

Spatial Quality Assessment in Historical Urban Environment: Malatya-Battalgazi Case

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Abstract

It is necessary to know the urban texture and spatial interactions so that the historical urban textures in the change and development dynamics have to meet today's needs and not to turn into deposition areas. In this sense, the aim of this study is to emphasize spatial performances of the cultural heritage at the historical urban fabric of Battalgazi in the city of Malatya, having many cultural layers, in the city landscape, and to produce solution suggestions for protection-development- renewal purposes within a holistic planning approach. 18 cultural properties, as the scope of the study, within the borders of Alacakapı, Meydanbaşı, Toptaş and Karahan Quarters within the boundaries set by Battalgazi 3rd Degree Archaeological Site and Interaction Area Conservation Development Plan were evaluated according to the spatial quality criteria. As a result of the study, it was determined that the improvement of structural comforts provided spatial mobility and that some buildings and areas where protection or excavation works were not conducted are included in the structural and environmental settlement and thus are not perceived in the historical city center within the context of the spatial quality parameters of the cultural assets in the study area. In general, it has been decided that the contribution levels of the cultural assets are low, that they are to be supported in terms of use and activities and accessibility (especially pedestrian activity), and that conservation development plan decisions are to be applied.

Keywords: Spatial quality, Cultural heritage, historical environment, Battalgazi , Malatya

Introduction

Historical urban textures are memory spaces that reflect the details of the socio-economic structure, life philosophy, aesthetic sensitivity of past societies and witness the history with their spatial uses. These areas have become even more important in recent years, as their location in the city is valuable and they are suitable for emerging new urban space needs. Achieving cultural continuity can be achieved through the preservation and use of historical environments that form cultural accumulation, with functional transformations. This idea is also important to prevent loss of the original texture of the historical centers, which are considered as focal points of the city. In this context, with the transformation of the concept of conservation of cultural assets which is a part of urban identity in urban centers to the texture scale, historical environmental protection concept and cultural landscape preservation concept, contributions of cultural assets in terms of making livable spaces on continuity of their existence are being questioned today. The existence of historicity, complexity and coherence all together in the scene of a city, has a significant effect on environmental perception and preference, while creating the feeling of appreciation and living there with love [1]. Habitability is defined as a principle that directly contributes to the individual's sense of life satisfaction regarding the qualities of the spaces and describes a quality level that will increase the preference of the individual to use the space [2]. The concept of spatial quality in ensuring the continuity of urban life is a priority concept in increasing the success levels of public spaces in designs for public spaces. Montgomery [3] focuses on the necessity of capturing the physical space with perceptual and physical experiences to create successful public spaces [4]. Lynch [5], focused on vitality, emotion,

appropriateness and access and control criteria to measure settlement quality with the aim of building a good urban structure. Gehl [6,7] has developed an approach based on quality parameters of protection, comfort and pleasure (entertainment) according to three specific activities in public spaces (required activities, selective activity, social activity) as well as pedestrian-centered quality of public spaces. Madden [8], described the four main parameters of public space quality as 'easy accessibility, comfort, sociability and activity'. Roger Tym and Partners [9] used the concept of spatial quality and ranked quality parameters as vitality, sense of places, access, linkage and movement and community involvement. CABE [10] used 'spaceshaper' survey technique to measure spatial quality, identifying eight topics (access, use, other people, maintenance, environment, design and appearance, community and you) that measure individual's levels of perception of the space. Creating successful public spaces Many organizations (Urban Landscape Institute and Spacesyntax, etc.) have studied structural and spatial design features that play a role in spatial performances by studying the experimental functionality of public spaces [11]. Performance of the public space is evaluated on 4 parameters: 'Accessibility', 'Uses and Activities', 'Comfort and Image' and 'sociability' within the scope of 'The Place Diagram' developed by the Project for Public Spaces (PPS) team, which produces projects for public spaces in the United States, as a result of more than 1,000 studies conducted public outdoor [12,13]. Stigt et al. [14] outlines the requirement for adopting the integrated, participative, applicable and sustainable UEQ (Urban Environmental Quality) approach by directing three questions ("quality of what", "quality at what time?", "quality for whom?") to the urban planner.

Methodology

The material of this research, which is based on the possession geographical position and the natural road route, and the history of settlement dating back to the Paleolithic era and containing many settlement layers under the Hittite, Persian, Roman, Byzantine, Anatolian Seljukian, Ottoman and Republic of Türkiye, Battalgazi (Eski Malatya) district center (Fig. 1).

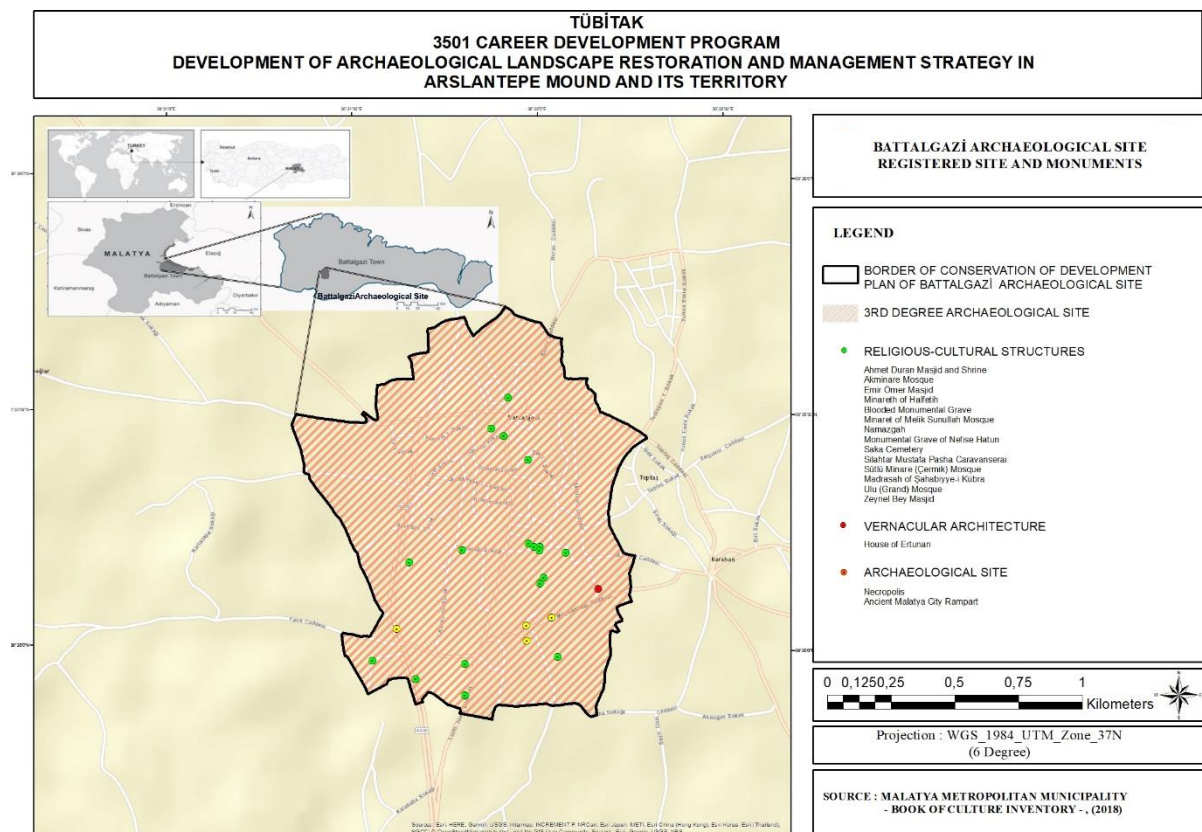


Figure 1. Location of the Battalgazi District (This map is produced under the project of 3501 Career Development Program of TUBITAK)

In the research, Battalgazi 3rd Degree Archaeological Site and Interaction Area Conservation Implementation Plan executed in 2011 obtained from Battalgazi Municipality and Battalgazi Culture Inventories, archives of Malatya Metropolitan Municipality and archives of Directorate of Cultural Assets Protection Board of Sivas were used.

Research method: composed of 4 stages as to determine the boundaries of the study area, to determine the registered cultural assets within this boundary, to determine the spatial quality parameters according to place diagram, and to evaluate the spatial performances of the cultural assets in the historical city center.

The first stage: is limited to the Battalgazi Suriçi Region research area, which is based on the historical significance, usage characteristics and intensity parameters, which shaped the historical city center and for which 1/1000 scale 3rd Degree Archaeological Site and Interaction Area Conservation Implementation Plan is prepared.

Second stage: Within the scope of the plan, the archaeological site, vernacular architectural and religious-cultural structures forming the identity of the city have been identified and tables were prepared.

In the third stage; a multi-parameter table was prepared with the aim of determining the effects of cultural assets and environments on urban identity. The creation of this table is based on the 4-parameter table is formed composed of 'Place Diagram' developed by the PPS team. PPS 'Accessibility', 'Uses and Activities', 'Comfort and Image' and 'Sociability'. With the table prepared, the focal point was prepared and evaluated in-situ within the scope of field studies in terms of focal point, perceptibility, spatial mobility, social networks, recreational potential, tourist value, having service and service units, local business ownership status, self-financing status, building comfort, defined landscape design, having urban furniture, contribution of green space, silhouette effect, accessibility, pedestrian activity, parking presence on 4 main parameters.

The scoring chart was formed by the 3-point evaluation system used by Erdoğan and Atabeyoğlu [15]. According to the evaluation system, '3 high / available', '2 medium / partial', '1 low / no' scores are available. After all of the constructions were evaluated based on all the parameters, the average of the total scores was taken and the cultural assets were compared with each other. The values obtained for interpreting the scores are grouped. For grouping, the differences between the smallest value and the largest value were found and averaged. Obtained values and ranges are determined. Intervals are rated as 'low / no', 'medium / partial' and 'high / available'.

In the fourth stage of the research, the spatial performances of the cultural assets whose present conditions have been determined in the direction of the obtained results were investigated in order to create a good qualified urban life in the historical city center by the applications made by the local administrations; and suggestions were made to increase the functional and aesthetic organization.

Result and Discussion

Battalgazi district, which has become increasingly important due to the abandonment of Arslantepe, which was the main settlement area until the destruction of the Assyrian State, located about 7 km away from the present Battalgazi district center and the construction of fortification walls and settlement area during the Roman Empire period has been remained within the boundaries of Byzantine Empire after the division of the Roman Empire. In this period, zoning activities have increased and new settlements have been established. In this period, after the war with the Sassanids, the city was destroyed significantly [16]. Battalgazi became a leading center in the fields of industry, commerce and medicine in the 11th century with the Seljuk domination [17]. A significant part of the

works that were produced as a result of intensive construction activities during this period are available today. The city, included in the Ottoman lands in the 16th century, was an important border town from the early ages to the Ottoman period, but became an inner city with the Ottoman domination and thus lost its former strategic significance. Especially when the army was separated from the city center, the city was neglected and the destructions were experienced [18-19]. Battalgazi, which is the city center of Malatya, rapidly lost its population as a result of compulsory displacement of the city of Malatya in the XIXth century. However, it was converted into a commercial center where the agricultural production and sales activities are predominant in the Republican period thanks to the high agricultural potential [20]. Today, the district is surrounded by agricultural land based on garden farming.

Battalgazi historical city center hosting many civilizations in the historical development process, and having the traces of many civilizations in the urban fabric exhibit multi-layered culture structure. These components, which reflect city identity, are shown in Figure 2 and Table 1.

The buildings and the circles of the different periods which make up the historical city center are effective on the formation of the city. In the scoring chart, the cultural performances within the boundaries of the study area were examined by the local administrations and the spatial performances in creating a quality urban life in the historical city center. In this context, in the scoring table (Table 2), the scores of each structure were evaluated, total and average scores were found.

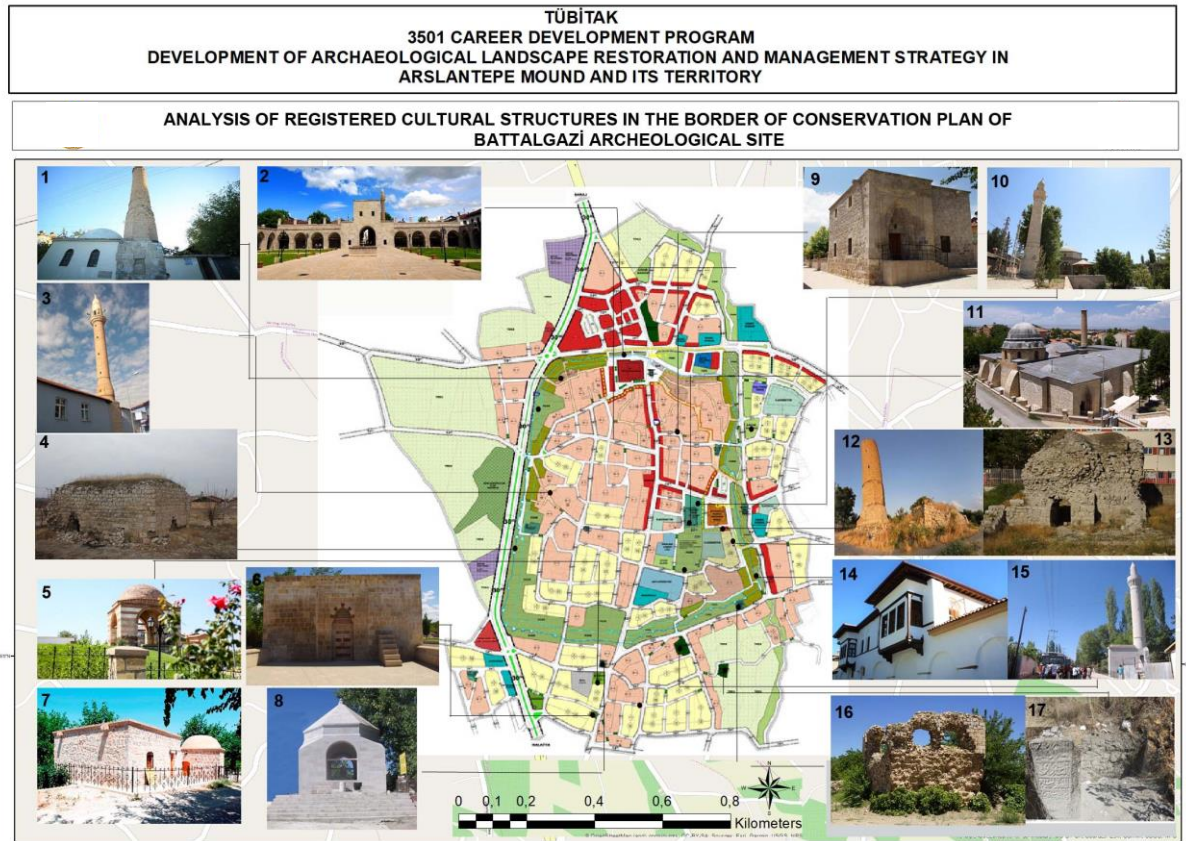


Figure 2. The cultural assets that make up the Battalgazi historical city center (Battalgazi 3rd Degree Archaeological Site and Interaction Area Conservation Development Plan was obtained from Battalgazi Municipality. Photos were taken by Ahmet Kazan from Archive of Battalgazi Municipality)

Impressions on the map (with numbers): 1.Minaret of Melik Sunullah Mosque, 2. Silahtar Mustafa Pasha Caravanserai, 3. Alacakapı Masjid, 4. Zeynel Bey Masjid, 5. Blooded Monumental Grave, 6. Namazgah, 7. Ahmet Duran Masjid and Shrine, 8. Monumental Grave of Nefise Hatun, 9. Emir Ömer Masjid, 10. Akminare Mosque 11. Ulu (Grand) Mosque, 12. Minareth of Halfetih, 13. Madrasah of Şahabiyye-i Kübra, 14. House of Ertunan, 15. Sütlü Minare (Çermik) Mosque, 16. Ancient Malatya City Rampart, 17. Saka Cemetery

Table 1. Protected Cultural Heritage Development Plan (prepared by using Malatya Culture Inventory [21])

Religious-Cultural Structures					
Name	Neighbourhood	Location	Conservation approach	Current Use	Construction Period
Ahmet Duran Masjid and Shrine	Meydanbaşı	Street alley	restoration	Shrine	Ottoman
Akminare Mosque	Meydanbaşı	Street alley	restoration	Mosque	Ottoman
Alacakapı Masjid	Alacakapı	City square	restoration Add.structure	masjid	Ottoman



Emir Ömer Masjid	Alacakapı	Street alley	restoration	Shrine	Ottoman
Minareth of Halfetih	Meydanbaşı	Street alley	-	Not used	Seljukian
Blooded Monumental Grave	Meydanbaşı	On the main street (Osman Ateş Street)	restoration landscape design	Monumental Grave	Seljukian
Minaret of Melik Sunullah Mosque	Meydanbaşı	Street alley	restoration	Not used	Seljukian
Namazgah	Meydanbaşı	On the main street (Malatya Street)	restoration	Monument	Seljukian
Monumental Grave of Nefise Hatun	Meydanbaşı	On the main street (Osman Ateş Street)	restoration	Monumental Grave	Seljukian
Saka Cemetery	Meydanbaşı	Street alley	-	Not used	Ottoman
Sütlü Minare (Çermik) Mosque	Meydanbaşı	On the main street (Meydan Başı Street)	restoration	Not used	Ottoman
Madrasah of Şahabiyye-i Kübra	Meydanbaşı	Street alley	excavation	Not used	Seljukian
Ulu (Grand) Mosque	Meydanbaşı	Street alley	restoration landscape design	Mosque	Seljukian
Zeynel Bey Masjid	Alacakapı	Street alley	-	Not used	Ottoman
Silahtar Mustafa Pasha Caravanserai	Alacakapı	City square	restoration landscape design	Culture center	Ottoman
Archaeological Site					
Necropolis	Meydanbaşı	On the main street (Meydan Başı Street)	Excavation (part of)	Not used	Late Byzantine, Islam
Ancient Malatya	Meydanbaşı	On the main	reconstruction (part of),	Monument	Roman

City Rampart		street (Meydan Başı Street)	landscape design		
Vernacular Architecture					
House of Ertunan	Meydanbaşı	On the main street (Meydan Başı Street)	restoration	Museum	Late Ottoman

The average score was used to compare cultural assets with one another. Intervals in groupings to allow interpretation of values; '1: low / no', '2: medium / partial' and '3: high / available' (Table 3). In this context, cultural assets that provide a high level of spatial quality within the scope of spatial quality parameters, are Silahdar Mustafa Pasha Caravanserai, House of Ertunan, Ulu (Grand) Mosque, Blooded Monumental Grave. 'Silahdar Mustafa Pasha Caravanserai', which is located at the points of the historical city center, has a negative effect on accessibility to cultural asset due to limited availability of pedestrian activities, inadequate parking space available while getting full score on spatial quality parameters (i.e. Sociability, Uses and activities and Comfort and Image)(Fig.3-4).The decision of conversion of 'House of Ertunan' into ethnography museum and the restorations works conducted thereon with the support of the local administration contributed positively to the vernacular architecture. The inability to allow pedestrian movements limits spatial mobility. The 'Grand Mosque' and the 'Blooded Monumental Grave' buildings, which are important cultural components of the historical city center, are particularly distinguished according to the 'Uses and activities', 'service and service units of the quality indicator', 'local business ownership' supporting 'subcomponents (Fig.5-6,7-8). According to the score table, it was observed that these structures, which contributed to the historical texture at high level, had been included in the urban open-green space system with the defined landscape design studies and turned into urban and urban active spaces.

The structures with the lowest total scores (19-20-21 points) in total are: Ahmet Duran Masjid and Shrine, Akminare Mosque, Minareth of Halfetih, Namazgah, Saka Cemetery, Madrasah of Şahabiyye-i Kübra, Zeynel Bey Masjid, and Necropolis. The reasons why these structures receive low scores are failure to convert them into defined spaces due to limited nature of protection and functioning activities or its unavailability, failure to perceive them in the man-made environment, and failure to provide spatial mobility depending on this. According to the average scores obtained as a result of the scoring made as a result of the field studies done on the spot based on the observations, it has been determined that the contribution of cultural assets to the socialization of the historical center of the city is partly by an average of 1.95. It has been observed that cultural assets provide spatial mobility, especially in the context of tourism activities, but that the potential for bringing together resident with social networks related to cultural assets is low. Cultural assets were found to have a low effect on activities and uses in the historic city center with an average of 1.54. It has been determined that financial continuity could not be provided due to the fact that service and service units are inadequate despite recreational potential and touristic value. It has been determined that cultural assets contribute partly to the historical texture, with an average of 2.03 in terms of comfort and perceived image contribution. It has been determined that the structural comforts and silhouette influences of the cultural assets with preservation and functioning applications are high but the urban furniture are insufficient. It has been observed that the landscape applications of cultural assets on the old urban texture and the presence of existing fruit trees (especially apricot trees) and green area contribution are high. It has been determined that cultural assets contribute to the historical texture at a low level with an average of 1.63 in terms of access and linkages.

The fact that some of the cultural assets are on the main street, supported by information and referral signs, increases accessibility and reduces the rate of limited pedestrian movements and lack of defined parking spaces.



Figure 3-4. Silahdar Mustafa Pasha Caravanserai, Before and after restoration and landscape design (Photos were taken by Ahmet Kazan from Archive of Battalgazi Municipality)

Table 2. Parameters and scorecards used in determining the spatial performances of cultural assets (1:Low/none, 2:Medium/partial, 3: High/available) Between (1,1-2,88) ; 1,1-1,69 (Low/ none); 1,7-2,28 (Medium/ partial); 2,29-2,88(High/available)

Registered Cultural Assets	SOCIABILITY				USES&ACTIVITIES					COMFORT&IMAGE				ACCESS&LINKAGES			SCORE		
	Focal point	Perceptibility	Spatial mobility	Social Networks	Recreational	Tourist value	Having service	Local Business	Financially self-sufficient	Building comfort	Defined	Urban furniture	Contribution of	Effect of urban ...	Accessibility	Pedestrian activity	Parking	TOTAL SCORE	AVERAGE SCORE
Ahmet Duran Masjid and Shrine	2	2	2	1	2	2	1	1	1	3	2	1	2	2	2	1	1	28	1,65
Akminare Mosque	2	2	2	1	2	2	1	1	1	2	1	2	2	3	2	1	1	28	1,65
Alacapi Masjid	3	3	3	2	3	3	1	1	1	3	2	3	2	2	3	1	1	37	2,18
Emir Ömer Masjid	2	2	2	1	2	2	1	1	1	3	1	1	2	2	2	3	1	29	1,70
Minaret h of Halfetih	1	2	1	1	1	2	1	1	1	1	1	1	2	2	2	1	1	22	1,29



Blooded Monumental Grave	3	3	3	2	3	3	1	1	1	3	3	3	3	3	3	1	1	40	2,35
Minaret of Melik Sunullah Mosque	2	2	3	2	2	2	1	1	1	2	2	1	2	2	2	1	1	29	1,70
Namazgah Monumental Grave of Nefise Hatun	2	2	2	1	1	2	1	1	1	3	2	1	2	2	2	1	1	27	1,58
Saka Cemetery	2	2	2	2	2	3	1	1	1	3	2	2	2	2	3	1	1	32	1,88
Silahtar Mustafa Pasha Caravanserai	1	1	1	1	1	2	1	1	1	1	1	1	2	1	2	1	1	20	1,17
Sütlü Minare (Çermik) Mosque	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	49	2,88
Madrasah of Şahabiyye-i Kübra	2	3	3	1	2	3	1	1	1	3	2	1	2	3	3	2	1	34	2,0
Ulu (Grand) Mosque	1	2	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	21	1,23
Zeynel Bey Masjid	3	3	3	2	3	3	1	1	1	3	3	3	3	3	3	1	3	42	2,47
Archaeological Site	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	1	19	1,11
Necropolis	3	3	3	2	2	2	1	1	1	2	3	2	3	3	3	1	1	36	2,11
Ancient Malatya City Rampart	3	3	3	2	2	2	1	1	1	2	3	2	3	3	3	1	1	36	2,11
Vernacular Architecture	2	3	3	3	3	3	3	3	3	3	2	3	3	2	3	1	3	46	2,70
House of	2	3	3	3	3	3	3	3	3	3	2	3	3	2	3	1	3	46	2,70

Ertuna n	3	4	3	2	3	4	2	2	22	4	3	3	4	4	4	22	23
	6	0	9	8	5	0	2	2		0	3	1	1	0	4		
	2	2	2	1	1	2	1	1	1,	2	1	1	2	2	2	1,	1,
	0	2	1	5	9	2	2	2	2	2	8	7	2	2	4	22	27



Figure 5-6. Blooded Monumental Grave, Before and after restoration and landscape design (Photos were taken by Ahmet Kazan from Archive of Battalgazi Municipality).

Table 3. The spatial quality levels of the cultural assets formed in the historical city center

High level spatial quality (2,29-2,88)	Medium level spatial quality (1,7-2,28)	Low level spatial quality (1,1-1,69)
Blooded Monumental Grave	Alacakapı Masjidi	Ahmet Duran Masjidi and Shrine
Silahtar Mustafa Pasha Caravanserai	Minaret of Melik Sunullah Mosque	Akminare Mosque
Ulu (Grand) Mosque	Monumental Grave of Nefise Hatun	Minareth of Halfetih
House of Ertunan	Sütlü Minare (Çermik) Mosque	Namazgah
	Emir Ömer Masjidi	Saka Cemetery
	Ancient Malatya City Rampart	Madrasah of Şahabiyye-i Kübra
		Zeynel Bey Masjidi
		Necropolis



Figure 7-8. Ulu (Grand) Mosque, Before and after restoration and landscape design (Photos were taken by Ahmet Kazan from Archive of Battalgazi Municipality).



Figure 9-10. Ancient Malatya City Rampart, Before and after restoration and landscape design (Photos were taken by Ahmet Kazan from Archive of Battalgazi Municipality).

Conclusions

When the historical development of Battalgazi historical city center is examined in terms of urban development, it is known that the historical texture was formed predominantly during the Roman Period, Anatolian Seljukian Period and Ottoman period. Battalgazi, Eski Malatya, which has a long historical background, is also very important in terms of keeping the traces of this diversity. Within the scope of the study, 15 religious-cultural buildings, 2 archaeological sites and 1 vernacular architecture, located within the borders of Battalgazi District '3rd Degree Archaeological Site Area Conservation Implementation Plan' approved in 1996 and entered into force in 2011 and revised by 2017 the spatial performance of the architectural example within the historic city center were assessed. Scoring was conducted by reviewing the structures evaluated as per spatial quality parameters. As a result of scoring, a significant part of the cultural assets has been found to improve the structural comfort features within the scope of the protection (restoration) applications and to be a focal point in this context and to have a high spatial activity. It has been determined that some structures and areas without protection or excavation work have remained in environmental settlement.

Although restoration works conducted in the structures present today increases the perceptibility of such structures, it has been found that the spatial quality is improved by being supported by re-functioning or socio-cultural activities. Silahtar Mustafa Pasha Caravanserai's hosting of different cultural organizations during certain periods of the year and transforming House of Ertunan into an ethnographic museum are increasing the spatial value of these structures. On the other hand, the conservation work done in the historical doctrine constitutes a debate in the sense that it reflects the original value of cultural assets. The reconstruction of the 550-meter section of the city wall, which is known to have been built during the Roman period, has been criticized for its failure to reflect the original

value of its cultural heritage and damage to existing remains (Fig.9-10). When the existing conservation-oriented development plan is examined, the fortification wall is proposed as a green area. On-site inspections have shown that areas designated as parks are used as agricultural areas and fruit gardens in the conservation development plan. It is planned to provide pedestrian access among the cultural assets in the conservation development plan. According to the plan decisions, it is planned to provide access to the square where caravanserai is located and the access to the square by providing access to the pedestrians in Çukurpınar, Selvi and Hanardi Streets, to preserve the template and alignments. Within the scope of this decision, street health education work was done by the related local government and it was closed for street traffic. This application was awarded the Achievement of the Year Award in 2010 as a result of the Competition on Protection of Historical and Cultural Heritage, Promotion of Project Applications. It is required to urgently realize zoning plan decisions for uses and activities and accessibility in order to highlight the historical city center in order to highlight historical, environmental and cultural values of Battalgazi historical city center and to increase the spatial quality. Especially, it is suggested to plan as a corridor with the existing green space that the pedestrian access can continue without interruption along the wall with high potential of green space. Additionally, a cultural path should be planned in a manner ensuring the connection of all the cultural assets. It should also be ensured that the usage of environment friendly public transportation system, causing minimum damage to the ancient monument, is generalized within the scope of planning the cultural path, as set forth by Latinopoulou et.al [22] in their studies. On the other hand, the spatial and functional description of the historic city center requires to increase social and economic activities (traditional trade, production and sales) to be increased and to offer it for use by re-functioning. Increasing the traditional economic activities in historical environments will facilitate the functional integration of cultural heritage into the modern life by supporting the ecological development, particularly in rural areas [23].

Historical environments that serve cultural, recreational and aesthetic purposes within the urban open-green space system are important components of the historical city that provide continuity with the natural environment and urban spaces within the conservation-use balance. Ensuring the continuity of cultural heritage in urban areas is directly correlated to integrated planning decisions, where the negative impacts on environment are minimized by generalizing the rational pedestrian areas by means of using eco-friendly and energy saving technologies and intelligent alternative transportation means; as well as adopting strategies that stipulate strengthening up of the traditional neighbourhood relations within socio-cultural context, while increasing the life quality considering the active green area density [24].

Increasing the spatial quality of historical environments is important in terms of strengthening the identity of the city and ensuring sustainability within cultural tourism as stated in "Recommendation on the Historic Urban Landscape" which is declared by UNESCO World Heritage Committee in 2011 [25].

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