

URBAN MOBILITY IN PRISTINA: FLOW, PROBLEMS AND CHALLENGES

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Abstract

Urban mobility is becoming a key problem for urban development especially for cities under urban rapid growth and growing mobility needs of citizens too! Some initiatives have been developed regarding urban planning to improve urban mobility in the inner city area, through implementing good experiences from the cities of developed countries and through development strategies and planning documents, in this case, based on the specific needs of Pristina.

Urban mobility improvement in Pristina is far away from real needs and perspective city development, and probably the solution doesn't happen without integrated approach and as a result of that but also as a result of the urban rapid growth of Pristina during last two decades, is in a situation facing traffic overloads accompanied with negative implications on the environment, economy, and public health!

So, the solution must become through different options for the regeneration of existing traffic networks, planning new alternatives towards existing challenges, in the way of securing integrated traffic flow and urban mobility in Pristina.

Keywords: urban, mobility, initiative, development, experience, planning, traffic, integrated

1. Introduction

Urban mobility is in line with urban rapid growth, growth of the number of citizens, and growth of transport and movement demand inside and outside of urban areas! This problem requires a multi-dimensional approach. The existing urban mobility indicators and indices have been developed for specific urban areas, considering local specifications, and they are not applicable in other cities automatically. In this context urban mobility in Pristina as the capital city of Kosova is still to be considered as a problematic and challenging issue!

“Urban development should be based on rationale and integrated development of urban space, through well-organized spatial connectivity and its continuity” (Nga planifikimi urban modern, drejtë planifikimit hapësorin të integruar, Binak Beqaj, 2019 Prishtinë, ISBN 978-9951-550-17-8 pp 23).

Vehicular traffic flow in Pristina is considered a key challenging regulatory project for urban mobility and traffic flow. Approximately every third inhabitant of Pristina owns its vehicle. This high percentage of vehicle- owners in Pristina, was difficult to be imagined 20 years ago. Rapid urban development of the main capital city of Kosova, developed on different organizational concepts “centric and polycentric” or “with and without planning”, happened until now (especially during the last two decades), increasing always needs for using more and more private vehicles in traffic network of the city as result of non-adequate urban planning and not achieved continual planning on different institutional levels (central & local) as foreseen by the Kosovo Law nr. 04/L-174 for Spatial Planning. Urban development should be based on rationale and integrated development of urban space, through well-organized spatial connectivity and its continuity”

The attitude of using for transport private vehicles in the city traffic, and lack of other different alternatives of transport systems in the city, resulted in a situation where traffic overloads are daily problems for each citizen and whole community too.

- Limited speed of movement to the destinations (delays to the destination),
- Long stops (time-consuming),
- Noises and air pollution (environment degradation),
- Not stable movement (possibility for accidents),
- Fuel expenses (vehicle amortization and economical losses),
- Violation of the public health.

Urban quality closely is related to the quality of traffic network and urban mobility too” (Zhvillimi urban, planifikimi dhe dizajni, Binak Beqaj, 2015, Prishtinë, ISBN 978-9951-437-30-1 pp 42). The traffic flow, problems, and challenges are not related only to the inner-City area, but also, they are related to the periphery of the City in this case as (non) well-integrated part with the inner City area, are contributors to the complexity of the existing urban situation. What are some of the urban mobility problems in Pristina?

- Narrow traffic lines especially in points of traffic connections inside and outside the City,
- High intensity and frequencies of traffic flow in and to Pristina,
- Lack of regulation for urban public transport systems,
- Miss destination of land use in the periphery and urban- mix functionality there,
- Lack of adequate parking spaces.

As a result of this situation, analyses of traffic flow and possible solutions, are to be considered as key urban project development of Pristina, even its understandable that except possibilities there are limitations to be considered (resources, capacities, experience, land- ownership...) for solving this problem. Logically is not enough to only reconstructing existing systems, but also considering at the same time new alternatives for traffic, and both of them are related to economic issues- capital investments!

Regarding the existing situation about the traffic flow in the city, there are some needed measures to be taken: changing directions of movements or time constraints of movement, regulating public urban transport; while developing new projects and solutions regarding traffic flow, can be considered as a realistic possibility to face rapid urban growth of the city and orienting investment capital in this field using different models of partnerships.

Real urban capacities about traffic flow in Pristina, are far away from the real needs of citizens! The disproportion between the number of vehicles and road lines, number of vehicles and parking places, number of vehicles, and other traffic alternatives (pedestrian, cycle paths), lack of railway traffic. Those are parameters that show the complexity of this problem in Pristina while this problem can be treated by the framework of activities:

- Contextual analyses of traffic flow and problem identification
- Identification of challenges of urban mobility
- Integrated approach and possible alternative solutions

2. The research of vehicular traffic flow in Pristina

The research was developed during 2018 (April, June, and October(first week of each month)) in Pristina. The research methodology is quantitative, this research was focussed on two neuralgic traffic points entering in Pristina (crossroads): crossroad A (Peja- Pristina- Mitrovica), crossroad B (Gjilan- Pristina- Uroshevac). Considering the different intensity of traffic flow in certain periods, the measurement was developed in three different daily hours (considering as most overloaded). From 8:00-9:00 (when people travel for jobs and other daily purposes), from 12:00-13:00 (when people travel during lunch break), from 16:00-17:00 (when people finish working hours and traveling back to their homes in or outside Pristina). Eight research teams (four students in one team) went in two influential points A and B, measuring the number of vehicles entering to Pristina from those influential points.



Figure 1. The position of influential points A and B (Source: *Municipal Development Plan of Pristina 2012-2020*)

Even those two main entry/exit crossroads already built, and ring- roads are ongoing from there; they cannot be considered as a proper solution because of their position already in the inner city area and the high traffic flow in both directions: to and from Pristina as main capital city of Kosova, this because of:

- daily movements of citizens of Pristina
- movements of other citizens to Pristina for working purposeses
- movements of other citizens to Pristina for other businesses (administrative, health, business),
- movements of other citizens to Pristina for transitory and touristic purposes,
- movements of other citizens to the airport and backward

Table 1. Measurement of traffic flow in two main crossroads A and B, to and from Pristina (Source: *research 2018*)

Direction	From Mitrovica	From Peja	From Uroshevac	From Gjilan	To City
Number of vehicles at 8:00-9:00	3100	4600	4200	3900	15800
Number of vehicles at 12:00-13:00	2450	3300	2000	3100	10850
Number of vehicles at 16:00-17:00	1850	2650	3100	4200	5400
The approximate value of vehicles entering in Pristina 55%	1356	1934	1705	2053	7167

As can be seen in Table 1, about 55% of the vehicles from two targeted points A and B for analyses (Figure 1), are entering in Pristina, approximately 7168 vehicles. This number of vehicles is in huge disproportion with existing infrastructure in Pristina (urban roads, parking spaces).

As presented in Figure 2, about 30% of those vehicles entering Pristina are just transitory through the city (about 2114 vehicles). The following question can be raised: how reducing this transitory traffic overload? It might be a solution: two additional crossroads on the periphery of the city and transitory roads from there, more parking spaces in the periphery, and more organized urban traffic flow peripheral lines. More than 18% of those vehicles entering in Pristina are related to the citizens fulfilling different daily needs like business, health vehicle, or administrative issues (about 1268 vehicles). The following question can be how to solve this? It might be a solution: reorganized roads in the city. From the study, cases are well-known creation of the hierarchy of streets in the city.”Whereas in nineteenth-century Paris, Baron Haussmann

created a hierarchy of streets by carving out new boulevards from the existing fabric, in many American settings the hierarchy is inherent in the plan. Phoenix, for example, evidences the range: major arterials (at one-mile intervals), secondary arterials (at one-half-mile intervals), local streets, and midblock service alleys”. (American Urban Architecture: Catalysts in the Design of the city, Wayne Attoe and Don Logan, 1992, ISBN/ASIN 0520081056, pp 127), more parking spaces in the inner-City area and more organized urban traffic flow! About 9% of those vehicles that entering in Pristina are with people interested in touristic and recreational purposes (about 634 vehicles).

The following question can be how to avoid this overload and finding solutions? It might be considered as a solution: reorganized roads in the city and more parking spaces in the city. About 40% of those vehicles entering in Pristina are related to work, studies, and other purposes (about 2816 vehicles). The following question can be how avoiding this? It might be considered as a solution: reorganized urban traffic flow, reorganized roads in the city, more parking spaces in the inner city area, and the periphery! About 3% of those vehicles entering in Pristina are related to airport destination, traveling abroad, and coming back (about 211 vehicles). The following question can be how avoiding this? It might be considered as a solution: reorganized urban traffic flow (airport lines).

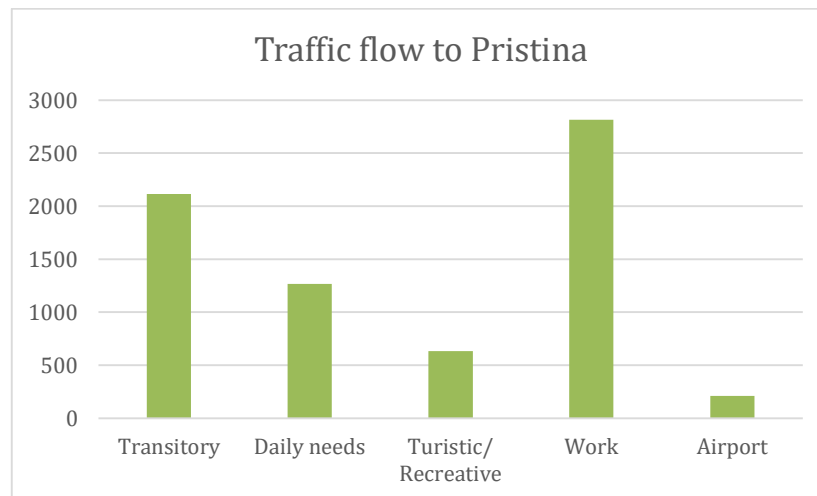


Figure 2. Traffic flow to Pristina (Source: research 2018)

It was clear that the daily entries of the vehicles in Pristina are contributing to traffic overloads there! The main three planning initiatives to be raised regarding this urban problem are:

- Avoiding this huge number of vehicles entering in Pristina.
- Reorganizing the traffic system of roads to face this traffic overload.
- Developing a new railway system traffic system (urban trains).

Through finding the proper solution can be used different urban tools, and achieved different strengths towards qualitative and integrated traffic network- urban mobility, not only in Pristina but also from Pristina towards its surrounding. Before finding which is the solution which can transform existing weaknesses in the solution, first should be addressed some weaknesses related to urban mobility:

- chaotic development of the periphery
- lack of cycle and pedestrian paths
- lack of needed parking spaces
- non-adequate public services
- high level of noises and pollution in the city
- lack of adequate public transport and alternative solutions- railway (urban train)

- non-adequate signalization and orientation
- traffic overloads (in the inner-city area and the periphery)
- narrow paths and roads (especially in the periphery)

Those raised issues, to be solved, needs a political and professional approach, understanding, and results from analyses, real needs, and capacities!

3. Conclusion

“Cities are ‘melting pots’ of diverse influences, peoples, and interests” (Peter JM Nas, Leiden University Press 2011, *Cities Full of Symbols A Theory of Urban Space and Culture*, ISBN 978 90 8964 125 0, pp 283). In the same way, Pristina should be considered. The traffic chaos in the City of Pristina is related to the huge number of vehicles moving through Pristina and from other parts of Kosova towards Pristina for different reasons, but, a huge number of vehicles are in use inside the City as domestic vehicles too. From this mentioned above is clear that traffic chaos in Pristina will be going on:

- until the new roads and crossroads (especially transitory roads) will be constructed and reconstructed,
- until the culture of citizens about the rationale use of vehicles in the city will be improved,
- until alternative solutions for public transport will be developed, and,
- until institutional- services will be space-based-decentralized (not concentrated in the center of the City), based on a polycentric organized spatial system.

The planning progress is reasonable because of the possibilities for optimal planning solutions. Knowing that Pristina is becoming more as the centre of the labour force from whole Kosova, as result of this the high migration of population to Pristina from other areas, will be continued, with the permanent aim- to live and work there or with the temporary aim- daily traveling because of work and other businesses. Pristina is becoming with a strong role in its functional organizational behaviour, but also for its surroundings too, all this through industrial, commercial, or administrative development. Pristina will offer a lot of different services (central and specific) for its citizens or wider, so, the developed Pristina will have a wider gravitational radius in the surrounding.

The positive effects of an improved traffic network in Pristina should be based on direct expected benefits:

- reducing the number of vehicles entering daily in the city, more available public urban integrated traffic flow and more parking space
- reducing reducing economical loses form the created traffic jumps, (fuel expense, loses time, and technical amortization)
- reducing realizes of chemicals and air pollution
- better use of possibility for pedestrians’ lines and bicycle lines

Indirect expected benefits from the improvement of the traffic network will be:

- efficiency in work and services
- improvement of urban health
- increase of wish for citizens for living in the city and loving it
- safety in the traffic
- clean environment and surrounding

- economic development
- increase in incomes

Dynamic effects of better traffic planning will be:

- development of areas for businesses, well-structured in the space
- development of urban infrastructure especially roads, traffic paths, parking spaces
- development of a healthy urban environment

Creating tools that measure, benefits, and costs associated with the healthy built environment, which includes land-use and transportation systems; would allow decision-makers to choose the best option available to them when deciding on those important issues. In addition to travel time, congestion, safety, energy, and environment, public health is important subjects that can be affected by proper road infrastructure and traffic networks towards sustainable urban mobility.

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