

Japanese Architect Yoshikazu Uchida's Planning Techniques for Blocks and Plots

His research on domestic and overseas cases during the pre-World War II period

Takaaki Nakagawa
Utsunomiya University

Abstract

Japanese architect Yoshikazu Uchida (1885–1972) is known for his creation of large-scale urban plans for suburban residential areas in Japan and overseas colonial settlements. This study aimed to better understand Uchida's planning techniques for blocks and plots, and sought to clarify the formation of these techniques based on domestic and international case studies during the pre-WWII period. Using a literature survey research method, this study analysed “block and plot” materials preserved in Uchida's collections, including a notebook in which he hand-copied from Japanese and foreign literature. Firstly, the author mainly utilized the Garden City plan (1919–1922) and a residential area plan (1933) for agricultural migrants to Manchuria to gain a better understanding of the characteristics of the blocks and plots planned by Uchida. Next, the author identified the original of his handwritten notes to show that Uchida collected examples from Japan and abroad in the pre-WWII period and compared the size and layout of blocks and plots. This study reveals that Uchida was open to overseas influences and that he developed his own planning techniques. The findings hold significance regarding the establishment of the neighbourhood unit and land readjustment in Japan.

Keywords

Yoshikazu Uchida, blocks, plots, neighbourhood unit, land readjustment

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INTRODUCTION

In Japan, modern urban planning was established in 1919 by academics and bureaucrats specializing in civil engineering, architecture, and landscaping. At this time, Yoshikazu Uchida (1885–1972) was involved in drafting the bill as an architect. Yoshikazu Uchida is known for creating large-scale urban planning plans, including domestic suburban residential areas and overseas colonial plans. Representative plans include the Garden City Plan (1919–1922) on the outskirts of Tokyo, the Company Estate Plan (1920–1922) of Osaka Hokko Co. Ltd., the residential area plan (1933) for agricultural immigrants to Manchuria, and the Datong City Plan (1938) in China. How did Yoshikazu Uchida decide on the size and placement of blocks and plots¹ when creating urban planning plans? To answer this question, the purpose of this study was to understand the characteristics of Yoshikazu Uchida's planning techniques related to blocks and plots and to clarify that these techniques were formed based on Yoshikazu Uchida's pre-war domestic and international case studies.

Previous research on planning by Yoshikazu Uchida includes a study by Naoto Nakajima² of the Datong City Plan (1938) in China, which is famous for its use of neighbourhood units. Naoto Nakajima indicated that, prior to the Datong Plan, Yoshikazu Uchida and co-designer Eika Takayama had collected foreign illustrations regarding neighbourhood units in their Dojun-kai³ research of the 'Continuing Collection of Housing Site Allocation Cases in Foreign Countries' (1938)⁴. Shigeo Nakano et al. clarified that Yoshikazu Uchida's Hitachi, Ltd. Company Housing District (1935–1939) also incorporated the neighbourhood unit⁵ and that neighbourhood units were considered by the Architectural Institute of Japan Housing Issues Committee and the Japan Life Science Institute Architectural Subcommittee during World War II⁶. In contrast to these examples, the present study is unique in that it elucidates part of the process by which a planning technique was formed through analysing surveys by Yoshikazu Uchida from an earlier era. Regarding the neighbourhood unit, research by Donald Leslie Johnson⁷ reveals that it was popularized by William E. Drummond from 1913 to 1922, prior to Clarence A. Perry's proposal in 1929. Mervyn Miller⁸, who studies Raymond Unwin, notes that Pixmore (1907–1909) at Letchworth achieved 'the scale of a self-contained neighbourhood'. Carola Hein⁹ traces the origins and evolution of *machi*, the Japanese term for both neighbourhood and small town. The present study is significant in that it clarifies the points of contact with overseas countries in the early days when neighbourhood units were established in Japan. Regarding land readjustment, Japan is known to have followed Germany's model¹⁰. In particular, Tsuruta and Sato¹¹ clarify in detail the evolution of land readjustment design standards in Japan. The present study also has significance in relation to the establishment of land readjustment in Japan. While researching the Garden City Plan (1919–1922)¹² and the Company Estate Plan (1920–1922)¹³ of Osaka Hokko Co. Ltd., the author of the present paper and Junko Sanada revealed that Yoshikazu Uchida used overseas planning techniques such as cul-de-sacs and houses surrounding open spaces throughout. The analysis in the present study also includes the 1910s and 1920s, and the findings indicate that Yoshikazu Uchida played a role in introducing overseas planning techniques in Japan during this early period.

The research method is a literature survey, and the analysis uses the 'Kukaku/Shikichi [Block/Plot]'¹⁴ materials stored in the Yoshikazu Uchida collections¹⁵ of the Tokyo Metropolitan Ar-

chives. This file was compiled by Yoshikazu Uchida himself and mainly consists of some printed matter, notes handwritten by Yoshikazu Uchida, and numerous domestic and international illustrations. First, by analysing the printed materials on the Garden City Plan (1919–1922) and the rural plan (1933) for Manchuria, the characteristics of the blocks and plots planned by Yoshikazu Uchida are determined. Next, by identifying and tracing the original publications of his handwritten notes, the fact that Yoshikazu Uchida collected domestic and international cases during the pre-war period and compared the size and numerical standards of blocks and plots is clarified. Thus, the aspects of Yoshikazu Uchida's influences from overseas as well as those of his unique planning techniques are elucidated.

CHARACTERISTICS OF BLOCKS AND PLOTS PLANNED BY YOSHIKAZU UCHIDA

Included in the material 'Kukaku/Shikichi [Block/Plot]'¹⁶ are bound copies of articles from *the Journal of Architecture and Building Science* on the Garden City Plan (1919–1922)¹⁷ and the residential area plan (1933)¹⁸ for agricultural immigrants to Manchuria. Below, the author uses these articles by Yoshikazu Uchida to compare and examine block and plot characteristics.

The Garden City Plan is a plan that Toshi Kenkyu-kai¹⁹ commissioned Yoshikazu Uchida to create in September 1919 to consider the Housing Company Bill. After Yoshikazu Uchida presented his drawings to a committee of Toshi Kenkyu-kai in October of the same year, he continued to work on the plan on his own and announced it at a special conference of the Architectural Institute of Japan in April 1922²⁰. Although this was a plan that would not, in reality, be constructed, it targeted an actual location in the western suburbs of Tokyo and took into consideration surrounding conditions such as topography and traffic²¹. The residential area plan for agricultural immigrants to Manchuria was a rural plan published as a draft plan in 1933. This is a standard model that is not intended for real locations. Toshiro Kasahara, Tetsuya Kato, Hideto Kishida, and Kosuke Hishida helped Yoshikazu Uchida to create this plan²². Because the two plans are both model proposals, it is thought that Yoshikazu Uchida's ideal block/plot can be clearly understood through their analysis.

First, the overall structure of the two plans is determined (Table 1). The Garden City Plan, which aims to alleviate the housing shortage, includes 106.86 ha of residential land and 19.72 ha of agricultural land within the planned area of 176.06 ha. In the rural plan for Manchuria, one village is made up of three regular hexagonal settlements. At the centre of each settlement is a residential superblock, which is surrounded by restricted land, farmland, plantations, and open space (Figure 2). Of the village's 6,750 ha, 84 ha account for residential land, and 4,680 ha constitute agricultural land. As the main objectives of the two plans diverge, the ratio of residential land to agricultural land is completely different. The Garden City Plan includes 110 large houses, 1,933 medium-sized houses, 636 small houses, and 359 shops, for a total of 3,038 houses, and the estimated population is 15,000. In other words, the ratio is approximately five people living in one house. The rural plan for Manchuria calls for 450 houses per village (three settlements), with an average population of 2,250 people, also based on a ratio of five people per housing unit.

Garden City Plan (1919–1922)		Rural plan for Manchuria (1933)		
			One settlement	One village
Residential area	106.86 ha (323,262 <i>tsubo</i>)	Residential area	28 ha	84 <i>ha</i>
Farmland	19.72 ha (59,664 <i>tsubo</i>)	Farmland	1,560 ha	4,680 <i>ha</i>
Roads and plazas	30.76 ha (93,043 <i>tsubo</i>)	Plantations and open space	580 ha	1,740 <i>ha</i>
Parks	9.73 ha (29,424 <i>tsubo</i>)	Restricted land	82 ha	246 <i>ha</i>
Public facilities	8.99 ha (27,185 <i>tsubo</i>)			
Total	176.06 ha (532,578 <i>tsubo</i>)	Total	2,250 ha	6,750 ha

Table 1. Overall structure of the two plans

Next, the author clarifies the characteristics of the neighbourhood units in the two plans. In the Garden City Plan (Figure 1), an approximately 5-ha (15,000 *tsubo*) park and an elementary school are observed in two locations, one in the east and one in the west. At the centre of the planned site is a civic centre with public facilities such as a public hall, police station, fire station, and post office surrounding a large plaza. In this way, Yoshikazu Uchida intended to unite the east and west of the planned area respectively, as well as to unite the entire planned area. He also planned shops on both sides of the main road and around the intersecting plaza (Figure 3), a department store in the civic centre, and public markets in three other locations to make everyday shopping more convenient. In the rural plan for Manchuria, a shrine, sports field, airfield, cemetery, and crematorium were planned for the central ward located at the centre of one village (three settlements). Separately, a central plaza and central building²³ were placed in the centre of each settlement's residential area (Figure 2). The central building includes an assembly room, elementary school²⁴, medical office, public bath, union office, and communal warehouse. The distance to the central building from the farthest point in the residential area is only 400 meters, and it was considered that it could be reached in about 5 minutes on foot. Thus, the rural plan for Manchuria similarly aimed at consolidation on a gradual scale, and compared to the Garden City Plan, the size of the community centred around a single elementary school was smaller.

Analysing the detailed characteristics of blocks and plots, in the Garden City Plan, each plot area is 9.59 a (290 *tsubo*) for large houses, 4.13 a (125 *tsubo*) for medium houses, 1.98 a (60 *tsubo*) for small houses, and 0.99 a (30 *tsubo*) for shops. Looking at the shops lined up on both sides of the main road shows that the plot area of each one is smaller compared to those for the houses (Figure 3). In addition, residential clusters were formed in a scattered manner surrounding a small square (Figure 3), and it was assumed that nearby children would play in this small square. In contrast, in the rural plan for Manchuria, the drawings show that houses are regularly built in straight lines. Although the layout of blocks and plots varies depending on the topography, existing roads, river conditions, etc. The standard for a residential plot is a rectangle with a frontage of 65.62 ft. (20 m) and a depth of 164.04 ft. (50 m), and the area is 10 a (302.5 *tsubo*). Each plot area is larger than in the Garden City Plan because it includes a private fruit and vegetable garden and a front/rear garden for raising livestock (Figure 4).

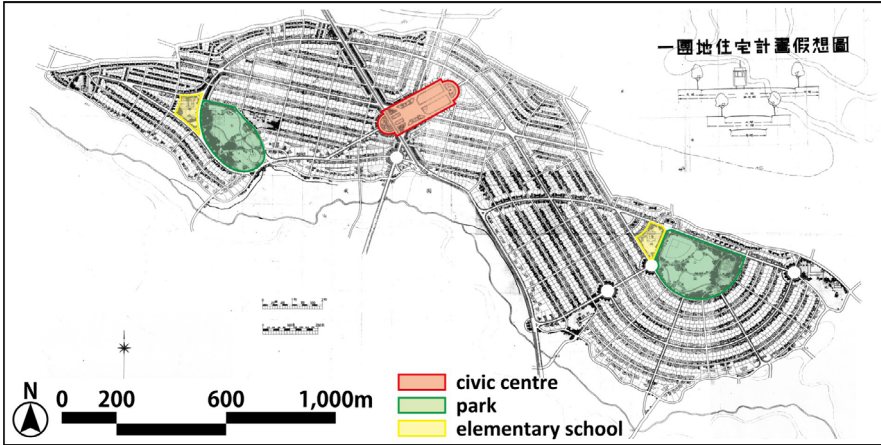


Fig. 1. Garden City Plan (1919-1922)

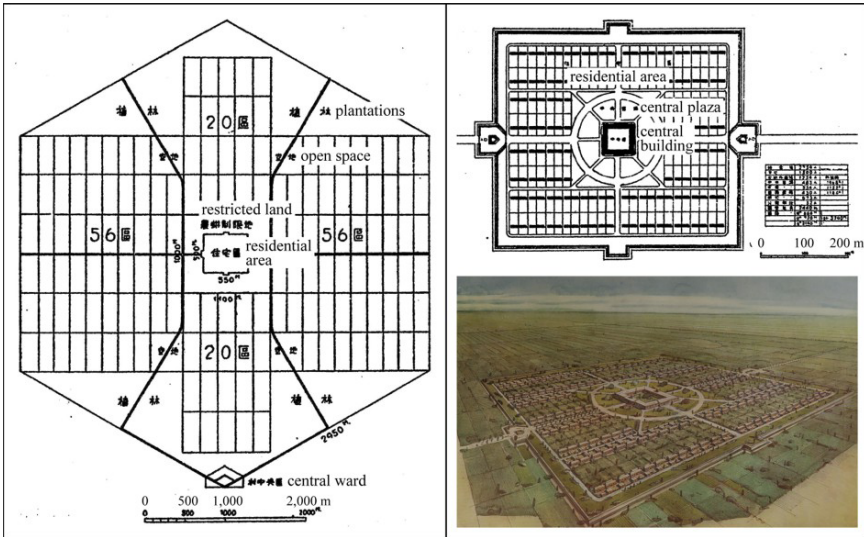


Fig. 2. A settlement (on the left) and a residential area (on the right) of the rural plan (1933) for Manchuria

	Title	Content	Original work	Microfilm frames
1	<i>Shikichi to kukaku</i> [Plot and block]	How to think about block size	Unknown	286
2	Block	Examples of block sizes in Japan	Ishihara, Kenji. <i>Gendai toshi no keikaku</i> [Modern City Planning] (Tokyo: Koyo-sha, 1924), 189-211. and others.	287
3	<i>Shikichi no okuyuki</i> [Depth of plot]	Examples of plot sizes in American cities	Nolen, John. <i>City Planning: A Series of Papers Presenting the Essential Elements of a City Plan</i> (New York: D. Appleton and Company, 1922), 19-47	288
4	[Depth of plot (continued)]	Trends in plot depth in America and suggestions for block depth	Folwell, A. Prescott. <i>Municipal Engineering Practice</i> (New York: John Wiley & Sons, Inc., 1916), 57-59.	289
5	[Depth of plot (continued)]	Building depth and block depth	Hoepfner, Karl A. <i>Grundbegriffe des Städtebaues</i> (Berlin: Julius Springer, 1921), 44-59.	289-290
6	[Depth of plot (continued)]	Table of plot depth by building type	Gürschner, Robert, and Max Benzel. <i>Der städtische Tiefbau</i> (Leipzig: B. G. Teubner, 1915), 17.	291
7	Block, Lot	Trends in blocks and plots in America and suggestions for block depth	Folwell, A. Prescott. <i>Municipal Engineering Practice</i> . (New York: John Wiley & Sons, Inc., 1916), 57-59.	292
8	The Business and Commercial Zones, Block	Convenient plot size	Holliday, A. C. "Restricting city development." <i>Town Planning Review</i> 9, no.4 (1922): 217-238.	294
9	<i>Nihon ni okeru jōtai wa kiwamete fukisoku</i> [The situation in Japan is extremely irregular]	Example of plot size in each Japanese city	Ishihara, Kenji. <i>Gendai toshi no keikaku</i> [Modern City Planning] (Tokyo: Koyo-sha, 1924), 189-211. Ibe, Sadakichi. "Waseda Shinjuku Asakusa Taika-ato tochi kukaku seiri ni tsuite [About Waseda Shinjuku Asakusa Great Fire Site land readjustment]." <i>Journal of Architecture and Building Science</i> 35, no.422 (1921): 7-16. and others.	296-298
10	<i>Tochi kukaku seiri sekkei hōshin</i> [Land readjustment design policy]	Table of plot depth standard and minimum road width for each use zone	Ota, Enzo. Teito fukkō jigyō ni tsuite [About the Imperial Capital Reconstruction Project] (Tokyo: Reconstruction Bureau Civil Engineering Department, 1924), 178-185.	299
11	<i>Kaigai jijō</i> [Over Sea Articles]	Germany's population density	Tokyo Institute for Municipal Research. "Over sea articles." <i>Municipal Problems</i> 30, no.3 (1940): 97-103.	300
12	<i>Kaoku ni kansuru chōsho</i> [Records related to houses]	Records related to houses facing the main street from Shinbashi to Suda Town	Unknown. There is an entry that says 'March 31, 1922, from Kan Nakamura.'	301
13	<i>Fuk kō-kyoku kijun</i> [Reconstruction 13 Bureau Standards]	Land readjustment design policy and block layout in commercial areas	Ota, Enzo. <i>Teito fukkō jigyō ni tsuite</i> [About the Imperial Capital Reconstruction Project] (Tokyo: Reconstruction Bureau Civil Engineering Department, 1924), 178-185.	302
14	<i>Shikichi no wariawase-kata</i> [How to combine plots]	Examples of how to combine plots	Eicken, Hermann. "Beitrag zum Kleinhäusbau." <i>Der Städtebau</i> 15, no.11/12 (1918): 115-120. and others.	308

15	Neighbourhood Unit	Estimated population and area	Unknown	330
16	Idea Proposed for Detroit Suburb	Idea Proposed for Detroit Suburb	Augur, Tracy B. "Adaptation of Radburn, N. J., Idea Proposed for Detroit Suburb." <i>American City</i> 45, Nov. (1931): 83.	332-333
17	A Substitute for the Gridiron Street System	A Substitute for the Gridiron Street System	Wright, Henry. "Wanted: A Substitute for the Gridiron Street System." <i>American City</i> 42, Mar. (1930): 87-89.	337-341
18	The Proposed Model Town Near the Hoover Dam	The Proposed Model Town Near the Hoover Dam	De Boer, Saco Rienk. "Boulder City—the Proposed Model Town Near the Hoover Dam." <i>American City</i> 44, Feb. (1931): 146-149.	345-346
19	<i>Kenchiku shikichi no ôkisa to katachi ni tsuite</i> [About the size and shape of architectural plots]	Manuscript for the lecture meeting of the Faculty of Engineering at the Tokyo Imperial University	Not applicable	352-355
20	<i>Kukaku</i> [Block]	How to think about block size, examples of block sizes in Japan and abroad	Ishihara, Kenji. <i>Gendai toshi no keikaku</i> [Modern City Planning] (Tokyo: Koyo-sha, 1924), 189-211.	356-357
21	<i>Shikichi wari</i> [Plot distribution]	Examples and concepts of plot sizes in America	Ibid.	358-363
22	<i>Shôten no okuyuki to maguchi</i> [Depth and width of a store]	Examples of store plot sizes in Japan	Ibid.	364
23	Pessac housing complex	Description of the Pessac housing complex in Bordeaux by Le Corbusier	Unknown	406-408

Table 2. List of Yoshikazu Uchida's handwritten notes

YOSHIKAZU UCHIDA'S RESEARCH ON DOMESTIC AND OVERSEAS CASES

In this section, the author analyses Yoshikazu Uchida's handwritten notes in '*Kukaku/Shikichi* [Block/Plot]'. The handwritten notes included transcriptions of domestic and foreign documents, and the original publications were identified to the extent possible. Table 2 summarizes the contents and original writings of Yoshikazu Uchida's handwritten notes and shows that he collected domestic and international cases during the prewar period.

First, regarding the sizes of blocks and plots, many American and German documents are referenced. Handwritten note No. 3 (Figure 5) summarizes examples of plot sizes in American cities based on John Nolen's book²⁵. The standard dimensions for plot were '100 ft. depth used in ideal rearrangement' in Berkeley, '125 ft. depth except in poorer residential sections' in Chicago, and '100 ft. best for convertibility' in New York. In the same book, Lawrence Veiller argues that the problem of housing arises from deep lots and thus makes them as shallow as possible: 125 ft. for high-class residences, 50 ft. for middle-class residences, and

25 ft. for lower-class residences. Handwritten notes Nos. 4 and 7 (Figure 5) summarize A. Prescott Folwell's books²⁶. Based on opinions on plot depth by American city engineers or other officials, Folwell's proposal suggests that the block depth (half of which is the plot depth) should be 250 to 300 ft. for high-class residences, 175 to 250 ft. for labourers' residences and cottages, 150 to 200 ft. for businesses, and 200 to 350 ft. for manufacturing locations. Handwritten note No. 6 is a table of plot depths by building type published in a German book²⁷ by Robert Gürschner and Max Benzel. Furthermore, Karl A. Hoepfner's book²⁸, handwritten note No. 5, is unique in that the depth of blocks is considered separately for houses of one to four stories. Moreover, in handwritten note No. 8, based on A. C. Holliday's article²⁹, a plot of 100 ft. deep and 400 ft. wide is considered useful in business and commercial zones. In handwritten notes Nos. 3–8 above, Yoshikazu Uchida mainly researches examples and numerical standards for block/plot sizes in the United States and Germany, using foreign literature from the 1910s to the early 1920s.



Fig. 3. Shops along the main road and around the intersecting plaza (on the left), residential clusters surrounding a small plaza (on the right) in the Garden City Plan

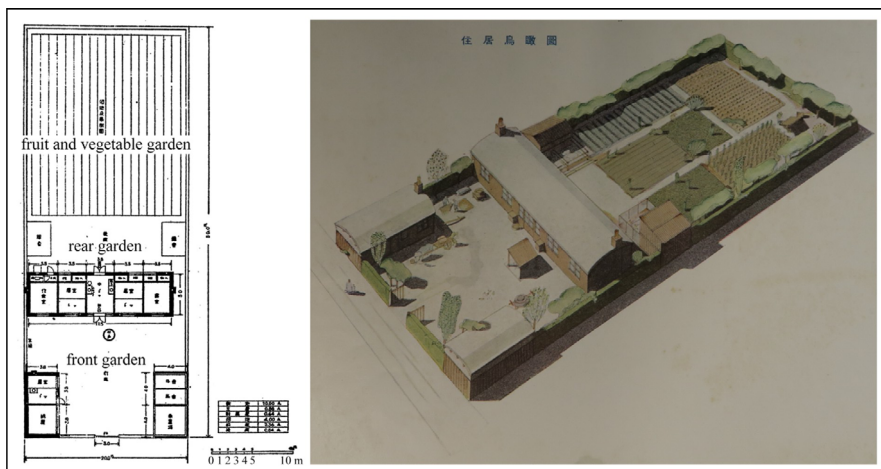


Fig. 4. Housing in the rural plan for Manchuria

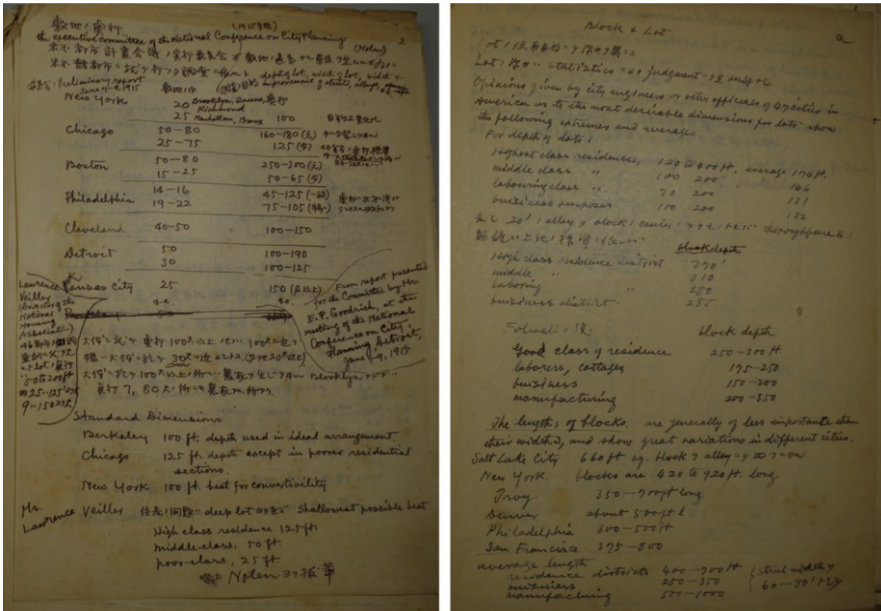


Fig. 5. Yoshikazu Uchida's handwritten notes (No. 3 on the left, No. 7 on the right)

On the other hand, regarding Japan, handwritten note No. 9 summarizes many examples of plot sizes in different cities and is titled 'Nihon ni okeru jōtai wa kiwamete fukisoku [The situation in Japan is extremely irregular]'. In handwritten notes Nos. 20-22, the third part of Kenji Ishihara's book³⁰ is transcribed over nine pages. This section lists many examples of block/plot sizes in Japan and overseas and summarizes the following three principles to consider when deciding block width: 1. as the block width increases, unused and low-priced land is created in the centre, resulting in unsanitary and poor housing; 2. as the width of the block becomes narrower, the interior of the block will be used more effectively, and land prices will rise; however, the ratio of street area to block area will increase, resulting in an increase in street construction costs; and 3. sufficient open space is required for hygiene, lighting, and ventilation purposes. The first part of the book is a Japanese translation of Robert Gürschner and Max Benzel's *Der städtische Tiefbau*³¹ and is an important document that spread foreign knowledge at the time to Japan. Handwritten notes Nos. 10 and 13 introduce the earthquake disaster reconstruction land readjustment design policy³² around 1924, showing that the length of the long side of one block should be twice or four times the length of the short side and the standard plot depth for each grade in each area of use. At the Chief Urban Planning Bureau meeting held 15-19 April 1924, the Urban Planning Bureau, Home Ministry of Japan, presented research materials on plot sizes in American cities called 'Rotto no ōkisa ni kansuru shinrai subeki kiso [A Reliable Basis for Lot Sizes]³³ and a personal proposal for land readjustment³⁴. From this private proposal to the earthquake reconstruction policy, the basic concept of design was carried over, but the numerical standards were slightly smaller³⁵.

Based on the above research, Yoshikazu Uchida gave a lecture titled '*Kenchiku shikichi no ôkisa to katachi ni tsuite* [About the size and shape of architectural plots]' at the 32nd lecture meeting of the Faculty of Engineering at the Tokyo Imperial University on 17 April 1924³⁶, the manuscript from which is handwritten notebook No. 19. The manuscript begins by mentioning that land readjustment was actively discussed in the reconstruction plan for the Great Kanto Earthquake of 1923 and that land readjustment methods were also discussed at a meeting of chief city planners in the same month. The problem is that when the distance between roads is wide and the blocks become large, back houses and alleys are developed, which become unsanitary and dangerous and cause land prices not to rise and become uneconomical. Therefore, major streets, which are classified as arterial roads, were determined based on traffic conditions and relationships with distribution centres, while plans for roads of second-class or lower grades were decided based on the appropriate depth of the architectural plot. Thus, Yoshikazu Uchida was able to balance and integrate the planning of arterial roads over a wide area and the planning of general roads based on the size of each architectural plot. Specifically, after summarizing examples of plot sizes in Japan and overseas, he indicated that the appropriate area of one plot in Japan is 4.96 a (150 *tsubo*) as a unit in the case of residential land in the suburbs or in the upper-middle class of the city and 2.48 a (75 *tsubo*) as a unit in the case of lower-middle class in the city. For commercial areas near main streets and middle-class residential buildings, the standard width is 32.81 ft. (10 m), depth is 98.43 ft. (30 m), and area is 3 a (90.75 *tsubo*).

Next, neighbourhood units are summarized in handwritten notes Nos. 15–18. Although the original author of handwritten note No. 15 is unknown, it states that the area is 82.64 ha (250,000 *tsubo*) and has a population of 5,000 people, and approximately 600 people (1/8) among that population are elementary school children in 12 classes. Handwritten note No. 16 is 'Idea Proposed for Detroit Suburb'³⁷ by Tracy B. Augur, and past research has noted that this was the basis for the neighbourhood unit in the Datong City Plan³⁸. Tracy B. Augur planned 1,077 single dwellings, five apartments, two churches, and three neighbourhood shopping centres on an 80.94-ha (200 acre) superblock centred on a school and playground, with 1,000 to 1,200 households expected (Figure 6). In handwritten note No. 17, Henry Wright³⁹ argues that the gridiron street system is undesirable, presents an alternative plan of combining four 16.19-ha (40 acre) square units, and compares the costs. Handwritten note No. 18 is 'The Proposed Model Town Near the Hoover Dam'⁴⁰ by S. R. De Boer. This was a town for workers engaged in dam construction and, later, permanent employees, with the following three categories for the principles of design: A. Street Plan; B. Zoning; and C. Parks, Playgrounds, Schools, and Public Buildings. The above foreign articles related to neighbourhood units are concentrated in the early 1930s and indicate that Yoshikazu Uchida's interest in neighbourhood units was increasing during this period.

CONCLUSIONS AND DISCUSSION

In this study, the author compared and examined the characteristics of blocks and plots in Yoshikazu Uchida's Garden City Plan (1919–1922) and residential area plan (1933) for agricultural immigration to Manchuria. Although it is difficult to make a simple comparison because the former is a domestic suburban residential area and the latter is an overseas colonial project,

compared to a 4.13-a (125 *tsubo*) plot for medium housing, which is the most common in the Garden City Plan, the housing plot in the rural plan for Manchuria has become wider at 10 a (302.5 *tsubo*). This is because, as it was a rural plan, each house had its own fruit and vegetable garden and a front/rear garden for raising livestock. In the rural plan for Manchuria, each housing plot had plenty of open space, so it seems that the houses were arranged in regular straight lines rather than surrounding vacant lots like the Garden City Plan.

Yoshikazu Uchida recognized that the problem was that as blocks became larger, back houses and alleys appeared, which became unsanitary and dangerous and caused land prices not to rise and become uneconomical. In creating the Garden City Plan, he used foreign literature from the 1910s to the early 1920s to research examples and numerical standards for block/plot sizes, mainly in the United States and Germany. Regarding Japan, he referred to Kenji Ishihara's book and the land readjustment proposal by the Urban Planning Bureau, Home Ministry of Japan. Referring to these domestic and international figures, in his lecture '*Kenchiku shikichi no ôkisa to katachi ni tsuite* [About the size and shape of architectural plots]' on 17 April 1924, Yoshikazu Uchida indicated that one unit of residential land in the suburbs should be 4.96 a (150 *tsubo*) in area. This is close to the plot area of 4.13 a (125 *tsubo*) for a medium-sized house in the Garden City Plan. While middle-class housing and commercial areas near main streets are set to the same standard in this lecture, the shops in the Garden City Plan are unique in that they are small, with an area of 0.99 a (30 *tsubo*). This is thought to be because stores were envisioned as being built in wooden row houses, which were common in Japan, rather than brick, steel frame, or reinforced concrete buildings, which were gradually increasing in number at the time⁴¹. Furthermore, the size of a block is closely related to road planning. Yoshikazu Uchida determined the size of the block based on the size of each architectural plot, and it was compatible with and integrated not only general road planning but also arterial road planning in a wide area. This technique of planning is unique to Yoshikazu Uchida. In fact, the Garden City Plan intended to connect existing roads and existing railway stations with main roads⁴².

Regarding neighbourhood units, the Garden City Plan intended for the unity of the east and west respectively centred on parks and elementary schools and unity in the entire planned area centred on the civic centre. Therefore, elements of a neighbourhood unit were already identified at the time of the Garden City Plan. Later, in the rural plan for Manchuria, a super-block of the residential area centred on a central building containing elementary schools was clearly formed. The scale of the community centred on one elementary school was smaller than in the Garden City Plan, and it was taken into consideration that the central building could be reached in about 5 minutes on foot from the farthest point in the residential area. Thus, the influence of neighbourhood units strengthened from the Garden City Plan to the rural plan for Manchuria. This is thought to be because Yoshikazu Uchida intensively researched overseas articles related to neighbourhood units in the early 1930s, and interest in neighbourhood units increased during this period.

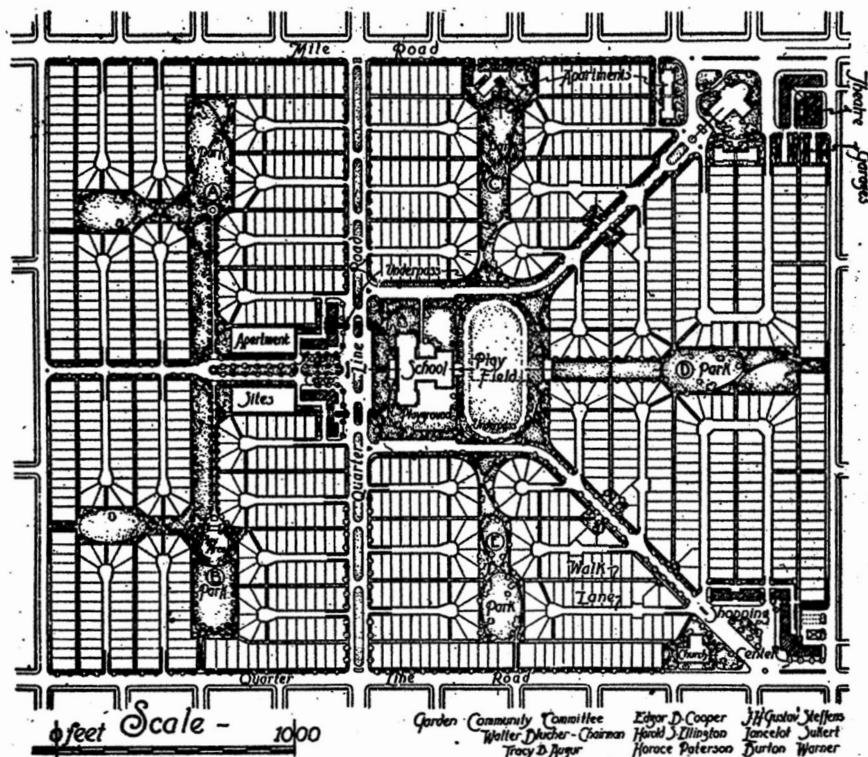


Fig. 6. Idea Proposed for Detroit Suburb

In summary, it became clear that Yoshikazu Uchida had cultivated his planning skills by personally researching and comparing cases of blocks and plots in Japan and abroad. Moreover, there was a trend at the time of incorporating foreign designs into Japan in terms of land readjustment and neighbourhood units, and Yoshikazu Uchida could be said to be at the forefront of this trend. Furthermore, Yoshikazu Uchida has contributed to the establishment of land readjustment and neighbourhood units in Japan in that he proposed a concrete model plan using planning techniques related to blocks and plots. At this time, Yoshikazu Uchida was developing a unique planning technique that did not simply incorporate researched cases and figures but adapted them to the circumstances of Japan and the surrounding area.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR

Takaaki Nakagawa is an Assistant Professor at the Department of Civil Engineering and Regional Design, the School of Regional Design, Utsunomiya University, Japan. His research interests include the history of urban planning, especially the foreign influences and the unique aspects of Japan. He received a doctoral degree in engineering for his research on Yoshikazu Uchida's urban planning ideology from the Tokyo Institute of Technology in 2023.

ENDNOTES

1. A block is a collection of plots surrounded by roads, and a plot is a piece of land for each house or store.
2. Nakajima, Naoto. "The Datong City Plan (1938): the three week-process of organizing planning ideas and techniques towards the construction of a new urban area under Japanese occupation." *Planning Perspectives* 38, no.1 (2023): 99-125.
3. Dojun-kai is a foundation established for the purpose of providing housing after the Great Kanto Earthquake of 1923, and Yoshikazu Uchida served as a director. Dojun-kai built reinforced concrete apartments and wooden residential areas in Tokyo and Yokohama.
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13. Nakagawa, Takaaki, and Junko Sanada. "A study on Yoshikazu Uchida's plan for outdoor spaces in the estate plan of Osaka Hokko Co. Ltd." *Journal of the Japanese Institute of Landscape Architecture* 85, no.5 (2022): 625-630.
14. Uchida Yoshikazu Collections. *Kukaku/Shikichi* [Block/Plot]. U519.86-5884, Tokyo Metropolitan Archives.
15. The Yoshikazu Uchida collections are a collection of books and materials stored in his home that his family has deposited in the Tokyo Metropolitan Archives.
16. Other printed materials included in the 'Kukaku/Shikichi' [Block/Plot], 'Kyoto-shi toshi keikaku shikichi wari hōkoku-sho' [Kyoto City Urban Planning Plot Distribution Report] (1923), and 'Heiankyō no takuchi wari to machiya' [Heiankyo Residential Land Distribution and Townhouses] (1940) by Masaru Sekino.
17. Uchida, Yoshikazu. "Daitoshi ni okeru jūtaku no hokyū-saku [Supply measures for housing in large cities]." *Journal of Architecture and Building Science* 36, no.430 (1922): 223-234.
18. Uchida, Yoshikazu, Toshiro Kasahara, Tetsuya Kato, Hideto Kishida, and Kosuke Hishida. "A model plan of "siedlung" for the agricultural immigrant in Manshu-koku." *Journal of Architecture and Building Science* 47, no.569 (1933): 537-564.
19. Toshi Kenkyu-kai was a group established in 1917 by bureaucrats and academics to create urban and housing policy.

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23. The central building is designed in a square shape for the purpose of defense against bandits and similar threats.
24. Regarding elementary schools, it would be appropriate to establish one school in each village in its respective central ward. However, due to the difficulty of commuting to school during the rainy and winter seasons and to guard against bandits, Yoshikazu Uchida explains that an elementary school will be located in each settlement, with one school being the main school and the others being branch schools.
25. Nolen, John. *City Planning: A Series of Papers Presenting the Essential Elements of a City Plan* (New York: D. Appleton and Company, 1922), 19-47.
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27. Gürschner, Robert, and Max Benzel. *Der städtische Tiefbau* (Leipzig: B. G. Teubner, 1915), 17.
28. Hoepfner, Karl A. *Grundbegriffe des Städtebaues* (Berlin: Julius Springer, 1921), 44-59.
29. Holliday, A. C. "Restrictions governing city development." *Town Planning Review* 9, no.4 (1922): 217-238.
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31. Gürschner et al., op. cit., 27
32. Ota, Enzo. *Teito fukkō jigō ni tsuite* [About the Imperial Capital Reconstruction Project] (Tokyo: Reconstruction Bureau Civil Engineering Department, 1924), 178-185.
33. Second Technical Division, Urban Planning Bureau, Home Ministry of Japan. "Rotto no ōkisa ni kansuru shinrai subeki kiso [A Reliable Basis for Lot Sizes]." *Toshi Kōron* 7, No. 7 (1924): 77-82. This research material is a translation of what was presented at the meeting of the National Conference on City Planning, 7-9 June 1915, in Detroit. The original material is published in Nolen, op. cit., 25, and Yoshikazu Uchida transcribed a portion of it in handwritten note No. 3.
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35. Tsuruta et al., op. cit., 11
36. Teiyu-kai. "Rinkō-kai endai narabini kōensha [Lecture topics and speakers]." *Teiyu-kai Zasshi*, no.7 (1925): 93-101.
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38. Nakajima, op. cit., 2
39. Wright, Henry. "Wanted: A Substitute for the Gridiron Street System." *American City* 42, Mar. (1930): 87-89.
40. De Boer, Saco Rienk. "Boulder City—the Proposed Model Town Near the Hoover Dam." *American City* 44, Feb. (1931): 146-149.
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42. Nakagawa et al., op. cit., 21

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IMAGE SOURCES

Figure 1 Uchida Yoshikazu Collections. *Daitoshi ni okeru jūtaku hokyū-saku* [Housing Supply Measures in Large Cities]. U520.7-だ-3297, Tokyo Metropolitan Archives.

Figure 2 Uchida Yoshikazu Collections. *Kukaku/Shikichi* [Block/Plot]. U519.86-う-5884, *A model plan of "siedlung" for the agricultural immigrant in Manshu-koku Part 1*. U334.422-ま-4108, Tokyo Metropolitan Archives.

Figure 3 Uchida Yoshikazu Collections. *Daitoshi ni okeru jūtaku hokyū-saku* [Housing Supply Measures in Large Cities]. U520.7-だ-3297, Tokyo Metropolitan Archives.

Figure 4 Uchida Yoshikazu Collections. *Kukaku/Shikichi* [Block/Plot]. U519.86-ㄱ-5884, A model plan of “*siedlung*” for the agricultural immigrant in *Manshu-koku Part 1*. U334.422-ㅁ-4108, Tokyo Metropolitan Archives.

Figure 5 Uchida Yoshikazu Collections. *Kukaku/Shikichi* [Block/Plot]. U519.86-ㄱ-5884, Tokyo Metropolitan Archives.

Figure 6 *Ibid.*