

**Creating Vital Downtowns By Establishment of Pedestrian Malls (Case Study: Arak Shohada Square)**Milad Homafar<sup>1</sup>, Gholamali Allah Dadi<sup>2</sup>, Mohammad Homafar<sup>3</sup><sup>1</sup>. PhD student in Urbanism, Islamic Azad University of Qazvin, Iran<sup>2</sup>. MSc. in Regional and Urban Planning; University of Tehran<sup>3</sup>. BEng in Civil Engineering; University of Arak[milad.homafar@gmail.com](mailto:milad.homafar@gmail.com)

**Abstract:** Creating vital and dynamic urban spaces has been always one of the main concerns of the urban planners. Adopting desirable approaches to re-fresh the urban centers' vitality and to preserve the dynamic life of the urban centers as the primary core and economic heart of the cities is of a special importance. This research attempts to show the necessity of creating dynamic and vital urban centers. To do this, we will review the prominent characteristics of the urban centers and the opinions of the urban theorists about the methods of crating vitality in the urban spaces and establishing pedestrian malls in the city. As the case study, we will study the possibility of creating a pedestrian mall in Arak city center of Iran through investigating the physical characteristics of the mentioned area and questionnaire data in two steps. By and large, the reviewed studied led to offering some suggestions for the establishment of mentioned pedestrian mall.

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## 1. Introduction

Chaos, confusion, and instability of the contemporary cities has forced the downtowns remind their importance as the landmarks of an fresh life, aggregation of the colors, diversity, newness, and a place for watching, learning, and being entertained. Making a desirable image of the city in the minds of the citizens depends on the quality of the public areas of the city. Due to their unique characteristics such as their history, vitality, diversity of the activities, and so on, downtowns can play a key role in creating the citizens' mental image of the city and in raising the social pride of the citizens if they have a good and desirable planning and management. Since 1960s, different movements were shaped with the goal of refreshing and returning the social spirit to the urban centers in Europe and America. Accordingly, in order to improve the environmental and social qualities and to increase the economic efficiency of the urban centers, several plans were operationalized worldwide. In the wake of increasing the urbanization, the cities experienced an un-planned physical and organic extension. On the other hand, the increase of rate of using personal transportation vehicles and the high price of the lands in the city centers, many trade and administrative centers have forced to move to the places outside the city centers and this fact has led to the decrease of the economic importance of the city centers and consequently, the environmental and social qualities of the their city centers have declined. The city center of Arak has experienced the same process as well. Despite the diversity of activities, this

city is now suffering from the visual and functional confusion due to a mere traffic vision to the city and lack of proper urban planning. This problem can threaten the economic performance and the social life of this area. On the other hand, due to the shortage of the urban spaces and public spheres in the city and the adjacency of the city center with the historical market (bazaar) that is the main landmark of the city's identity, this area is socially and economically very important/ this the planning for the improvement of the visual face of the area and promoting its social life as the most important public sphere of the city can improve the cultural and social level of the city and make a better image of the city in the minds of the citizens.

In this research we attempt to look at the scientific texts about the concept of vitality and review the global experiences about refreshing the urban centers with a special focus on the sidewalks to present the theoretical framework of the research. In this regard, we have investigated the characteristics of the area and we have collected the opinions of the related citizens and trades people about the current problems of the city center to study the possibility of establishing a pedestrian mall in the area. After optimal location of the mentioned sidewalks, we will offer some suggestions about the plan.

## 2. Deliberation on the concept of vitality

There are several equivalents for the concept of vitality. Robert Cowan's Dictionary put vitality and viability along each other and considers this concept as a characteristics of centers of small and large

successful cities. The vitality of the city reflects the crowd level of the city in different hours of the day in different parts [1]. Charles Landry separates the concepts of vitality and viability and introduces 9 criteria for identification of a vital and viable city: useful human aggregation, diversity, accessibility, safety and security, identity and differentiation, creativity, communication and collaboration, organizational capacity, and competition [2]. Moreover, in his book "Creating Neighborhoods and Places in the Built Environment" Chapman discusses about the vitality and diversity along with each other and point out that the vitality has two dimensions: physical and non-physical. He emphasizes that the physical diversity is a necessary condition for the vitality but it cannot secure its maintenance. He says that the diversity of the activities of a place is a necessary condition for preserving and maintaining the vitality of any given place. Then he suggests the method of "foot print" or the flow of the pedestrians as a criterion for assessing the rate of vitality [3]. Jane Jacobs offers 4 main conditions for creating the diversity in the streets and urban vitality: 1) the area preferably has to be have more than 2 functions; 2) the blocks have to be short; 3) the area has to be a combination of buildings with different ages and different conditions; and 4) there has to be sufficient density of the people regardless the reason of their presence. Jacobs and Tybaldz believe that the diversity will lead to vitality. Since the land uses lead to activities, combined land uses can diversify the activities and consequently, the diversity of the peoples who refer to these centers in different hours of the day [4], [5]. Tybalz confirms the Jacobs's theories about the vitality of the city centers and suggests that we have to increase the shopping times in weekends and creating non-commercial land uses (mainly cultural and entertaining uses) in order to attract more people at the ending hours of the day and weekends to the city centers [5]. In Creating a Vital Urban Center, Pamir says that the creation of any vital and successful urban space depends on the location of the planned space, the size of the space, and the proper planning with focus on the planning for the activities of the place and the planning method. In his opinion, any market (commercial area) is composed of different parts including the offices, retailing centers, residential parts, cultural facilities, hotels, seminar centers, conference halls, etc. Each of these parts has a key role in the vitality and the life of the city centers. He especially focuses on the role of the streets and sidewalks and their marginal activities in the creation of the vital urban areas. Besides, he believes that the streets are the most important and central core of the public spaces. In his explanations, the streets include the marginal spaces and the sidewalks. These spaces

have an important role in shaping a positive, cohesive, and uniform image of the city because they are visible to all citizens [6].

By and large, the literature review on the vitality shows that the concept of vitality is close to the concept of diversity. In most available theories, the physical form of any area is considered as the pre-condition of creating a vital space, but the sustainability maintenance of the vitality depends on the diversity of the activities. Regarding the available definitions, the urban vital space is any urban space in which one can see diverse people (from different ages and genders) and divers activities in a wide range of time whose activities are largely selective [7]. All mentioned theorists recognize the streets and sidewalks as one of the main stimulus for attracting the people and creating the vitality in the urban spaces. Jacobs believes that the vitality of the cities depends on the vitality of their streets and sidewalks. Chapman suggests that we can assess the vitality of any given area per the number of its pedestrians and offers the "foot print" criterion for assessing such vitality. Pamir points to the role of sidewalks of the city center as the most important public space of the city centers. Hence, in order to plan to create a vital city center, oriented planning of the sidewalks can play a key role in the vitality of the city centers and their economic prosperity. The successfulness of such a plan depends on the simultaneous physical and functional study and planning of the central streets of the city.

2.1. The role of sidewalks as public spaces

Previously, the cities could found their identity in tall buildings, cupolas, and single memorials. Nowadays, the cities found their identities in their streets and sidewalks [8]. The presence of the pedestrians is considered as a criterion for the nicety and desirability of the public spaces. William White introduces the sidewalks as the valuable public areas of any city [9]. Pakzad mentions to the sidewalks as a tool for the collective activities, especially the activities in relation to the urban economy, environmental quality, and social health and emphasizes on the role of the sidewalks in creating the urban vitality [10]. Pamir introduces the sidewalks as the most important public spaces of the center of the cities and considers some issues for the successful physical planning of the streets of the city centers. These issues include the appearance of the street, width of the sidewalk, sidewalk floors, planting the trees, street furniture, etc. He believes that in planning the sidewalks of the city centers, it is necessary to identify and plan the sidewalks that are the spine of the cities. Such sidewalks can act as the paths for the public transportations or the pedestrian malls. These

sidewalks have to be known in all streets and they have to recognize themselves as differentiable sidewalks from other streets for their centered commercial activities [6].

### 2.2. History of the pedestrian street

European cities, especially German and Netherland ones, have been pioneer in creating pedestrian areas. The related activities of these cities have been intensified since the second half of the past century. In this period of time, economic efficiency and preserving the historical contexts have been two main approaches toward extending the pedestrian areas. Since the beginning of the 1960s, many American cities looked for creating pedestrian for only pedestrian zone in the city centers with the aim of reconstructing the ruined downtowns and improving the economic efficiency of the cities. Soon after such approaches, new theoretical views emerged at the same decade that emphasized with special focus on the human and his behavior against the environment. In these approaches, more attention was paid to the social conditions and personal welfare. In 1970, the dominant approach in planning the pedestrians was to supply the highest rate of the social and commercial capacity and to emphasize on the diversity of the functions and to provide some locations for the festivals, concerts, exhibitions, and children games [11]. Then many European and American cities changed their downtowns to pedestrian zones. But despite the Europe, this process was not successful in US. Some of the reasons of such a failure are as follow: (a) more desirable accessibility to downtowns in Europe in comparison with the American structure of communicative network; (b) less chain stores in Europe that are the competitors for the retailers of the downtowns; (c) more tendency toward the combined land uses in European downtowns (this issue will lead to the presence of a wide range of employees, staff, and residents in the downtown) [12]. The failure of such a view in America had two important lessons for the urban planners: (a) implementing imitative and adoptive solution in the city centers is a risk, unless we are sure that the essential conditions for the success of such plans are present in the city centers; (b) the exclusive properties and the available resources of the downtown can help improving and strengthening the identity of the cities and their sense of place and their being competitive without imitating the solutions of other places [6]. Thus the successful implementation of the pedestrian plans depends on the recognition of the needs of any successful pedestrian mall. These needs will be investigated in the next part of the paper.

### 2.3. Necessities of the successful planning and locating the pedestrian malls

Pedestrian malls can increase the vitality of the cities and increasingly attract more people if these malls are located in a network of connected sidewalks and streets with a combination of the public transportation and the bicycle paths. Successful pedestrian malls are combination of 2 or 3 cross streets that are connected to a square with a central street that has desirable environmental views and high quality of public environment in which the stores, restaurants, coffee shops, retailers, bakeries, boutiques, and even local and daily stores are all located at the side of the path. These sidewalks are supported by parking lots in the adjacent streets or the multi-floor parking [13]. The successful strategy of the pedestrian malls can be counted as follow: (1) being accessible from the high- density residential area, administrative and work buildings; (2) desirable accessibility to the transportation terminals; (3) establishing a strong pedestrian net work between the downtowns and the pedestrian malls; (4) preparing suitable parking lots for the bicycles in the nodal points; (5) diversity of the activity in the margins of the sidewalks; (6) desirable support of these sidewalks by the parking lots in the adjacent streets or establishing underground parking lots for the cars [13], [14], [15].

### 3. Methodology of the Research

Regarding the objective of this research and the necessity for understanding the physical and non-physical qualities of the downtowns, it seems that the direct observation and interview and questionnaire are good methods for collecting the needed data of the research. Thus we first began to observe and study the city center of Arak with reference to the documents of detailed plan and other related plans of the city centers of Arak to collect the needed data about the land uses, activity patterns, traffic forecasts, and other under-implementation plans. The next step was to assess the rate of vitality and environmental quality of Arak downtown in the opinion of Arak residents. Thus we designed a questionnaire to study the rate of the desirability of social, cultural, and physical qualities of the study area from the residents' points of view and to extract the main problems of the central area. The next step was to investigate the feasibility of a pedestrian mall in the central area. Regarding the different available options for the desirable location of the sidewalk, we first extracted the indexes of the desirability of a place for establishing a pedestrian. To determine the relative importance of each of these indexes, we used hierarchical analysis method because such an analysis method uses qualitative and quantitative criteria simultaneously and considers the adaptability in its judgments. The first step in the process of the hierarchical analysis is to create a hierarchical structure for the study subject in which

the objectives, criteria, options, and their relationship are shown. The next step in the mentioned hierarchical process, as used in this research, is to calculate the weight of the criteria, sub-criteria, and to investigate the logical adaptability of the judgments and to determine the desirable option. To determine the importance coefficient, the criteria were compared in pair. The judgmental base of this comparison is the

Thomas's 9-item L-hour table [16]. Regarding the number of the research criteria, we invited 10 experts and professors of the urban planning to compare the criteria in pair and accordingly, the weight of the criteria were extracted. To do the related calculations, we used EXPERT CHOICE software, but the numerical computations are not present here due to the limitations of the paper.

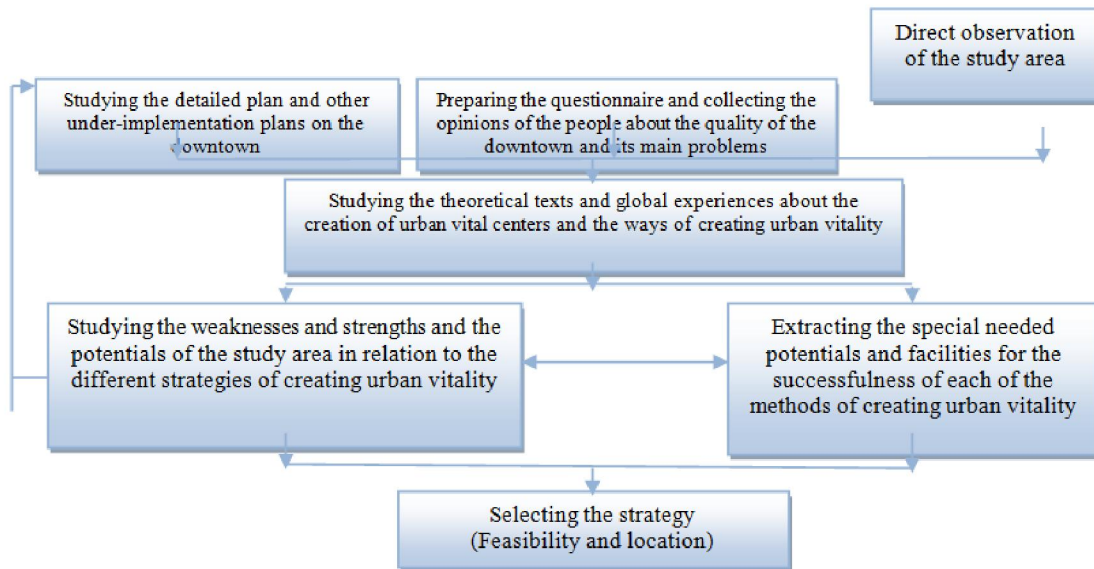


Figure 1: Research process (authors)

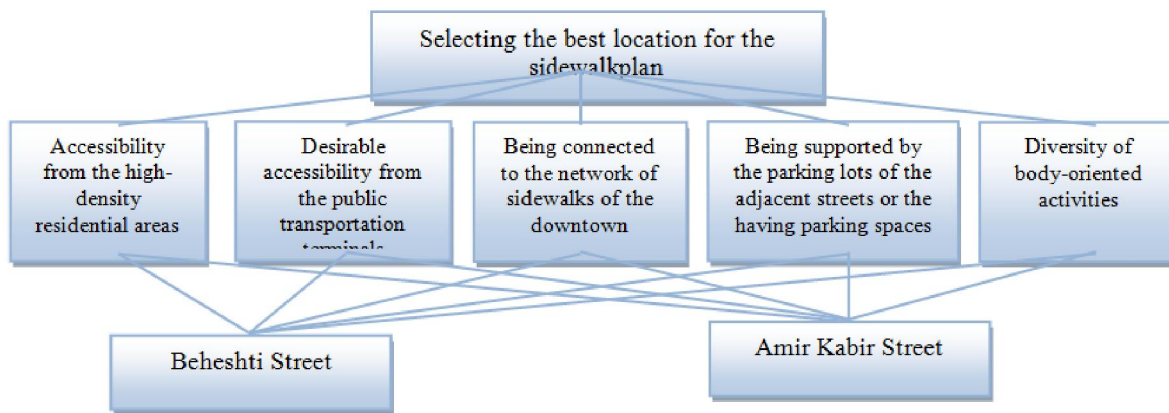


Figure 2: Hierarchical analysis model of the research (authors)

Table 1. Results of the hierarchical analysis process

Criterion	Diversity of available activities in the sides of the sidewalk	Being supported by the parking lots in adjacent streets of or establishing parking lots for the sidewalk	Connection to the network of downtown sidewalks	Desirable accessibility to the public transportation	Being accessible from the high-density residential and administrative areas
Weight	0.314	0.171	0.091	0.212	0.212

Incompatibility rate: 0.03

Source: authors



#### 4. Introducing the case study

Arak is located in the adjacency of Tafresh from the north, Hamedan and Malayer from the west, Mahllat from the east, and Khomein and Sarband from the south. Arak Province has been built in Qajar dynasty at the time of Fathali Shah of Qajar. Old Arak city had 4 gates and the current Bazaar was the internal connecting network of these gates and the main and external roads began from these gates. Simultaneous with establishing the railway station and new streets and roads, the extension of the city in south and southwest began and the industrial centers were formed in Arak since 1960s, especially with the beginning of the Iranian Third Economic Development Plan. Assigning the eastern lands of the city to the heavy industries led to the increase of the economic capacity and the rapid growth of the city. Accordingly, some new contexts were formed in the immediate core of the city and it changed the pattern

of physical development of the city so that during a decade, the area of the city developed from 4540 km in 1966 to 18,300 km in 1976 [17]. Such a rapid and unplanned growth led to the physical and visual confusions, ruin of the urban space (destruction of primary chess pattern of the city) and wide intervention in the central and old context of the city. Development levers in Arak have made the city as a known industrial center of the country while neglecting its historical and cultural role. According to the interviews of the authors with the residents of Arak, dissatisfaction with such an image is one of the main concerns of Arak citizens [18]. Shohada Square is located in the city center of Arak in adjacent to the old market of the city and in intersection with Rajayi and Beheshti streets. Due to the adjacency to the roofed market of Arak (Bazaar) and due to its physical and functional role, this square is the main landmark of the city and the city center.



Fig. 1: city center of Arak



Figure 2: Locational position of Shohada Square in city center



Figure 3: Land Uses of the city centers

Unparalleled and precipitant growth of Arak city along with the intensive pattern of activities has caused several problems for the city in recent years including the concentration and aggregation of different activities of local and urban scales at the central scope of the city and consequently, the presence of the citizens from all around the city to this center to meet their daily needs, high density of the human per space, heavy car traffics in rush hours, the shortage of public spaces in the city center, lack of interconnection between the available linear public spaces and the rupture of the public area by the car paths, lack of and identity-based space in the downtown in connection to the valuable structure of the Arak historical market, and the functional and visual confusion of the downtown [19]. Although the city center has preserved its life and functionality, but such a procedure and the establishment of chain stores that are the competitors for the retailers of the downtown has led to the decline of the economic prosperity and to the more physical and visual decay of this area. On the other hand, regarding the aggregation of the historical buildings of the city (including Bazaar, Hammam Chahar Fasl, and Samsami School) at the immediate scope of Shohada

Square this city center plays a very important role in reflecting the visual and functional face of the city and the identity of Arak. Thus realizing the main problems of the city center and planning for physical and visual organization of this scope can improve the economic efficiency and improve the citizens' mental image of the city' and their willingness to have a more active presence in the city and subsequently to the increase of the vitality and urban life. The results of the completed questionnaires by the residents show that according to the residents of the city, the most important problems of the city are as follow: lack of pedestrian spaces, undesirable visual face of the city, and lack of taxi and bus stations. On the other hand, Arak city suffers from the lack of public spaces and urban parks and promenades. The sidewalks of the adjacent streets of the downtown are considered as the most active public spaces of Arak city but the physical chaos and the weaknesses of the management of such sidewalk has made the residents unwilling to use such public spaces. Because of the shortage of pedestrian spaces and the crowded due to the low width of the sidewalks and the exhaustion of the sidewalks, especially the exhausted floors, the phenomenon of the insular sidewalks, lack of organizing the activities,

and the visual face of the walls, such sidewalks fail to have needed qualities to attract the people and their

active and secure presence.



Figure 4: Undesirable visual face of the downtown (authors)



Figure 5: Undesirable reconstruction management (authors)



Figure 6: Abandoned open space with a low visual quality (authors)



Figure 7: Abandoned wastes in the path (authors)



Figure 8: High number of people at the morning of a weekend (authors)



Figure 9: Visual confusion of the city (authors)

## 5. Feasibility of the pedestrian malls plan in city center of Arak

As mentioned in the conceptual framework of the research, there are five criteria for the successfulness of the urban sidewalks including (a) accessibility from the high-density residential blocks, (b) diversity of body activities, especially the active functions in nights, (c) accessibility to the public transportation system, (d) supporting by needed spaces for parking lots in adjacent streets, and (e) connection to a strong network of urban sidewalks. In order to assess the feasibility of the sidewalk plan in the central area of the city, it is necessary to study the capabilities and limitations of this area on the basis of the mentioned criteria. The results of such a study are shown in table 2. The results show that the city center of Arak city has the needed potentials due to the desirable accessibility of the residential blocks with the acceptable density (figure 3), the diversity of the activities in the central area including the activity of the retailers, shopping centers, restaurants, coffee shops, cultural centers (cinemas and museums), appliance stores, etc. and the existence of several abandoned lands within the central context of the city to be used as parking lots. The final step is the desirable location of the sidewalk. In this phase, among the streets leading to Shohada Square, Rajayi Street was deleted from the plan due to its direct connection to the residential blocks and the city

center, and Mokhaberat Street was deleted as well due to its key role in the urban transportation system. Thus two remaining options are Behesti Street (between Shohada Square to the Haft-e Tir Square) and Amir-Kabir Street. With the combination of the data of direct observation and collecting the opinions of the urban experts, the desirability of each of these two options was determined on the basis of each of the research criteria and the Likert range. Then the desirable option was selected with the hierarchical analysis process. The results of the research showed that Bhehti Street (between Shohada Square to the Haft-e Tir Square) is the most suitable location for creating a pedestrian mall with the aim of improving the economic efficiency and increasing the vitality of the city center and promoting the quality of public spaces of Arak city.

## 6 Results of the research

- The results of the hierarchical analysis show that the "diversity of body activities", "accessibility from the high-density residential blocks" and "supporting by needed spaces for parking lots in adjacent streets" are the most important criteria. Regarding the importance of economic efficiency of these sidewalks, it seems that the mentioned criteria are more important in attracting the urban travels and increasing the willingness of the shopping in such sidewalks.

- Studying the physical and functional features

of Arak downtown shows that this area suffers from physical and management abnormalities despite its functional and economic prosperity. Creating a pedestrian mall in a comprehensive plan for the improvement of the downtown and reconstructing the sidewalks of the mentioned area can improve the economic functions and play its effective role in

establishing social interactions and supplying needed public spaces of the city. In this regard, according to the surveys of this research, among two available options, Beheshti Street (between Shohada Square and Haft-e Tir Square) is the best option for creating a successful pedestrian mall due to its physical features, activity combinations, and urban signs.

Table 2. Weaknesses and strengths of the city center for creating a pedestrian mall according to the criteria of the research

Criteria	Strengths	Weaknesses	Opportunities	Threats
Accessibility from the high-density residential blocks	Adjacency to the residential areas with high- density of population	_____	Possibility of reinforcing the accessibility to the walls and increasing their penetrability	Establishment of chain stores in the city borders
Diversity of body activities	The existence of small identified activities in the intervened area; combining of commercial, residential, cultural, and educational land uses; existence of reclaimable lands due to the land uses change	Shortage of cultural uses and active uses in nights; incompatibility of the body activities	The possibility of using reclaimable lands; possibility of increasing the cultural uses to the area; possibility of increasing the entertainment activities in open and closed spaces	Increasing the small local land uses in the area of Shohada Square and consequently, increasing the concentrations on the downtown
Accessibility to the public transportation system,	Possibility of different accessibilities to the downtown, including accessibilities on foot, with cars, and with public transportation vehicles (taxies, buses, etc.)	Lack of centralized taxi and bus terminals and moving them to the margins of the streets	Possibility of establishing centralized taxi and bus terminals; possibility of connecting sidewalks to all points of the area	Increase of the passing traffic and environmental and audio-visual pollutions
Supporting by needed spaces for parking lots in adjacent streets	Possibility of parking the cars in the empty lands around Shohada Square and the existence of several supporting streets	Low with the high rate of traffic in adjacent streets	Opportunity of establishing parking lots in the empty lands of the area in multi floor form	Blockage of the streets due to the marginal car parks.
Connection to a strong network of urban sidewalks	Existence of sidewalks in all sidewalks adjacent to the downtown	Physical chaos of the sidewalks	Possibility of creating an interconnected sidewalk network in the downtown	_____

Source: Authors

- The results of this research show that the successfulness of any pedestrian mall in the downtown depends on the codification of a comprehensive plan for improving the city center. The implementation of such a plan have to be aligned with superior urban plans, including the detailed and local plans because the success of such sidewalk depends on their connection to the strong and desirable

network of sidewalks in the downtown, supplying needed parking lots (in adjacent streets or underground parking lots), and combining the sidewalk activities. If we consider the pedestrian plan as a separate plan, such a sidewalk will be changed to an insular place that not only fails to achieve the economic efficiency, but will be converted to decayed physical and crime-prone contexts.

Detailed plan of Arak city and planning for its Shohada Square (local plan) both emphasize on the reduction of the traffic in downtown and in physical improvement of this area. They consider the plan of wide sidewalks and large public spaces. Local plan of the Shohada Square has a special attention to the preserve of sidewalks between Shohada Square to the main gate of *Bazaar*. This plan especially emphasize on the reinforcement of the role of *Bazaaras* the landmark of the identity of the city, and on Shohada Square as the city center of Arak. The declared objectives of the mentioned plan are aligned with the objectives of this research for creating a pedestrian mall. Such a plan in form of a comprehensive plan for physical and visual improvement of Arak downtown can accelerate the access to mentioned objectives.

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