

# An Introduction to Major Challenges of Urban Transportation in Metropolises of Iran

*Eshagh Rasouli Sarabi, Shahryar Shaghaghi G.*

(Lecturer Eshagh Rasouli Sarabi, Islamic Azad Univdrstity, Shabestar Branch, Shabestar, Iran, e\_rasouli\_sarabi@iaushab.ac.ir)  
(Assistant Prof. Shahryar Shaghaghi, Islamic Azad University, Shabestar Branch, Shabestar, Iran, sh.shagagi@iaushab.ac.ir)

## 1 ABSTRACT

The rapid growth of population and the consequent utilization of urban facilities and infrastructures has become concurrent with urban development criteria and also has lead to new challenges and problems specially in the domain of urban transport.

Iran was no exception and rapid as well as unexpected growth of urbanization and population in last 3 decades has created enormous problems.

In Metropolises of Iran, due to different reasons such as rural to urban immigration, insufficient development of urban centers, lack of planning and management frameworks of urban growth particularly in city centers and historic centers has maximized the problems facing urban transportation

In this paper, major and common characteristics of Metropolises in Iran are introduced and then obstacles of achieving optimum urban transportation systems will be introduced and analyzed. Among the major problems regarding the urban transportation in Iran, issues such as lack of harmony in urban neighborhoods, destruction of historic heritage, degradation of environment high rate of urban trips and high service of routes, lack of transport infrastructures, urban furniture and so on are introduced and discussed in this paper.

## 2 INTRODUCTION

Nowadays the main problem with which the societies face is the problem caused by the development of cities and the need for solving the problems of city- dwellers. In Iran as one of the developing countries, development of city- dwelling has progressed over the recent 50 years.

Enhancement of city population from 9895000 people in 1966 to about 50000000 people in 2012 indicates the importance of considering the issue (Table 1).

Number of cities	Average of Growth	Population inhabited in cities	All of population	year
200	-	6002621	18954704	1956
272	02.5	9795810	25788722	1966
373	93.4	15854680	33708744	1976
496	41.5	26844561	49445010	1986
512	47.3	31836598	55837163	1989
612	95.2	36817789	60055488	1995
1012	74.2	48259964	70495782	2006

Table 1: Variations of population in cities in Iran (1956-2006)

Enhancement of population in the cities is not monotonous for various problems. The climate differences in various locations, unsuitable dispersion of facilities in different cities etc. have caused that the development of urban population around some cities becomes more than other cities which has caused the creation of new metropolises in Iran over the past 30 years.

## 3 CHARACTERISTICS OF IRANIAN METROPOLISES

The process of city- dwelling over the recent years has caused the appearance of new metropolises in Iran, including Tehran, Mashad, Isfahan, Shiraz and Tabriz. Table (2) shows the features of these cities.

Name of Metropolis	Population	Area (Km <sup>2</sup> )	Congestion (Persian in per Km <sup>2</sup> )
Tehran	8429000	730	10555
Mashhad	2510000	458	9150
Esfahan	1602000	267	5240
Tabriz	1459000	252	7780
Shiraz	1455000	178	6890

Table 2: Characteristics of the main metropolises in Iran

As it is observed, uncontrolled development in these metropolises is due to the unequal development of other cities, centrality of them in geographical limitations, being tourism, religeous and industrial places around

them possibility of earning high incomes as compared with income of some jobs like agriculture and husbandry.

This process has created more problems in different areas. Considering the little space of the paper, just the main traffic problems related to the main urban issues in these metropolises are considered.

#### **4 THE TRAFFIC PROBLEMS OF URBANIZATION IN METROPOLISES OF IRAN.**

The traffic challenges on the requirements of developing the land uses and the urban spaces necessary for the development of metropolises in Iran are:

##### **4.1 Problems caused by disregarding the localization of land use**

In most of the metropolises, different land uses are established without suitable localization, and unfortunately access to the land use is not possible for disregarding the rules of determining the appropriate place of land uses and also disregarding the relevant models (gravity model and land use allocation model), distribution of the necessary traffic systems and the nature of access to the land use. This violates the essential rules on classification of urban ways and access hierarchy

##### **4.2 Disregarding the logical distribution of land uses.**

Disregarding the nature of trips distribution in the spatial organization of cities in principle causes disregarding the situation and the quantity of land use effective in production and attracting the urban trips including trade, sport, educational, administrative and recreational centers, and this causes creating extra trips.

The correctness of this subject can be observed as compared with the rate of trips in lieu of every person or family comparing the ownership coefficient of automobile; the rate of trips is more than the ownership coefficient of automobiles in metropolises which is more as compared with the developed countries.

##### **4.3 Problems caused by the unsuitable determination of compressions considering**

The discussion of determining the suitable compressions like population and structural ones creates a balance in supply and demand, and creating the suitable compressions with urban facilities causes order in different districts over the recent years, with regard to using the self- rule policies of municipalities, unfortunately of the main ways of earning the income of municipalities has been the uncontrolled sell of residential, commercial and administrative compression disregarding the capacity of neighbour hoods.

the lack of development of directions has created more traffic problems, increasing the duration of trips and decreasing the service level of ways.

##### **4.4 Disregarding the pre capita of different spaces**

Considering the spaces allocated for the residential and commercial spaces, as compared with the per capita allocated for the traffic spaces and parkings, it is observed that disregarding the suitable per capita for the traffic network, disregarding the suitable rates enhances the capacity of passageway network and high density, and the service level is decreased.

##### **4.5 Disregarding the appropriate zoning**

Disregarding the zoning of metropolises, the residential, work and recreational performances as well as impossible performance of spaces, integrating these spaces makes the anticipation of the necessary passage way network impossible; and in the future developments of passageway network, more problems have been raised.

##### **4.6 Non- integrity of neighbor hoods**

considering what was mentioned before, disregarding the density in establishment of various units causes unappropriateness between the passageway network connected to the land use (especially in old- texture areas\_ and other problems raise on direction development (which requires more expense)).

#### **4.7 Destruction of historical and cultural structures and green spaces for passageway development.**

The cases mentioned before accompanies another problems including destroying the spaces to develop the directions and to improve the passageway for the new land use which is observed in most metropolises. It harms the old and historical texture of the city and decreases the green space per capita.

#### **4.8 Disregarding the original and destination distance of trips**

Unfortunately the lack of comprehensive traffic studies on metropolises or disregarding their exit has caused that the original and destination distance of trips are not considered. Sometimes this problem causes extra trips and traffic difficulties.

#### **4.9 Problems caused by concentration of trade centers on the old and central texture of metropolises**

Considering that the growth of Iranian old metropolises has been performed disregarding the essential urban problems, the central sections of these cities have always attracted more passengers. The impossibility of passageway development has been a challenge on this subject, considering the old urban texture, more cost or destruction of old spaces. This has caused more traffic problems in spite of the demand decrease and other traffic management plans in these districts.

#### **4.10 Problems caused by non- development of high- capacity public traffic**

Due to the lack of performing the comprehensive traffic plans over the recent years and the lack of metro or motor rail, using the private cars or bus does not meet the traffic needs.

### **5 CONCLUSION**

The Iranian metropolises are the result of the development of old cities, and the lack of their balanced development due to the uncontrolled immigration from the around villages and cities has made that they face with more traffic problems.

Such problem as the lack of comprehensive plans in metropolises, inappropriate localization of land use, illogical distribution of land uses, problems caused by the unsuitable allocation of densities, disregarding the various space per capita, the lack of integrity in neighborhoods, disregarding the access in planning the urban passageways, destroying the old structures and green space, disregarding the original and destination distance in trips and extra trips, uncontrolled land use in the central districts of cities and the undeveloped traffic systems are the most problems that have caused more traffic problems in the metropolises of Iran, which were considered briefly for the little space of paper.

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