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The Impact of Urban Mega-Project on Housing Price in Adjacent Neighborhoods (Case Study: Sadr Multi-layered Highway, Tehran)

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Abstract: Urban projects are carried out with the aim of renovation and improvement of cities' condition. Highways are one of urban projects addressing transport to solve traffic congestion in large cities. Sadr Multi-layered Highway in Tehran Metropolis is one of urban mega projects constructed in 2013 to improve traffic condition of private cars in northeast to northwest of Tehran. This research investigates the impact of this mega project on housing price of adjacent neighborhoods. Surrounding areas, particularly closer ones, have been affected by its construction. Thus, to measure the impact, housing and land price index- that is the most comprehensive index including quality and quantity of changes in an area- and investigation of its changes in different intervals of Sadr Multi-layered Highway were used. It seems that land and housing price had less growth near highway rather field of project. The validity of this hypothesis was investigated in the form of field studies of changes in land and housing price in the field of Sadr Multi-layered Highway through measuring changes of land and housing price index. The method of collecting data was field and reference land data. Research method is correlation analysis in this study with outreach areas. The comparison of constructing Sadr Multi-layered Highway depends on three periods i.e. before, during, and after construction and its distance from highway. Price level decreases at the distance of 0-60 meter and price level increases in the distance of 60-120 meter. Perceptible difference does not exist about the price changing of housing in the distance 120-1000 meter than whole region.

Keywords: Mega-Project, Housing Price, transport, traffic, Sadr Multi-layered Highway
JEL Classification: R52, L91, H54, H50

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1- Introduction

Globally, some mega projects have been prepared and implemented in recent decades, particularly in urbanization that include a wide range of exhibitions, festivals, sport events, large shopping centers, urban expressways etc. These projects are large-scale investment ones. In terms of value, they are introduced as more than one-million dollars projects. Because of sustainable impacts on societies, the environment, and budget, large projects attract public attention (Flyvbjerg et al., 2005). Mega projects were entered into urbanization arena after the world war and following planning for damaged cities and improving their situation. In 1950s, most of these projects included constructing large buildings, expressways and boulevards, and clearing substandard residential areas (Orueta & Fainstein, 2008).

It is always difficult to identify and implement the methods of solving traffic problem. Although those solutions that require large initial costs, such as developing capacity through building new roads, are sometimes favorable and appropriate, they need huge costs, and they often influence negatively on the environment and quality of life (Berechman et al., 2006).

Land and housing price depend on different factors and conditions; therefore, the prices vary in different times and places (Gholizadeh, 2008). In other words, land and housing price is different from one to another in a city based on local and socio-economic features. Rapid development and evolution in socio-economic structure and physical environment will lead to emerge new forces causing change in internal structure of city and change in land and housing price (Ozus et al., 2007). Change in price is one of the most evident economic reflections of intervention in physical structure of cities (Ardeshiri & Zahmatkeshan, 2006). Urban transport is one of the most important and fundamental issues in planning and designing cities. One proper transport system can have different spatial impacts on surrounding lands and properties, and the manner of using of them. Sometimes, these impacts may be seen point wise in transport stations, sometimes longitudinally near transport corridors, and a combination of them in some cases (Perk & Catala, 2009).

The main reason to create urban expressways in large scale is to accelerate journey by private cars, but creating these urban mega-projects have many problems like how to provide financial resources and environmental, social, and economic impacts. In Tehran Metropolis, development of urban expressways in large scale makes it necessary to investigate the impacts of expressways on surrounding neighborhoods and city of Tehran. Thus, field study of impact of expressways on adjacent residential areas can present an appropriate analysis of the impact of building urban expressways on the index of price change of adjacent lands, in addition to provide new and innovative results. Moreover, the results can be a useful guide for management and planning of urban construction and development in the country. Thus, the present research, with the aim of understanding and awareness of the influence of building Sadr multi-layered expressway on price changes of residential areas in adjacent areas, tries to answer following question:

- What is the relationship between building Sadr multi-layered expressway

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and land and housing price changes in adjacent neighborhoods?

2- Literature Review

a) Foreign Researches

Many researches have been done to investigate the relationship between investment in transport infrastructures and land prices in the world so far. Generally, these studies have been on public transport, particularly railroad transportation and subway stations. They include the relationship between distance from subway station and land price (McMillen & McDonald, 2004), positive impact of subway station on the price of commercial properties in near distance and positive impact for residential areas in farther distance (Debrezion et al., 2007), and also positive impact of subway station in rich neighborhoods that other ones (Bowes & Ihlanfeldt, 2001).

Yankaya (2004) investigated the impact of Izmir Metro in Turkey on the value of residential real estates by using Hedonic Pricing Model. The results indicated that proximity to metro station increases residential lands price.

Studies indicate that researches on the impact of automobile-based infrastructures on land price are fewer than the impact of public-based transport infrastructures. Mikelbank (2004) argued that the reason was easier analysis of rail infrastructure impact on land price than building roads and its impact on property price. These studies include measuring negative impacts of expressways and tunnels on housing price; by approaching them, they become more effective (Kilpatrick et al., 2009). However, some studies include a comparison of rail infrastructures impacts with investment in roads on property price (Mikelbank, 2004-2005), measuring positive impacts of building bridge on property price due to access increase and negative impacts due to increase crowd (Smersh & Smith, 2000).

b) Iranian Researches

Azizi (2005) concluded that the indicators of urban housing in Iran are affected by external and internal factors. Effective external factors on housing, such as demographic, economic, and social factors, have prepared the ground for housing boom and bust, and housing plans were less effective in general status of housing and improving its indicators. Internal factors of housing that generally influence the manner and process of housing form its status in certain aspects.

Rahimi et.al, (2013) in a study titled "the study of effective factors on urban housing price by using Hedonic Pricing Model (case study: city of Sanandaj-district 2) concluded that physical factors of housing in Sanandaj-district 2 affect more than access factors in housing price in this area.

Kheyroddin et.al, (2013) did a research on field study and using reference land data and comparative analysis of these data, with statistical correlation analysis and polynomial linear regression methods. Comparing the impact of metro stations on adjacent residential properties in two different areas of north and south of Tehran indicated further growth for central and southern districts of Tehran than its northern areas.

Abdollahi Milani & Hadadi (2012) studied estimating the price function of residential properties in Tehran by using Hedonic Pricing function and spatial econometric method. The variable of distance from center of neighborhood to metro station that is affected by space has been significant in spatial model, but its

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coefficient is negative, slight, and close to zero. This represents that proximity to metro station in the studied year of 2006 did not extremely influence negatively on the price of residential properties i.e. it was ineffective.

Fazeli et.al, (2012) investigated the outcomes of Tehran Tohid Tunnel project. The results indicated positive economic, social, environmental, and traffic impacts for further areas and negative impacts for adjacent neighborhoods.

The impact of presence and activity of Padideh Shandiz Tourism Company mega-project on evolutions of land and housing market was investigated. In this research, three managerial, environmental factors, and presence of Padideh Tourism Company variables were used to investigate changes in land and housing market. The presence of Padideh Tourism Company affected the most in changes in land and housing price. Then, the role of urban management and environmental factors were almost close together (Annabestani, et.al, 2013).

Most previous studies on measuring the impacts of mega-projects, and particularly transport infrastructures, on the price of their adjacent residential properties neighborhoods were mostly about the impacts of public transport on the price of residential properties of adjacent neighborhoods and the impacts of building expressways on surrounding neighborhoods were less considered. For this purpose, this research tries to find the relationship between building urban expressways and residential properties price index.

3-Theoretical Principles

Investment in new type mega-projects has been proposed increasingly in scientific studies since the late 1980s including types of large-scale evolutions with mixed land uses. The emergence of this term is related to private sector investment in commercial fields and combination of land uses for maximum use of land in commercial areas or city centers (Lehrer & Laidley, 2008). Urban mega-projects are one of the largest development plans in cities that have large infrastructures such as transport facilities, power plants, stadiums etc. (Fainstein, 2008). Urban mega-projects are interesting measures, through which we can investigate two main reasons of natural cycles of cities' development including firstly, because of large scale and public reputation, and secondly, development of certain type of mega-projects in different cities cannot be considered as full success (Dolowitz & Marsh, 2000). Traditionally, the term mega-project has been used to describe investment in large scale by focusing on a single purpose, particularly about infrastructure projects such as transport systems and energy facilities (Lehrer & Laidley, 2008). Despite improvement of technology in construction and technique management in recent decades, the costs of mega-projects have been increased significantly across the world (Altshuler & Luberoff, 2004). Sykes (1998) believed that following criteria specify the costs of public ordinary projects and mega-project: scale, public disagreement about projects, time of construction and implementation, place, impacts on market, exclusive hazards, financial problems, inadequate experiences, and lack of popularity. Mega-projects cannot be regarded as typical ones. They influence economically in short-term and long-term on city, private sector decision makers, and

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investors. Furthermore, they have cultural impacts in long-term on cities, short-term impacts are evaluated easily, but some long-run ones face problem due to lack or shortage of systematic study typically (Warrack, 1993).

One of the other important factors of decision-making for mega-project planning is its impact on surrounding areas causing development or damage to them (Altshuler & Luberoff, 2004). Building urban mega-projects has different impacts in surrounding environment; therefore, it is necessary to evaluate them before, during, and after implementation and to investigate their impacts on surrounding human environment in order to plan properly to increase positive impacts and reduce negative ones. Thus, evaluating the impact of building Sadr Multi-Layered Expressway on the price of surrounding residential areas not only specifies the impacts of building such mega-projects, it provides useful guides to urban management, with the development of expressway construction in Tehran, and in this regard, it would be a new experience for the city of Tehran.

Measuring Quality of the Environment with the Index of Changes in Property Prices

Areas surrounding the expressway, particularly closer ones, are affected by constructing the project. Thus, to measure this impact, land and housing price index, the most comprehensive one containing quality and quantity of evolutions of an area, is used (Bourdin, 2008). Land and housing price, as a combined and multi-dimensional commodity, can be influenced by different factors like structural quality of housing, access to commercial centers, municipal facilities, welfare and environmental facilities related to property, and generally quality of its surrounding environment (Tyrvainen, 1997); therefore, by investigating changes in land and housing price influenced by a project before and after implementation, correct understanding of project impacts on surrounding areas can be achieved (Kheyroddin et al., 2014).

In methods related to the investigation of the environment quality, it is assumed that housing price reflects maximum money that people pay for living in an environment with better quality and more facilities (Geoghegan et al., 1997); therefore, land and housing price can be varied because of changes in quality of environment. In this regard, one of the most important indicators for awareness of a residential environment quality is the index of changes in land and housing price. In fact, this index is one of the most comprehensive, expressive, and applied measures to investigate changes in quality of the environment (Bourdin, 2008).

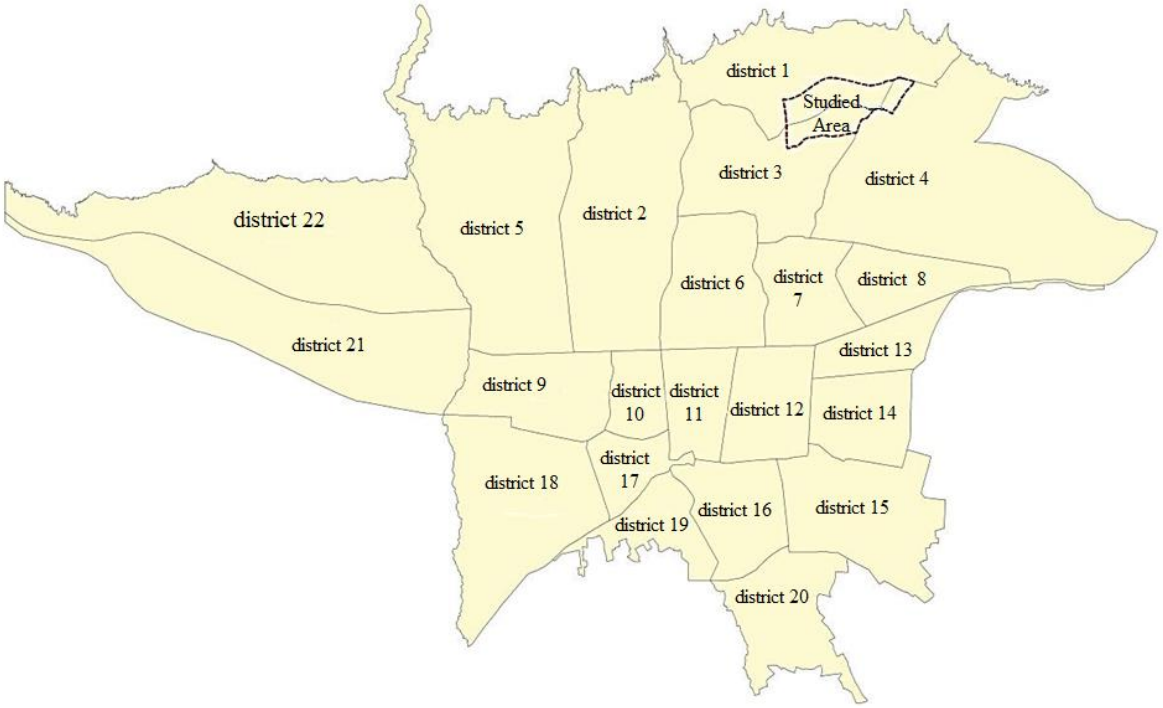
Case study: Tehran, Sadr Multi-Layered Expressway, from Facilitating Transport to Imposing Spatial-Physical Outcomes

Since the 1960s, because of sudden immigration and population increase, Tehran has suffered problems about communicative networks, urban transport, traffic, pollution, etc. On the other hand, urban management has begun to construct transport facilities in large scale to improve traffic condition in the city of Tehran. In addition to positive impacts on traffic and improvement of travel conditions, building expressways in large scale create some problems for its adjacent neighborhoods. Sadr Multi-Layered expressway has been built with high cost and large scale as an urban mega-project in the northern area of Tehran in districts 1 and 3 and a part of Tehran Municipality district 4 (map1). This mega-project was started to improve traffic conditions of private vehicles in

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northeast to northwest in 2011 and inaugurated in 2013 with a length of 9.6 km. It ends to Modarres expressway from west (entry of Niyayesh Tunnel) and to Imam Ali expressway from the east.



Map1. Coordinates of the studied area

Reference: (Researchers' findings)

4- Research Method

In this research, in order to evaluate the impact of building Sadr Multi-Layered Expressway on quality of adjacent residential environment, the index of changes in land and housing price was selected to explain the changes in environment quality. By documentary and library, theoretical principles and literature were studied first. Then, to study about case study, quantitative method of descriptive-analytical (explanatory) as used to describe and evaluate spatial outcomes of urban mega-projects.

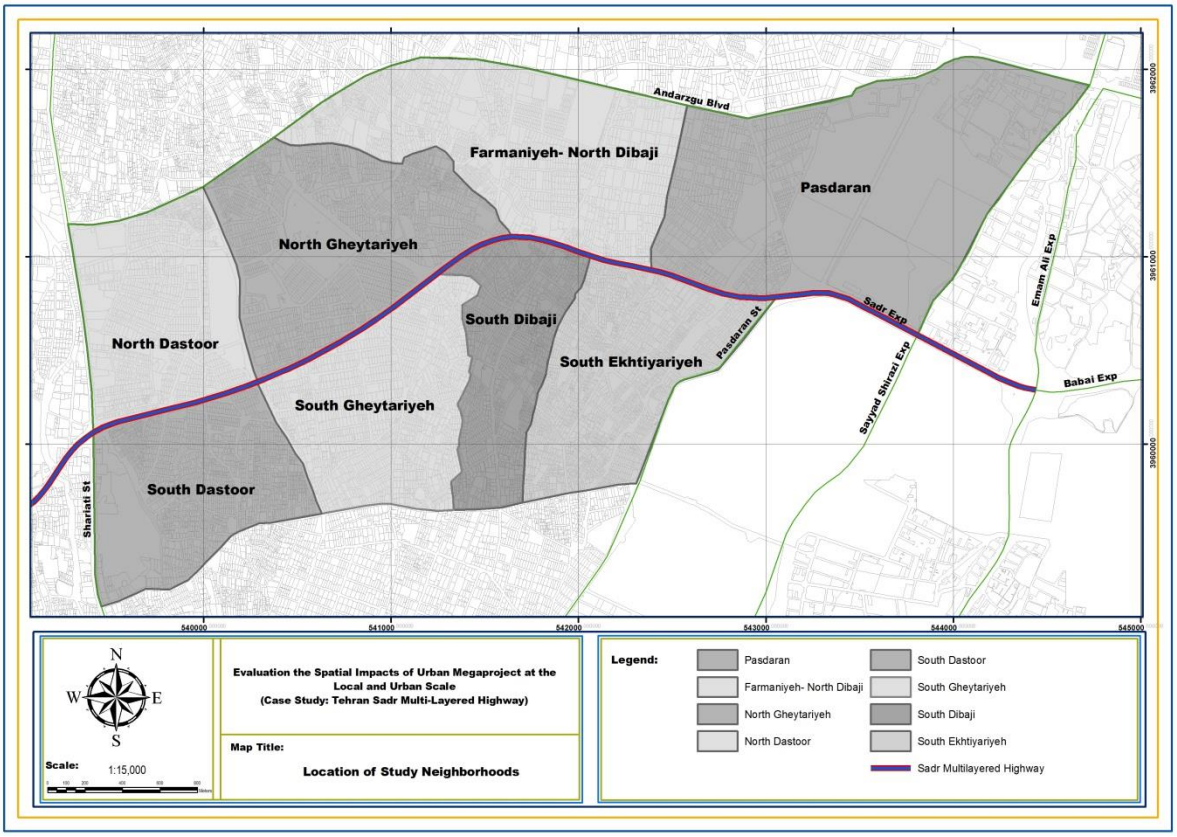
Statistical population includes the houses of studied neighborhoods in Tehran municipality districts 1 and 3. According to the last census, there were 14606 residential units in the neighborhoods of district1, and 15238 ones in district3. Thus, by using Cochran's formula with confidence coefficient of 95 percent, 300 questionnaires are required. To collect data, simple random sampling method was used. Intended method in this research is the use of reference land data and their analysis comparatively. Initially, by using the information of Statistical Center of Iran, depth personal interviews, and interviews with different references like people living in the area, agencies, and real estates for more acceptable and real prices, required data were collected in a seven-year period. Then, by using quantitative and qualitative analytical methods, the relationship between the prices of properties and fitting year, the process of changes in residential properties price influenced by Sadr Multi-Layered Expressway was compared. In

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addition to determining the relationship between building expressway and changes in land and housing price and also the depth of the sphere of influence of expressway construction, the comparison and analysis of these data in different periods and intervals for surrounding neighborhoods of Sadr Multi-Layered expressway help us to answer main research question.

In this research, to measure the impact of building Sadr Multi-Layered Expressway on its adjacent neighborhoods, field study has been done in the neighborhoods of North Dastoor, North Qeytariyeh, Farmaniyeh, and Pasdaran in district 1, and South Dastoor, South Qeytariyeh, South Dibaji, and South Ekhtiyariyhe in district 3 (map2). Changes in property price in three intervals of before, during, and after building Sadr Multi-Layered Expressway were collected. By using correlational analysis of property price in different time intervals, the impact of Sadr Multi-Layered Expressway can be evaluated.



Map2. Studied neighborhoods

Reference: (Researchers' findings)

5- Research Findings

Studying the Process of Changes in Residential Property Price in Adjacent Neighborhoods of Sadr Multi-Layered Expressway

As mentioned before, the index of changes in residential property price was used as reference land data for awareness of the impact of building expressway on quality of residential environment of selected neighborhoods; therefore, by using upstream documents, interview with different resources to obtain real prices such as people living in the area, agencies, and real estates, the

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average price of each residential square meter was collected from 2009 to 2015. In order to document and verify the collected field data and depth impact of Sadr Multi-Layered Expressway on property value, official statistics in relation to the price of each residential square meter for districts 1 and 3 have been represented (table1). The study and comparison of collected field statistics and presented official ones by responsible organizations reflect the accuracy of observation and data collection processes. To analyze the above data, a model of linear regression is needed, given linear relationship between dependent and independent variables in order to analyze increasing and decreasing impacts of building Sadr Multi-Layered Expressway on the tilt-shift of price changes before, during, and after implementation properly and comprehensively. Thus, by comparing different types of simple linear regression models for indicating slope of the curve changes at one time interval, polynomial linear regression model degree 2 was used as data analysis tool. By comparative analysis of figures obtained from the above-mentioned method, proper assessment of the impact of constructing Sadr Multi-Layered Expressway on the changes in the value of adjacent residential properties can be provided.

Table1. The average price (million Rials) of each square meter of renovated residential unit in different adjacent neighborhoods of Sadr Multi-Layered Expressway before, during, and after its implementation

After		During			Before			
2015	1393	1392	1391	1390	1389	1388	Year	
84.8	86.5	79.2	78.6	39.1	30	28.8	District 1	
85	86	79	79	3805	31	29	Distance 1000-120	
67.5	66	52/5	45	30	24	18	120-60	120-60
47.25	46.2	36.75	31.5	21	24	18	60-0	60-0
69	67.5	63	51	33	28.5	21	120-60	120-60
48.3	47.25	44.1	35.7	23.1	28.5	21	60-0	60-0
141	141	114	84	42	39	21	120-60	120-60
105.75	1.5.75	85.5	63	31.5	39	21	60-0	60-0
126	114	99	75	45	42	36	120-60	120-60
81.9	74.1	64.35	48.75	29.25	42	36	60-0	60-0
73.6	77.1	67	64.2	37.2	29.5	24.1	District 3	
73	77	66.5	65	38	28	23.5	Distance 1000-120	
60	60	52.5	45	27.9	25.5	16.8	120-60	120-60
45	45	39.37	33.75	20.92	25.5	16.8	60-0	60-0
69	67.5	60	51	33	28.5	21	120-60	120-60
48.3	47.25	42	35.7	23.1	28.5	21	60-0	60-0
69	67.5	58.8	48	33	27	18	120-60	120-60
51.75	50.62	44.1	36	24.75	27	18	60-0	60-0
54	54	49.5	42	33	27	24	120-60	120-60
37.8	37.8	34.65	29.4	23.1	27	24	60-0	

Reference: (Researchers' findings and Statistical Center of Iran)

As it can be seen in table1, in addition to verification of field data, by comparing official statistics, the depth of influence of Sadr Multi-Layered Expressway on the price of residential property price was determined 1000 meters. To study the impacts of the expressway on surrounding areas, initially, the observations indicated

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that changes in the price of residential properties at the distance of 120 to 1000 meters from expressway have similar trend to farther areas, but accuracy of this depth of impact requires test hypothesis to specify the extent and significant depth of impact around project. As a result, the studied area was selected the distance of 1000 meters throughout Sadr expressway. In field observations, 90 percent of public thought governing on real estates believed that the impact of constructing expressway on surrounding residential area does not exceed from the distance of 120 meters to expressway, but firstly, the veracity of this claim needs to be investigated, and secondly the quality of changes in this impact in this areas was questioned; therefore, 31 real estate agencies were selected as sample in this area. 28 of them confirmed above-mentioned report according to their evidences and transactions in the area before and after its implementation. To verify this claim with 95% confidence and significance level of 0.05, its generality was studied. Given that, random samples followed normal distribution and their volume, the accuracy of the statement was verified with 5 percent error rate; therefore, the significant influence of constructing project on surrounding houses was determined to 120 meters. In the later stages, quality and quantity of changes in price were surveyed inside the area of 120 meters from sides of expressway.

Evaluating the Impact of Constructing Sadr Multi-Layered Expressway on Surrounding Areas

District1: Studying obtained regression functions and slope in diagrams1, 2, and 3 (0-60, 60-120, 120- 1000 distances from Sadr Multi-Layered Expressway respectively), the slope of increase in residential property price in three defined layers was equal before building the expressway (2009 and 2010), increase in residential property price had less growth than next layers at 0-60 layer during construction (2011-2013), it had less growth in next layer of (60-120 meters) increase in residential property price than pervasive area, but more growth than the first layer of (0-60 meters). After Sadr Multi-Layered Expressway operation (2013-2015), rise in the price of the first layer had less growth than next layers, but the second one had more growth price increase than its pervasive area. In fact, building Sadr Multi-Layered Expressway had negative impacts on changes in price and property value in surrounding residential area to 60 meters, but it had positive impacts in next layer of (60-120 meters). Diagram 4 represents a comparison of residential property price in three different layers from Sadr Multi-Layered Expressway.

Changes in housing price in the studies area can be divided into two parts:

a. Price changes due to changes in housing price in the city of Tehran and studied area

b. Price changes because of building Sadr Multi-Layered Expressway

To calculate mentioned changes, changes in housing price of districts 1 and 3 in different eras as the reference of changes or changes in housing price that the process of land and housing market were calculated. The price change is due to difference in housing price in different years. To calculate the impact of building Sadr Multi-Layered Expressway, firstly, changes in housing price were calculated from 2011 (the first year of Sadr Multi-Layered Expressway impact on the process of changes in land and housing price) from resulting difference in consecutive years. Then, its difference with changes in land and housing market

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was considered as impact percentage of building Sadr Multi-Layered Expressway on land and housing market. As it can be seen in diagram5, the average impact of building Sadr mega-project on property price at 120 meters distance has allocated to itself high percentage than housing market condition.

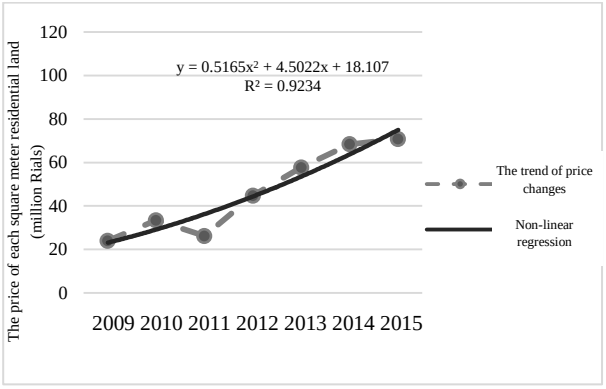


Diagram1. The process of changes in residential property price in district1 at the distance of 0-60 meters
Reference: (Researchers' findings)

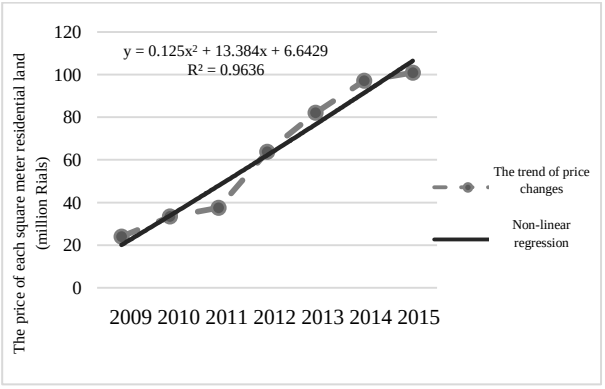


Diagram2. The process of changes in residential property price in district1 at the distance of 60-120 meters
Reference: (Researchers' findings)

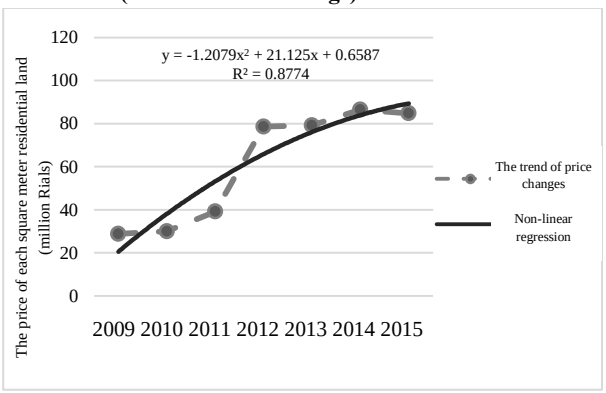


Diagram3. The process of changes in residential property price in district1 at the distance of 120-1000 meters
Reference: (Researchers' findings)

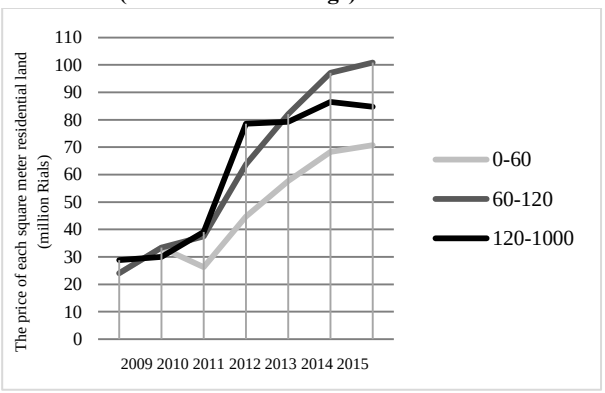


Diagram4. Comparing the process of changes in the price of residential properties in district1 in different distances from Exp.
Reference: (Researchers' findings)

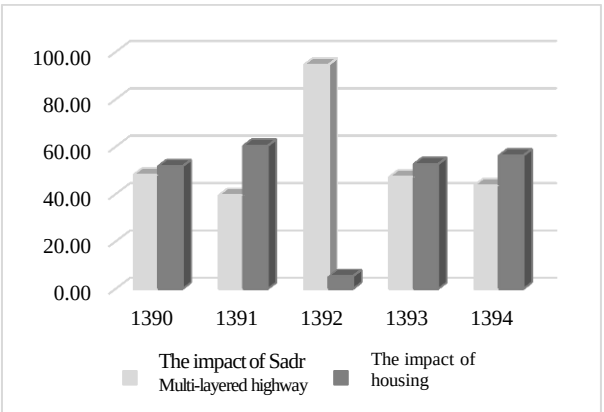


Diagram5. The impact of the Sadr Expressway and housing market conditions on changes in property price

Reference: (Researchers' findings)

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District3: By studying obtained regression functions and slope in diagrams 6, 7, and 8 (respectively at the distances of 0-60, 60-120, and 120-1000 meters from Sadr Multi-Layered Expressway), the slope of increase in residential property price in three defined layers was equal before building the Expressway (2009 and 2010). During construction (2011-2013), increase in residential property price in 0-60 layer had less growth than next layers. In next layer (60-120 meters), increase in residential property price had less growth than pervasive areas, but it was more than the first one (0-60 meters). After exploitation (2013-2015), the process of price increase in the first layer had less growth than next layers. However, price increase in the second layer had more growth than the first layer and less one than pervasive area. In fact, building Sadr Multi-Layered Expressway had negative impacts on price changes and property price in adjacent residential environment at the distance of 120 meters. Diagram9 represents a comparison of residential property price in three different layers from Sadr Multi-Layered Expressway. As it can be seen in diagram 10, the average impact of building Sadr Multi-Layered Expressway on property price at the distance of 0-120 meters has allocated to itself high percentage than housing market condition.

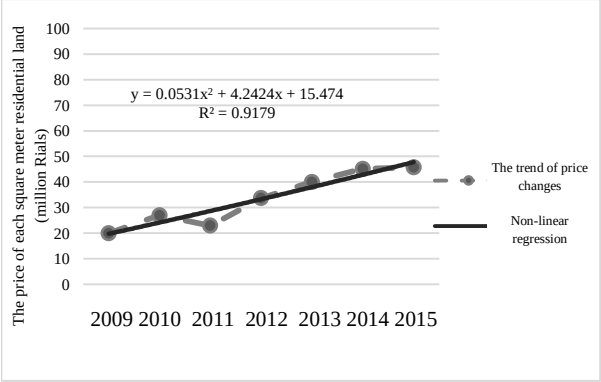


Diagram6. The process of changes in residential property price in district3 at the distance of 0-60 meters
Reference: (Researchers' findings)

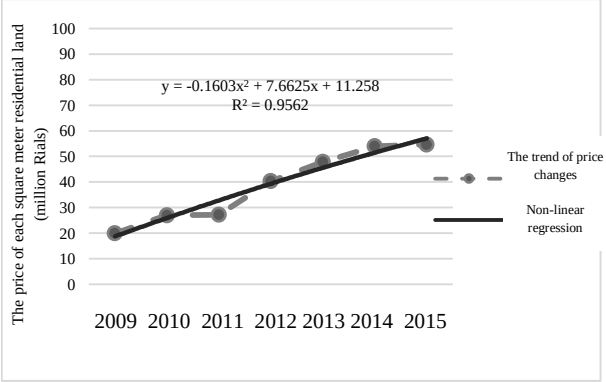


Diagram7. The process of changes in residential property price in district3 at the distance of 60-120 meters
Reference: (Researchers' findings)

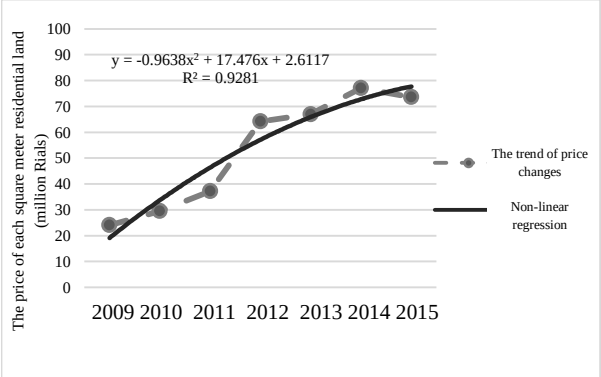


Diagram8. The process of changes in residential property price in district3 at the distance of 120-1000 meters
Reference: (Researchers' findings)

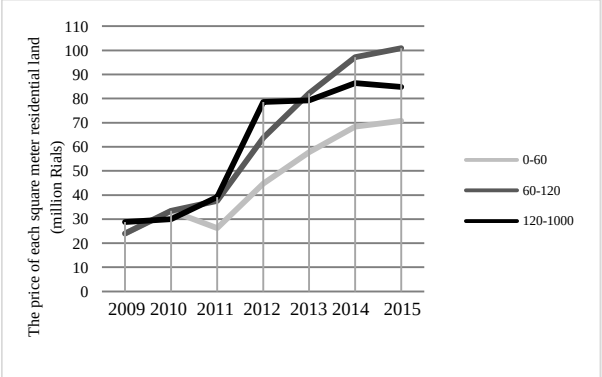


Diagram9. Comparing the process of changes in the price of residential properties in district3 in different distances from Exp.
Reference: (Researchers' findings)

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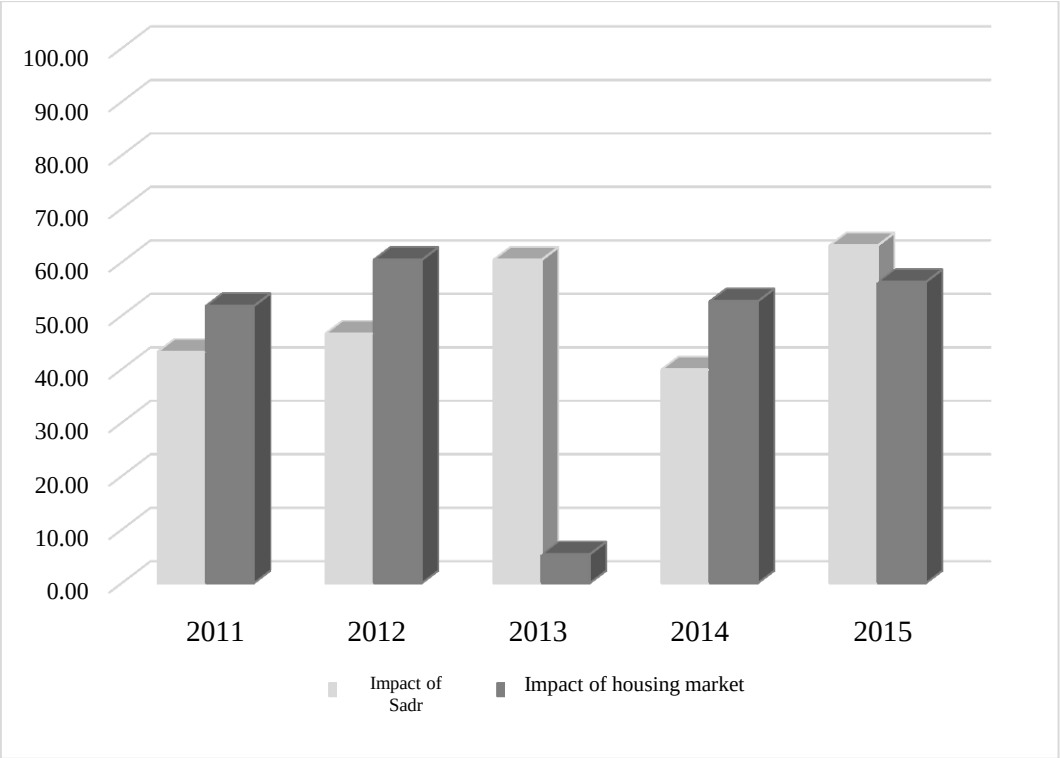


Diagram10. The impact of the Sadr Expressway and housing market conditions on changes in property price

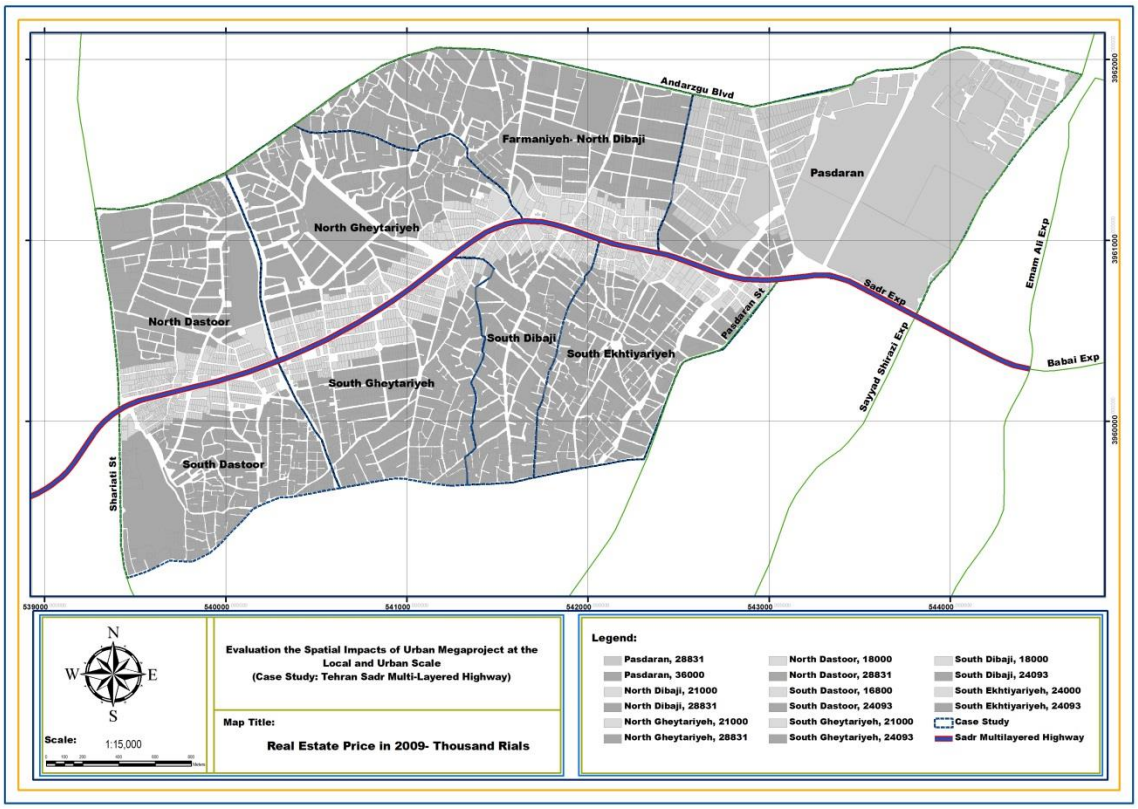
Reference: (Researchers' findings)

The Reasons of Different Spatial Impacts in Different Intervals from Sadr Expressway

Using reference land data and officially announced statistics, maps of residential property price were obtained. By investigating the process of changes in property price in different time intervals, we may consider that before starting Sadr mega-project, property price had uniform changes in adjacent neighborhoods with their pervasive areas, but by starting its construction, property price was reduced in adjacent neighborhoods. However, the extent of these changes was not identical in different distances from Sadr Exp. As the distance increases, the extent of negative impacts on property price is reduced. Given that, the index of changes in land and housing price has been selected to describe changes of environment quality, negative impacts of building Sadr Multi-Layered Expressway were high at the distance of 60 meters, it had different impacts in the second layer (60 to 120 meters) in such a way that these impacts were positive in district1 leading to increase in property price in comparison with pervasive area, but its influence was less at the distance of 60 to 120 meters in district3. This means that by starting construction, we may see sharp decline in property prices, but after its construction, negative impact decreased and property price increased than the first layer.

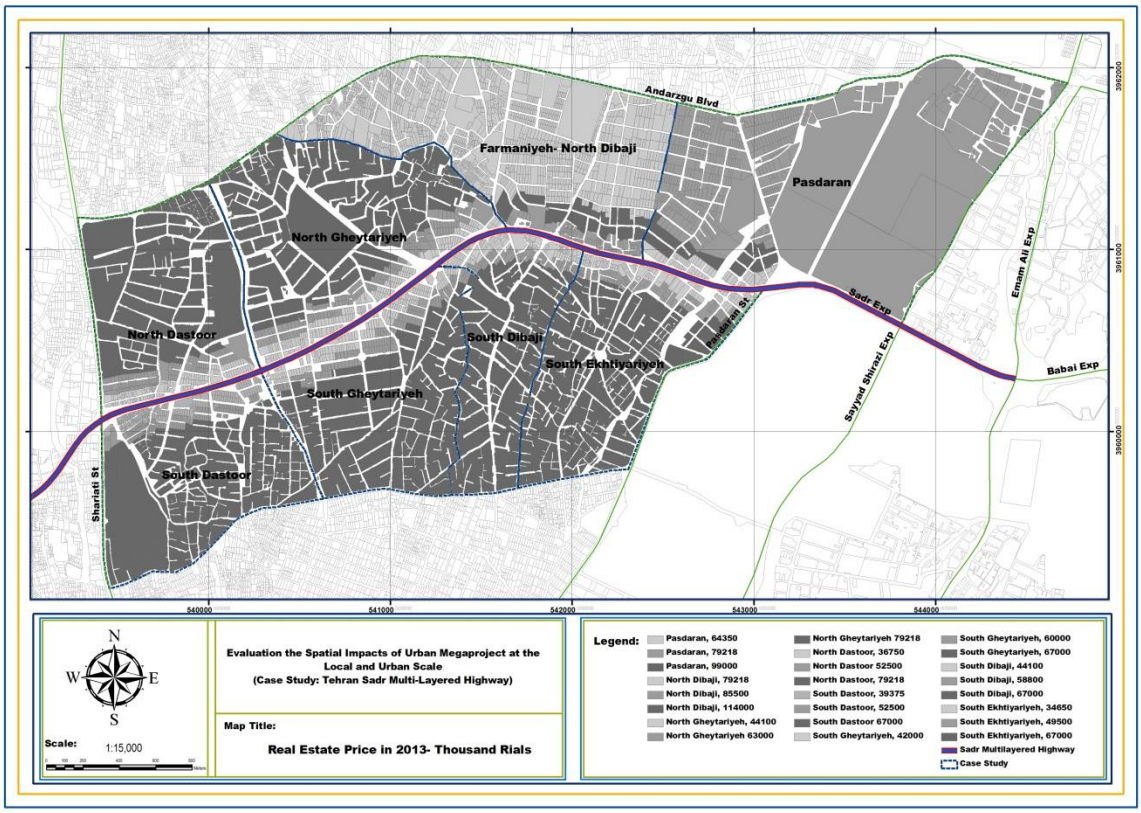
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Map3. The price of residential property in adjacent neighborhoods of Sadr Expressway (in 2009, million Rials)

Reference: (Researchers' findings)

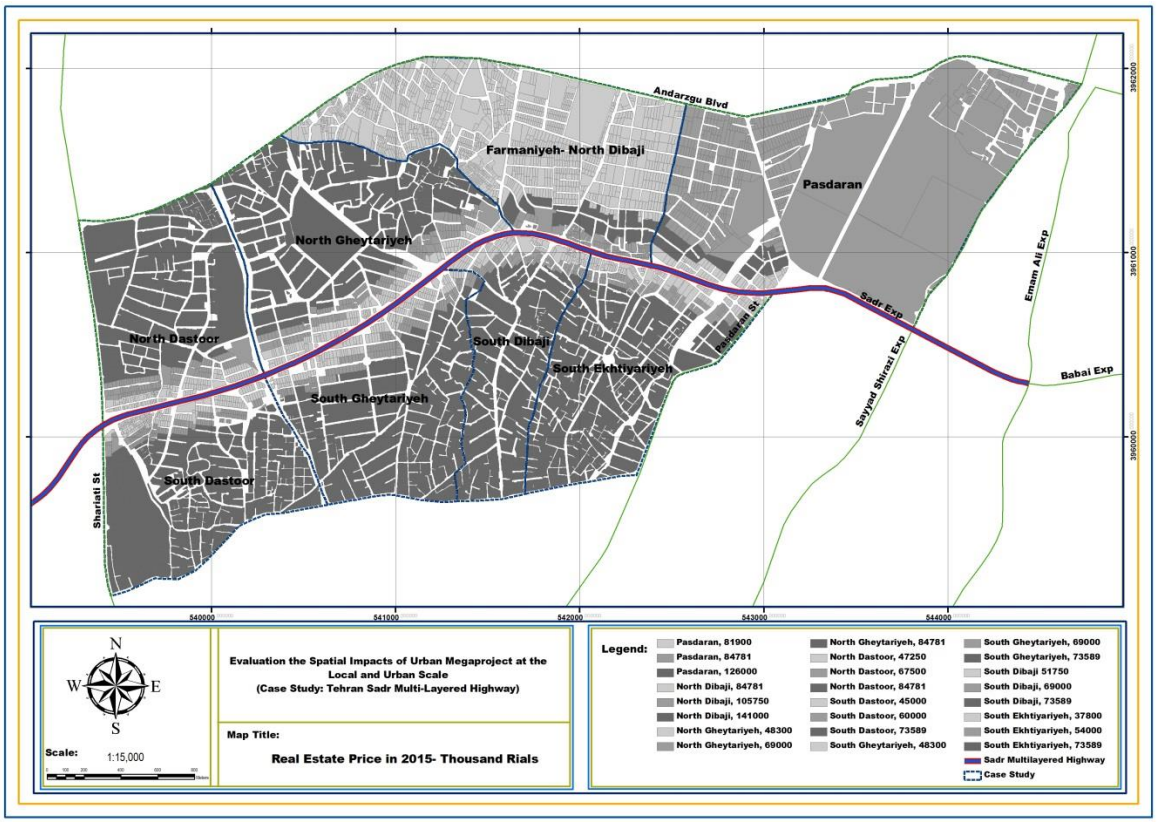


Map4. The price of residential property in adjacent neighborhoods of Sadr Expressway (in 2013, million Rials)

Reference: (Researchers' findings)

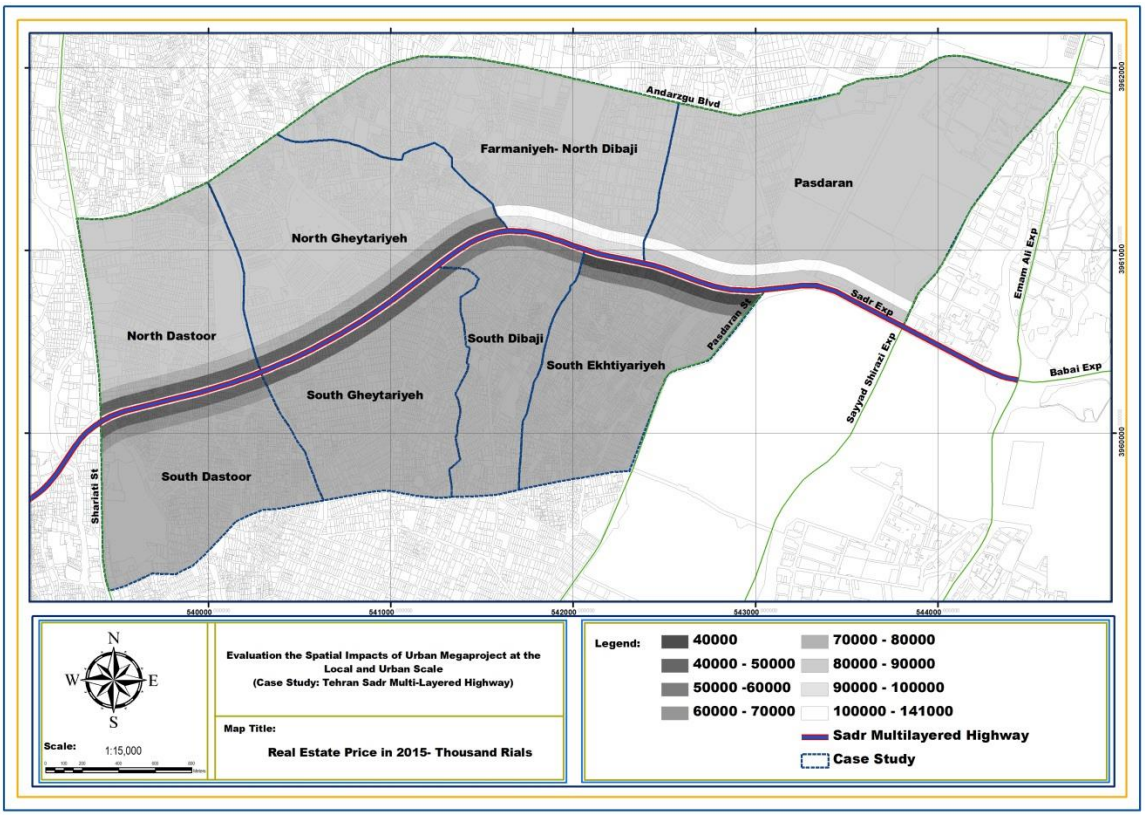
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Map5. The price of residential property in adjacent neighborhoods of Sadr Expressway (in 2015, million Rials)

Reference: (Researchers' findings)



Map6. The price of residential property zoning in adjacent neighborhoods of Sadr Expressway (in 2015, million Rials)

Reference: (Researchers' findings)

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As it can be seen in maps 3, 4, and 5 (before, during, and after Sadr mega-project construction respectively), property price in adjacent neighborhoods of Sadr multi-layered mega-project was close to the price of pervasive areas and the growth of price increase was in accordance with the trend of price increase growth in pervasive areas, but during construction and after exploitation, the price of property changed in its adjacent neighborhoods. One of the reasons for decline in residential property price in the first layer (0-60 meters) may be disturbing the calmness and stillness in the neighborhood whereas people intend to live in calm areas far away from urban noise. The results of interviews indicated that residents living in adjacent neighborhoods were worried about audio and visual pollution, and social problems of building Sadr Multi-Layered Expressway. This can be proved by not buying residential property in that area, many land use changes from residential property to other ones like office, commercial etc. On the other hand, by investigating ownership rate of private cars in Tehran districts 1 and 3i.e. 68 percent and 57 percent respectively, and given travels in district 1 (485793 trips per day), the average travel speeds on main roads at peak hours (28 km/h) than trips in district 3 (433802 daily trips) and the average travel speeds on main roads at peak hours (25 km/h), it can be argued that the willing to access to urban expressways in district 1 is more than district3 that could be a reason to more rise in residential price of the second layer (60-120 meters) in district 1 than district3. Field studies indicated that building Sadr Expressway resulted in social, economic, and physical changes in adjacent areas. Such issues are because of technocratic view and excessive attention to personal transportation in comparison with public transport.

6- Conclusion and Suggestions

Building urban expressways can have different impacts on city and its adjacent neighborhoods. The construction of Sadr Multi-Layered Expressway in the city of Tehran is one of the urbanization measures to develop personal transport that it gives the most benefit to those who passes from the highway, but it has negative impacts for adjacent neighborhoods. The results indicated that the construction of Sadr Multi-Layered Expressway has had positive and negative impacts on city, particularly on its adjacent neighborhoods. This means that economically positive impacts are for farther neighborhoods and negative ones for closer ones. In fact, it can be concluded that the depth of direct impact of Sadr highway construction is about 120 meters for its adjacent neighborhoods. It has reduced residential property price from the distance of 60 meters, but it boomed housing market at the distance of 60 to 120 meters from the expressway. According to the observations, in addition to the fact that property prices have risen at this distance, due to the increasing entry of vehicles into the neighborhoods of increasing access, quality of life reduced. According to the findings and results, it is necessary how to manage these impacts to reduce its negative impacts. Taking into account the managerial measures and more appropriate planning, the impacts of building urban mega-projects in cities can be modified.

Some of the solutions to reduce negative impacts and increase positive impacts of urban mega-projects are monitoring the process of changes in land and housing price, preventing land speculation,

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financial compensation resulting from the reduction in the price of land and housing in adjacent neighborhood of mega-project, quiet neighborhood streets, reducing air and noise pollution caused by traffic from neighborhoods, creating green path near expressways to decrease noise and air pollution, and increasing access to public transport. Further studies on different effective factors of building Sadr Multi-Layered Expressway on adjacent neighborhoods and planning measures to reduce negative impacts of highways and increase possible impacts on surrounding neighborhoods are some of the leading issues of this research. It is hoped that to be studied by further studies. It is recommended that in addition to related technical studies, city management do more researches in social area including evaluation of social, environmental, economic, and physical impacts, before building such large-scale projects in cities to reduce negative impacts of mega-projects.

* This article is taken from M.Sc. thesis titled "measuring spatial outcomes of urban mega-projects in local and urban scale, case study: Sadr Multi-Layered Expressway" supported by Tehran Municipality (Research and planning center of Tehran)

7- References

AbdollahMilani, M, Mahnoosh., Haddadi, M. (2012). Subway and its impact on residential property price (city of Tehran), *journal of economic researches, 47*(4), 79-96.

Altshuler, A. A., & Luberoff, D. E. (2004). *Mega-projects: The changing politics of urban public investment*. Brookings Institution Press.

Annabestani, A.A., Ziyari, Y., Annabestani, Z. (2013). Studying the impacts of Padideh Tourism Company on city development in Shandiz, *Journal of planning and tourism development, 2*(5), 159-183.

Ardeshiri, M., ZAhmatkeshan, M. (2006). *Urban land bank and the necessity of its creation in metropolises (case study: Shiraz)*, 1st conference on urban planning and management, Mashhad.

Azizi, M.M. (2005). An analysis on status and transformation of urban housing indicators in Iran, *Beautiful Arts, 23*, 25-34.

Berechman, J., Ozmen, D., & Ozbay, K. (2006). Empirical analysis of transportation investment and economic development at state, county and municipality levels. *Transportation*, *33*(6), 537-551.

Bourdin, A. (2008). Gentrification: un «concept» à déconstruire. *Espaces et sociétés*, (1), 23-37.

Bowes, D. R., & Ihlanfeldt, K. R. (2001). Identifying the impacts of rail transit stations on residential property values. *Journal of Urban Economics*, *50*(1), 1-25.

Debrezion, G., Pels, E., & Rietveld, P. (2007). The impact of railway stations on residential and commercial property value: a meta-analysis. *The Journal of Real Estate Finance and Economics*, *35*(2), 161-180.

Dolowitz, D. P., & Marsh, D. (2000). Learning from abroad: The role of policy transfer in contemporary policy-making. *Governance*, *13*(1), 5-23.

Fainstein, S. S. (2008). Mega-projects in New York, London and Amsterdam. *International Journal of Urban and Regional Research*, *32*(4), 768-785.

Fazeli, M., Bahrami, A., Mohammadi, O., ShafieiKhorshidi, F., Kamarehei, M. (2012). The evaluation of social outcomes of Tehran Tohid Tunnel, *Urban Management, 10*(29), 287-302.

Flyvbjerg, B. (2005). Policy and planning for large infrastructure projects: problems, causes, cures.

Flyvbjerg, B., Bruzeliu, N., & Rothengatter, W. (2005). *Megaprojects and risk: Ananatomy of Ambition*. Cambridge University Press.

Gatzlaff, D. H., & Smith, M. T. (1993). The impact of the Miami Metrorail on the

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[DOR: 20.1001.1.23452870.1395.5.17.3.5]

value of residences near station locations. *Land Economics*, *69*(1), 54–66.

Geoghegan, J., Wainger, L. A., & Bockstael, N. E. (1997). Spatial landscape indices in a hedonic framework: an ecological economics analysis using GIS. *Ecological economics*, *23*(3), 251-264.

John, B., & Sirmans, S. (2009). Mass transportation, apartment rent and property values. *Journal of Real Estate Research*.

Kheyroddin, R., Foruhar, A., Imani, J. (2013). Purposeful development of metro stations; from spatial polarization to urban integration in Tehran (case study: Shariati and Shohada Square metro stations). *Journal of Bagh-E Nazar (Garden of Vision), 10*(27), 15-26.

Kheyroddin, R., Taghvaee, A., & Forouhar, A. (2014). The Influence of Metro Station Development on Neighbourhood Quality. *International Review for Spatial Planning and Sustainable Development, 2*(2), 64-75.

Kilpatrick, J., Throupe, R., Carruthers, J., & Krause, A. (2009). The impact of transit corridors on residential property values. *Journal of Real Estate Research*.

Lehrer, U., & Laidley, J. (2008). Old mega-projects newly packaged? Waterfront redevelopment in Toronto. *International Journal of Urban and Regional Research*, *32*(4), 786-803.

McMillen, D. P., & McDonald, J. (2004). Reaction of house prices to a new rapid transit line: Chicago's midway line, 1983–1999. *Real Estate Economics*, *32*(3), 463-486.

Mikelbank, B. A. (2004). Spatial analysis of the relationship between housing values and investments in transportation infrastructure. *The Annals of Regional Science*, *38*(4), 705-726.

Mikelbank, B. A. (2005). Be Careful what You wish for The House Price Impact of Investments in Transportation Infrastructure. *Urban Affairs Review, 41*(1), 20-46.

Orueta, F. D., & Fainstein, S. S. (2008). The New Mega-Projects: Genesis and Impacts. *International Journal of Urban and Regional Research, 32*(4), 759-767.

Ozus, E., Dokmeci, V., Kiroglu, G., & Egdemir, G. (2007). Spatial analysis of residential prices in Istanbul. *European Planning Studies*, *15*(5), 707-721.

Perk, V. A., & Catala, M. (2009). *Land use impacts of bus rapid transit: effects of BRT station proximity on property values along the Pittsburgh Martin Luther King, Jr. East Busway* (No. FTA-FL-26-7109.2009. 6).

Qolizadeh, A.A. (2008). *The theory of housing price in Iran with simple language*, 1st edition, Noore Elm Pubs.

Rahimi Kakejoob, A., Isaloo., A.A, Mohammadiyan Mosammam., H., Rahmati, A. (2013). The study of effective factors on urban housing by using Hedonic Pricing Model (case study: city of Sanandaj-district2), *Quarterly Journal of Urban Economics and Management, 1*(3), 33-43.

Smersh, G. T., & Smith, M. T. (2000). Accessibility changes and urban house price appreciation: a constrained optimization approach to determining distance effects. *Journal of Housing Economics*, *9*(3), 187-196.

Statistical Center of Iran. (2009-2015). An abstract of sampling plan findings of housing price and rent in the city of Tehran, available at: http://www.amar.org.ir

Sykes, A. (1998). Grand schemes need oversight, ample funding. In *Forum for Applied Research and Public Policy* (Vol. 13, No. 1, p. 6). University of Tennessee, Energy, Environment and Resources Center.

Tyrväinen, L. (1997). The amenity value of the urban forest: an application of the hedonic pricing method. *Landscape and Urban planning, 37*(3-4), 211-222.

Warrack, A. A. (1993). *Megaproject decision making: lessons and strategies*.

Yankaya, U. (2004). *Modeling the impacts of İzmir subway on the values of residential property using hedonic price model* (Doctoral dissertation, İzmir Institute of Technology).

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