

The Contributions of Competitions to Cities and Urban Design: Merzifon Municipality's Business and Life Center Architectural Project Competition

Bariş Ergen Erciyes University, Turkey, <u>ergenbaris@gmail.comr</u>

Abstract: Competitions are a significant means of focusing on specific spaces in cities and forming public opinion. Competitions result in many professionals such as architect, urban planners, urban designers, landscape architects, civil engineers, etc. proposing lots of designs for the same space, and thereby submitting various solution offers for it. Therefore, competitions are important not only for their results, but also for increasing knowledge about the occupational groups of design and the shaping of urban open spaces and built environments, in other words, cities. This study analyzes competitions' contributions to urban design based on the experience of Merzifon Municipality's Business and Life Center Architectural Project Competition. The discipline of urban design, which plays an important role in forming the urban open spaces and built environments, is enriched by competitions. The approaches developed in the projects that compete for the urban spaces focused on the competitions play an important role in shaping cities

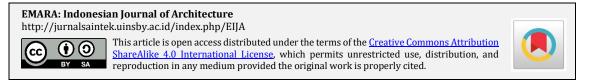
Keywords: : Urban Design, Urban Design Objectives, Urban Built Environment, Competitions

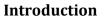
Abstrak

Kompetisi adalah sarana penting untuk memusatkan perhatian pada ruang-ruang tertentu di kota-kota dan membentuk opini publik. Kompetisi menghasilkan banyak profesional seperti arsitekt, perencana kota, perancang kota, arsitek lansekap, insinyur sipil, dll. mengusulkan banyak desain untuk ruang yang sama, dan dengan demikian mengajukan berbagai penawaran solusi untuk itu. Oleh karena itu, kompetisi penting tidak hanya untuk hasil mereka, tetapi juga untuk meningkatkan pengetahuan tentang kelompok pekerjaan desain dan pembentukan ruang terbuka perkotaan dan lingkungan binaan, dengan kata lain, kota. Studi ini menganalisis kontribusi kompetisi untuk desain perkotaan berdasarkan pengalaman Kompetisi Proyek Arsitektur Pusat Bisnis dan Kehidupan Kota Merzifon. Disiplin desain perkotaan yang berperan penting dalam pembentukan ruang terbuka perkotaan dan lingkungan binaan diperkaya dengan kompetisi. Pendekatan yang dikembangkan dalam proyek yang bersaing untuk ruang kota yang berfokus pada kompetisi memainkan peran penting dalam membentuk kota.

Kata Kunci: Desain Perkotaan, Tujuan Desain Perkotaan, Lingkungan Binaan Perkotaan, Kompetisi

Received: 2021-04-10 | Accepted : 2021-11-20 | DOI: 10.29080/eija.v7i1.1212 | Page: 1 - 8





The Contributions of Competitions to Cities and Urban Design



ISSN 2460-7878 (print) - 2477-5975 (Online) jurnalsaintek.uinsby.ac.id/index.php/EIJA Vol 7, No 1, 2021

(Liang, 2016) indicates that the disciplines of architecture, urban planning and urban design have complicated structures during the process of design. Urban design is a multidimensional occupational discipline. It covers subjects such sociology, anthropology, as psychology, urban policies, urban economies, ecology, health sciences, urban geography and art, law, real estate valuation and engineering as well as theories such as architecture, landscape architecture, urban planning (Carmona, 2014). Urban design aims to shape urban built environments, urban architecture and space formation using urban components, forms, surfaces and physical components (Zhang et al., 2004). Urban design also describes the process of defining, improving and modifying urban spaces (Bell, 2005). Urban design means the process of improving urban spaces using distance, material, scale, volume, images, planting, space use, water, roads, architectural styles and many other criteria that affect built environments (Sternberg, 2000). In addition, urban design is the junction of three-dimensional design and people's requirements (Ellis, 2014). Therefore, urban design can be defined as the profession that shapes the physical environment and space (Sternberg, 2000). (Radford, 2010) defines urban design as integrating people with transportation, urban form, natural and built environments and urban space, and designing spaces which are formed with an identity and an aesthetic within the framework of environmental management, social equality and economic livability.

(Topcu & Topcu, 2012) state that the literature adopts four approaches in the urban design and spatial formation for the use of the land identified and designed in planning studies: 1) sociological approaches related to the space-place relationship that emphasize historical and cultural values,

2) a human needs approach related to space,

3) perception-based cognitive, psychological and visual-aesthetic approaches that orient design, and

4) design approaches based on urban activities and urban forms (Topçu, 2011).

Based on those information, competitions can be evaluated as follows:

Competitions involve processes that raise public awareness about competition spaces, including the integration of the current pattern in terms of structure, as well as visual and aesthetic approaches (Hawkes, 1999). Competitions are generally used to solve real urban problems and needs (Alexander & Witzling, 1990). Therefore, they also address the users' need for urban activities. Focal spaces are identified in urban design competitions, which are based on integrating this focal space with the city and addressing it within the scope of urban form. At this point, specialists in the protection of the historical pattern, urban morphology, transportation, urban infrastructure and real estate are required to integrate the focal space with the city in urban design competitions (Eley, 1990; Sagalyn, 2006; White, 2014a). Therefore, competitions include the four approaches indicated by(Topcu & Topcu, 2012) for spatial formation in urban design. Competitions also play an important role in shaping urban built environments as indicated by(Zhang et al., 2004) and (Sternberg, 2000).

Design through Competition and Urban Design

"Competitions are of importance to the design professions, but also to the general public who will live with the results. It is not just who wins competitions that matters, it

The Contributions of Competitions to Cities and Urban Design



is how the results of competitions will shape our environmen" (Eley, 1990).

Competitions are among the main subjects in the discipline of architecture (Lipstadt, 2013). Urban planning and design through competitions is not a new concept (Bern, 2018; Davison et al., 2018). Architectural design, urban design and urban planning through competitions have a long history, and public institutions have been making regulations since the Renaissance (Liang, 2016; Lipstadt, 2013; White, 2014b). Western countries have used national competitions as an important means to encourage excellence in design(Ollswang, 1990; Pantel, 1994; Punter, 2005; Spreiregen, 1979; White, 2014b). The literature, particularly on competitions, urban design mostly emphasizes the results and aims of competitions in search of excellence (Alexander & Witzling, 1990; Garde, 2014; Lehrer, 2011). However, urban design competitions do not only affect results. As Erten emphasized in 2016, urban design competitions accelerate, shape and direct the processes of urban design project production qualitatively and quantitatively. In addition, competitions provide contemporary architecture and urban interpretations (Mikelsone, 2016). In brief, competitions can be defined as comprehensive laboratories of aesthetic and spatial design (Larson, 1994; Lipstadt, 1989; Malmberg, 2006; White, 2014b). (Lehrer, 2011) defines competitions as the process of offering creative suggestions and ideas to juries regarding design rather than standard consultations.

Competitions can be open to all participants, open to limited participants, open only to invited participants, conceptual or idea competitions, or singleor multi-stage competitions (Davison et al., 2018; Eley, 1990; Lehrer, 2011). Thus, there are a variety of types of competitions. The important point is whether the competition is intended to contribute to the ideal or practical aspect because competition results can be put into practice afterwards. Although competitions make a great contribution to the design professions, the literature emphasizes that they have both positive and negative aspects, which can be summarized as follows:

The Positive Aspects of Competitions

(Liang, 2016) refers to(Adamczyk, 2004) and indicated that it allowed for discussion of the possible effects of the projects created in the architectural and urban design competitions on urban space and contributed to raising public awareness. The Royal Institute of British Architects (RIBA, 2012) and (Liang, 2016) emphasize that the same study addressed competitions as an important means to increase the quality of designs. Dubbeling et al., (2013) and Mikelsone (2016) claim that competitions enable the creation of new large-scale ideas in design and attract public attention and discourse to the area where the competition is held.

Criticisms of Competitions

(2016) indicates (Liang that competitions are criticized because they distance people from architectural and planning solutions due to the strict rules of their current format, the lack of communications with the jury, and their effects on personal and professional experience. Liang, (2016) refers to Nasar's study (1999) and indicates that competitions distort the design process and the expectations of the clients, users and designers cannot be fully understood. (Erten, 2016) points out the weakness of such exhibitions after stages as competitions, which are significant parts of competitions (particularly urban design competitions), publishing reports, and colloquia, in which the competition stages

The Contributions of Competitions to Cities and Urban Design



are explained, and which contribute to professional experience.

Erten, (2016) emphasizes that the images of winning projects are particularly published, but usually only the images, that the competition processes are not sufficiently documented, and that the projects submitted for the final stage of the competition are not always clear. Erten also notes that processes such as exhibitions after competitions, publishing reports and colloquia are required for competitions to continuously evolve.

Merzifon Municipality's Business and Life Center Architectural Project Competition

Merzifon Municipality's Business and Life Center Architectural Project Competition was announced in the Official Gazette number 30151 published on August 11, 2017. November 9, 2017 was set as the deadline for the participant projects. It was announced that the results would be disclosed on November 17, 2017. The exhibition and colloquium were held on November 25, 2017.

The Aim of the Competition

The aim of the competition was to provide a modern business and life center that would strengthen the city's sociocultural and economic life and contribute to revitalizing the city center. The competition was intended to promote unique, high-quality design approaches, and functional and innovative solutions that can shed light on today's architecture; and to encourage the use of public open spaces and sustainable contemporary, economic and social solutions in architecture and all fields of engineering. It was also intended to identify the projects and heads of project teams that encourage fine arts and exhibit а modern environmental and architectural approach that will increase the quality of urban life being impressed by the factors of environment, climate and human needs (the competition specifications).

The Type and Form of the Competition

The competition specifications stipulated the type and form of the competition was to be a free, national single-stage architectural project competition initiated in accordance with Article 23 of the Public Procurement Law Number 4734, and the Regulations on Architecture, Landscape Architecture, Engineering, Urban Design Projects, Urban and Regional Planning and Artwork Competitions (the competition specifications).

Method

Merzifon Municipality's Business and Life Center Architectural Project Competition attempted to develop an urban design approach in addition to architectural design approaches since the space is located near the preserved area in the city center. The project's aim was to design a structure that is integrated with the city, relates to the preserved area, and can bring various types of users together with a variety of functions. The project also planned to protect the office block's courtyard so that its urban character would be maintained.

The Subject and Place of Competition

The competition specifications stipulated that the subject of the competition was to design a business and life center with blended use which support trade and life-long education on the city block identified by the zoning plan. The space for the competition was determined as parcel 1 on the 418th block of Hal Street in the Harmanlar neighborhood of Merzifon District in Amasya (the competition specifications).

The competition space is located close to a region where shopping, meeting and separating functions are intensely used

The Contributions of Competitions to Cities and Urban Design



because it is close to the district's main pedestrian artery, Hal Street. The space is located south of Cumhuriyet Square in the city center, northeast of the historical and touristic Tuz Pazarı Turkish Bath in the preserved urban area and southwest of the PTT building. The competition space is surrounded by retail trade areas and housing (competition specifications).

The main reason why the municipality selected this competition space was that its office block structure did not meet the district's changing and developing requirements. Merzifon Municipality's main expectation was that the business and life center to be designed would include business and social activities and enrich its environment (competition specifications).

Result and discussion

The seven objectives of urban design determined by the Commission for Architecture & the Built Environment (CABE, 2000) were used as the study method.Carmona et al., (2003) lists them as: character, continuity and enclosure, quality of the public realm, ease of movement, legibility, adaptability, diversity (CABE, 2000). These urban design objectives were used as guidelines for every stage of the design as stipulated by Merzifon Municipality's Business and Architectural Life Center Project Competition.

Character: It was aimed that the building would allow contribution to the urban identity with its unique character and create an urban symbol. It was intended that the inner courtyard of the commercial building would be preserved in the proposed design One of the significant approaches of the project was to protect the urban character by leaving a trace of urban memory with the inner courtyard design. The aim was to offer the

functions in the different formation in a way to allow for visual and physical relationships. Figure 1 shows a proposal regarding urban memory and character.



MPETITION CURRENT STUDATION OF MAINTAIN OF URBAN MEMORY AREA AREA AREA IN URBAN MEMORY NEW COURTYARD SUGGESTION

Figure 1. The Design Process and Urban Character

Although the general characteristics of the surrounding urban pattern were structured to be adjacent at the block scale, the project attempted to create visual effect by designing an integrated pattern on the ground level and separate blocks at higher elevations. It was aimed to put an emphasize on repetition with an urban design that especially refers to the pattern of the adjacent buildings. Figure 2 shows that the two-block design was intended to eliminate the boring effect of repetition



Figure 2. Character and Formation of the Building

Continuity and Enclosure: The design of the building emphasized continuity. The axis from Hamamlar Street to Şerbetçi Street ensures urban continuity by connecting to the preserved area where the covered bazaar is located through Hal Street with indoor passages in the proposed design. The small square seen in the right corner of Figures 2 and 3 and the Hal Street entrance of the building plays meeting and separating roles in public space. The distinction between public and private spaces is clearly seen in urban

The Contributions of Competitions to Cities and Urban Design



continuity since the focal space of Merzifon Municipality's Business and Life Center Architectural Project Competition involves public-oriented use.



Figure 3. Continuity, Enclosure and Relationship with Public Space

Relationship with Public Spaces: Street continuity was intended to be protected by designing passages through the building. The citizens' relationship with the building was formed with the open space in front of the building on Hal Street. The proposed design enables the evaluation of urban space as a mutual living area. It was aimed to allow a variety and richness of uses and functions by creating a surprising, transparent, light and permeable public space. The aim was to design user-friendly spaces where individuals feel safe, unconcerned and comfortable. Figure 3 shows the relationship of the proposed building with public spaces. The building was intended to be designed to attract citizens to it.

Ease of Movement: The pedestrian transportation and access developed and continued in the local pattern was designed to be protected by spatial configuration. Figure 4 shows the relationship of the project space with the historical square in the preserved area. Pedestrians can access the project space from the historical square and then access Muammer Aksoy Street through the building.

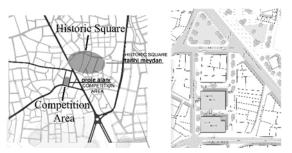
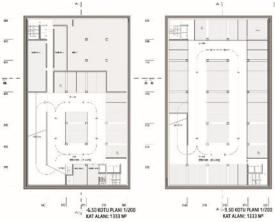
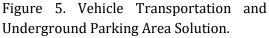


Figure 4. Ease of Pedestrian Access and Transportation

line with vehicle In the one-way transportation, а 60-vehicle closed parking area was proposed. It can be entered from Muammer Aksoy Street. Figure 5 shows the parking area solutions formed by the project. In this way, it was aimed to provide access to the Merzifon Municipality Business and Life Center by vehicle.





Urban Legibility: The building's facade was designed to have a visual effect from the point of view of the preserved urban area where the covered bazaar is located. Figure 6 shows the night view from the preserved area. The design was intended to make the building perceptible in the urban space by enabling a variety of activities with different intensities to form a specific pattern in a defined space that support each other. A plain architectural

The Contributions of Competitions to Cities and Urban Design



language was used to design the facade. In addition, legibility was increased in the urban space by enabling the building to have a variety of functions.

Adaptability: A design which makes the building's functions legible at human scale and from the outdoor and increases its perceptibility in the space where it is located was focused. The building was designed to guide its users with a scale and size appropriate to the preserved area. The building was intended to be able to adapt to its environment in terms of scale, proportion, height and size in the space of the old building.



Figure 6. Urban Legibility

Diversity: The fact that two different functions were integrated on the ground level and underground in the same building allows different users to come together. In addition, the building's functional diversity was attempted to be reflected on its envelope. Figure 7 shows the location of the education units and the multi-purpose hall as well as the solution for the office units. Functional diversity unites spatial and user diversity.



EDUCATION UNITS MULTI-PURPOSE HALL OFFICE UNITS Figure 7. Functional Diversity

Sustainability: Considering the building's formation in two separate masses in the

third dimension and the predominant wind direction, northeast to southwest, natural air circulation and natural air conditioning were taken as a basis in the space through a pattern of climatic inner street and the courtyard. Since the effects of the Black Sea climate is seen in Merzifon, even slightly, a shady inner court was designed to reduce air circulation, the effect of humidity and the summer continental climate (see Figure 8).

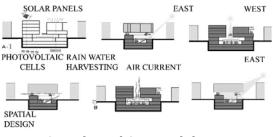


Figure 8. Ecological Sustainability

The business and life center were designed to have two stories in order to allow the inner courtyard to benefit from the solar heat during the mid-seasons; thereby the natural light and heat was used at both lower and higher elevations. The building is closed to the west in order to reduce the greenhouse effect that can arise in hot seasons. In addition, a design was submitted to form a shady, livable public space to the east on Hal Street. A plain architectural discourse that is sensitive to the city's geographical characteristics, climate, ecology and social life.

Architecture, urban planning and urban design competitions are important means for sharing professional experience and thus improving professional practices. Winning projects best meet the juries' expectations and have the best designs. The important most point about competitions should not be overlooked is that many ideas and projects are submitted for the same space. İsmet Okyay in (Dufrenne, 2011) indicate that more interpretations will arise if an artwork is

The Contributions of Competitions to Cities and Urban Design



seen by more people in different periods of time, and emphasize that meaning is unlimited. Different interpretations by different users, holders of the competition, jury members and design professionals, which will arise during competitions, after the panel and from the publications that announce the competition results, will enrich its meaning, which will bring along the spatial context richness. Competitions allow the emergence of many different interpretations for the same space. Thus, the urban space receives many interpretations other than just the winning project. The contribution made to the urban context is submitted to designers, users and juries through the exhibition of the competing projects and colloquia. This ensures that not only the winning project, but all of the projects in the competition contribute to the city

Conclusion

Merzifon Municipality's Business and Life **Center Architectural Project Competition** received 239 projects with a variety of ideas and designs for the same space. The competition included four-stage а elimination. In the first stage, 48 projects were eliminated. In the second stage, 93 projects were eliminated. In the third stage, 58 projects were eliminated. In the fourth stage, 32 projects were eliminated and then the winning projects were selected. Project number 17263, which submitted to the competition, was eliminated in the third stage of the competition's four-stage evaluation process.

Each project introduced different interpretations for parcel 1 on the 418th block of Hal Street in the Harmanlar neighborhood of Merzifon District in Amasya. Project number 17263 was an attempt to produce an architectural solution for the competition space and develop an urban design approach in line with the city's character and addresses a variety of user groups with functional diversity. An approach in line with the urban character was adopted for the urban design following the guidelines of CABE (2000) and Carmona et al. (2003). The structure was designed to ensure continuity in the urban pattern, to contribute to urban legibility, and to offer a diversity in terms of urban functions.

Funding statement

The author state there is no conflict of interest related to funding in this study

Acknowledgment

The author would like to thank to design team of project.

References

- Adamczyk, G. (2004). Architectural competitions and new reflexive practices. https://www.ccc.umontreal.ca /PDF/2004_ADAMCZYK_archit ectural.PDF
- Alexander, E. R., & Witzling, L. P. (1990). Planning and urban design competitions: Introduction and overview. Journal of Architectural and Planning Research, 7(2), 91– 104.
- Bell, W. (2005). Progressing Process in Urban Design. *Urban Policy and Research, 23*(3), 371–376. https://doi.org/10.1080/0811 1470500218791
- Bern, A. (2018). Architecture competitions in an urban planning context. Journal of Urban Design, 23(2), 239–256. https://doi.org/10.1080/1357 4809.2017.1336421
- CABE. (2000). Urban design in the planning system: Towards better practice by design. Department of the Environment, Transport

The Contributions of Competitions to Cities and Urban Design



and the Regions. https://www.academia.edu/30 960485/Urban_design_in_the_p lanning_system_towards_better _practice_by_design

- Carmona, M. (2014). The Place-shaping Continuum: A Theory of Urban Design Process. Journal of Urban Design, 19(1), 2–36. https://doi.org/10.1080/1357 4809.2013.854695
- Carmona, M., Carmona, R., Heath, T., Oc, T., & Tiesdell, S. (2003). *Public Places, Urban Spaces: The Dimensions of Urban Design*. Architectural Press.
- Davison, G., Freestone, R., Hu, R., & Baker, S. (2018). The impacts of mandatory design competitions on urban design quality in Sydney, Australia. *Journal of Urban Design*, *23*(2), 257–277. https://doi.org/10.1080/1357 4809.2017.1337497
- Dubbeling, M., Goethals, S., & Stephens, R. (2013). Urban Planning and Design Competitions. *Oregon Planners' Journal, winter*, 14-16.
- Dufrenne, M. (2011). *Phénoménologie de l'expérience esthétique* (PUF edition). PUF.
- Eley, J. (1990). Urban Design Competitions: A British Perspective. *Journal of Architectural and Planning Research*, 7(2), 132–141.
- Ellis, C. (2014). Process and Principles in Urban Design. *Journal of Urban Design*, *19*(1), 47–48. https://doi.org/10.1080/1357 4809.2014.854680
- Erten, S. (2016). Analysis of an urban design competition: The case of Edirne/Selimiye and the discussion of "vehicular road in a historic core". *Journal of Planning*.

https://doi.org/10.5505/planl ama.2016.53824

- Garde, A. (2014). Citizen Participation, Design Competition and the Product in Urban Design: Insights from the Orange County Great Park. *Journal of Urban Design*, 19(1), 89–118. https://doi.org/10.1080/1357 4809.2013.854697
- Hawkes, D. L. (1999). An exploration into aesthetic control practice, implementation and problems in Battery Point [Unpublished Thesis]. University of Tasmania. Australia.
- Larson, M. S. (1994). Architectural competitions as discursive events. *Theory and Society*, *23*(4), 469–504. https://doi.org/10.1007/BF00 992825
- Lehrer, U. (2011). Urban Design Competitions. In T. Banerjee & A. Loukaitou-Sideris, *Companion to Urban Design* (pp. 304–316).
- Liang, Z. (2016). Rethinking Design Competitions to Promote Urban Development—A Comparative Analysis—A case study of contemporary international design competitions in Finland and China (Publication series doctoral dissertations). Aalto University. https://aaltodoc.aalto.fi:443/h

https://aaltodoc.aalto.fi:443/h andle/123456789/23476

- Lipstadt, H. (1989). The Experimental Tradition. In H. Lipstadt, *The Experimental Tradition: Essays on Competitions in Architecture* (pp. 9–19). Princeton Architectural Press.
- Lipstadt, H. (2013). Experimenting with The Experimental Tradition, 1989-2009: On Competitions and Architecture

The Contributions of Competitions to Cities and Urban Design



Research. *NA*, *21*(2–3), Article 2–3.

http://arkitekturforskning.net /na/article/view/84

Malmberg, C. (2006). Introduction. In C. Malmberg (Ed.), *The Politics of Design: Competitions for Public Projects* (pp. 29–52). olicy Research Institute for the Region.

https://www8.gsb.columbia.ed u/researcharchive/articles/35 86

- Mikelsone, I. (2016). Architectural competitions as an instrument for heritage protection: The dynamics of competition taxonomy. *Journal of Architecture and Urbanism*, 40(4), 272–282. https://doi.org/10.3846/2029 7955.2016.1246985
- Nasar, J. L. (1999). Design by Competition: Making Design Competition Work. Cambridge University Press.
- Ollswang, J. E. (1990). Successful Competitions: Planning for Quality, Equity and Useful Results. *Journal of Architectural and Planning Research*, 7(2), 105–113.
- Pantel, G. (1994). Design Control in German Planning. Built Environment (1978-), 20(2), 104–112.
- Punter, J. (2005). Urban design in central Sydney 1945–2002: Laissez-Faire and discretionary traditions in the accidental city. *Progress in Planning*, 63(1), 11– 160.

https://doi.org/10.1016/j.prog ress.2004.06.007

Radford, A. (2010). Urban design, ethics and responsive cohesion. *Building Research & Information, 38*(4), 379–389. https://doi.org/10.1080/0961 3218.2010.481437

- RIBA. (2012). Royal Institute of British Architects Competitions Guidance for Clients. Royal Institute of British Architects. https://www.ribacompetitions. com/guides/RIBA_Competition s_Client_Guide_booklet.pdf
- Sagalyn, L. (2006). The Political Fabric Competitions of Design Columbia Business School Research Archive. In С. Malmberg (Ed.), The Politics of Design: Competitions for Public Projects (pp. 29–52). olicy Research Institute for the Region. https://www8.gsb.columbia.ed u/researcharchive/articles/35 86
- Spreiregen, P. D. (1979). *Design Competitions*. McGraw-Hill.
- Sternberg, E. (2000). An Integrative Theory of Urban Design. Journal of the American Planning Association, 66(3), 265–278. https://doi.org/10.1080/0194 4360008976106
- kadriye. (2011). Alisveris Topçu, alanlarının mekânsal kalite açısından *değerlendirilmesi:* Karsılastırmalı bir analiz [Doctoral Thesis, Selcuk university]. https://9lib.net/document/eq og8p7z-alisveris-alanlarininmekansal-kalite-acisindandegerlendirilmesikarsilastirmali-analiz.html
- Topcu, K. D., & Topcu, M. (2012). Visual Presentation of Mental Images in Urban Design Education:Cognitive Maps. *Procedia - Social and Behavioral Sciences*, 51, 573–582. https://doi.org/10.1016/j.sbsp ro.2012.08.208

The Contributions of Competitions to Cities and Urban Design



- White, J. T. (2014a). Design by Competition and the Potential for Public Participation: Assessing an Urban Design Competition on Toronto's Waterfront. Journal of Urban Design, 19(4), 541–564. https://doi.org/10.1080/1357 4809.2014.923744
- White, J. T. (2014b). Extending Dialogue in a Design Competition? 5th International Conference on Competitions, 32. http://citeseerx.ist.psu.edu/vie wdoc/download?doi=10.1.1.94 7.9817&rep=rep1&type=pdf
- Zhang, X., Zhu, Q., & Wang, J. (2004). 3D City Models Based Spatial Analysis to Urban Design. *Geographic Information Sciences, 10*(1), 82–86. https://doi.org/10.1080/1082 4000409480658

The Contributions of Competitions to Cities and Urban Design