Urban Engawa / Verandah
-Fuzzy Spaces In-Between Inside and Outside making Interactive Spaces for Tokyo Urbanites-

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Abstract

This design thesis explores urban landscape design for future Tokyo, Japan to encourage interaction among Tokyo urbanites and nature through “fuzzy space” between inside and outside. For this purpose, focusing on how culture and history of Tokyo make Tokyo urbanites perception of space is the key to design public spaces what they desire. For now, there are many problems in the city of Tokyo, such as lack of communication with other people, lack of public space and green spaces, and environmental issues. In order to improve these problems, I conducted a review of existing literature/scholarship and a survey of Tokyo urbanites. It asked them their perceptions about public open spaces to understand their desires for design in the urban landscape in Tokyo. I then applied these results to my design intervention called fuzzy spaces. Fuzzy space allows users to watch and see natural elements and people’ s activities which Tokyo urbanites desire and places like an engawa within the structure of the historical Japanese house. I hope to my design thesis project inspires future designs of Tokyo to successfully provide a place for resting and socialization, and serve as a sanctuary for future Tokyo urbanites.

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1. Introduction

In recent years, the city of Tokyo has seen major growth in its population within the city' s center, with the construction of new high-rise residential housing. However, the amount of green spaces in Tokyo has not changed to handle this increase in population (Tokyo Metropolitan Government). During the summer, residents suffer from the sweltering summer nights due to heat island effect, raising temperatures in the city. Tokyo urbanites go to work in packed trains, work until late night. While Tokyo appears to be a global city, open to the world, in actuality it often feels like a closed place, with little opportunity to speak with people. There are walls all over the city and they seem to separate people both physically and psychologically. And people' s relationships seem to have changed for the worse from the family residence to public area.

In Japan, new development seems to be primarily concerned with the creation of dense buildings due to monetary considerations and does not seem to be incorporating public space very often. However, there is a desire for more green spaces in Tokyo. It is a paradox that Tokyo Metropolitan Government has found the city' s urbanites desire green spaces, but that the people don' t seem to use the parks available as much as in other countries places I' ve visited. In my experience, the green spaces in Tokyo do not seem to play a role in people' s daily lives. Many residents only seem to go to parks when the cherry trees are in blossom or for special events.

During my time in the U.S. and Denmark, I observed that people there will eat lunch in public spaces, lay on the grass to read a book, and skateboard. Growing up in Tokyo, I rarely observed residents doing these things. There may be cultural reasons why Japanese people do not use parks like people in other countries. However, I believe other factors may be responsible aside from culture. While there is a rich history of gardens in Japanese culture, these gardens are typically private, they are typically fenced, and those that are open to the public often charge fees to enter. This seems to discourage people from taking

advantage of these green spaces on a daily basis. Another reason why existing open spaces are not more heavily used may be that Tokyo' s urbanites are given perfected landscape designs that are not open to change, and there are so many restrictions on how they can be used.

Before designing a new public space for Central Tokyo, I sought to understand the existing social rules and culture of park use in Tokyo, and to see where new design approaches might be used to challenge what we think we know. I conducted a literature review to understand the city of Tokyo' s current environmental situation. I also conducted a survey of Tokyo urbanites and asked them their perceptions about public open spaces to understand their desires for design in the urban landscape in Tokyo. The people I surveyed all live in the Tokyo area and my sample included men and women of an array of ages, though all were over 18 years old. I found those I surveyed prefer in-between spaces between private and public, inside and outside. I call this type of space "Fuzzy Space" .

This thesis considers how an urban environment can combine buildings with the natural environment through the creation of "Fuzzy Spaces" in-between private and public, inside and outside, architecture and landscape. For my design intervention, I proposed a framework for designing fuzzy spaces, and applied it to an urban site near Shimokitazawa station in Tokyo. I believe that if one makes an urban environmental design that respects Japanese culture but encourages a wider variety of everyday uses as well, it will address some of the urban problems Tokyo faces today. I believe it will create a better sense of community and connection between people and nature. My design approach is a small, human scale intervention meant to bridge the area between private and public, and connect the indoor program to the outside program. The purpose for my design will be to successfully provide a place for resting and socialization, and serve as a sanctuary for future Tokyo urbanites.

2. Environmental Conditions in Tokyo

2.1 Public Green Space in Tokyo

Tokyo is one of the largest cities in the world. By comparing its population pattern over time and the distribution of green spaces within the city one can see how the amount of green space per capita has shrunk in recent years. The population of central Tokyo is a little over 13 million people, and the number of people continues to increase every year (see Figure 1). Figure 2 shows how many new residents have moved into different districts of Tokyo in 2013. The population increase in central Tokyo, which is shown as red color, has been especially dramatic with the number of residents increasing by over 3,000 people in 2013 (Tokyo Metropolitan Government).

As the population has grown in central Tokyo, the percentage of land preserved as green space has decreased. Figure 3 shows what percentage of all green spaces in the Tokyo area are agriculture, forest, and park. This included prefectures that surround Tokyo. It shows the total green space has dropped between 1965 and 2003. Park space has been a small percentage of green space during this entire time and that hasn' t changed (MLIT). Figure 4 shows the percentage of land area that is green space in each districts of the Tokyo area in 1995. The percentage of land dedicated to green space in all the central districts of Tokyo was under 20% (Bureau of Environment, Tokyo Metropolitan Government). For example, in the central district of Tokyo called Minato-ku, the percentage of land that was green space was 17.3% in 1972. It fell to 14.4% in 1983, 14.2% in 1987, and 14.0% in 1995 (Bureau of Environment, Tokyo Metropolitan Government).

Compared to other country cities, the lack of green space per capita in Tokyo is particularly striking. Figure 5 show that the park area per person in the central Tokyo is only 3.0 square meters per person (6.7 square meters per person in whole Tokyo prefecture), as compared with 29.3 square meters per person in New York City, and 57.9 square meters per person in Vienna

(Ministry of Land). This suggests that development in Tokyo has focused on creating commercial and residential spaces that would make money rather than creating green spaces to encourage quality of life.

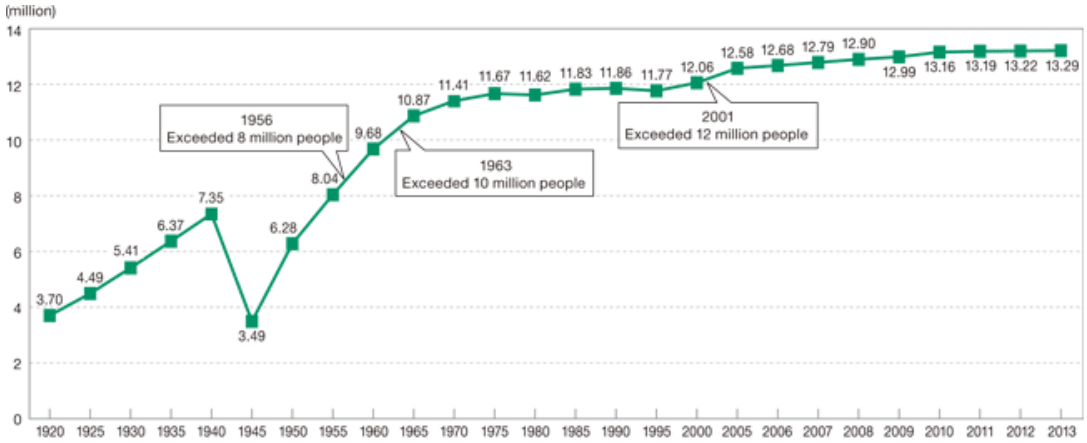


Figure 1. Trends in Population in Tokyo

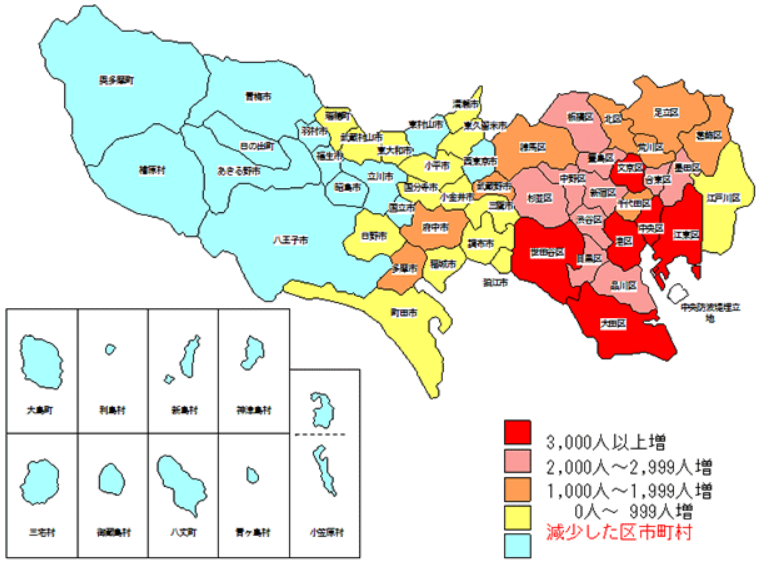


Figure 2. Population Change in 2013

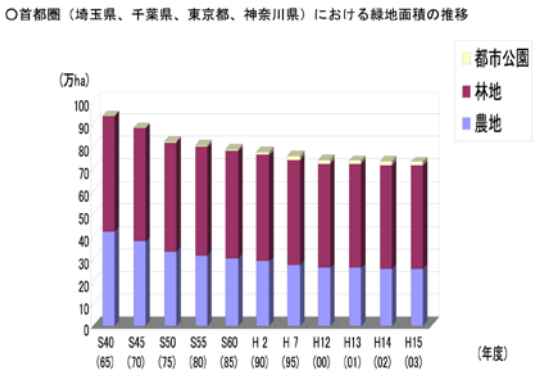


Figure 3. Green Spaces Change in Tokyo Area

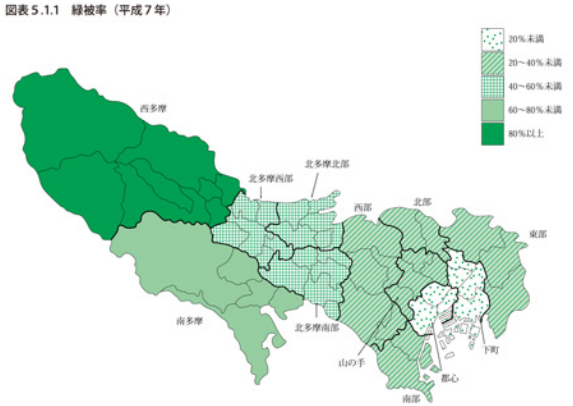


Figure 4. Green Spaces in Each District of Tokyo Area

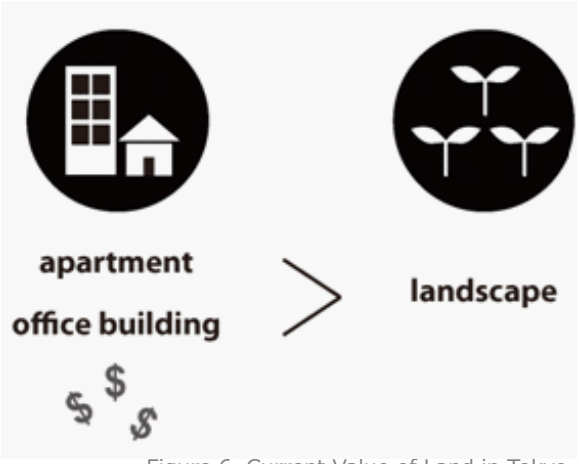


Figure 6. Current Value of Land in Tokyo

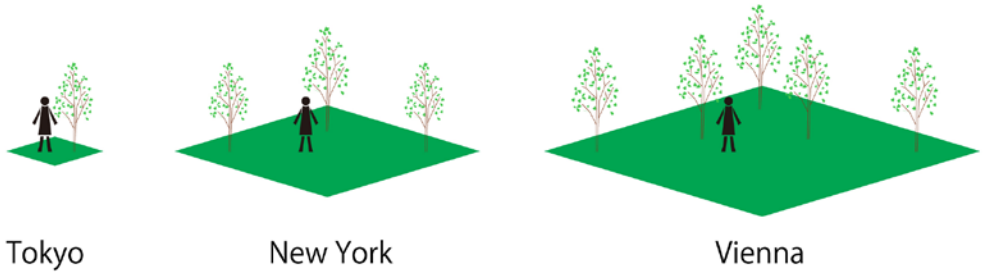


Figure 5. Figurative Rate of Park Area in Different Cities

Gehl' s Theory Concerning Land Development Priorities vs. Practice in Tokyo

To make great design of public spaces for people, Jan Gehl states in his book; "Cities for People" , the best design process considers "Life", "Space", and "Buildings" in this order (Gehl 198). His process is rooted in the requirement for a well-functioning human scale (Gehl 198). Gehl mentions the unsuccessful example of modernistic city planning of Brasilia, the capital of Brazil, in which the city planning process considered first the large outline of the city, then the buildings, and last the spaces in between. He writes that Brasillia "is a catastrophe seen at eye level, the scale planners ignored" (Gehl 197). This is problem is not limited to Brasillia, Gehl concludes, "the human dimension is sorely lacking in most new cities" (Gehl 197). In the case of Tokyo, the process has been "Buildings" first, "Spaces" second, and "Life" has been assumed to be something that happens primarily indoors. It seems the lack of communication between Japanese building developers has resulted in a lack of relationship with their surroundings.

Gehl also claims that, "events, exchanges and conversations take place when there are comfortable, inviting places to stand and sit" (Gehl 162). I agree with how important the eye level and fine scale are. However, Japanese architecture usually occupies the maximum size in the site and focuses on the inside and private space, not open to the public. On the other hand, most residential buildings have verandas. We hang out clothing to dry on verandas, and we prefer to live in places that receive sunlight.

In the book; "LandSCAPES: A Typology of Approaches to Landscape Architecture," Katherine Crewe and Ann Forsyth present a typology or classification of six landscape architecture approaches or theories of practice: design as Synthesis, Cultivated expression, landscape Analysis, Plural design, Ecological design, and Spiritual landscapes (Crewe and Forsyth

37). They argue that “each of these approaches involves a distinctive way of practicing landscape architecture on several dimensions: its goals, the process used in design or analysis, main clients or audiences, the scale of concern, intellectual or knowledge base, ethical approach, relation to the natural world, and the approach’ s analysis of power relations or the larger role of landscape architecture work in society” (Crewe and Forsyth 37). They also mentioned the reasons why these approaches would help landscape architects. “Landscape architects can reflect upon and debate dimensions of the profession that are too often implicit and invisible” (Crewe and Forsyth 37). For today’ s designers, consideration about intellectual base and ethics focusing on democratic theory, consideration of the history of the places, how this neighborhood’ s culture developed, what historical fabric still exists there, and design processes for people are very important.

2.2 Environmental Problem: Heat-Island Effect

a. Impact to Tokyo city by the Heat-Island phenomenon

- The change of temperature in Tokyo

The world average temperature rose 0.85° C between1880 and 2012 (Bureau of Environment, Tokyo Metropolitan Government). In comparison, the city of Tokyo’ s average temperature has risen 3° C during the past 100 years (Bureau of Environment, Tokyo Metropolitan Government) (See Figure 7). While some of Tokyo’ s temperature rise may be attributed to global warming, the heat-island effect has had a stronger influence (Bureau of Environment, Tokyo Metropolitan Government).

- Increasing number of hot days

Figure 8 shows the number of hours when the temperature rose over 30 ° C during in two four year periods, 1980 to 1984 and 2000 to 2004. The number of hours it has reached 30 ° C seem to have doubled in some areas during this

time (Bureau of Environment, Tokyo Metropolitan Government).

• Sweltering summer night in Tokyo

These days especially, the nighttime temperature during summer is a big problem in Tokyo. The number of sweltering summer nights known as “Nettaiya,” defined by the Japanese Meteorological Agency as a night when the temperature does not drop below 25 ° C, has increased. From 1970 to 2011, the number of Nettaiya has increased almost four times as presented in Figure 9. (Bureau of Environment, Tokyo Metropolitan Government) This increase has led to health problems. There has been an increase in heat strokes in Japan according to the National Center for Biotechnology Information (Martinez).

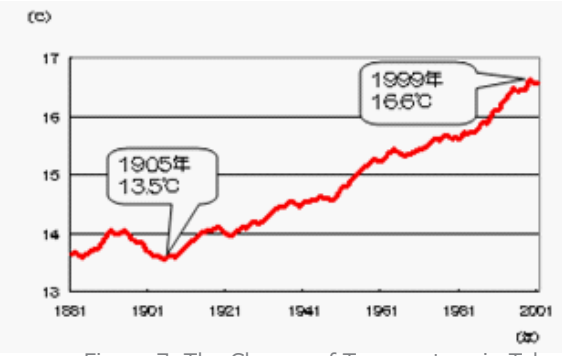


Figure 7. The Change of Temperature in Tokyo

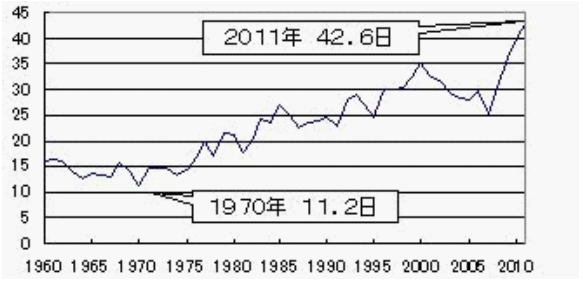


Figure 9. The Number of Swltering Night Days in Tokyo

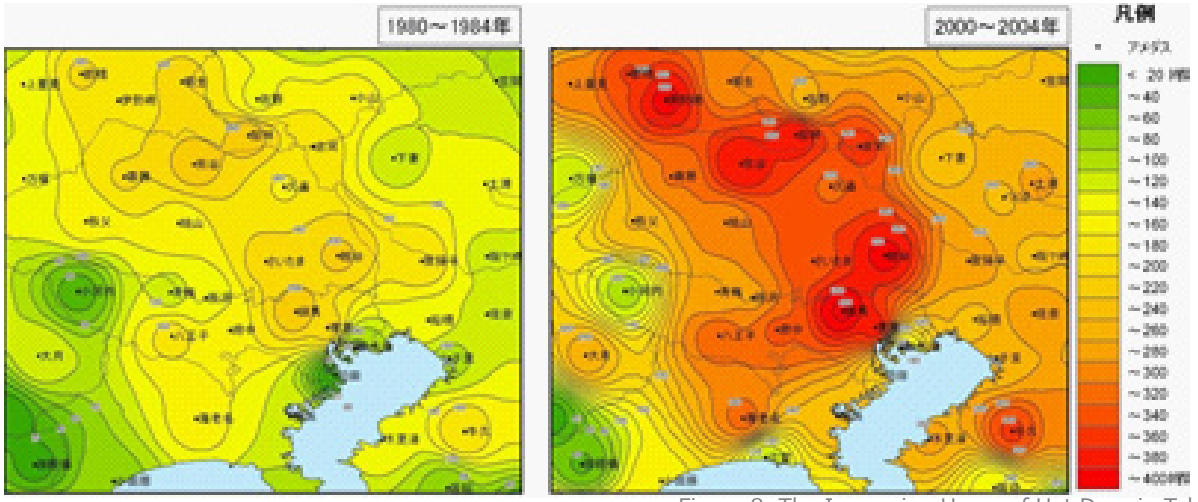


Figure 8. The Increasing Hours of Hot Days in Tokyo

b. The cause of raised temperature in built environment

• Exhaust heat

The reasons for heat-island effect are many. Focusing on the built environment, one of the reasons for heat-island effect is the exhaust released by buildings. When a building is cooled by air-conditioning, the heat is let outside (Bureau of Environment, Tokyo Metropolitan Government).

• Materials Absorb More Heat

A second reason is the materials used in the built environment tend to reflect less sunlight and absorb more heat. They also often take longer to emit this heat and so they hold it in place (U.S. Environmental Protection Agency).

• Decline of green spaces and water surfaces

Green spaces and water surfaces reduce temperature, but, as I mentioned, the ratio of green space in central of Tokyo is low and construction has covered the historical canals from Edo period. There has also been landfill in the Tokyo Bay. This dense development has blocked wind from Tokyo Bay to inland areas (Bureau of Environment, Tokyo Metropolitan Government).

• Poor airflow in city

In addition to the lack of wind from Tokyo Bay, the density of buildings in Tokyo generally has contributed to the discomfort associated with temperature increases. Even with the same measured temperature, the temperature can feel much cooler if there is airflow. However, the dense development in Tokyo has blocked airflow that might help to cool off the city (Bureau of Environment, Tokyo Metropolitan Government).

2.3 Tokyo Urbanites Consciousness

Tokyo urbanites desire green spaces. In 2012, Tokyo Metropolitan Government conducted a survey that asked "do you think it is necessary to preserve or increase the green of Tokyo?" (Tokyo Metropolitan Government). Nearly 77% said: "I agree that it is necessary." (Tokyo Metropolitan Government). 19% said "I sort of agree," 1% said: "I sort of disagree," 1% said "I don' t think that it is necessary," and around 2% said: "I don' t know" (Tokyo Metropolitan Government). In another survey, the Hakuhodo, Japanese advertisement company, surveyed consciousness about environmental problems in 8 cities in the world. A vast majority of the residents of Tokyo, 88.4%, showed an awareness of the dangers of global warming, and 90.2% agreed that it was important to give "priority to environmental protection over economical development," which was higher than any of the other cities studied (Hakuhodo). However, the Tokyo urbanites' answers regarding environmental behavior (such as their tendency to recycle) was the worst among the 8 cities studied (Hakuhodo). These results show the there is an interest in both green spaces and environmentally sensitive approaches in Tokyo. However, it is difficult in each of these cases for residents to do much on their own. They need to act as groups or the government needs to act.

Charles Waldheim explains the history and trend of landscape urbanism in Landscape as Urbanism, a book "The Landscape Urbanism Reader." He argues that "As the discipline of landscape architecture is examining its own historical and theoretical underpinnings, the general public are increasingly conscious of environmental issues, and thus become more aware of landscape as a cultural category" (Waldheim 43). In Japan, the general public don' t understand the definition of landscape architecture. It seems that there is a gap between designers and the general public. It makes me consider how designers must tell our story to the general public and improve the relationship between designers and the general public.

2.4 Cultural Impact to Use Public Spaces by Tokyo Urbanites

• Activities or Purpose

As for park use, people go to parks when they have a purpose such as school trip or family trip, fireworks events, festival, cherry blossom and autumn foliage viewing through four seasons. One other thing to note here is the difference between park and garden definition for people. Historically, a Japanese traditional garden is considered as private and aesthetic. My observation of activities in parks in the United States, Figure 10 shows that Americans often do many different types of activities in one open space. Some activities include lying down, playing music, skateboarding, reading a book, using laptops, chatting with friends, gathering, playing sports, and cycling. These activities remind me that Japanese people often don' t act on their own. Perhaps this explains why I have not seen such self-initiated activities in Tokyo.

Figure 10. Activities in case of U. S.

- Scale of Public Spaces

In Japan, there seem to be few European scale plazas, The open spaces in dense neighborhoods seem to be more intimate, such as “Alley Way (Figure 11)” and “Arcade (Figure 12)” and have activities flowing outside from inside constantly.

Figure 11. Japanese Alley Way

Figure 12. Japanese Arcade

• Restriction in Public Spaces

The restrictions on how public spaces are used seem to contribute to the public' s hesitation to use these spaces. There are so many rules for park users in Japan. Figure 13 shows one example of a sign in a Japanese park that lists restricted activities. Altogether, the sign lists 13 restrictions: no smoking, no fire, no dangerous objects, no photography, no carrying supplies, no pets, don' t leave bicycles, don' t enter by bicycle, don' t sleep overnight, no food and drink, no cooking, no dancing, and don' t play sports. We should allow users to use spaces respectfully.

Figure 13. Restriction Board in Tokyo Park

• Hard Edges Between Private and Public Space

In case of public spaces, we usually define the edge between public and private spaces, as the building face or overhangs and we do not extend private spaces to the streets because of concerns about congestion. However, it seems like both flows of pedestrians and street life could be combined and both could be accommodated.

2.5 Segregation by walls in modern Tokyo

Regarding the history of Tokyo' s built environment, Hidenobu Jinnai explains in "Tokyo: A Spatial Anthropology" about the form of today' s Tokyo and its roots in the land, culture, and traditions of the Edo period (1603- 1868), when the Japanese shogunal government moved to Edo, or today' s Tokyo. He explains that, "two contrary vectors of consciousness existed in the castle-town--the commoner' s 'establishing shop' and the warrior' s 'establishing a grand residence'" (Jinnai 27). The commoners' shops were built on a grand scale to display the dignity of the establishment. He relates this to the "flood of signs and frenetically changing fashionable surfaces in the Tokyo of today" (Jinnai 28). Of the warrior' s residence, he explained "They also created vistas along the street side of the residence, which were visible to passersby." "This closed structure projected a sense of imposing—even overweening—power to the outside world and created urban vistas of confident majesty" (Jinnai 30).

The current Tokyo city plan was established after Kanto earthquake in 1923, which left few of its original residences standing. However, Tokyo has not lost the original warrior residence' s character. according to Hidenobu, "The basic impulse remains at work today, of clearly demarcating the private property of the lot from the public spaces of the street by placing a sturdy wall around the lot and a single gate at the entrance." (Jinnai 45-47) Jinnai' s book helped me to understand the history of urban public space in Japan, and how old ideas have continued to affect recent urban public spaces.

In current Tokyo environmental situation, there are walls all over the city, and they separate people both physically and psychologically. These walls occur at a variety of scales, from smaller private homes to larger public spaces.

- Private House

The segregation by walls within Japanese society begins at the individual scale. In the typical Japanese house, rooms are separated by walls in a way that seems to discourage communication within families. Figure 14 shows a historic Japanese house plan. Akito Yokoyama argues that the loose morals and bad behavior found in the child that lived in this house was related to the way the house was designed. The child living in the house entered the house and went to his room without meeting his family. He did not pass through the living room, and so he rarely interacted with his parents (Yokoyama). Figure15 is one of example of current typical Japanese apartment plan, this is similer with historical Japanese house plan.

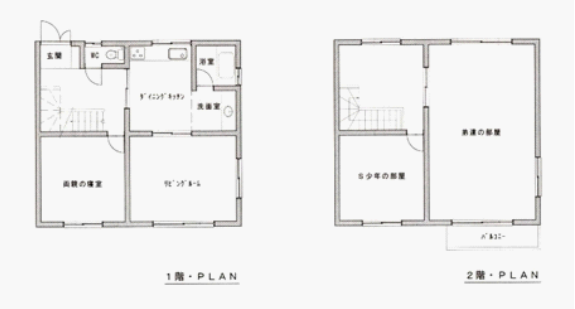


Figure 14. Historical Japanese House Plan

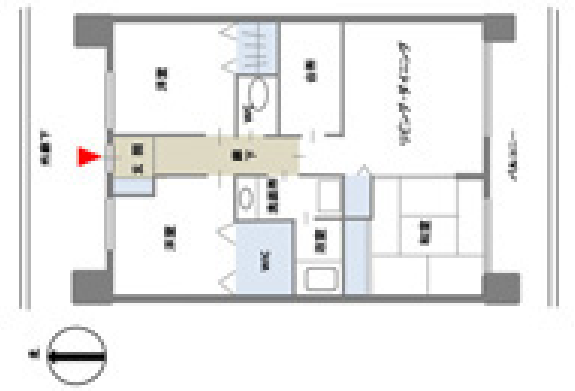


Figure 15. Current Typical Japanese Apartment Plan

• Private House to Public Street

At the neighborhood scale, concrete or brick walls separate private properties and public streets visually.(See Figure 16) This concrete or brick wall is used to show the owner' s power as was true of the historical warrior' s residence. (See Figure 17) The Japanese Concrete Brick Association (JCBA-JP), notes that there are a number of reasons why people create concrete or brick walls. According to surveys they conducted, which allowed people to select more than one reason why they were building walls, the need for privacy ranks first at 70%. The second most common reason people build walls is crime prevention, with 55% of respondents noting that it was a goal of theirs. Other reasons acknowledged by respondents included, site boundary indication (50%), fire prevention, (45%), sound insulation (25%), protection against disasters (15%), and wind protection (10%) (Japanese Concrete Brick Association (JCBA-JP)).

Figure 16. Current House Brick Wall

Figure 17. Historical Warrior's residence

• Parks to Public Streets

Even in the public realm, parks are separated from streets by fences. The main reasons given for this are safety, to prevent homeless from staying overnight, and to prevent illegal dumping. (See Figure 18)

Figure 18. Park Fence in Tokyo

3. Survey

Why don' t Tokyo urbanites use parks or public spaces as part of their regular routines? I believe there are cultural, historical, and legal reasons. Tokyo urbanites seem to use parks when they have a purpose more than for everyday activities. In addition, there are many restrictions to use spaces. These were some of my assumptions based on observation growing up in Tokyo and from comparing the way people use public spaces there with the way people use spaces in U.S. To test these assumptions, I developed a formal survey of Tokyo residents. The survey (see Appendix A) was designed to take about 30 minutes to complete, and included questions organized around the following constructs.

- Residents' aesthetic preferences and their perceptions of the importance of different sorts of public spaces
- Residents' lifestyle and activities in public spaces
- Residents' preference towards elements of spaces
- Residents' demographics

3.1 Methods

- The participants

This survey was mainly for residents who live in the Tokyo area. I interviewed a total of 137 people during the winter of 2015 and 121 people completed the survey. The people I surveyed included both males and females of a range of ages over 18 years old, which is the year that Japanese students graduate from high school. Some residents from neighboring prefectures—Kanagawa, Saitama, and Chiba—were also surveyed, since many urbanites who work in central Tokyo live in nearby areas and commute to central Tokyo by train.

- Online survey

This survey was conducted using Survey Monkey (http://jp.surveymonkey.com/). I chose it because it is great system for analysis and making charts automatically, and I needed to send only web link to participants. Another reason is that people could use mobile phone and respond to the survey anywhere.

3.2 Questionnaire

I tried to make the questionnaire to be easily to answer by creating multiple choice questions and using images. Moreover, I tried to think how this questionnaire could be familiar for participant' s life and their spatial use and consciousness. In addition, I hoped the participants would consider spaces they usually don' t pay attention to, and how they influence their senses in this survey.

• Residents' aesthetic preferences and their perceptions of the importance of different sorts of public spaces

The first question was "Do you know the field of Landscape?" In my experience, the general public usually doesn' t know the definition of landscape in Japan. The next few questions were put under the subtitle "public space." The survey asked about the importance of different types of public spaces, activities in public spaces, and elements in public spaces to understand how important they were to the respondents' life in Tokyo. The subsequent questions concerned physical appearance and the design of building façades in the city. I asked about people' s preferences for gridded street patterns vs. more organic street patterns that are only partially gridded, unified façade vs. not unified façade, and also whether they liked certain common landscape materials. Grid plan and unified façade are reminiscent of plans in other countries and historical Japan. The more organic street plan and not unified façade are more common in Tokyo today.

• Residents' lifestyle and activities in public spaces

The next section focused on Tokyo residents' life in public spaces. First, regarding sports activities, questions were asked regarding how often they exercise, either inside or outside, and what kind of exercise or sport they participate in. Next, they were asked how they use parks in Tokyo, and how often. In addition, respondents were asked whether they sometimes have lunch at parks or not. They were also asked what they consider as the most familiar Japanese traditional activities that occur in public spaces.

Questions were also asked about two specific parks that I assumed most survey respondents would be familiar with: Shinjuku Gyoen National Garden and Yoyogi Park. These two parks are located close to Shinjyuku which is one of most famous and congested areas in central Tokyo. The Shinjyuku Gyoen was the Japanese emperor' s garden and is now open to the public, however visitors need to pay entrance fee. The Yoyogi Park is next to the Meiji Jingu shrine. It was once a military base and

residence before sports facilities and event spaces were built around the park for the Tokyo Olympics. At Yoyogi Park, one can find some events such as markets and festivals. No entrance fee is required. Comparing these two parks, questions were asked concerning how many times they have been to these parks, respondents were asked to rate how much they like these parks, and explain why they visited these parks.

• Residents' preference towards elements of spaces

In the next section, the questions concerned residents' deeper consciousness for spatial atmosphere. Specifically, the questions address preferences for urban fabric or natural elements, a series of lunch spaces inside and outside, preferences for surroundings, views of public spaces, and what elements they like and they want to change in the space using existing examples of spaces in Tokyo.

• Residents' demographics

Finally, demographic questions were asked for the purpose of analyzing different uses and perception of public spaces by respondents' genders, ages, and occupations. Additionally, to get some understanding of respondents' familiarity with different sorts of public spaces, questions were asked concerning the types of urban spaces they live in and grew up with, and how often they visit central Tokyo.

3.3 Results

From the survey, it is clear that most people are not familiar with the field of landscape. 49% said no and 30% said they had heard of it but was not sure what it involved. Only 21% were familiar with the field.

The survey also suggested Tokyo urbanites do not use parks regularly. 57% of respondents said they use parks very little or only several times a year. Only 15% of respondents said they use parks once or more per week. Additionally, when asked how often respondents had lunch in a park or by a river bed, 57% said they did this very little. 35% said several times a year. 6% said they did this several times a month and only 2% said they did this once or more per week.

However, this does not seem to be a matter of lack of interest in eating outside. When asked where they would be willing to have lunch or rest while they were shopping in a commercial area, and given six options, only 7.3% chose to eat or rest inside. 15.5% chose inside a park, 21.9% chose along a river bed, and 46.3% chose a patio connected to a building facing a green space. This result seemed to confirm my assumption that people like the fuzzy spaces between inside and outside, between building and greenery.

Figure 19. Survey Results

4. Fuzzy Spaces

4.1 Japanese Traditional Fuzzy Spaces

• Engawa

An engawa is a distinctive structure found in traditional Japanese houses. It is a sort of porch that projects out from the face of the house just a few feet. It is typically a wooden deck raised above the ground and covered by a roof. People are able to enter these spaces from adjacent gardens. The engawa often feels like a continuation of the house' s main floor. It is divided from the inside by the shoji, or Japanese paper wall. And when the shoji are slid away, the whole structure opens up the adjacent garden. Today neighbors frequently gather in these spaces to socialize. Historically, people made haikus describing the views of the garden from the engawa.

• Alleyway

In historical residential areas, residents extended their gardens to alleys or streets, encouraging communication within the neighborhood. The reason why is that "the inhabitants of cramped tenement houses had no yard space of their own and therefore had to turn to the backstreet for all their open space. It was not only a front yard for potted plants and a place for children to play, but also an indispensable makeshift kitchen for housewives to make fires for cooking... Because the alley was directly linked to people' s everyday lives, kitchens were usually placed facing the alley (Jinnai 62). The way activities were pushed into the public spaces of the alleyway influenced building planning through interplay of neighborhood and each house plan which makes the community.

Figure 20. Engawa

Figure 21. Alleyway

4.2 Precedents of Fuzzy Space

• Shinagawa Station Platform Installation / Tokyo, Japan

This project allowed the office worker to get beer at the outside station platform after their work. The furniture used here is the typical office furniture chair made of steel.

Figure 22.

• Chair in the Alley Installation / Design by Klein Dytham Architecture / Located in Tokyo, Japan

This project also used furniture that seemed like it was designed for indoor spaces in an outdoor area.

Figure 23.

• Geometric Garden / Design by Piero lissoni in collaboration with Living Divani / Located in Milan, Italy

This landscape has an overhead structure that provides intimacy, while not closing out views of the sky. The furniture is not hard surfaced but soft, like interior furniture.

Figure 24.

• Fort Werk aan' t Spoel / Design by RAAAF, Atelier de Lyon / Located in Culemborg, The Netherlands

This site was previously used as a military defense line. The area adjacent to the building consists of a series of narrow grassy terraces.

Figure 25.

• Green Restroom Exhibition/ HOUSE VISION / Design by TOTO / Located in Tokyo, Japan

This restroom put on exhibit, has an interior green wall and its flooring creates a continuous connection through glass and open walls.

Figure 26.

• Melbourne Laneways & Arcades / Located in Melbourne, Australia

This Melbourne alley allows shops to extend their activities into the public street. Some canopies are provided and there is a very slight difference in the height of the areas where shops are allowed to extend that makes it clear that this area is semi-private.

Figure 27

5. Site Condition

Figure 28. Bird's Eye View of Shimokitazawa Area

Simokitazawa, Setagaya, Tokyo, Japan

As Tokyo has been highly developed, there are not many empty sites to build new open spaces. Most of the opportunities for building new parks involve building on structure—on rooftops or over infrastructure. The areas over transportation infrastructure might be one possible place for open spaces. According to the Tokyo Urban Area Transportation Planning Conference, the main way that people in the Tokyo metropolitan area commute to and from work is railroad or subway with 79% of people using this method. Two percent of people commute by bus. Four percent commute by car. Two percent commute by motorcycle. Seven percent commute by bicycle, and five percent walk to work. In Central Tokyo, most of the mass transit is by subway. In outlying areas where trains are being converted to subways, there are opportunities to create new open spaces.

Focus Area & Site Location

The Shimokitazawa area is on the West side of central Tokyo. The Odakyu line goes through from Shinjuku station to the Shonan Bay area and Hakone area in Kanagawa. Between September 2004 and March 2013, the Odakyu Electric Railway Co., Ltd. converted a surface rail line into an underground subway in the Shimokitazawa area. The ground level above the subway had yet to be developed and was in the planning stages at the time this exploration began.

5.1 Odakyu Line Development

• Site: Shimokitazawa area through Odakyu line between Yoyogi-Uehara station and Umegaoka station
• Area: 2.2km, approximately 27,500 ㎡ (except cross road)

Their concept for a new development in the Shimokitazawa area is to encourage “the Life of the street and migration, Town where child rearing generation can live, and Culture” in a way that responds to the community’s existing character. The site is divided into three zones with each established around a different theme. There is the "cultural transmission zone," the "Simokitazawa shopping zone," and the "Setagaya life transmission zone". The cultural transmission zone is planned for the area around Higashikitazawa station. The facilities will be arranged to create a high quality lifestyle fused with the character of the existing town. The Simokitazawa shopping zone is the area around Shimokitazawa station. It will have many different types of stores surrounding the new station. The Setagaya life transmission zone is the area around Setagayadaita station. It will have high quality residences that support different stages of life, including child rearing. “Greenness” and environmental responsibility are central to the way they are being marketed (Odakyu Electric Railway Co., Ltd.).

Overall, this development is one of example of future city development could incorporate new large open spaces. The new proposed Odakyu design has a continuous path and green canopy, but has not focused on creating interactive spaces between these spaces and the surrounding buildings. They do not currently promote the type of fuzzy space I am proposing.

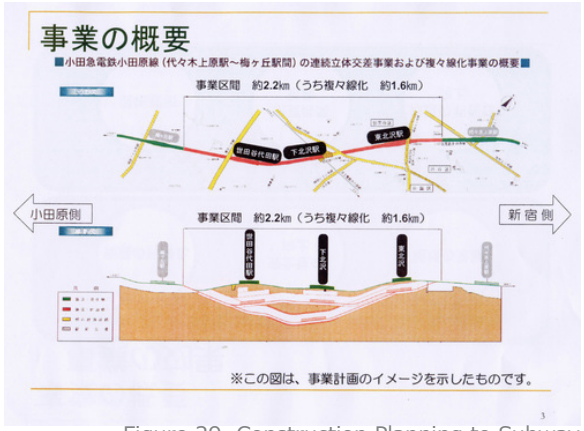


Figure 29. Construction Planning to Subway

Figure 30. Construction Site

Figure 31. Odakyu Proposal Design

5.2 Shimokitazawa Area

The Shimokitazawa area used to be an agricultural area. After the Kanto earthquake in 1923, this area was developed around the original farm road of that ran through the valley. The area expanded suddenly after the construction of the railroad. Shimokitazawa station was established where the Inokashira line crossed over the Odakyu line. This area has seen growth as a center for youth culture in Tokyo, as new stores, theaters, art galleries and restaurants have opened (Satoshi, 142).

Figure 32 shows a variety of different maps of the Shimokitazawa are, looking at land use; Commerce & Residence, Education & Activity, Vacancy, Green & Tree Canopy, Hydrology, and Topography. The diagram shows how working with the topography on this site provided both challenges and opportunities, due to the drastic variations in elevation. Water moves along the low point of the valley, the blue color on the Hydrology map shows an existing waterway under the ground, and the light blue line on this map shows a river that is visible from the surface. There is a famous row of cherry blossom trees along the river. The map of the green canopy shows this line of cherry blossoms. On the west end of this site sits Hanegi Park, a large park of 79,650.71 ㎡ , which has 650 Japanese apricot trees that bloom each February. The entire area has a mix of commercial and residential uses and the, building level is not very high. In addition, this areas also has educational facilities, art galleries, and theaters. There are also a lot of small vacant properties.

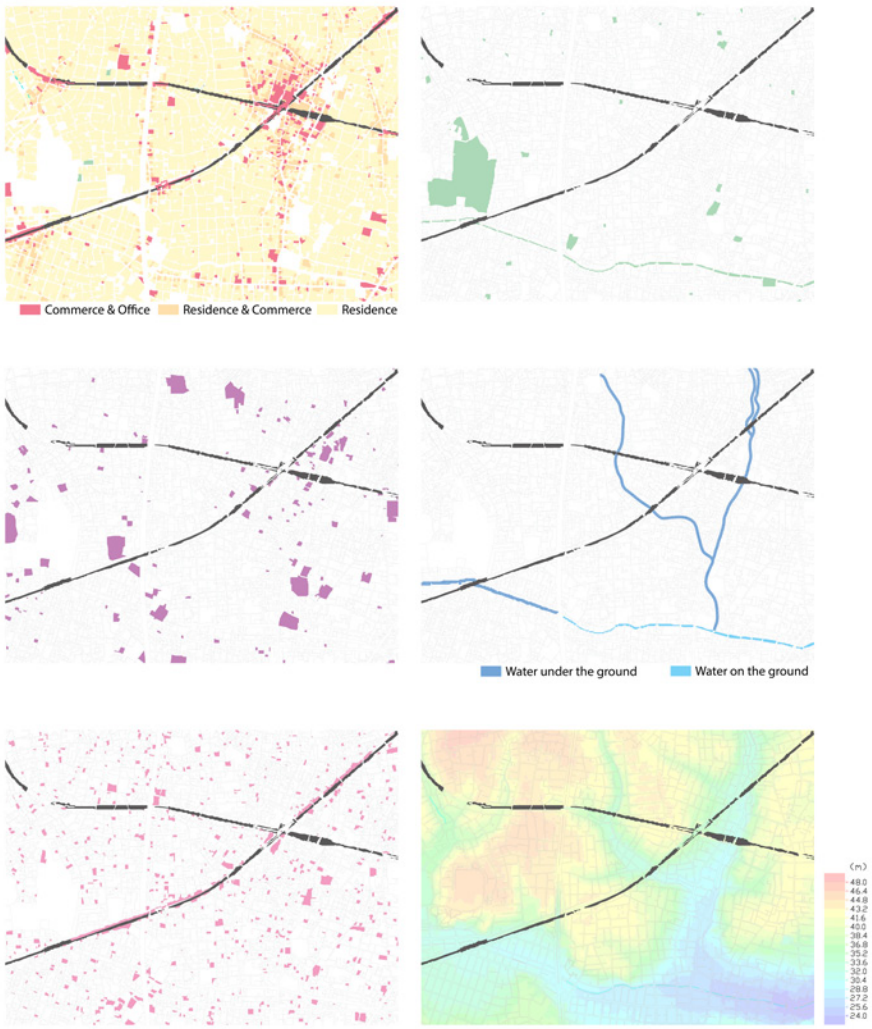


Figure 32. Land Use

Figure 33. Development of Site, Circulation

Figure 34. Shimokitazawa Alley 1

Figure 35. Shimokitazawa Alley 2

Figure 36. Shimokitazawa Alley 3


Figure 37. Shimokitazawa Alley 4

5.3 Shimokitazawa Station Area

Due to the topography of valley and the way the lines cross, people are often confused about where to go. The residences are constructed on a hill and there is a shopping street that spread from the Shimokitazawa station. In addition, this area has narrow alleys and some alleys are covered with roofs, and spaces become semi-inside space. People can go to the station through this semi-inside alleyway (Satoshi, 143,144). Figure 33 shows the history of Shimokitazawa station area development, and circulation for various types of transportation. In addition, photos show the character of the alley. Shops extend their displays into public streets as they did in historical alleyways. Tokyo residents like Shimokitazawa with its small scale and shops open to the outside.

Figure 38. Shimokitazawa Main Shopping Street

6. Design Intervention

6.1 Design Concept

This landscape intervention is proposed for the long linear site anchored by the Shimokitazawa Station and aims to create ideal interactive spaces for Tokyo urbanites through “fuzzy space.” It is assumed that breaking down walls would encourage people to connect with family, neighborhood, society and nature in an effort to improve people’ s relationships. The design sought to make multiple fuzzy spaces for different sorts of users such as individual people, groups of two or three, and larger groups. Spaces were aimed at groups of friends, families, residents, merchants, as well as visitors.

6.2 Framework of ‘Fuzzy Space’

Fuzzy spaces require a mix of choices of materials and textures that consider the needs for different users and how different users relate with the existing environment. For designing so-called fuzzy spaces, I constructed a framework with choices of textures and materials that also looked at how the main space-creating features of fuzzy space—Floor, Wall, and Roof—might vary. Materials considered included steel or metal, concrete, tile, glass, fabric, stone, wood, grass, and soil. Some materials seemed to be more artificial and more closely associated with interior spaces, while others seemed to be more natural and reminiscent of exterior spaces. The smoothness or roughness of materials was also taken into consideration, and also seems to be related to a feeling of being inside or outside. For instance, rich smooth furniture tends to be associated with interiors, while rustic and less smooth features like logs might be associated with exterior spaces. How fuzzy spaces are experienced would also seem to be related to the design of their floors, walls, and roofs—the degree of openness, the degree of transparency, the topography or terracing of the ground plane, and the strength of the edge. Nearby plants may change the spatial character of fuzzy spaces as

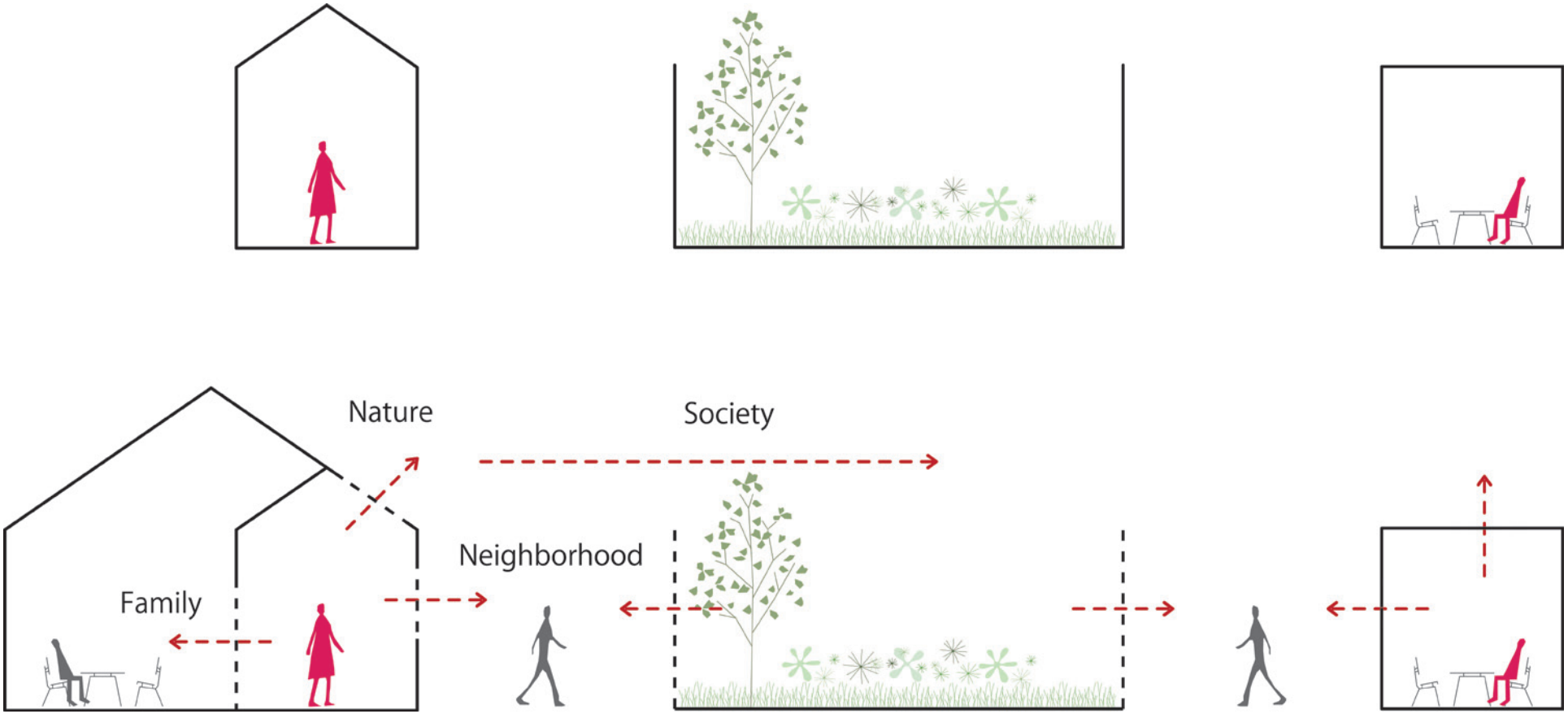


Figure 39. Concept Diagram

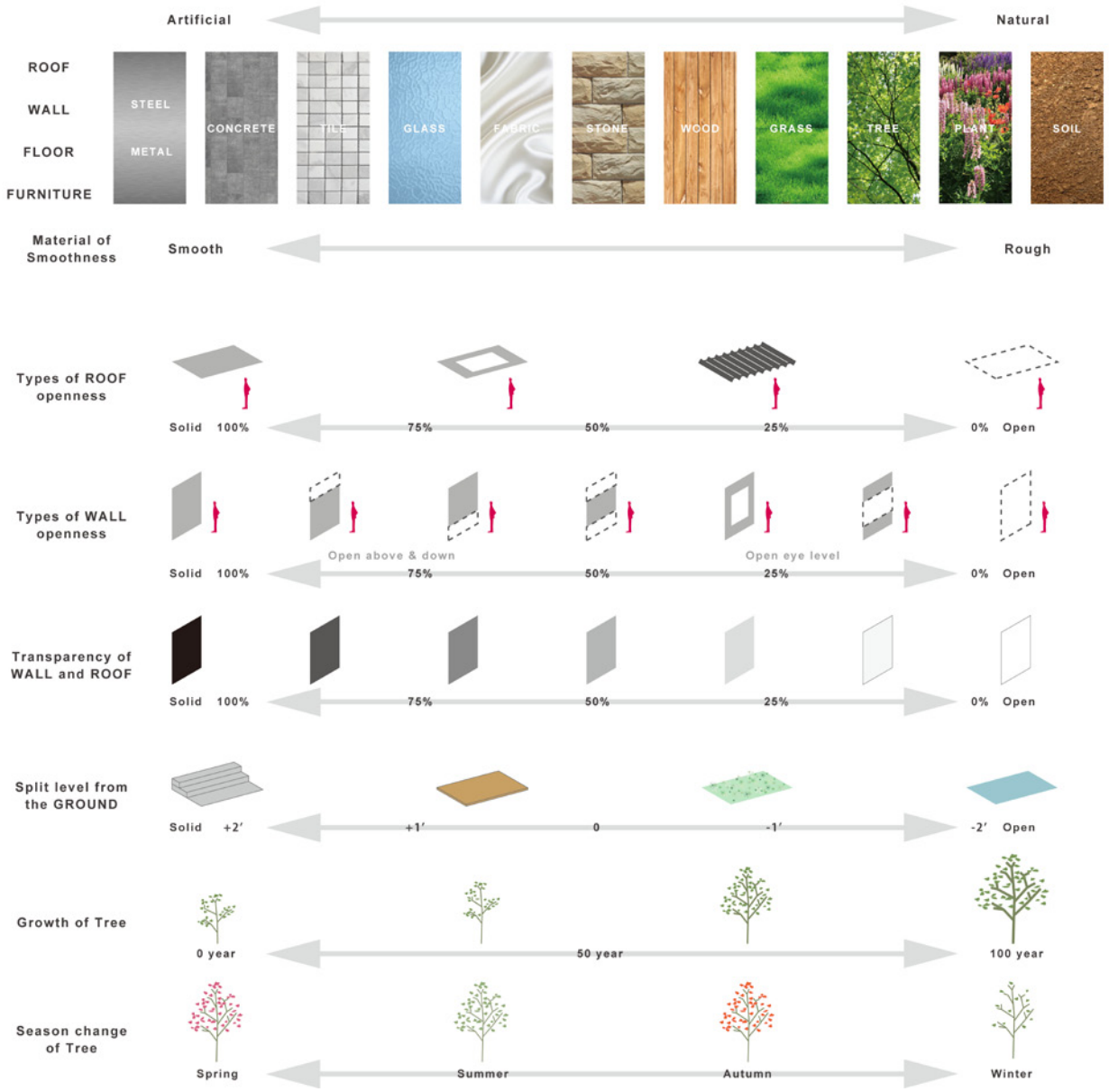


Figure 40. Framework of Fuzzy Space

seasons change and plants grow. What design decisions are made related to these things may be connected to the degree of publicness or privateness desired. It seems these choices could affect possibilities for interaction and the creation of new relationships between people and their environment.

6.3 Heat-island Mitigation by 'Fuzzy Space'

This section focuses on how fuzzy spaces contribute to alleviating the heat island problem in Tokyo. There are possible ways to reduce urban heat-island effect through use of materials and mix of plants. The research discussed below shows how different sorts of strategies can be in fuzzy spaces used to cool cities. For improvement of heat-island effect, reducing heat from radiation is necessary. Concrete buildings and paving absorb and radiate heat to a much greater degree than planted surfaces. In outside space, temperature is significantly lower under tree and shade by canopies. For instance, a multi-month study measured maximum surface temperature reductions due to shade trees ranging from 20 to 45ºF (11-25º C) for walls and roofs at two buildings (EPA 2). Another study examined the effects of vines on wall temperatures, and found reductions of up to 36ºF (20ºC) (EPA 2). Here through fuzzy spaces environmental elements including planted surface and choice of surface and paving materials can result in reduction and absorption of heat.

- Paving
- White roof: color
- Green roof : plants

The section of paving materials has effects for holding moisture and less absorption and radiation of heat. Specific examples for holding moisture include porous asphalt, pervious concrete, interlocking paver systems, alternative paving systems, gravel systems, and grass concrete and turf pavers. Grass concrete and turf pavers are high heat island mitigation materials (LID 78-79).

White roofs also can have cooling effects. The White Roof Project mentions that "5-10% of summer electricity is used to compensate for Urban Heat island effect." "White roofs can reduce summer energy used by 10-40%." In addition they can reduce the total Urban Heat island effect in an impacted city by 1 ºF to 2 ºF, enough to lower peak energy demand. (White Roof Project)

Green roofs are covered in plants. Peak air temperatures in tree groves is 9ºF (5ºC) cooler than over open terrain. Plants make shade as green canopy, and absorb heat as well. The green roof itself has effects on absorption heat. According to a green roof research by EPA, "Reducing Urban Heat Islands: Compendium of strategies Green Roofs" , "a modeling study for Toronto, Canada, for example, predicted that adding green roofs to 50 percent of the available surfaces downtown would cool the entire city by 0.2 to 1.4 ° F (0.1 to 0.8 ° C). Irrigating these roofs could further reduce temperatures by about 3.5° F (2° C) and extend a 1 to 2 ° F (0.5-1° C) cooled area over a larger geographic region (EPA 3)".

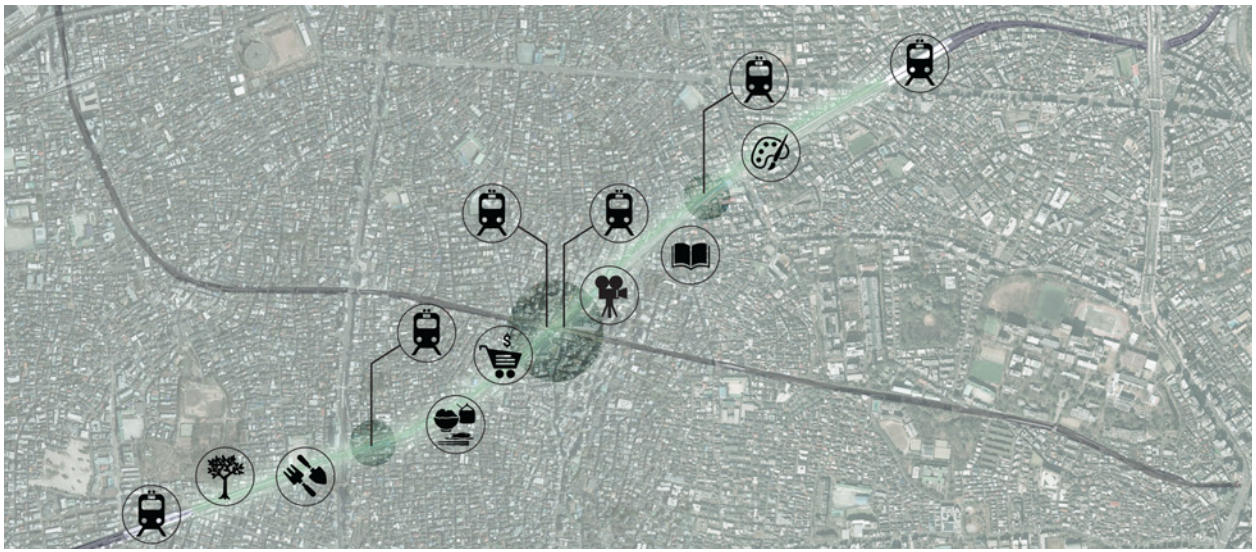


Figure 41. Program Proposal

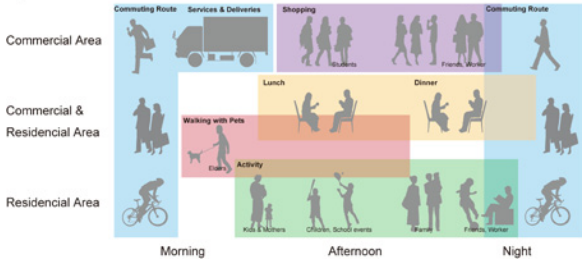


Figure 42. Day in the New Street

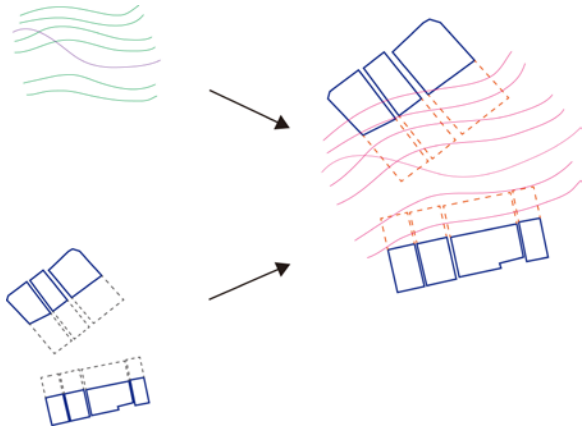


Figure 43. Shape of Design

"A similar study in New York City modeled air temperature reductions two meters, or 6.5 feet, above the roof surface based on a scenario assuming 100 percent conversion of all available roof area to green roofs. The model results estimated a temperature reduction of about 0.4 ° F (0.2 ° C) for the city as a whole, averaged over all times of the day. The model projected that temperatures at three o' clock in the afternoon would be reduced 0.8 ° F (0.4 ° C). The researchers also evaluated, in detail, six areas within the city. The area with the highest 24-hour average reduction in temperature had a change of 1.1 ° F (0.6 ° C), and the reductions at three o' clock in the afternoon in those six areas ranged from 0.8 ° F (0.4 ° C) to 1.8 ° F (1.0 ° C). On a typical day, the Chicago City Hall green roof measures almost 80 ° F (40 ° C) cooler than the neighboring conventional roof (EPA 3-4)".

6.4 Design Exploration

The area around the subway station at Shimokitazawa used to confuse people. Since the railway was converted to a subway, accessibility has been better. However, the area still feels quite maze like when you are walking around it. For program through this site, I would like to keep the sense of linearity present here, take advantage of opportunities for adding green space and build off of each area' s characteristics and atmosphere. My program for the southwest area, which connects Hanagi Park and creek with the cherry blossoms, focuses on creating an agricultural and community garden. Between Setagayadaita station and Shimokitazawa station, which is a more residential area, I proposed focusing on food culture and rest spaces for residents. Around the Shimokitazawa area, there are more commercial and activity areas. Between Shimokitazawa station and Higashikitazawa station, this area is focused on art and educational facilities.

I expect the way the intervention site is used to vary based on the time of the day. In the morning and night, this area is for residents, delivery vehicles, lunch trucks, and venders can move their vehicles through the space. During daytime, this area is only open to pedestrians, mothers with strollers, and bicyclists so they can enjoy activities and shopping with friends. As for accessibility, I propose a main pathway and bicycle lane between Setagawadaita station to Higashikitazawa station, following the route of the former rail tracks. The bicycle lane will be ground level in most places but at a higher level around the station area. An existing street, which had served as a rail crossing will continue to cross through the site, and there is a new at grade pedestrian crossing here. My design shape is based on historical line and urban fabric line. The site' s design is integrated with the contours of the existing valley and follows the original rail line, drawing on the curves of the railway visible at a much larger scale, which have the feeling of a natural river, and extended straight lines out from existing buildings.

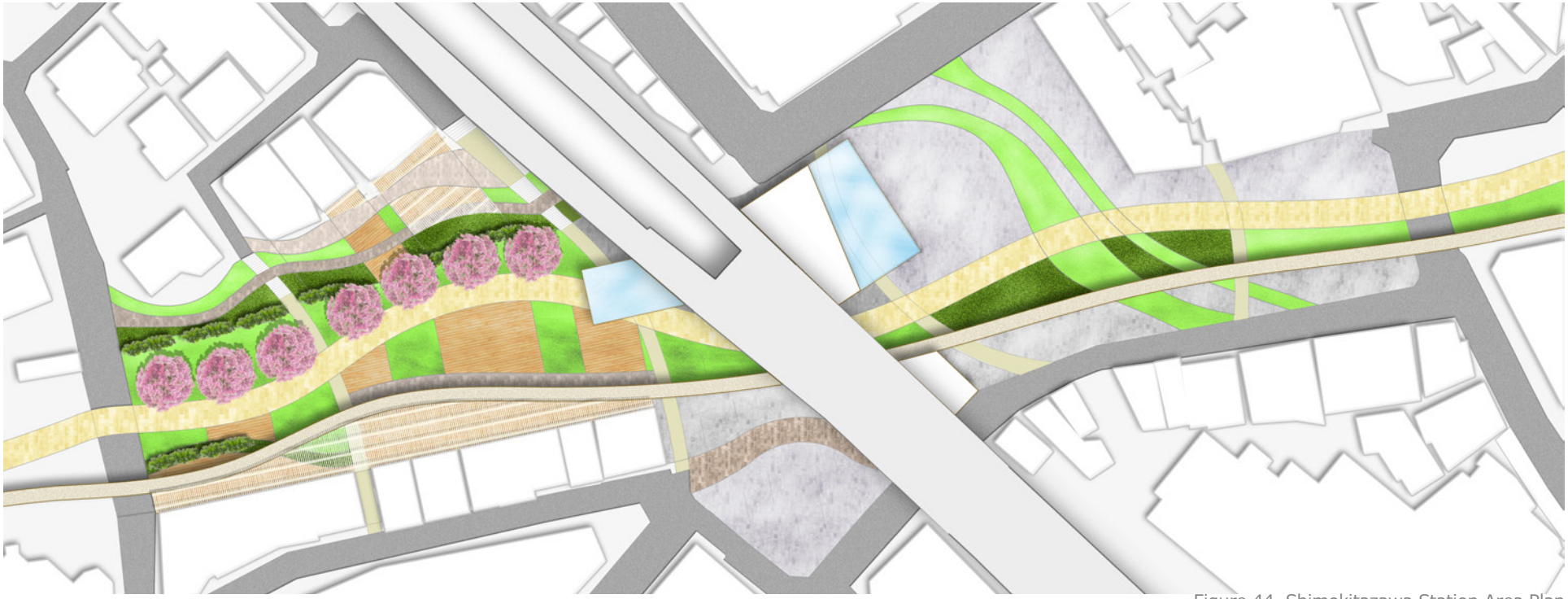


Figure 44. Shimokitazawa Station Area Plan

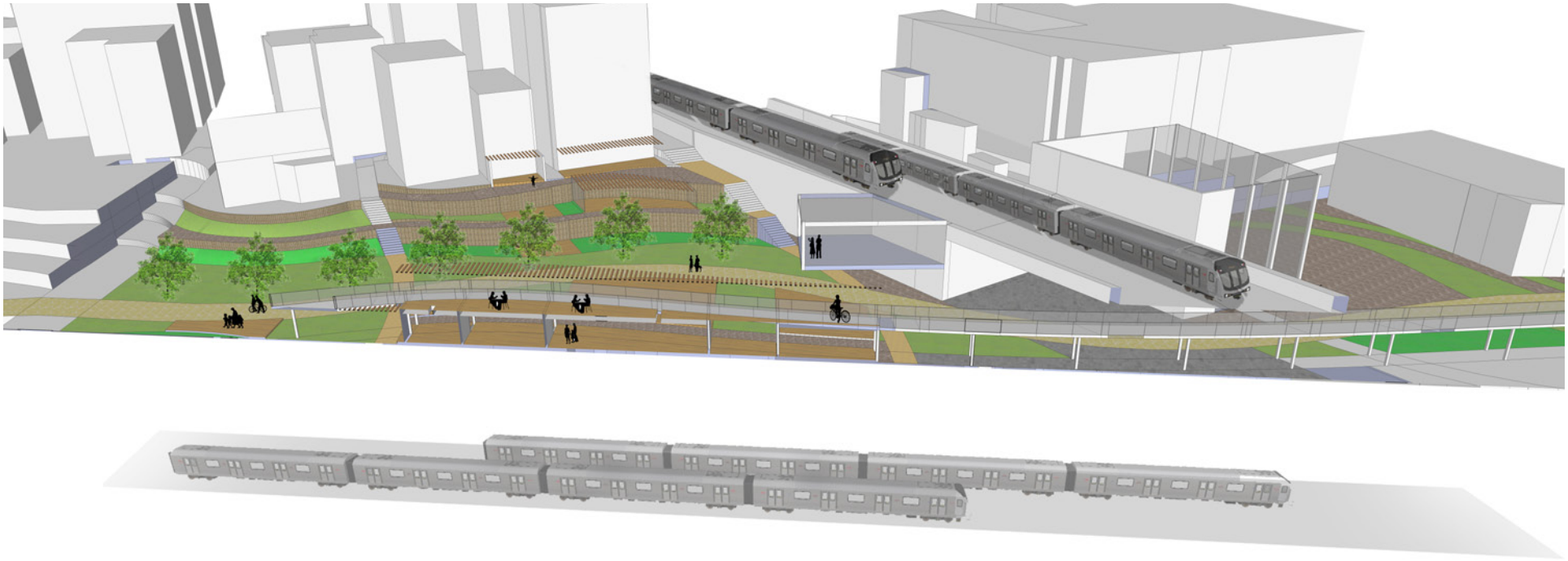


Figure 45. Shimokitazawa Station Section (East-West)

Figure 46. Overall Site from Train View

Figure 47. Natural Fuzzy Space

Figure 48. Urban Fuzzy Space

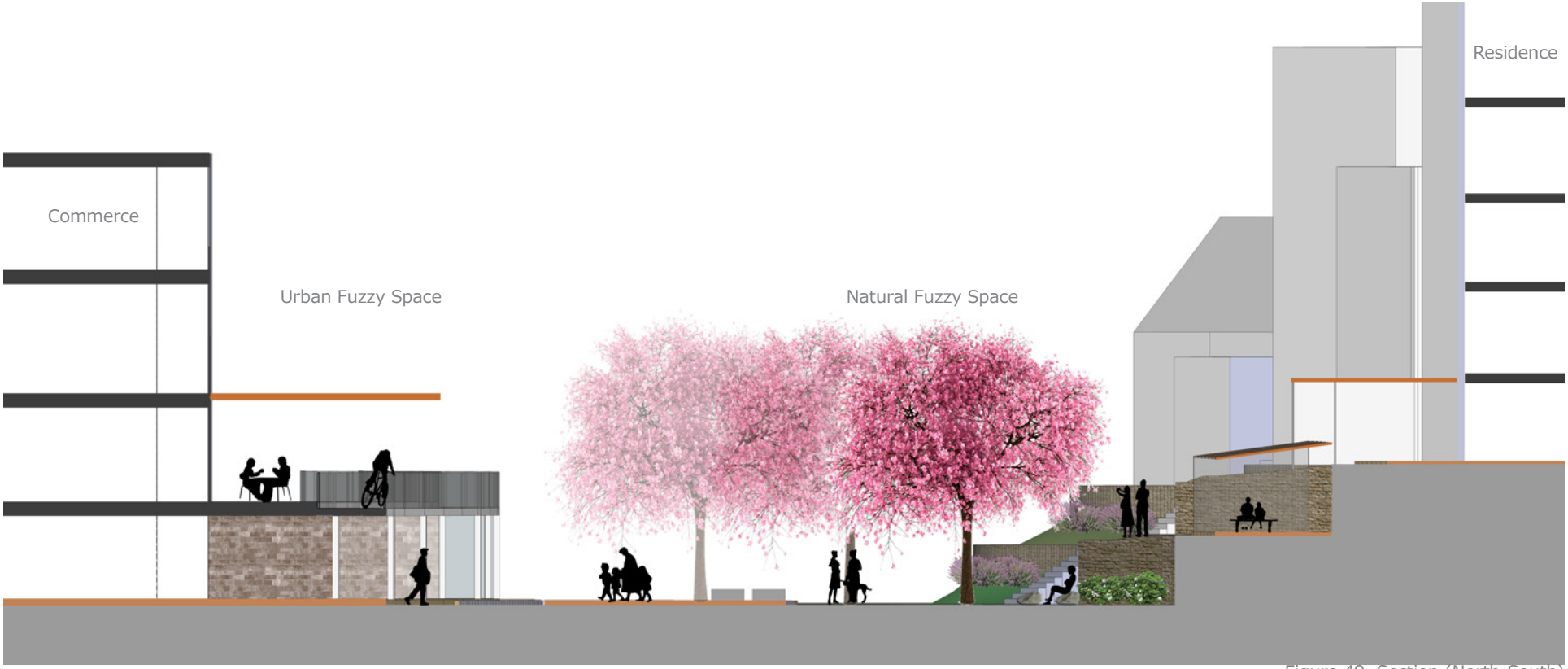


Figure 49. Section (North-South)

7. Conclusion

Culture has shaped our spatial consciousness. Japanese culture builds on a rice-based agriculture with four distinct seasons, each with unique traditional events. Subsequent cultural paradigms included sitting on the floor, engawa between inside and outside, and, as articulated poetically in haiku, appreciating the aesthetics of a garden. These sensitivities continue to shape the spatial perceptions of the contemporary generation. My survey illuminates the underlying attitude that most Tokyo urbanites prefer being on a patio facing green and park areas more than being directly within outdoor urban spaces while having a lunch or having a rest.

With the increased density in many central Tokyo neighborhoods, there is a need for spaces to reconnect families and communities and encourage more socialization. It is the time to reclaim the meaning of public space in central Tokyo in a way that respects the culture and creates a greater sense of community. With my design, I proposed that such an intervention might take place in fuzzy spaces between buildings and open spaces. My design intervention would allow users to watch and see natural elements and people' s activities. An engawa space is made at the ground level and additional veranda is made above the second floor level. The area acts like an amphitheater. These upper and lower floors are in dialogue, people can see each other and observe what each other are doing. And the relationship between green areas and active built areas in fuzzy spaces helps to enliven the interior and exterior spaces. Few Japanese read books at a park by themselves, but there are many who read at a cafe, their houses and the library. I imagine this design would encourage these activity to occur in public though a fuzzy space to enrich the environment with value and infrastructure to conduct such activities. At the same time one is feeling dappled shade under a tree canopy, furniture provides pleasure like a library or living room atmosphere. Shopping with friends, having lunch at a nice existing café on the new extended veranda, visitors can see the other activities on the main pathway and enjoy chatting on the veranda.

While large group activities can be accommodated in the space of the urban city, smaller fuzzy spaces make flexible space that can accommodate everyone from a single person to a large group closer to their homes on an everyday basis—satisfying people' s desires for parks while eliminating some of the barriers people have to using park space in their daily lives. The space should have less restrictions and greater freedom, so people can use the spaces with no hesitation. It is hoped that by connecting buildings and nature, residents looking out on these spaces form their verandas will be drawn to activities in the fuzzy space and the exercise and social opportunities it provides. I believe that fuzzy spaces will encourage greater communication between people and break down some of the physical and psychological walls found in Tokyo.

Additional research would help us to understand if this was so. There is also more research to be done on why people in Japan seem to prefer fuzzy spaces. I wonder if people' s preference for these spaces may be related to a preference by many Japanese people to sit at the edge and look out and watch rather to be on a stage and perform themselves. Further surveys or observational studies might help to clarify whether this is true. Creating such fuzzy spaces and surveying people on these sites before and after they are created will help us to better understand how they can contribute to communication in a community.

Bibliography

Akito, Yokoyama. 横山彰人、子供をゆがませる「間取り」、2001, January 24. 情報センター出版局

Crewe, K., and A. Forsyth. "LandSCAPES: A Typology of Approaches to Landscape Architecture." Landscape Journal 22.1 (2003): 37-53. Print.

Gehl, Jan. Cities for People. Washington, DC: Island, 2010. Web.

Jinnai, Hidenobu. Tokyo : A Spatial Anthropology. Berkeley: U of California, 1994. Print.

Satoshi, Okamoto. 岡本哲志、江戸東京の路地、2006.

Waldheim, Charles. Landscape Urbanism Reader. New York, NY, USA: Princeton Architectural, 2005. Print.

Data

Bureau of Environment, Tokyo Metropolitan Government 東京都環境局、東京都環境白書データ集 2000、Ⅱ東京都の環境問題と対策、５東京の緑、（１）緑の状況、緑被率（平成７年)、
Retrieved from https://www.kankyo.metro.tokyo.jp/attachement/tkh2ks05.pdf

Bureau of Environment, Tokyo Metropolitan Government 東京都環境局、Heat-island effect in Tokyo 暑くなる東京、
Retrieved from https://www.kankyo.metro.tokyo.jp/climate/other/countermeasure/phenomenon/index.html

EPA; United States Environmental Protection Agency. Reducing Urban Heat Islands: Compendium of Strategies, Green Roofs.
Retrieved from http://www.epa.gov/heatisland/resources/pdf/GreenRoofsCompendium.pdf

EPA; United States Environmental Protection Agency. Reducing Urban Heat Islands: Compendium of Strategies, Urban Heat Island Bascics.
Retrieved from http://www.epa.gov/heatisland/resources/pdf/BasicsCompendium.pdf

Hakuhodo. 博報堂生活総合研究所 「世界８都市・環境生活調査」、2008. Retrieved from http://www.hakuhodo.co.jp/uploads/2011/09/20080514.pdf

Japanese Concrete Brick Association (JCBA-JP) 全国建築コンクリートブロック工業会、Retrieved from http://www.jcba-jp.com/block/index.htm

LID; Low Impact Development, a design manual for urban areas. University of Arkansas Community Design Center, 2010

Martinez, Gerardo Sanchez, Chisato Imai, and Kanako Masumo. “Local Heat Stroke Prevention Plans in Japan: Characteristics and Elements for Public Health Adaptation to Climate Change.” International Journal of Environmental Research and Public Health 8.12 (2011): 4563–4581. PMC. Web. 26 June 2015.

MLIT (Ministry of Land, Infrastructure, Transport and Tourism) 国土交通省、資料６　みどりの政策の現状と課題、１．都市のみどりの状況、（１）首都圏における緑地面積の推移、
Retrieved from http://www.mlit.go.jp/singikai/infra/city_history/city_planning/park_green/h18_1/images/shiryou06.pdf

MLIT (Ministry of Land, Infrastructure, Transport and Tourism) 国土交通省、「都市における緑地の保全・創出」プログラム評価、海外における公園現状及び日本の大都市における公園現状、３１ページ、Retrieved from http://www.mlit.go.jp/pubcom/04/pubcom8/02.pdf

Odakyu Electric Railway Co., Ltd.

Setagaya City Government, Land Use of Shimokitazawa, 第３章世田谷の土地利用状況、

Tokyo Metropolitan government 東京都、Population of Tokyo 東京都の人口（推計）の概要、2014, January 1st.
Retrieved from http://www.metro.tokyo.jp/INET/CHOUSA/2014/01/60o1u100.htm

Tokyo Metropolitan government 東京都、survey of needs green spaces in Tokyo　1-3 東京の緑の必要性、2013, January.
Retrieved from http://www.metro.tokyo.jp/INET/CHOUSA/2013/01/60n1u111.htm

Tokyo Urban Area Transportation Planning Conference

White Roof Project. Retrieved from http://www.whiteroofproject.org/faq

Image Credits

Figure 1. Statistics Division. Bureau of General Affairs. TMG; “Population of Tokyo (estimates)” Ministry of Internal Affairs and Communications; “Population Census” . 2013. Retrieved from http://www.metro.tokyo.jp/ENGLISH/ABOUT/HISTORY/history03.htm

Figure 2. Tokyo Metropolitan government 東京都、Population of Tokyo 東京都の人口（推計）の概要、平成２５年中の地域別人口増減数（総数)、2014, January 1st. Retrieved from http://www.metro.tokyo.jp/INET/CHOUSA/2014/01/60o1u100.htm

Figure 3. MLIT (Ministry of Land, Infrastructure, Transport and Tourism) 国土交通省、資料６　みどりの政策の現状と課題、１．都市のみどりの状況、（１）首都圏における緑地面積の推移、Retrieved from http://www.mlit.go.jp/singikai/infra/city_history/city_planning/park_green/h18_1/images/shiryou06.pdf

Figure 4. Bereau of Environment, Tokyo Metropolitan Government 東京都環境局､東京都環境白書データ集 2000､Ⅱ東京都の環境問題と対策､５東京の緑、（１）緑の状況､緑被率（平成７年)、Retrieved from https://www.kankyo.metro.tokyo.jp/attachement/tkh2ks05.pdf

Figure 7. Japan Meterological Agency 気象庁 & Bereau of Environment, Tokyo Metropolitan Government 東京都環境局、暑くなる東京、Retrieved from https://www.kankyo.metro.tokyo.jp/climate/other/countermeasure/phenomenon/index.html

Figure 8. Japan Meterological Agency 気象庁 & Bereau of Environment, Tokyo Metropolitan Government 東京都環境局、暑くなる東京、Retrieved from https://www.kankyo.metro.tokyo.jp/climate/other/countermeasure/phenomenon/index.html

Figure 9. Japan Meterological Agency 気象庁 & Bereau of Environment, Tokyo Metropolitan Government 東京都環境局、暑くなる東京、Retrieved from https://www.kankyo.metro.tokyo.jp/climate/other/countermeasure/phenomenon/index.html

Figure 11. http://blogs.yahoo.co.jp/tamanonikukyupunipuni/26370170.html

Figure 12. http://www.fabslab.net/asagaya-scape/2008/08/2008.html

Figure 13. https://twitter.com/FAVGUNNER/status/512827050495709184/photo/1

Figure 14. 田の字プラン、http://www.bekkoame.ne.jp/ro/apssk/kennkou/meru/koubeorg1s.jpg

Figure 15. 田の字プラン、http://allabout.co.jp/gm/gc/26870/2/

Figure 16. http://www.tom-reform.co.jp/pc/case.html

Figure 17. http://www.pref.mie.lg.jp/GKENMIN/HP/iganokaidou/otakara/02_hase_n27-32.html

Figure 18. http://s-ohtsuki.sakura.ne.jp/sansakutenbyou/event/TokyoMetro_EnsenWalk_Saihou/Area3_Toshin-South/16Tokai_no_Oasis_kara_Italy_Gai_he/Sub1_AzabuJuban_Eki-Shiba_Kouen-Shiba_Shougyou_Koukou_Mae/newpage06-S.html

Figure 20. http://gorotsuki.tumblr.com/page/2

Figure 21. http://www.kabuki-za.co.jp/sya/vol111.html

Figure 22. Shigeichi Nagano, 1986.8, published in TOKYO/City of Photos, Tokyo: Tokyo Metropolitan Museum of Photography, 1995.

Figure 23. Klein Dytham Architecture

Figure 24. Designboom

Figure 25. Rob’ t Hart

Image Credits

Figure 27. http://thepassionmill.com/city-files-melbourne/

Figure 28. the Japan Architect. “Learning from the neighborhood” . Page 4-5. 2014, summer. Print.

Figure 29. Odakyu Electric Railway Co., Ltd.

Figure 31. Odakyu Electric Railway Co., Ltd.

Figure 32. Setagaya City Government

Figure 33. Satoshi, Okamoto. 岡本哲志、江戸東京の路地、2006.

Appendix A

<Public Spaces>

1. Do you know the field of "Landscape" ?

□ Yes □ No □ I have heard, but I don' t know

2. Within the following types of public spaces, please choose the four public spaces which you think the important in your daily life, and rank the four public spaces which you have chosen in order of importance, from what you need the most (1) to what you need the least (4).

__Shopping mall __Food court, Restaurant

__Station __Sport gym, Fields

__Plaza __Green spaces, Parks

__Leisure facility, Library __Others

3. Within the following types of activities at public spaces, please choose the six activities which you think the important in your holidays, and rank the six activities which you have chosen in order of importance, from what you need the most (1) to what you need the least (6).

__Cafe, Food court __Shopping

__Theater __Library

__Museum __ Festival at the inside and outside (concert, fire festival)

__Hiking, Cycling, Exercise __Walking with a pet

__Watching sports __Sports at the inside and outside (basketball, baseball, gymnastic, running)

__Outdoor activities (picnic, BBQ, fishing)

__Water activity (Pool, Hot springs) __Amusement facility, Zoo, Aquarium __Others

4. Please choose the three important elements of congenial and friendly public space for you.

□ Safety □ Unify, Balance

□ Practicality □ Nature (plants or water)

□ Cleanliness, Sanitation □ Color, Brightness

□ Aesthetic □ Others

5. Planning

The following two plans; grid plan and not unified plan, which you prefer?

□ Grid Plan

□ not Unified Plan

□ Whichever

Grid Plan

not Unified Plan

6. Why you choose that?

_____

7. Façade

The following two façade; unified façade and not unified façade, which you prefer?


Unified Facade


not Unified Facade

□ Unified Façade

□ not Unified Façade

□ Whichever

8. Why you choose that?

_____

9. Material

Which material do you prefer for sidewalk in a shopping area?


Steel grating or Aluminum


Concrete


Tile, Bricks, or Stone


Wood


Soil or Sand

□ Steel grating or Aluminum □ Concrete

□ Tile, Brick or Stone □ Wood □ Soil or Sand

<Activities>

10. How often do you exercise?

□ 5 times or more a week □ 2-4times a week □ Once a week □ Several times a month □ Several times a year

11. Where do you exercise often?

□ Inside □ Outside

12. As above your exercise which do you often, what do you exercise a most? (Example: running at a park, training machine)

_____

13. How often do you have a lunch at a park or river bed?

□ Once or more a week □ Several times a month □ Several times a year □ I have very few a lunch at a park or river bed

14. How often do you go to public parks?

□ Once or more a week □ Several times a month □ Several times a year □ I go very few to public parks

15. Have you been to Shinjuku Gyoen National Garden?

___times

16. If you have been to Shinjuku Gyoen National Garden, please rate this garden on how much you like it.

1 2 3 4 5

I like there a lot I don’ t like there at all

17. Why did you go there? What was your purpose?

_____

18. Have you been to Yoyogi Park?

___times

19. If you have been to Yoyogi Park, please rate this garden on how much you like it.

1 2 3 4 5

I like there a lot I don’ t like there at all

20. Why did you go there? What was your purpose?

_____

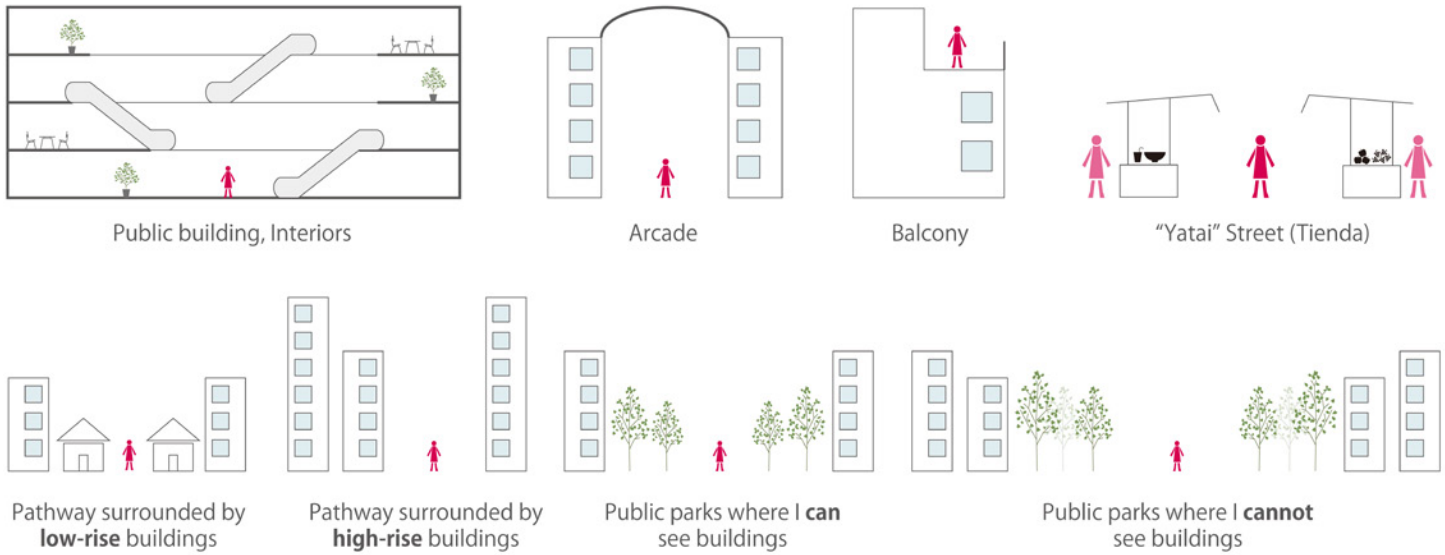
21. What is your the most familiar Japanese cultural activities? (Example: festival, cherry blossom viewing)

_____

<Spaces, Interval>

22. Please rank the following types of public spaces in order of preference, from what you like the most (1) to what you like the least (8).

□ Public building, Interiors □ Arcade □ Balconies □” Yatai” Street (Tienda) □ Pathway surrounded by low-rise buildings □ Pathway surrounded by high-rise buildings □ Public parks where I can see buildings □ Public parks where I cannot see buildings



23. On the nice day, where would you be willing to have your lunch or rest during your shopping at commercial area? Please choose the most prefer place from the following spaces.

□ 1.Inside □ 2.Patio facing quiet street (Alleyway: only people moving) □ 3.Patio facing street full of life (Main street: people, car or train moving)

□ 4.Patio facing Green (Park: only green) □ 5. Inside the park (Park: green and people' s activities) □ 6.River bed □ Wherever

24. Why you choose there?

_____

25. What do you prefer surrounded by? Please choose the one prefer place from the following places.

□ Buildings, Walls □ Plants, Trees □ Nothing, Open □ Whatever

26. Within the following types of view, please choose the four views which you want to see in your daily life, and rank the four views which you have chosen in order of prefer, from what you like the most (1) to what you like the least (4).

□ You can see scenery within 13-16 feet. (feel private)

□ You can see scenery more than 16 feet. (feel public)

□ Bird' s eye view

□ Insect' s eye view, Vertical view

□ I don' t want to see anything. (at home)

□ Others

You can see scenery within 13-16 feet. (feel private)

You can see scenery more than 16 feet. (feel public)

Bird's eye view

Insect's eye view, Vertical view

27. Do you have a favorite outdoor space in Tokyo?

_____

28. What do you like the best element about this your favorite place?

_____

29. If you could change one thing about this your favorite place, what and how would you change?

_____

<Demographic Questions>

30. Sex □ Male □ Female

31. Age group □ 18.19 □ 20s □ 30s □ 40s □ 50s □ 60s~

32. Occupation

□ Employed business □ Self-employed business □ Part-time job □ Student □ House worker □ retired □ Others

33. Types of Occupation

□ Government □ Farming, Fishing, and Forestry □ Architecture, Construction, Engineering □ Production □ Information technology, Computer, Social Service □ Broadcast, Publication, Advertisement □ Transportation, Trading □ Bank, Insurance □ Sales, Service □ Foods, Accommodation □ Education, Training □ Health, Medical □ Others

34. Which part of Tokyo do you live in?

□ Tokyo : 23district ____district □ Tokyo : out of 23 district □ Kanagawa, Saitama, Chiba

35. How long have you lived in there? _____years _____months

36. Did you grown up in Tokyo? (while elementary school, junior high school, and high school)

□ Yes □ No

37. If no, where did you grow up?

_____

38. How often do you go to the Central Part of Tokyo? (Inside of Yamanote Line)

□ 5 times or more a week □ 2-4times a week □ once a week □ several times a month □ several times a year