

Public Spaces Planning Policies and the Effects on Pedestrian Mobility in a Metropolis City; the Case Study of Tehran

Ehsan Ranjbar, Najmeh Motalaei

(Dr Ehsan Ranjbar, Tarbiat Modares University, P.O.Box 14115-335, Tehran, Iran, e_ranjbar@modares.ac.ir)
(Najmeh Motalaei, University of Applied Science 2, No80, Kajibadi St. Tehran, Iran, n.motalaei@gmail.com)

1 ABSTRACT

Referring to the relationship of urban planning and health issues, pedestrian mobility has been introduced as a key concept in contemporary literature and experiences of public spaces planning and design. Pedestrian friendly urban spaces with good qualities like safety, vitality, diversity, cleanness, etc. have tremendous effects on physical and mental health. Especially those sort of spaces are essential in metropolis cities with car dominant urban spaces to change quality of life.

Looking to metropolis cities in developing countries has revealed that Tehran as the capital of Iran has started a great change in public spaces planning policies which directly effects on pedestrian mobility. That's why based on new international statistics the quality of life growth rate in Tehran has been increased in recent five years, although there is a long way ahead. This research is seeking to evaluate public spaces planning policies in Tehran during the recent decade.

As methodology, in the first stage three largest pedestrian zones with different functions have been chosen to study. In the second stage two main streets of Tehran have been chosen to evaluate pedestrian mobility policies according to sidewalk qualities. Deep observations, questionnaires and behavioral analysis are key methods in these two stages. In the third stage, pedestrian spaces planning policies have been compared with highways design in a quantitative approach to demonstrate how much attention has been paid to pedestrian mobility in Tehran Municipality policies in recent decade.

Some results show overall satisfaction of citizens in new pedestrian zones. Those pedestrian zones which have a better connection to public transport have been more successful. As a critical view pedestrian mobility planning policies of Tehran have concentrated in segregated zones which needs improving an integrated urban spaces network. The analysis of sidewalks reveals that in spite of new paving projects the sensitive groups needs have been neglected. Also, intersections design, paving quality, distribution of activities and connectivity in sidewalks need major modification. In comparison to highway development policies, based on economical point of view Tehran Municipality needs more to spend on pedestrian mobility policies.

Keywords: planning policies, public spaces, mobility, pedestrian zone, Tehran

2 INTRODUCTION

The 21th century is a different era in history of urbanism. Based on UN data in 2014, 54 percent of the world's population lives in urban areas, a proportion that is expected to increase to 66 percent by 2050.¹ In this situation quality of life in cities is a key concept for urban experts, because each planning policy effects on quality of life. Global challenges like urban heat islands, urban pollution and new issues like urban health have lead to change urban policies. In this way public space planning policies are more important because of the nature and benefits of public spaces as places for social life. Looking more to the literature demonstrates more attention to public spaces analysis and design whereas the planning policies to distribute, manage and control of public spaces through the city are more important. Public space planning policies can connect strategical level and design level of public spaces coherently. In this area of public spaces studies the lack of researches is clear. According to contemporary key concepts like urban health and quality of life a number of cities in developed countries have changed their public spaces planning policies through creating pedestrian zones, health districts and introducing new documents like pedestrian mobility and safety guide and pedestrian master plan in which walkability is a main concept with different benefits.(fig1.)

Affected from this new trend, in car dominant countries like Iran in which easy access to gas encourages car usage, in recent decade academic associations have started a quasi movement to pedestrianize urban spaces. This effort has affected on Tehran as the capital of Iran and one of metropolises in the world. Tehran is a pattern city for other cities of Iran from urban planning and design actions so smart public spaces planning

¹ <http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>

policies in Tehran can influence on the nature of public spaces in other cities of Iran. As a main goal this articles concentrates on Tehran Municipality plans for improving public spaces from pedesrian point of view in the recent decade. In this period the mayor of Tehran has been fixed, so there is a good context for analyzing urban policies.

3 CHANGING CONCEPT OF MOBILITY

Mobility can be asumed as a universal drivng force that changed urban form since ancient time. An overview to the history urban form and mobility interaction put modern era in front as a negetavi dimension of mobility while highways captured cities and declined quality of public spaces. For many years mobility had a close meaning to transportation. Because of humanistic approach to cities the meaning changed and new dimensions of mobility have bean emerged. Urban mobility is continuously changing. As a result of advances in transportation and communication systems, people frequently live in one place, work in a second and recreate in yet a third. The situation of metropolises in current century has lead to creation of different types public spaces beyond classic ones. These new types like consuming spaces, lost spaces, etc.(Carmona,2008) have created new hidden network of public spaces which criticize traditional mobility in classic public spaces like streets and squares. Considering sensetive groups needs like women, children and older people increase complexity of mobility concept. Planning must be adapted to this shifting reality through the redefinition of new concepts and tools. Reffering to the revealing powers of walkability, communications nodes seem to be key elements in understanding flows and destinations. In this context, walking areas continue being fundamentally places which foster a distinctive quality in cities. Walking has positive effects on the quality of air, economy or public health e.g. promoting commercial developments or interconnecting communications nodes. (Soria&Talavera, 2013)

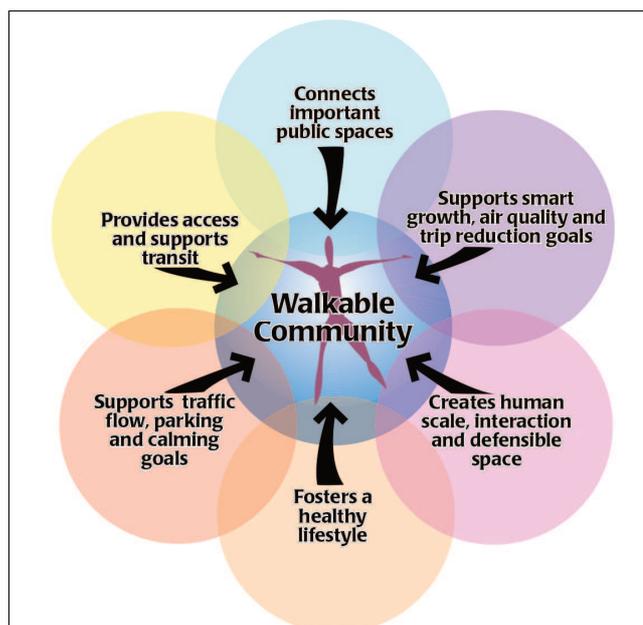


Fig. 1: walkable community benefits. (City of San Diego pedestrian master plan)

Emerging, evolution and concenrating on pedestrian mobility concept through different researches and practices in thses two decades have led to emergence of new dimensions of mobility and different tools for measuring. An overview to evolution of Space Syntax thechnique and more usage of it in urban projects can be assumed as a result of this change.

Inspired initially by Bertolini and Dijst (2003) respect of the concept of Mobility Environment as well as by Zacharias (2001) respect of the concept of Walking Environments, Soria&Talavera (2013) have expanded the concept of Pedestrian Mobility Environment. In an integral view they have analysed Evolution and relationships between urban mobility, pedestrian projects, planning concepts and evaluation. (fig2.)

With this background, public awarness about pedestrian spaces benefits, growing researches that show effects of walking on physical and mental health, fast changing of city centers to pedestrian zones and great efforts to enhance public transport especially in European cities, it seems that 21th century is more inspiring in mobility concept comparing to modern era. So referring to benefits of pedestrian mobility, quality and

quantity of walkable spaces in a network is a key index to evaluate quality of life which is measurable through qualitative and quantitative assessment.

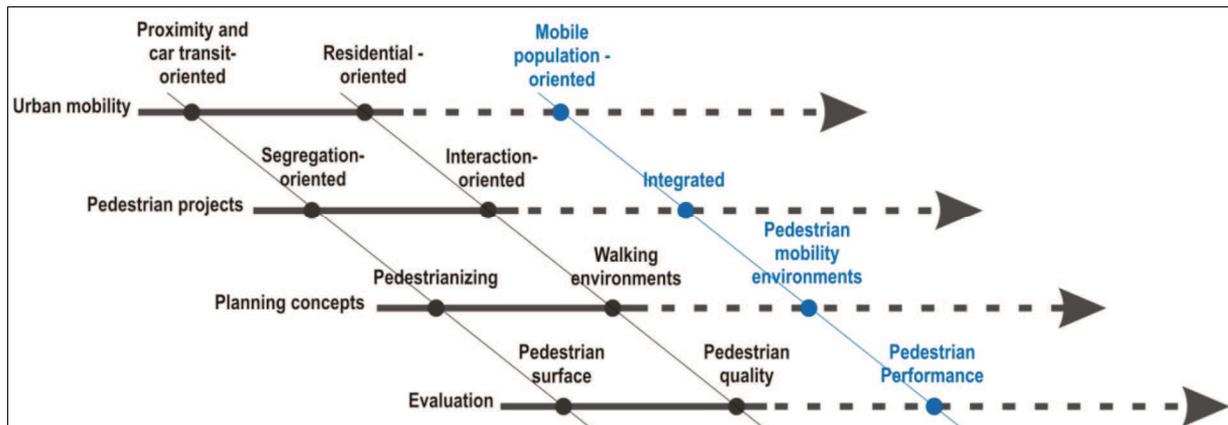


Fig. 2: Evolution and relationships between urban mobility, pedestrian projects, planning concepts and evaluation. (Soria&Talavera, 2013)

4 METHODOLOGY

In the research public spaces planning policies of Tehran Municipality have been considered since 2005 till now. The analysis of policies has been done through selected public spaces as case studies. The mayor of Tehran in this period, has been nominated as top 11 mayors of World in 2008.² A period of relative stability has put the Iranian capital No1 on the list of world cities that have achieved biggest improvements in liveability over the past five years, as calculated by the Economist Intelligence Unit.³ From mobility point of view, this period is a unique period of Tehran while both pedestrian and car mobility have experienced tremendous changes. In the first stage three largest pedestrian zones with different functions have been chosen to study. The first case study is a pedestrian zone in historic part which includes the most vibrant urban street of Tehran because of huge amount of people coming for old Bazar as the greatest economic structure of Iran and visiting touristic places like UNESCO world heritage of Golestan palace. Changing car dominant streets to pedestrian streets in this part of Tehran has started from 2005 and now it is the biggest pedestrian zone in Iranian cities. The second case study is a new waterfront around Chitgar artificial lake in the west of Tehran that has opened in last three years. The area is an urban change in history of Tehran. The area is a mixed use area based on recreational activities. The third case study is Abbasabad area which is a big cultural area with different function in the middle and north of Tehran. Including Tabiat Pedestrian Bridge (winner of Aga Khan award for architecture 2016), the area has been defined as a contemporary touristic destination of Tehran. In the second stage two main streets of Tehran have been chosen to evaluate pedestrian mobility policies according to sidewalk qualities; Valiasr streets which is the longest street of Middle East and Enghelab street which is the most cultural street of Tehran including bookstores, universities, city theater, cafes, etc. Redesign and renovating of these street sidewalks started in 2006. As a project in Urban Design Methods and Techniques Course at Tarbiat Modares University leading by Ehsan Ranjbar, different groups of students have been used deep observations, questionnaires and behavioral analysis as key methods to analyze these five case studies. In the third stage of the research, pedestrian spaces planning policies have been compared with highways design in a quantitative approach to demonstrate how much attention has been paid to pedestrian mobility in Tehran Municipality policies in recent decade. Especially Sadr Expressway, the highway in two level, is the main concentration point to analyze.

5 DISCUSSION

5.1 Pedestrian zone of central Tehran

According to touristic dimension of historic part of Tehran with a number of touristic places and beyond it, locating old bazar of Tehran in the area, developing pedestrian zone has caused to create vibrant and livable spaces in which around 1000 people per hour are using Panzdah-e-Khordad the most crowded pedestrian street

² <http://www.iclei.org/fr/details/article/mayor-of-cape-town-wins-the-2008-world-mayor-award.html>

³ <https://www.theguardian.com/cities/gallery/2016/aug/18/tehran-economist-intelligence-unit-global-liveability-ranking>

of the area. Accessibility to two metro station has effected on the richness of pedestrian mobility. Also providing public transport in the area has been helped to those who are not able to walk a lot. According to Samavati & Ranjbar (2017) reaserch “The Effect of Physical Stimuli on Citizens' Happiness in Urban Environments: The Case of the Pedestrian Area of the Historical Part of Tehran“, pedestrianization of the area has been effective in overall happiness. Results of quesstionnair show overall satisfaction of people of changing mobility in the area. Also shopkeepers are more satisfied from economic point of view after changin streets from car dominant to pedestrian friendly situation. The main quality of the area which is more notable for people is safety especially for women (in day time not night time). Also decreasing the level of noise pollution is a key characteristic of the area which is rare in Tehran public spaces.



Fig. 3: Panzdah-e-Khordad pedestrian street

5.2 Chitgar Lake waterfront

Based on deep observations, locating close to mountain in connection to forest, the artificial lale of Chitgar has provided unique waterfront for Tehran citizens, which is quite new change in history of 230 years old capital of Tehran. In spite of opening different restaurants in various styles some people use the area as a picnic place because of natural elements. This is a type Iranian usage of public spaces which gather people around a tablecloth. Around 9 kilometer continuous pedestrian including a ring of bicycle track bring pedestrians at the heart of public spaces. Although inner spaces are well equipped for pedestrian but accessibility to the waterfront from other part of the city is not so easy because of lack public transport. Planning different shopping malls like Iran Mall (one of the largest business centers in the Middle East with 1,200,000 m² constructed area) has affected on the mobility of the area. So a paradoxical planning of mobility can be felt in the area.



Fig. 4: Chitgar Lake

5.3 Abbasabad cultural area

Verity of cultural and recreational functions, innovative design of elements, pedestrian bridges, cycle tracks, differen theme parks in 68 hectar with connection to a forest park and a vast view to the mountains of north

of Tehran, have lead to introduce Abbasabad area as a touristic destination for pedestrians. Good connection to Metro and public transport by a network of walkable spaces and sidewalks at the heart of Tehran, introduce an excellent public spaces planning policy of Tehran Municipality. Connectivity is a key quality in the area. This is the main factor of Tabiat Bridge success as a new type of public spaces in Tehran which also has captured virtual spaces because of selfie photos on the bridge by young groups.



Fig. 5: Tabiat Pedestrian Bridge

5.4 Sidewalks

Analysis of sidewalks in two main streets of Tehran, shows improving overall quality of walking. The challenges reveals when we concentrate on the details of paving, urban furnitures, the interaction of paving to old trees and facilities for disabled people. Because of paying less attention to protection and irrigation of trees which are a part of identity of these streets, we can see a failure in this way because of renovating sidewalk projects. The big challenge relates to mobility of disabled people in the project which is quite hard for them to use these sidewalks especially at intersection. Two years ago the intersection of these two streets has been a critical project in Tehran in which the pedestrian mobility has transferred underground. The dominancy has been gained by cars. In spite of developing sidewalks in these two streets, the intersection project is a sign to show urban manager main thoughts.



Fig. 6: Valiasr Street

5.5 Highways

Looking at to the data of Tehran Municipality tell us that during the recent 12 years, highways has been developed from 304 Km to 548 Km with 80 percent growth. In comparison to pedestrian public spaces area, the data about highways show a parallel planning policy that is not consistent to pedestrian mobility. Critics

are raised up when we look at Sadr's Elevated highway. A lot of money has been spent on project⁴ that it was better to use such resource for developing public transport. Ranjbar & Mashhadi Moghadam (2017) research "Upgrading urban highways: issues and negative impacts based on a case study of Sadr's Elevated highway" results show the highway has significant negative impacts in ecological dimension, including air and noise pollution and energy-consuming parameters.



Fig. 7: Sadr Elevated Highway

6 CONCLUSION

Results show overall satisfaction of citizens in new pedestrian zones when we analyze these spaces from public spaces quality point of view. When we analyse them as spots in the city challenges are raising up. In this way the connection of pedestrian zones to other mobility patterns like public transport has a key role. Those pedestrian zones which have a better connection to public transport have been more successful. As a critical view pedestrian mobility planning policies of Tehran have concentrated in segregated zones which needs to plan an integrated urban spaces network. Also other mobility patterns like public transport should be planned to connect them together. The analysis of sidewalks reveals the emergence need for modification of intersections design, paving quality and connectivity based on sensitive groups needs. In comparison to highway development policies, Tehran Municipality planning policies in recent decades are paradoxical. This can be related to lack of integrated mobility plan which cover pedestrian spaces network, cycle network, public transport network and car dominant spaces together. Without this plan Tehran has a long way to overcome the challenges of the city. Looking to Chigar Lake area where a new highway designed at the south part of waterfront and continuing under the forest park (with destroying some part of forest park because of intersections and U-turns) announce us the uncertainty in planning policies of mobility in Tehran.

7 REFERENCES

- Bertolini, L. and Dijst, M: Mobility Environments and Network Cities. *Journal of Urban Design*. Vol 8, no1, pp 27-43, 2003
- Carmona, Matthew: *Public Space: The Management Dimension*, Routledge, 2008
- Ranjbar, Ehsan & Mashhadi Moghadam, Navid: Upgrading urban highways: issues and negative impacts based on a case study of Sadr's Elevated highway, PLEA conference, Edinburgh, 2017
- Samavati & Ranjbar: The Effect of Physical Stimuli on Citizens' Happiness in Urban Environments: The Case of the Pedestrian Area of the Historical Part of Tehran. *Journal of Urban Design and Mental Health* 2017; 2:2
- Soria, Julio & Talavera, Ruben: *Pedestrian Mobility Environments: Definitions, Evaluation and Prospects*. AESOP-ACSP Joint Congress. Dublin, 2013
- Zacharias, J: Pedestrian Behaviour and Perception in Urban Walking Environments. *Journal of Planning Literature*, vol 16, no 1, pp 3-18, 2001
- City of San Diego pedestrian master plan, 2006.
<http://www.akdn.org/architecture/project/tabiat-pedestrian-bridge>
<https://www.theguardian.com/cities/gallery/2016/aug/18/tehran-economist-intelligence-unit-global-liveability-ranking>
<http://www.iclei.org/fr/details/article/mayor-of-cape-town-wins-the-2008-world-mayor-award.html>
<http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>

⁴ There is no clear data but some news based on interview with Tehran Municipality managers presents 325 million Euro as final expenditure. <http://donya-e-qtasad.com/news/1064089>