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# Streetscape Scenarios of Ephemeral Public Spaces before and during the pandemic of COVID-19 in Ura-Harajuku, Tokyo

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**Abstract.** Over the past two years, the Coronavirus pandemic has affected not only the modern working lifestyle but also has impacted street life by demanding social distance and avoiding closed and crowded places. Since then, the public spaces around the world have been trying to adapt to this new environment. Tokyo, one of the most populated metropolises in the world, known for its small apartments and lively streets, has previously made use of the street as a public space, for instance, some commercial Streets in Tokyo are enjoyed as an entire sidewalk by sharing the same space with different means of transportation, providing a walkable environment as a sustainable solution for accessibility in the actual city life. This study will clarify some of the necessities of the new streetscape environment, it will contribute to learning from the ephemeral and close relationship of the use of the street as public spaces in the COVID-19 pandemic and before, enlightening safe but lively pedestrian activities as sustainable and dynamic strategies for a constantly changing lifestyle, helping our cities to be resilient in unpredictable situations for the street life of today and the future emergencies.

**Keywords.** *Public Space, Pandemic, Streetscape, Scenarios, Ephemeral, Tokyo*

## 1. Introduction

The urban fabric of Tokyo could seem at first glance chaotic and confusing. Still, every district and street follows a higher order where the commercial streets become a protagonist and a necessary place for everyday life besides connecting and moving between buildings [1]. This multi-layered system generates an environment that, from the eye level, it evidences the continuous transformation of smaller spaces. For instance, Shelton emphasizes that the structure of Japanese streets is more indeterminate than the western streets, allowing the moving, connection, and extension of buildings, activities, and information [2]. Ashihara suggests that the Japanese commercial streets are narrow, busy, and filled with intense human activity [3]. Lynch introduces our present process of experiencing a large urban area as a temporal pattern, the particular pleasure when looking at the cities like a temporal art, rarely controlled but always concerning its surroundings and the sequences of events leading up to it [4]. These features may cause

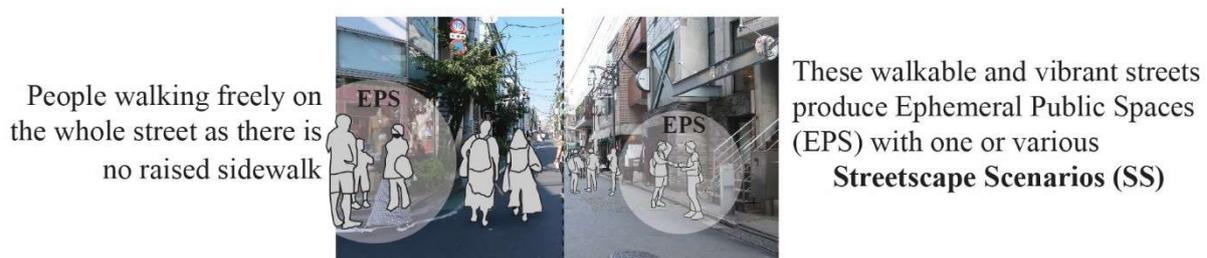


pedestrians to pause and use the street as a public space for a short time, denominated in this and previous research by the authors [5] as Ephemeral Public Space (EPS). The space ephemerality is defined as the recurrent pause of pedestrians in the same spot in a longer timeframe. In this context, the commercial streets would produce a unique scenario for the shopfronts to extend into the street through a lively mix of temporary bargain billboards, banners, and street furniture. Thiel explains three essential components of scenarios or scenes: space, place, and occasion, defining the space as the area where a particular activity occurs, and the occasion as identifying the place where the people perform those activities [6]. The authors' previous studies show similar scenarios of the positive effect of urban space quality of renovated open space with urban gardening in Tokyo [7], [8].

Moreover, the importance of the ground floor for daily life on building density should be discussed. Sim mentioned that the spaces where the ground floor spills out could be potential for meeting places [9]. Gehl, supporting this idea, confirmed that the transitional zones between one space or another, such as along the facades of buildings, are the preferred zones for staying to help the individual or group to keep distance from others [10].

However, the outbreak of the COVID-19 was a turning point for what we knew as our normal daily life. Human relations had to evolve and adapt to the new circumstances, and buildings, streets, transportation systems, and public spaces had to adjust to arrange for people to move safely. Although a strict curfew was not imposed in Japan, the government asked the population to avoid places and situations where closed spaces, crowded places, and close-contact settings were happening and encouraged the use of face masks outside or inside indistinctively. However, even under these circumstances, people would go out to realize, besides necessary, leisure activities. Hence, this research aims to study the transformation of the Streetscape Scenarios (SS) along two human-scale streets in a shopping district before and during the COVID-19 pandemic to analyze the street used as a Public Space in Tokyo, considering the author's previous research where the characteristics of EPS was studied (Figure 1).

As previously explained, several works on the characteristic of Japanese streets, scenarios, and the potential of the ground floor have previously been researched. However, a comparison before and during the pandemic of COVID-19 is still being clarified. At first, in the latest research on the impact of COVID-19, Ruki argues that the adaptation of the building entrance and the layout space will need improvement and adjustment to shape people's behavior to avoid virus transmission [11]. Honey-Rosés suggests that this public health and socioeconomic crisis will change public space design, perceptions, use and management across and within cities [12]. These studies and concepts would create a fundamental basis for the considered SS. Therefore, this study will continue the discussion of the transformation, changes, and similarities of these public spaces observed during this emergency.



**Figure 1.** Street as a Public Space in the context of Tokyo

## 2. Methodology

The data collection was performed as in previous studies by the authors through fieldwork observation and digital photography. Only the ground floor of the building along the case studies was considered.

### 2.1. Case Studies

The case studies are two commercial streets around 5 meters wide, including a sidewalk at the same level of the roadway, with buildings of around three stories in height. The location of both streets is in the

commercial zone designated to provide daily shopping facilities in Ura-Harajuku. The streets are perpendicular to the grand avenue of Omotesando and Meiji Dori. The street on the north is denominated Harajuku (H) with an average section of 4.5m and no pedestrian lane defined. Its length is 250m, where of 42 plinths, 19 are on the Northside (HN) and 23 on the south (HS). The street on the south, Jingumae (J), has a pedestrian lane painted on the pavement along the approximately 550m length with around 5.3m average height. From the 86 plinths, 41 are on the north (JN) and 45 on the south (JS). (Figure 2)

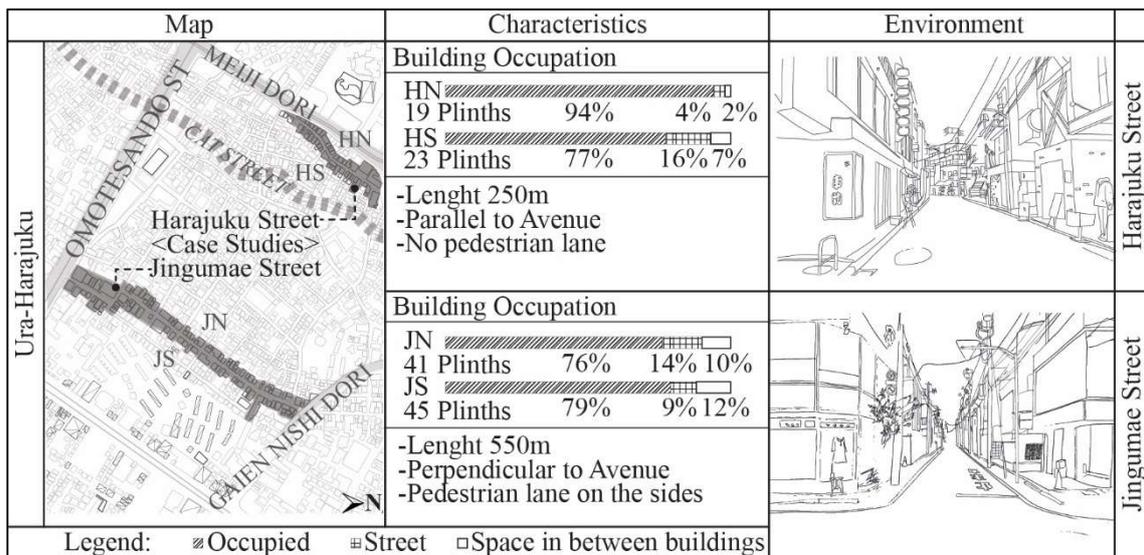


Figure 2. Case Studies overview

2.2. Fieldwork

The pictures were collected in 2017 (before the COVID-19 pandemic, BP) and 2021 (during the pandemic, DP) on weekdays and weekends. The photographs, taken following a linear path from one end to the other two streets, are discerned between people and the selected space for pausing (Figure 3). A total of 224 groups of people are BP and 306 DP. Ephemeral Public Space (EPS) is the pause area where at least two groups of people are observed making a pause for 5 seconds on different occasions. This definition applies to the samples collected pre-pandemic (61 EPS) and during pandemic (75 EPS). Altogether, they shape the Streetscape Scenarios.

	Data sample			Parameters	Total	
	Couple	Single	Single		BP ●	DP ○
Pedestrian				Location, Activities, Grouping, Posture	224	306
Plinth				Building Usage	128	128
Street	Personal Distance 0.45m-1.30m					
Ephemeral Public Space				Function, Enclosure	61	75

Figure 3. Collected data and analysis sample

### 3. Components of EPS and its comparison before and during COVID-19 Pandemic

In 2017, 128 Plinths in Ura-Harajuku were examined. Although it is a commercial neighborhood, Figure 4 shows that by 2021 almost one-quarter of the building plinth's use changed, the majority of plinths have no change of use, and only 9% have the same use but a different store. The vacant shops and under construction plinths increased DP by around 20%, while convenience stores and residential use decreased by 5%, restaurants, mixed-use plinths, and advertisements remained the same.

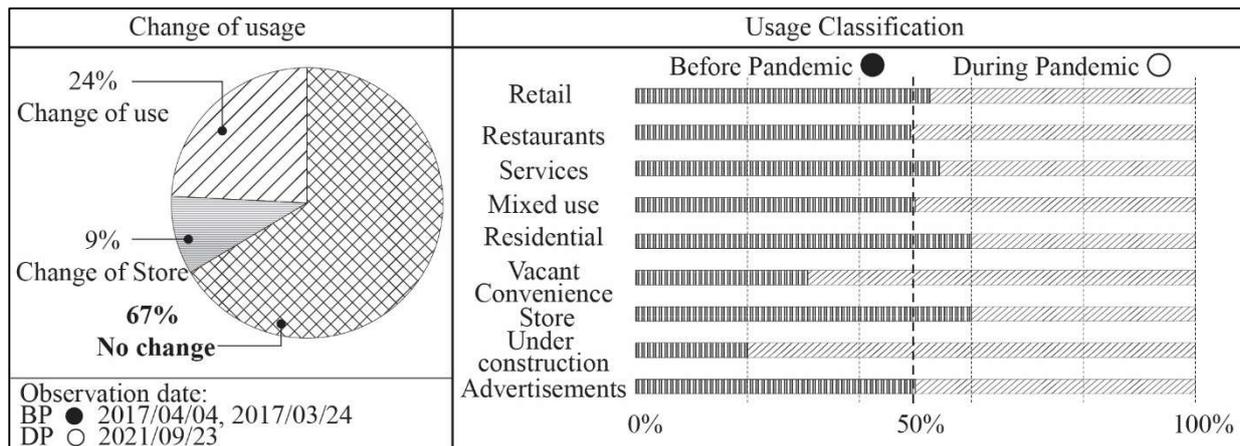


Figure 4. Building usage

#### 3.1. Spatial components

The Ephemeral Public Spaces in each plinth are being differentiated by the surrounding area of the paused people, taking into consideration the intimate and personal distance as studied by Hall [13]. These places are being analyzed in Table 1 through their function and their enclosure. Most spaces found in DP are shop entrances or closed facades uncovered. BP places with lower objects are used as seating. On the other hand, BP the least of spaces are backstreet of plinths and corners covered and DP lower covered object. Spaces with setbacks, stairs, windows, and Take-away windows either covered or uncovered were detected in similar quantities.

Table 1. Function and enclosure of EPS

Enclosure		Function								
		Backstreet BS (8)	Closed Facade CL (39)	Corner CR (17)	Entrance ET (61)	Lower Object LO (31)	Setback SB (25)	Stairs ST (26)	Window WD (13)	Window Take-away WT (16)
Covered (64)	BP ●	0	5	0	7	4	3	2	3	8
	DP ○	1	7	1	11	0	1	6	1	4
Uncovered (172)	BP ●	2	12	3	11	17	12	6	4	3
	DP ○	5	15	13	32	10	9	12	5	1

There was an affinity regarding the relation between the EPS and their location in the street, either BP or DP. Therefore, the transformation of the Streetscape Scenarios will be further studied in Chapter 4.

### 3.2. Pedestrian components

Following the above explanation, the continuous frequency of pedestrians by Plinth is analyzed. Pedestrians stopping in the same space under different conditions are investigated. Whether they have appeared simultaneously or not is disregarded as this fact supports the Ephemeral characteristic of the space. The data collected is cataloged by the number of people as grouping, their location in the street, their posture, and the activities observed BP and DP. Figure 5 shows that pedestrians in a group diminished, and single people increased from 34% to 52%. People in couples remained almost one-third either BP or DP. Pedestrians in the street or along the street decreased considerably during the pandemic, while pedestrians found in the building site augmented more than 10%. The posture of the stopping pedestrians is classified as standing, squatting, leaning, sitting, or mixed. The majority were found standing, while mixed postures, squatting, and leaning are the least. Sitting pedestrians were observed less in DP than in BP.

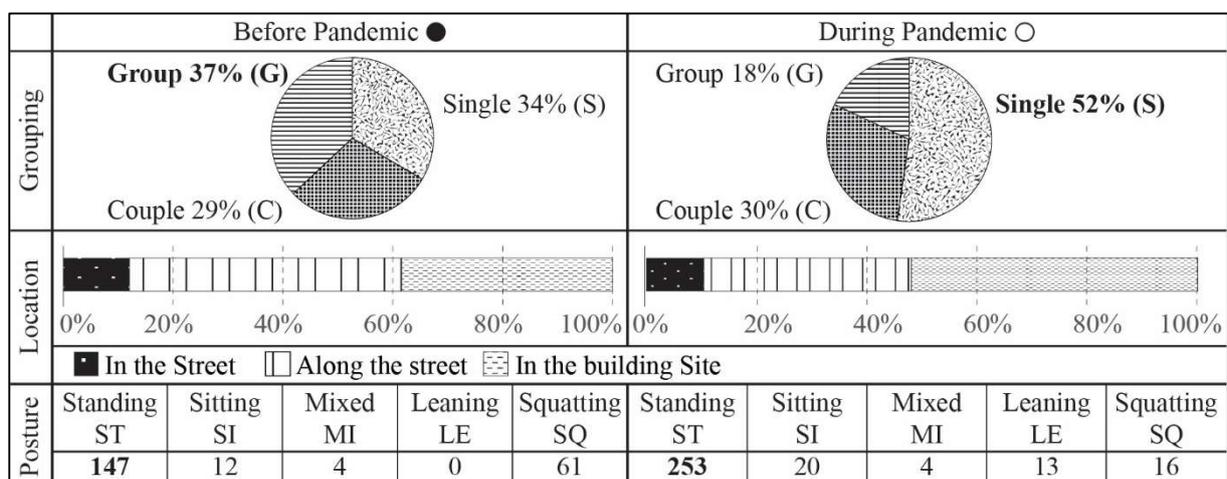


Figure 5. Grouping, location and posture of pedestrians

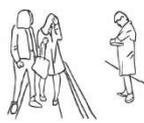
Finally, regarding BP or DP, the type of activities performed in the street are classified in Table 2. Talking and using devices were observed any day of the week, in any posture, alone or with others. They can be performed unlimited (X), while the activities that need a specific time frame (Y), such as smoking, drinking, eating, buying food, and seeing advertisements, change BP and DP in terms of people’s grouping and postures. Only some of these factors lead to Particular activities (Z), such as writing, reading, cleaning, giving samples, and pet strolling.

Table 2. Diverse aspect of activities

Activities	Day		Grouping			Posture			Type TIME
	WE	WD	S	C	G	STA	SIT	OTHER	
Talking	●○	●○	●○	●○	●○	●○	●○	●○	X Unlimited
Using electronic devices	●○	●○	●○	●○	●○	●○	●○	●○	
Smoking	●○	●○	●○	●○	●○	●○	●○	○	Y Time Frame
Drinking or eating	●○	●○	●○	●○	●○	●○	●○	●	
Buying food	●○	●○	○	●○	●○	●○	●	●	
Seeing advertisements	●○	●○	●○	●○	●○	●○		○	
Writing or reading	●	●○	●○		●	●○	●	●	Z Particular
Cleaning	○		○					○	
Giving Samples	●○	●○		●○	●○	●○		○	
Pet strolling	●○		○		●	●○			

#### 4. Types and transformation of Streetscape Scenarios of EPS

From the BP and DP data collection, Figure 6 shows the analysis of the places where most people are found and the characteristics of the space. The result shows six Streetscape Scenarios (SS1-6) classified according to the purpose and possibility of time spent considering the pedestrian location. For instance, SS1 concerns pedestrians located in the street and SS6 in the building site, giving them more opportunities to stay longer. Firstly, SS1 includes the spaces that provide a choice for moving. Pedestrians are observed deciding at the uncovered entrances of the shops or the street corners. The majority of people are in a couple or alone while seeing advertisements, pets strolling, drinking or eating, and shops campaigns of giving samples are also noticeable. Next, the SS2 for window shopping, located along the street, pedestrians stop to see the advertisements or menus at the uncovered windows or covered entrances. The majority of people are either in a group or single. The windows for take-away are included in SS3. Waiting, ordering food, and going away is the main activity. People are found in groups standing, spilling out from the buildings to the street. In this location, two more scenarios are detected. The first single pedestrians try to hide (SS4) in setbacks or backstreets. The main activity observed is smoking and using electronic devices. Second, pedestrians sit on lower walls or street furniture and rest in covered or uncovered spaces (SS5). Finally, SS6 shows pedestrians leaning or staying next to buildings in spaces with closed facades or stairs, covered or uncovered. Single people standing, leaning, or sitting are found smoking, using electronic devices, seeing advertisements, and drinking or eating in the building site.

Streetscape Scenario		Space		People				Scene
Type	Description	Function	Enclosure	Posture	Group	Activities	Location	
SS1 Choice	Pedestrian deciding where to go, for instance, lured to enter a shop	ET	UC	STA	C	Seeing advertisements Pet strolling Giving samples	In the street	
		CR	UC	STA, LE	S	Drinking, Talking, using device		
SS2 Window shopping	Pedestrian stopping to see menu or stores	WD	UC	STA	S	Seeing advertisements	Along the street	
		ET	CO	STA	G	Talking, using device		
SS3 Spilling out	Pedestrian making a line, buying food or waiting	WD	CO	STA	G	Seeing advertisements, Ordering food	Along the street and in the building site	
SS4 Safe	Pedestrian is trying to isolate or hide	SB	UC, CO	STA	S	Using device, smoking		
		BS	UC	STA	S	Smoking, Using device		
SS5 Rest	Pedestrian sits on the street furniture	LO	UC, CO	SIT	S	Smoking, using device, eating		
SS 6 Do not Disturb	Pedestrian leans or stay next to the building	ST	UC	STA, LE	S	Smoking, Using Device, drinking	In the building site	
		ST	CO	STA, SIT	S	Seeing advertisements		

**Figure 6.** Characteristics of Streetscape Scenarios

Furthermore, the transformation of the SS in Ura-Harajuku is illustrated in Figure 7. Firstly, the majority of SS are discontinuous DP (74), and SS1 is observed the most. For example, in JS24, the building usage remains the same, but there is a physical change, such as a new restaurant facade, creating a scenario for people to read the menu. Next, in SS discontinuous BP (42), SS5 appears mostly. For instance, in JN21, the previous low object used for seating has been removed to open the building to the pedestrians. Then, the continuous SS (30) indicates the resilient scenarios. For instance, in HN04, people are still doing the

same activities in the same spot along the street (SS2). Finally, JN5 and JN14 depict the most continuous SS, with 3 and 4 continuous SS, respectively. The latter has a new tent covering the people queuing as a physical building changes. Even though the most continuous SS is perceived when there is no change in the building usage, the store change cannot be disregarded as in both streets, 38% have SS. The one showing the least SS is the change of use. In Harajuku one-third DP while in Jingumae, 40%.

In Harajuku Street, one-third of scenarios are SS6 (30%), followed by SS1 (27%), and SS3 is the least (7%). In HN12, a previous Gacha-Pon campaign attracted people to the store, but now people stop instead in the corner. Only HS08 has more variety with more continuous SS and no building change.

Jingumae Street shows similarities as most SS are SS1 (27%) and SS6 (21%). In particular, JS27 has a new seating space that appears DP on the narrow side of the building. In JS28 BP, a plastic curtain prevented from seeing people waiting and now is removed, letting people go outside the building area to the street. This plinth also shows the most variety of SS. Finally, SS2 (17%), SS4 (15%), and SS5 (13%) are observed similarly.

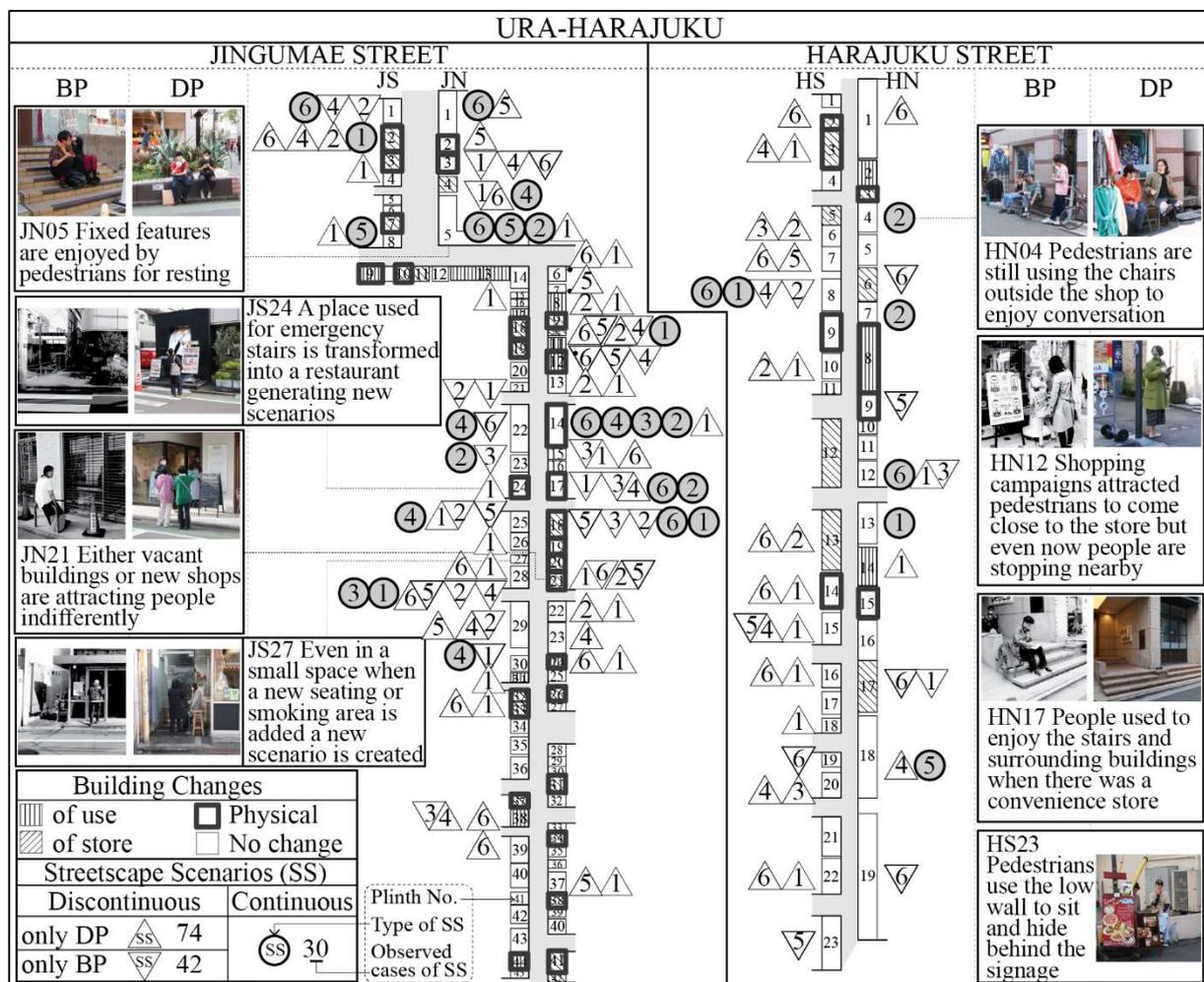


Figure 7. Transformation of Streetscape Scenarios

### 5. Conclusion

After analyzing the Ephemeral Public Spaces produced in Ura-Harajuku, Tokyo, before and during the COVID-19 pandemic, the transformation of the Streetscape Scenarios was investigated. The ephemerality researched through the observation of pedestrians, making a pause for a short time along the street, contributes to understanding the use of the street as a public space in emergencies. Firstly, a before and during comparison of the pedestrian and the spatial components of the EPS was examined. Secondly, the

diverse aspects of the activities observed are analyzed. Thirdly, the characteristics of these components constituted the types of Streetscape Scenarios, and finally, their transformation is emerging concerning the building usage, store, and physical changes.

In this new era, the commercial streets are full of signs and street furniture to attract pedestrians. However, besides owning a unique character, the reinvention or preservation of the space should be considered to offer a comfortable atmosphere for shopping or leisure. The research results have confirmed first that some spaces are resilient. In other words, they continue to be used, and previous activities are still happening in the current conditions. Others are adaptable; they have changed, appeared, or disappeared. Second, the pandemic has affected the space; hand sanitizer stands and prevention measures signs are placed inside the stores but no substantial change in their facades. Third, convenience stores and restaurants are still working as a catalyst for attracting people. Finally, despite changing their store or usage, others generate new SS through movable furniture such as self-standing signs or take-away windows. In terms of people, they wear a mask and keep their distance. However, some activities such as giving samples as shop marketing campaigns and queuing to buy bento boxes at lunchtime are happening uninterrupted. Furthermore, people smoke outside the designated areas even more, although it is banned along the street. Finally, standard building features such as stairs or lower walls support people staying in the street. Unlike expected, SS produced by closed façades, vacant buildings, or buildings under construction is used to pause by pedestrians. These findings are considered crucial in the future of urban design proposals where smaller streets are used and enjoyed as public spaces as an emerging concept for a sustainable built environment.

Finally, the scope of this study is limited to Ura-Harajuku commercial streets. Whether this result may apply to other commercial streets needs further investigation. It would be interesting to assess other types of streets in Tokyo when the pandemic is over, and the restrictions lifted. The changes in the city will most likely be evidenced differently depending on the space scale.

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