

## Modernization of Baku's Transport System: Infrastructure Development Issues

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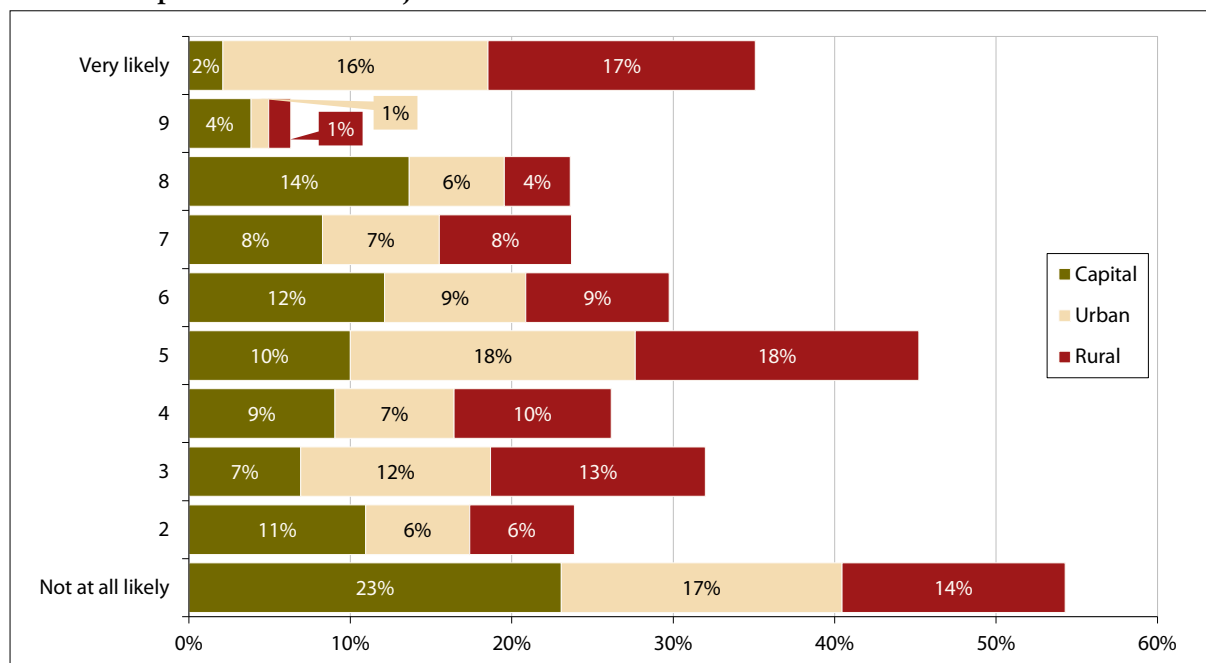
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Figure 1: Expectation That Close Relatives, Friends, and Neighbors Will Help Repair a House/ Apartment in Azerbaijan



Source: CRRC Caucasus Barometer 2013

## Modernization of Baku's Transport System: Infrastructure Development Issues

By Fuad Jafarli, Baku

### Abstract

Recent changes in transportation planning and management in Azerbaijan in the context of an economic downturn indicate the need for sustainable urban transportation planning in Baku. This paper looks at existing situations in transportation planning and some of the policies implemented in recent years. It also analyzes transportation-related investments and transportation management as well as their implications for sustainable transportation planning in the future.

### Introduction

In the time before the Soviet collapse, Azerbaijan was ranked at the bottom of the republics of the former Soviet Union for car ownership. The USSR, which used to protect collective ownership principles, was reluctant to open a market mechanism for obtaining cars for individual use. Instead, the Soviet public transportation system was one of the best in the world. Since the Soviet

collapse, transportation planning and policies in Azerbaijan have changed considerably, as have the approach to transportation infrastructure improvement. In this article, I examine how the changes over the last few decades have affected transportation policies in Azerbaijan and how government investments have changed Azerbaijan from a nation of public transportation riders to one of car owners.

## Early History and How Oil Money Affected Infrastructure Development

In 2016, the government of Azerbaijan reported the total state investments allocated for transportation infrastructure development in the country from 2003 to 2016 (AzerNews 2016). Transportation improvement projects in Azerbaijan were estimated at US\$25 billion, which went to improving transportation facilities. The construction of modern highways, extension of the capacity of existing roads and development of new projects to accelerate transportation flow created new opportunities for drivers and the economy in general. Improved road infrastructure accelerated fast and convenient communication between the regions. In September 2017, the government was rewarded for such an accomplishment: Azerbaijan received 36<sup>th</sup> place for road quality in the world and overtook all post-Soviet countries in this infrastructure measurement index, according to the World Economic Forum. This high ranking was awarded largely due to upgrades in the urban transportation infrastructure of the Greater Baku region. Available data confirm this: as the country's main economic center, Baku is also the largest contributor to the national economy, where its share amounts to 96%. A rising population, migration and dramatic sprawling led to transportation infrastructure development as a solution to traffic problems.

Urban transportation challenges of the Great Baku region began in the early 2000s. Car ownership per 1000 people did not exceed 35 cars from 1970 through the 1990s. In the 1990s, political and economic changes in the post-Soviet area played a crucial role in changing the role of public services. Statistics show that car ownership increased three times in 2016 compared to 1991, and this number now equals 118 per 1000 residents (Azerbaijan State Statistical Committee 2017). This suggests that private car ownership in Azerbaijan is one of the lowest in the world. The numbers were slightly more equal during Soviet times. By 1998, the average ownership rate of cars in Azerbaijan was 32 cars per 1000 residents. Car ownership increased from 28 to 280 per 1000 residents within 25 years in Baku, which accounts for 70% of all vehicles in the country. Planning and the public investment system declined within a short period of time, paralyzing infrastructure development. The rising rate of car ownership and the collapse of the once well-established public transportation system made transportation issues one of the major challenges of urban development. Simplifying the procedure for obtaining car ownership, affordable prices and weak urban transportation increased transportation flow in the cities, especially in Baku. The cities of Azerbaijan are confronted with a similar dilemma along with other major cities in

every corner of the world: how to address large transportation flow and eliminate car ownership when public transportation efficiency is also low. A lack of public financing made some modes of public transportation such as trolleybuses and trams completely unprofitable in the early 2000s. The last tram made its commute in Baku in 2006; the last tram line was demolished and was transferred to car users. The city shifted to a new mode: a car-oriented urban space was gradually gaining popularity.

Large revenues from the exploration and exportation of crude oil opened new advantages for cars and a relaunch of the whole economy. Goods such as private houses and private cars, which were strictly constrained during the Soviet period, have become new family and personal tangible values in the post-Soviet era. Owning private cars not only brings some value but also affects the city environment. Rising car ownership triggered the “domino effect”—the absence of land use and planning regulation for construction and redevelopment and the decline of public transportation, and the weak interconnection into the sprawled areas only accelerated congestion on the roads of Baku. Rare construction in the central part of the city, especially for the mid-income residents, consequently created additional housing stock and increased car ownership. Sprawling and new settlements in Baku accelerated the use of private cars where public transportation accessibility was very low. A high concentration of businesses, education and social activities in the central area of Baku increased the daily inbound and outbound commute times from suburban areas. Poorly planned and projected transportation infrastructure construction projects were not able to improve transportation and land use problems.

## Challenges of Transportation/Land Use Planning

Urban transportation has never been a serious task for urban planners in Azerbaijan. The Soviet planning system implied an extension of built-up areas to the empty land, and consequently, transportation planning was not considered an essential element of planning. A glimpse into some urban planning technical documents from the 1980s shows that comprehensive transportation planning was not viewed as important for planners when public transportation enjoyed a dominant position. Even Baku's last development plan prepared in 1985 proposed extending tram, trolley and metro lines for two decades into the future (Baku City Master Plan 1986). The development projection in 1986 estimated a car ownership rate of 150 cars per 1000 people in Baku for the next 20 years. The capital city was considering plans to extend suburban centers by 2005. It is also important to

note that mono-center functions of the city were a subject of urban development. Among the goals set forth by Soviet planners were moving educational and social facilities to suburban areas. However, this plan did not work as well as previous plans, and the reason was not only the collapse of Communism but also the lack of political support from authorities. Even the public housing policy implemented in the 1950–1960s during the Khrushchev period ignored previously proposed plans for land use. The planning document from the 1980s also went unnoticed by authorities. A multifunctional city center with rich and poor neighborhoods, businesses, academia and administration created pedestrian crowding and car accumulation areas inside the city, further stressing the importance of urban transportation for Baku. A gap in planning regulations opened new challenges for the city. Over the recent decade, a substantial migration inflow from the regions to this “primary city” (i.e., the largest city, outgrowing all the rest) made Baku one of the most hyper-urbanized places in the region in the 2000s. According to the latest statistics, the population of urban Baku was 2.3 million people, including internally displaced people (IDPs). As of 2012, unofficial statistics estimate the population of the capital city area to be approximately 3.3 million people (Jafarli 2012). These numbers were determined by adding newly existing self-made settlements.

### **Transportation Policy: Public Transportation vs. Car Ownership**

The authorities made a decision to finance several infrastructure projects in Baku to solve the problems of traffic and rush hour congestion. The president adopted the first decree dedicated to improvement of the urban transportation system of Baku in 2006. The projects for the first stage were over by 2010. In this same year, the government began to implement other projects related to urban transportation infrastructure. Currently, despite having financing gaps, transportation infrastructure development remains one of the government’s key development goals. These projects have been accompanied by the development of infrastructure for the city center and suburban areas. Some projects are still ongoing despite a gradual slow-down since 2015.

Today, the total length of Baku roads is 1525 km. According to the latest figures, 703.3 km of roads were constructed, reconstructed and repaired from 2008 to 2013 (Trend.az). The main focus of the government’s projects was to develop transportation infrastructure by repairing and extending the capacity of the existing roads for use by private car owners. By the end of 2016, the number of single-owned cars exceeded 1.3 million (AzStat). The number of cars registered in Baku

is 900,000, and this number indicates a car ownership rate of 280 per 1000 people. However, poor planning, despite the implementation of large development projects, the lack of planning documents, and poor coordination between government agencies made urban transportation less efficient. The urban transportation infrastructure renovation projects launched in 2006 were a simultaneous initiative by several government agencies. Monitoring the first phase of some transportation projects has clearly shown that no feasibility and cost-benefit analysis was made to estimate the projects’ outputs. In some cases, design and project estimations were prepared after projects had been launched. The question of urban governance appeared only after the projects began and were underway.

The lack of integrated urban management and strategic development are the major reasons for poor transportation planning. Government agencies act separately to deliver urban public services. One of the significant issues regarding urban transportation development was the crucial role of the Baku subway system, which was intended to be developed separately from the whole system. The metro administration succeeded in drawing up a strategic development program through 2030 with the construction and development of new lines and more than 70 stations, with an estimated cost of US\$10 billion. Although international and local transportation advisors recommended developing an integrated urban transportation system for Baku with other modes of public transportation, these suggestions were ignored.

Political favoritism plays a significant role in the decision-making progress in Baku’s urban governance. The recently established BakuBus, LLC, which belongs to Baku Executive Power, was not able to accelerate its services by replacing other bus operators. All bus routes were sold to private operators when this company was established. In this case, public operators obliged to operate newly designed routes with longer distances, which raises further questions regarding the profitability and sustainability of BakuBus. In October 2017, the company published its first financial report covering the previous two years, which revealed that the company lost 155 million AZN (US\$91 million) and was subsidized by the state budget to cover these expenditures. The cost of public transportation ridership in Azerbaijan is one of the lowest in the world. It costs 0.2 AZN (US\$0.11) for both metro and bus transit. Baku Metro, as a state company, receives 30 million AZN annually for subsidizing ridership and also receives funds from the state budget to construct new metro stations and to maintain its facilities.

Overall, the urban transportation system of Baku needs a more comprehensive approach. The questions

of financing transportation infrastructure and subsidizing public transportation are crucial. The system needs upgrading from the perspective of fiscal equalization of the state budget and administration. Still, government funds should not be the only source of investment, and more public-private partnerships or build-operate-transfer models should be adopted to improve the sustainability of the public transportation system. There are many policy instruments that can be used for upgrading urban transportation, and the government needs to take a more policy-oriented approach to solve transportation planning issues. The rising rate of car ownership could be a signal to policymakers to consider climate change effects and livable city standards in Baku's future development.

#### *About the Author*

Fuad Jafarli is an urban and transportation planner and researcher since 2004. He has served as urban planning class lecturer at Khazar University, Qafqaz University and Architecture and Construction University in Baku. Mr. Jafarli was an initiator and the first project director of the recently implemented Greater Baku Regional Development Plan. In 2013, he founded the Urban Research Lab (URL)-Azerbaijan to study urbanism problems in the country.

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#### **Conclusion**

Urban transportation investments remain an important policy issue for Azerbaijan. After several years of construction projects, some progress has been made toward the quality of road infrastructure. However, a technical and analytical approach to modify these projects using economic calculation and transportation planning is needed. Sustainable transportation development will require additional funding and cooperation such as public-private partnerships or the use of local funds. With respect to this, Azerbaijan has many opportunities; however, policy instruments are needed to develop an initial stage of a more sustainable urban transportation model.