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

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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).

<table>
<thead>
<tr>
<th>Number of cities</th>
<th>Average of Growth</th>
<th>Population inhabited in cities</th>
<th>All of population</th>
<th>year</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td></td>
<td>6002621</td>
<td>18954704</td>
<td>1956</td>
</tr>
<tr>
<td>272</td>
<td>0.25</td>
<td>9795810</td>
<td>25788722</td>
<td>1966</td>
</tr>
<tr>
<td>373</td>
<td>93.4</td>
<td>15854680</td>
<td>3307844</td>
<td>1976</td>
</tr>
<tr>
<td>496</td>
<td>41.5</td>
<td>26844561</td>
<td>49445010</td>
<td>1986</td>
</tr>
<tr>
<td>512</td>
<td>47.3</td>
<td>31836598</td>
<td>55837163</td>
<td>1989</td>
</tr>
<tr>
<td>612</td>
<td>95.2</td>
<td>36817789</td>
<td>60055488</td>
<td>1995</td>
</tr>
<tr>
<td>1012</td>
<td>74.2</td>
<td>48259964</td>
<td>70495782</td>
<td>2006</td>
</tr>
</tbody>
</table>

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, Mashhad, Isfahan, Shiraz and Tabriz. Table (2) shows the features of these cities.

<table>
<thead>
<tr>
<th>Name of Metropolis</th>
<th>Population</th>
<th>Area (Km²)</th>
<th>Congestion (Persian in per Km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehran</td>
<td>8429000</td>
<td>730</td>
<td>10555</td>
</tr>
<tr>
<td>Mashhad</td>
<td>2510000</td>
<td>458</td>
<td>9150</td>
</tr>
<tr>
<td>Esfahan</td>
<td>1602000</td>
<td>267</td>
<td>5240</td>
</tr>
<tr>
<td>Tabriz</td>
<td>1459000</td>
<td>252</td>
<td>7780</td>
</tr>
<tr>
<td>Shiraz</td>
<td>1455000</td>
<td>178</td>
<td>6890</td>
</tr>
</tbody>
</table>

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, religious 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, administrational 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 spuces 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
harm 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, unappropriate 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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