

# A Preliminary Study on the Landscape Design of the External Space of Commercial Complexes: Taking Happy Harbor as an Example

Ruofan Li\*

South China University of Technology, Guangzhou 510000, Guangdong Province, China

\*Corresponding author: Ruofan Li, LiRuoFan573@163.com

**Copyright:** © 2022 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** With the development of urban construction in China and the improvement of living standards among urban residents, people today have higher requirements for space quality, and the development of urban commercial complexes has also become an important part of urban development. In this process, the functions of urban commercial complexes, in terms of culture, leisure, commerce, tourism, and office work, are gradually compounded. The integration of the commercial complex landscape with the urban environment shapes a place that provides more humanized services to the urban population. The landscape facilities in the commercial complex square are no longer just a foil, but they are constantly improved and optimized for the benefit of the crowd. Beginning from the exterior space of commercial complexes, this study investigates and analyzes the landscape design, and based on the external landscape distribution of Happy Harbor and the environment created by the landscape, this paper expounds the commercial landscape design and development of a more comprehensive and humanized commercial urban complex space landscape.

**Keywords:** Commercial complex; Exterior space; Landscape design

**Online publication:** November 22, 2022

## 1. Introduction

Cities are highly intensive, functionally integrated, and innovation-driven gathering places for human activities. Urban development is driven by the need to meet the diverse demands of different groups within a limited time and space; urban commercial complexes have thus become an effective model for urban development. The landscape elements of commercial complexes have urban life-significant attributes: the hybrid intersection of urban commercial complexes and urban public spaces. With the development of cities and the improvement of social living standards, people no longer pursue a single way of consumption. The comfortable business environment and pleasant landscape environment in commercial complexes and the environment brought by them are attractive to people. In such a space, other than being appreciated, the landscape design can also bring crowd effects, including human flow and network flow, followed by more commercial and public benefits.

## 2. Research background

As a composite building with multiple functional spaces, urban commercial complexes are becoming the main body of urban commercial building development. It is of great significance to apply the concept of landscape design to the design of urban commercial complexes. Taking the Happy Harbor commercial

complex as an example, this paper expounds the application of landscape design in commercial complexes and discusses the theory and strategy of integrating landscape design concepts into architectural design, so as to provide some references for the ecological design of urban commercial complexes.

## **2.1. Commercial complex**

In recent years, with the rapid development of urbanization along with the shortage of land resources, the construction of urban commercial complexes has gradually become the focus of urban planning. As an inevitable product of the development of human economic activities, this multi-functional, multi-format, highly dense, and complex integrated form can promote the efficient use of land and ease the contradiction between rapid urban development and land use tension, which is an inevitable trend and the key to future urban development. With the economic growth, people's demand for urban commercial complexes is increasing, and the requirements for the space quality of urban commercial complexes are becoming more obvious. People do not only meet the basic needs of commodity exchange, but also pursue enjoyment at both material and spiritual levels. The quality of commercial space is as important as commodities; hence, the improvement and optimization of architectural space quality is particularly important <sup>[1]</sup>.

## **2.2. Historical development of commercial complexes**

Throughout history, commercial complexes have existed at all stages of business. They are structures that encompass various activities other than business. A commercial complex can be a palace, a bazaar, an exhibition hall, or a cinema, but it is always a place for people to socialize and mingle.

### **2.2.1. Market**

"Agora" is a Greek word that was originally used in the 7th century to refer to a gathering of people. Morirs <sup>[2]</sup> has pointed out that a bazaar is considered a public place of the Greek city, and that the gathering of people is the prototype of the urban public sphere. A bazaar may be a small place in physical space, but with various social events held in different contexts, it gives life to the city; it depicts the prevailing social, commercial, and political climate of the city. The Agora, located at the crossroads of the gate and the entrance to the Acropolis, is generally a sacred place that is close to the center of the city, with temples, monuments, altars, and royal palaces <sup>[3]</sup>.

### **2.2.2. Square**

The square is a continuation of the Romans' traditional Greek marketplace, where human activity and barter trade were carried out. The square has a multipurpose function, combining market and civic activities with political commerce. Over time, the square became the center of the public realm and civic life.

### **2.2.3. Covered arcade**

Historically, malls were primarily pedestrian streets, and the spaces began and ended with covered buildings. Covered arcades allow free passage of pedestrians in a safe area, providing shops, cafes, salons, bars, and toilets <sup>[4]</sup>. Gruen has pointed out that the covered arcade was born out of the combined efforts of architects and urban planners to create a completely new environment in the city that is dedicated to pedestrians, a weather protection zone in the middle of the building blocks <sup>[5]</sup>.

### **2.2.4. Church**

In the 17th century, the church (bedesten) was originally built as a building for people to sell cloths. Over time, the church became a place to protect and sell valuables. The archives of state papers were housed in these buildings, and like shopping malls today, churches were closed at night and opened in the morning.

### **2.2.5. Carsis**

The term “Carsis” is a variant of the Persian phrase “Cihar-Suk.” They are open streets, or closed buildings; they consist of a row of shops in an open-air carpark, usually on the ground floor, with other building functions or a single row of shops across the street <sup>[6]</sup>. Commerce, production, and everyday life activities all take place in carsis, with each store specializing in one product or service.

### **2.2.6. Community mall**

Community shopping centers, which are located in local areas of the city, meet the daily needs of the community. Community service centers, including supermarkets, pharmacies, and other service providers, serve at least 750 families. The typical size of a community shopping center is 13,500 square meters of gross lease area.

### **2.2.7. Regional shopping center**

Regional shopping centers have one or two department stores, thirty to fifty stores, entertainment venues, community meeting places, movie theaters, theaters, and other indoor amenities. Regional shopping centers have attendants ranging from 100,000 to 1 million or more and a rental area of 36,000 square meters; they also have both open and landscape shopping centers in their base.

### **2.2.8. Super regional shopping center**

Super regional shopping centers have a wide variety of department stores, including clothing, furniture, home, and various services, as well as entertainment facilities. There are at least three department stores in the venue. The total rental area of super regional shopping centers ranges from 54,000 to 126,000 square meters <sup>[7]</sup>.

### **2.2.9. Summary**

Looking at the historical evolution of global commerce, we can see that the first market, the bazaar, was established in Greece in 700 B.C. The first commercial building was a single commercial structure as a commercial complex progressing up to a store. Department stores reflect the European, whereas supermarkets reflect the American; these shopping centers are today’s modern commercial complexes. Commercial complexes today are different from those in ancient times. Outside towns, where most modern commercial complexes take place, are large areas of available and cheap land. However, commercial establishments still take place in urban centers. While ancient commercial complexes were entirely public spaces, modern commercial complexes are privatized places owned by corporations, controlled by management, and closed at night.

## **2.3. Landscape design**

“Peyzaj,” the Turkish word for landscape, originates from the French word “paysage,” which also means landscape. Today, the word embraces a broader and deeper meaning. While “landscape,” in the Middle Ages, was used as a synonym for “region” and “territory” in most German languages, it became a graphic type <sup>[8]</sup> from the 15th century onwards. The use of landscape as a term in science is relatively new. Today, the term “landscape” refers not only to a phenomenon described and analyzed by scientific methods, but also to a subjective experience with a perspective on emotion, art, and existential meaning <sup>[9]</sup>, which is dynamic and constantly changing.

The urban landscape is basically an open space and a green space formed in the urban environment. However, it is not completely independent of the surrounding buildings and structures. Together, they form the character and identity of a city, as well as a sense of place. It contributes to the urban landscape by

means of aesthetics and functionality as well as supports urban ecology. It is dynamic and constantly evolving. According to Borcke<sup>[10]</sup>, it is not an addition but rather forms the basis for creating a place. Urban landscape elements serve to separate and/or connect different land uses. They can form buffer zones between conflicting uses (such as between industrial and residential areas), while also facilitating civic movement in the city (such as greenways). They can flexibly serve multiple purposes and different user groups in the community.

Landscape architecture is the art and science of creating and protecting the outdoor environment, involving cultural values and ecological sustainability. It uses both inanimate and animate materials in design and planning; thus, the results are always dynamic and changing. Until recently, urban design was primarily associated with architecture and urban planning, and the role of landscape design was disregarded. Landscape architects have been criticized for their low-density urban design practice, lack of formality, and excess of open spaces that end up looking like suburban environments<sup>[11]</sup>. Today, urban landscape design is considered the key to creating a sustainable urban environment. While the word “landscape” is often used to describe natural and/or rural settings, it certainly has more meanings to it. Landscapes are shaped by natural and cultural dynamics, which also influence the way humans live. Therefore, urban landscape design is more than just a green space in an urban environment. It consists of various land uses, such as streets and plazas, playgrounds, railway and canal corridors, cemeteries, bicycle and pedestrian paths, as well as waterfronts. Even the buildings in a city can affect the character of the cityscape.

### **3. Composition and main points of landscape design of the external space of commercial complexes**

According to the different locations and corresponding forms, the external space of commercial complexes can be divided into square space, street space, roof space, and transition space<sup>[12]</sup>.

#### **3.1. Square space**

Compared with other external spaces, the square space is generally larger in volume. Surrounded by commercial buildings, it uses its own characteristics (high openness and strong accessibility) to become the traffic connection center of the entire commercial circulation, which is well connected with the building. Connecting and communicating with the surrounding places at different levels will not only disperse the flow of people to each functional space, but also converge the flow of people from each functional space to the center so as to balance the relationship between commercial spaces and the utilization rate, thus becoming the best place for business activities<sup>[13]</sup>. Although the Happy Harbor Plaza (**Figure 1**) has a large area, it does not appear too large or empty, but rather closely connected with the surrounding elements and well combined with various elements. Various commercial and celebration activities can be carried out with several different squares, which can be considered as space nodes connecting other commercial spaces and landscape environments.

#### **3.2. Street space**

The street space of a commercial complex is usually laid out in a single direction or in a linear pattern to both ends. The “line” connects the various parts of the functional space in series as the “adhesive” of the external space of the commercial complex<sup>[14]</sup>, creating a continuous spatial sequence with clear direction, continuity, and extensibility; bringing cohesion and providing a framework for the entire commercial complex; as well as enabling people to integrate into the surrounding environment. For Happy Harbor, there is no very linear street space. The street space conforms to the architectural texture and flows freely between the building and the natural environment. This type of street space can serve people better as people would be able to appreciate the natural scenery, while experiencing the commercial atmosphere. The pedestrian ramps at the east and west ends provide visitors with a three-dimensional path from the seaside cultural

park to the various floors of the commercial block and the roof garden. The circulation of the commercial block relates to the tour route of the park. The open gesture embraces the ecological landscape park, showing an ideal harmonious interaction between the two: the inner space (**Figure 2**) and the outer space (**Figure 3**) of the block. When walking through, the rich sequential changes of the interior space of the block can be appreciated, along with the beautiful scenery overlooking the seaside park and Qianhai Bay. Here, architecture and nature, as well as business and leisure are completely intertwined, creating a new and unique experience.



**Figure 1.** Happy Harbor Plaza



**Figure 2.** Inner street space of Happy Harbor



**Figure 3.** Outer street space of Happy Harbor

### 3.3. Roof space

As a comprehensive place in the city, commercial complexes often consider their own service functions to make the roof a unique space environment. From the three-dimensional form of the base surface, it can be divided into single-story roof space, with little vertical elevation change, and use multiple open levels or form a multistorey roof space in the form of setbacks <sup>[15]</sup>. The roof space is also known as the “fifth three-dimensional surface,” which can strengthen the mutual penetration and coupling relationship between commercial buildings and urban space at the vertical height, beautify the city skyline, give people a feeling of being close to nature, and enhance the attraction of commercial complexes. The roof space of Happy Harbor is distinctive. The layered curvilinear setback roof space has certain characteristics, including smooth modeling posture, three-dimensional moving line organization, rich space circulation, and wide field of vision. It perfectly fits between the city and nature, making it both a park and a project. It goes far beyond the single identity and function of commercial facilities, adding luster to the entire project in terms of artistry, viewing, and experience (**Figure 4**).



**Figure 4.** Roof of Happy Harbor

### 3.4. Transition space

The interface of the transition space is relatively vague, between the physical and virtual, as well as the closed and open. The interface has the characteristics of both internal and external spaces, such as the ceiling of the building entrance and exit, the colonnade of the building facade, the scaffolding between the buildings, and the door of the shop. The space, such as the arcade, is also called the transition space <sup>[16]</sup>. These transition spaces can divide the space, reduce the mutation effect of indoor and outdoor spaces, and enhance the sense of spatial hierarchy. For example, the roof space and the street space of Happy Harbor are intertwined, and the overlapping platforms and gray spaces are formed by the occlusion.

## 4. Landscape design elements and utility of commercial complexes

The collocation and combination of different landscape elements will constitute different landscape environments. The only way to effectively utilize future landscape design and create a pleasant space environment is through the systematic and scientific analysis and summary of a single landscape element. In commercial landscape design, landscape design elements can be divided into two categories: soft landscape elements and hard landscape elements <sup>[17]</sup>.

#### 4.1. Plant

Plant landscape is one of the most important landscape elements in landscape design. The ecological value, environmental beautification value, and additional economic value of different plants are incomparable to other landscape elements <sup>[18]</sup>. The adverse impact on the ecological environment brought about by urban construction compels designers to pay more attention to the use of plants in the initial planning of commercial complexes so as to make up for the lack of natural environment and improve the overall ecological quality of urban and commercial spaces.

By having a green plant landscape design, commercial complexes can visually attract consumers to a large extent. The combination of green plants and architectural forms makes the entire large-area hard-paved square compact and interesting. The dotted solitary plants in Happy Harbor Plaza are integrated with the planting of the block surface, which enables the regular green pavement to be formed on the plane. Walkways and suspension bridges pass through green plants, creating a variety of space divisions, which not only improve the overall comfort of the space, but also increase the flow of people. By integrating the area itself and also the surrounding street space, the design brings a comfortable and pleasant microclimate to the entire area (**Figure 5**).



**Figure 5.** Happy Harbor plant landscape

#### 4.2. Water body

Water is also one of the main components of commercial public space. The rational use of water to construct a space can draw people closer to the space and enliven the atmosphere of the commercial public space. Water has diversity and variability, and it can be divided into two forms: dynamic and static. Among them, static water body can increase the layering of the space and create a visual experience close to nature; dynamic water body, on the other hand, allows an interactive experience and creates entertainment, sensory experience, *etc.* for the individual who is experiencing it, thus making the atmosphere in the space more lively and agile <sup>[19]</sup>. Happy Harbor combines the lighting and terrain in the design of the waterscape, giving people a visual and interactive artistic effect, adding natural rhythm to auditory senses, and visually displaying the dynamicity of the space, whether at night or in the daytime.

### 4.3. Paving

As a type of landscape design element, the hard paving on the square uses natural materials or artificial materials to pave the ground. The paving patterns can be divided into natural and regular patterns. Simple paving does not elicit a sense of participation in the crowd, but vivid paving draws the crowd to experience the environment. The pavement of Happy Harbor integrates the architectural form in the site design. The texture, pattern, and color of the paving materials are rich and varied, creating a beautiful environment, which complements the surrounding landscape sketches and plays a role in beautifying the environment.

### 4.4. Landscape sketch

In the landscape design process of urban commercial complexes, in addition to using natural elements such as plants and water bodies, landscape sketches can also be introduced to make the plaza landscape richer and more diverse. At some nodes on the square, or special places and locations such as the atriums and movable partitions, landscape sketches can be arranged by using modern materials and expression techniques for the interest of the space and the integrity of the landscape. Landscape sketches and facilities are also responsible for regulating the flow of people, while satisfying the function of urban landscape viewing. For instance, the square sculpture in Happy Harbor gathers the crowd and regulates the flow. Combined with the sunken square, the landscape sketches in the atrium become the focus of the site (**Figure 6**).



**Figure 6.** Happy Harbor Landscape sketch sculpture

## 5. Comparative analysis of domestic and foreign cases

### 5.1. Domestic case: Tianhuan Square

The ground building of Tianhuan Square is in the shape of “Tai Chi Pisces,” as if carps are leaping over the Tianhe River (**Figure 7**). The shape is smooth and dynamic, and it is a landmark building in the area. The project is centered on the falling central garden. The underground shopping plaza of Tianhuan has a construction area of 90,000 square meters, which allows its open-air plaza to have a larger landscape area. The garden space below extends the landscape elements all the way to the underground commercial room, improving its natural lighting, and forming a multistory commercial pattern <sup>[20]</sup>. At the same time, the large green plant landscape area not only commercializes the entire space, but also brings a good landscape experience.



In this space, Tianhuan Square has no landscape that blocks the line of sight. The greenery on the top is dominated by relatively low green plants, which not only allow a clear line of sight, but also have a strong directionality to help guide people into the square. Similarly, Happy Harbor has adopted a similar approach, with low green plants as the focus, with a small number of trees embellished, reflecting the continuity of the landscape space.

When Tianhuan Square was originally designed, considering the utilization and greening of the building area, it did not want to reduce the living space of the city, so the final decision was to place the shopping mall underground, while the ground became a garden square in the central area of the city, thus creating a higher quality business environment now. In such an environment, the landscape becomes the protagonist. Happy Harbor is also positioned as a high-quality check-in place integrating culture, leisure, commerce, and tourism with its open-bay scenery. The bay view and park design, the high-quality cultural and artistic facilities, the unique landscape architecture, and the open and transparent commercial and public space composition, all reflect Shenzhen's urban spirit of development, innovation, vitality, and diversity.

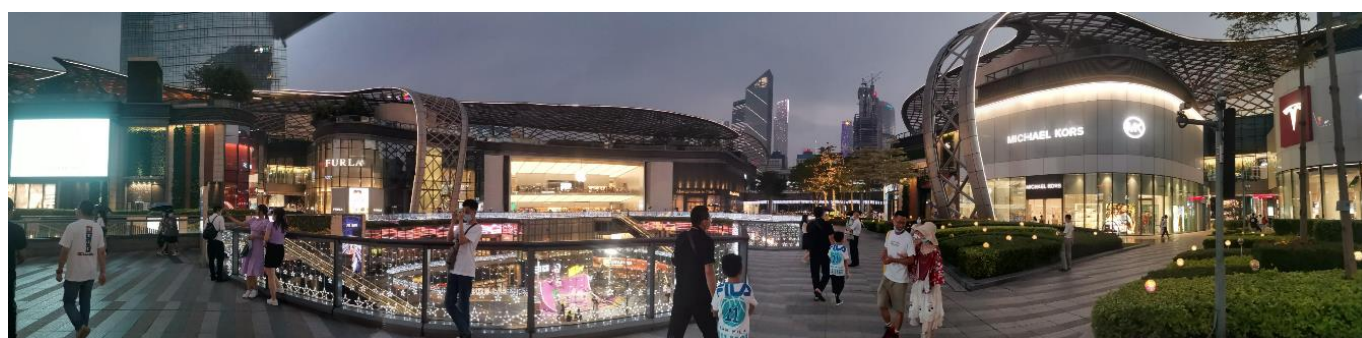


Figure 7. Tianhuan Square

## 5.2. Foreign case: Namba Parks

Namba Parks is a modern building located in a traditional bustling business district of Osaka, near Namba Railway Station, and a stop away from the airport. It perfectly combines intercity trains, subways, and other transportation hubs with offices, hotels, and residences. The representative project of the urban complex is one of Japan's successful developments. Namba Parks is a complex of shopping malls and office buildings. The designers opted for a design that was the opposite of the expected standard, striving for a sharp contrast against the background. Following this concept, a plan was developed to use natural landscape to alleviate the crowded and noisy urban environment, in contrast to the surrounding environment that is full of nature and connected to the various transportation facilities of the city. From a distance, the building is seen as a sloping park, rising from the ground level of the street to a height of eight floors, advancing layer-by-layer with greenery, as if it is a natural oasis above the city, forming a strong contrast with the cold style of the surrounding linear buildings. In contrast, it becomes a vivid and warm street scene against a noisy background. Although the external environment is different, the intention of Happy Harbor is the same. They all hope to connect with nature through architectural design and improve the quality of commercial space and urban environment (Figure 8).

The entire park not only mobilizes the original urban function of the block, but also adds recreational, commercial, and environmental value to the site. Namba Parks, a city icon, solved the spatial relationship of the whole region to a large extent. After the construction of Namba Parks, the center of gravity in the north gradually shifted to the south, and now a new urban core area has been formed around Namba Parks. The traffic space planning in this area has also improved because of this project, and a smooth node has appeared in the traffic system around the entire area <sup>[21]</sup>. Similarly, Happy Harbor will also be an impetus for the development of its surrounding areas in the future. Shenzhen is the top priority of the development

strategy of the Greater Bay Area. With its advantageous geographical location, the central area of Bao'an has ushered in an opportunity for comprehensive development; moreover, its coastal area has become a hot spot for development. Against this background, building a multifunctional comprehensive project such as Happy Harbor, which represents Shenzhen's future innovative urban lifestyle and reflects the new-generation concept of cultural tourism development, at the intersection of the central axis of Bao'an Central District and the coastal rest zone would stimulate economic vitality, thus bringing more benefits (**Figure 9**).



**Figure 8.** Namba Parks  
(photographed by Haocheng Nan)



**Figure 9.** Namba Parks (photographed by Haocheng Nan)

## 6. Conclusion

With the development of the times, landscape design plays an increasingly important role in modern and contemporary commercial complexes. The buildings in a commercial complex combined with landscape design not only direct people's activities, but also enrich the design vocabulary of the entire square. At the start of the design, it should be coordinated with the overall urban planning and designed in conjunction with the buildings in the complex. The landscape design of the external space of an urban commercial complex should focus not only on its form as in the past, but also on the relationship between the landscape design and the urban environment. From the perspective of humanistic care, it is necessary to fully consider the behavioral and spiritual needs of different groups of people, create a pleasant and comfortable, high-quality, and beautiful, environmentally friendly and ecological high-quality landscape, and create a distinctive new-city business identity.

The functions of the external space landscape of commercial complexes also show a trend of diversification. Landscape design has become an important part of the design of commercial complexes, and different effects are achieved with the combination of different landscape elements. In landscape design, designers can only create for people by reasonably combining various landscape elements with a specific commercial atmosphere, integrating multiple functions through the landscape design of external public spaces, integrating nature into buildings, and creating places embodied with experience. This would create a more comfortable commercial environment and also enable the landscape design in the commercial complex to better exert social, economic, and ecological benefits.

## Acknowledgements

I would like to thank Haocheng Nan for the photos of Namba Parks used in this article.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] Chen S, Sun Y, Lu M, et al., 2021, Research on Urban Commercial Complex Design Based on Ecological Concept: A Case Study of the Roof in Shanghai//IOP Conference Series: Earth and Environmental Science. IOP Publishing, 676(1): 012015.
- [2] Morris AEJ, 1972, History of Urban Form: Prehistory to the Renaissance, George Godwin Limited, London.
- [3] Zucker P, 1960, Town and Square: From the Agora to the Village Green. *Journal of Aesthetics and Art Criticism*, 19(1): 103–104.
- [4] Geist J F, 1983, Arcades: The History of a Building Type, MIT Press, Cambridge, MA.
- [5] Gruen V, 1964, The Heart of our Cities: The Urban Crisis: Diagnosis and Cure, Simon and Schuster, New York.
- [6] Ozdes G, 1998, The Turkish Carsi, A Tepe Construction, Istanbul.
- [7] Lusch RF, Dunne PM, Gable M, 1990, Retail Management, Thomson South-Western, Mason, OH.
- [8] Tress B, Tress G, 2001, Capitalising on Multiplicity: A Transdisciplinary Systems Approach to Landscape Research. *Landscape and Urban Planning*, 57(3–4): 143–157.
- [9] Antrop M, 2005, Handling Landscape Change, ECLAS European Council of Landscape Architecture Schools. Conference Proceedings Landscape Change, 3–14.
- [10] Borcke C V, 2003, Landscape and Nature in the City, in Sustainable Urban Design, An Environmental Approach, Spon Press, London.
- [11] Krieger A, Saunders WS, (eds) 2009, Urban Design, University of Minnesota Press, Minneapolis, Minnesota.
- [12] Wei M, 2012, Research on the Inner Street Space of Urban Commercial Complex in the Era of Experience Economy, Beijing Institute of Architectural Engineering.
- [13] Qi WH, 2018, Analysis and Research on External Space Landscape of Commercial Complex, Sichuan Agricultural University.
- [14] Sun SY, 2014, Research on Interior Traffic Space Design of Commercial Complex Based on Consumer Experience, Qingdao University of Technology.
- [15] Gao S, 2015, City Complex, Urban Century Library, Nanjing Southeast University Press, 01.342.
- [16] Guo J, 2015, Research on the Application of “Interface Relationship” and “Limitation Method” in Architectural Transition Space, Northeast Normal University.
- [17] Zhang L, 2012, Landscape Design Technology in Landscape Engineering, *Value Engineering*, 31(06): 56.
- [18] Ma GM, 2015, Shopping Park Design Research, Shanghai Jiaotong University.
- [19] You P, 2018, Research on Experiential Landscape Design of Commercial Public Space, Southwest Jiaotong University.

- [20] Jiang Y, 2017, Creating a Vibrant Urban Destination – Prospects for the Design of Future Urban Commercial Complexes. *Architectural Skills*, 2017(07): 66–75.
- [21] Guo P, Wang XG, 2015, Natural Urban Design – Taking Namba Park and Roppongi as Examples. *Value Engineering*, 34(05): 98–99.

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.