

## **A Study on the Future Community Landscape Design Under the Background of COVID-19**

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This paper explores the methods of the innovative design of future community landscape design under the background of COVID-19. The concepts carry out the landscape design of community public facilities and contribute to communities and cities' safety and health. While enjoying the rapid changes in the urban living environment brought about by the modern industrial wave, we cannot ignore the aging of some communities in the city, which have become worthless spaces. The sustainable development of older communities has become a consideration for urban regeneration, with the landscape design of communities playing an active role in their revitalization. The community has played a vital role in preventing and controlling COVID-19 as a collection of populations. However, problems and deficiencies in community landscape design have also been identified. Based on the mode of operation of the community COVID-19, the community landscape design has been optimized in conjunction with the science and technology sector innovation.

**Keywords:** *Future Community; Public Facilities; Landscape Design; COVID-19; Sustainable.*

### **1. INTRODUCTION**

This paper puts forward some ideas for the future community landscape design under the background of COVID-19, it also provides a practical model and path choice for community landscape design in future. At present, there are many problems in the construction of community landscape design and urban public environmental facilities in China. Many landscape in communities are damaged and abandoned due to low utilization rates and poor protection. These facilities lack sustainable, innovative, and systematic design concepts due to their long-

standing overall development and are restrained and coordinated with various factors of the surrounding environment. Today's society is in an era of mutual accommodation between environmental problems and the demand for quality of life. People have higher requirements for the quality of the living environment. In terms of future community space landscape design, we should combine ensuring users' safe, healthy and comfortable user experience and meeting people's needs for a diversified general environment with aesthetic orientation.

The application of sustainable design in public facilities refers to taking it as the basic

goal of design by considering the environment where the product is located, the selection of materials, the positive or negative impact on the environment, the versatility of use, document attributes, and recyclable economic value, and ensuring its due basic functions. The service life and the economy of construction cost.

Generally speaking, the basic idea is to take environmental factors and environmental protection measures into account in the design stage and realize various sustainability at the source. Under the two-way impact of the rapid urbanization process and the demand for quality of life, higher requirements are put forward for the stock and quality of public environmental facilities. For the sustainable design of senior communities and facilities, ecological, cultural, and economic sustainability should be considered. The environment of different economic regions is always different. As a conservative development area of the city, rather than a high-speed development new area, the old community also follows the principle of "saving is king" in economic expenditure. Sustainable development requires people to reduce and eliminate unsustainable production and consumption patterns. (Figure 1).



Figure 1: Community Planning

## 2. BACKGROUND ISSUE

The outbreak of COVID-19 in 2020 disrupted people's fixed social order and lifestyle, gradually making more and more people aware of the importance of health. People are increasingly eager for an ecological, green, healthy, and safe environment. Therefore, it is becoming increasingly important to establish a new community space in the future. China took the outbreak seriously and took a comprehensive approach to prevention and control. The community is under closed management, and residents appealed to stay home. Everyone was placed in the indoor environment of their homes.

The healing landscape of the community space became the only space for healthy exercise, walking, and recreational activities during the epidemic. Communities are where people's behavioral activities occur and correspond to specific spatial elements. The development of digital networks during the epidemic had many drawbacks and adverse emotional effects. Instead, it provided an opportunity to reflect on the existence of online communities, which do not entirely replace the functions of physical communities, where face-to-face interaction and physical interaction are essential criteria for the functioning of society and the well-being of individuals.

Therefore, in the post-epidemic era, the rethinking of 'virtual' and 'physical' spaces, the application of innovative technologies, the discernment of human social communication, and the reintroduction of public communication spaces will be critical to the future of social space. In community life, individual health and activity can influence people's behavior, which is diverse and requires specific spatial areas. An essential criterion for judging the quality of a community space landscape in the post-epidemic era depends on the ability of the design to meet the activity needs of all classes of residents in different states of health. The community landscape should be a healthy and intelligent environment that returns to nature, reduces the risk of infectious diseases to participants, and allows people to enjoy modern and healthy spaces. The community landscape also is a healthy and intelligent environment that returns to nature, reduces the risk of infectious diseases for participants, and allows people to enjoy a modern community public landscape.

## 3. OBJECTIVES OF RESEARCH

Before this epidemic, residents would not have taken an active interest in content related to healthy community landscapes. As health concerns have increased after the outbreak, people desire interaction between spatial landscapes and health, realizing that good community landscape design can improve physical health. Residents are not just concerned about the greenery of their communities but are raising the demand for healthy activities to prevent disease. The ultimate goal of the future community space landscape should be a systematic plan that meets the activities of

residents of all ages and has a dynamic spatial landscape and function. Analysing the cultural expression characteristics of urban community spaces and summarising the spatial elements from people's different lifestyles.

#### 4. LITERATURE

The design and transformation of community landscapes is a worldwide issue. It has been particularly prominent in the post-war era of rapid urban development with diverse architectural styles. Developed countries have made a great deal of theoretical guidance in renovating old urban areas and urban cultural heritage. They also have a wealth of construction experience and many successful construction cases. They have relatively mature theoretical and practical experience. Some developed countries have even formed a reasonably well-developed planning and utilization system. This situation depends on the different historical development and urban construction levels in the East and West.

In developed countries, especially Europe and the United States, the historic buildings and landscapes are preserved as completely as possible during urban planning. The natural landscape is combined with the country's history and culture so that new landscapes or buildings reflect the traces of history. Some cities have even developed a state of "city as culture" and "city as history." In the 1960s, research into urban landscape design began in Western countries. Australian landscape architect P. F. Downton proposed that urban environmental protection should not be limited to ecosystems but should focus on the relationship between people and nature, society and the economy, to achieve an internal balance in the city. In 1984, the UNESCO Man and the Biosphere Programme identified five principles of urban planning: 'ecological conservation strategies,' 'infrastructure and maintenance,' 'living standards,' and 'historical and cultural limits.' The MAB Programme identifies five principles of urban planning:

- Ecological conservation strategies.
- Infrastructure and maintenance.
- Historic and cultural preservation.

- Living standards.

This principle covers the content and means of urban regeneration and construction. In 1997, the Urban Ecology Society of Australia proposed a strategy for integrating more cultural elements into the urban landscape, making spiritual and cultural aspects even more critical in transforming the landscape; this has led to the creation of several classic transformation cases worldwide.

#### 5. METHODOLOGY

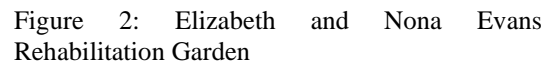
To achieve the study's objectives, the methodology adopted for this research was to create a historical survey. The data obtained and presented in this paper was collected through content analysis of the literature review and historical research relating to community landscapes in China. To further support this research, a case study was conducted which sought to document the data through

- Site visit to selected community landscape designs in China.
- Physical observation of the selected community landscapes and detailed descriptions of the landscape design in terms of style, massing, decoration, and expression.
- Obtain information on the designer responsible for the selected landscape design and conduct a follow-up structured questionnaire or interview.
- Obtain information on the client or civil servant responsible for the selected community development and conduct a follow-up structured questionnaire or interview.

Structured face-to-face interviews were conducted with the landscape architect and Dr. Xu Min to understand the approach to the idea of future community landscape design. The follow-up data from the observations, questionnaires or interviews, and the literature review form the conclusion of this historical research literature on community landscape architecture in China and an attempt to understand the future development of community landscapes.

COVID-19 has accelerated the process of community landscaping. When many public indoor spaces were closed, people found that community spaces became temporary places for recreation, activities, and dining.

The Elizabeth and Nona Evans Rehabilitation Garden is located on the library's north side in the Botanical Gardens in Cleveland, Ohio, USA. It covers an area of approximately 1115 square meters, and the grounds are 1.8 meters high. This garden aims to give all those who come here the opportunity to get up close to nature. In addition to the healthy general population, wheelchair users, the visually impaired, and the infirm are all people to be considered as users. The garden breaks into three distinctive sections - contemplation, learning, and horticultural therapy - linked by a circular line. The layout of the garden has been carefully designed. People with reduced mobility can use electric carts or wheelchairs to get around the garden without obstruction. The paving materials are safe and non-slip, and when the slope changes, the paving materials and texture change in advance to minimize danger and fatigue. To meet the needs of people who want to carry out various activities and gatherings in the garden, the designers have created several different types of open spaces that do not interfere with the passage of passers-by and are easy to use for various groups.



The contemplation area is adjacent to the floor-to-ceiling glass windows of the library and a dining terrace, which links the garden and the surrounding spaces. The central feature of the contemplative area is the lawn, rectangular pond, and magnolia tree, surrounded by stone paths with no height difference between the lawn and the paths, making it easily accessible even by wheelchair. The large scale of the paving in this area reduces the inconvenience for wheelchair and walker users. The most pleasant surprise is the poem in Braille engraved on the back of the railing handrail, which is an outstanding design for the blind. (Figure 2).

The courtyard of the Küsters, designed by designer Buro Lubbers, has been transformed. The Kuster Courtyard is located in the heart of the historic Dutch landscape. Once an old private house, the courtyard is now an obstacle to the traffic in the central area as the city grows. Moreover, the historical buildings alone do not fit with modern Dutch urbanism. The architects have retained the major part of the courtyard and transformed it with a piazza and planting. The yard has been transformed from an enclosed and simple attraction into a resting square. This landscape transformation was intended to increase the openness of the courtyard, add daily lighting and increase public resting spaces. The

courthouse courtyard's historic ornamental value and scenic character have also been retained. The combination of historic architecture and modern urban development adds to the cultural ambiance of the landscape (Figure 3).

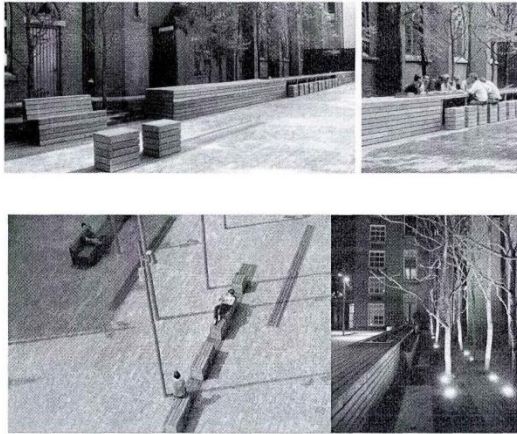


Figure 3: Küsters Courtyard

#### *Case study: Cherry Creek North*

Cherry Creek North, a commercial district in Denver, USA, faces many problems before street renovation. For example, high maintenance costs, deteriorating infrastructure, outdated aesthetics, and even fierce competition from new outdoor retailers and online shopping have led to a lack of reasons for people to come to the site. In transforming Cherry Creek North, the landscape architects have rebuilt the block square, extending the time people spend shopping, eating, and walking around the site by enhancing the street surroundings. In the renovation, the designers have included spaces designed for lingering on this street, which not only increases the use of the site significantly but also expands the demand for this site. (Figure 4)



Figure 4: Cherry Creek North Street Renovation

#### *Case study: Parc Hydro-Québec—"Table Project"*

The team from ADHOC architectes was given the mandate to revisit the Hydro-Quebec

park designed by Claude Cormier et Associés (2008-2012), which received multiple prizes for its ecological qualities. ADHOC architectes added a social component to the site of 3260m<sup>2</sup> by transforming it into a new urban terrasse. A 100 meter (300 feet) long "urban table" was precisely implanted between the existing furniture and trees that perforate the elevated, angular metal grille in the center of the site. The table undulates under the canopy of the trees, leaving visitors to discover a succession of staged place settings and varied atmospheres. (Figure 5).

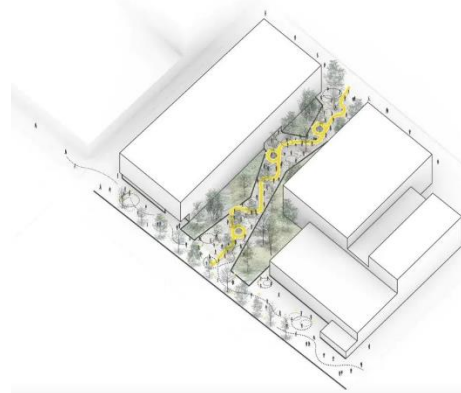


Figure 5: Parc Hydro-Québec—"Table Project"

The project was conceived to allow Montrealers to re-appropriate this public space while respecting the sanitary regulations defined by public health officials. A large structure and graphic arrow placed at the entrance of the park signals the beginning of the project.





Figure 6: Parc Hydro-Québec—"Table Project"

The public is then invited to discover the full length of the table and the place settings that punctuate it with eclectic collections of recycled objects. These iconic, gastronomic objects were judiciously placed to subtly foster intuitive social distancing. The redesigned space proposes 80 seats and encourages the direct support of 22 local restaurants reopening in the cafeteria of Le Central.



Figure 6: Parc Hydro-Québec—"Table Project"

In conclusion, the project thus proposes for us to imagine a new way of sharing a moment collectively and safely at the same table under the background of COVID-19. Come experience the art of the table, an attraction marrying local culinary offerings with the unique attractions of the Quartier des Spectacles. Your Place at the Table: a moment of reprieve, to eat and drink, night or day, sitting, between friends or alone, as a couple or a family.

## 7. DISCUSSION

As an essential green infrastructure in urban life, community landscape design can be a green security barrier to prevent the spread of viruses, build a perfect community green space system, and evenly distribute community green space and functions. Effective community green space renovation creates a good environment that relieves psychological stress and reduces anxiety.

Although COVID-19 has been controlled in China, society is still in a post-epidemic era. We focus on managing people flow, the regular disinfection of facilities, and the planning of reasonable open spaces. The leading research focuses on the relationship between people and facilities, the safe communication between residents and residents, the rational control of residents' behavior and activities in the community green space in conjunction with the community service center, and how to allow people to move around at a safe distance.

## 8. CONCLUSION

This paper is about the future of community landscape design in the context of COVID-19, aiming to create a diverse community and provide a more comfortable living environment for its inhabitants. This literature analyses several cases and attempts to enhance the functional role of community landscape spaces through the impact on people's health. The community landscape in the post-epidemic era should be based on the residents' health and people's basic needs and add value to the land

use of the old communities. New possibilities for landscape design are explored by meeting the essential requirement for health while incorporating elements of sustainable development. In the experimental design process for the design site, the author considers how the planning of the landscape can make viable recommendations for the prevention of epidemics. Although the area of the community site is fixed, it is possible to change the spatial form and increase the hierarchy of spaces to divert people. In addition, clear functional zoning can have the effect of dispersing the flow of people. With its viaduct above the site, Bangkok Viaduct Belt Park creates a negative space underneath the viaduct. Still, the architects have boldly designed a water feature that weaves underneath the bridge, reviving the negative space and bringing it to life. Modern technology and sustainable thinking are then applied to the community landscape design.

Throughout the design, the exploration of how landscape design can more effectively inhibit the gathering of people in the post-epidemic phase is still being explored. Due to the author's knowledge and experience, the research on this topic needs to continue to learn and explore new possibilities for the landscape to meet the different needs of people and promote sustainable ecological development.

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