

Modernization from Road-building and Transport Planning

The Modern Hankow British Concession

Jierui Lyu, Gangyi Tan, Guodong Chen

Huazhong University of Science and Technology

Abstract

The urban spatial structure of the modern Hankow British Concession is vastly different from that of the adjoining Old Town. Its mode of urban planning and construction had a profound impact on the modern transformation and urban development of modern Wuhan. Previous studies have discussed the concepts of Roadism with Guangzhou as an example, but there is insufficient knowledge related to other treaty ports cities in modern China. This study uses the research methodology of urban morphology to analyse historical evidence from primary archives to investigate the “top-down” process of road-building and transport planning in the Hankow British Concession. As also, the paper discusses the evolution of road networks, block plots and architectural spaces in the Concession under the influence of the construction administration system. Road-building and transport planning was the main way in which the British colonial authorities organised the basic framework of the spatial form of the Concession, as well as an important means of governing the social space and improving the lives of the residents. The construction and development process of the road system in the Concession implies the causes, explicit characteristics and hidden order of the modern development of Hankow and Wuhan city in modern times.

Keywords

Hankow, British Concession, Modernization, Road-building, Transport Planning

How to cite

Jierui Lyu, Gangyi Tan, Guodong Che, “Modernization from Road-building and Transport Planning: the Modern Hankow British Concession.” In Ian Morley and Hendrik Tieben (eds.), *International Planning History Society Proceedings*, 20th IPHS Conference, “The (High Density) Metropolis and Region in Planning History,” Hong Kong, 2 - 5 July, 2024, TU Delft Open, 2024.

10.7480/iphs.2024.1.7656

INTRODUCTION

The former Hankow British Concession was opened in 1861, and remained under British administration for the next 66 years. It has become a Western-style settlement with colonial self-government along the Yangtze River, which contrasts sharply to the traditional Hankow town along the Han River. The spatial development of the Concession in the early years began with the network of roads, which were used by the first consul in Hankow to frame the boundaries and divide the land into blocks. Unlike the fishbone-like long streets and short alleys of the Old Town, the grid-straight roads of the British Concession reflects the traces of topography and historical events, and suggests the differences between the logic of urban development in different areas of the Wuhan city.

Focusing on key spatial and temporal fragments in the construction of the road system in the Hankow British Concession, this paper analyses the primary archival materials and documents and historical maps from The National Archives, UK. This paper attempts to explore the ways in which the Concession authorities constructed and managed road space, the means of space and social governance, and the commercial logic behind the urban form. In fact, the British colonial authorities used the road-building and transport planning as an important means of rapidly capturing commercial interests in treaty ports, and created Western, modern social and cultural spaces for the concession's occupants.



Fig. 1. Historical map of the Hankow British Concession, 1864.² A parallelogram of roads divides the 10 blocks of the concession

ROADS AS THE BASIC FRAMEWORK OF THE HANKOW BRITISH CONCESSION

The Hankow British Concession focused on building its road system from the very beginning of its construction. The crisscrossed roads framed the boundaries of the concession, divided the internal blocks, connected the transportation of goods. The building facilities of the Concession were also laid out along the roads. Under the conscious construction administration actions of the authorities, the road system formed the basic spatial pattern of the concession, and became an important administrative tool to demarcate autonomous areas, manage and lease land, and manage colonial trade within the concession.

ROAD-BUILDING DETERMINED THE DIRECTION OF SPATIAL DEVELOPMENT IN THE CONCESSION

When the Hankow British Concession opened in the 1860s, the first important task facing the first British Consul William Gingell, was to dispose the lots to British merchants in the Concession efficiently, reasonably, and relatively equitably. He paid a sum to the local government for a strip of the concession ground running its whole length, and asked each of the British applicants for his share of the sum and at once mark off each lot and give it into possession of the British applicant.¹ This mode of taking possession of lots directly determined the spatial form in the early stage of the development of the Concession. Under the unified arrangement of the consulate, the area of the Concession was redrawn into 18 lots, which were further divided into 72 parallelogram plots of similar scale and area by the intersection of parallel roads and roads intersecting the Yangtze River at an angle of about 72°. It can be surmised that the 18 lots consisted of a consulate lot, a cemetery lot, and 16 street frontage lots laterally divided from the 8 commercial blocks. The diagonal concession roads were relatively consistent with the angle of the road texture in the Old Town of Hankow, reflecting a certain adaptability of the concession land division to the original texture of the area.

The construction at the beginning of the Hankow British Concession was characterised by a typical East Asian colonial planning and management of British concessions and settlements,³ as well as by early functionalist influences from Europe and the United States. Peripheral roads in four directions framed the autonomy of the concession, separating it from the traditional Hankow town and fields. The grid-straight roads running in both directions facilitated the efficient movement of goods between the river wharves and the plots of land within the boundaries. The 8 commercial blocks were basically of the same scale, and were evenly divided into two groups of upper and lower plots, with at least one side of each individual plot fronting on the street. Equally sized plots and street frontages became the standard unit of land lease, facilitating mapping, subletting and management. A wide bund has been built along the waterfront, leaving plenty of room for wharves and boats.

The disposition of lots and construction of roads in the Concession were dominated by British consular officials and also influenced by the British navy and British merchants, with the main considerations of economy, traffic, efficiency of construction and security of residence.

During this period, the road-building and transport planning of the Hankow British Concession was mainly inherited from the general pattern of Western-style colonial planning. The basic framework and the urban form of the Concession, which was centred on the idea of serving the colonial trade, was constructed under the management of the invaders who did not have any professional knowledge of the background of planning.

THE ROAD-BUILDING AND TRANSPORT PLANNING BECAME THE PRECURSOR TO THE HANKOW BRITISH CONCESSION EXTENSION

At the end of the 19th century, taking advantage of the extension of the Hankow British Concession towards the city's north-west wall, the Municipal Council also systematically expanded its power to encroach on land outside the Concession in the name of road-building. The responsibility for land transactions, management and road-building in the extended area of the Concession was mainly assumed by the Municipal Council. The Municipal Council firstly compulsorily purchased the housing estates already acquired by Chinese and foreign merchants in the extended area. This work was not fully completed until 1902.⁴ In the same year, a new revised Land Regulation was promulgated, and the Municipal Council was legally empowered to purchase land leading or being out of the Concession in accordance with the new provision added to the regulation. The Regulation gave the Council the power to acquire land outside the Concession for the purpose of converting the same into roads, public buildings and offices, or public gardens and places of recreation and amusement. The road system of the Concession further became a means of transborder occupation and spatial extension by the British colonial authorities.

Both the old and new boundaries of the Hankow British Concession were defined by roads. The internal roads of the extended area no longer continued the parallelogram grid of the Concession in 19th century, and an irregular urban texture emerged. The land tenure situation and urban form faced by the Council in this period were more complicated than those in the 1860s, as there were already divided plots, built-up roads and properties in the area. Considering that creating the new roads from the original roads of the Concession to the extended area in a straight line was too expensive, the Council decided to build the new area based on the original roads and plot pattern of the site.

Comparison of the 1898 and 1903 historical maps of the Hankow British Concession confirms that the land divisions and road-building of the extension mirrored the original physical texture of Chinese and foreign merchants' properties in the area. As a result, the extended area underwent significant changes. Although the road network basically maintained the shape of the crisscrossed grid, the vertical roads had no longer maintained a uniform angle, and diagonal roads that do not connect to the Bund appeared. The scale and shape of the blocks changed, confined to the shape of the city wall and resulting in pentagonal and triangular shaped blocks. The property plots in the extended area revealed irregular shapes and sizes.

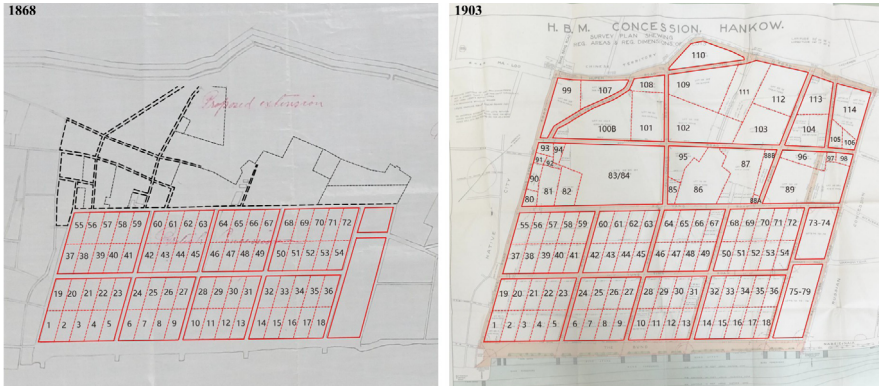


Fig. 2. Comparison of the Urban Form of the Hankow British Concession in 1868 and 1903.⁵ Roads and blocks construction in the extended area partly followed the original physical texture

To sum up, the road system of the former Hankow British Concession, as the basic framework of the settlement, was used by the colonial authorities to define and extend the boundaries of self-government, to regulate land transfers, and to organise trade routes from the wharves to the hinterland. In the early period of the opening of the treaty port, the Concession was constructed on the wasteland of the fields. Therefore, the road-building and transport planning followed the colonial square grid planning, ignoring and overriding the original texture in the environment. At the beginning of the 20th century, the Hankow British Concession was entering into the real estate boom gradually. As land rents had risen, the cost of continuing the previous road grid had been prohibitively high, so the construction of the roads and blocks in the Concession Extension reflected a compromise on topography and tenure relationships.

ROAD-BUILDING AND TRANSPORT PLANNING AS THE MEANS OF SPATIAL GOVERNANCE

In the 20th century, public utilities and municipal construction in the Hankow British Concession developed rapidly. Under the goal of municipal improvement, the Land Regulation and Bye-laws of the Hankow British Concession revised and added provisions related to roads and transport year by year. The provisions expanded the authority of the Council on the control of road construction, and regulated that pedestrians on the roads behave in an orderly and modern way. The rules and bye-laws related to roads and transport in the Concession has been modernised. Guided urban planning emerged in the way the Municipal Council constructed and maintained the road system. The Council actively participated in the control of urban affairs and the management of social space in the Concession through the widening of roads, the adjustment of road corners, and the transformation of the shape of the street.

The Version	Relevant Positions: Quantities	Relevant Provisions: Serial Numbers	Relevant Provision: Content Summary
1874 ⁶	6	6, 7, 9, 10, 13, 16	The management of the roads and the laying out and repairing and closing thereof, shall be vested in the Municipal Council.
			The abatement of nuisance and the penalty of owners shall be vested in the Municipal Council.
			The management of the roads and the laying out and repairing and closing thereof, shall be vested in the Municipal Council.
			The abatement of nuisance and the penalty of owners shall be vested in the Municipal Council.
1902 ⁷	7	6, 7, 9, 13, 15, 18, 22	The road sanitation shall be vested in the Municipal Council.
			No owner or occupier of land or buildings outside of and abutting on the British Concession shall be allowed to have an entrance or entrances on to the Concession without a license first obtained from the Council and countersigned by H.B.M.'s Consul-General.
			The management of the roads and the laying out and repairing and closing thereof, shall be vested in the Municipal Council.
			The abatement of nuisance and the penalty of owners shall be vested in the Municipal Council.
1916 ⁸	12	30, 31, 32, 33,	The road sanitation shall be vested in the Municipal Council.
			The construction and renovation of road sewage systems shall be vested in the Municipal Council.
			The rules and regulations for street traffic must be observed.
			No fireworks, the Chinese procession, and the transit of troops are allowed in the street, except when provided with a permit.

Table 1. Collation of road and traffic regulations in Hankow Municipal Regulations and Bye-laws of the British Concession. There are a total of 8 different versions of the Hankow British Concession Land Regulations that can be verified, and only 3 representative versions are summarised here.

ROAD AND TRAFFIC REGULATIONS: A TOOL FOR IMPROVING THE QUALITY OF URBAN SOCIETY AND THE QUALITY OF LIFE OF ITS SETTLERS.

In the 19th and 20th centuries, the number of road and traffic regulations and bye-laws in the Hankow British Concession in continued to increase, and the object of the provisions expanded from non-human road facilities to the settlers themselves. The cultivation of modern civic consciousness in the regulations was a manifestation of the modernisation of municipal administration. The first category of road bye-laws and regulations stipulated the responsibility of the Municipal Council for the management, laying out, and repair of the road system. After many revisions, the scope of its control has gradually expanded from the road proper to include drainage facilities, road sanitation, road occupancy, and many other aspects. The second category of traffic bye-laws and regulations appeared in the 20th century, regulating

the activities and behaviour of passers-by and drivers to ensure road safety and tidiness while maintaining traffic order. In the process of improving the road and traffic regulations in the Concession, the text of the regulations was gradually standardised, the rights and responsibilities of all parties were gradually clarified. More importantly, the development of the social and cultural space in the Concession was guided by the authorities.

MUNICIPAL IMPROVEMENTS: CONSTRUCTION OF ROAD SYSTEMS ADAPTED TO MODERN MEANS OF TRANSPORT

Roads, as 'consumables' in the space of the concession, required constant maintenance, material and construction improvements. In the 19th century, the Hankow British Concession used to lay gravel and bricks on top of compacted dirt roads, which caused a lot of dust and a rapid consumption of pavement materials. At the end of the 19th century, the Council introduced the use of concrete and cement to build sidewalks to separate passers-by from vehicle. In the 20th century, the emergence of motorised vehicles became a direct cause of innovation in road construction. Motorised vehicles had a gravity and speed unmatched by horse-drawn carts and rickshas, causing concession roads to collapse and raise dust. To make matters worse, the parallelogram road grid and the narrow width of the roads led to blind spots and steering difficulties for motorists. At the same time, the irregular driving behaviour of motorists also strongly endangers public safety in the concession.

The popularity of new types of transport placed new demands on the authorities to manage public affairs in the Concession space. In order to cope with the new situation, the Municipal Council of the Hankow British Concession actively improved the roads, and the specific measures included replacing the road surface materials, widening the roads, and rounding off the corners of the roads.⁹ On the other hand, the Annual Meeting of Ratepayers and the Municipal Council successively introduced institutional norms for the movement of motor vehicle traffic within the concession, and registered and controlled car drivers. With the active intervention of the authorities, the road traffic facilities in the Concession widely accommodated the construction methods, building materials, and means of transport that circulated with the colonial trade, and were in line with the advanced Western road construction concepts and technologies.

The widening of roads and the adjustment of road corners changed the street pattern of the Concession, which in turn influenced the design of facades, entrances and plans of the new buildings at the intersections of the Concession. The unique non-orthogonal road network of the Hankow British Concession became the background for the spatial strategy and design of the buildings in the early 20th century, and the authorities' control of the road system in plan indirectly influenced the vertical architectural and urban landscape.

The evolution of the road space in the Hankow British Concession was driven by the external force of technological change and the internal force of municipal improvement. In the early 20th century, the authorities strongly promoted the development of the road framework and street style of the Concession towards modernisation. The quality of space and life in the Concession towards modern civilisation.

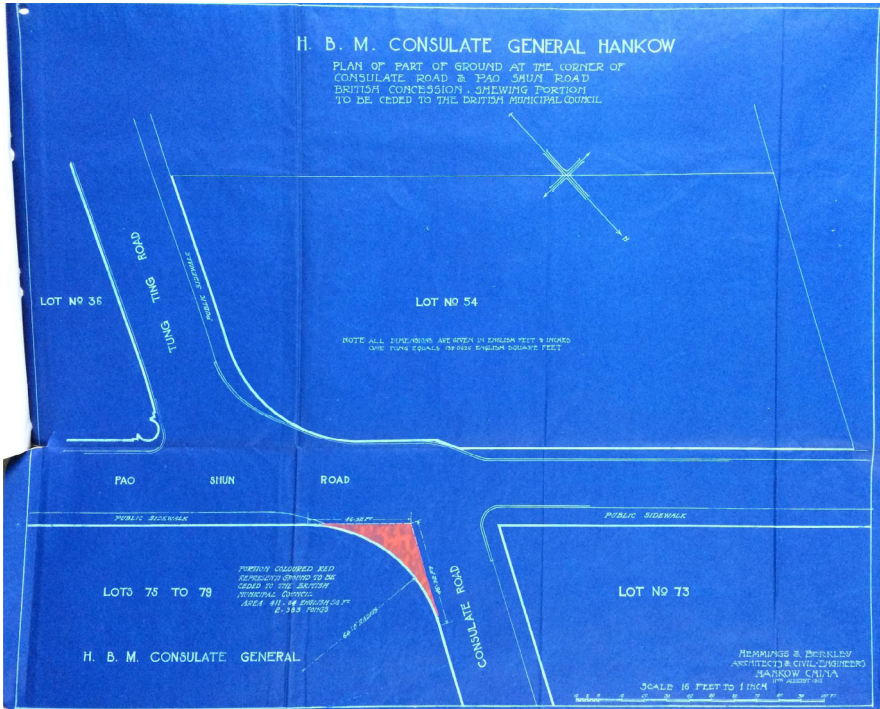


Fig. 3. The widening of roads and the adjustment of road corners in the Hankow British Concession.¹⁰ Shewing the portion ceded to the British Municipal Council

SPROUTING OF MODERN URBAN PLANNING IDEAS IN ROAD-BUILDING AND TRANSPORT PLANNING

In the 1920s, the Council began to apply modern urban planning ideas and methods to the construction of roads and blocks in the Concession. In 1919, the Council acquired the property of Lot 89 in the Concession, and combined it with the Lot 96 which was originally owned by the Council to form a more complete block. In the same year, the Municipal British School was built on Lot 89 by resolution of the Annual Meeting of Ratepayers.¹¹ Prior to this, the adjoining Lot 96 had already contained a market run by the Council, a Sikh's gurdwara, and the barracks and stables of the Concession Fire Brigade. These municipal facilities were located in the northernmost part of the entire Hankow British Concession, sandwiched between the two main north-south roads, with the Russian Concession across the street to the north. The length of the longitudinal street profile of this block reached 494 feet 3 inches. In the following years, the barracks for the Volunteer Corps, the Union Jack Club and some quarters for inspectors and staff of the Municipal Council were built in the block.¹² There was a further increase in public buildings, with a high volume of daily pedestrian traffic and progressively more serious problems of road congestion.

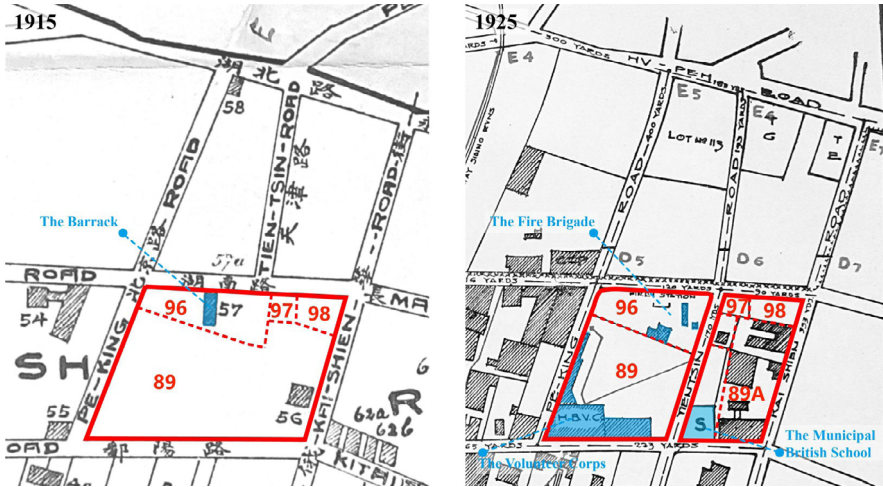


Fig. 4. Impact of Public Facility Construction on the Subdivision of Lots 89 and 96.¹³ The Municipal Council built a new east-west road in this large-scale block to smooth the traffic flow

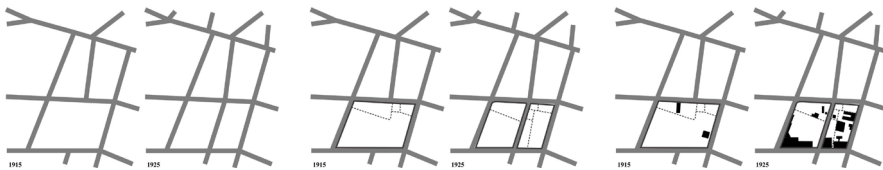


Fig. 5. The urban morphological transforming in Lots 89 and 96. The new road had an important impact on urban fabric

In order to plan for new municipal space and to divert public transport, the Council built a new east-west road in this large-scale block to redivide the two blocks. The improvement of the road system in the concession area profoundly affected the development of the urban form at different levels, such as block texture, building facilities, etc. Furthermore, the authorities of the Hankow British Concession drove real estate development and urbanisation through road-building and transport planning, demonstrating a certain amount of modern urban planning ideas and guiding characteristics.

THE ROAD SYSTEM AS A SHOWCASE FOR WESTERN MODERN CIVILISATION

The modern and well-organised streets and urban landscape of the Former Hankow Concession contrasted sharply with the organically grown, narrow and crowded street spaces of the Old Town. In the Hankow British Concession, the Bund along the Yangtze river is undoubtedly

the most visible. This avenue articulated the port terminals, the Hankow Customs House, the British Consulate, and well-capitalised foreign firm buildings, planted with wide riverside green belts, and formed the centre of European life in the treaty port.¹⁴ The road system of the Concession including the Bund also acted as a window of Western modern civilisation, presenting modern urban construction administration to the Chinese public, providing a reference for Wuhan's urban road- building and transport planning from the late Qing to the Republican period.

THE BUND WAS THE CENTRAL SPACE FOR THE POLITICS, ECONOMY AND SOCIETY OF THE HANKOW BRITISH CONCESSION

The idea of the bund is not only the road itself, but included the architecture alongside it, piers and jetties, the pedestrian walkway and the landscape park that travelled parallel to the waterside. The space of the bund was influenced by the Municipal Council, the foreign companies and merchants of the Concession, the Customs and the British Navy, etc. The Customs House and the Consulate, located at the two ends of the bund, dominate the entire avenue of the Hankow British Concession. The Customs House was close to the Old Town and the British Consulate was far away, this spatial distance suggested the relationship between their power and duties and those of the Chinese side. The longitudinal roads leading to the bund corresponds to the wharves, which were conducive to efficient land and waterborne trade and freight transport. The residences and office buildings of the foreign firms along the street showed their wealth and strength as much as they can under the unified architectural control. The green belts along the river formed a landscape axis parallel to the road, which taked care of the settlers' social and civilised life in the Concession.

Generally speaking, the Municipal Council constructed and administrate the space within the waterfront, while the foreign companies and merchants dominated the wharves and the river. According to the Land Regulations and Bye-laws, the responsibility for the construction, repairing and management of the wharves, piers and jetties on the bund belonged to the Municipal Council. However, in practice this function was ceded by the Council to the major foreign firms that leased the bund frontages. The ceding of municipal control over the bund frontages to commercial interests suggests that the nature of municipal construction and administration by the Concession authorities also served the colonial trade. It also reflects the importance of the bund as a stronghold of British colonial commercial settlements in China.

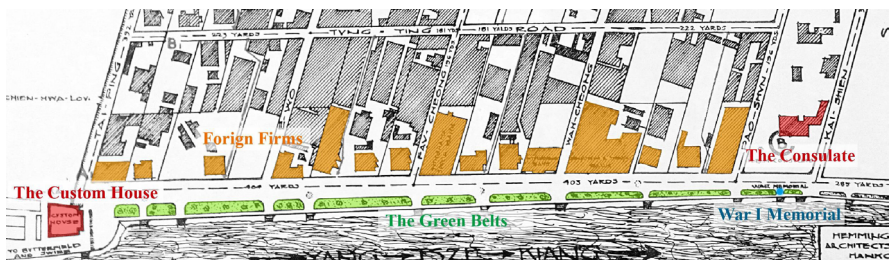


Fig. 6. The bund of the Hankow British Concession, 1925.¹⁵ Buildings and municipal facilities on the bund showed a competitive spatial relationship

INFLUENCE OF THE ROAD-BUILDING AND TRANSPORT PLANNING IN THE CONCESSION ON THE URBAN PLANNING OF MODERN WUHAN

Since 1846, when the Committee on Roads and Jetties had been established by the first Land Renters' Meeting of Shanghai British Concession, the municipal construction and administration mode, mainly based on road construction, was introduced into the treaty ports and cities of modern China. In 1905, Zhang Zhidong, the Viceroy of Huguang, set up the Hanzhen Road Engineering Bureau as a specialised agency for municipal construction in Hankow in the late Qing Dynasty. This event marked the beginning of modern urban planning in Hankow. In the 1910s, he also set up the Road Engineering Bureau, constructed the grading system of streets and roads, and built the road network of the Hankow Old Town. The urban planning and construction mode with the modern road transport system as the forerunner subverted the traditional construction method of building houses first and forming streets later. Hankow's new residential areas and markets expanded inland along with the roads.

In the 1920s and 1930s, the government of Hankow Special City led a series of municipal reforms and construction campaigns, and the construction of roads along the Yangtze river and Han river in the Hankow Old Town was listed as the first project. According to Dong Xiujia, the chairman of the Municipal Council of Hankow Special City, roads were the arteries of the city, and all functions and facilities in the city were linked to roads.¹⁶ Roadism greatly influenced the urban planning ideas and construction patterns in Chinese treaty ports during this period. The role of the construction and administration of the road system in the concessions and settlements in guiding this historical process should not be overlooked.

CONCLUSION

The road-building and transport planning in the former Hankow British Concession reflects the urban planning and construction ideas of the Concession authorities, which were mainly based on commercial interests. The road transport system became a tool and means of spatial governance, shaping the port city form of the Concession, improving the behavioural quality of the settlers, and reconstructing the economic and cultural space along the river in Hankow. It is of academic significance to analyse the urban construction administration system of the British Concession in modern China from the perspective of the road transport system, and to clarify the development strategy of modernisation of Chinese cities. This paper also helps to deeply understand the value of the road system in the concessions as an urban heritage, which has certain current practical significance.

ACKNOWLEDGEMENTS

The authors heartily thank the IPHS conference. All remaining mistakes are the authors own.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Jierui Lyu is a PhD candidate at the School of Architecture & Urban Planning, Huazhong University of Science and Technology. Her focus is urban history of modern China.

Gangyi Tan is a professor at the School of Architecture & Urban Planning, Huazhong University of Science and Technology. His research interests include modern urban and architectural history, cultural heritage conservation, and vernacular architecture and rural practice.

Guodong Chen is a lecturer at the School of Architecture & Urban Planning, Huazhong University of Science and Technology. His research interests include urban history in East Asia and cultural heritage protection.

ENDNOTES

1. Britten Dean, "Sino-British Diplomacy in The 1860s: The Establishment of The British Concession at Hankow," *Harvard Journal of Asiatic Studies*, 32 (1972): 79.
2. F.O.228/1276. Inclosure in Mr Warren's No. 14 of 26th April, 1898. Copy of Mr. John Gavin's plan of 1864.
3. Guodong Chen, Nuobo Aoki, and Subin Xu, "The Beginning of Modern Cities in East Asia - A Comparative Study of Colonial Planning and Management in British Concessions and Residences," *The Architect*, 03 (2019): 52.
4. F.O.228/1457. British Concession at Hankow Minutes of Annual Meeting of Landrenters, 26th February, 1902.
5. Redrawn from maps in the National Archives, UK.
6. F.O.228/651. Land Regulations and Bye-Laws of the British Concession at Hankow, 1874.
7. F.O.228/2325. Revised Land Regulations and Bye-Laws OF British Concession at Hankow, 3rd July, 1902.
8. F.O.228/2709. Hankow Municipal Regulations and Bye-Laws, 1916.
9. Dan Wang, "Study on the Municipal Construction of British Concessions along the Yangtze River in Modern Times and its Associated Impacts (1861-1929)" (master's thesis, Huazhong University of Science and Technology, 2022), 123-130.
10. F.O.229/1945. Plan of Part of Ground at the Corner of Consulate Road & Pao Shun Road British Concession.
11. F.O.228/3184. British Municipal Council, Hankow. Report for the Year 1919 and Budget for the Year 1920.
12. F.O.228/3184. British Municipal Council, Hankow. Report for the Year 1920 and Budget for the Year 1921.
13. Redrawn from maps in the National Archives, UK.
14. Jeremy E. Taylor, "The bund: Littoral space of empire in the treaty ports of East Asia," *Social History*, (27:2)2002: 129
15. Redrawn from maps in the National Archives, UK.
16. Yiyuan Zeng, "The Evolution History of Road Space and Its Mechanism Research in Early-modern Hankou" (master's thesis, Southeast University, 2018), 32-33.

REFERENCES

Chen, Guodong, Nuobo Aoki, and Subin Xu. "The Beginning of Modern Cities in East Asia - A Comparative Study of Colonial Planning and Management in British Concessions and Residences." *The Architect* 03 (2019): 51-69.

Dean, Britten. "Sino-British Diplomacy in The 1860s: The Establishment of The British Concession at Hankow." *Harvard Journal of Asiatic Studies* 32 (1972): 71-96.

Dossier No.108F Concessions and Settlements Hankow. Vol. I. The National Archives, UK: F.O. 228/3184, 1917.

From Hankow. The National Archives, UK: F.O. 228/1276, 1898

Lyu, Jierui. "Urban Construction Administration System and its Impact on Urban Form of the British Concession, Hankow (1861-1927)." Master's Thesis, Huazhong University of Science and Technology, 2022.

Tan, Gangyi, Kai Liu. "The Boundary of Foreign Settlement and Its Effect in Hankou." *Huazhong Architecture* 27 07 (2009): 202-212.

Taylor, Jeremy E. "The Bund: Littoral Space of Empire in the Treaty Ports of East Asia." *Social History* 27 02 (2002): 125-142.

To and from Hankow. The National Archives, UK: F.O. 228/1457, 1902. To and from Hankow. The National

Archives, UK: F.O. 228/1945, 1915. To and from Hankow. The National Archives, UK: F.O. 228/651, 1880.
Volume 495 (King's Regulations). The National Archives, UK: F.O. 228/2709, 1916.

Wang, Dan. "Study on the Municipal Construction of British Concessions along the Yangtze River in Modern Times and its Associated Impacts (1861-1929)." Master's Thesis, Huazhong University of Science and Technology, 2022.

Yuan, Jicheng. *Hankou zujia zhi*. Wuhan: Wuhan chubanshe, 2020.

Zeng, Yiyuan. "The Evolution History of Road Space and Its Mechanism Research in Early-modern Hankou." Master's Thesis, Southeast University, 2018.

IMAGE SOURCES

- Figure 1 The National Archives, UK: F.O. 228/1276, 1898.
Figure 2 Redrawn by Jierui Lyu, The National Archives, UK, F.O. 228/1276, F.O. 228/1502.
Figure 3 The National Archives, UK, F.O. 229/1945, 1915.
Figure 4 Redrawn by Jierui Lyu, The National Archives, UK, F.O. 228/2143, F.O. 228/3187.
Figure 5 Redrawn by Jierui Lyu, The National Archives, UK, F.O. 228/2143, F.O. 228/3187.
Figure 6 Redrawn by Jierui Lyu, The National Archives, UK, F.O. 228/3187.

