set a new meaning to the urban planning process. The changes in urban economy and governance had a dramatic impact on urban mobility. The general trends were influenced by two parallel phenomena –

the significantly easier access to private cars and the strong decline in the quality of public transport services. These were accompanied by profound changes in people's individual and collective perceptions about prestigious ways of traveling and in mobility-related behavioural modes. As a result, public space in Bulgarian towns and particularly in the larger ones, also visibly changed – streets became heavily dominated by cars, causing high levels of air and noise pollution and considerably hampering urban flows.

EU funding support came to new member states through the Operational Programmes in several consecutive programming periods. During the first programming period of Bulgaria in the EU (2007–2013), the country was able to invest public funds in the improvement of urban mobility and transport system. The seven largest Bulgarian cities (with population over 100 thousand inhabitants) were the first beneficiaries in that field, getting the chance to apply for funding to invest in transport development, public space regeneration and institutional capacity building. The successful funding applications actually set on test not only the existing national and local planning and governance frameworks in the country but also

the EU methodological approach to the undertaken initiative. The current paper outlines the context specific challenges in Bulgarian cities in addressing the major EU policy priorities in the field of urban transport of policy identified challenges. The presented comparative analysis of the current policy implementation results in two Bulgarian cities – Sofia and Burgas, provided the argumentation for claiming that formulating a clear vision for the development of urban mobility, establishing effective collaboration among various stakeholders and guaranteeing timely civil inclusion proved to be crucial for the success of the investment initiative.

## **II. European Policy on Urban Mobility: Goals, Priorities and Common Challenges**

The framework of EU urban mobility policy is comprehensively outlined in a number of adopted key policy documents: the Green paper towards new urban mobility culture – 2007; the Action plan on urban mobility (EC 2009); the Guidelines for Developing and Implementing Sustainable Urban Mobility Plans (ELTIS 2013); the Urban Mobility Package: Together towards competitive and resource efficient

urban mobility (EC 2013). All these accentuate on the similarities in urban mobility challenges across Europe despite the differences in the national and local context and on the need for setting common EU objectives aimed at operationalizing the global sustainable development process.

The presence of diverse social groups in cities creates the need of equal access to public services and resources for all of them. This calls for urban mobility to offer a variety of forms, appropriate for different users. The estimated major challenges cover several thematic groups focusing on environmental pollution, health issues, economic and social consequences and the quality of urban space. Undertaken studies have reported that 23 percent of the CO<sub>2</sub> emissions in cities come from transport as an EU average (ELTIS 2013). Particulate matter (PM), produced by transport is among the leading factors for air pollution, which has a considerable negative effect on human health. Urban transport, especially the massive use of cars, also leads worsening the acoustic quality of the urban environment. Congestions have negative impact on urban space. The occupation of streets by travelling and parked vehicles results in unbalanced use of urban space by different users. It is the

reason for reducing the available space for public transport, walking and cycling. Many other functions, important to the livability/vitality of public places – social contacts, cultural exchanges, etc., are usually neglected where transportation is strongly dominating in urban space. Economic losses resulting from traffic congestion are related to losses of time and energy. The intensified traffic is in parallel a reason for an increased number of road accidents and for the significant rates of heavy accidents in places with high speed limit. This has a strong negative impact on urban safety.

The objectives set in EU policy documents aim to adequately address these challenges by overcoming or at least mitigating their negative impacts. EC has targeted 20 percent decrease of CO<sub>2</sub> emissions from all sources, including transportation, until 2020 (ELTIS 2013). The comprehensive set of measures envisaged in the field of urban mobility have also addressed the spatial dimensions of urban development by setting the focus on compact and mixed-use urban development as a means to reduce the need of daily based long distance commuting and other trips. This calls for careful coordination between spatial planning and mobility (ELTIS 2013). The

existence of such urban structures is a prerequisite for the development of efficient public transport systems. The implementation of energy efficiency measures and the reduction of transport generated emissions are considered an effective way to reducing the environmental pollution in cities.

Guaranteeing the equal access to public assets for various social groups in the city is considered another important policy priority. A particular focus on vulnerable groups – people with low incomes, citizens with reduced mobility, elderly people and children are especially focused upon (ELTIS 2013). An appropriate mix of mobility modes, which would adequately respond to local citizens' needs under a specific local context, and for encouraging multimodal mobility are considered important steps in the process.

The objective of increasing the vitality of cities, where the negative impact of the car presence must be limited would require decreased levels of car ownership, which could be achieved by the encouragement of vehicle sharing instead of vehicle owning. All these together with passenger shift to public transport, walking and cycling are expected to result in reduced car occupation of urban space, which could be then reallocated to other uses.

The effective implementation of European Urban Mobility Policy is supported by the introduction of a new planning and management tool – the Sustainable Urban Mobility Plan (SUMP) (EC 2009). The SUMP encourages local authorities to implement integrated planning approaches in with broad involvement of stakeholders throughout the entire process.

### **III. Mobility in Bulgarian Cities under the Context of Local Urban Changes and EU Policy**

The current Bulgarian settlements have a long historic development, which influenced their spatial structures as well as the mobility patterns. Modern public transport in Bulgarian cities was introduced in the early 20<sup>th</sup> century and developed in line with the European tendencies of the time. In the capital city of Sofia, the public transport system initially relied on tram lines. In 1930s and 1940s buses and trolleybuses were also introduced (UMC 2016).

In the period of socialism the traditionally compact cities underwent fast growth and profound structural transformations responding to the fast industrialization of the country. The implemented Modernist urban

planning principles of the Athens Charter of 1933 resulted in strict functional zoning. The traditional town centres partly lost their vitality, while large mono-functional structures were planned and built at the urban peripheries – industrial zones, residential complexes with prefabricated blocks of flats and strictly defined public services, green areas, etc. The established restrictions on private initiative turned the service sector into part of the national state economy. The well-developed public transport system was the only one to provide basic transport services for the growing urban population at a time of scarce private car ownership (DIMITROVA, E. 2001).

The shift in the societal paradigm in 1990, accompanied by radical political and economic transformations resulted in profound changes in Bulgarian cities. The changing economic profile of the cities (a weakening of manufacturing sector and rapidly growing service sector) led to the decline of the industrial zones and to new development at the urban fringe, where mostly in logistics and commercial enterprises were built on agricultural land along the main transport corridors. The urban sprawl requested longer journeys to areas where existed neither intensive public transport networks nor safe

and comfortable infrastructure for cyclists and pedestrians. These urban transformations evolved in combination with easier access to buying a private car and thus led to rapid increase of motorization levels which drastically changed the mobility patterns in the cities. The advantage of having a private car and being independent of public transport services resulted in the mass perception of private car ownership as a prestigious privilege. In parallel, the public transport system in most of the cities declined as a result of shrinking municipal budgets – the number of lines and the trip frequency of public transport vehicles were considerably reduced, rolling stock was depreciated. Due to the complex and expensive maintenance of the technical infrastructure, trolleybus lines were closed down in several cities. Plovdiv, the second largest town in the country, was one of them (VELKOV, I. 2016). A considerable positive result in Sofia in late 1990s was the first metro line put into operation. Yet, even with the introduction of the new metro system in the capital city, public transport could not be practically considered competitive to private cars any longer.

In the meantime, the national planning system in Bulgaria underwent profound changes while

responding to the transition from socialism and centrally planned economy to what is claimed to be market oriented economy and liberal democracy. The denial of economic and social planning made the elaboration and implementation of the already known spatial planning instruments no longer feasible. The recently re-established private property led to deep transformations in spatial planning approaches and methodologies (ALEKSANDROV, A. 2006). Private economic initiative took a significant role in the decision making process. Spatial planning became a technical instrument for responding to market demand rather than for guaranteeing the protection of public interest and standing in defence of social justice, reasonable use of public resources, conservation of cultural identity, etc. (DIMITROVA, E. 2001).

After more than a decade of transition, a new legislative framework in the sphere of spatial planning was established in Bulgaria. The new Spatial Planning Act was adopted in March 2001, with several accompanying ordinances that set the regulations in particular thematic fields like urban mobility. An up-to-date strategic framework was set aimed at adapting the existing plans to the evolving social conditions. New municipal and city master plans,

together with detailed spatial plans came into operation. The Regional Development Act adopted in August 2008 and its later amendments introduced in Bulgarian planning system a number of new instruments like spatial development schemes (on the national and territorial levels), development plans (national, territorial, municipal levels), integrated plans for urban regeneration and development.

The currently active mobility planning framework in Bulgaria comprises a number of documents, regulated by the national legislation:

- ⊕ schemes of transport and communication systems as part of City or Municipal Master Plan (Ordinance 8 from 2001 on content of spatial development plans);
- ⊕ detailed communication–transport plans (Ordinance 8 from 2001);
- ⊕ Master Plan for Traffic Organization (Ordinance 1 from 2001 on traffic organization);
- ⊕ Sustainable Urban Mobility Plans (only mentioned in amendments from 2017 of Ordinance 2 on transport and communication systems in urbanized areas).

Regretfully, the active legislation does not provide

sufficient clarity on the ways of synchronization of these mobility planning tools since there is no explicit demarcation between them.

#### **IV. Mobility Planning in the 1<sup>st</sup> Programming Period in Bulgaria – the Cases of Sofia and Burgas**

With joining the EU in 2007 Bulgaria faced the responsibility for implementing EU Urban Mobility Policy; the country also got new opportunities – an access to the important funding support provided through the operational programmes. Within the programming periods 2007–2013 and 2014–2020 the Operational Programme ‘*Regional Development*’ (OPRD) provided grant schemes for improving urban mobility in large and middle-sized Bulgarian cities. A number of calls were announced for municipalities to apply for funding of eligible policy measures.

The first programming period of EU with the participation of Bulgaria as a member state (2007–2013) came in the moment of the recently transformed spatial planning framework in the country. The new European Commission policy documents on sustainable

urban mobility were adopted in the same period. This reflected the EU instruments that Bulgaria had to implement in order to improve conditions of mobility in its largest cities through the years 2007–2013. The ‘*Regional Development*’ Operational Programme (OPRD) provided schemes for support of urban mobility in the seven cities with population larger than 100 thousand inhabitants (including the capital city of Sofia with 1.2 million).

The funding application rules required from all the seven cities to elaborate the so-called ‘Integrated Urban Transport Project’ (IUTP). Detailed feasibility study had to be presented for each of these projects in order to prove the most effective option for improving the particular urban mobility system.

The studies included analysis of the current mobility conditions, existing institutional framework, development of a transport model, cost-benefit analysis, environmental impact assessment, elaboration of scenarios and choice of the most effective one, based on a multi-criteria evaluation.

These requirements practically tested the mobility planning capacities of the seven cities. The major shortcomings and ‘bottlenecks’ in the process were outlined – the complicated relations and tensions between the involved stakeholders, the capacity of local authorities to interpret local to EU urban mobility objectives, the need for amendment of national legislation concerning the institutional framework of public transport.

	parameters	Sofia	Burgas
general characteristics of the urban structures	location and geographical characteristics	Southwest Region of Bulgaria, capital of the country	Southeast Region of the country, Port of Black Sea
	population	1 238 438 (NSI 2017)	202 694 (NSI 2017)
	area within the urban boundaries	210 km <sup>2</sup> (compact city) (OP SOFPROEKT 2009)	58.3 km <sup>2</sup> (compact city) (MUNICIPALITY OF BURGAS 2010)
	population density	5897 persons/km <sup>2</sup>	3477 persons/km <sup>2</sup>



	parameters	Sofia	Burgas
peculiarities of the transport systems	modal split	<ul style="list-style-type: none"> <li>⊕ public transport: 37%</li> <li>⊕ cars: 30.3%</li> <li>⊕ walking: 29.7%</li> <li>⊕ cycling: 1.8%</li> <li>⊕ other: 1.2%</li> </ul> (VIZIYA ZA SOFIA 2017)	<ul style="list-style-type: none"> <li>⊕ public transport: 34%</li> <li>⊕ cars: 36%</li> <li>⊕ walking: 22%</li> <li>⊕ cycling: 8%</li> </ul> (TEMS – THE EPOMM MODAL SPLIT TOOL 2011)
	public transport modes	metro (2 lines), trams (12 lines), trolleybuses (9 lines), buses (92 lines, 4 night lines) (UMC)	trolleybuses (2 lines), buses – BRT (2 lines) and local buses (13 lines) (MUNICIPALITY OF BURGAS 2016a)
project characteristics and components	period of implementation of Integrated Urban Transport Project (IUTP)	April 2011 – April 2014 (according to contract), (OPRD 2007–2013)	November 2010 – November 2013 (according to contract), (OPRD 2007–2013)
	project budget	122.48 mn lev (€62.62 mn) (OPRD 2007–2013)	131.18 mn lev (€70.65 mn) (OPRD 2007–2013)
	project components	<ul style="list-style-type: none"> <li>⊕ ITS* – priority of PT on 20 intersections; new bus lanes at 7 intersections</li> <li>⊕ electronic information on 600 PTS stops</li> <li>⊕ legal and marketing analysis</li> <li>⊕ delivery of new trolleybuses (50 cars)</li> <li>⊕ construction of a new tram line (Seminariata–Darvenitsa) – 4.6 km totally</li> <li>⊕ renovation of tram road (Bulgaria Blvd.) (OPRD 2007–2013)</li> </ul>	<ul style="list-style-type: none"> <li>⊕ delivery of new 67 buses</li> <li>⊕ BRT corridor (15 km)</li> <li>⊕ PT priority on 20 intersections</li> <li>⊕ new PT scheme</li> <li>⊕ construction of Central PT stop</li> <li>⊕ e-ticketing system</li> <li>⊕ real time information system</li> <li>⊕ PT management and control system</li> <li>⊕ CCTV (video surveillance) on intersections</li> <li>⊕ renovation of PT depot</li> <li>⊕ renovation of PT terminals</li> <li>⊕ bicycle lanes (20 km)</li> <li>⊕ facilities for safe pedestrian crossing (4 spots) (OPRD 2007–2013)</li> </ul>

Table 1: The case studies of Sofia and Burgas: a comparative analysis  
 Source: compilation of the authors

The integrated urban transport projects, even if developed and implemented under a common programme (OPRD 2007–2013) and following the same guidelines, turned out to vary in both the approaches applied and the success of their implementation. The comparative analysis of two case studies undertaken by the authors traces the experience of Bulgarian two cities in the elaboration and implementation of their integrated urban transport projects. The cities of Sofia and Burgas differ in terms of their role in the country's urban network, size, structure and transport systems; they differ with regard to the complexity of the mobility challenges, the approach chosen to cope with them and the project results. They were selected in order to outline differences and similarities in the processes under a same call frame, almost equal funding and varying local context (*Table 1*).

Sofia is the capital of Bulgaria and its largest city with population of 1.238 million. (NSI 2017). The city has a well-shaped radial–circular street structure with the historical centre in the middle. The urban transport system is the most complex in the country; it combines metro, tram, trolley and bus lines.

Burgas is the largest port at Bulgarian Black Sea coast with a population of 202 thousand (NSI 2017). Its contemporary urban structure is shaped by the coast line and the surrounding lakes. It has a combination of urban core and dispersed residential areas and industrial zones, linked by linear transport axes with intense occupant loads. Large agricultural (31 percent) and water (26 percent) areas are included in the urban boundaries (Burgas Master Plan). The public transport system of the town relies on buses and trolleybuses, which is typical for all the larger settlements in Bulgaria.

Despite the significant difference in population, the cities received similar budgets within the OPRD for the implementation of their integrated transport projects – €62.6 million for Sofia and €70.65 million for Burgas. This meant a considerable difference in the distribution of funds per capita in the two cities, respectively 52 €/inhabitant in Sofia and 349 €/inhabitant in Burgas. That could be considered one of the preconditions for the town of Burgas to more comprehensively plan its mobility improvements than Sofia.

The project in Burgas developed a thoroughly new transport scheme, based on newly constructed Bus Rapid Transit

(BRT) corridor as a backbone of the system. The other project components ensured the operation and service of the new transport scheme through new rolling stock, control system, integrated electronic-ticketing system, real-time information, etc. Measures for improvement of the accessibility for cyclists and pedestrians were also introduced.

The project in Sofia had much less ambitious goals. No radical transformation of the city transportation system was envisaged – it could hardly be achieved within the project budget, having in mind the size of Sofia. The city authorities decided on investing in the improvement of different segments of the system with a focus on trams and trolleybuses. The metro system was not included in that particular project, because its construction and improvement was funded by Operational programme ‘Transport’. The metro system is the spine of the public transport system in the capital city and its infrastructure had the greatest impact on public transport transformations. On the one hand, allocating the metro construction under a separate funding scheme, provided for the independence of its realization, yet, on the other hand, it caused its relative segregation from the other public

transport modes; that considerably hampered the implementation of a really integrated project within the scope of one financial mechanism as it was possible in Burgas.

The projects in both cities differ by the completeness of their implementation. Neither of the two was able to keep to the initially set deadlines. Yet, Burgas managed to accomplish its major components (MUNICIPALITY OF BURGAS 2016a), (Burgasbus.info, 2016). The case in Sofia was different, there the main component – the new tram line, was dropped out. This came as a result of the poor preliminary communication with the local community in the area directly affected by the intervention. The contract between Sofia municipality and the Managing Authority of OPRD for funding the entire urban transport project came before any public consultations. In a very last moment it became clear that it would be impossible for the authorities to convince the citizens in the benefits of the new tram line. The concerns of the community were related to the construction activities envisaged in a local park area (the tram had to run through it), drop off several bus lines where people were used to them; expected increase of noise levels; reduction of the scarce parking places nearby stores (LESHTARSKA, D. 2014). That

proved the crucial need for public involvement in the early stage of planning and decision-making. According to the Guidelines of SUMP elaboration (EC, 2009), inclusion of stakeholders is recommended in all stages, while for specific projects like those for integrated urban transport there were no such a requirement (OPRD 2017–2013, Guidelines). The public discussions in Burgas, similar to the ones in Sofia, were also focused on the particular investment projects – the construction of BRT corridor, bus terminals, cycling lanes, etc. (RACHEV, R. 2013), and they were conducted much later than the contract for funding was signed. In this case, however, there were no negative reactions as in Sofia, which could be the result of various reasons related either to citizens' motivation for action or to a better initial estimation of various needs and possible conflicts.

As a result of the implementation of the integrated urban transport project Burgas managed to achieve a complete transformation of public transport system and significant reconstructions of street network, while in Sofia, only fragmentary improvements of the transport system were done.

## V. Conclusions

Urban transport projects during the first programming period were one of the first attempts in Bulgaria for going beyond sectoral planning approaches and substituting them with integrated ones. It proved to be a serious challenge for all stakeholders in the process. Mobility planning and project implementation required synergy between spatial planning and transport planning, building a clear institutional framework, public involvement, etc. In order to provide for the success in these initiatives, it was necessary to achieve a careful synchronization of national legislation and municipal regulations and to build a strategic framework on different levels. It required awareness about the complexity of the overall integrated process on different levels of governance.

The process of developing integrated urban transport projects included a diverse range of specialists who managed to join their efforts in apply the required interdisciplinary approach. The process itself comprised expert analyses and political decisions; it could not go beyond the traditional technocratic thinking. Active public participation was foreseen at a much later stage. This puts forth the

question of how much the chosen measures really met the needs of the users. The case of Sofia, where the proposed tram line was dropped off, provided evidence that citizens' opinion was underestimated.

Differing from IUPT, SUMP guidelines stimulate an integrated approach with active stakeholder involvement through the entire process of research, analyses, modelling of alternatives, and decision making. All these actions have to be carried out before the allocation of budgets for particular measures. This will be a significant support to the public debate on local mobility agenda. The municipal administrations take here the role of initiating and moderating the process. This would require specific knowledge and skills of all the employees in the municipalities in order to be able to establish links between different disciplines and sectors in planning and management. The estimation of the efficiency

of implementation of the measure should be based on a clear framework of indicators, preliminary agreed upon by all actors. An integral and accessible information system would guarantee a transparent monitoring process for the public.

All these suggestions for improvements of the process call for the need of increased institutional capacity on different levels of governance; this would be crucial at the municipal level, which is in direct contact with the final beneficiaries – the citizens.

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