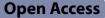
RESEARCH ARTICLE

City, Territory and Architecture





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Abstract

The examination of the comprehensive effects of flagship projects on adjacent neighborhoods remains inadequately explored, particularly within developing countries. This scholarly void is expanding despite limited research on public space flagship projects. The current study delves into a problematic case study: Atigh Square, located within the historical center of Isfahan, Iran. This site has undergone substantial efforts to transform into a pedestrian-oriented public space, aimed at recapturing its original configuration fro the eleventh century. The 5 criteria of identity, economy, social, physical, and tourism features and 22 indicators attributed to them were extracted from the theoretical literature. Mixed methods research was pursued, using seminal publications, guantitative data from a guestionnaire, and qualitative analysis of interviews conducted with several experts. Furthermore, the integration and connectivity of the area before and after regeneration was compared using Depth map software package. The results of the analysis show that the impact of the project in social, identity-related, infrastructural, and economic sub-criteria was weak, but it achieved relative success in terms of planning and tourism indicators. Besides, the sanitation sub-class received the highest rank whereas facilities and public services had the lowest rank among the sub-classes. As with the subjective and objective quality of life, the project was not a great success. Overall, although the project has considerably enhanced the physical and visual conditions of the area, it has failed to solve the social and economic problems of the surrounding fabric. The findings significantly contribute to the existing body of global literature concerning the impacts of flagship projects on surrounding areas, as the research explores diverse facets of these effects. The results underscore the necessity for flagship projects to be meticulously planned, taking into account not only the specific circumstances and challenges of local communities but also their integration into the broader socio-economic dynamics of the entire city.

Keywords Historical centers, Urban regeneration, Flagship projects, Impact on fabric

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Introduction

One of the modern policies of urban development, in general, and urban fabric regeneration, in particular, is to make use of actions and projects that trigger development to facilitate transformation in urban fabrics (Bohannon 2004). Therefore, in line with the regeneration of urban areas, measures such as prestige projects, flagship projects, and golden and silver projects have been adopted under the banner of catalyst projects (Cowan 2005). The concept of flagship projects is based on the idea that they have the capacity to affect the environment in which they are located (Boelsums 2012).

These projects were first inspired by the redevelopment of Baltimore's US port, a successful macro-scale planning paradigm for widespread physical regeneration (Bianchini et al. 1992; Kent and Brown 2009; Smyth 2005). On a global scale, these developments focus on tourism, investment of international companies, and creating a positive image for national and international relationships. The local scale, in contrast, focuses on residents and users who are mainly affected by the new development (Boelsums 2012). The goal of large-scale flagship urban regeneration projects is often to serve as a catalyst for urban renewal by repurposing abandoned or underutilized urban space to create upscale residential, retail, entertainment, and tourism facilities. Planners, developers, and local politicians saw them as the solution to the issues of deindustrialization and local economic instability. Developers and civic leaders' support for flagships, however, stands in sharp contrast to the majority of academic research, which contends that this type of regeneration takes resources that are scarce away from other sectors like housing and education and instead contributes to general economic growth (Doucet 2007).

The literature emphasizes the numerous merits of flagship projects for local communities and developers are increasingly seeking to respond to local needs. However, there needs to be more evidence that local community's benefit from such projects, which the complicated nature of cooperation in large-scale urban projects might explain. Single unsystematic attempts may sometimes respond to local needs but cannot comprehensively balance local and global needs (Bianchini et al. 1992; Boelsums 2012; Doucet 2009; Majoor 2011). The fundamental question is how flagship projects contribute to local needs and impact urban spaces and their ultimate effect on the surrounding urban neighborhoods (Temelová 2007).

One of the critical examples of a mega urban regeneration project is the Kings Cross project in the center of London, which improves accessibility and communication, provides economic stability for residents, and creates an integrated area, not just an element. It is a sign of huge investments in transportation infrastructure. The involvement of stakeholders and the community is one of the key factors contributing to King's Cross success. Especially the planner's promotion of activities, which enhances community living and appeal (Adelfio et al. 2021).

Among other examples of these projects, we can mention the example of Utrecht Central Station. In this project, increased cycling and public transportation use follows the inner city's revitalization, improving the permeability between the city center and the historical area. This project has created a compatible international business center, strengthening the city's internal boundaries, focusing on cycling and public transportation in contrast to increasing car traffic, combining the historical part of the city with station boundaries (Rahimzad et al. 2015).

Another rather successful examples of flagship projects are the ones in Lagos city, Africa, which embodies several flagship projects. Nigeria aspires to be the primary financial and economic center of Africa and a pivotal node in the geographical dynamic of economic globalization. Determined political leaders have started bold policy reforms and flagship projects in order to accomplish this. These Flagship projects may offer a foundation for the long-term integration of spatial data infrastructure into the urban agenda (Agunbiade et al. 2021).

Even though there are some successful projects, due to the failure of many flagship urban regeneration projects in the 1980s such as the Minato Mirai 21 flagship project in Japan (Balaban and Puppim de Oliveira 2014), since the 1990s the path of urban regeneration has redirected toward sustainable development of urban spaces, which includes all social, economic, and environmental aspects of regeneration (Korkmaz and Balaban 2020).

While developed countries have transitioned away from large-scale flagship projects, it is evident that in the past two decades, such initiatives have gained traction in developing countries like Iran. Iranian cities, notably Isfahan, are notable participants in these flagship projects, often focusing on the development of expansive pedestrian-oriented public spaces.

However, little research has been done on how these projects affect the surrounding fabric in Iran, where the context and creation of these initiatives vary (Azizi and Bahra 2018; Leshore and Minja 2019). This is the main reason an in-depth investigation into their effects will help depict their future vision.

A different approach based on urban regeneration has appeared in the country, and Isfahan City manifested in the physical revival of the structure of historic Isfahan. Two prominent projects in line with this approach are Chaharbagh axis to facilitate traffic and the regeneration of Atigh Square to create open urban spaces (Azarm et al. 2019). Atigh Square and the James Mosque are regarded as two of the city's principal centers of influence (Asadi 2023).

Atigh Square and its immediate region in the city of Isfahan, which is selected as the case study of this research, have been one of the most significant projects of urban space regeneration in Iran, with a total area of 32.45 hectares. The current site of this project was previously part of Sabzeh-Meydan, a historical place dating back to the Seljuk period (1037-1194 CE), which was a market used by street vendors and retailers. This space suffers from many functional, social, and physical shortcomings but is still economically dynamic. To revive the region, Isfahan municipality initiated the regeneration project of the square and its surroundings in the year 2000, which is still under implementation. It is at the level of flagship projects in terms of area, amount of interventions, number of stakeholders, and investment (Azarm et al. 2017).

In spite of having a lot of potential, such areas have faced problems over time which have caused a decrease in the value of the area. These problems include incompatibility, low per capita of some uses, lack of proper hierarchy in the networks, impossibility of penetration into the organic texture, the existence of abandoned spaces, the lack of suitable public spaces. These have caused population migration and the departure of high-income groups from the central parts of the city (Ebrahimi Boozani and Fadaei jazi 2020). This problem of abandonment was addressed successfully in previous flagship projects around the world. To prevent the inhabitants from abandoning the place and creating a sense of belonging among them, the Kop van Zuid project in Rotterdam for example, attempted to provide opportunities for better housing by helping people to move within the neighborhood rather than leave, which could result in gathering a balanced combination of different groups of people to create a sense of belonging (Älvstranden 2008).

While the regeneration has found a different path in the world today, and most recent academic research have moved away from flagship projects towards more sustainable solutions, still the flagship projects being implemented in developing countries.

Iran today is comparable to those occurred globally more than 20 years ago. Therefore, most of the literature reviewed for this study focuses on related practices within the same time frame.

As Atigh square regeneration project has significant effects on the adjacent historic neighborhoods, this study aims to assess its effects and uncover its complexity, which can reveal new dimensions of the impact of such projects on historical neighborhoods in Iran.

Literature review

In the 1980s, the term 'regeneration' came to replace 'reconstruction' with added social denotations (Cowan 2005). Urban regeneration is a comprehensive, integrated approach along with a set of actions that result in solutions to urban problems so that the economic, physical, social, and environmental conditions of the affected area could be improved permanently (Roberts and Sykes 2008). According to Cowan (2005), catalyst projects assume development as the most significant element of a regeneration project. Catalyst projects have also been recognized as a method of permanent reconstruction of the urban fabric and a guide for further developments (Grodach 2010). These projects can be divided into flagship or prestige projects, micro-scale projects, nonphysical changes such as holding variety of events in the project location (Loftman and Nevin 1995; Smyth 2005). Flagship development was initially conceived as the main part of a commercial force proposed for encouraging the private sector in property-led regeneration (Ortiz-Moya 2012; Smyth 2005).

In the early 1970s in the US and the early 1980s in Europe, such development turned into a dominant trend in regeneration projects and became a policy for encouraging the private sector to invest in the regeneration of deteriorating neighborhoods (Temelová 2007). Most flagship projects focus on the development of commercial real estate in inefficient areas (Bianchini et al. 1992; Loftman and Nevin 1995). These projects may be an inseparable part of local marketing techniques which cities use to maintain their status in the national and international hierarchy for attracting private investors (Loftman and Nevin 1995).

Especially in 1980s and 1990s, flagship projects were defined as pioneering innovative development, large-scale (Bianchini et al. 1992; Loftman and Nevin 1995; Smyth 2005), investment-attracting (Bianchini et al. 1992; Boelsums 2012; Kent and Brown 2009; Loftman and Nevin 1995; Oyeyoade et al. 2019; Smyth 2005), and highly credited factors of developing assets with a facilitating role in urban regeneration process (Bianchini et al. 1992; Boelsums 2012; Grodach 2010; Kent and Brown 2009). Projects with merely physical (Bianchini et al. 1992) and spatial tendencies to combine local and global factors (Boelsums 2012).

Discussions about urban regeneration programs often lead to large-scale urban infrastructure renovation projects. Urban life has four economic, cultural, social, and institutional dimensions. Social and cultural dimensions are very important in order to reduce deprivation. While small-scale projects are more focused on the social and cultural dimensions of urban life than the other two dimensions, large-scale index projects are focused on economic and institutional dimensions (Gotz et al. 2015).

The main aim of these projects is to attract private investment (Bianchini et al. 1992; Kent and Brown 2009; Ortiz-Moya 2012; Smyth 2005), improve the city's image (Bianchini et al. 1992; Ortiz-Moya 2012; Oyeyoade et al. 2019), reduce the role of governments in investment processes, and conduct economic regeneration of deteriorating places (Bianchini et al. 1992; Kent and Brown 2009). Central urban areas with easy access to transportation (Pastak and Kahrik 2016), coastal areas, and places with heritage value (Bianchini et al. 1992) are among the best places for regeneration (Boelsums 2012; English Heritage 2007). Such projects increase the purchase in the area, but a governmental organization must become responsible for widespread marketing in the district (Kent and Brown 2009).

Flagship projects do not target local communities and residents of the surrounding neighborhoods (Doucet 2007); rather, their aim falls in the scope of regional and global scales or merely the development district of the project (Boelsums 2012; Kent and Brown 2009). Nonetheless, flagship projects can be created on a smaller scale to promote growth and understanding among local people in a specific urban area (Grodach 2010). These projects seek out developments that are beyond their limits and have a visible physical presence (Smyth 2005).The success of flagship projects depends on their appeal as well as their facilitator effect (Bianchini et al. 1992). Nevertheless, there is no common developmental framework to guide these projects (Bianchini et al. 1992).

These projects emphasized physical revival rather than opportunities for people, whereas the new approaches more focus on overcoming poverty, increasing participation, and influencing local communities as major aims of contemporary urban regeneration. However, not many flagship projects have so far succeeded in accomplishing these aims. Numerous examples of such projects in Europe are still following the traditional objectives (Boelsums 2012).

Common to all these projects is the re-imagination of the city the main tool of which is the marketing of an urban place (Raco and Henderson 2009). In other words, negative perceptions of deteriorating urban spaces are replaced by these tools, and cities are declared as a place for both production and consumption rather than for production alone. Improvement of a flagship is an effective method for reinforcing a city's assets that are not known outside the city's borders (Bianchini et al. 1992).

The success of developing urban flagships is never fully guaranteed, and the result strongly depends on the context (Grodach 2010; Temelová, 2007). Van Criekingen and Decroly (2003) emphasize that the success of

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renovation projects varies greatly from one neighborhood to another. One the same page, Holcomb and Beauregard (1981) point out that the attempts so far made to revive urban life have many similarities, but there are also wide differences between different cities in terms of meeting the unique economic, social, and historical needs of specific contexts (Temelová, 2007). Therefore, the success of these projects depends on multiple factors such as the location of the development site, local authorities' attitudes, and the commitment of the involved actors (Temelová, 2007). Supporters of flagship development invoke the creation of jobs and wealth for all the local residents through the benefits of the project whereas critics argue that the benefits of the project cannot be brought about equal productivity for all the residents of an area (Loftman and Nevin 1995).

Projects that are initiated with an emphasis on global needs are based on top-down planning and often result in places that attract affluent visitors who are strangers to the local residents. The balance between local and global needs improves spatial quality, and mutual benefits not only contribute to the creation of more suitable places for the local community but also allow positive effects on the new residents within the territory of the flagship project. Aspects of these shared interests include a focus on local needs, increased support for new welfare services and facilities, and developing trust to draw investors, especially during a period of severe financial crisis (Boelsums 2012).

In significant recreational projects built with government funding, there is a risk of mistrust of the government among the city's inhabitants (Dehghan Pourfarashah and Dehghan Pourfarashah 2023; Eisinger 2000). The citizens' mistrust of paying the expenses of the government's actions is one of the problems of these projects (Boelsums 2012). One way to establish trust in private investors is the division of tasks between the government and the private sector. Thus, the government takes charge of the infrastructure, public transportation, and public areas while the private sector becomes responsible for the construction work (Cadell et al. 2008). Media, local organizations, and design offices play a key role in resolving the conflicts between flagship projects and their surrounding fabric, which is usually inhabited by low-income people. Establishing appropriate relationships between people and these entities by holding meetings with the residents, allowing for expressing their demands, and devising plans for gaining mutual benefits may help the acceptance of the project among the residents of the surrounding (Cadell et al. 2008).

The maximum participation of local people could ensure success in many regeneration projects. For example, in Kop van Zuid in Rotterdam, attempts to facilitate people's participation in the project were a key factor in giving some benefits to the inhabitants of the neighborhoods surrounding the flagship development. From that time onwards, local organizations and associations assumed an active, official role in decision-making in the organizational structure of the project (Cadell et al. 2008).

From point of view of some experts in property-led regeneration, investment in catalyst projects may have destructive effects on local communities and trade. Such projects increase the probability of physical and social disintegration (Ortiz-Moya 2012). Developers of flag-ship projects not only neglect the adjacent neighbor-hoods but also remain indifferent to the adverse effects of the projects on the life of low-income families and certain parts of the city. The developers could involve the entire social class in their social and economic goals in order to address this issue. Only in this way are flagship projects capable of providing tourists, developers, and high-income families with certain benefits while at the same time serving the welfare of the residents of adjacent neighborhoods(Boelsums 2012; Majoor 2011).

Some claims regarding the potential of flagships for overcoming economic problems and growing interest among various social classes seem to be exaggerated. Although they may enhance the city's overall economic conditions, diversify economic foundations (Loftman and Nevin 1995) by improving domestic and international images, highlighting the role of tourism, and reinforcing retailers as well as other consumer services as part of a strategy for the regeneration of the urban economy, but these items are not sufficient for the goal of addressing economic issues and increasing interest (Bianchini et al. 1992).

Despite all the criticisms, flagship projects still appear on the agenda of urban regeneration all over the world (Ortiz-Moya 2012). It is a frequent occurrence for promoters to embark on flagship projects based on borrowed ideas and a mindset of profitability. Yet, this is without due consideration for the domestication of their proposals or deep concern for localized factors that would ensure a win–win situation. Sequel to the thoughtlessness of this limitation, it has been so difficult for the flagship projects developing around the world to have distinct features or dissimilar identities that will perceptibly draw the attention of local people and prospective outsiders' interests to investing their ideas with a view to complementing the existing projects (Oyeyoade et al. 2019).

With the criticism and supports of the flagship projects in mind, prior to analyzing success and failure of a flagship project in any context, it is important to review positive and negative criteria effecting flagship projects. Therefore, after reviewing the theoretical literature and practical experiences from around the world, the present study has reached a list of the criteria of flagship projects. They are extracted based on information presented in Tables 1 and 2. The negative and positive impacts and critics are categorized into several related sections including Identity, Economy, Physical, Policy, Social, Infrastructure, and Planning. Though in case of positive effects, their impacts on the tourism is taken into consideration as well.

Even though researchers are practicing ways to retain existing residents of the urban regeneration areas (Cameron and Doling 1994), gentrification has been associated with flagship projects (Boelsums 2012; Doucet et al. 2011). In case of flagship projects in Iran, not only they are driving existing residents of the neighborhoods away, but also gentrification occurrence has been limited. This is likely due to a combination of factors, including inadequate infrastructure and cultural differences. In Iran, the existing infrastructure in central old neighborhoods is often not well-equipped or suitable for middle or highincome residents, which according to (Castells 1983; Zukin 1982) may deter them from moving into these areas. Additionally, living in the city centers and in old neighborhoods is not culturally valued in Iranian society, which as stated by (Fainstein 2010; King 1997), may also limit the occurrence of gentrification in these areas.

Methodolgy

The study area

The complex of Atigh Square and the Jami' (congregation) Mosque, consists of the main square and its surrounding bazaars. There are many prominent historical and cultural sites in this district. The square was the main place for trading between 1037 and 1194CE. From 1501 to 1736 CE, this square along with the bazaar axis and Naghsh-e Jahan square made the vital artery of the city, but it was no longer the center of administrative power due to political and religious reasons. As trade gained importance between 1796 and 1925, commercial centers were built on empty fields inside the square, and it became different from its previous form.

From 1925 to 1979, the square was divided into two parts by constructing streets perpendicular to its axis. As a result of these streets, many invaluable historic buildings, bazaars, and urban spaces such as neighborhood centers were demolished (Azarm et al. 2019). Another square was built adjacent to it and the remaining structures of the old square were merged into a demonstration of modern architecture (Mirmiran 2009).

From 1979 until the initiation of the regeneration project, there was no sign of the square's original beauty and the high density of the commercial spaces

Table 1 Positive impacts of flagship projects

Criterion	Positive effects	Sources
Identity	Promoting civic pride among citizens for attending or living in these spaces	Cadell et al. (2008); Loftman and Nevin (1995)
	Enhancing or creating a positive image of the city	Bianchini et al. (1992); Doucet (2009); Loftman and Nevin (1995); Prilenska (2012); Smyth (2005); Temelová (2007)
	Changing and improving the citizens' mental image	Bianchini et al. (1992); Grodach (2010)
	Reinforcing local identity and enhancing the residents' sense of belonging	Cadell et al. (2008); Prilenska (2012)
	The residents' willingness to live in the surrounding neighborhoods	Cadell et al. (2008)
Economy	Increasing trust for the private sector to invest	Bianchini et al. (1992); Grodach (2010); Prilenska (2012); Temelová (2007)
	Increase in the value of real estate in the development zone	Bianchini et al. (1992); Loftman and Nevin (1995); Smyth (2005); Temelová (2007)
	Numerous economic advantages for the city	Doucet (2009); Loftman and Nevin (1995); Prilenska (2012); Temelová (2007)
	Facilitating investment	Doucet (2009); Loftman and Nevin (1995); Prilenska (2012); Smyth (2005)
	Generating economic benefits for local communities	Bianchini et al. (1992); Boelsums (2012)
	Creating job opportunities	Bianchini et al. (1992); Boelsums (2012); Grodach (2010); Loftman and Nevin (1995)
	Reinforcing the Role of international corporations in the national economy	Boelsums (2012)
Tourism	A remarkable growth in the tourism industry	Bianchini et al. (1992); Prilenska (2012)
Physical	Increase in the quality of life and environmental attractiveness of surrounding neighborhoods	Boelsums (2012); Emery (2006); Evans (2005); Prilenska (2012); Temelová (2007)
	Presenting a high-quality urban environment	Boelsums (2012)
	Facilitating further developments	Bianchini et al. (1992); Boelsums (2012); Grodach (2010); Loftman and Nevin (1995); Prilenska (2012); Smyth (2005); Temelová (2007)
	Improving the physical connection of the project with surrounding neighborhoods	Cadell et al. (2008)
	Making use of the attractions of the city center	Bianchini et al. (1992); Boelsums (2012)
	Providing housing in newly built districts	Cadell et al. (2008); Grodach (2010)
	Creating urban spaces	Boelsums 2012)
Policy	Creating a promising horizon in the international arena	Boelsums 2012)
	Competition with other cities	Boelsums 2012)
Social	Positive cooperation in the entire city	Boelsums 2012)
Infrastructure	Upgrading the infrastructural system	Cadell et al. (2008)
	Enhancing educational facilities	Cadell et al. (2008)
	Improving accessibility	Cadell et al. (2008)
Planning	Highlighting the role of local organizations in participating in neighborhoods	Cadell et al. (2008)

and small traditional stores inside the square had diminished its role as a place for resting in the middle of the bazaar. Some of the problems of this area before the implementation of the project were the physical deterioration of the square, diminished historical function of the square due to the disconnection of the cultural-historical axis of the city, disintegration of the surrounding fabric, spatial disconnection between the valuable historical elements of the square, decreased social and cultural prestige of the area, and exclusion from the economic cycle of the city (Azarm et al. 2017). To address the severe deficiencies felt in this area and produce an appropriate image of the city, Isfahan municipality set about the task of organizing the two critical spots of the historical axis of Isfahan, i.e. Atigh Square and the Congregation Mosque (the center of Seljuk Isfahan), and Naghsh-e Jahan square and its surroundings (the center of Safavid Isfahan) (NaqshE Jahan-Pars 2016).

As the main entity responsible for the project, the municipality began in 2009 by preparing executive

Table 2 Negative impacts of flagship projects

Criterion	Negative impacts	Sources
Identity	Great spatial and perceptual differences between flagship projects and adjacent areas	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
Economy	Long-term economic efficiency	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
	Destructive Effects on existing communities and Jobs	Boelsums (2012); Yang (2005)
	High financial risks	Loftman and Nevin (1995); Temelová (2007)
	Accumulation of capital in certain urban areas in the form of islands	Boelsums (2012)
	Unequal productivity of interests for residents in the flagship project district	Loftman and Nevin (1995); Temelová (2007)
	Requiring investment by multiple private developers	Bianchini et al. (1992); Loftman and Nevin (1995)
	Increase in rents and land prices and adverse effects on low- income residents	Bianchini et al. (1992); Temelová (2007)
	Not transferring resources to deprived neighborhoods because the budget is supported by municipalities	Loftman and Nevin (1995)
Physically	The disintegration of different parts of the city and spatial-physical disconnection	Doucet (2009); Loftman and Nevin (1995); Yang (2005)
	These projects turn into islands	Bianchini et al. (1992); Doucet (2009); Loftman and Nevin (1995)
	Creating spatial inequities between the project site and its sur- rounding districts	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
	Disturbing urban vitality	Yang (2005)
Policy	Lack of balance between local and effects of flagship develop- ments	Boelsums (2012); Doucet (2009); Grodach (2010); Loftman and Nevin (1995)
	Inability to meet the needs of a democratic society	Boelsums (2012)
Social	Threatening social life	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
	High costs of using the site for low-income residents	Boelsums (2012); Cadell et al. (2008)
	Increase in crime rates in the neighborhood	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
	Functional separation of local communities and the users of flag- ship projects	Boelsums (2012)
	Lack of social cohesion	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
	Racial discrimination and social tensions	Temelová (2007)
	Local residents cannot benefit from the project due to social transfers	Bianchini et al. (1992); Boelsums (2012)
	Reduction in the residents' opportunities to use public services and facilities	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
	High unemployment rates	Loftman and Nevin (1995)
	Creating spatial-social inequities	Bianchini et al. (1992); Boelsums (2012); Loftman and Nevin (1995); Temelová (2007)
Infrastructure	The difficult access of the inhabitants of adjacent neighborhoods	Bianchini et al. (1992)
Planning	Unpredictability of projects	Bianchini et al. (1992); Loftman and Nevin (1995)
	Individual and unsystematic planning	Eisinger (2000); Temelová (2007)
	The concentration of the effects of the development out- side the site	Boelsums (2012)

plans and started the operation in an area of 32.5 hectares.

The main aims of the project were declared to be an attraction of tourists, a revival of the historical fabric, drawing the attention of investors, optimal use of the deteriorated fabric, and income generation for the city.

The project was advertised through various slogans such as "reviving the largest historical square of the country from the Seljuk era with a history of 800 years", "the largest historical roofed bazaar of the country with a length of 7 km", "converting Isfahan into the pièce de résistance of Iranian and Islamic civilization", and "the uniqueness of the project in Iran and the world".

Given the amount of investment, the intervention scale, and the large number of stakeholders, this project acts as a flagship project in the central fabric of Isfahan and bears far-reaching effects on the surrounding fabric. The square is connected to four neighborhoods on its sides. Part of each of these neighborhoods, which are all among the historical neighborhoods of Isfahan, is located in immediate proximity to the square.

After the implementation of the project, the flow of life underwent sudden changes, each neighborhood being involved in the transformations in one way or another. Harroniyeh neighborhood has greater potential than the other neighborhoods because of being located between Atigh Square and Naghsh-e Jahan Square, which is in the proximity of the main bazaar and the main axis of the bazaar. This neighborhood contains important historical elements and contains a major historical pathway for tourists. As one of the most integrated structural lines in the Safavid Isfahan, this axis is now among the most important ones which connects two major spots (i.e. Atigh Square and Naghsh-e Jahan Square). Due to its unique structural position between Atigh Square and Naghsh-e Jahan Square, the Harooniyeh axis has retained its advantageous status in comparison with the rest of the area. Therefore, it has the highest level of interaction among the neighborhoods with Atigh Square and can be safely selected as a representative sample for investigating the effects of the Atigh project on its surrounding fabric (see Figs. 1, 2, 3, 4 and 5).

Research methods

To achieve a holistic analysis of flagship projects' impacts on surrounding environment, the literature review section of this paper introduces a range of criteria and indicators to assess such impacts. Regarding the characteristics of the study area and accessible information, 5 criteria and 22 indicators have been selected for evaluation based on supporting and opposing views discussed in the literature review which were summarized in Tables 1 and 2.

Based on existing literature (Ebrahimi Boozani and Fadaei Jazi 2020; Rodrigo and Wilkinson 2021), and with respect to the diverse nature of indicators, the research employs a mixed-methods approach utilizing both quantitative and qualitative research methods. Three kinds of methods have been used in the research including questionnaire, spaces syntax (quantitative method) and interview (qualitative method). To have a comprehensive evaluation of the impacts of Atigh project on local

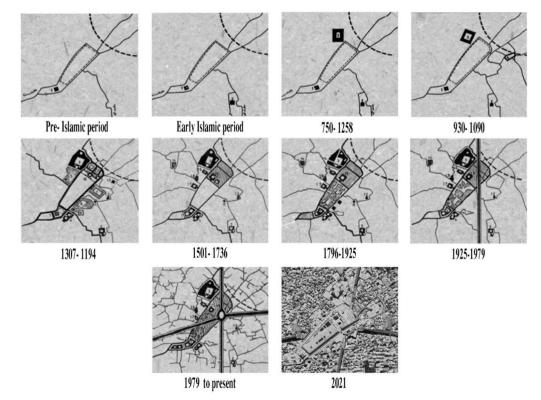


Fig. 1 The periods of the evolution of Atigh square over time (NaqshE Jahan-Pars 2016)

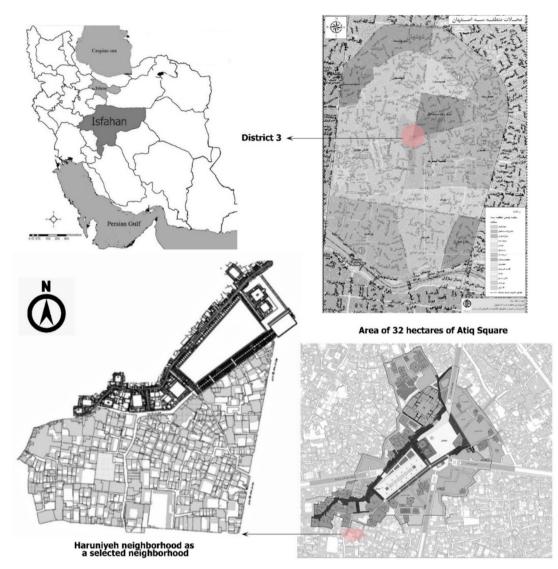


Fig. 2 The location of the research area in Isfahan (authors)

communities, the research benefits from comments and outlook of four types of participants. In addition to residents of the study area as a reference group, four types of experts (architects and urban development companies, urban administrative, sociologists, economists), three types of business owners (tourism companies, managers of the hotels inside the area, Real estate agents) and residents of other neighborhoods close to the area have been participated in questionnaire and interview. Table 3 shows the participant types and numbers.

Questionnaire

Quantitative Closed-ended questionnaires were performed with 240 residents of Harooniyeh before the Covid-19 pandemic to measure their level of satisfaction after the implementation of the Atigh project. The

questionnaire was used to gather quantitative data from residents who live in the mentioned neighborhood. The questionnaire was designed in three sections, the first was to indicate the participants' demographics. Second, the quality of life of the neighborhood residents was questioned, and at the last section, based on the criteria gathered from the literature, the opinion of the average residents was questioned. The questionnaire used a Likert scale where the participants were asked to declare their degree of agreement with each of the statements from very much to very little. Later "very little" was scored as 1 and "very much" as 5 to affluence the analysis procedure. The questions asked their opinion on the changes of neighborhood after the regeneration in the Identity, economy, physical, and social aspects, to understand whether in the eyes of residents the neighborhood



Fig. 3 The situation of the square before regeneration (https://aoapedia.ir)



Fig. 4 The situation of the square under construction (https://aoapedia.ir)



Fig. 5 The situation of the square after regeneration (https://aoapedia.ir)

has improved or not. The results were analyzed via the Friedman test, one-sample t-test, and multivariate regression in IBM SPSS. Also, Cronbach's alpha value of the questionnaire was calculated as 0.88, which indicates the validity and reliability of the questionnaire.

Interview

At the same time, semi-structured interviews with various expert groups, such as economists, sociologists, and others, were conducted to collect qualitative data. The questions targeted the changes before and after the flagship project on the Atigh square and asked about different aspects of identity, economy, tourism, physical and social. They were asked of their professional opinion and their future plans for improvement of the neighborhood. In the next step, to analyze the gathered data, points made by the respondents were separated in the form of positive and negative effects and then weighted, and the overall direction of each index in influencing the surrounding context was determined.

Participants

Quantitative questionnaires were performed on residents of Harooniyeh before the Covid-19 pandemic. The total residence population of Harooniyeh neighborhood was obtained from the department of statistics and information analysis of Isfahan Municipality. Based on Cochran's formula, sample size was determined, and 240 residents were asked to fill the questionnaire.

For the interviews, first a list of experts that were closely associated with the project was obtained. Later the participants were selected through snowball sampling.¹ The selection of participants and sampling continued until the data reached theoretical saturation. Semi-structured qualitative interviews were performed with four groups of experts who were familiar with the project: eight experts in architecture and urban development, five urban managers, four sociologists, and 3 economists. In addition, six interviews were directed to the following groups: 20 business owners working in the area, eight tourists and tour guides, five managers of the hotels inside the area, seven real estate agents, 20 residents, and 30 residents of other neighborhoods. The experts were approached and a list of questions that were previously designed was brought to them. The answers were recorded, and codes were extracted. Their

¹ It is a non-probabilistic method that has a random selection mode. This method is appropriate when the members of a group or population cannot be easily specified. The researcher first identifies several individuals and, after collecting data, asks them to introduce further individuals whom they know (Babbie 2002).

Group	Type of measurement	Interviewee population	Type of participants	Participants categories
1	Questionnaire	240	Residents of Harooniyeh	Local common people
2	Qualitative interviews	8	Architecture and urban developers	Expert
3	Qualitative interviews	5	Urban managers	Expert
4	Qualitative interviews	3	Sociologists	Expert
5	Qualitative interviews	6	Economists	Expert
6	Qualitative interviews	20	Business owners working in the area	Business owners
7	Qualitative interviews	8	Tourists and tour guides	Business owners
8	Qualitative interviews	5	Managers of the hotels inside the area	Business owners
9	Qualitative interviews	7	Real estate agents	Business owners
10	Qualitative interviews	20	Local residents	Local common people
11	Qualitative interviews	30	Residents of other neighborhoods	Common people

Table 3 Groups of interviewees information

critical and positive views were separated. Extracted information are presented in the findings.

Space syntax

To assess the spatial integration and connectivity transformation of the neighborhood before and after regeneration, a physical analysis was done using quantitative space syntax technique. The degree and opportunity for economic and cultural interaction both within and between regions are expressed through spatial integration. It also shows, the degree of connectivity across transportation networks at various geographic scales (Uszkai 2015). The spatial maps of the neighborhood were generated using AutoCAD software and later the Depthmap software package was utilized for spatial analysis to check the level of integration and connection of the area before and after the implementation of the project. In addition, general analyses were performed by GIS and, in some cases, by examining upstream documents.

Findings

The results of identity criteria

Although the notion that cities have identity is not wellknown, cities do require their own identities (Bell and de Shalit 2022). In this section findings related to the identity criteria of this part of the city is investigated. The assessment method of the criteria is presented in Table 4.

The residents' willingness to live in the surrounding neighborhoods

It must be taken into consideration that historical neighborhoods in Iran, or as known "downtown", unlike most other developed countries, is considered a lowclass community area, and high-class community and

Table 4 The assessment method of the identity criteria

Criterion	Indicator	Measurement method	Scale
Identity	The Residents' Willingness to Live in the Surrounding Neighbor- hoods	Qualitative interviews With Local and other neighborhood residents (Groups 10 and 11)	City
	Positive Image of the City	Qualitative interviews with Architecture and urban developers, Urban managers, Sociologists (Groups 2,3 and 4) Quantitative questionnaire with Residents of Harooniyeh (Group 1)	City
	The Residents' Sense of Belonging	Qualitative interviews with sociologists (Group 4) Quantitative questionnaire with residents of Harooniyeh (Group 1)	Neighborhood
	Civic Pride	Qualitative interviews with Sociologist (Group 4) Quantitative questionnaire with residents of Harooniyeh (Group 1)	City
	Local Identity	Qualitative interviews with Sociologists and local residents (Groups 4 and10) Quantitative questionnaire with residents of Harooniyeh (Group 1)	Neighborhood
	Spatial and Perceptual distinc- tiveness of the project with its surroundings	Qualitative interviews with architects and urban developers and sociologists (Groups 2 and 4) Quantitative questionnaire with residents of Haroonieh (Group 1)	Neighborhood

wealthy people have a preference for uptown, modern parts of the city. Therefore, in case of these neighborhoods, retaining the current residents is a matter of significance. Yet, the residents of this neighborhood stated that the Atigh project has even repelled the current residents of the area and led to migrations to different parts of the city. In addition, the interview with the residents of neighborhoods outside the project zone shows that there is no willingness to live in the commercial center of the city despite these recent changes.

Positive image of the city

According to experts some of the advantages of this project in this regard are including the following:

- The organization of a wide area of the central fabric of the city,
- Success at the management level due to the completion of the project (compared with unsuccessful domestic instances),
- The revival of historical heritage,
- Defining new landmarks for the city,
- Creating a successful tourist project,
- Improvement of the urban landscape,
- · Creating an open urban space,
- Removing the old identity components with negative connotations,
- Enhancing the users' mental image,
- Improving the visual quality of landmark monuments,
- Improvement in legibility in the minds of residents and tourists,
- Integration of the neighborhood system through a unique square,
- · Emphasis on pedestrian-orienteers,
- and increasing social activities and people's presence.

The average of this indicator was 3.02, which is on the medium level of a Likert scale and indicates a relatively appropriate image of the project with adequate identity from the residents' point of view.

The residents' sense of belonging

The average of this indicator from the resident's point of view was 2.15, indicating a lower-than-medium level on the Likert scale. According to interviews with experts, the project has increased self-confidence among the local residents. However, there were some obstacles to a sense of belonging among the residents due to the proximity to the bazaar. While there is a tendency for buying or renting residential buildings or units, to convert them to storage spaces or workshops, on the other hand, people lean towards selling their houses and abandon them due to very low level of local services and quality of life in this neighborhood. Therefore, as long as these are the circumstances, the residents' sense of belonging is not likely to improve, with the neighborhood gradually losing its population and turning into a storage space for the bazaar.

Civic pride

The average of this indicator was 2.87. According to experts, two groups took pride in the project: the management of the municipality in terms of project management on a national level, and citizens who were living outside the project zone and were not affected by the attendant issues. Also, those business owners whose value of their property increased took pride in this project. Alongside these positive attitudes, there were criticisms of this indicator which include a lack of pride in the project due to its excessive expenses, the project's not being considered a landmark among the citizens, dissatisfaction with the project among business owners who lost their property in process of the project, failure to revive the historical identity of the city, and lack of pride in this project among designers, architects, and urban developers as a successful urban project.

Local identity

The average of this indicator from the residents' perspective was 3.08, which is at a medium level in comparison with the theoretical mean of 3. According to experts, this project has considerably improved the negative identity of the old space of the square as well as its surrounding fabric in terms of improving physical and visual condition.

Spatial and perceptual distinctiveness of the project with its surroundings

According to people's opinions, the average of this indicator was 2.68, which indicates a low amount of spatial and perceptual distinction between the project and the surrounding fabric. According to experts, from a perceptual perspective, the project has led to severe changes in the area, confusion among permanent users, and disconnection between people and the project.

The results of economy criteria

Cities have long been recognized as the primary drivers of cultural development, yet as Jane Jacobs (1970) reveals, cities also serve as the main engines of the economy. In this section findings related to the economy criteria is discussed. The assessment method of the criteria is presented in Table 5.

Table 5 The assessment method of the economy criteria

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Criterion	Indicator	Measurement method	Scale
Economy	New Business Opportunities	Qualitative interviews with economists and business owners (Groups 5 and 6)	City
	Rents and Prices of Real Estate in the Area	Qualitative interviews with economists and real estate agents (Groups 5 and 9)	City
	Economic Benefits for the City	Qualitative interviews with economists (Group 5)	City
	Economic Vitality for the Locals	Qualitative interviews with economists and business owners (Groups 6 and 5)	City
	Public and Private Sector Investment	Qualitative interviews with urban managers and economists (Groups 3 and 5)	City
	Investment Trust for Private Sector	Qualitative interviews with urban managers and economists (Groups 3 and 5)	City
	Surrounding Neighborhoods Profit from the project	Qualitative interviews with economists (Group 5)	Neighborhood City
	Costs of Using the Area for Low-income Residents	Qualitative interviews with local residents (Group 10)	Neighborhood

New business opportunities

According to experts, multiple groups lost their jobs and were eliminated from the economic cycle after the project. The first group was those who became jobless due to their low financial capacity, they could pursue their business in the new place. The second group was forced to sell their new commercial unit to the municipality because of the increasing construction costs.

The third group was street vendors who were totally eliminated after the implementation of the project. The fourth group was those jobs that were displaced to other districts of the city, but the lack of appropriate alternative places in those districts caused them to scatter.

Consequently, as this project was a governmental development project, and was not based on participation from the outset, it had a negative outcome in terms of employment. This project did not result in more desirable conditions concerning job creation and led to severe damage to many owners and workers in the area.

Rents and prices of real estate in the area

After a thorough semi-structured interview with real estate agents of the area, the results show that the price of commercial units soared after the implementation of the project due to its proximity to the main bazaar. This increase was also observed in residential properties, although they are not frequently sold or rented as dwellings and have altered in use, because of the low quality of life and poor cultural and social components in the area. Nevertheless, many old residential buildings are rented as warehouses for commercial purposes, which has increased the price of places in the neighborhood.

Economic benefits for the city

According to expert opinions, the Atigh project is a nonparticipative project that is not compatible with the physical, social, and economic context of the city. In addition, 10 years after its inauguration, the project is still suffering from a lack of economic vitality and many of the commercial units are inactive. The project has been unable to correctly direct the current economic flow from the surrounding fabric into the square. Experts believe that if this square could assume a role similar to that of Naghshe Jahan and attract domestic and foreign tourists, the scope of its services will extend and economy will be improved. One of the merits of the project has been its success in generating income for the tourism sector. In sum, criticisms concerning economic benefits outweigh the positive attitudes.

Economic vitality for the locals

From the viewpoint of business owners in the area, business conditions in the past were much better than in the present and this neighborhood has experienced more stagnation than other neighborhoods because of the elimination of motor-vehicle accessibility. Similarly, workers in other sections of the project mention that it has adversely affected their job. Overall, this project neglected the local economy and has borne negative effects on the surrounding fabric in some aspects.

Public and private sector investment

The results show that, the private sector has been unwilling to participate in the Atigh project although it is located in the commercial center of the city. The reasons include the lack of legal means to facilitate participation, the municipality's strict regulations, the long and difficult procedure of releasing and possessing the old buildings within the project zone, and the lack of added value from investment because of creating a public space. In other words, private investors did not have the motivation and sense of security to invest in the project. In this project, the municipality became responsible for the main executive parts. After the implementation of the main parts of the project, the private sector is just recently initiating some projects in its immediate proximity.

Investment trust for the private sector

Being located in the central fabric and in proximity to the bazaar is a competitive advantage that could guarantee the success of the private investment. However, the lack of adequate trust in the municipality and the procedure of releasing the possession of real estate within the project zone inhibits the participation of the private sector despite the great potential of the area. On the other hand, the project has motivated the private sector to restore the historical buildings and revive their economic-physical life in order to achieve its economic objectives. Concerning this criterion, the majority of opinions are critical of the project.

Surrounding neighborhoods profit from the project

The budget for the Atigh project was mainly provided by the municipality. Several years after its official inauguration, it is still suffering from a lack of economic vitality, private sectors only recently are investing in this area, yet it's still not growing fast enough. As long as the project lacks vitality, the surrounding deprived neighborhoods will not be able to make a profit from it.

Costs of using the site for low-income residents

According to interviews with the residents, due to its location in the historical part of the city, low costs of dwelling, and lack of appeal to high-income classes, the project has not imposed high costs on local residents who are mainly from low-income groups.

The results of tourism criteria

Isfahan is one of the centers of tourism in Iran, and Atigh square as a historic area is extra important in case of attracting tourist. This part is intended to discuss the findings for the tourism criteria. To obtain the necessary data, researchers utilized a qualitative interview with business owners, tourists and tour guides, managers of the hotels who were previously mentioned as participant groups of 6, 7, and 8.

The number of domestic and foreign tourists visiting this area has increased with the project. Also, this project has led to more tourists become familiar with a major part of Isfahan's historical identity. From the point of view of foreign tourists, even though they were intrigued to visit this place for the first time, they stated that it is not interesting enough to guarantee future second visits because it is much less attractive than Naghsh-e Jahan. Although it lacks the factor of return, it's safe to say that the project has succeeded in attracting tourists.

The results of physical criteria

Urban development, landmark architecture, and the physical city have dominated urban policy and strategy for many years. Seeing cities, social change, and the radical variety of urban life through the eyes of everyday residents offers a perspective on cities and urban life that differs greatly from viewing the city as an intelligent network or transportation system with predetermined designs about how people will behave (Woodcraft and Bacon 2013). Therefore, in this study both spatial characteristics such as integration and quality of life of the residents from their point of view and other indicators are investigated. The purpose of this section is to look through the results for the physical criteria. The assessment method of the criteria is accessible in the Table 6.

Spatial integration

To measure this indicator, both connectivity and integration were calculated in Depth map before and after the

Table 6 The assessment method of the physical criteria

Criterion	Indicator	Measurement method	Scale
Physical	Spatial integration	Space syntax	City
	Life quality of the residents	Quantitative questionnaire with residents of Harooniyeh (Group 1)	Neighborhood
	Development of different activities in adjacent neighborhoods	Quantitative questionnaire with residents of Harooniyeh (Group 1)	Neighborhood
	Construction of new residential buildings in adjacent neighborhoods	Quantitative questionnaire with residents of Harooniyeh (Group 1)	Neighborhood
	Accessibility	Quantitative questionnaire with residents of Harooniyeh (Group 1) Qualitative interviews with business owners (Group 6)	Neighborhood
	Security in adjacent neighborhoods	Quantitative questionnaire with residents of Harooniyeh (Group 1)	Neighborhood

regeneration. Figures 6, 7 and 8 illustrate the connectivity of the area before and after the project. The findings suggest that the connectivity of the area has remarkably decreased after the regeneration. Even though easier

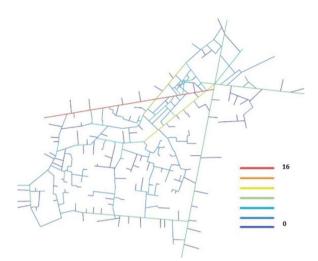


Fig. 6 The map of connectivity before regeneration

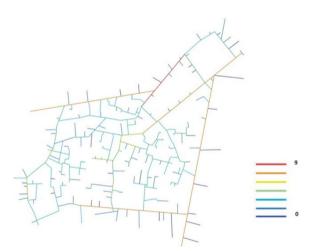


Fig. 7 The map of connectivity after regeneration

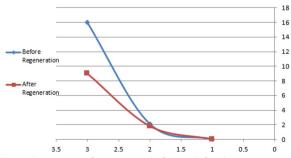


Fig. 8 Comparison of connectivity before and after the regeneration

access to the fabric has provided through surrounding main streets, yet the permeability still is considered low. However, this connectivity is mostly due to the main streets delimiting the project and the internal parts of the neighborhood have lower connectivity due to its organic fabric. In Addition, Tables 7 and 8 show the Minimum, maximum and average of connectivity before and after regeneration.

Connectivity maps before and after regeneration. Colors range from dark red which means maximum connectivity to dark blue referring to minimum connectivity.

In Figs. 9 and 10, yellow and red colors indicate the highest level of integration in the fabric. As specified by the color of lines, the arterial axes after regeneration have

Table 7 Minimum, maximum, and average of connectivity before regeneration

Before Regeneration				
Values	Minimum	Average	Maximum	
Connectivity	0	2.01	16	
Choice	0	5.101	245	
Node Count R2	1	7.52	46	

 Table 8
 Minimum, maximum and average of connectivity after regeneration

After Regeneration					
Values	Minimum	Average	Maximum		
Connectivity	0	1.81	9		
Choice	0	3.97	9		
Node Count R2	1	6.29	25		

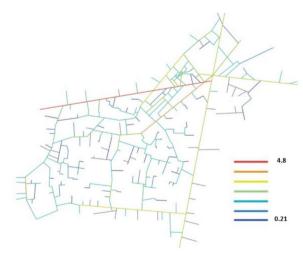


Fig. 9 The map of integration before regeneration

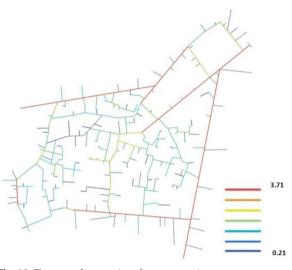


Fig. 10 The map of integration after regeneration

the most integration and, as Atigh square is connected to these axes, it has a high level of integration. Also, due to the lack of a hierarchy in changing the integration levels, pathways have been created that are not interconnected with the new structure. The relatively great difference between the minimum and maximum integration is indicative of the large difference in the connectivity of the external and internal parts of the neighborhood, leading to a number of isolated spaces in the neighborhood. In general, the revival of the square has had a positive effect on the spatial structure of the surrounding fabric on a large scale, but it has not improved the spatial-physical weakness of the surrounding historic neighborhoods and pathways due to a lack of an integrated structural approach. Figure 11 indicates the reduction in integration after the regeneration project. Tables 9 and 10 show the minimum, maximum and average of integration before and after the regeneration.

The analyses and interviews indicate that since the level of connection and integration in the area decreased after the project, these indexes directly

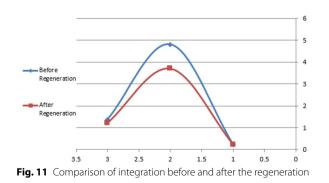


Table 9Minimum, maximum, and average of integration beforeregeneration

Before Regeneration					
Values	Minimum	Average	Maximum		
Integration [HH] R2	0.21	1.37	4.8		
Integration [P-value] R2	0.21	1.37	4.8		

 Table 10
 Minimum, maximum, and average of integration after regeneration

After Regeneration				
Values	Minimum	Average	Maximum	
Integration [HH] R2	0.21	1.21	3.71	
Integration [P-value] R2	0.21	1.21	3.71	

affected the level of economic activities in the area. Integration map before (Fig. 10) and after (Fig. 11) regeneration. Colors range from dark red which means maximum integration to dark blue that refers to minimum connectivity.

The comparison of the spatial map before and after re-regeneration in Figs. 12 and 13 shows the degree of connectivity and integration in both maps is at its highest level in the main streets and in the middle parts of the fabric, this amount is lower. These two parameters are significantly reduced after regeneration.

The effect of the project on the residents' quality of life

Quality of life refers to two dimensions of human life: the objective conditions and the social groups' subjective-cognitive perception (Veca 2015). Measurement

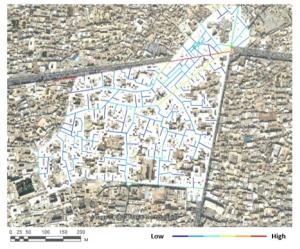


Fig. 12 Spatial map analysis before regeneration

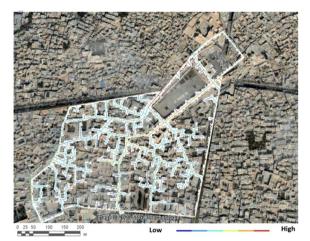


Fig. 13 Spatial map analysis after regeneration

of subjective quality of life in the present study focuses on those dimensions that are directly related to the surrounding environment and neighborhood. These dimensions include the built environment (Das 2008; Türksever and Atalik 2001), neighborhood (Das 2008; Ibrahim and Chung 2003; Tuan Seik 2000; Türksever and Atalik 2001), accessibility (McCrea et al. 2006), facilities and public services (Das 2008; Ibrahim and Chung 2003; Tuan Seik 2000), and neighborhood sanitation (Ibrahim and Chung 2003; Tuan Seik 2000; Türksever and Atalik 2001). Objective quality of life is measured using employment, household conditions, education, monthly expenses of household (not accessible in the study area), number of rooms in the house (not accessible in the study area), house ownership, age of the house, and skeleton of the house(Asefi Moghadas et al. 2015).

The items of the questionnaire focus on the changes affected by the implementation of the project. The effectiveness of the flagship project in the area was measured through the questionnaire administered to the residents of the neighborhood, and the subjective and objective quality of life was investigated. The participants were asked to grade each of quality-of-life aspect phrases from "very little" to "very much" and to compare their quality of life before and after the implementation of the project. One-sample t test with the theoretical mean of measurement determined as 3 (based on Likert scale) was carried out. This test is used to measure the effect of variable on the status in question, thereby this leads to identifying the most influential aspects of the project after the implementation from the point of view of the residents. The results presented in Table 11 show that the mean subjective quality of life in the study area was 2.6 which has a significant difference to the theoretical mean. Also, the mean objective quality of life was calculated as 1.73, which shows a significant difference from the theoretical mean.

Table 12 compares the sub-criteria of subjective quality with the theoretical mean, indicating that the sanitation indicator has the highest rank and public services and facilities have the lowest rank.

Next, multivariate regression was utilized to specify the relationship between dependent and independent variables. All the sub-criteria of subjective and objective quality of life had a significance value of less than 0.05, meaning that all the variables fall within the regression model and are related to the dependent variable. The relative significance of each variable can be seen in Table 13.

Also, the Friedman test was used to compare the average rank between variables. As observed in Table 13, the level of significance for the variable of the quality criterion was specified as 0.00 which is less than 0.05. Concerning the subjective quality of life, the sanitation sub-class received the highest rank whereas public services and facilities had the lowest rank among the sub-classes. In other words, the neighborhood was very weak in terms of public services and facilities, the situation was worsened after the project because some of the facilities that met the residents' needs, e.g. retail markets, were completely removed. As a result, the neighborhood has become dependent on external areas for its basic needs.

 Table 12
 The beta coefficients of the sub-criteria of subjective and objective quality of life

Subcategories	N	Mean	Std. Deviation	Std. Error mean
Security	240	2.88	0.876	0.057
Built Space	240	2.57	0.825	0.053
Facilities and public services	240	1.75	0.664	0.043
Accessibly	240	2.61	0.752	0.049
Health	240	2.90	0.784	0.051

Table 11 Measuring the average of objective and subjective quality by one-sample t-test

Subcategories	Ν	Mean	Std. Deviation	t	df	Sig
Mental quality	240	2.6042	0.53885	- 11.38	239	0.000
Objective quality	240	1.7313	0.41186	- 47.72	239	0.000

Coefficients								
Sub criteria of subjective quality of life	Unstandard	ized coefficients	Standardized coefficients	t	Sig.			
	В	Std. Error	Beta					
Security	0.217	0.021	0.353	10.519	0.000			
Built Space	0.214	0.023	0.327	9.251	0.000			
Facilities and Public Services	0.316	0.027	0.389	11.738	0.000			
Accessibility	0.229	0.024	0.320	9.495	0.000			
Health	0.176	0.022	0.256	7.966	0.000			
Sub criteria of objective quality of life	В	Std. Error	Beta	t	Sig.			
Ownership	0.322	0.022	0.551	14.934	0.000			
Employment status	0.259	0.051	0.192	5.112	0.000			
Number of households	0.234	0.024	0.360	9.803	0.000			
Education	0.260	0.027	0.346	9.579	0.000			

Table 13 The beta coefficients of the sub-criteria of subjective and objective quality of life

After the project, the number of cultural and religious spaces has increased, although they are not public thus, not frequently used by local residents.

Development of different activities in adjacent areas

Flagship projects often cause further activities in adjacent areas. According to GIS maps of this neighborhood, the share of commercial and storage uses is 14% and 9% of the total space, respectively, which is a large figure due to the proximity to the bazaar. In other words, such spaces have advanced into the neighborhood after the project. The most important reason is that the commercial uses inside the space of the square have spread further into the layers behind and entered the internal parts of the neighborhoods. In addition, owing to its proximity to the bazaar, the neighborhood acts as a supplier of services to compensate for the shortage of storage spaces in the bazaar. Thus, a remarkable part of the stagnant residential and commercial buildings has turned into warehouses. Other developments have been confined to the renovation of a limited number of historical buildings to convert them into different uses by private investors. In general, activities have been developed with an emphasis on commercial uses and services that support the bazaar, without adequate attention to activities that meet the residents' needs. The average satisfaction of the residents concerning this indicator was 2.38, which is lower than the theoretical mean.

Construction of new residential buildings

Due to proximity to the bazaar, the share of residential use (39%, with a density of 32 persons per hectare) and also the willingness to construct is at a low level compared to other neighborhoods. Despite the high capacity of this project, it has failed to increase this willingness among local or non-local people. The average of this indicator was 2.1, which is much lower than the theoretical mean.

Accessibility

This project has improved access to the surrounding main streets; however, the accessibility of the neighborhood has decreased because of the elimination of motor vehicle access to the most important pathway of the neighborhood which connects the old bazaar and the main bazaar, and this has led to dissatisfaction among residents and storekeepers. The satisfaction of the residents and storekeepers concerning accessibility after this project was 2.6, which is lower than the theoretical mean.

Security in the surrounding neighborhood

The average of this indicator was 3.5 which is greater than the theoretical mean. The residents believe that security has remarkably increased after the project due to the improvement of the disorganized conditions of the past.

The results of social criteria

If a changing neighborhood is causing stress for residents, moving to a better neighborhood is the only way to make improvements as neighborhood change processes are frequently outside of the control of the residents (Feijten and van Ham 2009). In this section the findings from reasons of either migration to or from this neighborhood is being explored. The findings are accessed through qualitative interviews with sociologists.

The population growth rate in this area has been -0.33 between 2010 and 2020 (8951 persons to 7675 persons).

Also, the project has increased economic development in the adjacent neighborhoods. As only wealthy business owners have remained in the area, and low-income groups have been automatically eliminated from the area. Also, the residents have gradually migrated because of low per capita public services and other reasons, which is in line with (Ebrahimi Boozani and Fadaei jazi 2020) findings.

Discussion

By comparing the results of this project with other successful experiences in the world, such as Kings Cross project in the center of London, it is clear that the results are similar in some parts, and in some parts contrary to the projects and the literature. For instance, in terms of spatial connections in universal experiences, the integration and connectivity of the project with the surrounding fabric are expected to increase compared to the past (Foster 1997), while in this project it can be seen these parameters were reduced in comparison to the past. Overall, it can be concluded that not only has the project been ineffective in enhancing integration with the surrounding fabric, but also it has increased the number of isolated spaces in the neighborhood.

Based on the related literature, such projects usually improve environmental attractiveness and the quality of life of residents, while from the residents' point of view, this factor in this area after regeneration was lower than the mean. Oppose to other projects in the world, this project has not succeeded in improving public services and facilities in this area, and its services are confined to its own zone (Pastak and Kahrik 2016).

Flagship projects often usually act as a magnet to attract further activities in adjacent areas, while the Atigh project has only focused on commercial activities, which has led to a dominance of commercial uses over residential uses in the area. Even though the private sectors are beginning to invest in the area and build commercial buildings such as hotels, yet because of minimum levels of activity, and low level of commercial vitality, newly built commercial uses have so far failed to attract even more commercial activities.

Flagship projects in most cases lead to an increasing construction rate in the adjacent area. Opposing this feature in this project due to the low social status of the neighborhood, the residents are not willing to construct here.

Based on the literature on most projects, the accessibility will be improved after the projects. In this case, while access to major streets has increased after regeneration, the accessibility in the neighborhood has been more limited.

Concerning the crime rates, the security in the neighborhood has increased after the project in contrast to the findings in the literature that often will decrease after the project, or this matter has been highly neglected in the studies (Oyeyoade et al. 2019).

These types of projects usually provide varied job opportunities for residents, but this project has had a poor performance in the employment indicator despite its great potential.

After the implementation of flagship projects often the rents and prices of real estate will increase, and also in this project due to the elimination of the identity components with negative connotations, the project has improved the attitudes towards this district and increased the value of the real estate and rent prices.

However, the surrounding of the local fabric by commercial units, the low quality of the residential parameters, and converting old residential buildings to warehouses to support the commercial uses of the bazaar have led to decreases in people's willingness to live and invest in the area.

Flagship projects always bring vast economic advantages to the city. But the Atigh project's shallowness and contradiction with its surroundings have limited the city's economic gains from it. Several years after its establishment, the project is still suffering from a lack of economic vitality, therefore, as long as it is unable to stabilize its economic vitality, it will not generate benefits for the city, particularly for its surrounding fabric. These types of projects often cause economic benefits to local communities, but this project neglected the local economy from the outset as opposed to other projects that try to consider this group at first.

One of the main elements of flagship projects is the cooperation of the public and private sectors. Therefore, the presence of the public sector can build up trust for private investors. Increased participation accelerates the process of investment in the project and transferring economic benefits to other parts. Therefore, attracting the private sector is one of the priorities in these developments. In contrast to previous findings, due to the lack of structures for the participation of the private sector in public space projects in Iran, in the Atigh project, the municipality was responsible for implementing the project and the private sector's participation was restricted to certain small-scale projects. This may be explained by a lack of trust in the municipality as the main responsible entity as well as the low social status of the district. As a result, the project did not attract private investment in its initial years but has improved in this regard over recent years.

In most flagship projects, the surrounding neighborhoods of the project benefit from it, but this project did not attempt to benefit the residents of the area.

Given the difference between the Atigh project and its surrounding fabric, there was no increase in living costs for low-income residents of the neighborhood and the findings in this study do not confirm the studies conducted in other countries.

In terms of attraction of tourists, the findings from the Atigh project are in line with international studies. The number of visitors has remarkably increased, however, because of the lack of environmental and physical attractiveness in comparison with Naghsh-e Jahan square, the visitors prefer not to pay further visits to this square in the future. In sum, the project has had more positive effects on this indicator than on any other indicator.

Flagship projects usually increase the willingness to settle in the vicinity of the project due to the high level of facilities and positive changes, but in this project, no such motivation was observed among the residents in the Atigh project. Not only the project has been unable to attract residents from other neighborhoods but also it has problems with retaining its current residents.

These types of projects cause the enhancement of the city's image. Similarly, due to the organization of a large area of disorganized fabric, this project has improved the appearance of the area, thereby enhancing the users' mental image of the space.

After the implementation of flagship regeneration projects, the sense of belonging is usually improved in

adjacent neighborhoods. In contrast to most projects, this project has failed to improve this indicator. The main reason for the lack of this sense is the dominance of commercial fabric and reusing residents as storage spaces along with the presence of refugees due to the low value of the real estate in the area has deprived the neighborhood of its original residents.

In general, the most frequently mentioned in terms of identity is that this project is only a superficial representation of Isfahan's rich historical identity.

These projects usually enhance the level of civic pride in the cities. In this project, this indicator is at a relatively appropriate level, however, the project has been unable to act as an original, prestigious element for the citizens because of its economic and social failure, and its inability to correctly represent the historical aspect of the area.

Local identity often improves after the implementation of these projects. In Atigh Square this factor had better manifestations in the physical and visual aspects of its surrounding fabric.

In general, flagship projects are distinct from their context in terms of their form, style and etc. In contrast to findings from the international literature, this project had limitations on height and design because of its proximity to the historical Congregation Mosque. For this reason, it has

Table 14 Compares the aftereffects of the flagship projects between the literature review and the current research

No.	Indicator	The aftereffects of the flagship project		
		Literature review	This research: Atigh square	
1	Spatial integration	Increased	Decreased	
2	Life quality of the residents	Increased	Decreased	
3	Development of different activities in adjacent neighborhoods	Increased	Decreased	
4	Construction of new residential buildings in adjacent neighborhoods	Increased	No change	
5	Accessibility	Improved	Worsen	
6	Security in adjacent neighborhoods	Decreased	Increased	
7	New business opportunities	Increased	Decreased	
8	Rents and prices of real estate in the area	Increased	Increased	
9	Economic benefits for the city	Increased	No change	
10	Economic vitality for the locals	Increased	No change	
11	Public & private sector investment	Participation of both	Participation of the Public only	
12	Investment trust for private sector	Increased	No change	
13	Surrounding neighborhoods profit from the project	Make profit	Deprived	
14	Costs of using the area for low in-come residents	High	Low	
15	Attraction of tourists	Increased	Increased	
16	The residents' willingness to live in the surrounding neighborhoods	Increased	Decreased	
17	Positive image of the city	Increased	Increased	
18	The residents' sense of belonging	Increased	Decreased	
19	Civic pride	Increased	No change	
20	Local identity	Increased	Increased	
21	Spatial and perceptual distinctiveness of the project with its surroundings	High	Low	
22	Social migrations	Increased	Increased	

a simple design and is not distinguished from its surroundings. Also, it has confused previous users due to excessive physical changes and the removal of previous elements.

In contrast to the findings from other countries where the low-income class prefers to abandon a region due to increase cost of public services and facilities, in this project resident displacement takes place for other reasons mentioned above. This area is at such a low social and cultural level that, even after the implementation of the project, the higher-class groups are not willing to live here. Furthermore, after the implementation of the project, the residents have been willing to sell or rent out their properties due to the penetration of commercial and service uses into the area.

In terms of social displacements, due to the increase in the value of real estate and financial inability to pay the rent and the resulting fact that residents cannot benefit from public services, the population growth in the area and the neighborhood is negative and the residents are gradually moving away from this neighborhood.

The flagship projects' aftereffects in the literature review and in the current research are illustrated in Table 14.

Conclusion

In recent years, urban regeneration and catalyst projects in the central districts of cities have been among the top priorities of urban planning to revive historical fabrics in urban centers. These projects are considered a contemporary urban management strategy in Iran as well, with Isfahan serving as one of the country's leading cities in this area. The neighborhoods which are immediately adjacent to such projects are strongly affected. Regarding Atigh square project in Isfahan as the case study, the leading indicators of flagship projects were extracted from the literature to measure this effect and were examined. Mixed methods research was applied, quantitative data from a questionnaire, and qualitative analysis of interviews conducted with several experts. In addition, the integration of the area before and after regeneration was compared using the Depth map software package.

When the results of this research are compared to other experiences around the world, they are similar in some ways and dissimilar in others.

The project's evaluation in comparison with global counterparts has revealed inadequacies in several areas, primarily due to the differing contexts of these projects' establishment in Iran. This project's emphasis has been on enhancing the area's physical and visual conditions, rather than addressing the region's economic and social issues. Therefore, considering all aspects of these types of projects according to their content could lead to success in regeneration projects in other cities in Iran. Furthermore, there were many limitations in the implementation of the flagship project, and not considering each one leads to disruption in the entire project process. The manner of participation of the private sector in public fields was one of the main challenges of urban management in this project, and it has failed to establish an optimal mechanism for involving private investors. That an entity alone has exclusively become responsible for the progress of the project has led to economic problems and other obstacles to the process. Consequently, economic efficiency has been severely reduced and the private sector has been unwilling to invest in the main implementations of the project.

Another limitation that Atigh flagship project faced was the ownership of land. There was not any efficient mechanism to encourage the owners to sell their property that was located within the project zone. Such problems may sometimes postpone the project or even completely stop it.

Therefore, this study indicates that although many actions are taken to revitalize urban centers through flagship regeneration projects, the main features of such projects are not realized and they do not even achieve minimum efficiency for the stakeholders and desirable effects on the life of local residents.

Due to all the above-mentioned differences, it seems that this project adopts a superficial approach that aims to create extensive changes in the appearance of urban centers and improve the undesirable conditions with only the title of 'regeneration project'.

In line with the impact of flagship projects not only in Iran but also in the world, the value and importance of social participation are as crucial as economic matters in flagship projects. As it can be seen in Atigh Square, despite the high level of financial support for the project municipally, social issues have not been tackled with in this project due to the lack of an organized structure for citizens' participation in the project. Participation should be assumed as a common denominator in the renewal process with the aim of involving citizens in fostering partnerships and sharing ideas and goals. To reach this aim, the potential role of information and communication technology in citizens' participation as a major contributor toward flagship urban regeneration projects can be considered for these projects to empower citizens to be included in urban regeneration projects.

In addition, it is crucial that flagship regeneration be designed considering the social, and economic aspects to ensure that it provides a good quality of life for people who live and work in the adjacent area. In addition, improving places and making them more attractive to residents and investors, empowering existing businesses, and enabling new job opportunities employability, and skills for local people will assist the projects to be more efficient.

The participation of the private and public sectors with local authorities and community groups helps to better transform benefits from projects to surrounding areas. Also, it will be helpful to ensure residents and owners feel engaged in the project and have a stake in the project decision-making process.

In this research, we endeavored to examine the effects of a large-scale project on the adjacent area from a holistic perspective, encompassing various dimensions. However, for a more comprehensive understanding of large-scale project planning, future research avenues should be explored.

- 1. A comparative analysis of the impacts of large-scale projects on the urban environment in Iranian cities. This area of research would be valuable, considering similar large-scale projects implemented in cities such as Tehran, Tabriz, Mashhad, and Urmia, which are major metropolises in Iran.
- 2. Developing a comprehensive methodology for planning large-scale projects, taking into account various aspects of residents' urban life and considering the benefits for other stakeholders such as the government and the private sector. This approach aims to mitigate potential inequalities that may arise after project implementation.
- 3. Given the challenging economic situation of urban administrations in Iranian cities, it is prudent to explore small-scale catalyst projects aimed at enhancing the quality of life. Thus, an important question arises: why do these administrations prioritize large-scale projects? Investigating these projects from a political-economic perspective could provide valuable insights. Additionally, comparing recent successful small-scale projects and identifying the factors contributing to their success could guide administrations towards a more logical and effective approach for improving the future urban quality of life.

Supplementary Information

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Additional file 1. Additional file 2.

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Competing interests

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References

- Adelfio M, Hamiduddin I, Miedema E (2021) London's King's Cross redevelopment: a compact, resource efficient and 'liveable' global city model for an era of climate emergency? Urban Res Pract 14(2):180–200. https://doi. org/10.1080/17535069.2019.1710860
- Agunbiade M, Olajide O, Bishi H (2021) Urban governance and smart future cities in Nigeria: Lagos flagship projects as springboard? In: Bekker S, Croese S, Pieterse E (eds) Refractions of the National, the Popular and the Global in African Cities. African Minds, Cape Town. https://doi.org/10. 47622/9781928502159_10

Älvstranden N (2008) Regeneration in European cities: making connections Asadi S (2023) Cultural heritage lost: case study of Isfahan, Iran. In: Mohiuddin M, Aziz T, Jayashree S (eds) Multiculturalism and interculturalism. IntechOpen, London. https://doi.org/10.5772/intechopen.102114

- Asefi Moghadas A, Zaker Haghighi K, Naghdi A (2015) Measuring the satisfaction of living in traditional neighborhoods, Case Study: Kolpa neighborhood of Hamadan First National Conference on Urban Planning, Urban Management and Sustainable Development, Tehran, Iran
- Azarm Z, Ranjbar E, Marti Casanovas M (2019) Investigating the nature of urban space transformation in historic cities of Iran (case study: Isfahan). Monthly Sci J Bagh-e Nazar. 16(73):29–40. https://doi.org/10.22034/bagh. 2019.142454.3707
- Azarm Z, Ghalani Z, Ranjbar E (2017) Transformation of public spaces and changing pattern of mobility in a historic city, case study: Isfahan, Iran. p 12–14
- Azizi MM, Bahra B (2018) The role of flagship developments in the regeneration of inner city textures: the case study of Yazd city, Iran. J Fine Arts Archit Urban Plan 22(4):5–16. https://doi.org/10.22059/jfaup.2018.227156. 671653
- Balaban O, Puppim de Oliveira JA (2014) Understanding the links between urban regeneration and climate-friendly urban development: lessons from two case studies in Japan. Local Environ 19(8):868–890. https://doi. org/10.1080/13549839.2013.798634
- Bell AD, de Shalit A (2022) Introduction: cities and identities. Crit Rev Int Soc Polit Philos. 25(5):637–646
- Bianchini F, Dawson J, Evans R (1992) Flagship projects in urban regeneration. In: Healey P (ed) Rebuilding the city: property-led urban regeneration. Chapman Hall, London

Boelsums R (2012) Living next to a flagship development

- Bohannon CL (2004) The urban catalyst concept. Virginia Tech, Blacksburg
- Cadell C, Falk N, King F (2008) Regeneration in European cities: making connections. Joseph Rowntree Foundation, York
- Cameron S, Doling J (1994) Housing neighbourhoods and urban regeneration. Urban Stud 31(7):1211–1223. https://doi.org/10.1080/004209894200810 31
- Castells, M. (1983). The City and the Grassroots: A Cross-cultural Theory of Urban Social Movements. E. Arnold. https://books.google.fr/books?id=ol7rQ AAACAAJ

Cowan R (2005) The dictionary of urbanism. Streetwise Press, New Delhi Das D (2008) Urban quality of life: a case study of Guwahati. Soc Indic Res 88(2):297–310. https://doi.org/10.1007/s11205-007-9191-6

- Dehghan Pourfarashah A, Dehghan Pourfarashah A. (2023). The importance of public participation in the implementation of government construction projects according to Selznik 9th International Conference on Management and Accounting Sciences, Tehran, Iran
- Doucet B (2007) Flagship regeneration panacea or urban problem. EURA, Glasgow
- Doucet B (2009) Global flagships, local impacts. Proc Instit Civ Eng Urban Des Plan 162(3):101–107. https://doi.org/10.1680/udap.2009.162.3.101
- Doucet B, van Kempen R, van Weesep J (2011) 'We're a rich city with poor people': municipal strategies of new-build gentrification in Rotterdam and Glasgow. Environ Plan Econ Space 43(6):1438–1454. https://doi.org/ 10.1068/a43470
- EbrahimiBoozani M, Fadaeijazi F (2020) ReInvestigating the feasibility of the goals of the plan to revive Atiq Square (Imam Ali(AS)) in Isfahan. Motaleate Shahre Irani Islami. 41:25–40
- Eisinger P (2000) The politics of bread and circuses: building the city for the visitor class. Urban Aff Rev 35:316–333. https://doi.org/10.1177/10780 8740003500302
- Emery J (2006) Bullring: A case study of retail-led urban renewal and its contribution to city centre regeneration. J Retail Leisure Prop. https://doi.org/ 10.1057/palgrave.rlp.5100020
- English Heritage (2007) An asset and a challenge; heritage and regeneration in coastal towns in England. English Heritage Press, London
- Evans G (2005) Measure for measure: evaluating the evidence of culture's contribution to regeneration. Urban Stud 42(5–6):959–983. https://doi.org/10.1080/00420980500107102
- Fainstein SS (2010) The just city. Cornell University Press, Ithaca
- Feijten P, van Ham M (2009) Neighbourhood change...Reason to leave? Urban Stud 46(10):2103–2122. https://doi.org/10.1177/0042098009339430
- Foster N (1997) Opening address. 1st International space syntax symposium, London
- Gotz C, Cooper I, Paskaleva K (2015) Small-scale projects and their potential for urban regeneration: experiences from Eastern Germany. Econ Business Rev. 17:203–222. https://doi.org/10.15458/85451.11
- Grodach C (2010) Beyond bilbao: rethinking flagship cultural development and planning in three California cities. J Plan Educ Res 29(3):353–366. https://doi.org/10.1177/0739456x09354452
- Holcomb HB, Beauregard RA (1981) Revitalizing Cities. Association of American Geographers, Washington
- lbrahim MF, Chung SW (2003) Quality of life of residents living near industrial estates in Singapore. Soc Indic Res 61(2):203–225
- Jacobs J (1970) The economy of cities. Knopf Doubleday Publishing Group, New york
- Kent T, Brown R (2009) Flagship marketing: concepts and places. Taylor & Francis, Oxford
- King AD (1997) Culture, globalization, and the world-system contemporary conditions for the representation of identity. University of Minnesota Press, Minnesota. https://doi.org/10.5749/j.ctttsgb3
- Korkmaz C, Balaban O (2020) Sustainability of urban regeneration in Turkey: assessing the performance of the North Ankara Urban Regeneration Project. Habitat Int 95:102081. https://doi.org/10.1016/j.habitatint.2019. 102081
- Leshore L, Minja D (2019) Factors affecting implementation of vision 2030 flagship projects in Kenya: a case of the Galana–Kulalu irrigation scheme. Int Acad J Law Soc 1(2):395–410
- Loftman P, Nevin B (1995) Prestige projects and urban regeneration in the 1980s and 1990s: a review of benefits and limitations. Plan Pract Res 10(3–4):299–316. https://doi.org/10.1080/02697459509696280
- Majoor S (2011) Framing large-scale projects: Barcelona forum and the challenge of balancing local and global needs. J Plan Educ Res 31(2):143–156. https://doi.org/10.1177/0739456x11402694
- McCrea R, Shyy T-K, Stimson R (2006) What is the strength of the link between objective and subjective indicators of urban quality of life? Appl Res Qual Life 1(1):79–96. https://doi.org/10.1007/s11482-006-9002-2

Mirmiran SH (2009) Meydan Atigh. Haft Shahr J Archit Urban Des 27(2):98–103 NagshE Jahan-Pars CE (2016) Imam Ali square (Meydane Kohneh Isfahan)

Ortiz-Moya F (2012) Flagship development rebranding shrinkage: the case of Manchester. ICSDEC. https://doi.org/10.1061/9780784412688.027

- Oyeyoade S, Agboola A, Odebode A (2019) Flagship projects and its' application to urban regeneration in the UK and USA: prospect in the Nigerian. Glob J Manag Bus Res 19:47–58
- Pastak I, Kährik A (2016) The impacts of culture-led flagship projects on local communities in the context of post-socialist Tallinn. Czech Sociol Rev. 52(6):963–990
- Raco M, Henderson S (2009) Flagship regeneration in a global city: the remaking of Paddington basin. Urban Pol Res 27(3):301–314. https://doi. org/10.1080/08111140902968737
- Rahimzad R, Parsa A, Huston S (2015) Evaluating mega urban regeneration projects: developing a new model. Plan Malays. https://doi.org/10.15396/ eres2015_270
- Roberts P, Sykes H (2008) Urban regeneration: a handbook. SAGE, London. https://doi.org/10.4135/9781446219980
- Rodrigo N, Wilkinson S (2021) Impact of flagship projects on the recovery of a city post-disaster. Int J Disaster Risk Reduct. 58:102191. https://doi.org/10. 1016/j.ijdrr.2021.102191
- Smyth H (2005) Marketing the city: the role of flagship developments in urban regeneration. Taylor & Francis, London
- Temelová J (2007) Flagship developments and the physical upgrading of the post-socialist inner city: the golden angel project in prague. Geogr Ann Ser B Human Geogr 89(2):169–181. https://doi.org/10.1111/j.1468-0467. 2007.00246.x
- Tuan Seik F (2000) Subjective assessment of urban quality of life in Singapore (1997–1998). Habitat Int 24(1):31–49. https://doi.org/10.1016/S0197-3975(99)00026-0
- Türksever ANE, Atalik G (2001) Possibilities and limitations for the measurement of the quality of life in urban areas. Soc Indic Res 53(2):163–187. https://doi.org/10.1023/A:1026512732318
- Uszkai A (2015) Spatial integration and identity: cases of border regions. J Glob Acad Instit Edu Soc Sci 1:1–13
- Van Criekingen M, Decroly J-M (2003) Revisiting the diversity of gentrification: neighbourhood renewal processes in Brussels and Montreal. Urban Stud 40:2451–2468. https://doi.org/10.1080/0042098032000136156
- Veca S (2015) The dimensions of the quality of life. Riv Int Sci Soc 123(1):123–134
- Woodcraft S, Bacon N (2013) The social life of cities: stories about urban innovation. Social Life, Delft
- Yang T (2005) Impacts of large scale development: does space make a difference? UCL Discovery, Delft
- Zukin S (1982) Loft living: culture and capital in urban change. Johns Hopkins University Press, Baltimore

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