## Mapping for the Future of Gojō Rakuen



An Interactive Qualifying Project Report submitted to the Faculty of Worcester Polytechnic Institute in partial fulfillment of the requirements for the Degree of Bachelor of Science.

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Date: Oct 9th, 2019

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## **Abstract**

The recent influx of tourism in Japan has impacted multiple aspects of the Japanese lifestyle. This project sought to brainstorm ideas to recommend a dream for the area so that we can improve public perception and draw people back into Gojō Rakuen, an area in the Shimogyo Ward of Kyoto. We recorded the function of each building in the area, interviewed business owners to find out their thoughts on the change the region is undergoing, and produced a map of the streets, buildings, foliage, and flow of people through the area. We conclude that with some changes, such as increasing lighting in the area, bringing in more shops and services, and repurposing underutilized lots into bike parking or community gardens Gojō Rakuen would be able to once again attract people to the area.

## Acknowledgments

We would like to thank our sponsors, Benoît Jacquet and Andrea Urushima for their time, help and tutelage.

We would also like to thank our advisors, Dean Snoddy, Professor Alex Sphar, and Kumiko Snoddy for their vast time and effort in helping us achieve our project goals.

A huge thank you to Professor deWinter for establishing our project center and for assisting us with language and culture preparation.

### **Executive Summary**

The Japanese lifestyle has been changed by the increase in tourism. Understanding how tourism can both positively and negatively affect individual people is vital to understanding how entire countries are affected. Over the course of two studies conducted in the Austrian Alps, it has been found that initially, an increase in tourism can bring benefits, yet these increases in tourism also eventually cause an increase in the prices of food and accommodation (Kariel, 1989). These negative effects may be enough for many citizens in these areas to want to control tourism.

There are both positive and negative impacts tourism can have on local cities. While tourists tend to bring in commerce naturally, having more tourists also brings more garbage and noise. Thus a delicate balance must be reached where the benefit of tourism must outweigh potential drawbacks. Tourists visiting the area have a wide range of choices to stay at ranging from contemporary hotels to traditional-style guest houses. Guest houses cater to a specific demographic searching for a more traditional and personal experience. These travelers tend to seek out more unique cultural experiences, such as staying at a ryokan as opposed to a more typically tourist-friendly hotel. In Gojō Rakuen there is already a large influx of hotels and guest houses coming to the area. Being in the Shimogyo Ward of Kyoto also puts it in a centralized area of the city, with a multitude of public transportation and rail systems both throughout the city and the country in close proximity.

Urban shrinkage is a rising issue in Japan. It is caused by any combination of decreases in the population, houses and plots that are left with no one to take care of them, or locals leaving a community. Akiya is a term used to describe these empty houses that often become overgrown eyesores for the community, bringing a myriad of issues on the communities in which they reside.

Urban shrinkage fuels the stigmatization of Gojō Rakuen in the eyes of the local population. Accommodation services have seen this as an opportunity to fill the void of local citizens in the area with tourists. The leftover buildings end up as empty lots or shuttered houses. These empty lots and shuttered houses cast a shadow over the area, physically harming the area and mentally affecting the residents who stay.

Gojō Rakuen is home to a diverse array of establishments including tea shops, confectioneries, guest houses, a vegan restaurant and several bars. There are also retail stores selling various products including bikes for rent, medicine, and model trains. There are also many unique and interesting features such as the Ophthalmology and Surgery History Museum (Ophthalmology and Surgery History Museum, 2019) and the Old Nintendo Building.

The goal of our project is to recommend a dream for the area so that we can improve public perception and draw people back into the area. The specific objectives to do so are as follows:

- 1. Understand the effects of urban change, tourism and how empty lots affect a community.
- 2. Identify the features and assets of the area.
- 3. Understand the social and historical landscape of Gojō Rakuen through interviews.
- 4. Understand the movement of people through Gojō Rakuen.

To understand tourism, urban change, and the harmful effects of empty lots within a community, we conducted a thorough literature review, looking at any and all past data surrounding these topics, which can be found in our background chapter (Page #3). In order to categorically identify the features in the area, we used hand-drawn maps to record data about each individual structure or lot. We then created a digital map with AutoCAD and systematically inputted the data onto its representative structure on the map. Through interviews with local residents of Gojō Rakuen, we were able to obtain personal stories about their history in the area, located in Appendix D. Interviews were conducted with open-ended questions to allow each individual to freely explain their story of the area, as well as any change happening within it. These interviews allowed us to have first-hand accounts of what life is like in Gojō Rakuen. In order to better understand the popularity of assets in Gojō Rakuen, our group observed the pedestrian traffic into and out of the area during different times of the day. With this additional information, we saw the different populations within the different areas of Gojō Rakuen at certain times, which helped us develop recommendations for the area. These are attributes of the area that cannot be assessed at a glance with traditional mapping software.

The area is primarily residential buildings, with the remaining area including cafes, hair salons, bicycle shops, warehouses, corporate buildings, guesthouses, hotels, bakeries, parking lots, and government buildings. The greenery of the area includes trees, bushes, potted plants, potted fish, and overgrowth. An interesting connection can be drawn between abandoned buildings and guesthouses and how the community views them. While the greenery throughout Gojō Rakuen exemplifies the residents' passion for the community, the lack thereof shows how guesthouses and abandoned buildings have led to the loss of community in the area. Our interviews with people in the area allowed us to gather information and perspectives that we would otherwise be unable to garner. Data collected on people moving in and out of the area was broken up into four categories. This information allows us to see the net population transfer of the area as well as providing basic demographics.

Our recommendations for the area include: lighting the area to make it more appealing to people at night, increasing the number of shops in the area to balance out the disproportionate number of tourist accommodations, repurposing current parking lots that go underutilized into bike parking

due to the large amount of bike traffic in the area, and temporarily turning parking lots and empty lots into community gardens to give residents more area to grow plants, vegetables, or fruits.

Our team would recommend that future mapping involve the area to the west of this years' mapping of Gojō Rakuen, and planning will prove beneficial in the long term. Specifically, future team members should learn any specific technique(s) or software relevant to the project at hand before going to the area. In particular, ArcGIS or QGIS is recommended, as well as knowledge of urban mapping techniques. Map layers should be colored so that they are global symbols for those buildings specifically. A high-quality camera with a wide-angle lens would prove useful due to the narrow streets. Mapping sections of the area on paper beforehand and using a printed map with individual sections would save time in the long run.

# **Authorship**

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## **Table of Contents**

Abstract	i
Acknowledgments	ii
Executive Summary	iii
Authorship	vi
Table of Contents	vii
Table of Figures	ix
List of Tables	X
Chapter 1: Introduction	1
Chapter 2: Background and Literature Review	3
2.1 - Urban Shrinkage	3
2.2 - Tourism	3
2.3 - Tourist Accommodations	4
2.4 - Mapping	5
2.5 - Gojō Rakuen	6
Chapter 3: Methodology	8
3.1 - Objective #1: Understand the effects of urban change, tourism and how empty lots affect community.	
3.2 - Objective #2: Identify the features and assets of the area	8
3.3 - Objective #3: Understand the social and historical landscape of Gojō Rakuen through int	
3.4 - Objective #4: Understand the movement of people through Gojō Rakuen	9
Chapter 4: Results	10
4.1 - Assets of the Area	10
4.1.1 - Empty Lots & Parking Lots	11
4.1.2 - Warehouses, Abandoned, & Shuttered Buildings	13
4.1.3 - Hotels and Guest Houses	14
4.1.4 - Shops & Services	15
4.2 - Greenery	16
4.3 - Interviews	18
4.4 - Movement of People	20
Chapter 5: Recommendations & Conclusions	24
5.1 - Recommendations	24
5.2 - Conclusions	25

Vorks Cited	
Appendices	31
Appendix A: Interview Consent Form & Consent Form for Photography of Building	31
Appendix B: Background of EFFURT/Yokai Street	33
Appendix C: Hand-Drawn Maps	34
Appendix D: Transcribed Interviews	39
Appendix E: People-Mapping: Hand Data	44
Appendix F: Sponsor Information	45

# **Table of Figures**

<u>#</u>	<u>Description</u>	Page #
1	Map of the area under study in Gojō Rakuen created using AutoCAD	1
2	Map of Gojō Rakuen compared to Kyoto City	6
3	Sections A, B, and C	8
4	Map of Gojō Rakuen	11
5	Map of empty lots and parking lots	12
6	Map of warehouses, abandoned and shuttered buildings	13
7	Map of hotels and guesthouses	14
8	Map of hotels, guesthouses, shops and services	15
9	Map of greenery	16
10	Map of greenery, abandoned and shuttered buildings	17
11	Map of greenery and guesthouses	18
12	Map of people-mapping locations	20
13	Flow of people per minute	21
14	Breakdown of subjects by section	21
15	Walking vs. biking in Section B	22
16	Map of parking lots	23

## **List of Tables**

Table 1: Breakdown of buildings in Gojō Rakuen, Page 10

## **Chapter 1: Introduction**

The recent influx of tourism in Japan has begun to change multiple aspects of the Japanese lifestyle. It is important to understand how tourism can positively and negatively affect a country. For example, two separate studies in the journal *Mountain Research and Development*, conducted by Herbert G. Kariel of the University of Calgary, explored the impacts of tourism on four communities in the Austrian Alps region. In the first study, those surveyed reported generally positive responses when asked to evaluate the impact of tourism on their communities (Kariel, 1989). Since the original study's conclusion, more tourist amenities have appeared, including larger hotels and more roads to better accommodate tourists. In the second study conducted several years later, prices have risen in general, particularly those of food and drinks,

but local wages have not increased to match this. As a result, many locals have generally expressed a desire to decrease or otherwise control tourism in these areas (Kariel, 1989).

Gojō Rakuen (Figure 1), an area in Shimogyo Ward, Kyoto, Japan, is seeing a large increase in tourism while many younger generations of locals are selling their properties and moving away from the area. This creates the opportunity to build guest houses and hotels in the area. While many of the older residents in Gojō Rakuen may stay there indefinitely, the decrease of homeowners living in the area provides fuel for many of these houses to be purchased, renovated and turned into guest houses. The houses or properties not converted into guest houses have generally ended up as empty lots or shuttered buildings in the area. These empty houses and lots weigh upon the area, which could potentially cause severe physical and mental anguish to the community as a whole. Potential risks include drawing crime and the resulting fear it may instill in residents, excessive trash, rodents, and overall anxiety, among other effects (Garvin et al. 2012).

In a city like Kyoto that meshes the classic and contemporary, it is important to look at how the changing landscape impacts the area and what is being forfeited in exchange for new commodities (Kyoto Shimbun, 2015). These societal impacts are necessary considerations for both future and current residents of the area as well as the



Figure 1. Map of the area under study in Gojō Rakuen created using AutoCAD

community as a whole. The goal of our IQP project was to contribute to planning for the Gojō Rakuen's future by developing a potential vision of this area's future. The end goal of this vision is to increase the visibility of Gojō Rakuen's culture and history in order to prevent tourist accommodations and large hotels in the area from overshadowing it.

# Chapter 2: Background and Literature Review

In this chapter, we will explain what we needed to research as a group to understand the scope of our project. This consisted of exploring and understanding urban shrinkage, tourism, tourist accommodations, mapping, and Gojō Rakuen.

#### 2.1 - Urban Shrinkage

A rising issue in Japan is urban shrinkage. This phenomenon is brought about by decreases in the population, locals leaving a community, or houses and plots that are left with nobody to take care of them. These empty houses often become overgrown eyesores for the community, known as akiyas, bring with them several issues into the communities they reside in.

When considering how an empty lot or area can affect a community it can be viewed from financial, social, and health perspectives, which allow for a complete understanding of how these communities are impacted. From a financial standpoint, empty lots are unfavorable for appraisals of surrounding land. Areas throughout the world all have their own charms and looks, yet an overgrown or shuttered property can decrease the interest of potential buyers (Turnbull and Zahirovic-Herbert, 2011). These areas often have a stigma tied to their name, one that makes others look down upon those who reside in the area. For the community in the area, it leaves many not wanting to be seen or associated with the region (Arista, Foley, and Ross, 2013). These empty lots also act as breeding places for disease and vermin. Increases in wild animals, blight, and viruses are seen when there are large numbers of lots left to become overgrown or shuttered buildings (de Leon and Schilling, 2017).

#### 2.2 - Tourism

The impact of tourism on local cities has been the subject of previous IQPs. In 2014, a project team examined both the positive and negative impacts of tourism on Venice. On the positive side, Venice's unique tourist attractions, including its famous public transportation by *vaporettos*, or water shuttles, naturally bring commerce to the city in addition to the revenue from hotels, dining establishments, stores, gondolas, taxis, and the tax revenue sent to the government in Rome (Blanco, D'Ambrosio, La Manna & Martin, 2014). However, having more tourists also brings more garbage that needs to be removed, which in 2011 entailed 2.6 kilograms of garbage per person, as well as waves from motorboats, known as *moto ondoso*, gradually eroding canal walls (Blanco, D'Ambrosio, La Manna & Martin, 2014). However, despite the potentially serious negative side-effects of tourism on Venice, the students behind the IQP

determined that tourists still provide a net benefit of roughly 355 million USD per year, proving the economic benefits of tourism despite the clear potential drawbacks. However, the Venice IQP did not take into account the social detriment tourists have on a community. Many of the local citizens we had talked to in Japan have said that their main gripe with tourists is that they are often loud and disrupt their otherwise quite neighborhoods.

#### 2.3 - Tourist Accommodations

Tourists visiting the area have a wide range of choices to stay at ranging from contemporary hotels to traditional-style guest houses. Guest houses cater to a specific demographic searching for a more traditional and personal experience. These travelers tend to seek out more unique cultural experiences, such as staying at a ryokan as opposed to a more typically tourist-friendly hotel. As documented by Chang and Huang, professors at the National University of Singapore, "tourists seeking landscapes that embody national identity, but finding an other-worldly [area] lacking local soul, are inevitably disappointed" (2011). To successfully attract tourists, a region must have the proper resources and attractions in place, and guest houses need to combine multiple types of industry to be economically feasible and attract tourists to the area.

Crouch and Ritchie, professors in Tourism at La Trobe University and the University of Calgary, separate industry types into two main categories: core resources and attractors, and supporting factors and resources (1999). Core resources and attractors encapsulate physical location, history and culture, activities, events, and what Crouch and Ritchie refer to as tourism superstructure. Tourism superstructure is the combination of things that typically come to mind when it comes to necessities for a tourist area, which includes hotels and places for tourists to stay. Generally, these areas include a bar, local eateries, and markets; public transportation, taxis, and ride shares; and the main attractions of the region malls, boutiques, historical sites, religious sites, e.g. Supporting factors and resources include a region's general infrastructure, its communication ability, water accessibility, business developments, marketability, and physical ease of access, whether that is airports, roads, or ports.

In the region of Kyoto that we are mapping there is already a large influx of hotels and guest houses coming to the area. Being in the Shimogyo Ward of Kyoto also puts it in a centralized area of the city, with a multitude of public transportation and rail systems both throughout the city and the country in close proximity. While a few eateries and dining locations exist in the area and there are restaurants for tourists, there is only one major heritage site in propinquity to our project area, the Shosei-en Garden (Kikoku-tei Mansion). A similar IQP that looked at a region and what could be brought into the community to improve it, *An Investigation of Cultural Infrastructure in Hangzhou, China to Improve the Quality of Life in Xiasha*, recommended prioritization of public parks and theatres in their area (2018). Theatres would help build a network of activities in the area for tourists to do outside of the typical touring of sites while

investing in the upkeep of public spaces would be beneficial for the marketability of the region to both national and international tourists. Finding aspects like these, that are needed to improve the community, are intrinsic to the success of our project.

#### 2.4 - Mapping

Mapping has long been used to create a usable representation of a region by those who are not physically at the map's location. With the sprawling extent of modern cities, more people have begun undertaking projects to document them (Moore & Toone, 2011). Mapping in our project focuses on what is known as asset mapping and can also be referred to as resource mapping. These maps illustrate a region or area's resources and assets in a way that is comprehensible to the reader. When being applied to a portion of a city and its businesses, as our project is, it represents different businesses that exist within the confines of the map (Rosenstein, 2011). Our map at a general level will be one that allows the reader to quickly collect information about how the buildings in the area are used, whether they are temples, banks, accommodations, restaurants, etc.

Asset mapping, although seen as a method for mapping an area, is also a philosophy. In terms of a method, according to Department of Health representatives Patricia A. Sharpe, Mary L. Greaney, Peter R. Lee and Sherer W. Royce, asset mapping is simply an asset-oriented problem solving approach that allows researchers to identify and use existing resources to create change (Sharpe, Greaney, Lee, and Royce, 1974). Torben Iversen and David Soskice, professors at Harvard and Duke Universities, respectively, highlight that asset mapping is a social policy that emphasizes people's skills (Iverson and Soskice, 2001). They go on to further agree with the point that most people only see physical assets, while a huge asset within a community is the human assets (2001). In our project people are an integral asset to understanding the social and historical landscape.

Most modern maps are represented in two-dimensions. These maps are often constructed using satellite imagery or similar aerial imagery that produces a top down view of a selected region. As these maps often are already digitally based on their source material it makes them easy to edit and attach to gathered data. When combined with data gathered from the field these maps can become living documents that are not anchored to the time they were made as is such with illustrated maps. Collected data can be added to this map and filtered through in order to give the reader a better understanding of the area or region that they are observing. This level of interactivity gives clarity to the information and is more indicative of the entire picture that is being created by the collected data. It maintains the ease of distribution that an illustrated map has while adding many benefits for both the creator and the reader.

We used the AutoCAD software for this project. This software exports files that can be read by any CAD software and also has many online tutorials so that even if a future team has no idea how to use it they can learn quickly. Using AutoCAD we will be able to show our information in different "layers" that can be hidden and viewed at will. Users can easily search for pertinent data without the map being cluttered with useless information.

#### 2.5 - Gojō Rakuen



Figure 2. Map of Gojō Rakuen compared to Kyoto City

The area that our group mapped is in Kyoto, Japan and is located northeast of Kyoto Station (Figure 2). The area is bounded between the Takase and Kamo rivers, and between Gojō and Shichijo Streets, which are perpendicular to the two rivers. The resulting area is almost rectangular, and contains within it a diverse assortment of features including guest houses, tea shops, confectioneries, bars, and a vegan restaurant (Google Maps, 2019). The area has retail stores selling products such as medicine, bike rentals, and even model trains. This area also possesses quite a few unique and interesting features such as the Ophthalmology and Surgery History Museum (Ophthalmology and Surgery History Museum, 2019), the Old Nintendo Building, and a Shinto shrine. (Google Maps, 2019).

Even in this small section of Japan's old capital, the region is rife with history and culture. The Takase River, which borders the west side of the area, was dug in 1614 in order to transport rice, timber, and other merchandise into Kyoto until 1920 when it was taken out of service (Kikuhama Takasegawa Preservation Association, n.d.). When the river was still in service, many shipping businesses had offices and storehouses in the area. The merchants did not use the Kamo River

for transportation because of its unstable currents. Another cultural site, Kawara-no-in, was the residence of a high ranking government official from the Heian period (794-1192), Sadaijin, Minamoto-no-Toru, who had a garden landscaped within the grounds and was also the model for the central character in the novel The Tale of Genji (Kikuhama Takasegawa Preservation Association, n.d.).

The Yakuza have played a strong role in the past of Gojō Rakuen. Having multiple buildings and being involved with multiple businesses in the region they brought an air of fear and control with them. As the government has increased its crackdown on the Yakuza, their former glory in the area has started to dwindle. Many former buildings have been shut down and a large sign reading "Gojō Paradaisu" (5th Paradise) over an entrance to the area has been taken down. The area, containing its various historic landmarks is presently undergoing a dramatic change.

It is important to understand all of the problems affecting a community when trying to decide how to solve the challenges that they face. Keeping this information in mind, we proceeded to formulate our methods and objectives in a way that would answer our team's remaining questions. This was done in such a way to most effectively carry out our project's goal, which is to recommend a dream for the area so that we can improve public perception and draw people back into the area.

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## **Chapter 3: Methodology**

Our overall goal is to create an urban asset map that inventories and profiles the structures and lots within the Gojō Rakuen neighborhood, focusing on the functional use, green space, and foot traffic. In terms of methods, our project revolves around the use and interpretation of both social aspects and mapping technologies to understand the Gojō Rakuen area. We intend to supply a fresh perspective in order to provide recommendations for this specific area. The specific objectives of our project are:

## 3.1 - Objective #1: Understand the effects of urban change, tourism and how empty lots affect a community.

In understanding tourism, urban change, and the harmful effects of empty lots within a community, we conducted a thorough literature review. This literature review looked at all the past data surrounding these topics and can be found in our background chapter (Page 10).

#### 3.2 - Objective #2: Identify the features and assets of the area.

In order to categorically identify the features in the area, we used a combination of asset mapping and direct observation. Our primary tool for this was a digital map created with AutoCAD. In order to efficiently map the area, we segmented the map into three sections. The areas of Gojō Rakuen are denoted as sections A, B, and C (Figure 3), then into parts, then finally into individually numbered lots. We used hand-drawn maps of each section to record data about each individual structure or lot (Appendix, D), and then systematically inputted the data onto its representative structure on the map. This allowed more than one member of our team to map the area at a time.

We first mapped the function of each building, labeling each lot as a private residence, apartment, guest house, hotel, shop or service, public service building, company building, warehouse or storage facility, religious or cultural site, parking lot, or empty lot. We also



Figure 3. Sections A, B, and C

noted if a building was shuttered, under construction, or under renovation. After every building had their function mapped we moved on to taking a photo of the facade of all 509 buildings so that the user of the map can see the features of buildings easily. Each building corresponds to a section letter, roman numeral part, and a building number, for example, B-II-17. This is paralleled in our pictures spreadsheet to allow for the quick location of a building's facade.

## 3.3 - Objective #3: Understand the social and historical landscape of Gojō Rakuen through interviews.

Through interviews with local residents of Gojō Rakuen, we were able to obtain personal stories about their history in the area. Interviews were conducted with open-ended questions to allow each individual to freely explain their story of the area, as well as any change happening within it. Interviewing the residents of Gojō Rakuen provides the intersection of science, technology, and humanity for our project, and helps us answer some questions only people who have lived there for a long time can answer. To lay the foundation for our interviews, we intentionally walked the neighborhood streets, purchasing things while asking shopkeepers and business owners if they would like to do an interview. This helped us break the ice and encourage the individual to help so that we could ask a few unstructured questions based on the current circumstances. For example, if we saw a newer-looking sign in front of the business, we could talk about the age of the business. If they agreed to an interview, we then introduced ourselves and asked if they are willing to be recorded. After that, we proceeded with the interview. We first asked if physical changes have occurred in the area, then if any social changes have occurred in the area. These questions gave us a personal sense of change the interviewee has experienced. Our goal was to keep the interview fairly short so they remained interested and that the interview will not be too time-consuming for them. We performed two of these interviews. These interviews allowed us to have small, yet general first-hand accounts of what life is like in Gojō Rakuen. We took the data and transcribed it into English and placed this into Appendix D.

#### 3.4 - Objective #4: Understand the movement of people through Gojō Rakuen.

In order to better understand a day of traffic in Gojō Rakuen, our group observed the pedestrian traffic into and out of the general area during different times of the day. We then took this data and added it to our map. With this additional information, we saw the different populations within the areas of Gojō Rakuen at certain times, which helped us develop recommendations for the area. These are attributes of the area that cannot be assessed at a glance with traditional mapping software. We maximized the time that we had in the area by breaking up three members into three spots where there is high traffic in and out of the area, one at the north end, one at the middle that can see the entrances and exits on both east and west sides, and one on the south side. We watched the area from 7:00am - 8:00am, 12:00pm - 1:00pm, and 7:00pm - 8:00pm on three different weekdays. We used these times over these three days to extrapolate the population movement throughout the area, as well as specific areas with dense traffic.

## **Chapter 4: Results**

In this chapter we will explain what we have discovered from our research, taking into account some specifics on how we have come to these conclusions on our objectives.

Urban planning and development is a means to deal with extensive issues that span the fields of the economic, social and physical realms. These issues could collapse upon the community from multiple angles, creating a negative living experience for the members of the community. Indepth research and literature reviews were used to better define the challenges that the community of Gojō Rakuen faces. Though started during initial research in ID2050, the literature review was continued onsite while in direct conversation with our sponsors whose inquiries spurred new topics and themes. In conjunction with our previous research, we were able to develop a better understanding of the myriad of issues that affect Gojō Rakuen, which has been presented in the background chapter.

#### 4.1 - Assets of the Area

The area of study is primarily composed of residential buildings. They make up 58.35% of the lots we mapped with the highest concentration in the middle portion of Gojō Rakuen. Assets in areas A, B and C include cafes, hair salons, bicycle shops, warehouses, corporate buildings, guesthouses, hotels, bakeries, parking lots, and governmental buildings. Non-residential buildings are clustered more densely in the middle of the

Residential	297	58.35%
Guesthouses	51	10.02%
Shops & Services	30	5.89%
Warehouses & Storage	25	4.91%
Parking	20	3.93%
Abandoned & Shuttered Buildings	17	3.34%
Apartments	16	3.14%
Empty Lots	15	2.95%
Corparate Buildings	12	2.36%
Hotels	8	1.57%
Renovation & Construction	8	1.57%
Religious & Cultural Buildings	6	1.18%
Public Service Buildings	4	0.79%

Table 1. Breakdown of buildings in Gojō Rakuen

area. Another vital asset to the area

is its greenery, which was broken up into trees, bushes, low growth, pots, and fishbowls. Figure 4 below displays the area with residential buildings being the ones that are not colored in.

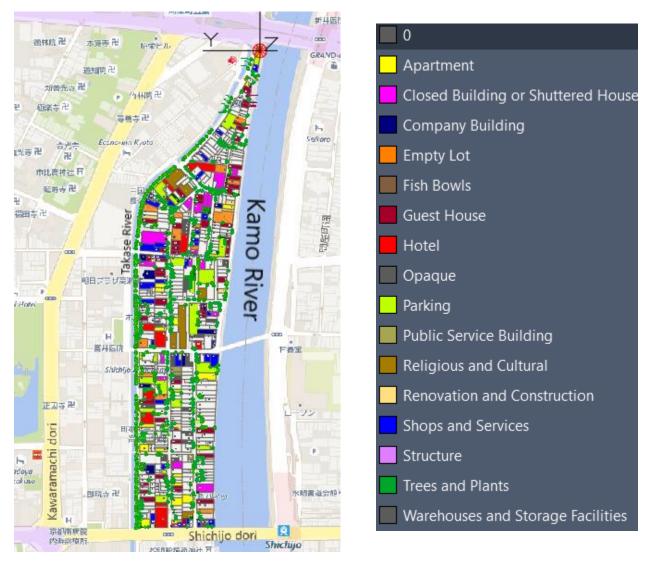


Figure 4. Map of Gojō Rakuen

#### 4.1.1 - Empty Lots & Parking Lots

Figure 5 below shows all empty lots and parking lots that our team has mapped within the area. Empty lots make up 2.95% of the total number of lots in the area while parking lots make up 3.93%. Parking lots are included with empty lots as they are often temporarily turned into parking by the owner of the lot. They do this as they wait for neighboring properties to be put up for sale so that they can merge the lots together. As such the four largest of the empty lots are these amalgamations of two to seven neighboring lots that have been purchased by large investment groups or corporations.



Figure 5. Empty lots and parking lots

During mapping of the area it was noted that of the many parking lots throughout Gojō Rakuen none of them were ever at maximum capacity. Most seemed to be under half full while we were in the area and only a handful of vehicles were ever seen entering or exiting these parking areas. Another observation of the parking lots was the lack of bicycle parking within them. As will be

discussed in more detail later, the area has a high amount of bike traffic without many places to park said bikes.

#### 4.1.2 - Warehouses, Abandoned, & Shuttered Buildings

While the area has many types of assets in the area there are a few that could be repurposed or improved to help the community. Our team has decided that warehouses, abandoned buildings, and shuttered buildings could easily be imbued with a new purpose. These buildings make up a combined 8.25%, 4.91% for warehouses & storage and 3.34% for abandoned & shuttered buildings, of Gojō Rakuen. Warehouses & storage can be seen in grey in Figure 6 below while abandoned & shuttered buildings can be seen in pink. (Figure 6). The buildings spread widely over the entire area and often have similar properties neighboring them.

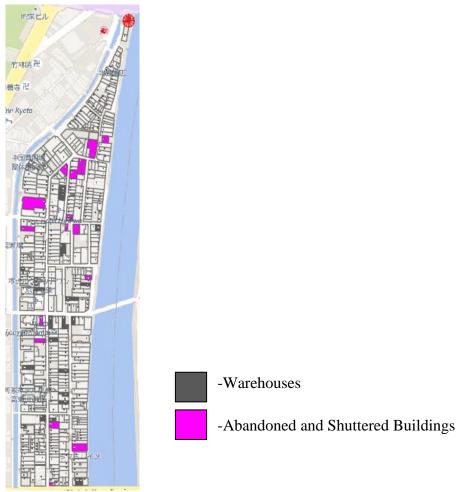


Figure 6. Warehouses, abandoned and shuttered buildings

#### 4.1.3 - Hotels and Guest Houses

Gojō Rakuen contains 51 individual guest houses and eight hotels in the area (pictured in Figure 7 below in red and maroon, respectively). These range from luxury accommodations like the Tamami in Kamogawa, a three-star hotel on the Kamo River, and Kyoto Takasegawa villa, a three star hotel on the Takase river, to budget traveler options like Guest House Links and Tomori Backpacker's Hotel. These also vary based on size, ranging from single room rental apartments to 46 room Ryokan.



Figure 7. Map of hotels and guesthouses

Guesthouses are the second most populous asset in the area behind residential buildings at 10.02%. Hotels are further down the list at only 1.57% of the buildings in the area. It should be noted that this mapping was based purely on number of buildings in the area and not the footprint of the assets in Gojō Rakuen. As can be seen in the aforementioned figure the hotels, in red, have much larger footprints than the guesthouses, in maroon, even though there are less of them in the area. Combined guesthouses and hotels make up 27.83% of the total number of non-residential buildings mapped.

#### 4.1.4 - Shops & Services

There is a myriad of shops throughout Gojō Rakuen ranging from a sento, a tattoo parlor, cafes and bars, hair salons, and antique shops. The majority of these shops are located along or near an edge of the mapped area. These can be seen in Figure 8 below in blue. In addition, the map displays hotels and guesthouses in Gojō Rakuen. A clear disparity can be seen between how many tourist accommodations there are, and the number of amenities required to attract people into the area.

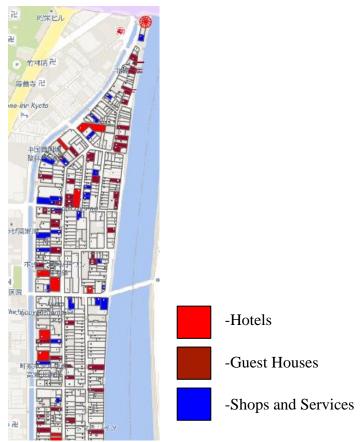


Figure 8. Map of hotels, guesthouses, shops and services

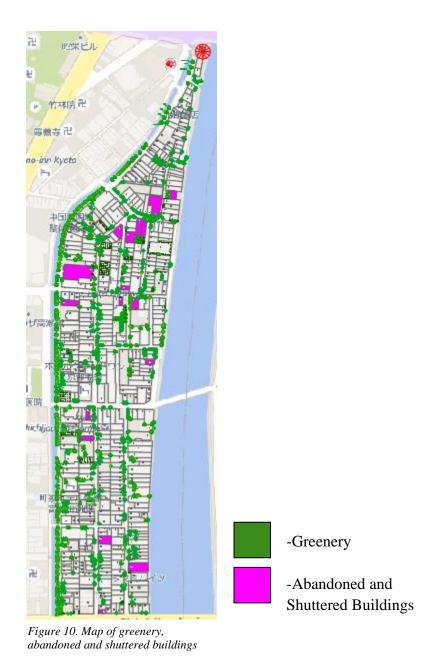
#### 4.2 - Greenery

The greenery map of the area was broken up into trees, bushes, potted plants, potted fish, and overgrowth. Maintained greenery refers to any greenery that is not in an overgrown area. This gives an overview of what areas are not just lived in but that members of the community actively maintain. As seen in Figure 9 below the area along the Takase River has an ample amount of trees and flora.



Figure 9. Map of greenery

An interesting image starts to emerge when greenery in the area is compiled with abandoned or shuttered buildings. Areas with higher concentrations of shuttered buildings had a decrease in the amount of maintained greenery (Figure 10).



The decrease of maintained greenery is not unique to abandoned buildings. Guest houses also show a similar pattern of having lower amounts of potted plants, trees, and bushes in their sections. (Figure 11).

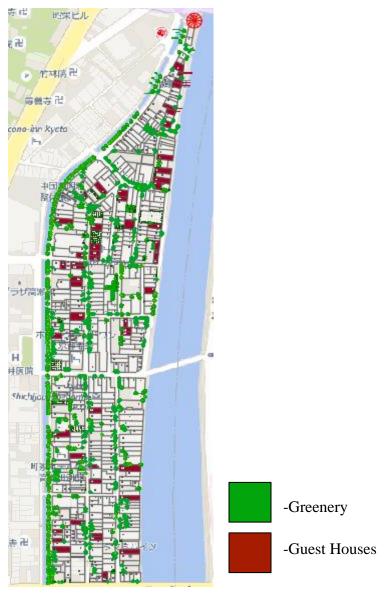


Figure 11. Map of greenery and guest houses

An interesting connection can be drawn between these types of buildings and how the community views them. While the greenery throughout Gojō Rakuen exemplifies the residents' passion for the community, the lack thereof shows how guesthouses and abandoned buildings have led to the loss of community in the area.

#### 4.3 - Interviews

In an area such as Gojō Rakuen, it is important to have a complete understanding of the rich history and social landscape. Our interviews with people in the area allowed us to gather

information and perspectives that we would otherwise be unable to garner. While mapping the area we had the opportunity to interview an employee (Interviewee 1) of Gojo Paradiso, and an employee (Interviewee 2) of Nagura of Tomori Backpackers Hotel. Though both of them work at an accommodation for the tourists in the area they had opposing outlooks for the future of the area.

In our conversation with Interviewee 1, he started off with a brief overview of the history of the area. "Yeah, [Gojo Rakuen], was previously under control of the Yakuza family, and along this river, especially [the east] side, all the buildings were whore houses, but this area was like Kyoto's red light district, basically. This, right there, the old name is Gojō Rakuen, which means kind of, "paradise", that's why our building's name is Gojo Paradiso. Even this building was a whore house." This is one of the main factors driving the stigma of the area. As such the only investors coming into the area are foreigners mainly from China, according to Interviewee 1. He voiced his fear that, after the 2020 Olympics, all of the businesses in the area aimed at housing tourist will fail to be profitable. He believes that ultimately this will lead to the closing of Gojo Paradiso, where he works citing how over the last year they have had to drop prices by \mathbb{Y}2000 per night.

Interviewee 2 on the other hand was hopeful of what the future could bring for the area. She spoke about how, in her opinion, to increase the survivability of these guest houses there needs to be more restaurants in the area and the aesthetic that the area has. "[Gojo Rakuen] is kind of a residential area, so a lot of people who came here said they liked here because it's very quiet and you feel everything, like local, you can feel local." Tomori Backpackers hotel has also flourished in the new found competition of guesthouses, having prices increase as the number of tourists looking to stay in the area had increased.

#### 4.4 - Movement of People



Figure 12. Map of people-mapping locations

Data collected on people moving in and out of the area was broken up into four categories. These were whether the movement was into or out of the area; whether the subject was young, middle aged, or elderly; whether the subject was walking or biking; and the subjects gender. This information allows us to see the net population transfer of the area as well as providing basic demographics. Over the course of our teams observations we recorded data on 2578 subjects coming in and out of the area. Data was taken using shorthand e.g. OMWM for 'Outbound Middle Aged Walking Male'. This information was then aggregated by hand into inflow and outflow statistics examples of which can be found in Appendix E. Extrapolation and analysis of the data was then done with the use of Google Sheets.

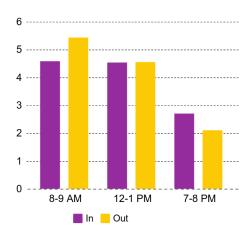


Figure 13. Average flow of people into and out of the neighborhood per minute

As can be seen in Figure 13 the highest flow observed was out of the area during the morning hours of 8-9 AM with 5.43 people per minute. Flow into the area during this time was slightly lower, coming in at 4.58 people per minute. 12-1 PM showed comparable numbers both in and out, 4.53 people per minute and 4.55 people per minute respectively. This trend however is not reflective in our observations at night. During the hours of 7-8 PM the observed flow dropped to 2.7 people per minute entering and 2.1 people per minute leaving. The out flow is 38.67% of the same type during the hours of 8-9 AM.

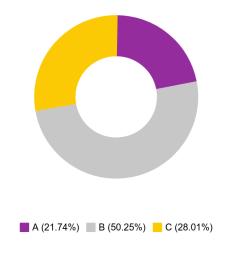


Figure 14. Breakdown of subjects by section

During observation our team noted that the majority of the traffic in the area seemed to be going through Section B. Analysis of the data showed that 50.25% of all observed traffic in and out of Gojō Rakuen was from Section B. (Figure 14). When considering why this might be it is

important to consider the bridges in the area. There are three bridges crossing the Kamo that can be utilized, one at the northern tip above Section A, a bridge at Section B, and one running along the bottom of Section C. While the bridges of Section A and Section C are heavily trafficked and multiple lanes, the bridge at Section B is much quieter and more appealing to those traveling on foot or by bike.



Figure 15. Walking versus biking in Section B

Of this traffic through Section B, 46.78% was from bikers. (Figure 15). In comparison bikes accounted for 38.48% of traffic in Section A while it dropped to 23.75% in Section C. While there is an abundance of parking in the area as seen in Figure 16 there are no dedicated parking areas for bikes.



Figure 16. Map of parking lots

## **Chapter 5: Recommendations & Conclusions**

#### 5.1 - Recommendations

Currently, Shichijo-dori and the Takase River are illuminated by lamp posts, but otherwise much of Gojō Rakuen is not as well-lit. Because of this, the area becomes quite dark once the sun goes down, thus making it difficult to see outside at night. This darkness does not help the already dark perception of the area that locals have. To remedy this, lamp posts could be placed along each street, allowing the area to be seen in a new light, in every sense of the word. Public/Private partnerships between the city of Kyoto and new businesses, such as hotels, could be one way to bring in the infrastructure for lights in the area. If every new hotel or business had to provide lights for a certain stretch of the roads or rivers proportional to the size of the building the area could quickly change.

This has to be considered with the fact that Gojō Rakuen has a disproportionate amount of tourist accommodations compared to the rest of the shops in the area. In addition, many smaller buildings in Gojō Rakuen have a rich cultural history and help make the area more visually appealing, but there are several buildings in Gojō Rakuen that are abandoned and/or otherwise unused, and take up space as a result. These buildings could be renovated and used as new shops or to bring back long term tenants. Suggestions for shops that would bring people into the area are restaurants, convenience stores, and bars. In accordance with our results, it is recommended that these businesses by located near the central portion of Gojō Rakuen to take advantage of the increased traffic. Since this area had a large amount of bike traffic it is also recommended that any business have bike parking associated with the shop or nearby to it.

An additional way to help with the large amount of bike traffic is to repurpose current parking lots that go underutilized. This potential plan would not affect those with cars negatively since the parking lots always have empty spaces. Portioned off sections for bike parking would help entice the bike traffic to stop in the area and go to one of the businesses in the area. Alternatively or in conjunction with the previous recommendation parking lots and empty lot could be temporarily turned into community gardens until the owner is ready to move forwards with the property. As owners often turn empty lots into parking lots to bring in some income community gardens could be used to the same end by charging a monthly fee for plots within the lot in which residents could grow plants, vegetables, or fruits.

Overall, with the traditional layout of streets and houses, some small improvements can greatly improve the image of Gojō Rakuen. Not all of these recommendations may be feasible or even possible. They only serve as a future vision for the area as well as a starting point for future projects taking place in the region.

For future projects, we would suggest that next years' mapping involve the area to the west of this years' map of Gojō Rakuen. As such, more organization in a variety of areas will prove beneficial in the long term. For instance, team members should learn any specific technique(s) or software relevant to the project at hand before going to the area. If the cost is warranted, ArcGIS will prove invaluable to the mapping process, but if this is not feasible, QGIS, a free open-source equivalent, will work just fine. In addition, while projects often change scope throughout, as many of the project deliverables should be set in stone as possible before coming over to the project site, in order to prevent constantly shifting objectives. When it comes to photography, a high-quality camera with a wide-angle lens would prove useful, because the streets are too narrow to capture the entire building with a normal lens. Mapping out sections of Gojō Rakuen beforehand as well as bringing a printed map with these individual sections would save a considerable amount of time in the long run.Drawing an outline to all plots of land on AutoCAD would be invaluable. If this is feasible, picking up an official municipal government map of the area or one that has the area on it will prove useful as well, if possible.

#### **5.2 - Conclusions**

While pursuing our goal to recommend a dream for the area so that we can improve public perception and draw people back into the area we four objectives: to understand the effects of urban change, tourism and how empty lots affect a community, to identify the features and assets of the area, to understand the social and historical landscape of Gojō Rakuen, and to understand the movement of people through Gojō Rakuen.

Our group suggests that there is a multitude of possibilities for what can be done with unused land in Gojō Rakuen. If our project were to be completed a second time, we would organize our mapping more succinctly, such as mapping out the area before we arrive at the project site as well as bringing a printed copy of the map in advance to use when we get there. The database of assets that has been created may be used by future IQPs to examine how the assets in Gojō Rakuen have changed since our team initially observed and mapped them. We hope that with enough planning, Gojō Rakuen can become less of a haven for large hotels and tourist accommodations and more of a unique cultural showcase of its heritage, and thus more attractive to tourists.

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# **Appendices**

#### Appendix A: Interview Consent Form & Consent Form for Photography of Building

We are a group of Worcester Polytechnic Institute students from Worcester, Massachusetts, in the United States. We are here to create an urban map of the Gojō Rakuen area that profiles the structures and lots within the neighborhood, and observe how residents and visitors move around and interact within this area.

We would like to conduct an interview to obtain your thoughts of the area. The interview is expected to take 30 minutes. Your participation is entirely voluntary, and you should feel free to answer or not answer any questions, or to stop the interview at any time. No personal information, such as names, will appear in any publications or presentations unless you give express written consent to do so.

The information we are gathering will be used to create a descriptive map of the area to promote local businesses and culture and will be available in both Japanese and English. It will be used solely for educational purposes, not commercial.

We would like to use an audio recorder during the interviews to assist in our note taking process, with your permission.

We would also like to photograph the front of the property to be used as part of the descriptive map, with your permission.

We do not foresee any risks as part of your participation in this process.

Participant's Name:	• • • • • • • • • • • • • • • • • • • •	
Consent to be interviewed:	□ Yes	□ No
Consent for photography of property:	□ Yes	□ No
Signature:		Date:

Please note that you may also withdraw your consent at any time, upon written notice.

You may contact us via email at gr-Kyo19SSSU@wpi.edu. You may also contact our faculty advisors from Worcester Polytechnic Institute (WPI) at sphar@wpi.edu or gsnoddy@wpi.edu or ksnoddy2@wpi.edu. You may also contact the chair of the WPI Institutional Review Board (Prof. Kent Rissmiller) at Tel: +1-508-831-5019 and email kjr@wpi.edu, or the Human Protection Administrator (Gabriel Johnson) at Tel: +1-508-831-

4989 and email gjohnson@wpi.edu.

#### インタビューと建造物写真撮影の承諾書

私達はアメリカ合衆国マサチューセッツ州ウースター市にあるウースター工科大学の学生で、五条楽園エリアの建造物や空き地などを観察し、そこでの住民や観光客のかかわりを調べ、五条楽園エリアのマップを作成するプロジェクトに携わっています。

この地域についての御意見を伺いたく、御協力をお願いいたします。インタビューは約30分で終わります。インタビューの参加は任意で、質問に答えたくない場合があっても結構ですし、いつインタビューを中止しても構いません。書面での承諾なしで、氏名などの個人情報が印刷物に記載されることはありません。

私達が収集した情報は、地元商店や事業を推進するためのわかりやすいマップを英語と 日本語の両国語で作成するために使用され、営利目的で使用されることはありません。

許可をいただいた上で、インタビュー内容を記録するために、録音させていただくことがあります。

許可をいただいた上で、マップに載せるための貴店、貴宅の写真を撮影させていただく ことがあります。

<b>お</b> 名前			
インタビューを承諾する	はい	いいえ	
吉、家の写真撮影を承諾する	はい	いいえ	
サイン		日付	-

書面での通知により、この承諾書はいつでも撤回することができます。

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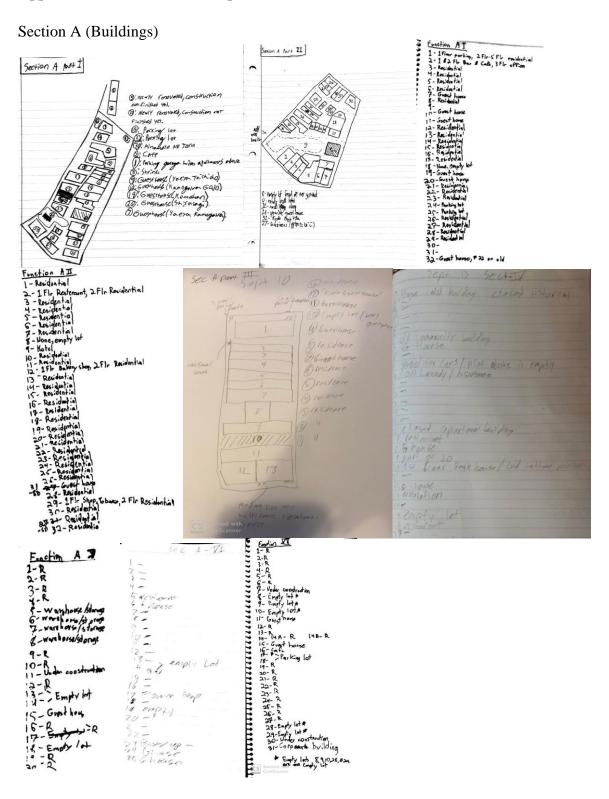
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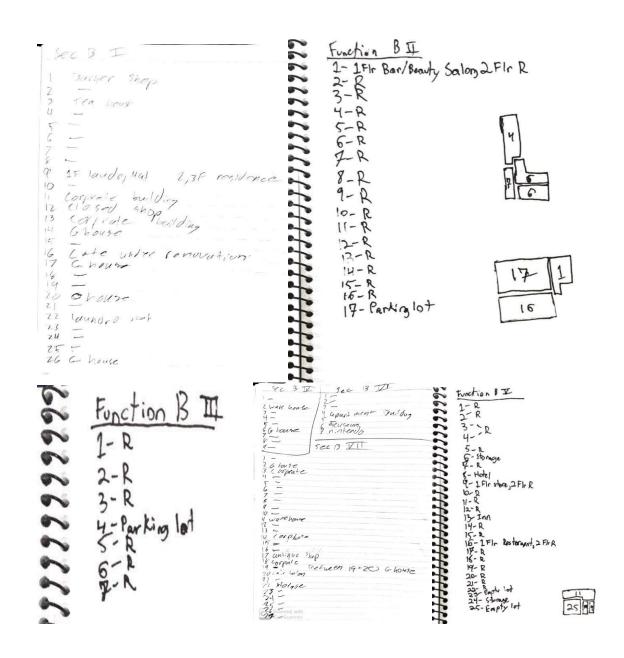
#### Appendix B: Background of EFFURT/Yokai Street

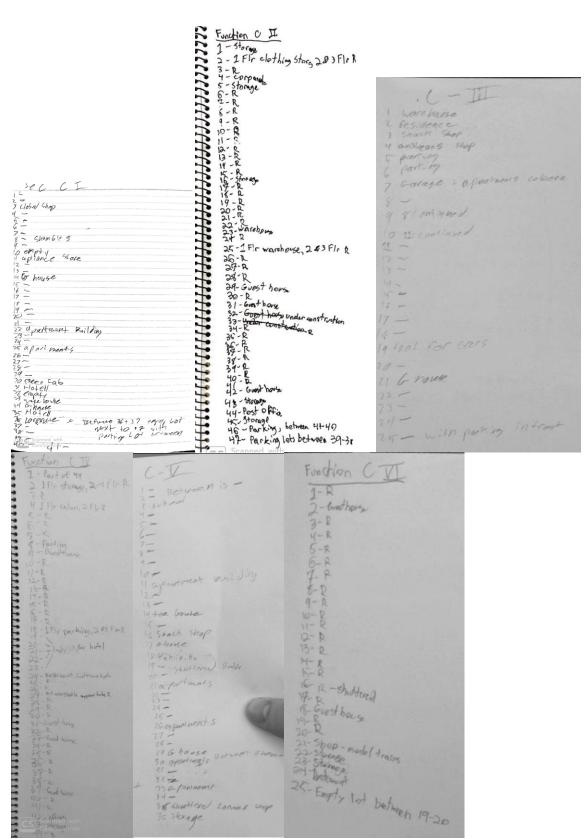
A previous IQP from 2018 focused on the mapping of Yokai Street with the EFFURT mapping technology, developed by Olivia Hunker, Jonathan Lee, Brandon Sanders, and Linn Thant. EFFURT, short for Electronic Field Form for Urban RegeneraTion, is a piece of webbased mapping software. Any modern device with an Internet connection, such as smartphones, laptops, desktop computers, or just about anything with a web browser, can access this. EFFURT also uses a wide variety of software libraries that greatly extend EFFURT's functionality while still remaining accessible on a wide range of devices. Upon first opening the webpage that EFFURT runs in, the user is greeted with a two-dimensional global map initially positioned over Kyoto but which can be used to view any area in the world, along with several buttons in the top corners. In the upper left-hand corner of the screen there are buttons to zoom in and out of the map, mapping new regions, and editing layers created as part of the mapping process. In the upper right-hand corner there are buttons to pick what type of two-dimensional map is shown, with options for a generic gray/white street layout view similar to what one might find on sites such as Google Maps by default; a topographic view of the area, including changes in elevation in mountainous regions; and a view of the area as captured via satellite footage. In addition, there are also buttons for refreshing the current map image data, centering the map on the user's current location, and searching for any specific asset created in EFFURT. To map an asset, mappers should click the button with a pentagon in the upper-left hand corner of the screen. That will turn the mouse cursor into a tool to mark boundaries of a specific region to be mapped. To map an asset, the tool should be used to draw the shape of the region, clicking on corners of the asset to define the region. Once the region is completed, a dialog window will appear where data about the asset can be entered.

### **Appendix C: Hand-Drawn Maps**

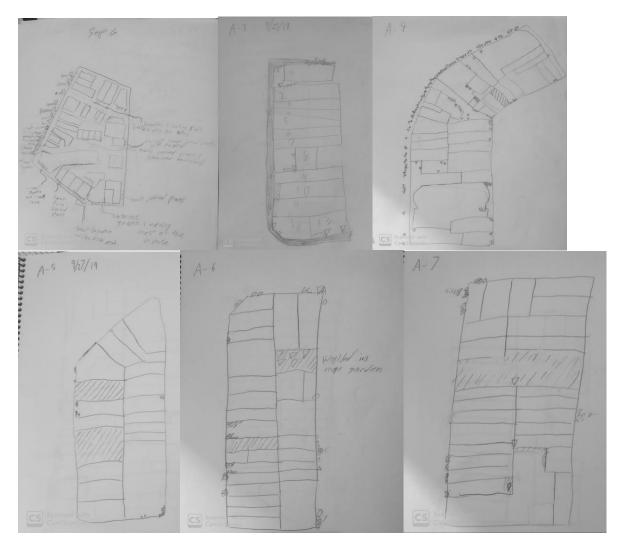


Section B (Buildings)

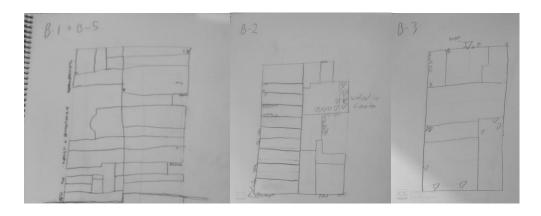


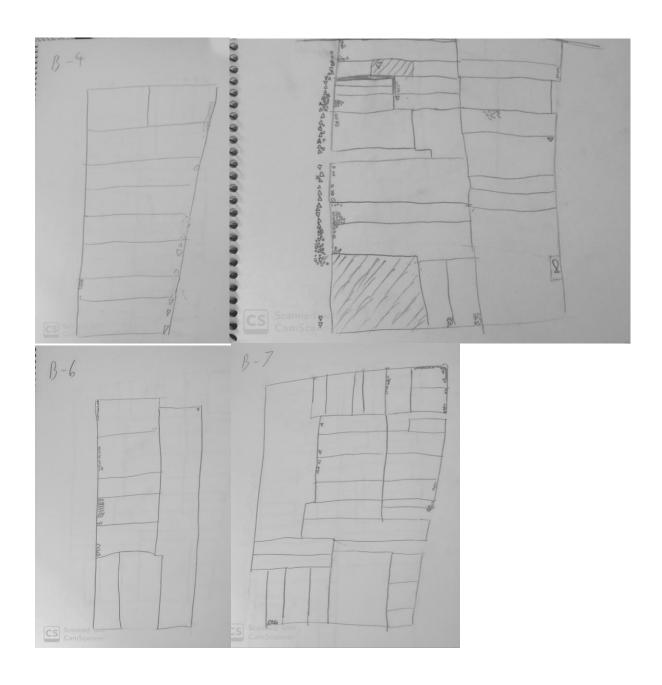


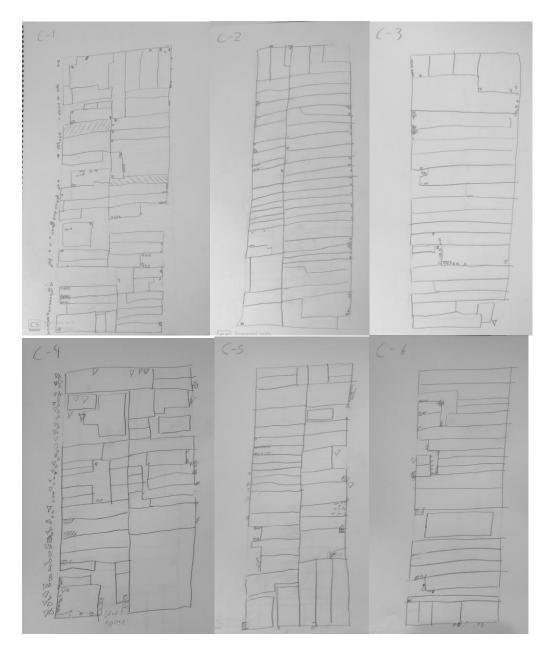
Section A (Plants)



Section B (Plants)







**Appendix D: Transcribed Interviews** 

## **Interview 1: Interviewee 1, Gojo Paradiso**

Connor: So, you're from around this area? Pretty close at least?

Interviewee 1: Yes.

C: Okay. And how long have you worked here?

I: Two years and four months.

C: Alright, okay. So, could you tell me a little bit about the history of this area? Do you know a little bit about it?

I: Yeah, this area, was previously under control of the Yakuza family, and along this river, especially this side, all the buildings were whore houses, but this area was like Kyoto's red light district, basically. This, right there, the old name is Gojō Rakuen, which means kind of, "paradise", that's why our building's name is Gojo Paradiso. (laughs) Even this building was a whore house. So, this is all the history I know about this neighborhood, actually.

C: Okay, sounds good. So you were talking about the future of this area? Where do you see this going in five years?

I: This area, they were looking (inaudible) especially since three years, when the foreigners came, especially too many Chinese came and started building guest houses. I think also the Olympics, like, triggers it too much.

C: Yeah, like getting ready for the Olympics.

I: Too many guest houses, like only last year, once I come, 20 new guest houses appeared around this neighborhood.

C: Oh really?

I: Yeah.

C: Wow.

I: Right now, the prices are too high, that's why everyone tries to sell their property and most (unintelligible) like, some of them, like, big hotels nearby, some of them small guest houses but slowly many people are leaving. So I think it's going to be more in the near future, but I don't believe this much will tell until after the Olympics, actually. They're going to try to close it, at some point.

C: So you think it's just going to be, like, empty after the Olympics?

I: I think so. Not completely empty, but it's going to be much more than we need.

C: And what do you think that will cause, do you think there will be any downsides, good sides to this place being empty?

I: And not only this place, generally. In Japan, there will be more hotels than tourists coming to Kyoto.

C: Oh.

I: You are right now, near the surrounding guest house here, the price is, like, if I compared to last year, that is a big drop, getting lower and lower.

C: So what is the price in comparison, do you have that information? Like, if I wanted to stay here, how expensive was it in previous years, how expensive is it now?

I: Depends on the season but right now, it's kind of, September is the low season, you can stay in the guest house private room for ¥3000.

C: Per night?

I: Per night.

C: And then would you say, same time last year?

I: At the same time, 5000 [yen].

C: So cheaper and cheaper because, kind of getting ready for the Olympics?

I: Yeah, a lot of competition.

C: Oh. That is true. There's a bunch around here. So our project, we basically, we mapped the area, so we basically walked through and wrote down all the guest houses and put it into a CAD software, basically a mapping software that we colored in with a special software, and we did see a lot of guest houses, a lot of empty lots, a lot of abandoned buildings. What do you think these empty buildings and empty lots cause the residents that currently live here to think?

I: You mean, what's going to happen?

C: How do you think they feel about these empty lots, abandoned buildings, etc.?

I: Probably, they know. The people living in this area, they are 99% old people. They've been here since the beginning, probably. So I'm sure they knew who was living in that house, maybe they died. And there is no one [who] can replace them, and their children are not even in Kyoto, that's why the building is empty. I don't know the reason why it's empty, but again, what I believe is they're going to sell it.

C: So, like you said, would you think this is going to have effects on the rest of Japan as well, after the Olympics are over?

I: Yeah, I think so. Right now there is a craziness about making guest houses or hotels. Everyone has some money to invest, and put in a guest house business. It's crazy.

C: Do you think this business is going to stay up, or is it going to suffer because of this?

I: It's going to suffer, definitely. This is what I believe. It's going to suffer after 2020. Some of them are going to go down and close.

C: That's all the questions I have, so thank you very much.

I: No problem.

#### **Interview 2: Interviewee 2, Tomori**

Connor: Okay, so you live, do you live around the area, anywhere close to here?

Interviewee 2: No, actually I live in Osaka.

C: Okay, Osaka.

I: I just come here for a part-time job.

C: I met someone from Gojo Paradiso, who was from Osaka as well. So, the business. Is it good? Bad, recently? Like, are you guys getting ready for the 2020 Olympics?

I: I think so.

Phone rings, Interviewee 2 takes a phone call. People are heard entering and leaving the building.

C: So, do you know any history about this area?

I: No, actually no.

C: Oh, okay, that's alright. So, do you guys get a lot of business at, like, nighttime? Do a lot of people come in, do a lot of them come in the morning, do they do a lot of reservations?

I: はい。 (Translated: Yes.)

C: So, how does that work, this type of thing?

I: Um, so you want to... ask about business? Like, in the morning and at night?

C: Sure, uh, I'll reword it so it sounds a little bit better.

C: Actually, I'll ask a different question. So, when I was talking to someone from Gojo Paradiso, they run a guest house as well. So, they saw that from last year to this year, they had to decrease the prices of their rooms because obviously all of their competition around. Would you guys be, are you guys seeing the same thing.

I: Yes, like maybe one month ago, we had prices higher than we had before, because of the Olympic things. This place, it's quite cheap, but still...

C: What do you think tourists come for they enter this area? Would it just be, ... I'll keep it open-ended, why do you think people come to this area?

I: Because it's kind of a residential area, so a lot of people who came here said they liked here because it's very quiet and you feel everything, like local, you can feel local. So maybe that's why.

C: So, what do you think could be added to this area to make it better?

I: I don't know. For Japanese people who live here, sometimes complain about it, because it's so touristy. So maybe we should do something for the Japanese who live here. But for tourists, I always, there's not so many restaurants around here, places to eat.

Interviewee 2 answers the phone again.

C: So, like, two more questions? You were going on about what you would recommend to add to the area for the Japanese people, around here?

I: Ah, Japanese people?

C: Yeah, for, like, Japanese residents and Japanese, like, people around this area to draw them into this area.

I: To live here?

C: How would you make it so more either Japanese residents move back into this area or just, they enjoy this area more?

I: Ah. For me, I'd like foreign people to come here. So Japanese people, I want to leave this area.

C: So, what would you think would be good for the tourists, to add to this area that's not currently here, or add more of?

I: Sorry.

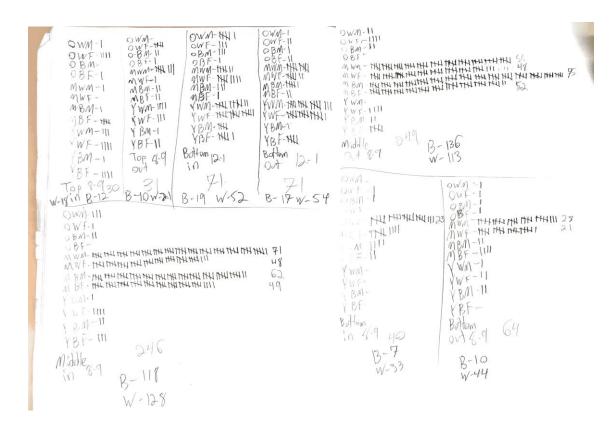
C: What would you put into this area to draw more tourists? How would you do it, what would you recommend? So that you can get some more business, like any place around here you would...

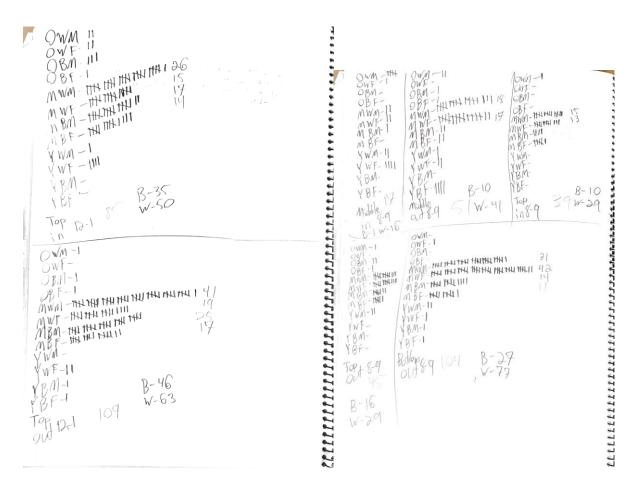
I: Maybe this area is not a famous area, so maybe we should... but there is nothing like a temple or a shrine or a business... maybe we can say this area is good to stay in because it's a quiet and not as famous, popular place, because it's more small, local, Japanese traditional.

C: Okay, That's good. Thank you very much.

I: ありがとう。 (TL: Thank you.)

**Appendix E: People-Mapping: Hand Data** 





#### **Appendix F: Sponsor Information**

Our project sponsors are Benoît Jacquet and Andrea Urushima. Andrea is an affiliated assistant professor and lecturer at Kyoto University's Center for Southeast Asian Studies (Kyoto University). She has a Ph.D. in Human and Environmental Studies from Kyoto University, with a specialty in urban development, including gentrification, tourism, and economics. Benoît is an architect who specialized in the study of Japanese architecture at Kyoto University. His research areas include the history and theory of architecture and urbanism in contemporary Japan.