



# The Improvement of the Quality of Public Spaces on the Example of Student Competition Designs: A Case Study

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**Abstract.** The paper discusses the modernisation of public spaces being the subject of conceptual competition designs produced by students of the Faculty of Architecture of the Silesian University of Technology. The design phase was preceded by extensive studies. As a result of these activities, design findings and guidelines were formulated. They were framed in order to improve the discussed public spaces by means of the modernisation of functional, formal and ergonomic aspects. As a result, various architectural designs taking into account contemporary requirements related to this kind of facilities were produced. The paper proves that a competition for an architectural concept enables a broader look at the discussed issues, shows a full spectrum of solutions and, as a consequence, contributes to the improvement of the quality of discussed public spaces. The positive effect is, however, conditioned on the necessity to perform a wide spectrum of analyses and pre-design studies.

**Keywords:** Human factors · Public spaces · Sustainable architecture  
Urban planning · History of Architecture

## 1 Introduction

The paper discusses the modernisation of public spaces being the subject of conceptual competition designs produced by students of the Faculty of Architecture of the Silesian University of Technology in Gliwice.

The purpose of the work is to prove that such activities can result in a radical change and improvement of the quality of public spaces.

The study method used is a case study, and design examples are analysed against contemporary movements and trends.

The scope of the discussed issues covers two architectural competitions announced, organised and adjudicated by the Faculty of Architecture together with external institutions in the years 2015–2017. They were related to native areas located in Silesia. The first one involved modernisation of spaces around preserved fragments of historic defensive walls of the City of Żory, and the second one was related to the modernisation of the Steam Engine open-air museum within the Historic Silver Mine in Tarnowskie Góry. Both topics were taken up by the students of the first semester of the

master's degree programme. The paper presents selected competition works prepared under the charge of the author of the paper, describing their basis objectives.

## 2 Contemporary Public Spaces

Public spaces are an important element of harmonious, urbanised space. Their quality is one of the most important elements deciding about the attractiveness of a town both as a place where the residents live and work and as a destination for tourists. Good public space is a peculiar 'identification' and an element of identity expressing the success and aspirations of the city [1].

Unfortunately, we can currently observe numerous negative phenomena in this area. The most important ones include:

- shrinking or dividing public areas,
- privatisation of public space,
- annexation of space by cars,
- residential areas that prevent the access of third parties.

These factors have a negative influence on the quality of life in towns and cities [2].

The Third Congress for the Development of Polish Towns Cities in 2009 has defined public spaces in the social and economic field as areas used and shaped for a particular purpose, being in line with social principles and values, the aim of which is to meet the needs of not only social communities. The demands related to the protection and efficient management of public spaces included:

- maximising the values of the town and its properties by creating high quality public spaces,
- complex local and urban planning of public spaces based on the results of urban architectural competitions,
- social involvement in the creation of public space development and management tools with the active participation of local communities in the process of the preparation of planning documents,
- protection of the cultural heritage and local uniqueness as special qualities of public spaces,
- balanced development of public spaces in relation to the revitalisation of historic spaces,
- access to the public space and the minimisation of conflicts during their development and use,
- shaping public spaces that integrate social groups, respecting their various needs and systems of values.
- active use of public spaces for the purposes of local events [3].

### 3 Public Spaces in Student Competition Works

In the case of both competition themes taken up at the Faculty of Architecture, the design phase was preceded by extensive studies such as: in-situ studies, urban, architectural or historical analyses. As a result of these activities, design findings and guidelines were formulated. They were formulated in order to improve the discussed public spaces by means of modifications and modernisation of functional, formal and ergonomic aspects as well as accessibility (also for disabled persons) and visual information. As a result of the formulated guidelines, various architectural and urban designs in response to contemporary requirements related to this kind of facilities were produced. Despite similar findings from conducted pre-design studies, the produced designs were very diverse and underlined the extensive potential of the analysed areas.

#### 3.1 The Context of a Medieval City

The first of the discussed student competitions entitled ‘The design concept of the reconstruction of historical elements of urban defensive walls in Żory, including a spatial development design covering the area between Bramkowa and Ogradowa streets was announced at the Faculty of Architecture in the academic year 2015/2016. Substantive aspects were managed by the Team for the History of Architecture and Monument Preservation, and the Municipal Office of Żory was a strategic partner. The design was prepared as part of ‘Conservatory Design’ subject, under the supervision of Magdalena Żmudzińska-Nowak, Associate Professor, PhD, Eng. Arch. The competition objectives included areas associated with the remains of medieval defensive walls. A 137.4 m fragment of brick defensive walls surrounded the town on the south side. Its height from the ground level ranges from 5.5 to 6.5 m. Despite numerous preservation works and future restructuring, its form is still very attractive and explicitly moves us to medieval times. The curiosities include a joint that is clearly visible in the wall face, which formed as a result of the integration of two of its sections, probably built from opposite directions [4]. Currently, poor exposure is the greatest problem of the discussed area. Moreover, it separates two adjacent plots, one of which is, in fact, a parking lot and the other one consists of unarranged greenery. The area from Bramkowa street comprises, apart from a parking lot for several dozen cars, a small public green area and a public toilet facility. It should be added that there is another, larger parking lot several meters away. Parking along streets is also possible. One can conclude that such a structure satisfies, or even exceeds local parking needs. However, scarcity of urban greenery areas is visible. The fact that the historic defensive wall separates both spaces, hindering the communication in the town, is also problematic. Previous modernisation concepts involved the formation of a hole in the medieval wall in order to solve this problem. In the course of the performed analyses, the student group decided that such a solution would damage the structure of the monument too much, therefore attempts were made to join the two areas in a different way. It was found that it can be made above or under the medieval defensive wall. The elimination of a parking lot from the plot at Bramkowa street was another important issue. It was also found that the opposite plot from Ogradowa street should be available for the residents and tourists visiting the town. The combination of these two spaces will turn

the discussed area into public space. Through these activities, the medieval monument will be properly exposed and can become a tourist attraction of the town as well as a rightful public space for the residents. It was also decided that, in order to make the area attractive, new functions for the residents and tourists should be added. As a result of analyses in the context of the immediate surroundings and the entire town, certain deficiencies in the town infrastructure were observed. They included, among other things: lack of a tourist information point, insufficient supply of catering services as well as few public toilets. It was also found that it would be interesting to look at the city from a higher perspective that is, from the wall top, or even have a bird's eye view.

The above-mentioned problems were tackled by student designs, of which the work entitled an observation tower with a gallery and a multifunctional pavilion (oryg. *Wieża widokowa z galerią i pawilon wielofunkcyjny*) by the team composed of Monika Grabowska, Eng. Arch., and Adrian Duda, Eng. Arch. is particularly noteworthy. According to the author, it contributes to the improvement of the quality and the creation of attractive public space to the greatest extent. The main objective of the design concept was to link both areas with the use of high quality contemporary architecture and create modern public space having all required functions. The design involves, among other things, the liquidation of a parking lot in favour of a public space including street furniture and recreational space diversified in terms of height. It simultaneously exposes the preserved defensive wall by means of the contrast with new architectural elements, such as: an observation tower and a multifunctional pavilion. It houses the Municipal Information Point, a bistro café and a plumbing system. Vertical communication offers the access to the observation gallery, which in a way symbolises a medieval guard gallery – a hoarding. So we can use a contemporary gallery to pass over the medieval defensive wall to the observation tower, from which we can admire the panorama of the town. As a result of urban analyses, the tower is located within the viewing axis of one of the streets, which enables us to see the tower of the oldest St. Philip and Jacob Church in the town. From Bramkowa street, there is also a modern portal that can enable the communication to the other side of the wall or only serve as a formal or compositional element, highlighting the above-described wall joint (Fig. 1). From Orodowa street, there is natural public space also including elements of street furniture, which was intentionally called an urban garden. On this side of the wall, there is an observation tower that dominates in terms of space, the purpose of which is to signal the discussed area and attract residents as well as tourists (Fig. 2). The entire area is available for people with limited mobility and disabled persons thanks to gentle gradients and lifts in cubic facilities [5].

### 3.2 In the Spirit of the Industrial Revolution

The second discussed student competition entitled *A design concept for the development of the Steam Engine Open-Air Museum within the Historic Silver Mine in Tarnowskie Góry* was organised in the academic year 2016/2017, also as part of the Conservatory Design programme. Substantive supervision was provided by Magdalena Żmudzińska-Nowak, Associate Professor, PhD, Eng. Arch., and Tarnowskie Góry Land Lovers Association acted as a project partner. The organisation of the competition coincided with the efforts of the authorities of the Association to ensure the entry of the



**Fig. 1.** The design entitled *an observation tower with a gallery and a multifunctional pavilion* by the team composed of Monika Grabowska, Eng. Arch., and Adrian Duda, Eng. Arch. A view from Bramkowa street. Source: study by the authors of the competition design.



**Fig. 2.** The design entitled *an observation tower with a gallery and a multifunctional pavilion* by the team composed of Monika Grabowska, Eng. Arch., and Adrian Duda, Eng. Arch. A view from Bramkowa street. Source: study by the authors of the competition design.

Historic Mine on UNESCO World Heritage List. The efforts ended in success soon after the adjudication of the competition. However, when working on the theme, the students were aware of the significance of the place and the responsibility associated with design decisions. The area of the open-air museum, apart from the exhibits and the building of the museum, is of hardly any historical value, therefore a wide spectrum of

design efforts is possible here. It requires intervention due to the lack of a consistent character, functional problems as well as low aesthetic qualities of certain solutions. The area in question is complicated for several reasons. It results from a combination of numerous elements of different styles.

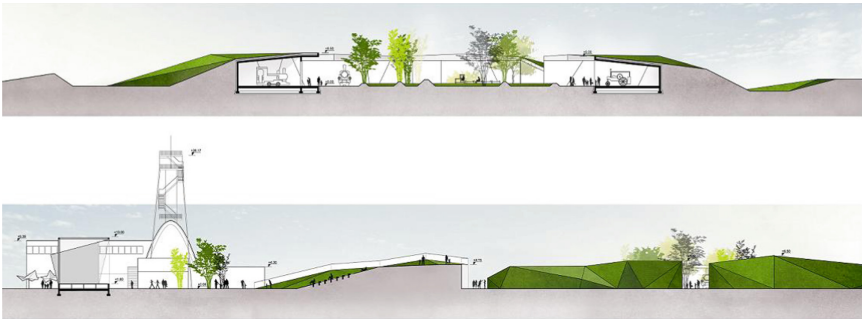
Most of all, the open-air museum is dominated by the building of the Historic Silver Mine Museum together with a winding machine house and a boiler house. The architectural complex designed in 1967 by Rudolf Witwicki, a prominent architect, is a distinguished example of post-war modernism, yet, its presence is not directly related to silver mining, but with visiting an underground tourist route. It was built over 60 years after the end of the exploitation of the silver mine. Its interesting external form, together with the winding tower, is modelled on coal mine architecture and has such connotations [6]. Apart from architecture, the area of the open-air museum is also full of very valuable 19th and 20th century exhibits: steam engines and locomotives. Unfortunately, most of them are not protected against bad weather, therefore they deteriorate and require frequent preservation works. The layout of the open-air museum is chaotically linked by randomly arranged paths. The whole is completed by greenery, which is the chief asset of the place, but its condition and form requires design intervention. In the immediate vicinity, there are two parking lots for personal cars and coaches, yet, they are not properly communicated with the building of the museum. The users have to walk around the museum building in order to access the parking lot. The presence of a road transport system in the form of the access to back-up facilities and a boiler house within the open-air museum is also problematic. It cuts the area of the open-air museum through into two parts. Despite these drawbacks, the area has a great potential, which is currently not used in full.

These problems were recognised during the analyses and it was found that both the building of the open-air museum and the building of the museum require modernisation. It is mainly about the communication within the open-air museum, offering proper access and possibility to view the exhibits. The current space arrangement is chaotic, full of contrasting buildings and movable elements, and, most of all, there is no overall idea for this unique place. Certain functional and formal issues related to the discussed area are also disputable. Apart from the modernisation of the open space, functional changes in the building of the museum are also necessary. It requires the change of the entry area location in order to enable easy access from the parking lot for the visitors. This solution will also ensure proper control of the access to the facility and within the open-air museum. Some participants of the competitions also found that new elements necessary in a modern public space should be added to the functional programme of the Open-Air Museum.

The most interesting competition works prepared under the supervision of the author include a design concept of the team composed of Zuzanna Kmak, Eng. Arch. and Sonia Machej, Eng. Arch. The authors created a very interesting public space, modernising both the area of the open-air museum and its architecture. The work entitled Green Silver shared the 2nd prize with another design in the competition. The idea of the project is to create a totally new open-air museum, but based on the most valuable elements of the present shape. The design takes a consistent, organic form, where former sheds for exhibits were replaced by pavilion forms 'springing up' from the ground. Modern roofing has a reinforced concrete structure, glass façades and roofs covered with



greenery (Fig. 3). They outcrop above the area, resembling survived mine fields with preserved remains of shafts. Seen from above, they can resemble silver nuggets, and the paths that split them are supposed to be modelled on former pavements used by miners (Fig. 4). The new functional programme of the open-air museum covers also, apart from the exhibit protection project, the preparation of new attractions, such as: educational path, entertainment zone with a stage area, external toilets or a catering facility. The entire facility is supposed to be a comfortable area, open for the users of the space. The arrangement of greenery by means of new seedlings, mainly in the form of various kinds of grass, creates an eco area in the spirit of sustainable growth and respect for nature. In terms of functional aspects, the location of the entry to the museum was changed. In the design, it is properly accentuated and communicated with the parking lot and the public space of the open-air museum. It is also associated with the introduction of a unified visual information system that improves the sense of direction within the Open-Air Museum. The entire area is accessible for mobility-impaired persons [7].



**Fig. 3.** *Green Silver* competition design by a team composed of Zuzanna Kmak, Eng. Arch. and Sonia Machej, Eng. Arch. Sections of the areas covered by the concept. Source: study by the authors of the competition design.



**Fig. 4.** *Green Silver* competition design by a team composed of Zuzanna Kmak, Eng. Arch. and Sonia Machej, Eng. Arch. Concept visualisation. Source: study by the authors of the competition design.

## 4 Findings

Not only the competition for an architectural concept itself, but also the creative ‘polemics’ with its objectives provide an opportunity to propose development trends and the use of the potential of the area. Such architectural solutions influence the quality of public space, meeting the expectations of the users. As a consequence, they translate into the improvement of the attractiveness and image of the place. The competition works of the students of the Faculty of Architecture are consistent with the trend and have numerous common features.

One can say that this current is reflected in the attempt to create:

- arranged and consciously designed public space,
- contemporary architecture that properly combines the required functions,
- places attractive for users in terms of function and form – a so-called attractor,
- proper exposure of historic objects and culturally important places,
- space meeting the principles of sustainable growth and respect for nature,
- green areas (biologically active),
- accessibility for disabled persons,
- clear visual information system.

Other characteristic features include efforts to change and transform:

- improper functional arrangements,
- unarranged greenery into well-thought-out and carefully designed layouts,
- the road transport system into shared zones with limited vehicle access.

Other important issues include attempts to eliminate:

- low-value architecture that is not associated with the discussed area in formal, functional or historical terms,
- randomly situated parking lots,
- unnecessary road transport system,
- architectural barriers related to the accessibility for disabled persons.

## 5 Conclusion

The designs presented in the paper offer very diverse solutions consistent with modern trends and requirements related to public spaces. The common feature of the design concepts is to arrange the architecture and urban planning of the discussed spaces and give them a consistent character. Meeting the requirements of the competition and adding new ones resulting from detailed analyses of functions lead to the development of particularly interesting architectural solutions. Public spaces became attractive to the users, meeting their needs in accordance with universal design principles. Objects of historical value were properly exposed by means of appropriate architectural solutions. Effects



meeting the principles of sustainable growth and respect for nature were also achieved. Eco-friendliness is one of the most important aspects of the students' works. Green areas that are extremely important for users, together with elements of green architecture, acted as a kind of a carbon dioxide catalyst in the combat with climatic changes.

Such a broad view of the discussed issues would not be possible without the involvement of a large group of students (in this case – Engineers Architects, holders of a bachelor's degree). One can therefore explicitly state that the competition for an architectural concept enables a broader look at the discussed issues, shows a full spectrum of solutions and, as a consequence, contributes to the improvement of the quality of the discussed public spaces. The positive effect is, however, conditioned on the necessity to perform a wide spectrum of analyses and pre-design studies.

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