

Street Landscape in Surrounding Area of Historic District in Modern City:

Comparison Study on Sannei-zaka District in Kyoto and Fuzimiao District in Nanjing

現代都市の歴史地区における外縁空間の景観に関する研究
-京都市産寧坂地区と南京市夫子廟地区における事例分析-

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1. Introduction

Architectural heritage protection has already been an international consensus. In the process of urban modernization, it's unavoidable to face the conflict between constructing the new and protecting the old. Historic buildings, sites and areas need to be protected by unique methods. There has been a well-developed system in many countries and areas, by launching laws and regulations and establishing professional organizations. However, if extra limitations and what kind of care needed to be considered in historic resources protection, it is still exploring and practicing by cities and countries beyond the statutorily protected zone.

In urban planning, the construction restrictions are formulated not only for the objective physical environment requirements, but also for the subjective shaping of city image. Usually, any given form, a fine vase or a lump of clay, will have a high or a low probability of evoking a strong image among various observers. Presumably, this probability can be stated with greater and greater precision as the observers are grouped in more and more homogeneous classes of age, sex, culture, occupation, temperament, or familiarity. Each individual creates and bears his own image, but there seems to be substantial agreement among members of the same group. It is these group images, exhibiting consensus among significant numbers, that interest city planner who aspire to model an environment that will be used by many people.¹

In Asian cities like Kyoto and Nanjing, under the influence of modern urban planning theories developed in western countries, the new construction and urban planning model significantly impact traditional eastern city pattern. The protection of architectural heritage will be challenging because of the big difference between the new lifestyle and the old. In shaping an image of historic cities,

the protection of historic areas undoubtedly plays the protagonist's role.

In this research, historic districts in Kyoto, Japan and Nanjing, China are taken as examples to explore principles used in urban planning in surrounding areas of historic districts from the perspective of street landscape features.

2. Research Purpose

The city is a continuous, organic whole, where none of the areas can be separated and developed alone. In recent years, more and more old cities are advertised for their historical values as the city's image. The concept of 'integrated preservation' has been widely attempted in many countries. Besides historic districts themselves, what kind of role other areas connected to historic districts play in the integrated preservation and methods implemented to protect the historic districts, are issues this research supposed to focus on.

The objectives of this study are:

- To find out limitations for construction activities around historic districts;
- To analyze spatial characteristics of the street landscape under the limitations;
- To evaluate influence and relation of elements made up the street landscape;
- To explore common principles and unique features on the coexistence of urban modernization and historic districts protection in modern cities.

3. Research Methodology

(1) Literature study of laws and regulations;

Through international documents, laws and regulations in Japan and China, and other countries, search for how historic districts and surrounding environment protection has been progressed in history and which aspects are paid

attention to. Conclude elements limited in construction and planning.

(2) Field survey and data collection;

According to limited elements found in laws and regulations, three times field survey in two districts were conducted in July and September 2019 and August 2020, to collect data of current condition of each building and street inside study areas, by recording and taking photos. Use street view function of digital maps to complete the data besides information of facades facing the streets.

(3) Statistical analysis of street landscape in study areas;

To statistically analyze the street landscape, set standards and evaluation system. The standards are based on principles enacted in relative laws and regulations. Classify buildings in study areas by streets or elements and compare the same catalogue in Kyoto and Nanjing. Maps, graphs and tables are made to express the results visually.

(4) Comparison of results in an analysis of two areas.

Identify the similarity and difference between the two study areas from every single element to the overall situation.

4. Introduction to Sannei-zaka District and Fuzimiao District

In this research, two historical districts and their surroundings are chosen as study areas, Sannei-zaka Preservation District for Groups of Historic Buildings (産寧坂伝統的建造物群保存地区) located in Kyoto City, Japan and Fuzimiao Historic Conservation Area (夫子廟歷史文化街区) in Nanjing City, China.

Kyoto City is the capital of Kyoto Prefecture located in the Kansai region of Japan. In 794, Kyoto (then known as Heian-kyo) was chosen as the new seat of Japan's imperial court. The original city was arranged in accordance with traditional Chinese feng shui (風水) following the model of the ancient Chinese capital of Chang'an.

Nanjing City(南京市), located in the east of China, is the capital of Jiangsu Province(江蘇省). As the capital of six dynasties of China in the past, Nanjing had long been a major center of politics, economy, culture, education and transport networks.

Both Kyoto and Nanjing are modern cities with a long history, and abundant historic resources remained nowadays. Had been the capital of their countries in the past, the two cities are now still important symbols of the

countries' history and culture. Under similar 'Integrated Preservation' strategy in two countries, Kyoto and Nanjing are inscribed as national historic cities and protected by law.



Figure 1 Location of Sannei-zaka District (left) and Fuzimiao District (right)

The two districts are both located in public blocks of the urban area. Mainly consisting of commercial buildings like stores and restaurants, the districts are developed as tourist spots and have become well-known for tourists worldwide. Meanwhile, these two districts are also protected by law to preserve their historical values.

In this research, study areas are drawn as tourists' routines from getting off the transport to entering historic districts. As tourist spots, the two districts' target groups are mainly tourists, especially those from other places. These tourists aiming to experience sceneries and atmosphere in a new place will have a more profound impression about landscapes along their way. Most of the time, tourists almost depend on public transportation in their journey. As a result, streets and buildings along with them from the nearest public station (bus or subway) to historic districts, are chosen as the study areas in this research.

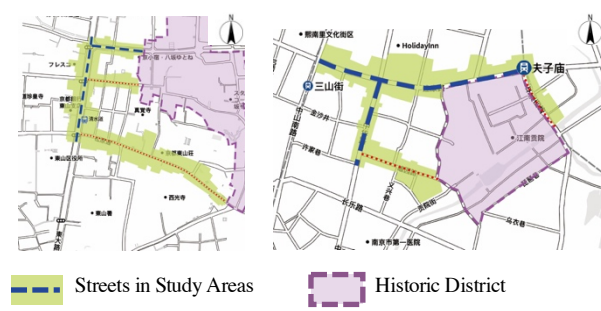


Figure 2 Transport condition around Sannei-zaka District (left) and Fuzimiao District (right)

5. Regulation for Historic Districts and Surrounding Areas in Kyoto and Nanjing

Implemented in 2009, constitution of Kyoto City Landscape Policy contains five main aspects and the support systems: (1) building height, (2) design of buildings, (3) surrounding scenery and vistaed scenery, (4)

outdoor advertisements (5) historical streets.² The government has published a series of Guideline for Kyoto Landscape to instruct the construction activities on these aspects.

In the latest Plan for Nanjing Historic and Cultural City Protection published in 2011, the basic aim of the protection has been drew up to maintain the character of Nanjing City, a network of the city walls, river system and street pattern. For districts and landscape in the urban area, detailed plans and regulations are set in the Regulatory Plan of each area, including: (1) building height, (2) protection of landscape visual corridors, (3) slow traffic system, (4) residential development control.³

Kyoto and Nanjing are similar in the principle for construction around historic districts. The standard for construction is to make the landscape in areas around historic districts not be a strong contrast with the landscape inside them. There are common restrictions that control the building height and appearance. In Nanjing's regulations, there are also control of road planning and building function.

Therefore, the field surveys and analysis will be developed according to these common restricted elements in the street landscape. The unique restrictions in one city will also become references in the analysis.

6. Assessment System

The information of buildings, including construction periods, photos of street facades, height, function, façade style and commercial type of each building, are recorded through three times field surveys in each research area. Standard to evaluate the elements is designated by how much the buildings in research areas are similar to traditional-style buildings inside historic districts. There are three levels of points: (1) 1 point: the same, (2) 0.5 point: partly similar and (3) 0 point: totally different or when the building does not apply to that catalogue. That is to say, if an architecture along the street is more similar to those inside historic districts, it will get higher points. Details for every element are shown in Table 1. Total points for each building are the sum of building height, façade design and commercial type. The construction period is counted out of points because it's hard to tell only by viewing from streets.

Table 1 Standard for assessment of buildings in research areas

Point	Construction Period	Height	Façade Design	Commercial Type
1	Built before modernization	<3 floors	Traditional Style	Selling goods or food related to traditional or local culture
0.5	/	<6 floors	Modern Style with Traditional Elements	/
0	Built after modernization	>6 floors	Modern Style	The regular business which has nothing to do with traditional culture

7. Result

(1) Sannei-zaka District

In Sannei-zaka District, totally 155 buildings have been surveyed. Among them, 47 buildings on Higashioji-tori Ave. (KA), 62 on Matsubara Ave. (KB), 29 on Yasama-tori Ave. (KC), and 17 on Kodajiminamimon-tori Ave. (KD).

Table 2 Counts of buildings in Sannei-zaka District

Elements	Points	KA	KB	KC	KD
Façade design	1	2	26	7	6
	0.5	14	13	10	3
	0	31	23	12	8
Building height	1	29	45	22	10
	0.5	15	15	7	7
	0	3	2	0	0
Function	1	10	26	15	5
	0 [/]*	9 [28]	8 [28]	5 [9]	2 [10]
Total		47	62	29	17

*[number]: Noncommercial function like residence, office, service, etc.

In Sannei-zaka District, Road KA and KD are in level No.1⁴ according to the Architecture Standard Act. KA is a two-lane, two-way road with sidewalks, where 17 bus lines go through and stop at Kiyomizu-michi Station. KD is a one-lane two-way road also with sidewalks and avenue

trees on the edges. (Figure 3)

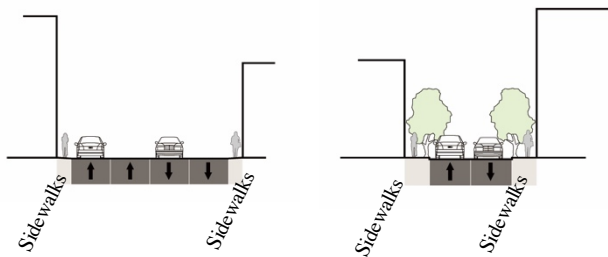


Figure 3 Road section of KA and KD

Road KB and KC are in level No.3⁴. They are both one-lane, one-way road without pavements and have a vehicle-pedestrian mixed traffic. Yasaka-tori is a stone path, just like roads inside the historic district, extending from it. (Figure 4)

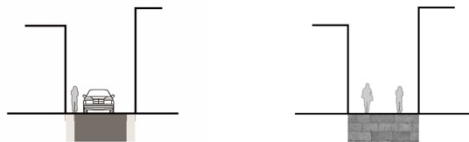


Figure 4 Road section of KB and KC

(2) Fuzimiao District

In Fuzimiao District, totally 56 buildings have been surveyed. Among them, 32 buildings on Jiankang Road (NA), 9 on Zhonghua Road (NB), 10 on Zhanyuan Road (NC), and 5 on Pingjiangfu Road (ND). Because in some cases, there are more than one store in the same building with different commercial type. The number of the function is counted separately, shown as 'building numbers (store numbers)' in the table. There are 203 stores in total.

Table 3 Counts of buildings in Fuzimiao District

Elements	Points	NA	NB	NC	ND
Façade design	1	9	0	2	0
	0.5	5	7	8	2
	0	18	2	0	3
Building height	1	15	2	6	0
	0.5	8	6	4	3
	0	9	1	0	2
Function	1	10 (17)	2 (6)	8 (24)	3 (8)
	0 []	29 (74) [3]	8 (43) [1]	7 (17) [1]	5 (9)
	Total		32	9	10

In Fuzimiao District, Road NA and NB are arterial roads

of the city. 10 bus lines go through the streets and stop at three bus-stops. They're both four-lane, two-way roads for motor vehicles with separated bicycle lanes and pavements on two sides. Part of the subway Line 5 in Nanjing has been planned to construct under Road NA. (Figure 5)

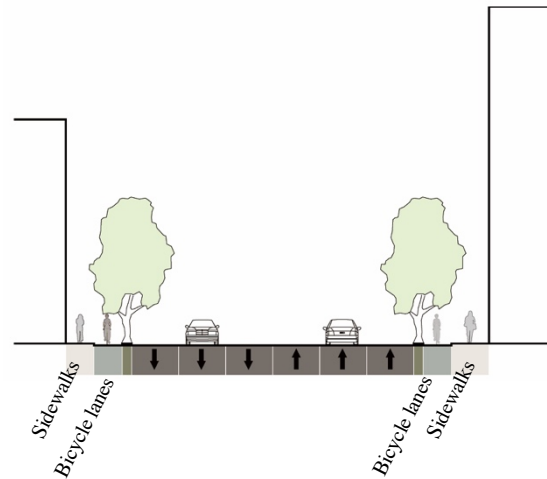


Figure 5 Road section of NA and NB

Road NC, a four-lane, two-way road, is a secondary trunk road with bicycle lanes and pavements. Road ND is only a one lane on one side.

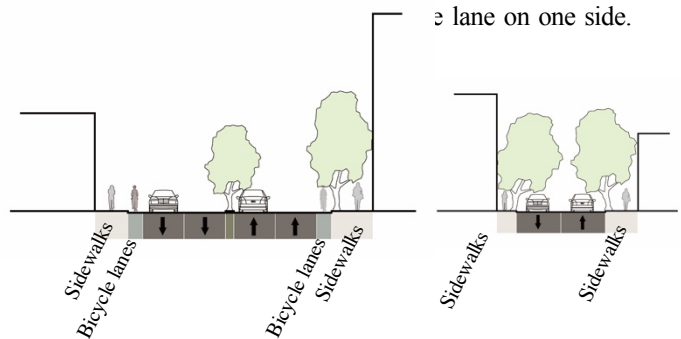


Figure 6 Road section of NC and ND

(3) Street Level and Landscape Assessment

Among roads in Sannei-zaka District and Fuzimiao District, both areas have two arterial roads and two secondary trunk roads. The secondary trunk roads are closer to historic districts than arterial roads. Classified by location and road levels, in both districts buildings along their streets have a similar trend in points for elements that from arterial roads to secondary trunk roads. The average points of secondary trunk roads are higher than that of arterial roads. In other words, when getting closer to historic districts, there's a significant decrease in low-point buildings and increase in high-point buildings. (Figure 7)

So, if a person walks towards the historic district from the station nearby, the street landscape's impression would be a rising feeling about historic atmosphere.

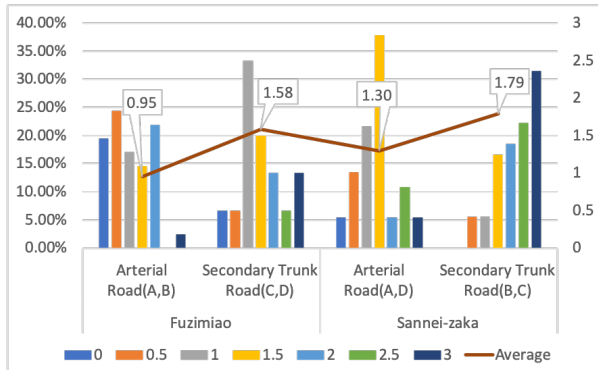


Figure 7 Proportion of total points for buildings classified by road levels

(4) Building Elements Comparison

For every single element in the whole district, the proportion of 1-point level in Sannei-zaka District are all over 50%, higher than that in Fuzimiao District (Figure 8). That means there are more buildings in Sannei-zaka District get higher points and more similar to traditional type if judged from height, façade or commercial type.

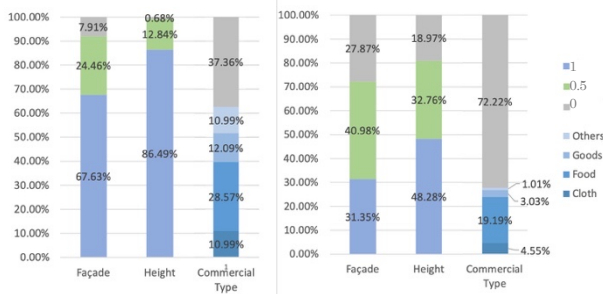


Figure 8 Proportion of Elements in Sannei-zaka District (left) and Fuzimiao District (right)

(5) Spatial Analysis

An essential aspect of townscape composition depends on the ratio of street width to building height.⁵ In the past, street width in cities is according to the scale of human activities and transportation, mostly walking and by wagons at that time. To preserve historic architectures and their surrounding environment as an integration, those narrow alleys are also left as original. Along with low rise traditional buildings, the ratio of street width to building height is in a kind of medieval spatial qualities.

With the change in transportation means, streets became broader and broader. The relation between buildings on both sides of streets is no more merely the street width. Meanwhile, modern urban planning theories also brought

new elements into street landscape. Continuous avenue trees form a new type of landscape and a barrier for the field of vision in streets. The height, density and location of trees also influence people's feeling of space.

In Sannei-zaka District, the streets' width is smaller than 10 meters and almost no obstacles blocking the sight of looking opposite through the streets. And buildings are below five floors in the majority. The street landscape keeps the basic model as building-road-building so that from the view of pedestrians, they can get a quite complete image about every element in streets. The assessment of building elements nearly reflects the characteristics of street landscape.

On the contrary, in Fuzimiao District, over 10-meter wide roads and plants along or in the middle of streets, divide the space into several areas. For pedestrians, the street landscape's border is no longer buildings, changed to street trees on one side. Communication with sceneries and activities on the other side is almost resisted because of the distance and partitions. The average point of Fuzimiao District shows the street landscape is much further from the traditional style. However, the feeling of a large scale modern-type street is also not so strong from the viewpoint of human. More attention is always paid to stores nearby.

8. Conclusion

Kyoto and Nanjing are similar in urban planning history, pattern in old city and strategy on protecting historic resources under modernization. However, the images of street landscape in practice are quite different.

Based on the findings of this research, the following conclusions were drawn:

a. Limitations for construction activities around historic districts

The construction activities are mainly restricted in appearance of buildings, including height, façade design and other decorations on the facades facing the streets. In Nanjing's regulations, there are also control of road planning and building function.

b. Spatial characteristics of the street landscape

According to the assessment system, the total point of each building showed the index of similarity to traditional buildings. In Sannei-zaka District, buildings with 1~2 points were in the majority, which means the buildings

more or less have elements related to tradition and history. Very few buildings had entirely nothing to do with traditional culture and got 0 point. In Fuzimiao District, the proportion of 1-point buildings was the highest, and the second was 0 point. Less than 10% of buildings were over 2 points, compared to 22% in Sannei-zaka District. Thus, there were more buildings in modern style in the surrounding area of Fuzimiao area. (Figure 9)

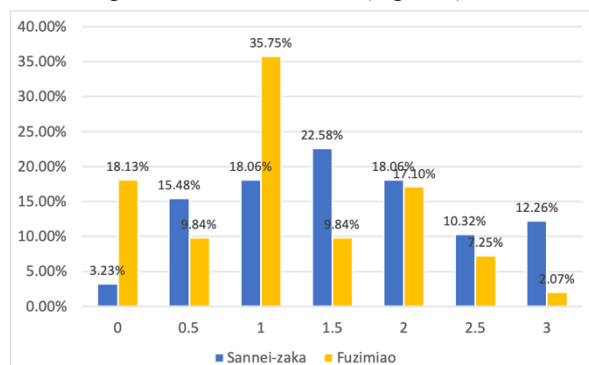


Figure 9 Proportion of every level of total points for each building

In every single element and the overall situation, Kyoto all got higher points than Nanjing. (Table 4) The average point showed a rough image of the street landscape in the surrounding area of a historic district. The landscape of Sannei-zaka District was closer to the historic district compared to Fuzimiao District.

Table 4 Elements' index of similarity to traditional buildings

	Buildin g Height	Façad e Design	Function	Commercial Type	Average
Sannei-zaka District	82%	79%	36%	62%	1.58/3
Fuzimiao District	60%	39%	27%	27%	1.14/3

c. Influence and relation of elements

Nowadays the scale of streets and buildings in some modern cities has been beyond the maximum of an individual's perception. Pedestrians walking in streets were always hard to perceive a complete street landscape in a

building-road-building mode like before. Sometimes people were feeling about an image of items on the road-pavement-partial external appearance of buildings on lower floors. As a result, besides the points in building elements, characteristics of the street landscape are closer or further to historic districts should be considered from the human dimension, too.

d. Coexistence of modernization and historic districts protection in modern cities

For new constructions, the limitations were considered to adapt modern buildings to traditional style, by controlling tangible aspects in construction. Meanwhile, adding traditional elements to modern constructions was also a common method to prevent over modernization around historic districts.

9. Recommendation

To shape an image of a historic city, besides the silent appearance of buildings in traditional style, stone alleys or other historical constructions, the historic image's core is the active intangible aspects of the culture and the people, behind the appearance. One aiming to a historic district usually wants to know what is like in the past to experience what is unique. Such as in and around the historic areas, traditional costumes are sold or rent for tourists. It's a part of image shaping, combining the human activity, wearing traditional clothes, with the environment, a traditional town, so that a complete image of the historic district has been finished. Interaction makes people have a sense of participation in the environment, which is the streets' original function.

The final results of landscape planning must be tested from the human's viewpoint. There is no need to blindly pursue every single element to be coherence with historic areas. People live or pass by a place, the impression left in their mind is from vision and other senses. When it's hard to change the physical environment, it's a good choice to think about soft elements.

References

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