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Bo Peng

SIDEWALK APPROPRIATION

THE SHAPING OF STREET SPACE IN MANHATTAN'S CHINATOWN

BY

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ABSTRACT OF THE THESIS

Sidewalk Appropriation: The Shaping of Street Space in Manhattan's Chinatown

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My research in Manhattan's Chinatown investigates how the sidewalk experience brings vitality to the neighborhood, in particular, leading to the developing of different typologies of sidewalk appropriation and their implications on social activity and use. This appropriation reflects how the public space is used and appropriated by shop owners or residents in both planned and insurgent, permanent and temporary ways. The flourishing of street life is also the primary source of the urban vitality in Chinatown that makes it so different from commercial areas in other places in modern Manhattan.

In order to identify the key features that bring the street vitality, this thesis researches on the shaping of street space in Manhattan's Chinatown from two aspects – the top-down perspective and the bottom-up perspective. By collecting data and documents regarding the history and development of Manhattan's Chinatown in terms of planning policies of street shaping, it is the immigration's policies and the city planning board's effort that shape the Chinatown as a commercial and tourist district to provide an exotic experience. From the bottom-up perspective, seven typologies of sidewalk appropriation are developed, using Activity Setting Analysis and Environmental

Behavior Observation, based on the spatial characteristics and activity opportunities. These different uses of sidewalk space indicate that sidewalks in Manhattan's Chinatown are mixed-use space with clear separation of vehicular and pedestrian traffic, while the mixed-use of space is realized by adding multiple nodes along the linear paths that attract pedestrian.

ACKNOWLEDGEMENTS

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## Chapter 1: Introduction

In current China, streets have become one of the most critical but often overlooked public spaces. Kisho Kurokawa, a Japanese architect, posits that the lack of formal public space in traditional Asian cities leads to that the streets become gathering and event spaces in the urban area.[1] As a place that expresses the values and experience of Chinese immigrants, Chinatown has similar features as the traditional Asian cities, in which streets function as the primary public space. Shaped by their cultural traditions, Chinatown residents' behaviors and activities have implications on the physical form and use of urban public space.[2] Streets, which carry most public life in Chinatown, are used and appropriated by their residents in new ways that are "insurgent" to the designated usages. The resulting "insurgent public space,"[3] which may be different from the initial design intention in unexpected ways, reflects the everyday life of the community. The making of such a place in Chinatown's streets reveals the intricate but balanced relationship among landscape, ethnicity, culture, and politics.

The condition of traditional ethnic enclaves like Chinatowns has been challenged by the globalization that blurs boundaries of races and culture. However, the urban metropolis has increasingly accommodated its planning strategies to the development of economy and technologies on an international scale since the late twentieth century. This urban redevelopment, combined with the modernization process, has implications on the spatial form of immigrant communities. The most significant difference between urban

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[1] Kisho Kurokawa, *Rediscovering Japanese Space* (Tokyo: John Weatherhill, 1988).

[2] Anastasia Loukaitou-Sideris, "Urban Form and Social Context: Cultural Differentiation: The Uses of Urban Parks" *Journal of Planning Education and Research* 14(2) 1995: 89-102.

[3] Jeffrey Hou, "(Not) Your Everyday Public Space" in *Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities* (New York: Routledge, 2010).

Chinatown streets and typical urban American streets is that in Chinatown streets become

the significant space for public life. The vending and street life make it different and

much more vibrant than other urban commercial areas of a similar scale. The retail

businesses along the street extend onto the sidewalk and appropriate part of the space as

their hallway to invite people to stay or step in. This way of using the street space

originates from a Chinese tradition called "street appropriation" or "sidewalk

appropriation" since the late Tang Dynasty.[4] Generally speaking, sidewalk appropriation

usually refers to a legal or sometimes illegal intrusion of the buildings along the street

upon a portion of the street on the ground level as a fixture, such as a wall or a fence, or

diminishing its width or area of the street without closing it to public travel.[5] However,

the street space includes not only the horizontal dimension like the ground level but also

the vertical dimension like a canopy or architectural façade, as well as the temporal

dimension of the changing uses. Japanese architect Yoshinobu Ashihara suggests that the

buildings form the first layer of the profile of the street while the additional structures

attached to the buildings become a second layer.[6] This second layer can also be seen as

an expression of sidewalk appropriation. The idea of sidewalk appropriation in this thesis

is concerned with the occupation by retail business on the public street space and

consider both commercial and social uses of the space.

This thesis explores how those social and cultural factors affect the streetscape

and street life in Manhattan's Chinatown as an immigrant community. The investigation

focuses on how the sidewalk experience brings vitality to this Chinatown, in terms of its

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[4] Lei Shen and Honggang Sun, *Efficiency and Livability: Study on the Structure of "Road" and "Street"* (Beijing: China Architecture & Building Press, 2007).

[5] *West's Encyclopedia of America Law*, "Encroachment", accessed December 15th, 2018 from https://legal-dictionary.thefreedictionary.com/encroachment.

[6] Yoshinobu Ashihara, *Exterior Design in Architecture* (Van Nostrand Reinhold, 1981).

vending and street life. A unique but typical spatial process in Chinatowns - sidewalk appropriation- reflects how public space is used and appropriated by retail businesses in an insurgent way. The thesis, taking the phenomenon of sidewalk appropriation in Manhattan's Chinatown as a research subject, studies uses of sidewalk space and the meanings of such uses related to human movements. Investigating different typologies of sidewalk appropriation helps reveal different sources of urban vitality and provides some inspirations on how to design a vibrant neighborhood. It also examines how Chinese social culture, brought by immigrants, impacts the spatial configuration in Manhattan's Chinatown.

A mixed approach incorporates data and policy research, field observation, mapping, diagramming, and filming to investigate different typologies of sidewalk appropriation and how people's behaviors are influenced by these spatial arrangements. Chapter two begins with an interpretation of the relationship between the street and the city, from the perspective of the street as the image of the city, and the brief history of Chinese streets, to understand how a different culture can influence the shaping of the street space. Chapter three provides the definition of sidewalk appropriation and related regulations and introduces the history of sidewalk appropriation in Chinese street culture that is brought to the United States by Chinese immigrants. Chapter four introduces the history and development of Manhattan's Chinatown. Chapter five and six present the field work of different typologies of sidewalk appropriation in Chinatown, and people's uses and movements regarding such spatial characteristics. Lastly, some recommendations and further discussions are presented based on the previous key findings.

**Research Background**

In the United States, there are over ten well-known Chinatowns in the metropolis, including those in New York City, San Francisco, Boston, Philadelphia, Chicago, Los Angeles. The total population of Chinese Americans proliferated from less than 240,000 in 1960 to more than 3,560,000 in 2006.[7] New York City, as the biggest and most prosperous city in the nation, attracts a continuous stream of Chinese visitors and immigrants. According to the Year Book of Immigration Statistics in 2012 and the U.S. Citizenship and Immigration Services, New York City is the primary choice to settle down for Chinese immigrants. In the cities that have more than 100,000 citizens, New York City has the largest population of Chinese Americans. As of the 1960s, the population of Chinese immigrants in Manhattan Chinatown was only 11,000, but it developed into a community that had 100,000 people within 45 years.[8] Seventy percent of the population are residents of the Chinatown district, and the population still increases by around 7000 people per year. The early gathering of Chinese immigrants in Manhattan formed this ethnic enclave, which is the first Chinatown in New York City. While a large influx of Chinese immigrants flew into New York City, some of the community population gradually moved to Flushing in Queens and Brooklyn in the late twentieth century, which have become the second and third Chinatowns in New York. The emergence and expansion of those new Chinatowns are closely related to the urbanization of American cities since the 1960s.[9]

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[7] "*Year Book of Immigration Statistics*". U.S. Department of Homeland Security, 2012. Accessed Nov. 25, 2018.

[8] Kitano, H. L., and Daniels, Roger. *Asian Americans Emerging Minorities*. Prentice Hall, Englewood Cliffs, NJ, 1998.

[9] Kwong, *The New Chinatown* (New York: Hill and Wang, 1987).

Rapid urbanization and globalization have impacted the economic, social, and the spatial structure of immigrant communities, especially those in the urban area. Peter Kwong's study on the more recent Chinatowns after 1965, such urban development has also significantly changed the early Chinese-American group and its community – in other words, ethnic enclaves – where they inhabit. Those ethnic enclaves gradually evolved into what we call Chinatowns today.[10] Similar to the early Chinatowns in California, Manhattan's Chinatown consisted of male laborers who could not reunite with their family because of the 1882 Chinese Exclusion Act. A large portion of Chinese immigrants who came to the United States right after 1965 for family reunion preferred to reside in the urban area not only for economic opportunities but also for ease of communication. The lack of education and professional skills accompanied with the inability to speak English reduced the choice of those staying immigrants to work in the service industry in Chinatowns while the flourishing of the restaurant and laundry business ensured their employment. However, in addition to the increasingly crowded and expansive living environment in the urban center, changes of the American industrial structure and the suburbanization also influence the social structure of urban Chinatowns. Some Chinese Americans who are well-off escaped from the crowded Chinatown to the suburban area with large houses, fresh air and large open spaces.[11] However, the development of those satellite Chinatowns in suburb areas does not cause the loss of vitality in urban Chinatowns. Today's urban Chinatowns in the United States have become visitor centers and shopping areas rather than traditional ethnic enclaves as living neighborhoods.

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[10] Kwong, *The New Chinatown*.

[11] Timothy P. Fong, *The First Suburban Chinatown: The Remaking of Monterey Park, California* (Temple University Press, 1994).

**Research Methods**

A mixed method of data and policy research, field observation, mapping, diagramming and time-lapse video is used to construct the narratives of sidewalk experiences in Manhattan's Chinatown. A wide range of data is collected to demonstrate the development of Manhattan's Chinatown and regulations related to uses of the sidewalk and street spaces, including scholarly works, official documents, historical documents, websites, and photographs. Field investigation uses mapping, diagramming and time-lapse video which focuses on two scales – the district of Manhattan's Chinatown as a community and human-scale spaces on the sidewalks. Observation of everyday activities, human behaviors, and social interactions provide an investigation of people's relationship with the space. The goal of this research is to study the micro-level spatial configuration related to social and cultural practices in the process of community building.

*Activity Setting*. The goal of Activity Setting is to document everyday human-environment interactions at sidewalk spaces. It is a technique proposed by Randolph Hester to document activity archetypes and idiosyncrasies for "discovering the life patterns unique to a community, how activities utilize space, and implications for designing the future, expressing what is particular about a place (Figure 1)."[12] This diagramming approach helps analyze patterns of people's interactions with the sidewalk space, in particular, sidewalk appropriation, to better understand how people use the space and engage (or do not) with each other in that space. It also reveals idiosyncrasies that make Chinatown's streets unique through exploring general or specific activities that

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[12] David de la Pena et al., *Design as Democracy: Techniques for Collective Creativity* (Island Press, 2017).

are influenced by Chinese traditions and sidewalk appropriation. The analysis not only considers human behaviors but also pays attention to dimension and proportion, showing real spatial relationship between human and the environment.



Figure 1 Example of Activity Setting Diagram

*Environmental Behavior Observation*. The environmental behavior observation is a complementary tool of the activity setting analysis. It is a method of "systematically watching people use their environments" (Figure 2).[13] Through the observation, researchers are able to study the relationship between users' behaviors and the physical environment, and what kinds of spatial characteristics can influence people's movements in what ways. It helps researchers understand the opportunities as well as challenges of a place. Zeisel also argues that the observation should be conducted secretly not to disturb people's behaviors to ensure the credibility of the observation.[14]

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[13] John Zeisel, "Observing Environmental Behavior," in *Inquiry by Design: Environmental / Behavior / Neuroscience in Architecture, Interiors, Landscape, and Planning* (New York: W. W. Norton & Company, Inc., 2006).
[14] Zeisel, "Observing Environmental Behavior".

Figure 2 Example of Behavior Mapping Form

*Typology*. Typology, in landscape architecture, is a study of classification of the landscape characteristics based on physical elements and sometimes cultural as well as social meanings. The developing of different typologies of sidewalk appropriation in this thesis is inspired by Christopher Alexander's pattern language, which focuses on the spatial pattern of the space. Investigating different typologies helps identify the key spatial features of the appropriation that construct a vibrant street space.

**Chapter 2: Reading the Street Space**

## 2.1 Streets and Cities

*What is The Street?*

The idea of the street differs from the idea of the road. Cliff Moughtin, a professor in urban planning, proposes clear definitions of these two terms. The term "road" is defined as "an act of riding on horseback and an ordinary line of communication between different places, used by horses, travelers on foot or vehicles."[15] A road is a connection to different places, a journey to a destination. It is more about its function to transport people or objects and emphasize movements between places. Typical examples are post roads before the emergence of automobile, and highways or railroads in modern society. On the other hand, a street has similar attributes of a road, which is "a road in a town or village" that "runs between two lines of houses or shops."[16] It is a linear open space in the urban setting that is defined by adjacent buildings. Providing links between buildings within the street, the street space "inhibits human activities and make others possible."[17] This three-dimensional space, closely related to movements of people, is a significant component of the city. It is not only a physical form but also a site that connects the space with its users, applying meanings to the street.

Even though streets and roads are both linear spaces, the main difference between these two is their relationship to people's experience of moving through space. From the perspective of spatial formation, a road does not require enclosed surroundings on both sides, which results in a relatively remote connection with buildings. It is a two-

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[15] Cliff Moughtin, "Streets," in *Urban Design: Street and Square* (Architectural Press, 2003).
[16] Moughtin, "Streets".
[17] Moughtin, "Streets".

dimensional exterior space that is perceived by people through the surrounding landscapes and their movements along the road. In a street space, formed by its linear surface and walled by the adjacent buildings, people perceive the three dimensions of the space by going through it. Functionally, roads mainly serve high-speed vehicular transportation while streets provide space for vehicular and pedestrian traffic, as well as public activities. A sidewalk is not a required component of the road, but it is essential to the street. Generally speaking, the subject of a road is vehicles, and the subject of a street is people. Therefore, city streets can be categorized into four types, based on the scale and their roles in the city.[18] These include street for traffic, living street, commercial street, and others. This thesis focuses on the sidewalk area on living streets as social spaces, which is dominated by people rather than vehicles.

*The Street's Function as Path and Place*

Streets, as physical as well as social elements of the city, serve two main purposes: street as path and street as locale.

Considering the street as a path emphasizes its function to serve transportation, which is similar to the role of the road, but with slower-speed movements and lighter traffic. The street, like veins in the human body, supports the basic operation of the city by providing access to people's destination to satisfy the needs of daily life. This transportation function of streets includes two aspects – movement and access. "Movement" refers to the traffic itself, the action of moving from one place to another. "Access" refers to the action of entering a space, while the street here becomes a transition zone between different places. As a physical form of city network, the street

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[18] Ministry of Construction of the People's Republic of China, *Code for Transport Planning on Urban Road* (National Standards of the People's Republic of China, 1995).

organizes the spatial order of cities by connecting critical public spaces and weaving

them into the urban context.

The street is not only an approach of access but also an arena for social

encounters.[19] As space for residents to enter and exit their private area directly for daily

activities, the street is also the outdoor space where social interactions happen most

frequently. It is an essential place for social activities that express as well as inherit the

culture and history of cities. Jane Jacobs, a journalist who has significant influences on

urban studies, sees the street as a reflection of civic life that "if a city's streets look

interesting, the city looks interesting; if they look dull, the city looks dull."[20] Especially

for today's profoundly internet-based society where people are able to acquire any

information or communication or even shopping without physical involvement, the street

has become one of the last few places for people to come together face-to-face. Moreover,

the retail businesses along the street, like shops and restaurants, form a special linear

marketplace to serve people's everyday needs. Just like squares in Italy or waterways in

Venice, the street is the overlap between family and social life, as well as the extension of

their living area, in Chinese culture. Social and recreational activities vitalize the street

and incorporate it into people's daily life. People are active participators of street life,

which helps them foster a sense of belonging and safety when building their community.

The role of the street as path and as locale is indiscerptible at any time. However,

its value of being a social place has been overshadowed by modernist urban planning.

The vibrant traditional street has been transformed into space mainly for traffic. The

street with a single function of transportation indeed improves the commuting efficiency,

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[19] Moughtin, "Street".

[20] Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House Inc., 1961).

but it cannot fundamentally address the congestion issue in urban areas by simply

widening streets and sidewalks or separating pedestrian and vehicular movements.

*The Street as the Image of the City*

The image of the city can be interpreted as people's impression of the city - their

perception of the city's space as a whole – the "legibility" of the city, proposed by

planner Kevin Lynch. When entering a city, people always experience the spatial form

and landscape of it by passing through the streets, gaining a general impression of the city.

As the main public space of a city, the street plays a significant role in expressing the

city's identity. Kevin Lynch, in his book *The Image of the City*, lists five essential

elements of city image – path, edges, district, nodes, and landmarks – in which path is the

primary one.[21] Norberg-Schulz, a Norwegian architect, also describes the traditional

street as "a small universe where the character of the district and the town as a whole was

presented in a condensed form to the visitor. The street represented a section of life –

history had shaped its details," in *Existence, Space and Architecture*.[22] The street seems

to become a manifestation of a city's charm and uniqueness.

The street and its pattern reflect the unique history and evolution of a city, by

showing the static process of historical development. With the city's diachronic and

progressive development, it leaves traces that witnesses the city's history, such as

buildings, structures or squares from different periods. The accumulation of such

historical entities has built up and shaped the physical as well as socio-cultural

characteristics to the image of the city. As the primary public space to conduct daily

activities, the street projects the living condition of citizens and the city's social

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[21] Kevin Lynch, *The Image of the City* (Cambridge, Mass.: MIT Press, 2005).

[22] Christian Norberg-Schulz, *Existence, Space and Architecture* (London: Studio Vista, 1971).

environment at that time. With the expansion of the city, the street is also extended to support human activities and events. Evocative places, like streets, are able to leave a profound impression on and therefore remembered by people, by recalling the history of the place. It is such a cumulative impression of those special individual places that constitute the overall understanding of a city. They are the physical manifestation of the city's image.

As the most ubiquitous public space in the city, the street provides a way for people to experience the city. This linear path is one of the essential spatial components of the urban context.[23] People's ability to perceive the city as a whole that has been thoughtfully planned rather than those individual images depends on the street layout of the city. Kostof considers that "the only legitimacy of the street is as public space. Without it, there is no city" because cities are "inhabited settings from which daily rituals – the mundane and the extraordinary, the random and the staged – derive their validity."[24] However, the street is not only a component of urban form but also provides a platform to view the city. Buildings along the street frame the street space and compose the vertical part of the street at the same time. People gain the most direct impression of the architectural form at the street where the buildings become the landscape. Any perception of the city relies on activities on the street. People perceive the urban landscape when walking at the street and access to any place in the city through the street. The street also enriches and completes the city's silhouette by creating a perspective with the view at the end of the street, visually connecting another place with the place where people are.

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[23] Lynch, *The Image of the City*

[24] Spiro Kostof, *The City Assembled: The Elements of Urban Form through History* (Boston: Little, Brown & Co., 1992).

The street represents the social life of the city, while human activities at the street express the city as a vibrant place. Crowhurst Lennard and Lennard consider urban public space as "the single most important element in establishing a city's livability."[25] The primary role of the street, as the main public space in the city, is to promote sociability by facilitating various kinds of activities. While modern urban society becomes increasingly fast-paced, public life becomes less dependent on city square or plaza. Social encounters happen more often on people's way to work or home, especially at the street. Street has become the core of urban public space, a stage of city life.

*The Street as the Culture of the City*

Traditions, or the culture of civilizations, are defined when the living habit and lifestyle of a group of people at any given place being acknowledged and also inherited from generation to generation. The street offers a great platform to conduct street life and street culture which are a substantial part of urban civilization. Streetlife not only mirrors the social environment of the city but also is a representative detail of the city's culture.

The layout of the street system is a physical expression of contemporary ideology since it is mainly designed and planned by the ruling class. Ideology represents all "production of ideas, of conceptions, of consciousness" that "man say, imagine, conceive."[26] It functions as the "superstructure" of the civilization[27], which the culture of that civilization is constituted by the dominant idea of the society, not necessarily the majority, such as monarch politics of feudal society or democracy and individualism of capitalist society. City planning is decided by the will of the ruling class as the ideology

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[25] Suzanne H.C. Lennard and Henry L. Lennard, *Livable Cities Observed: A Source Book of Images and Ideas* (Gondolier Press, 1995).

[26] Karl Marx and Frederick Engels, "Introduction to a Critique of Political Economy" in *The German Ideology* (New York: International Publishers, 2001).

[27] Marx and Engels, "Introduction to a Critique of Political Economy".

of the superstructure. In traditional Chinese culture, the street itself is a manifestation of social hierarchy. The symmetrical layout and design of urban streets at feudal society in China embody the strict order of the "emperor and vassal, father and son" hierarchy and the concept of formality as an expression of dignity. The street also exposes the inequity of the feudal society, which pedestrian should yield to vehicles and civilians should yield to the authority.

Public life at the street epitomizes the city's culture and its tradition. Before the advent of large-scale structures like skyscrapers or malls, social encounters, including communication, gathering, performance or speech, usually, happen at the outdoor spaces. The street can be considered as a city hall without a roof. In Western cities, even though city squares or plazas assume primary responsibility for many important social activities, it is usually large-scale and inevitably related to political or religious meanings. Most informal social activities, everyday activities, typically take place at the street. Furthermore, a lot of commercial activities and retail business are conducted at the street where gathers a large influx of people.

Traditional streets are distinctly shaped by the local community and its culture, while the modern streets that mainly serve as symbols of commerce share a similar international style. They have gradually become indistinguishable with only a strong sense of busy commercial activities, like Hong Kong and New York City. The modern street has lost its place identity and culture to some extent – become placeless.

## 2.2 The Changing Concept of the Street

There is a constant debate around the idea of the street - one emphasizes the efficiency of the street by separating different functions in urban spaces, while the other

advocates street vitality brought by the mixed-use public space. Early studies of streets, such as "Garden City" or "Radiant City," envision efficient place-making strategies, which the street works only for transportation in an automobile era. Ebenezer Howard proposes an ideal "Garden City" that combined the advantages of the urban and suburban area, with a concentric pattern of city form and open spaces connected by railroads and surrounded by greenbelts (Figure 3).[28] Influenced by this decentralization concept of the garden city,  Le Corbusier claims in *The City of Tomorrow and Its Planning* that "man walks in a straight line" while "the pack-donkey" meanders along."[29] He considers that the premise to solve the problems of the urban areas by providing sunlight, fresh air, and open spaces is to abandon the traditional streets, and envisions a city form constituting of the car-dominated transportation and roads with a hierarchical tree structure (Figure 4).[30] The later Athens Charter also suggests the separation of functional districts, programs, and transportation, all foreshadowing the disappearance of traditional streets.[31]
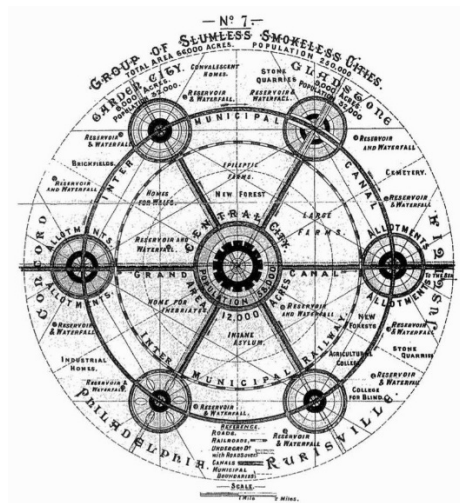


Figure 3 Garden City

[28] Ebenezer Howard, *Garden Cities of To-morrow* (Swan Sonnenschein & Co., 1922).

[29] Le Corbusier, *The City of Tomorrow and Its Planning* (London: Architectural Press, 1971).

[30] Corbusier, *The City of Tomorrow and Its Planning.*

[31] Le Corbusier, *The Athens Charter* (New York: Grossman Publishers, 1973).
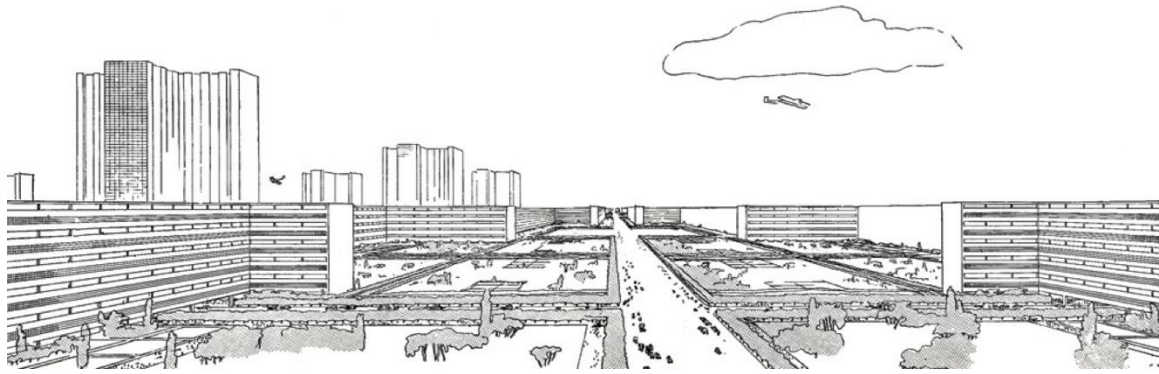
Figure 4 City of Tomorrow
(clear separation of different functions to ensure efficiency)

Scholars like Jane Jacobs and Kevin Lynch focus on the human dimension in street space, which advocates the significance of human activities in shaping the environment and design based on the human scale. Jane Jacobs looks at urban planning from a sociology perspective. In her book *The Death and Life of Great American Cities*, she criticizes that "the whole idea of doing away with city streets, insofar as that is possible, and downgrading and minimizing their social and their economic part in city life is the most mischievous and destructive idea in orthodox city planning."[32] Jacobs analyzes the source of street vitality and the causes of cities' decline by investigating the fundamental elements of a city and their roles in people's life and suggests four prerequisites of a vibrant city: mixed-use public space, small neighborhoods, buildings from different times and high density of population. Kevin Lynch discusses the legibility and quality of the city, using the examples of Boston, Jersey City, and Los Angeles, by understanding how people perceive the city. While the image of the city is constituted by five elements - path, edge, district, node, and landmark - what really dominates people's perception of space is the street (path).[33] In *Life Between Buildings*, Jan Gehl researches

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[32] Jacobs, *The Death and Life of Great American Cities*, 87-88.
[33] Lynch, *The Image of the City*.

the relationship between the quality of human activities and the built environment.[34] He considers the city street, as a public gathering space, is a mean to promote social interactions by encouraging pedestrian traffic. William Whyte also recognizes the significance of the street in public life.[35]

Other theories, such as shared street ("Woonerf" Principle), traffic calming, slow-move traffic or New Urbanism, also discuss additional ideas about how to design successful streets. Modern society has been predominately planned to accommodate the use of automobiles. The streets, or the roads now, are stripped away from the city space by people ignoring the presence of the vehicle space.[36] After all, what the changing concept of the street has revealed, is designers and planners' effort to reach a balance between people's different needs.

## 2.3 History of the Chinese Street

Unlike the ancient Western civilizations which have constantly invaded or disrupted by another civilization, ancient Chinese culture is relatively successive and unitive.[37] Feudalism dominated China for over 2000 years while western countries have never been ruled by one empire for a long period. Even though the urban forms of Chinese and Western countries are both embodiments of the will of the authority for regality or divinity, religions in ancient China were mostly used to control its people to disguise the emperor as the incarnation of God. Urban form in ancient China strictly follows the idea of hierarchy in political or cultural ways. There has never been a

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[34] Jan Gehl, *Life Between Buildings: Using Public Space* (Washington, D.C: Island Press, 2011).

[35] William Whyte, *The Social Life of Small Urban Spaces* (Project for Public Spaces, 1980).

[36] John Hockenberry, "Playing in Traffic," *Metropolis*, July / August 2014: 42-46.

[37] Leften Stavros Stavrianos, *A Global History: From Pre-history to the 21st Century*, 7th edition (Pearson, 1998).

democratic society like ancient Greek. During the development of ancient China, there was not much public open space that allowed people to use it freely. The traditional urban form in China transformed from the block planning system to the street planning system.

According to the historical documents, before the establishment of the People's Republic of China, the urban development of ancient Chinese cities can be divided into four periods (Figure 5)[38]: (1) Emergence of city planning (before the Western Zhou Dynasty 1122 B.C.-771 B.C.); (2) Block Planning System (From Qin and Han Dynasty); (3) The break of the Block Planning System (From Tang Dynasty to Song Dynasty); (4) Street Planning System (From Song Dynasty to Ming and Qing Dynasty).
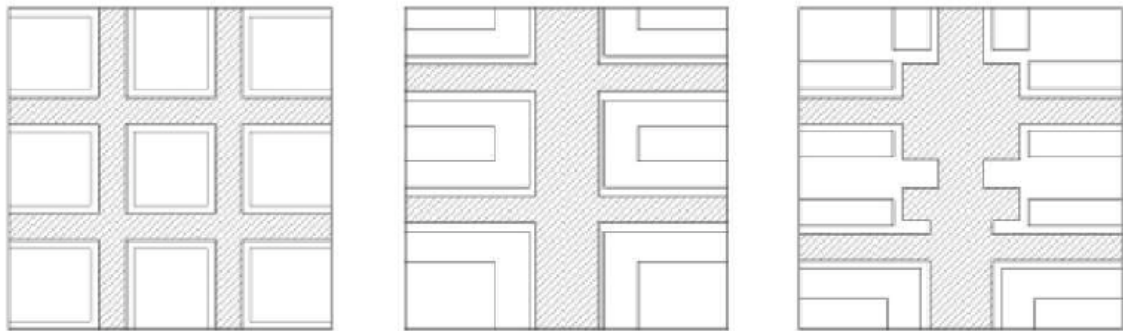


Figure 5 Development of Chinese Street Form
(the change of street form corresponding to sidewalk appropriation)

*(1) City Planning*

The practice of city planning in China can be derived from the Western Zhou Dynasty (1122 B.C. to 771 B.C.), which has become the basic standard of city planning later in ancient China. According to a classical book *Zhouli-Kaogongji[39]*, the city should be planned based on the emperor's palace, which is the center of the city. The east, west,

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[38] Yun Zhang, "Research on Place-making of Urban Street," (Ph.D. Diss. China Academy of Art, 2016).

[39] 周礼·考工记 (zhouli-kaogongji) is a historical book of records on the examination of craftsmanship in the Confucian Classic book called Zhouli. The original quote used in the paper is: "匠人营国，方九里，旁三门，国中九经九轨，经涂九轨，左祖右社，前朝后市，市朝一夫；经涂九轨，环涂七轨，野涂五轨；环涂以为诸侯经涂，野涂以为都经涂".

north and south sides of the city are closed by stone walls, with three gates at each side. The city has nine main axes at both the south-north direction and east-west direction that are aligned with the city gates, which every three axes become a group (Figure 6). The city was evenly separated into nine main blocks, and each of the blocks is also divided based on such layout.[40] People were assigned to different blocks based on their social classes as well as professions, and no social mixing was allowed. Marketplace only served the royal rather than for public use. The width of space between blocks is determined by its location and main users as a separation of class – the ones at the central axis are nine-track wide, those near the city center are seven-track wide while others at the edge of the city are only five-track wide.[41] Such linear space was the very primitive archetype of the street in ancient China as a physical expression of social hierarchy.
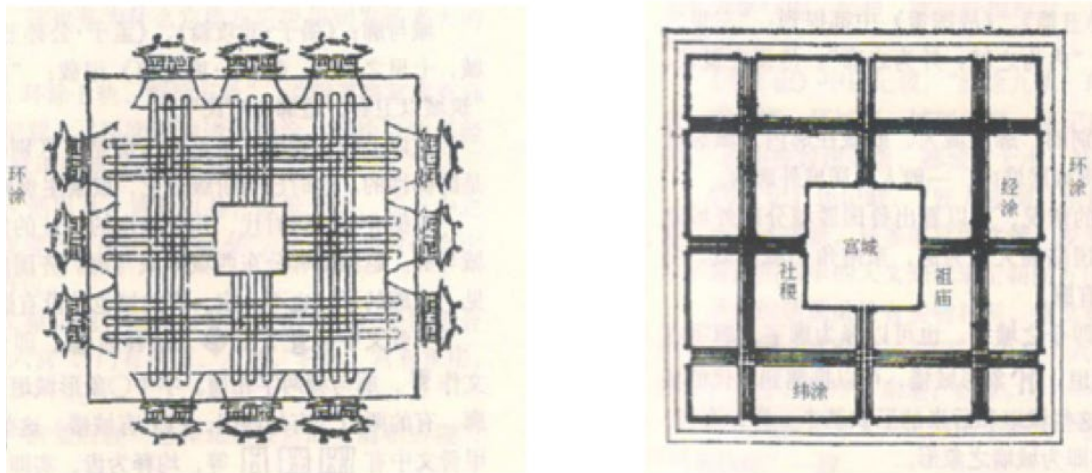


Figure 6 City Planning Diagram at the Western Zhou Dynasty
(nine axes of the ancient city)

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[40] This Well-Field System or Nine-Square System layout was a Chinese land distribution method, which the city is divided into nine parts based on the city blocks and farmland location.

[41] The "track" here is a unit of measurement to determine the street hierarchy and its width. One track can allow only one carriage to pass through.

*(2) Block Planning System*

China entered the feudal society with the collapse of slave society by the establishment of land ownership and related policies. At that time, each city was ruled by its governor, even though all the cities nominally belong to the emperor. In order to enhance the power of the city, its role as the economic center was included in city development.[42] Block Planning System[43] was used to organize the city as well as promote economic development since the Qin and Han Dynasty (221 B.C.). The city was divided into several blocks, which each block was assigned with one single function (Figure 7). Most blocks were for residential uses while retail business and handicraft workshops were placed at separated marketplaces, typically at the end of the east and west sides of the city, which were only open at certain periods. The marketplaces not only served the ruling class but also were open to the public. However, the residential area and commercial area were still clearly separated from each other with tall stone walls. They could only be accessed through authorized gates with guards, while doors and windows by civilians were not allowed. Though there was more public space for civilian use, the city blocks maintained the closed management with curfew all over the city. This idea of completely separate city functions consolidates the power of the ruling class by preventing private gathering and development of freethinking. The fact that the street functioned as a space only for vehicular and pedestrian traffic demonstrates that there was no such idea of the street as public space in early traditional cities in China. However, within the commercial district, those alleys between buildings, exclusive for

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[42] Yuhuan Zhang, *History of Chinese Cities* (Baihua Literature and Art Publishing House, 2002).

[43] 里坊制 (Li-Fang Zhi) in Chinese means the Block Planning System. "里" means residential area; "坊" means market place.

pedestrian, were much narrower than streets between blocks, where shops along such alleys open their doors to attract people passing by.
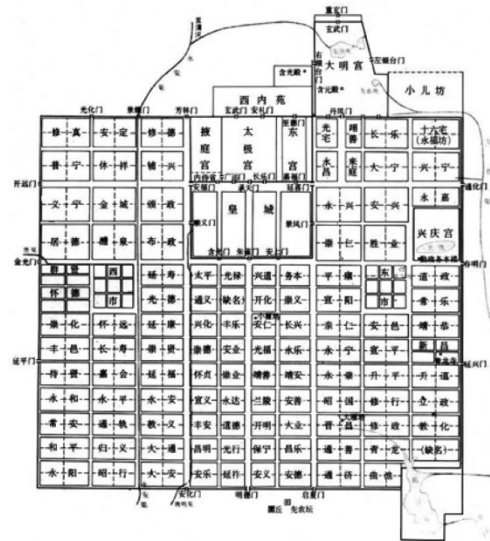
Figure 7 Block Planning System of Chang An City

*(3) The Break of Block Planning System*

It was until the late Tang Dynasty that this grid city layout with separate functions no longer satisfied people's everyday activities.[44] At the Tang Dynasty, ancient China had become a united multinational state for the first time. With the expansion of cities and cultural exchanges with neighboring countries like Japan, the absolute order within cities became difficult to maintain because of the high population density and population mobility. People's growing desires of communicating and free trading had impelled them to break the prohibition of separating the residential and commercial districts. Typical examples include the emergence of the night market against the curfew, shops within the residential areas, and more importantly, the occupation of street space. The government had to compromise to reform the Block Planning System in order to accommodate people's need for more commercial activities. The Block Planning System ensured the

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[44] Zhang, *History of Chinese Cities*

social and political function of the city rather than its economic function. Streets were

widened with more activities space for residents who lived along the street and allowed

the construction of functional structures within certain scales, which enabled the

possibility of street appropriation at the later time. People's commercial, social and

recreational space had expanded to street space, which becomes the rudiment of

traditional streets in China.

*(4)  Street Planning System*

The economic development of ancient China had reached an unprecedented level

in the Song Dynasty. The emergence of mixed-use districts marked the transformation of

the urban planning method from the Block Planning System to Street Planning System.[45]

Street Planning System abandoned the idea of walls around every block, exposing the

block to the street. Shops were located along the street while residential buildings are

arranged along with the alley within the block. There were also mixed-use buildings

which the front part of the building faced the street became shops, and the back remained

residential use. The locations of shops and residential buildings were relatively less

restricted along the main street than the previous Block Planning System. The

marketplace was extended from normally two districts at the edge to the rest of the city,

which formed a more comprehensive commercial network where the main commercial

area gathered at the center of the city. The world-famous historical painting, *Along the*

*River During the Qingming Festival[46]*, vividly depicts the flourishing street life at the

Song Dynasty (Figure 8). Houses with different heights stand on both sides of the streets,

such as tea houses, liquor stores, pharmacies, grocery shops, and small temples. Some

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[45] Jianhong Dong, *History of Urban Construction in China* (China Architecture & Building Press, 1994).

[46] Along the River During the Qingming Festival (Qingming Shanghe Tu, "清明上河图" in Chinese) is a painting by the Song Dynasty artist Zeduan Zhang (1085-1145).

places are so crowded that people have to walk shoulder to shoulder. There are street vendors selling products, officials riding on the horses, monks with baskets and people walking or sitting on a sedan chair. All the people doing various activities unfold the scene of a prosperous street. Similar to the Block Planning System, the grid system also plays a significant role in the city layout, but the planning method transferred from area-oriented (two-dimensional) to line-oriented (one-dimensional). However, the opening of city blocks, and the advent of commercial street closely connect people's everyday activities with the street. The street has become the main public space in the urban area not only for commercial activities but also for people's social and recreational life.
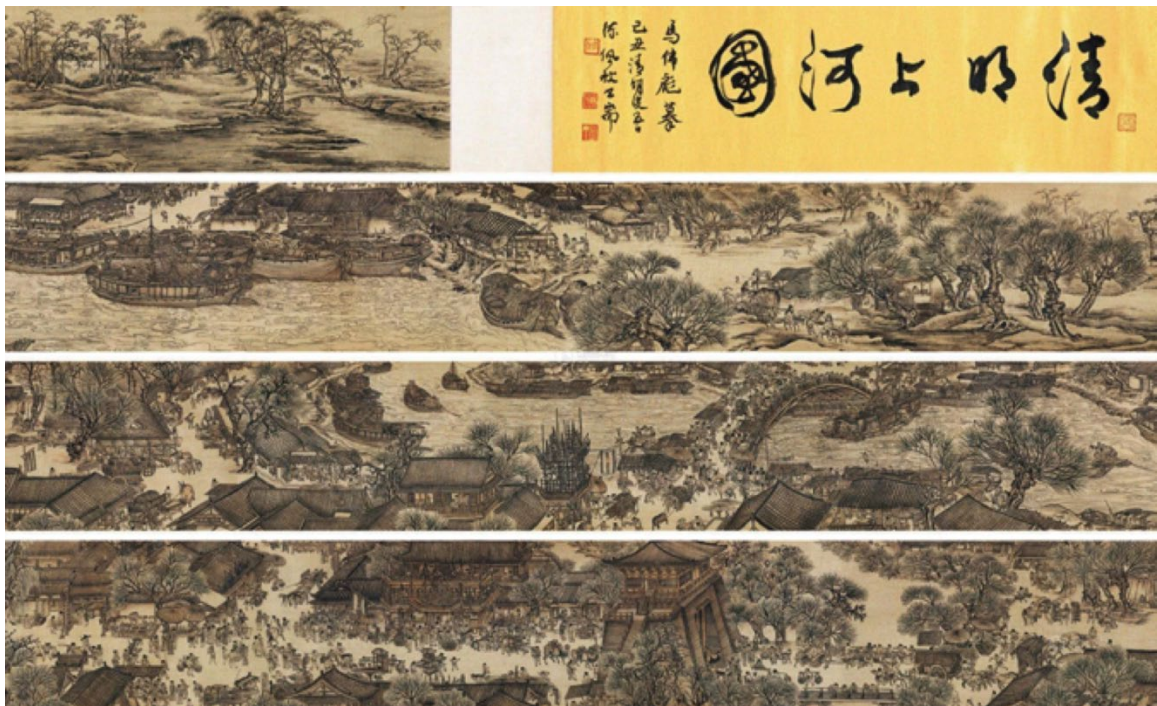

Figure 8 Along the River During the Qingming Festival

Later at the Ming and Qing Dynasty, cities in China remain the overall layout based on Street Planning System.[47] The city was planned symmetrically based on the central axis. Streets were all aligned with the axis in a manner that the main street was wider than

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[47] Dong, *History of Urban Construction in China*

the back street between houses. The street space became more variable with the different

functions applied to the street and the more comprehensive system network. The inner

city of Beijing is one of the most representative masterpieces of traditional Chinese cities.

## 2.3 Difference between the Ideas of the Street in Chinese and Western Cultures

The street layout of China and Western countries share a similar grid structure

and function as public space, but the streets serve different aspects of people's life. The

unique street cultures reflect the social orders of two distinct civilizations, especially

political environment, and national spirit.

Though the original purpose of the street network in China is to divide the city

into several blocks for better management, the street, later, became a place for public life.

The nine-block division of the city corresponds to people's understanding of the universe

at that time, which a city can be seen as a smaller version of the universe. It also reflects

the emperor's wish to rule the city with the help of gods who are the creators of the world.

People of ancient China moved within their city block; in other words, their

neighborhood, as there was no public space or public life. The street served as boundary

rather than a path for civilians. Due to the limited access of the formal marketplace and

no public space, the street has been used as an extension of the informal marketplace

while providing opportunities for social lives when it started to open to the public in the

Song Dynasty.

In Western cities, there are often city halls, temples or plazas for public use, with

other public service buildings like the government's offices or shopping malls around

them and streets that connect them with other places. Thus, western streets function as

paths to different places, especially to the center of the city. An old medieval proverb,

"all roads lead to Rome" referring to that various ways can lead to a given result, also convey the accessibility and convenience of the street network of ancient Western cities like Rome. Lewis Mumford argues that the development of early western cities like the Medieval time was spontaneously based on people's movements and the human scale rather than planned by the ruling class, resulting in the irregular and sometimes even labyrinthine streets.[48]

The cultural difference between China and Western countries results in the difference of political environment, and further influences the development of the city that is shaped by the superstructure. Profoundly impressed by the Confucianism, Chinese culture advocates communitarianism which values a person as part of a larger community. The social network among people serves as the foundation of the social order based on moral ethics – social hierarchy. The various scales and locations of streets realize such an idea of hierarchy by separating people with different social classes. The community does not necessarily refer to the public, but rather a group of people that are ruled by the moral ethics, which mostly are produced by the ruling class and the majority's ideas dominate the individual. The strictly aligned and hierarchical street network reflect such obedience to the authority. On the other hand, Western culture values people as different individuals, which all of them add up to be the public while still keeping their distinctive personalities. The naturally growing city form in early Western countries illustrates that the city was shaped by human activities rather than the superstructure.

Other than the social encounter that happens on the street, Chinese street tradition – street space as market space – also brings a special kind of vitality to the street life.

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[48] Lewis Mumford, *The City in History: Its Origins, Its Transformations and Its Prospects* (New York: Harcourt Brace Janovich, Inc., 1961).

Jacobs argues that a city street can be successful if it reaches a perfect balance between privacy and social contact.[49] She describes the street life in the United States,

> people stopping by at the bar for a beer, getting advice from the grocer and giving advice to the newsstand man, comparing opinions with other customers at the bakery and nodding hello to the two boys drinking pop on the stoop, eying the girls while waiting to be called for dinner, admonishing the children, hearing about a job from the hardware man and borrowing a dollar from the druggist, admiring the new babies and sympathizing over the way a coat faded.[50]

It happens naturally and occasionally when people are willing to talk to others. Such social interactions are passive as it respects people's wish to keep different levels of contact or their privacy. Meeting with acquaintances is also part of street life in China. However, when the street functions as a market space, social interactions are capable of encouraging trading. Street vendors and shop owners try to actively communicate with people who stop by their space in order to attract potential customers to buy their products. Sometimes it might be embarrassed or awkward if people are not comfortable talking to a stranger. However, such active interactions that continuously happen on the street still make the place more vibrant than others.

*Main Street in Urban Core*

The image of the street in the previous writing is built around the idea of the "Main Street," neither the avenue nor the boulevard. Main Street is an American phenomenon, usually in small suburban towns, which features the built-up commercial buildings in the central area of the town or community.[51] Some might interpret this Main

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[49] Jacobs, *The Death and Life of Great American Cities.*
[50] Jacobs, *The Death and Life of Great American Cities.*
[51] Richard V. Francaviglia, *Main Street Revisited: Time, Space, and Image Building in Small-Town America* (Iowa City: University of Iowa Press, 1996).

Street idea as "Central Business District" (CBD) in the urban setting[52], but the street space and the storefront businesses are the focus in the small town Main Street while in CBD, the district features a concentration of high-end companies or businesses. Different from avenues or boulevards that are also framed by commercial buildings on the adjacent sides, Main Street is a place close to people's everyday life. Even though it is a street that includes vehicular transportation, the essence of Main Street is related to the place where people are. It is more a social and cultural locale rather than a transportation term. The street in ancient Chinese cities shares similar characteristics that it is a place for everyday life, not only because of the lack of public space but also because of the lack of automobiles.

Even though Manhattan's Chinatown is not in the suburban area, its role as an ethnic enclave enables it to develop as a small community. Because of the high density of population and the commercial focus of the district, buildings in Manhattan's Chinatown are mostly mixed commercial and residential, which usually the lower levels are commercial, and the upper levels are public housing. The social life of the residents, or the visitors, often concentrate on the street or lower levels. The lack of public open space or green space also leads to the developing of the street as an everyday life place, like Main Street in small towns. The retail businesses in the storefront shops relate to people's daily life, which commercial activities are also part of their social activities. Therefore, the street view of Chinatown physically manifests the social and cultural environment as well as the evolution of the community. This thesis focuses on the street's multiple functions as a social and commercial space rather than its transportation function.

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[52] Francaviglia, *Main Street Revisited*.

## Chapter 3: Sidewalk Appropriation

### 3.1 Publicness of The Street

*The General Idea of "Public" and "Private"*

"Public", by its definition, is related to a group of people in general, whether it refers to people themselves or to describe the properties of an object. Philosopher Jurgen Habermas suggests that what we understand as "public" now derives from the "industrially advanced" bourgeois society with "the common or public welfare."[53] It is an idea opposing the concept of exclusion for the individual, which "public" means available to all while "private" means being owned by particular people. Discussions of these two terms mostly focus on the abstract theory of "public sphere"[54] in political science or sociology and the physical environment of "public space."[55] As a property of space, "public" and "private" define some essential elements within the landscape architecture field that what is public, who is public and how is it assured to be public.

"Public sphere" and its related term "private sphere" are sociological concepts that study the basic principles and mechanisms of social life. According to Habermas, the public sphere emerged with public authority in the 18th century as a Bourgeois idea which is characterized by commodity exchange, against exclusions. He defines the public sphere,

> The bourgeois public sphere may be conceived above all as the sphere of private people come together as a public; they soon claimed the public sphere regulated from above against the public authorities themselves, to engage them in a debate over the general rules governing

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[53] Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Cambridge, Massachusetts: The MIT Press, 1991).

[54] Scholars like Jürgen Habermas, Hannah Arendt.

[55] Scholars like Stephen Carr, Mark Francis, Jan Gehl, and William H. Whyte.

relations in the basically privatized but publicly relevant sphere of commodity exchange and social labor.[56]

The public sphere above is the middle ground between the private sphere and the national authorities where individuals come together to exchange ideas and knowledge. They develop a consensus rather than divergence individual opinions in order to defend the public welfare against the public authority, for instance, newspaper or coffee houses of the 18th century. However, Hannah Arendt considers that even though spaces like plazas, city halls or streets are open to all people, they only become the public sphere when public conversations happen at the place.[57] That is to say, the significance of public space is to serve as a site for social interaction rather than being an accessible place for individual activities.

From the perspective of landscape architecture, public space is a physical entity including open spaces that have no barrier for entering, like streets, plazas and most parks, as well as spaces with distinct functions that have certain requirements for people to enter, like stadium or library. Such spaces that are accessible by all people, conditional or unconditional, are public space. Herman Hertzberger, in his book *Lessons for Students in Architecture*, articulates the difference between public and private space is that the concepts of "public" and "private" can be interpreted as "spatial terms of 'collective' and 'individual'."[58] "Public" refers to "an area that is accessible to everyone at all times" which everyone has the responsibility to maintain the space, while "private" refers to "an area whose accessibility is determined by a small group or one person" who are

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[56] Habermas, *The Structural Transformation of the Public Sphere.*
[57] Hannah Arendt, *The Human Condition* (Chicago, Illinois: University of Chicago Press, 1958).
[58] Herman Hertzberger, *Lessons for Students of Architecture* (Rotterdam: 010 Publishers, 1991).

responsible to upkeep the place.[59] Similarly, Nemeth and Schmidt propose three

measurements of publicness – ownership, management, and uses/users[60] - more briefly,

who runs the place and who uses the place. Therefore, the concept of public space cannot

be confused with the idea of open space because they are in different classifications.

Open space is defined by its physical characteristic that is not enclosed while the

substance, a sociological property, of public space is accessibility instead of openness.

However, there is an ambiguous area between the two, where the publicness of a

space is not absolute determined. It can tell from the previous definition that two of the

essential criteria to determine whether space is public are its ownership and accessibility.

Once the responsibility to manage the public space is assigned to one or a small group of

people not collectively, whether it is a public authority or a private party, the publicness

of the space will be weakened by different kinds of control in that space. Two distinct

categories derive from such measurements – public facilities with authorities to enter

only and privately-owned public space. Habermas also discusses such special public

space which its publicness comes from public authority rather than public use.[61] Public

facilities like government office serve the public welfare or common goods but do not

provide general accessibility. Others like libraries or community gardens have restrictions

on opening hours or activities, like dress code or noise control. The rules in open public

facilities are mainly to ensure the quality of user experience, thus, as long as a person's

behavior does not violate other's right to use that space, the authority does not have the

right to limit their activities. The privately owned public space, with a major purpose to

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[59] Hertzberger, *Lessons for Students of Architecture.*

[60] Jeremy Németh and Stephen Schmidt, "The Privatization of Public Space: Modeling and Measuring Publicness," *Environment and Planning B: Planning and Design* 38, no. 1 (2011): 5–23.

[61] Habermas, *The Structural Transformation of the Public Sphere.*

sell their services or products, differs from public owned public space in that the owner(s)

or manager(s) of the private space have the right to regulate the users in favor of their

preference.[62] A typical example is a commercial area, which the owners usually only

regulate the opening area and some uncivilized behaviors like split or litter but welcome

people even they are not going to buy anything. Sometimes an open space of the

commercial buildings can be used as event space or gathering space with the permission

of the owner. Restaurants and museums are a little bit different because people go to

these places for certain purposes like eating and visiting. Such places provide service to

the public rather than a site for public life. Different kinds of ownership and accessibility

that determine the publicness of a place embody in the ways that the place is regulating -

"rules of access to, the source and nature of control over entry to, individual and

collective behavior sanctioned in and rules of using the space."[63] Moreover, those

regulations, in return, reflect how people can and will use that space.

Public space is a "physical manifestation"[64] of the public sphere because it provides

a site for public conversations, in other words, social interactions, to happen. As the space

that is shaped and used by the public, public space reflects people's ideology since it

serves significant social functions. In one way the scale and design elements correspond

with the contemporary aesthetic values, and in another way, those elements also contain

certain kinds of symbolic meaning of society's ideology. However, with the development

of all kinds of media like television or internet, the public sphere has been gradually

separated from its physical manifestation, which social media or websites become the

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[62] Setha M. Low and Neil Smith, *The Politics of Public Space* (New York: Routledge, 2006).

[63] Low and Smith, *The Politics of Public Space*.

[64] Vikas Mehta, *The Street: A Quintessential Social Public Space* (New York: Routledge, 2013).

new public "space". The way that people participate in public affairs has been greatly changed by technology, but public space still plays a vital role in providing face-to-face contact that cannot be replaced by virtual reality.

*The Public and Private of the Street*

As mentioned previously, the street becomes public not only because it is owned collectively, but also it is accessible by anyone. It enables numerous possibilities of activities and interactions by allowing all kinds of people to come together. Traditional streets undertake a variety of public life, with diverse people, their activities and velocity. People make social contact with others while walking on the street. However, such ubiquitous public space is usually ignored by people, especially nowadays, because they perceive it as a path rather than a place, a destination. The emergence of automobiles and the face-pace life in current society separate different movements by velocity. The separation of transportation and social interaction also results in the separation of human activities and their environment. The street no longer is a place which people must pass through unless the destination is within a short distance. People walk or drive through but not go to the street. Though the street is still open to the public, automobiles have the privilege to take over a large portion of it, which excludes pedestrian and human activities. The "publicness" from public life has been weakened.

Although that the street is a public space is irrefutable, there is a very subtle spatial demarcation between what is private and what is public in street space, as the intersection between the public space and the private property. The publicness of the street can also be measured by ownership, management, and accessibility.[65] Generally speaking, the

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[65] Hertzberger, *Lessons for Students of Architecture*

street is public because it is owned by the public, open to the public but regulated by the government. However, a significant role of government regulation is to ensure everyone has an equal right to use the street by preventing one from violating others' rights. Even though the regulation is made based on professional knowledge and public opinions that try the best to represent the public and their interests, it is strictly controlled by the authority. The spatial structure, including the width of the street, setback, or the slope of the surface, as well as commercial and large social activities are planned and permitted by the authority. When using the street space, people, whether pedestrians who walk through the street or shop owners who stay all the time, need to follow the regulations instead of doing whatever they want to. People become only the users but not active participators in the public space of streets.

Other than the government regulations, users and their behaviors from various groups also shape the street space. Considering users' relationship to the street, they can be categorized into three groups. For residents who live in the immediate neighborhood, the street is an extension of their everyday life – their outdoor living room. The quality of the street environment also influences their safety, amenity, and even the property value. Another group of people who use street space and its facilities all the time is the employees and shop owners who work in the surrounding area. Especially for those businesses along the street, the street environment is particularly important for their living condition as well as economic benefits. Lastly, pedestrians who only walk along the street mainly care more about the traffic but are not affected by the street environment as much as the other two groups. These three groups share many common interests of the street space about the overall environment, while there are also conflicts among them

especially for the use of the space. A large amount of pedestrian can become a disturbance to the residents, but it brings more potential customers to shops along the street. Different types of retail business satisfy people's everyday needs while sometimes also causing environmental and noise pollutions. Pedestrians may prefer empty streets that they can walk through quickly while the business owners desire for more space to sell the commodities. As a public space that is used by everyone with different purposes, it is inevitable that people have divergent opinions on how to use such space which no one claims the privilege to use it. Successful street space is able to reach a perfect balance among the numerous requirements.

## 3.2 Definition of Sidewalk Appropriation

Because the street is usually considered as public space, it is easy to interpret the sidewalk appropriation as the occupation of the public sidewalk by the private party, both legally and illegally, in spatial, visual or behavioral ways. Such appropriation takes place on the side of street space, near the adjacent buildings or structures, where the right to use that space remains ambiguous. Such uses of space include the horizontal as well as the vertical dimension, which opens the interior space of the adjacent buildings and extend it onto the sidewalk. The space between the property line and the right-of-way is public, but the responsibility to maintain that space belongs to the owners of the adjacent properties. They are able to use that space but do not claim the ownership. Even though space is still the public, the publicness and the public life might be weakened by the limited accessibility. The users and managers of that occupied space, not the owners, have changed from public to individuals or small groups. By understanding the relationship between such sidewalk experience and street vitality, this thesis focuses on the use of

space, which the publicness here refers to the social aspect rather than the political aspect of the street.

Typically, there are two general kinds of sidewalk appropriation – the extension of the adjacent building and stand-alone structure. In this thesis, the categories of sidewalk appropriation stress on the spatial characteristics rather than the legal or political elements. The appropriation as the extension of the adjacent buildings is usually conducted by the property owners – in other words, the shop owners – from the side of the building extending from the interior space onto the sidewalk, usually for display purposes. Part of the appropriation is permanent structures, while only the merchandises and temporary furniture will be taken back by the owners when the shops are closed at night. The stand-alone structures, mostly street vendors, are independent of the adjacent property. Such appropriation usually takes place in the form of pushcarts at the other side of the street where it is closed to the vehicular traffic. Some might also occupy the space right next to the shops where there are no entrances. Those structures are temporary, which vendors need to pack up all the merchandise and structures when they leave that place.

## 3.3 Sidewalk Appropriation as Chinese Street Culture

The historical materials lack direct descriptions of the phenomenon of sidewalk appropriation, mostly related to the social and spatial hierarchy of the street network. However, the history of sidewalk appropriation can be inferred from the documents of street activities and related regulations.

Before the early Tang Dynasty, it was almost impossible for the storefront to occupy the street for both the main streets and the paths within the city block because of

the existence of the city walls, strict regulations, and curfews. The local streets mainly for pedestrian movements to the houses within the city blocks. Later in the mid to late Tang Dynasty, with the development of urban commercial and the great increase of population, people started to violate the rule of no opening towards the street. The historic document *Tang Hui Yao*[66] documents the street life in the Tang Dynasty that people were breaking the existing wall and reforming the houses that occupy part of the street and the street business was already very dynamic. At that time, the sidewalk appropriation was the occupation of street space for extended structures and street vendors. Compared to the changeless and excluded street space in the previous dynasties, such movements signify the challenge to the feudal social institution and etiquette by people every day and commercial activities.

Until the Song Dynasty when the city walls were removed, only archways at the entrances of neighborhoods remaining, people were allowed to open stores towards the street. The tax collection from the business that occupied onto the street marked that the validity of storefront shops had been acknowledged by the authority. According to the *History of Song*[67], mentioned the tax paid by those storefront businesses. Sidewalk appropriation for street vending has become very common not only at the main street but also local street within the neighborhood. From the painting of *Along the River During the Qingming Festival*[68], the characteristics of sidewalk appropriation at that time were the complete opening of storefront houses and mixed-use residential and commercial

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[66] A historic document that records the political system and its evolution of the Tang Dynasty on policy, economic and culture. It was written by Pu Wang at the Song Dynasty.

[67] *Song Shi (宋史)*, referred to "History of Song Dynasty" in English, is a historic book written by Ji Li in the Song Dynasty. The original text of the sidewalk appropriation fee is "遂为陕西转运使、制置解盐。秦民作舍道傍者，创使纳'侵街钱'，一路扰怨，与李察皆以苛暴著称."

[68] See Figure 8 in Chapter 2.

buildings which are characterized by the store in the front with the residential area at the back or first-floor store with the residential area at the high floors. Shelters were constructed along the street with sittings and tables; people gathered at the street and talked to each other; some events like acrobatic performance took place at the intersection of streets. Rather than occupying the street space as private space in the Tang Dynasty, the sidewalk appropriation since the Song Dynasty implies the invasion of everyday life into the public street space.

Even though the official regulations of sidewalk appropriation seem to be relaxed, the authority has always been trying to limit such behaviors. The authority has compromised to the public on the sidewalk appropriation regulation which changed from the strict prohibition in the Tang Dynasty which not only the structure appropriated the street would be removed but the person who construct it would go to prison and pay a large amount of fine, to later only the removal of such structure, and finally to the approval for a few sidewalk structures spaced at certain distance in the late Zhou.[69] The street became much narrower than the previous time so that the sidewalk appropriation has caused many concerns to urban planning such as traffic congestion, fire, and safety issues. The government had to limit appropriation activities again.[70] Umehara Kaoru also argues that it is the sidewalk appropriation that causes the transformation from the Block Planning System to Street Planning System.[71] After the Ming Dynasty, the regulations of

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[69] Wu Dai Hui Yao ("五代会要"), a historic document that records the political system and its evolution of *Five Dynasties* (907-960) that are between the Tang and Song Dynasties. It was written by Pu Wang at the Song Dynasty.

[70] Diyu Liu, *Along the River During the Qingming Festival in different Dynasties: Cities and Architecture* (Tongji University Press, 1914).

[71] Umehara Kaoru, *Research on the Judicial System of the Song Dynasty* (Sobunsha Inc., 2006).

sidewalk appropriation were officially written in the law, and the city planning in the

Qing Dynasty continue to use those regulations.[72]

In China, the use of sidewalk has always been a game between the authority and

the public. The street appropriation is not merely a violation of publicness. It is a

resistance to the top-down planning method and the authority as well as an insurgency

and adaption to the inappropriate designs, which contains the conflicts between different

groups. Sidewalk appropriation is not only a spatial but also a historical social

phenomenon.

## 3.4 Regulations of Sidewalk Occupation in New York City

The reason why there are some many disputes about the sidewalk appropriation is

that the publicness of that area remains undetermined according to the form of the

appropriation. While the stand-alone structures by street vendors acquire authorized

permits to use the sidewalk space temporarily, the appropriation as an extension from the

adjacent properties usually takes place within the right-of-way space. The "right-of-way",

by definition, is an easement which "the legal right to pass along a specific route through

grounds or property belonging to another."[73] In the general understanding of urban

planning, right-of-way refers to the part of the sidewalk on the side of the buildings

which pedestrian has the right to use that space while the upkeep responsibility goes to

the adjacent property owners (Figure 9). It is the obligation of the property owners to

maintain the abutting sidewalk and take responsibility if any incident happens in that

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[72] Jiaben Shen, *Ming Lv Mu Jian* "明律目笺" (Taiwan: The Commercial Press, 1976).

[73] Merriam-Webster definition, "Right-of-way", accessed January 30th, 2019, https://www.merriam-webster.com/dictionary/right-of-way#h1.

area.[74] There is no doubt that part of the sidewalk must serve pedestrian traffic. As

previously discussed, that the publicness of space is defined by ownership, management,

and use, while neither the adjacent property owners nor the pedestrian owns the right-of-

way space, they each claim one part of the rights - the property owners have the

management rights and the pedestrian has the right of using the space. This ambiguous

right of the right-of-way space might cause conflicts between different uses and users.

For the pedestrian, they should be able to access the right-of-way space without any

special permission. When the storefront shops use that space as part of their shops, the

pedestrian might feel restricted entering or staying at the space if they are not going to do

business with the shop owners. Similarly, for the shop owners, if the pedestrian enters or

stays at the space without purchasing any merchandise, the owners might feel their space

being intruded.
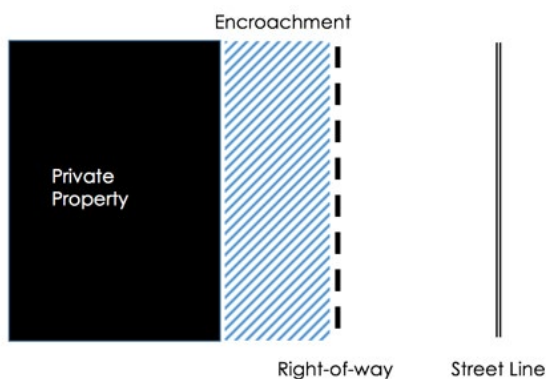
Figure 9 Sidewalk Appropriation from the Planning Perspective

In order to ensure the sidewalk's inherent functionality to serve pedestrian traffic,

New York City Construction Code 2014 Chapter 32 has clear instructions of what types

of appropriation are allowed into the public right-of-way. The appropriation below

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[74] New York City Department of Transportation, "New York City Administrative Code Sidewalk Rules,"
accessed February 11th, 2019, http://www.nyc.gov/html/dot/html/infrastructure/19-152.shtml#19-152.

ground, including footings, vaults, areaways, tunnels between buildings and sidewalk

supports, will not be the subjects of this thesis. The minimum sidewalk width varies from

the width of the street but is no less than 10 feet[75] , and there should be an at least an

unobstructed clear path, 8-feet wide in general area or 5-feet wide in the low-residential

area, in the sidewalk space.[76] That is to say, there is usually at least 5 feet wide area

within the right-of-way. At the same time, the NYC Construction Code generally allows

architectural characters, no more than 4 feet when lower than 10 feet above the ground

and no more than 6 feet when higher than 10 feet above the ground which includes most

sidewalk appropriation types discussed within this thesis, as the extension of the building

facade.[77] The sidewalk cafes are considered as special constructions with government's

permission, which shall also comply with Chapter 32 of the code. However, because most

streets in Chinatown are narrow streets[78], the sidewalks are generally much narrower than

those in other commercial areas in Manhattan. Considering the large volume of

pedestrian flow in the neighborhood, sidewalk appropriation in any form will be more

noticeable than any other places for the small space of pedestrian.

While the Construction Code provides instructions of appropriation structures, the

New York City Department of Small Business Services specifies the uses of such

appropriation space. Permissible business activities are allowed on the sidewalk including

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[75] New York and Arthur F. Cosby, *Code of the Ordinances of the City of New York* (New York: The Banks Law Publishing Company, 1922), 300. "In all streets 40 feet wide, 10 feet; in all streets 50 feet wide, 13 feet; in all streets 60 feet wide, 15 feet; in all streets 70 feet wide, 18 feet; in all streets 80 feet wide, 19 feet; in all streets 80 feet wide and not exceeding 100 feet wide, 20 feet."

[76] New York City Department of Transportation, *Street Design Manual* (New York: New York City Department of Transportation, 2015).

[77] "Chapter 32: Encroachment into the Public Right-of-way", *New York City Construction Code* (New York City Department of Building, 2014).

[78] According to the *New York City Zoning Resolution*, a narrow street is any street less than 75 feet wide and a wide street is any street more than 75 feet wide.

advertising goods and services as well as selling goods and serving goods.[79] When

advertising goods and services, the sidewalk should be at least twelve feet wide, and the

sign should be under five feet tall and placed within three feet from the store. Storefront

restaurants and stores on the ground level can use the sidewalk space directly in front of

their property in three ways - outdoor display of merchandise, stoop line stand, and

sidewalk cafe. The stoop line stands, and sidewalk cafes are required to obtain licenses,

but the outdoor display does not. In addition, the guide clearly states that all sale must

occur indoor - in other words, customers must pay inside the store. Street vending in

Manhattan's Chinatown, as the stand-alone structures that occupy the sidewalk, usually

has three forms - general merchandise (small crafts items like jewelry, dolls or watches),

items associated with the Right to Free Speech (intellectual items like paintings,

photographs or books), and mobile food vending. Street vendors of items associated with

the Right to Free Speech do not require licenses because such items are protected by the

First Amendment. Vendors of general merchandise need to obtain licenses from the

Department of Customer Affairs and those of mobile food vending need two licenses

from both the Department of Customer Affairs as well as the Department of Health.[80]

One interesting fact that worth noticing in Chinatown is that some street vending takes

the form of stoop line stand rather than general merchandise vending. This behavior

might be bending the rules. Because the legislative process requires much time for its

long waiting list, it is easier for the vendors to sell their products by cooperating with the

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[79] New York City Department of Small Business Services, "Sidewalk Usage Guide," accessed February 12th, 2019, https://www1.nyc.gov/nycbusiness/article/sidewalk-usage-guide.

[80] New York City Department of Small Business Services, "Street Vending Fact Sheet," accessed February 11th, 2019,
http://www.nyc.gov/html/sbs/nycbiz/downloads/pdf/educational/sector_guides/street_vending.pdf.

property owners as part of the stoop line stand of the stores. In this way, the street

vendors pay for using the storefront space instead of obtaining another individual license.

## 3.5 Sidewalk Appropriation in Contemporary Cities

With the rapid development of technology and the global economy since the 21st

century, the image of the city has changed significantly, especially the city street. Also, to

accommodate the increasing sprawl of urbanization, a large number of highways or

expressways are added to the city while roads replace streets. Cities have been dominated

by automobiles. With a primary goal to ensure the efficiency of high-speed transportation

rather than the pedestrian traffic, the street network becomes based on the velocity and

volume of the traffic. The pursuit of velocity has led to the separation of transportation

based on the level of speed, to avoid the influence of slow-moving traffic such as

pedestrian and biking. Modernist urban planning that promotes the road as a single

function space, removing other activities other than driving, seems to be appropriate in

modern cities. The building facades also have the tendency to become modern and

international in a similar way.

The modernization of urban areas also reflects the increasingly severe

stratification of urban spaces in social classes as well as the division of commercial and

residential areas. High-end commercial boulevards contrast with the small living streets

that are filled with formal, informal or even sometimes illegal retail businesses. Such

phenomena, which these self-evolved public space has been separated or even

marginalized, reveal the demands of the lower- and middle-class people. Between those

modern buildings with similar facades, it is the insurgent use of public space that makes

every street distinctive from others. The differences in uses result from the local

neighborhood's culture, regulations, physical environment and so forth. Sidewalk appropriation is one of these significant insurgent uses which reflects a grass-root place-making that sometimes conflicts with the designated form. The street not only has the top-down transportation function that is planned by the authority but also is a bottom-up public space that is shaped by the local community. Sidewalk appropriation, as an urban phenomenon with site-specific characteristic, provides keys to understanding New York City as an international metropolis with incredible diversity.

## Chapter 4: The Construction of Space in Manhattan's Chinatown

### 4.1 The General Idea of Chinatown

In the mid-nineteenth century, Chinese, especially from the coastal area of China, came to the United States to seek better economic opportunities from employment as cheap labor source in gold mining in California or the Central Pacific Railroad. Perceived as economic competition, Chinese immigrants experienced serious prejudice and harassment regarding their race on employment and housing, resulting in the emergence of Chinatown. The establishment of Chinatown as an ethnic community is based on a tight kinship network that attracts more relatives to migrate to the United States and the ethnocentricity of Chinese immigrants regarding their home culture.[81] As a minority group/race, earlier Chinese immigrants faced obstacles trying to assimilate into the mainstream American society, due to their difference in appearance and incapability of efficiently communicating with English speakers. As a result, traditional Chinatowns in the form of ethnic enclaves, shaped by Chinese culture, provides not only a transition zone from Chinese society to American society but also a secure culture shelter, for those who cannot assimilate, where people can live with their home culture and speak their language. During the settlement, traditions from immigrants' home culture that shaped their activities and choices in the new environment have actively applied to their own place-making.[82] David Lai describes the conceptualization of Chinatown that "Chinatown in North America is characterized by a concentration of Chinese people and economic

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[81] Mary Ting Yi Lui, "Race and Disease in Urban Geography," *Reviews in American History* 30(3) 2002: 453-454.

[82] Kay J. Anderson, "The Idea of Chinatown: The Power of Place and Institutional Practice in the Making of a Racial Category," *Annals of the Association of American Geographers* 77(4) 1987: 580–598.

activities in one or more city blocks which forms a unique component of the urban fabric. It is an idiosyncratic oriental community amidst an occidental urban environment."[83] In this case, Chinatown is perceived as "a victimized colony of the East in the West."[84]

Some researchers have identified that this spatial segregation of Chinatown is due to an internal cause. On the one hand, Anderson argues that Chinatown, as an ethnic group, is "created socially by internal rules of exclusion and inclusion around idioms of actual or perceived common descent such as language and religion," while the territory is also "a symbol and resource around which ethnic boundaries are negotiated."[85] This demarcation between Chinese and Western makes it even more difficult for the ethnic minority to assimilate with the new environment. In *Chinatown: A Portrait of a Closed Society*, Gwen Kinkead suggests that the segregation results from "the residents' self-imposed isolation and unwillingness to assimilate make it impossible for the enclave to get any help."[86] Edward Said also argues that the ethnocentricity of oriental culture "helps the mind to intensify its sense of itself by dramatizing the distance and difference between what is close and what is far away."[87] The more different the new culture is, the more people's desire to cling on their own. On the other hand, Min Zhou argues that Chinese immigrants are provided with more viable employment opportunities within the community that the outside.[88] The kinship migration network allows newcomers to find

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[83] David Lai, *Chinatowns: Towns within Cities in Canada* (Vancouver: University of British Columbia Press, 1988).

[84] Anderson, "The Idea of Chinatown," 582.

[85] Anderson, "The Idea of Chinatown," 582.

[86] Gwen Kinkead, *Chinatown: A Portrait of a Closed Society* (New York: Harper Perennial, 1992).

[87] Edward Said, *Orientalism* (New York: Vintage Books, 1978).

[88] Min Zhou and Alejandro Portes, *Chinatown: The Socioeconomic Potential of an Urban Enclave* (Temple University Press, 1992).

jobs easier without facing the obstacles of communication, as long as there is an acquaintance.

Rather than seeing Chinatown as a cultural landscape with a concentration of one ethnic group, some researchers consider Chinatown as a racial and social category shaped by Western society. Referring back to Said's concept of Orientalism, as Chinese immigrants' attempt to intensify their original identity by constructing the place with Chinese culture, external forces from Western society, such as racial politics, anti-Chinese movement, and regulations, economic exclusion or capitalism, have rendered this different culture in Chinatown as a space of "otherness."[89] Thus, the emergence of Chinatown is not only about the distinct living environment of Chinese immigrants, but also about how the white society in the United States defines and constructs the racial category of "Chinese". "Chinatown", like the term "ethnic minority", is an idea that belongs to the white cultural tradition.[90] By identifying the categories of "Americanness" and "Chineseness" - self and other - the dominated white society is able to define the social hierarchy among race/ethnicity.  This discriminatory definition reaches its severe period when the Chinese Exclusion Act was enacted in 1882. It suspended the immigration of all the Chinese laborers, skilled and unskilled, for ten years, and prohibited the naturalization of all Chinese who were already in the United States.[91] The Chinese Exclusion Act was the first as well as the only federal law to exclude a whole

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[89] Said, *Orientalism*.

[90] Anderson, "The Idea of Chinatown," 582.

[91] Library of Congress, "Exclusion", accessed March 13th, 2019, https://www.loc.gov/teachers/classroommaterials/presentationsandactivities/presentations/immigration/chinese6.html.

group of people based on their nationality.[92] Even though Chinese immigrants were legal

citizens in the United States, they were still perceived as undesirable foreigners who were

not willing to assimilate into American society because of their tenacious insistence to

their old traditions.[93] Nayan Shah's research on the history of public health in San

Francisco also demonstrates how such regulatory and social practices construct San

Francisco's Chinatown into a discursive foreign space.[94]

It is not until the 1965 Immigration and National Act that a large influx of

Chinese immigrants came to the United States again. Timothy Fong suggests that this

recent immigration of Chinese have brought new changes, such as economic

development or social class, to the traditional Chinatown's atmosphere.[95] Compared to

the immigrants who came before 1965, those newcomers are relatively affluent and well-

educated, with diversities in geography and immigration motivation. Peter Kwong's

study focuses on the internal social structure of class and labor in New York's Chinatown,

regarding the impacts brought by national markets and globalization. He argues that the

social structure within Chinatown is organized to enhance production, which causes

severe exploitation of Chinese laborers.[96] Jan Lin examines the global impacts, such as

the investment from overseas Chinese, on the social structure and economic development

in New York's Chinatown.[97] Similarly, Lisa Lowe considers the liberation of

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[92] "Chinese Exclusion Act (1882)", accessed March 13th, 2019, https://www.ourdocuments.gov/doc.php?flash=false&doc=47.

[93] Chou Li, "*Chinatown and Urban Development a Spatial Narrative of Race Identity and Urban Politics 1950-2000*," (Ph.D. Diss. the University of Illinois at Urbana-Champaign, 2011).

[94] Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* (California, Berkeley: University of California Press, 2001).

[95] Fong, *The First Suburban*.

[96] Kwong, *The New Chinatown*.

[97] Jan Lin, *Reconstructing Chinatown: Ethnic Enclaves and Global Change* (Minneapolis: University of Minnesota Press, 1998).

immigration policy in 1965 as a response to capitalism in the globalized era, to supplement the labor supplies in the national market.[98] In this perspective, Chinatown becomes not only an ethnic enclave and secure shelter for immigrants but has transformed into a labor market to promote economic production in the larger American society.

## 4.2 A Short History of Manhattan's Chinatown

Early New York Chinatown started at the area of lower east Manhattan, between Mott Street, Park Street, and Doyer Street, where the majority of early Chinese immigrants settled. New York was attractive to early Chinese immigrants for its racial diversity, even though they were still considered as "others", and less impact of the anti-Chinese sentiment in California. Similar to other Chinatowns in California and Chicago, it was dominated by male laborers because the Chinese Exclusion Act prevented them from reuniting with their families.[99] In 1880, New York reported a Chinese population of 800 centered around Mott Street, Pell Street, and Bayard Street (Figure 10). This Chinese community before 1965 was relatively homogeneous, which more than 90 percent of the immigrants came from the Canton region, and a few of them came from Fujian province. Cantonese, not even Madeiran, became the main language of the community, which contributes to the high segregation of Chinatown. Because they came to the United States as laborers, very few of them had been educated and learned to speak English. During this early stage, the majority of Chinese immigrants were engaged in the self-employed occupation of small laundries and restaurants to avoid competition with the white

[98] Lisa Lowe, *Immigrant Acts* (Durham and London: Duke University Press, 1996).
[99] Lin, *Restructuring Chinatown*

population, because hand laundry was considered as women's work and Chinese

restaurants required cooking skills of Chinese cuisine.

This core area slowly expanded to Hester Street, Baxter Street, Bowery Street, and

Worth Street (Figure 11). After the repeal of Chinese Exclusion Act in 1943, New York's

Chinatown has gradually transformed from a bachelor society to a community based on

family network, with an unofficial count of 4000 Chinese population in the central

area.[100] Later in 1965, the Immigration and Nationality Act, which abolished the national

origin quotas, has opened the gate for Chinese immigrants. The demographic

composition and social structure of the community, as well as the physical territory, have

been dramatically changed by a large influx of immigrants, mostly for the family reunion,

during this period. The boundaries of New York's Chinatown extended to the

surrounding areas of Little Italy, Bowery Street, and Chatham Square. According to the

1970 census data of New York City, there were about 70,000 Chinese, including

American born Chinese and Chinese immigrants, in New York City, and around 24,000

of them lived in Chinatown area. Since then, New York's Chinatown has replaced the

Chinatown in San Francisco to become the largest Chinatown in the United States.

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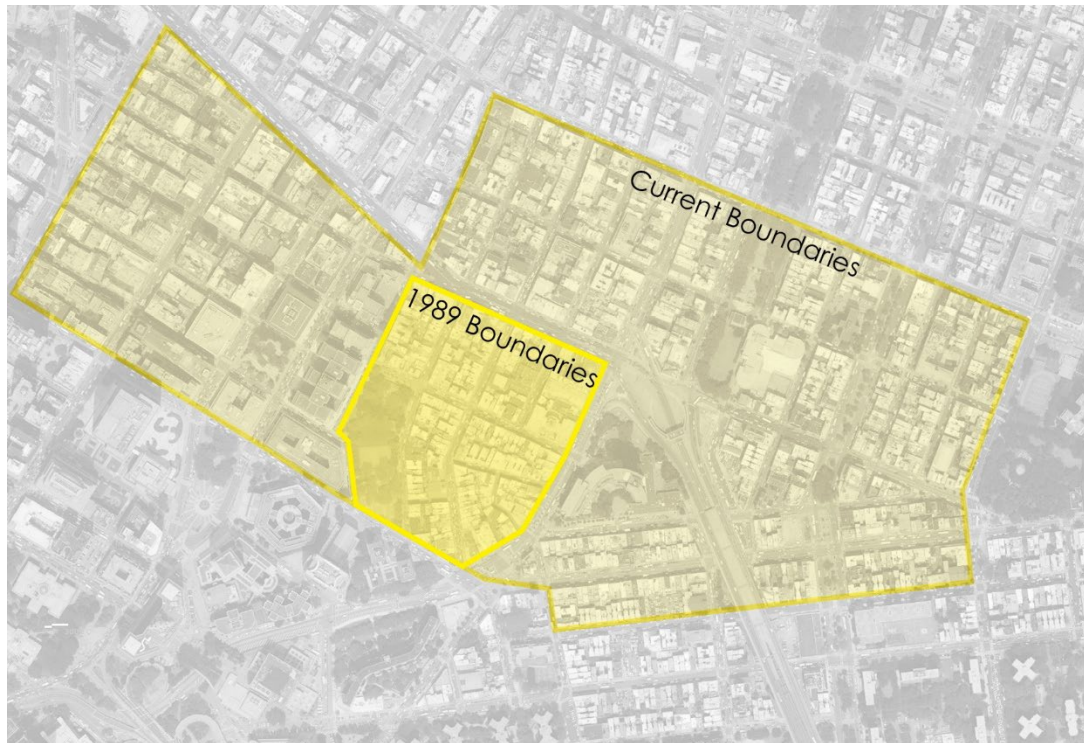[100] Louis J. Beck, *New York's Chinatown* (New York: Bohemia Publishing Co., 1898).

Figure 10 Evolving Boundaries of Chinatown



Figure 11 Core Area of Manhattan's Chinatown

The expansion of Chinatown territory also greatly influenced by the process of industrialization, globalization, and urbanization. With the development of the south after the World War II, the capital started to flow to the western United States or go abroad,

caused the transfer of many manufacturing businesses from New York City to the south

area or Southeast Asia where the labor was much cheaper. The decrease in job

opportunities also led to the migration of the city population and a large amount of

abandoned industrial plants. The shift of industrial structure and the development of post-

industrialization have weakened the city functions of the urban area, while it becomes a

center for information and communication. Thus, most employment offered in the urban

area required a certain level of professional skills. However, for most Chinese immigrants

who could not engage in professional works at that time, especially for those illegal

immigrants or with communication problems, they have to turn to their relatives or settle

down in their ethnic enclaves. Therefore, the expansion of Chinatown to little Italy and

east lower Manhattan reflects such transformation of city function and industrial structure

of Manhattan under the process of urbanization. During the economic depression of New

York City in the 1970s, many business headquarters moved from the central New York

City – Manhattan. The leftover vacant factories, office buildings or warehouses with low

prices made room for the coming immigrants and the expansion of Manhattan's

Chinatown.

**4.3 Urban Development of Manhattan's Chinatown**

Today's Manhattan's Chinatown is significantly shaped by three major urban

planning projects – "China Village" project during the urban renewal in the mid-

twentieth century, Chinatown revitalization plan in the mid-1970s, and the remaking of

Chinatown after the 9/11 event.[101] These projects reveal a history of Manhattan's

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[101] Li, "*Chinatown and Urban Development*".

Chinatown from an ethnic neighborhood shelter to an exotic community to attract tourists, with the effort of the government as well as the Chinatown community itself.

*"China Village" in the Urban Renewal Period*

The construction of the World Trade Center in the 1950s facilitated the modernization of Manhattan as an international metropolis by developing the residential and commercial areas. One of the central themes of the urban renewal project is slum clearance. Manhattan's Chinatown, located next to the Five Points area with high crime records, was one of the infamous urban slums in the city. Herman T. Stichman, a New York State Housing Commissioner, proposed a redevelopment housing project, "China Village." The plan suggested replacing the existing buildings in the central Chinatown with modern public housing and commercial buildings in the surrounding area with Chinese architectural features, which would become a tourist attraction with an exotic cultural experience.[102] Stichman envisioned that

> Chinatown would be replaced by eight public housing towers surrounded by a perimeter of restaurants, tea gardens, and curio shops featuring pagoda-style roofs and other Chinese-style architectural facades… Chinese-style gates would mark the eastern entrance to the Village, and even the lamp posts would have pagoda-style facades.[103]

He considered such architectural features as a way to preserve the cultures from other ethnic groups while adding "cultural authenticity" to the exotic experience.[104] Such efforts to add Chinese features implied the government's acknowledgment of Chinese immigrants as a force to shape the urban environment in New York City.

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[102] Ann L. Buttenwieser et al., *The Lower Manhattan Plan: The 1966 Vision for Downtown New York* (New York: Princeton Architectural Press, 2002).

[103] Greg ("Fritz") Umbach and Dan Wishnoff, "Strategic Self-Orientalism: Urban Planning Policies and the Shaping of New York City's Chinatown, 1950-2005," *Journal of Planning History* 7, no. 3 (August 2008): 214–238.

[104] New York State Division of Housing, *Annual Report, 1951* (Albany: State Division of Housing, 1951).

Stichman's proposal did not gain enough support from both the government and the local immigrant community. Though aligned with Moses's goal to remove the slums, the plan was strongly opposed by Moses based on his vision is to serve the white elites by modernizing the city. The urban renewal project can be considered as social as well as racial discrimination against the low income and minority groups. Moses criticized that Stichman's proposal tries to satisfy the needs of the minority rather than the majority – in Moses's point of view, the upper-class white – which is too expensive for the city.[105] The New York City Housing Authority and Planning Council considered such a renovation plan should be the local community's decision; therefore, rejected Stichman's proposal. Chinese immigrants also expressed their concerns that New York's Chinatown might become a performance stage for the exoticism rather than a living community since the existing overcrowding housing situation and the lack of vacant land made it difficult for any redevelopment.[106] The effort to orientalize New York's Chinatown failed, but Confucius Plaza, which is a modern high-rise building without Chinese architectural features, was constructed in response to residents' need for public housing rather than for tourists.

*Chinatown Street Revitalization*

In response to the increasing crime rate and economic crisis during the mid-1970s, the Department of City Planning tried to revitalize the lower east Manhattan by improving the street environment, which Chinatown was identified as one of the targeted neighborhood.[107] The New York City Council issues a law in 1984 to prohibit street

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[105] Umbach and Wishnoff, "Strategic Self-Orientalism".

[106] Li, "*Chinatown and Urban Development*".

[107] National Endowment for the Arts and New York Department of City Planning, *Chinatown Street Revitalization* (New York: Department of City Planning, 1976).

stands and stalls on more than 250 streets in the city, including Canal Street and Mott Street in Chinatown.[108] Moreover, the streets in the Chinatown, which are narrower than any standard urban residential streets, have a hard time to serve the large influx of pedestrian and vehicular traffic, so both pedestrian and vehicles have to slow down within the district. Such a small space makes the street vending a more severe problem to the street environment. However, though the street vending causes some negative impact to the street environment, including street crime, sanitary and traffic issues, it has been considered to be "economically essential or historically intrinsic."[109] For Chinatown residents, street vending was not only a tourist attraction but also a way of making a living with no professional skills and only a little English speaking ability. By prohibiting the street vending in a modern urban environment, it also deprives the public social life of traditional street space.[110] Anthropologist James Holston suggests that the urban planning should incorporate the ethnic identities and culture, sometimes insurgent, of the community in today's globalization atmosphere[111] - in Manhattan's Chinatown, such essential element would be the street vending. For the protested street vendors, Chinatown Street Revitalization Plan offered an alternative solution to relocate them to the triangular space between Canal Street and Baxter Street.

Another effort by the Planning Council to revitalize Chinatown area was to propose Chinatown as a special zoning district like Little Italy. The special zoning district promotes commercial development by adding more business and buildings while

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[108] Ethan Schwartz, "Shops Seek Exemption from Street-Stalls Ban," *The New York Time*, September 6th, 1985.

[109] Ethan Schwartz, "Shops Seek Exemption from Street-Stalls Ban".

[110] Jacobs, *The Death and Life of Great American Cities.*

[111] James Holston, "Spaces of Insurgent Citizenship," in *Cities and Citizenship* (Durham and London: Duke University Press, 1999).

preserving the existing ones with cultural characteristics. Similar to the "China Village" plan, such proposal valued the economic development rather than the community development, which might be inappropriate regarding a large number of immigrants living in a poor environment and the lack of public housing. Therefore, in 1981, the City Board of Estimates proposed the Special Manhattan Bridge District according to their findings in the Manhattan Bridge Area Study, which promotes community development by providing more public housing and facilities.[112] However, the introduction of new modern high-rise buildings remained controversial, which private developers were encouraged in particular. Li argues that the private-market gentrification in Manhattan's Chinatown caused by the Special Manhattan Bridge District zoning plan, would "transform Chinatown into a landscape complex that could be capitalized."[113]

*The Remaking of Chinatown After 9/11*

The 9/11 attack generated huge panic to the Manhattan people so that the city closed the area from City Hall all the way to East Broadway, which isolated the whole Chinatown area from tourists. The Chinese Consolidated Benevolent Association (CCBA), one of the oldest community organization in Chinatown, saw the opportunities to renovate the neighborhood by adding more traditional Chinese features. The CCBA suggested building an arch gateway, which appears in almost every Chinatown such as San Francisco, Chicago, Boston, and Philadelphia, in the intersection of Canal Street, Center Street, and Baxter Street, as the symbolic entrance of Chinatown. This proposal

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[112] Manhattan Bridge Area Study, conducted by the City Planning Commission and Department of City Planning in 1979, researches in the Chinatown area. It recognizes the urgent needs for public housing and community facilities and requires new structures to be constructed based on the principle of "infill(ing) in nature rather than redevelopment oriented."

[113] Li, "*Chinatown and Urban Development".*

was strongly opposed by the local community as only an attraction for tourist.[114] As Anderson argues that Chinatown is an idea from the White society to satisfy their expectation of an exotic culture, the Arch Gateway is also stereotyped imagery of Chinese vision. It has become a merchandised capital to promote economic development by attracting tourists rather than serving the residents.

For over half a century, the commitment of tourism and commercialism by the city government has profoundly embedded within Chinatown's urban development process. The three planning projects all tried to establish a Western image of Chinatown to sell the space, whether as tourist attractions or real estate, which sometimes damaged the authenticity of the cultural identities. At the same time, the local Chinatown community has been fighting for the quality of their own lives. Today, Manhattan's Chinatown is only one of the nine Chinatowns in New York City, while others locate in Flushing, Queens, Brooklyn, and the surrounding area. The expansion of Chinatown neighborhoods cannot be simply attributed to the increasing population of Chinese immigrants or the economic prosperity in the old Chinatown. The force of urbanization, as well as the globalization, has driven immigrants to migrate to the new satellite Chinatowns, which allows even more room for commercial development in the Manhattan one.

## 4.4 Making A Living

The major businesses that dominate Manhattan's Chinatown – restaurants, laundry, and groceries – are Chinese immigrants' adaptation to the economic environment in the United States. Among the first arrival to the United States in the mid-nineteenth century,

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[114] Umbach and Wishnoff, "Strategic Self-Orientalism".

Chinese immigrants were primarily engaged in physical labor in railroad building, mining, and farming in the western frontiers. Chinese restaurants, not the luxurious ones, were established to serve the Chinese laborers, the same as the hand laundry, which was started because there were few women to do the job for the male laborers. At that time, Chinese immigrants were discriminated in the employment market while very few white people entered these two businesses. They saw opportunities in restaurants and laundry because of their low competition with the white population as well as low requirements of capital or skills. Grocery and handicraft shops were opened in a similar manner, mainly in Chinatown areas where bear more potential customers for Chinese merchandises. According to Bernard Wong's description, there were 26 occupations in the New York States that prohibit Chinese from engaging, including the attorney, physicians, band directors, dentists, engineers and so forth.[115] Such discrimination plays a significant role in shaping the economic niche of Chinese immigrant communities for over a hundred years.

The process of globalization and urbanization, along with the discrimination towards the immigrants has led to the development of the low-end economy in Chinatown. The decentralization caused by urbanization has moved the manufacturing industry, such as the garment business in Chinatown, to the suburban area where the property price and labor salary are much lower than in the urban areas. Cities have become places for the elite industry, commercial and residential uses. At the same time, the technology brought by industrialization replaced human labor with machines in the garment industry that already reduced in urban area, as well as the hand laundry business.

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[115] Bernard P. Wong, *Chinatown: Economic Adaptation and Ethnic Identity of the Chinese* (New York: Holt, Rinehart & Winston, 1982).

These two businesses that require none intellectual skilled have declined significantly since the beginning of the 21st century. On the other hand, restaurants and retail businesses which not only required by the community but also serve the increasing number of tourists, still flourish even for now. The groceries satisfy the everyday needs of the local community. Chinese restaurants and craft shops that sell merchandise with Chinese characters provide Americans and tourists from other countries with an exotic experience. Corresponding with the commercial focus rather than manufacturing focus, the main customers of Manhattan's Chinatown become those who are not Chinese.

## 4.5 The "Chineseness" of the Chinatown

Even though the Western people consider that Chinatowns provides authenticity of the exotic culture, Chinatowns do not represent what China looks like today. In addition to the language difference for the communication and signs, the Chineseness of Manhattan's Chinatown is a more conservative and preservative part of Chinese culture – in other words, a more traditional one.

The landscape in Chinatown was heavily shaped by Chinese culture during its early establishment period. When a large group of Chinese immigrants came to the United States, the Chinese culture that they brought here shows what China looked like at that time, when the modernism and industrialization have not become so influential in China. They kept the traditional architectural features as well as the street culture which street as market space. When the immigrants started to settle down in the United States, their community was also shaped by American culture. Though many big cities in China now look quite identical to Manhattan with the modern high-rise and clean streets (Figure

12), the historic preservation areas that try to preserve or even restore the traditional

structures share some similar features with Manhattan's Chinatown.



Figure 12 Today's Shanghai, China
(a modern city in current China)

Those immigrants, who stay in Chinatown in recent decades, mostly came in the

earlier period or came from a not very affluent area in China but have relatives who live

in Chinatown. They either have difficulties in speaking English or do not have enough

money to pay for better housing. On the other hand, more well-off Chinese immigrants

have chosen to settle down in a better and less crowded environment than the ethnic

enclaves because they have more resources and can easily blend in with the American

society. The later generations of Chinese immigrants are also easier to fit in the

mainstream society because they have better skills in English or receive education with

local people in the United States. Therefore, those permanent residents in Chinatown are

also more conservative both in their skills and mindsets. How they perceive Chinatown

community as well as community space is more similar to the traditional Chinese villages in the rural setting. For instance, people share a much stronger connection with the community than in the urban environment, in the form of the ethnic or family association like the Chinese Consolidated Benevolent Association or Chinatown Youth Council.

As mentioned in the previous section, Chinatown is a Western idea of the Chineseness, which has been exaggerated for tourism. Almost every traditional Chinatown as an ethnic enclave has a very representative arch gateway at the entrance of the neighborhood to mark its difference from the other part of the city (Figure 13). Many structures also have typical Chinese architectural features like the dragon or the tilted cornice (Figure 14). Such elements are not even common in contemporary China in the past two centuries, but more typical in ancient China.



Figure 13 Arch Gateway
(a typical Chinese architectural structure in Chinatowns)

Figure 14 Kiosk with Chinese Architectural Features

## 4.6 Chinatown as A Production of Space

The production of space theory suggests that the spatial change of the physical environment is driven by the force of social development.[116] Space and society are reciprocally related to each other, which space is a social production that reflects the society as well as reacts on it. The construction of social space is the interactions among power, capital, social class, and the physical environment, which form the dialectic of space.[117] There are two major types of social production – the top-down force by the authority and the capital, and the bottom-up force by the everyday practice.[118] As the largest immigrant group in the United States, Chinese immigrants also participate in the social production of space. Different than other immigrant communities that have

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[116] David Harvey, *The Urbanization of Capital* (Oxford: The Johns Hopkins University Press, 1985).
[117] Henri Lefebvre, *The Production of Space* (Oxford: Blackwell Publishers Ltd., 1984).
[118] Lefebvre, *The Production of Space*.

concentrated population of one ethnic group but not political and socially distinguished from the surrounding area, Manhattan's Chinatown is a production of space which the government takes advantages of the concentration of Chinese immigrants to tailor an orient community while the Chinese community consolidates their lives and living space by the ethnic business and family-oriented social network. It is a construction of cultural space that shaped by the urban planning of New York City and the immigration policies in the United States as well as the Chinese immigration culture and the ethnocentric social connection of the community.

Manhattan's Chinatown is an urban space that is influenced by globalization, trans-culturalism and urbanization, and production of the interaction and negotiation between immigration and the mainstream society. The formation of such an ethnic community largely implies the conflicts of the use of space between the immigrant group and the residents.

## 4.7 Chinatown Today

There are never official borders to define Chinatown neighborhood (Figure 15), but the following streets usually are considered as the boundaries[119] (Figure 16):

North: Hester Street or Grand Street

South: Worth Street (west side) and East Broadway (east side)

East: Essex Street

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[119] Mark Hay, "The Chinatown Question," *Capital*, July 12th, 2010, accessed Feb. 5th, 2019, https://web.archive.org/web/20101101135519/http://www.capitalnewyork.com/article/culture/2010/07/204071/chinatown-question.

West: Lafayette Street

Buildings in Chinatown neighborhood are mostly mixed commercial and residential. From the Land Use Map (Figure 18), the north side of Canal Street is mostly commercial or mixed-use commercial buildings while half of the buildings on the south side are residential. However, when walking on the street, businesses like restaurants, groceries or craft shops fill the whole streetscape. Compared to the First Floor Land Use Map (Figure 19), almost all the storefront properties on the ground level in the core area of Chinatown are commercial. The retail businesses and restaurants dominate the whole area, and the neighborhood has nearly most grocery shops compared with neighborhoods in a similar size, which street vendors are not even counted as part of the retail business. The commitment of commercialism has been implemented on the high density of businesses on the ground level while the ethnic business network and the Chinese immigrant community play an essential role in determining the types of business.

The whole Chinatown is identified as the commercial district, which the core area is mainly categorized as C6-1 and C6-1G District (Figure 20). C6-1 district has specific requirements on the Floor Area Ratio (FAR)[120] – Commercial FAR of $6.0^4$ and Residential FAR of $0.87\text{-}3.55^1$ – while the "G" refers that there are strict regulations on the conversion of non-residential into residential uses. Therefore, despite the desperate needs for public housing, many buildings in Chinatown neighborhood remains commercial uses. According to the neighborhood quick facts of business condition provided by NYC Business Atlas, the C6-1G area has a percentage of 33.2% commercial

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[120] FAR is the ratio of total building floor area to the area of its zoning lot. Each zoning district has a FAR which, when multiplied by the lot area of the zoning lot, produces the maximum amount of floor area allowable on that zoning lot. That is to say, the total floor area of a district remains the same regardless of the change of the building floors or the area of the lots.

use, and the C6-1 has only 14% commercial use, which might result from the regulation

of transforming the use of buildings. The residential use only constitutes less than 20% of

Chinatown neighborhood (Figure 21). Most mixed-use commercial and residential

buildings in the neighborhood take the form that the lower stories are used as commercial,

while the higher stories are residential. It this case, when walking on the street, the first

floor of both the commercial buildings and the mixed-use buildings are generally used as

retail businesses, which constitute around 55% of properties in the neighborhood.

*The Scale of the Street and Sidewalk*

Canal Street running northwest, and Bowery and Chrystie Street running

northeast are the central axes within Chinatown neighborhood (Figure 17). They are not

only the main traffic routes within the district but also the main access for the Manhattan

island. Canal Street to the west connects with the Holland Tunnel and Chrystie Street to

the south connects with the Manhattan Bridge. Bowery Street runs down to the financial

district and the Staten Island Ferry. Most access points of public transportation locate at

Bowery and Chrystie Street, including subway and bus stations. The Hester Street

Playground next to Chrystie Street also helps strengthen the division of the west and east

parts of Chinatown. As the core area as well as the original area of Manhattan's

Chinatown, the west side of Chrystie Street is more vibrant while the east side serves

more as an extension of the residential area.

These streets that are more than 100 feet wide are the widest streets with two-way

traffic. Other side streets in the neighborhood, mostly around 50-60 feet wide, bear only

one-way traffic with street parking on both sides of the street (Figure 22, 23 & 24). The

narrow travel lane forces the vehicles to lower their speed, and the street parking

separates the vehicular traffic and pedestrian traffic, which makes people feel safe and

comfortable walking or staying on the sidewalks. Even when there is only street parking

on one side, because of the slow speed of vehicular movements resulted from narrow

streets, people still feel safe when walking or even crossing the street. Such an

environment provides opportunities for the storefront vending to occupy part of the

sidewalk and conduct retail businesses without hindering the safety of the pedestrian

(Figure 25). In the area between Baxter Street and Bowery Street, only the part on the

north side of Canal Street permits the construction of sidewalk cafes, which should be

unclosed (Figure 26). Different than the sidewalk appropriation of retail businesses that

invite people to interact with the shop operators, the sidewalk cafe tries to exclude the

pedestrian from that space, which makes the walkable area smaller. The fact that there are

not permissible areas for sidewalk cafes in the southwest area of Chinatown encourages

commercial activities on the sidewalk space.
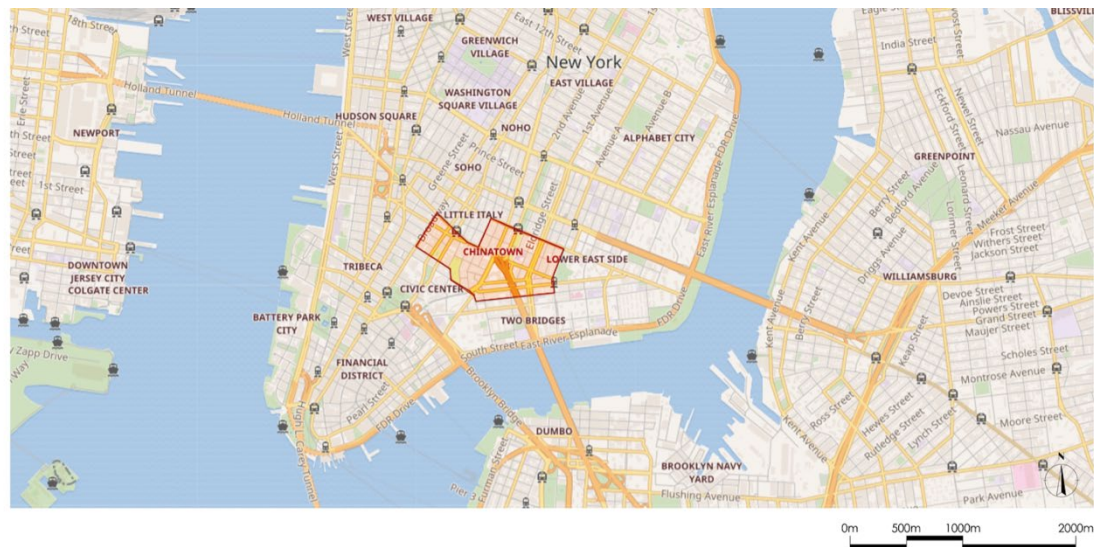


Figure 15 Chinatown's Location in Manhattan

Figure 16 Chinatown Boundaries

North: Hester Street or Grand Street
South: Worth Street (west side) and East Broadway (east side)
East: Essex Street
West: Lafayette Street



Figure 17 Chinatown Axes

(connected with Holland Tunnel, Manhattan Bridge and State Island Ferry)
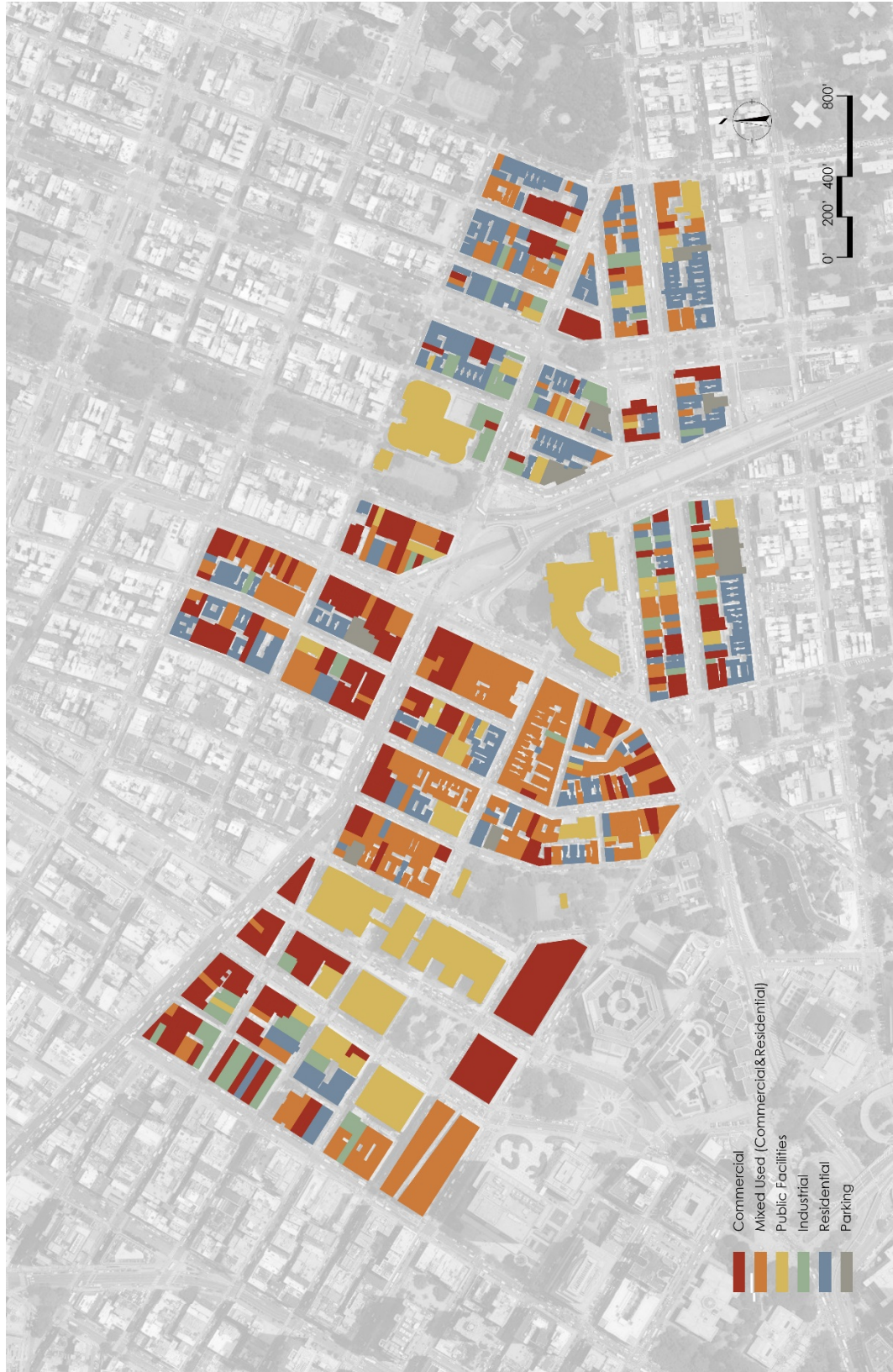
Figure 18 Land Use Map

Figure 19 First Floor Land Use
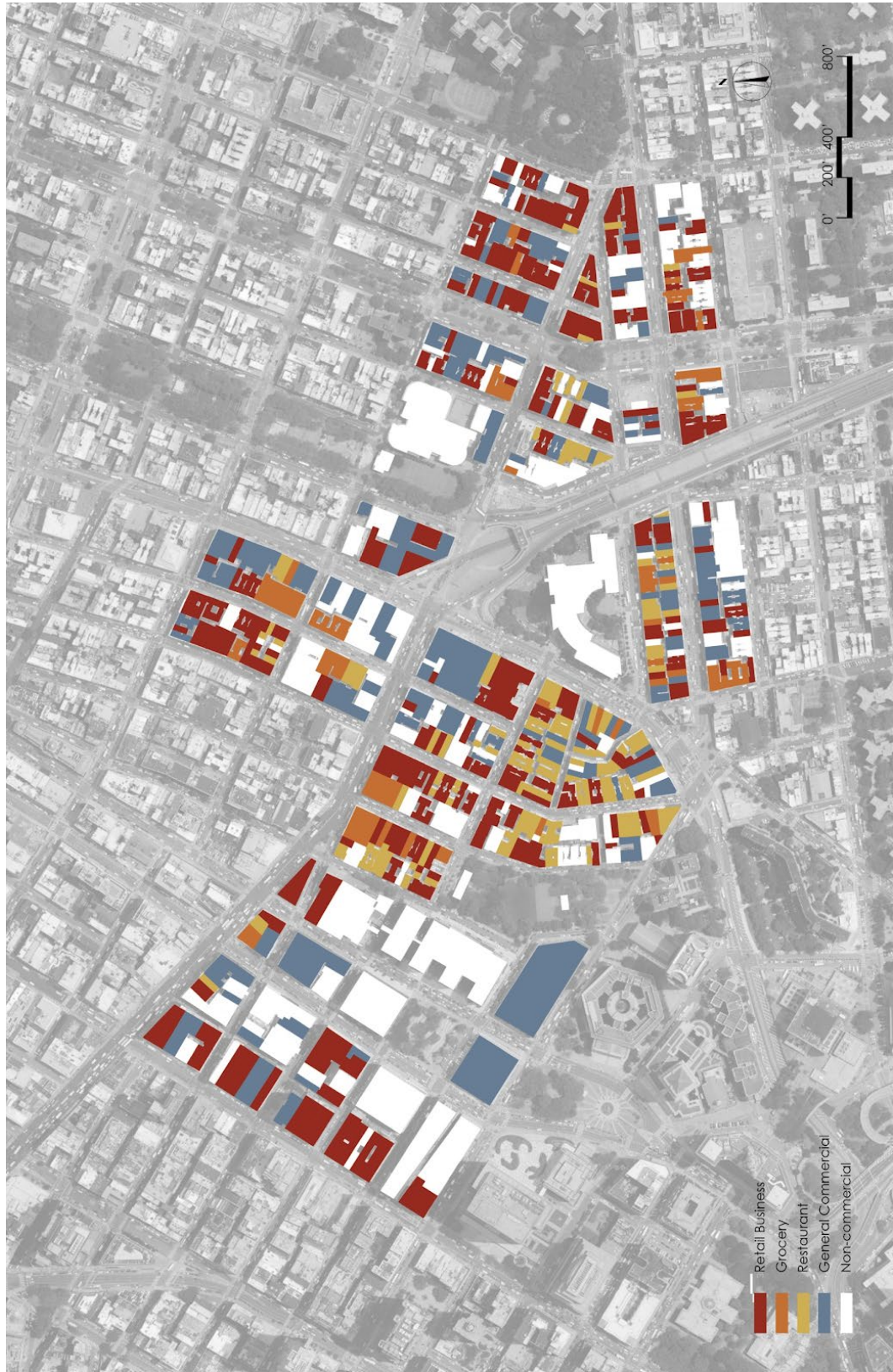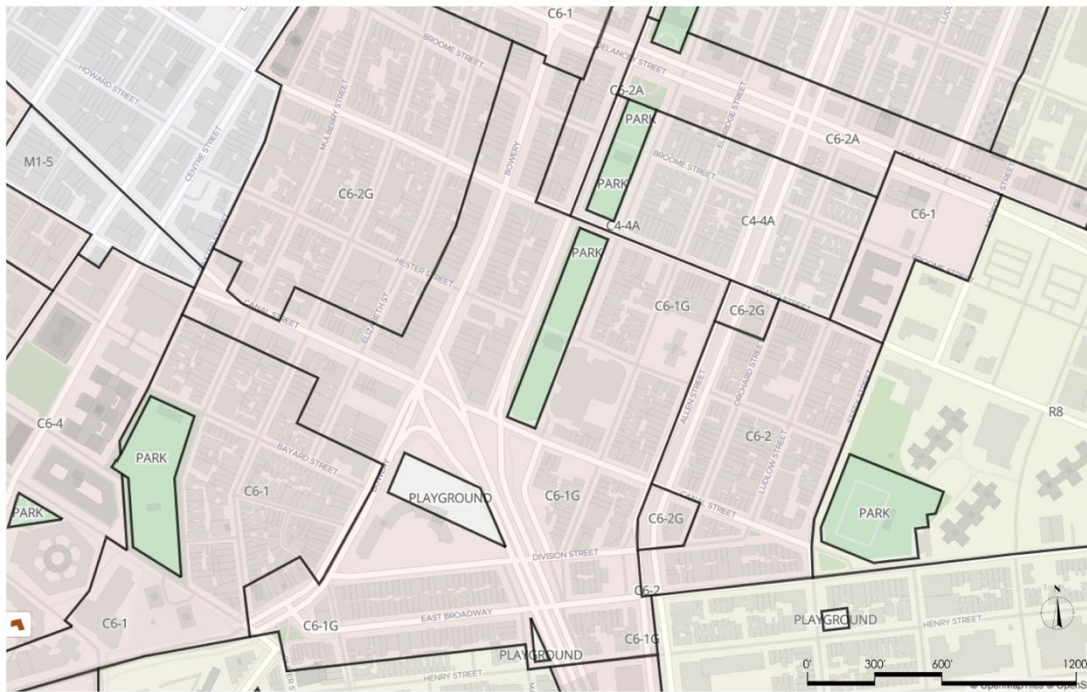
Figure 20 Zoning District Map

(Chinatown district is categorized as a commercial district)
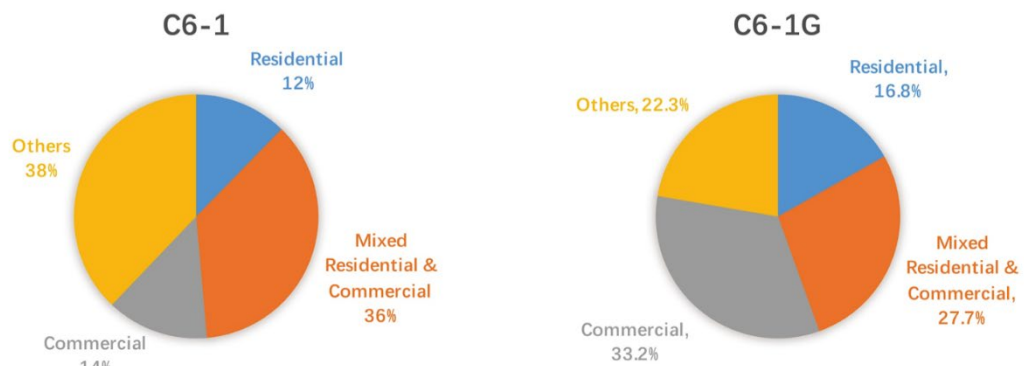


Figure 21 Business Conditions

(Chinatown district is dominated by commercial and mixed residential and commercial buildings)

Figure 22 Street Width
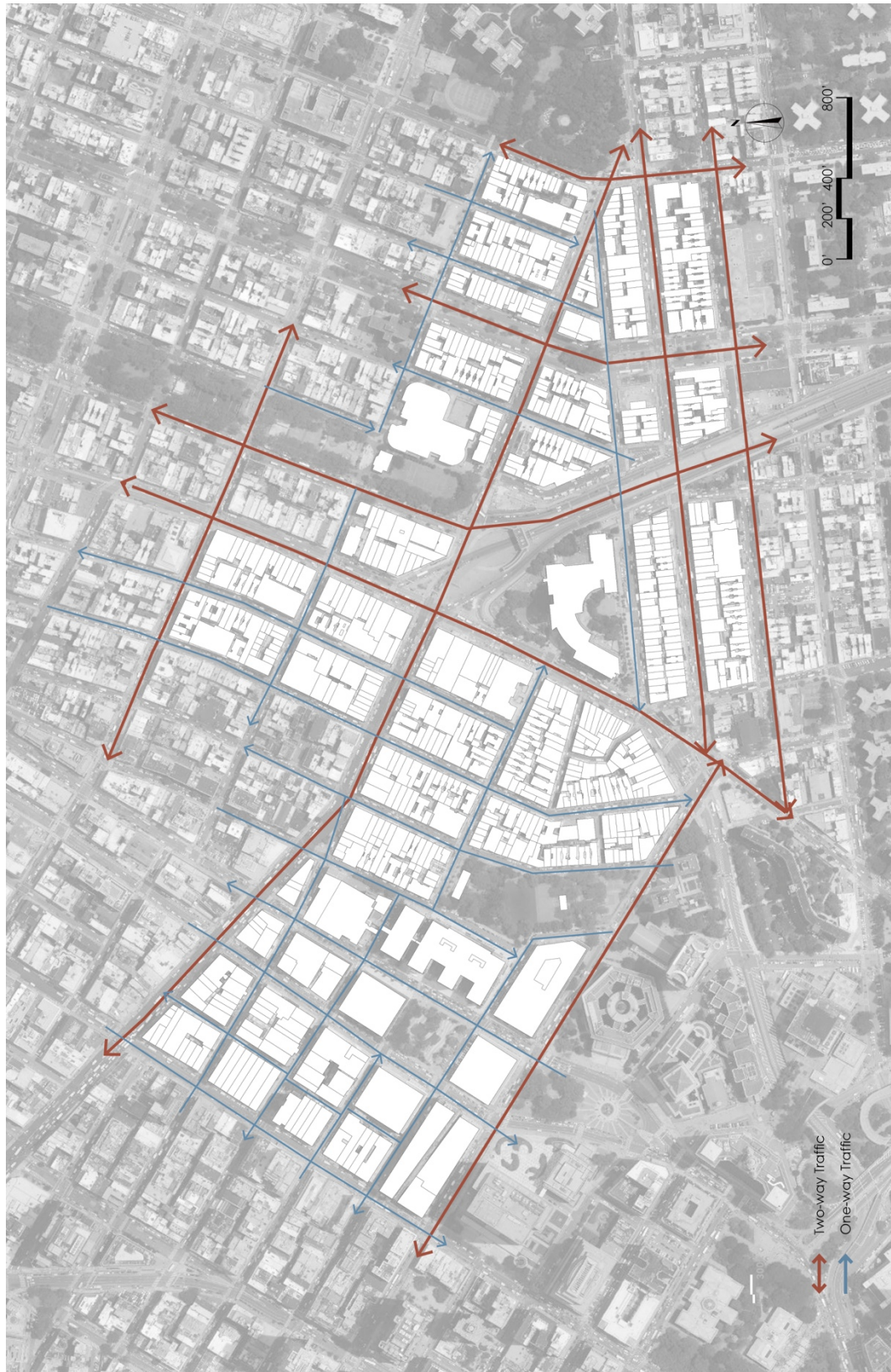
Figure 23 Traffic Direction

Figure 24 Street Parking

Figure 25 Study Area Highlight

Figure 26 Sidewalk Café

# Chapter 5: Typologies of Sidewalk Appropriation

## 5.1 The Study of Typology

From the architectural and urban planning perspective, typology is the classification of buildings and spaces, usually based on their physical characteristics. The idea of typology in Architecture can be derived from *the Ten Books of Architecture* by Vitruvius. He considers that the forms of architecture try to imitate nature based on natural principles, and such imitation is human nature.[121] The implication of typology in architecture is not to use it directly into the specific design but a way of perceiving, thinking and constructing new forms based on the existing ones. The simplest interpretation of "typology" of space is "this kind of space". Typologies of sidewalk appropriation can be interpreted as different kinds of sidewalk appropriation.

The street space is not simply composed of individual buildings or structures but is continuously built up throughout time. It is an organic space enriched by the physical elements as well as the genius loci that is applied by uses. There are some shared elements or spirits always embedded in the constantly changing form, which lead to the study of typology. Typologies of urban space reflect physical elements that are recognized and inherited by people. Understanding typology helps designers to create a well-functioned space and relink the traditional culture that is weakened by the rapid modernization and urbanization. Though sidewalk appropriation in Manhattan's Chinatown has so many different forms and businesses, the essential purpose of the appropriation is to use the space as a marketplace to sell products. Study on the different

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[121] Vitruvius, *The Ten Books on Architecture* (Dover Publications Inc., 1960).

typologies of appropriation and people's movements related to it exposes what kind of spatial characteristics has a better ability to encourage activities.

The seven typologies of sidewalk appropriation are identified based on the physical and spatial characteristics, their functions and the types of activity involved with the space.  Appropriate the space by objects:

- Merchandise Display

- Street Vending

- Sign/Advertisement

Transition between indoor and outdoor space:

- Extended Canopy

- Ground-level Extension

Prevent invasion:

- Defensive Screen

- Outdoor Hallway

Activity setting is not a typology but an analytical tool to identify the key features of the sidewalk appropriation. The spatial characteristics of the appropriation are analyzed in three aspects: appropriation, openness, and permeability. The appropriation diagrams highlight the structures or elements that appropriate the sidewalk. The openness diagrams try to overlay different sections on the photos in order to demonstrate the spatial sequence of the sidewalk appropriation – how the sidewalk space is framed or defined by various structures or objects. The permeability diagrams illustrate that interface of the business of the adjacent properties shared with the pedestrian.

Ground-level Extension

Seven Typologies

Extended Canopy

Merchandise Display

Defensive Screen

Street Vending

Outdoor Hallway

Sign/Advertisement
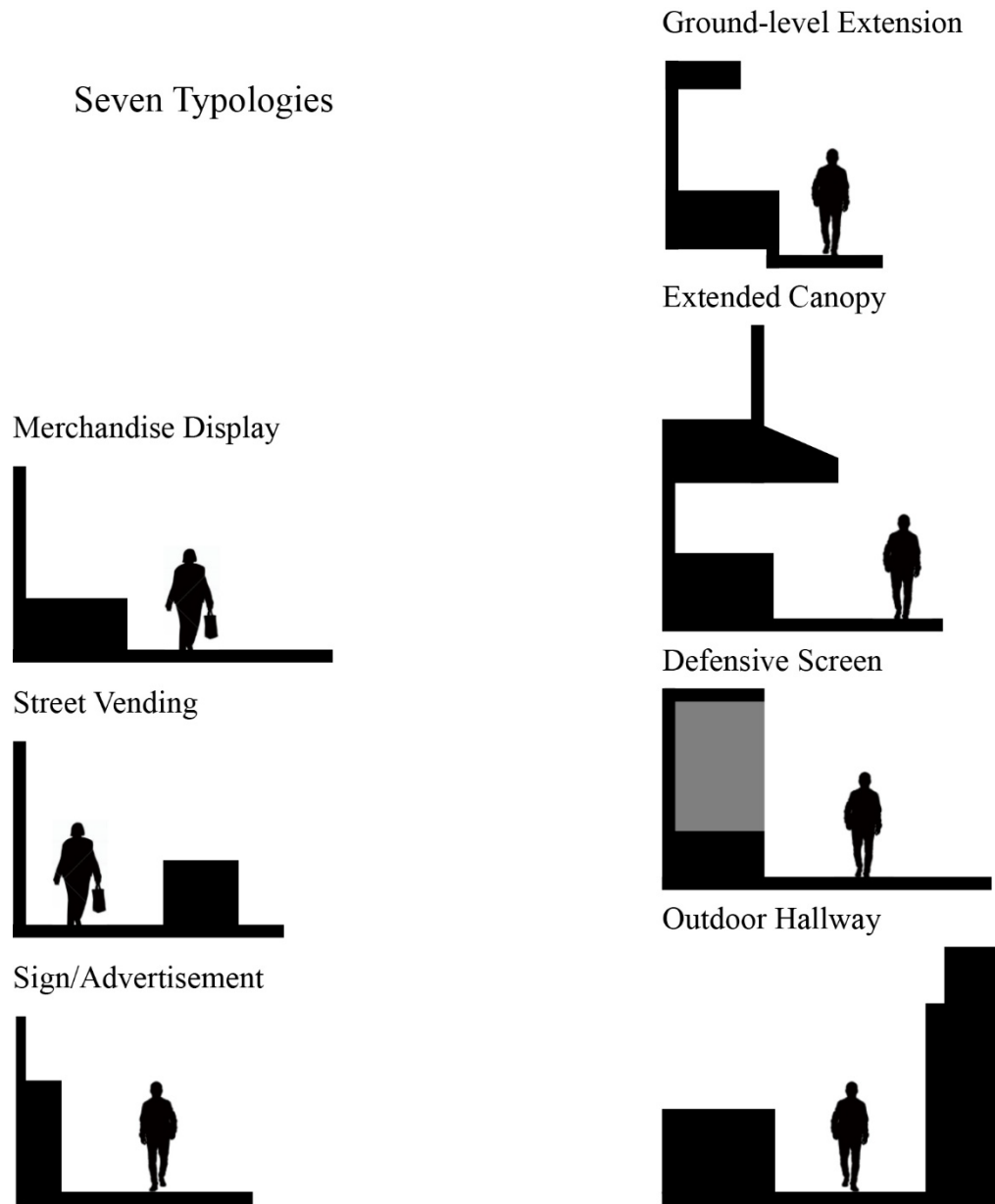
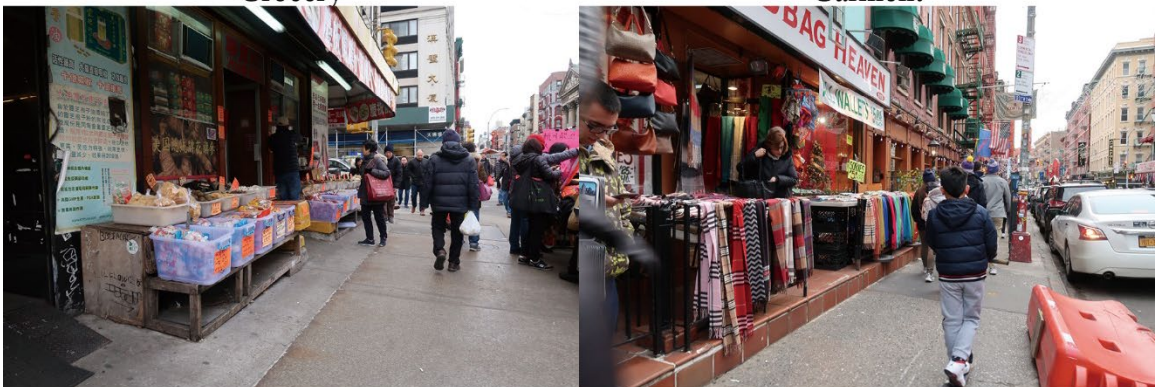Figure 27 Seven Typologies of Sidewalk Appropriation

## 5.2 Appropriation Typologies

*Merchandise Display*



Grocery

Garment

Chinese Products

Souvenir

Location: Grand Street at Bowery and
Chrystie Street

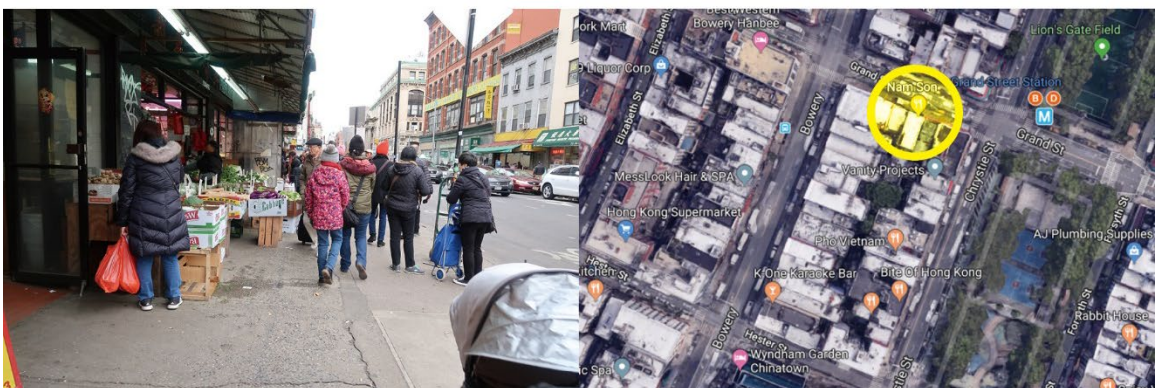Acticity: grocery and sea food shopping
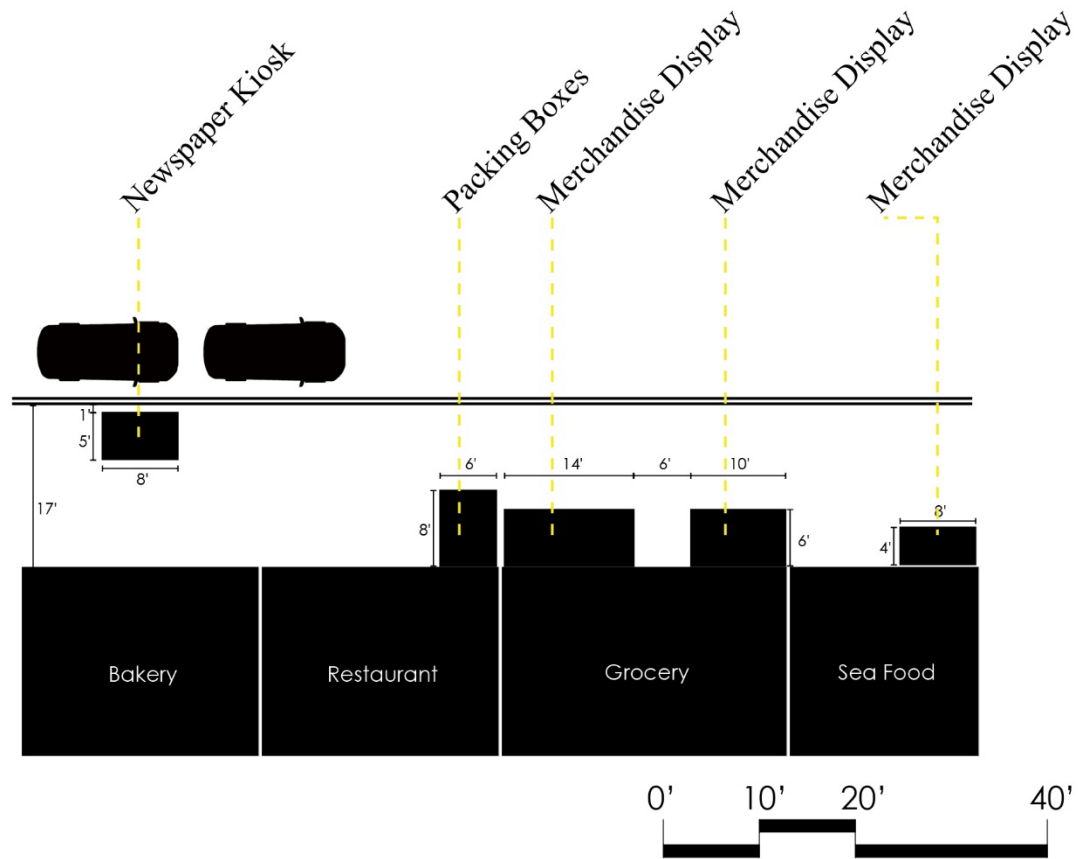


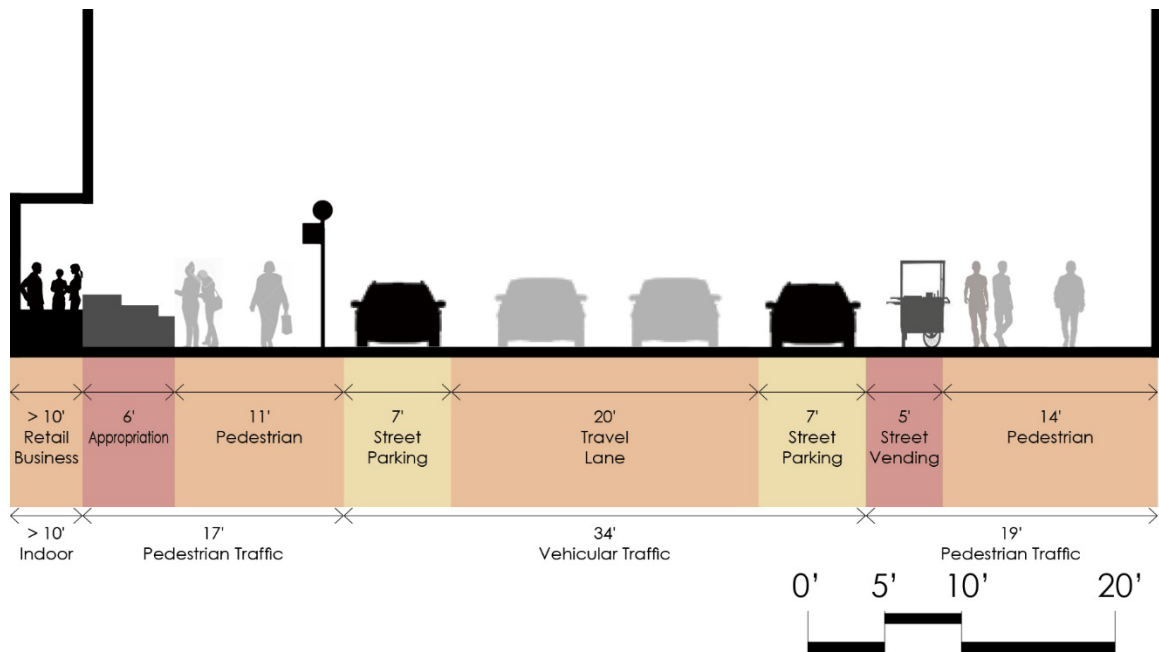Figure 28 Photos – Merchandise Display

Figure 29 Plan - Merchandise Display



Figure 30 Section - Merchandise Display

Appropriation



Openness



Permeability

The grocery shop use part of the sidewalk space in front of the property to display products. The products are placed on wood frames that can be easily removed at night. The displays of merchandise are not perfectly aligned but mostly within the right-of-way. When people walking on the sidewalk, the street side is open while the building side has indentations that allow them to access the shops. The wood frames are placed next to the entrance of the shop to leave a space for customers to enter the indoor space. People select the products on the sidewalk and take them to the inside to check out.

Spatial Sequence



Figure 31 Activity Setting Diagrams - Merchandise Display

*Street Vending*



Food Cart

Garment

Chinese Snacks

Crafts

Location: Hester Street at Bowery and
Elizabeth Street

Acticity: street vending of fruit



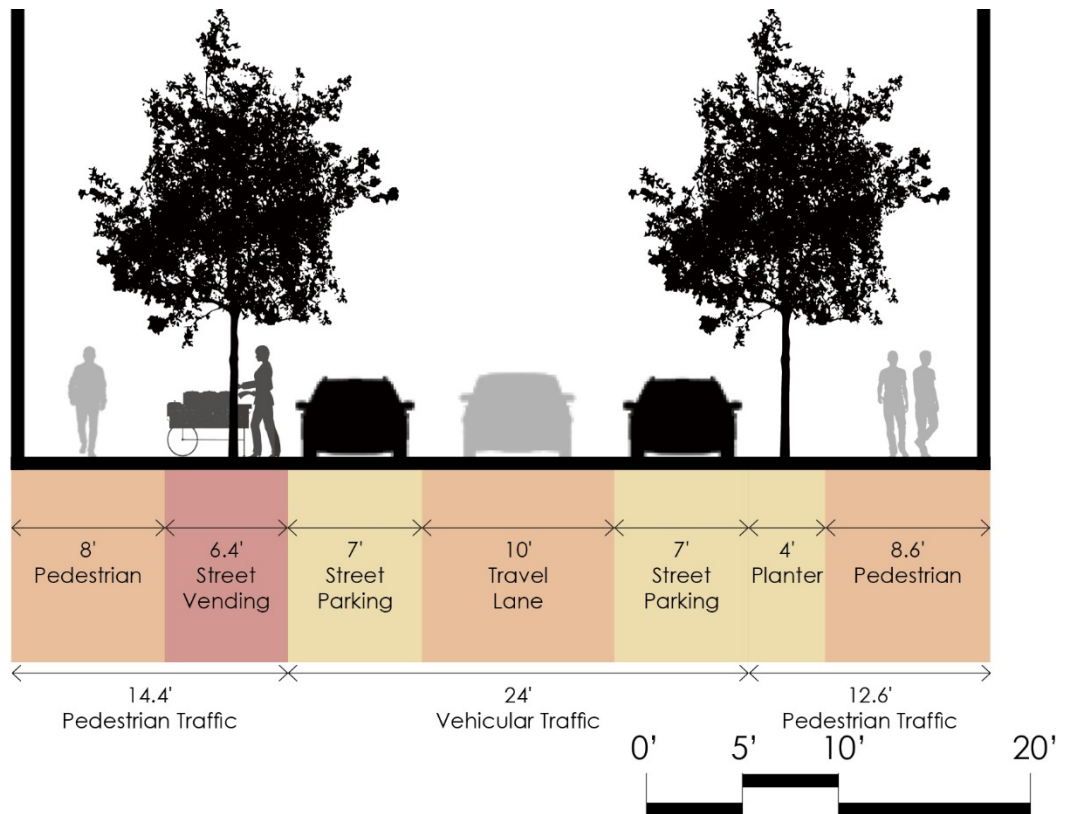Figure 32 Photos – Street Vending

Light Post  Street Vending  Car As Storage  Street Tree  Phone Booth  Gabage Bin  Traffic Light Post

2.4'
4'
14.4'
7.5'  6'

Bank

0'  10'  20'  40'
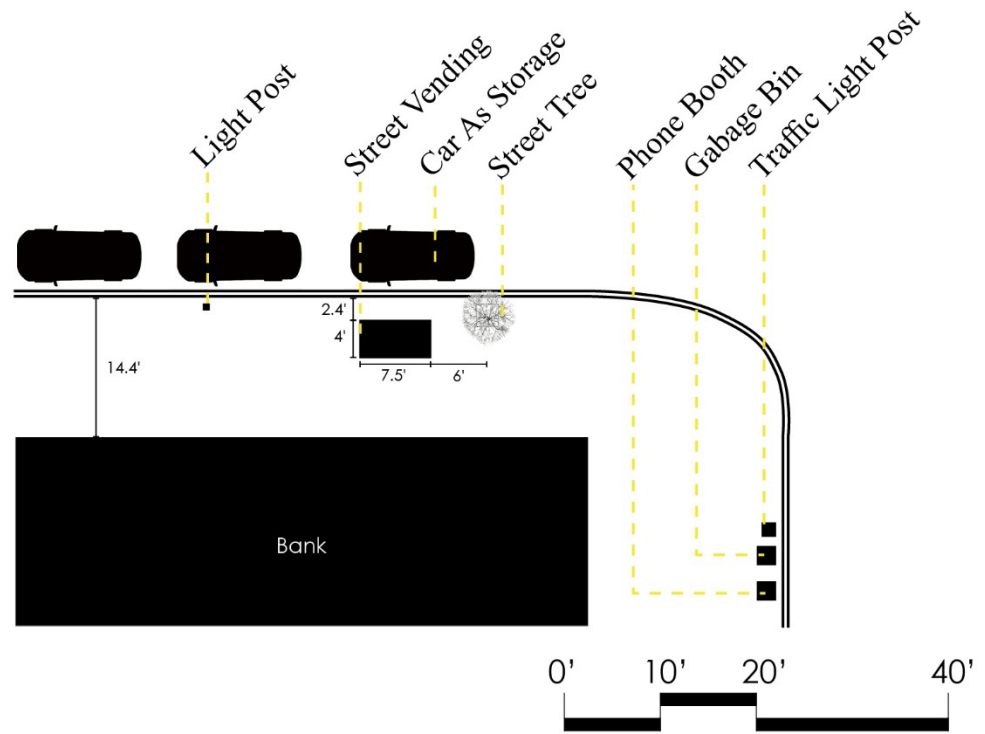
Figure 33 Plan - Street Vending



| 8'<br>Pedestrian | 6.4'<br>Street<br>Vending | 7'<br>Street<br>Parking | 10'<br>Travel<br>Lane | 7'<br>Street<br>Parking | 4'<br>Planter | 8.6'<br>Pedestrian |

14.4'
Pedestrian Traffic

24'
Vehicular Traffic

12.6'
Pedestrian Traffic

0'  5'  10'  20'

Figure 34 Section - Street Vending

The street vending usually takes the form of portable tables or carts can than be easily moved. It is usually on the road side facing the pedestrian. Because the street vendors are usually on the road side, those structures give a sense of enclosure but not necessarily secluded. Pedestrians are directly exposed to the vehicular traffic. Pedestrians access the vendors from the section of the structures that is parallel to the pedestrian flow.

The length of the vending structure is usually several times larger than the depth / width of the structure.

Spatial Sequence
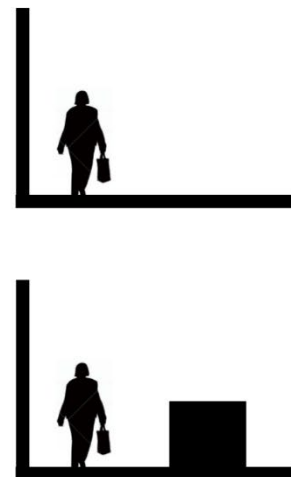


Figure 35 Activity Setting Diagrams - Street Vending

*Sign/Advertisement*



Advertisement

Multiple Advertisement

Restaurant Menu & People

A- Shape Sign on Walking Path

Location: Mulberry Street at Canal and
Hester Street
Acticity: gift shop and cafe
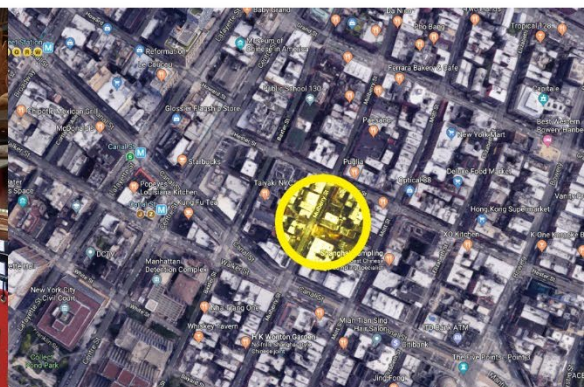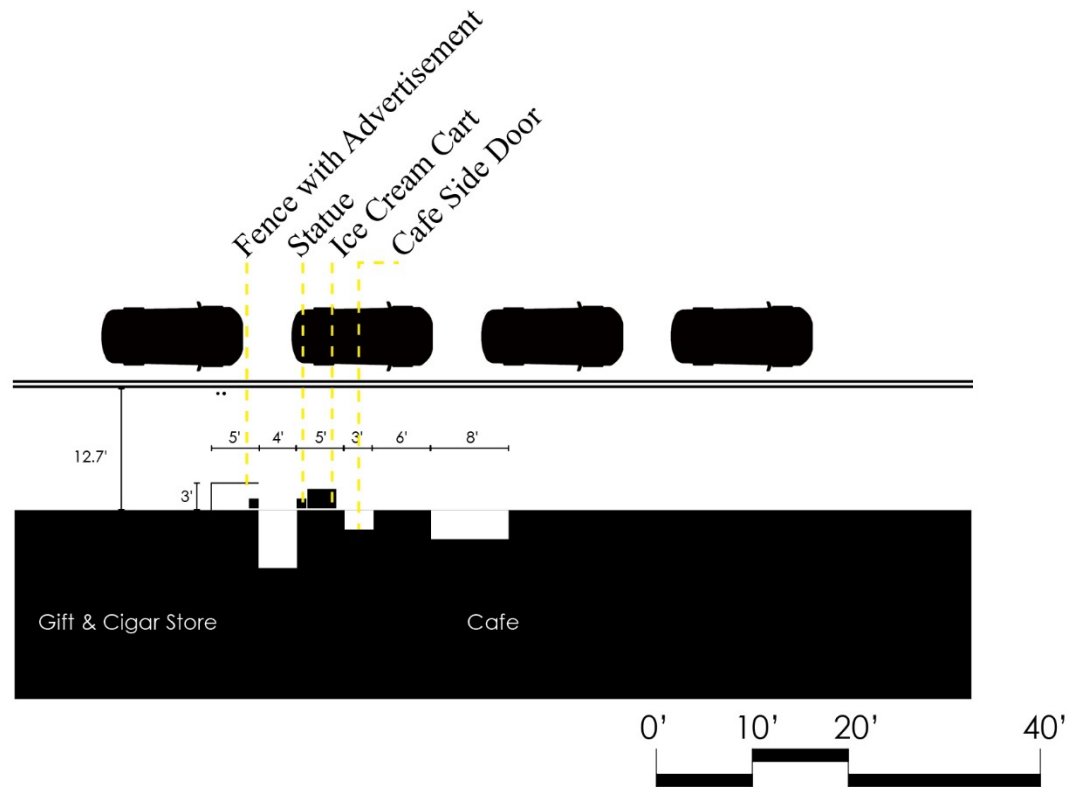


Figure 36 Photos – Sign/Advertisement
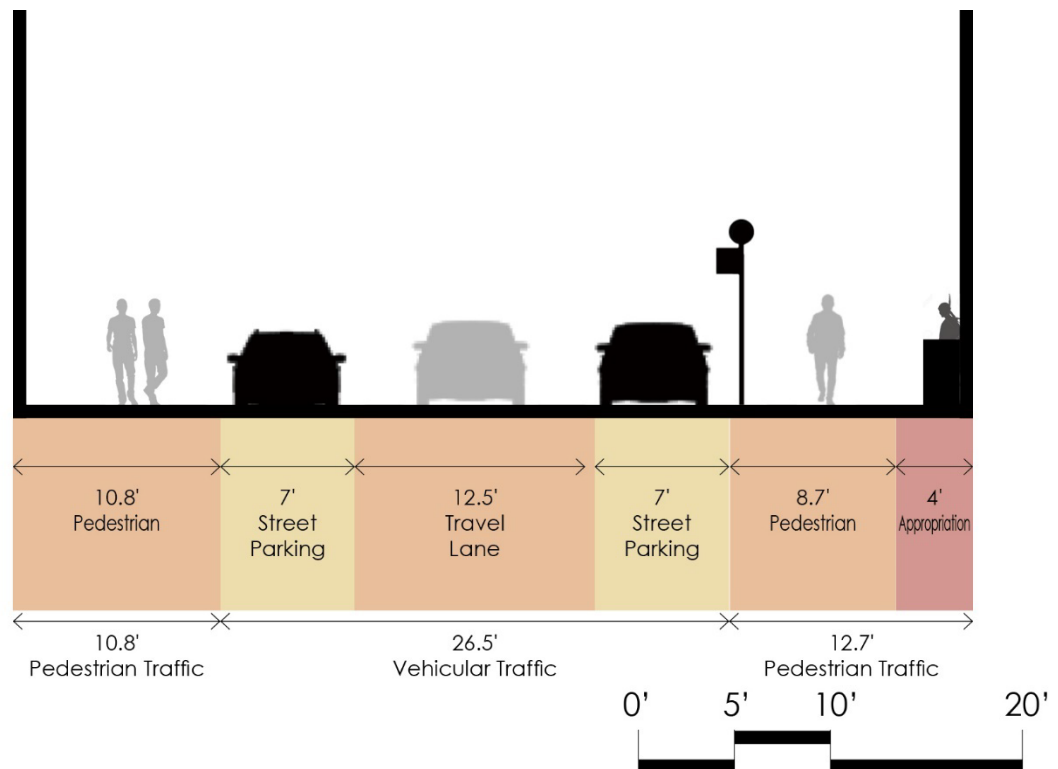
Figure 37 Plan - Sign/Advertisement



Figure 38 Section - Sign/Advertisement

Appropriation



Openness



Permeability

It is the most portable and temporal structure on the sidewalk, in the form of boards, A-shaped advertisement or statues. Most signs are to attract people's attention through exaggerated visual effect and go inside to stores. Other than encouraging direct interaction on the sidewalk, it occupies part of the sidewalk space but tries to drag the interaction deeper in the interior space. People usually do not stay to see the signs. They will go into the building if they are interested. Others like advertisements or menu invite people to take a closer look and then decide whether to enter the stores.

Spatial Sequence
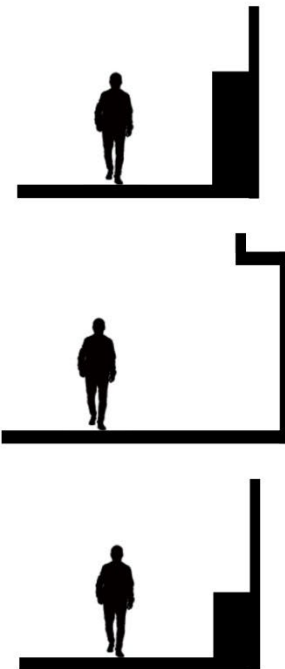


Figure 39 Activity Setting Diagrams - Sign/Advertisement

*Ground-level Extension*


Platform


Platform with Display


Stairs


Ramp

Location: Mulberry Street at Canal and
Hester Street

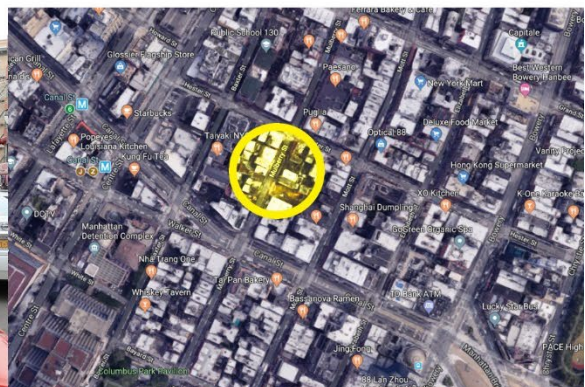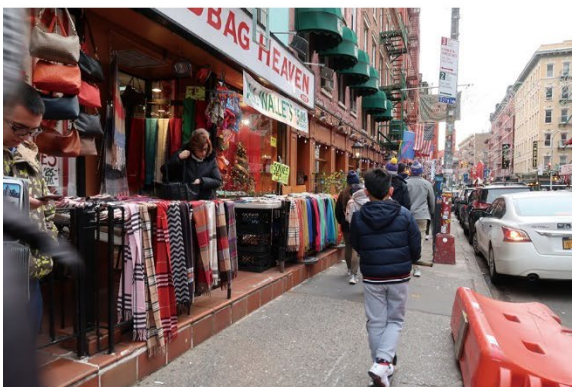Acticity: garment and craft business
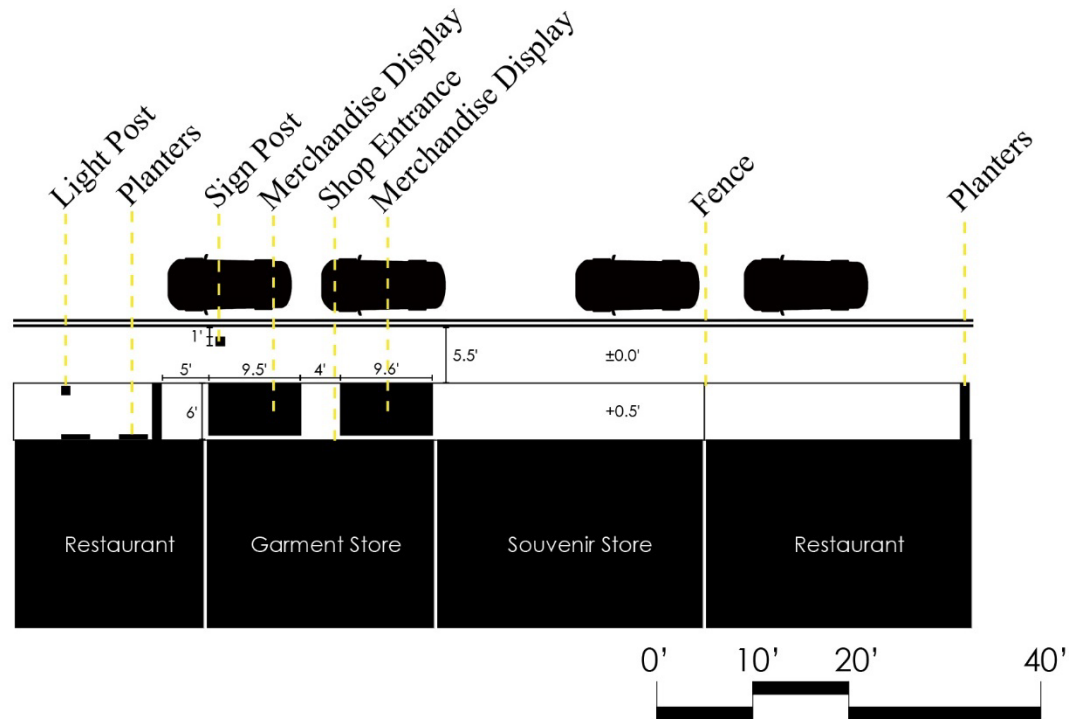




Figure 40 Photos – Ground-level Extension
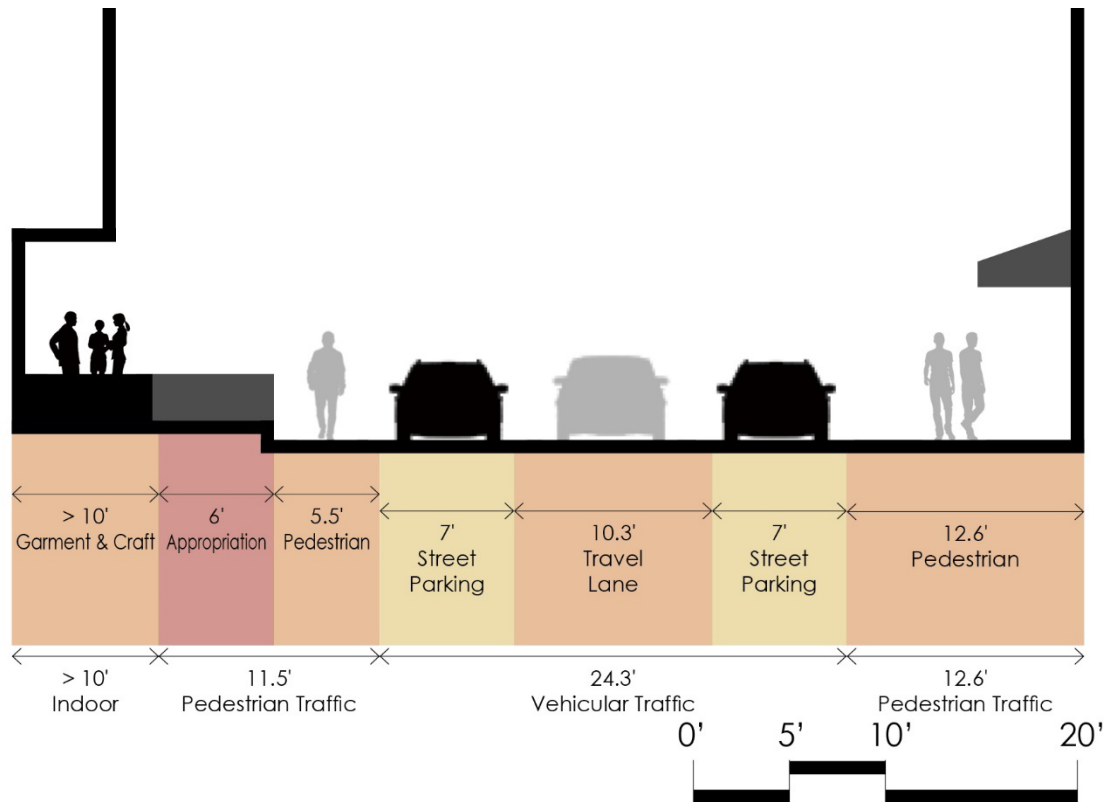
Figure 41 Plan - Ground-level Extension



Figure 42 Section - Ground-level Extension

Appropriation


Openness


Permeability

The pavement extended from the interior space is raised 6" high from the sidewalk, but it is not part of the indoor space. In the observed site, the shop operator utilizes the ground-level extension as part of the merchandise display. The elevated ground, along with the display table actually narrow the sidewalk space by pushing the section of the building towards the sidewalk. Even though the contact section with the pedestrians is expanded by the display, people can only access to the merchandise by entering the narrow entrance because the display is elevated that it is not convenient for people to look at.
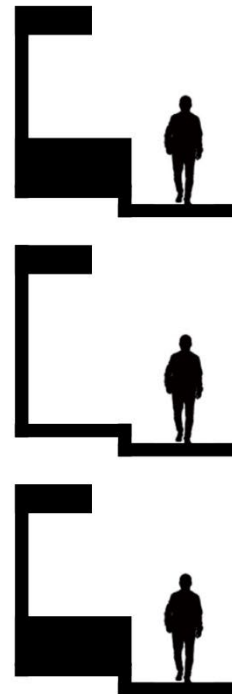
Spatial Sequence



Figure 43 Activity Setting Diagrams - Ground-level Extension

*Extended Canopy*


Shade Structure


To Hang Merchandise


Rain Shelter


Sign

Location: Hester Street at Bowery and
Chrystie Street
Acticity: grocery and convenient store





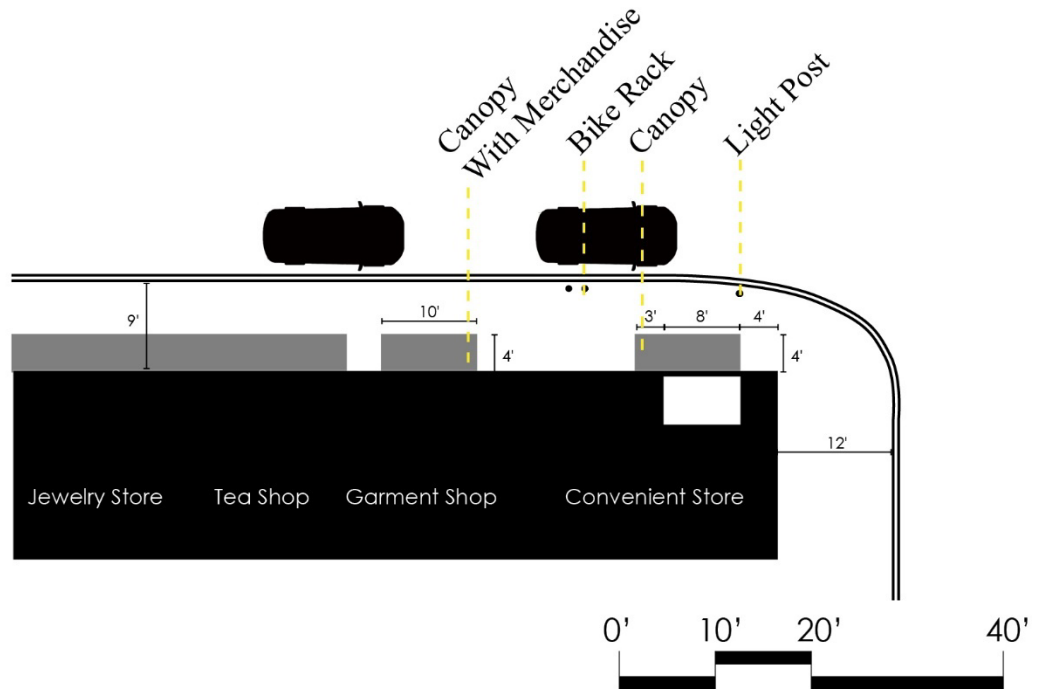Figure 44 Photos – Extended Canopy

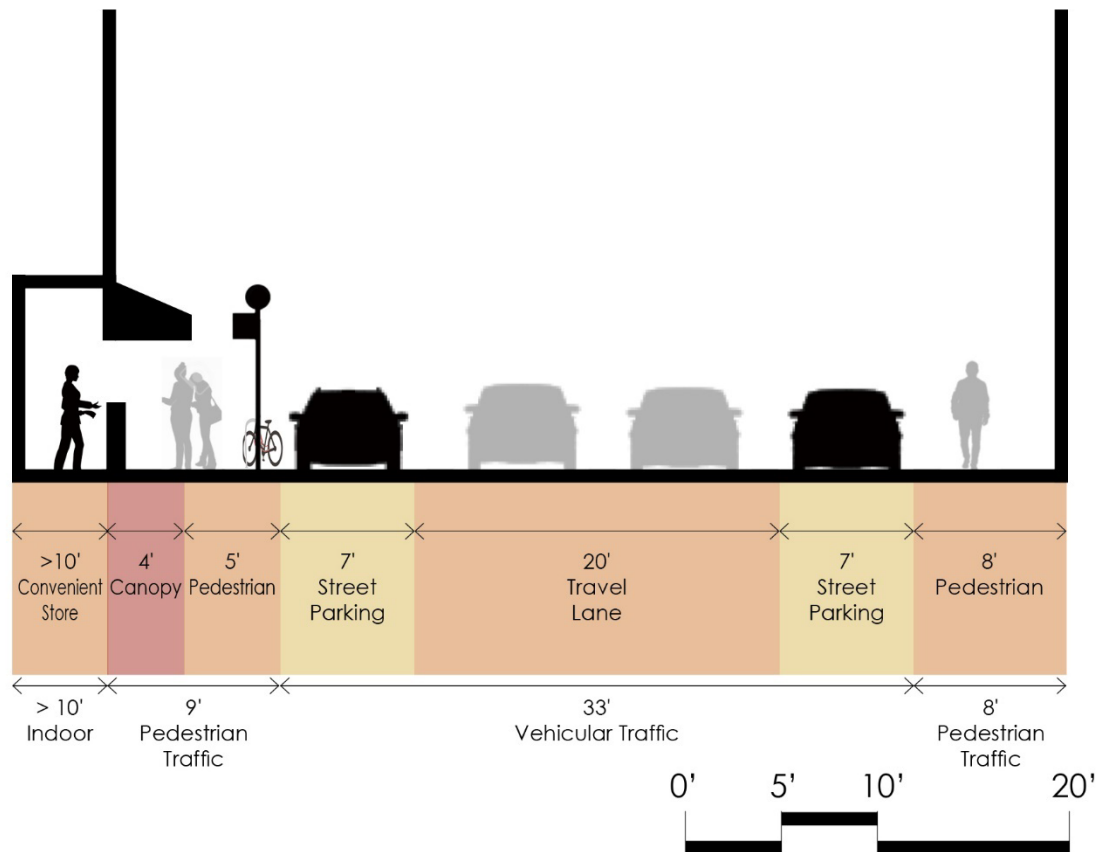Figure 45 Plan - Extended Canopy



Figure 46 Section - Extended Canopy

The canopy is attached to the building facade 8' to 10' above the ground as a shade structure. It usually covers the entrance or the opening of the stores. The extended canopy does not physically appropriate the sidewalk space. It is a overhang structures that might encrouage people to stay in some cases. Usually the section under the  canopy is open to the pedestrian. The canopy makes the covered area into a semi-outdoor space.
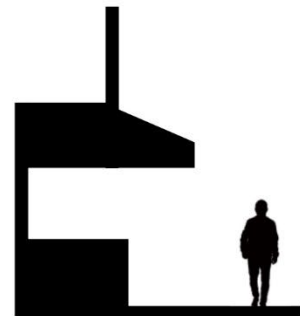
Spatial Sequence



Figure 47 Activity Setting Diagrams - Extended Canopy

*Defensive Screen*


Platform

Platform with Display

Stairs

Restaurant Platform

Location: Grand Street at Bowery and
Elizabeth Street
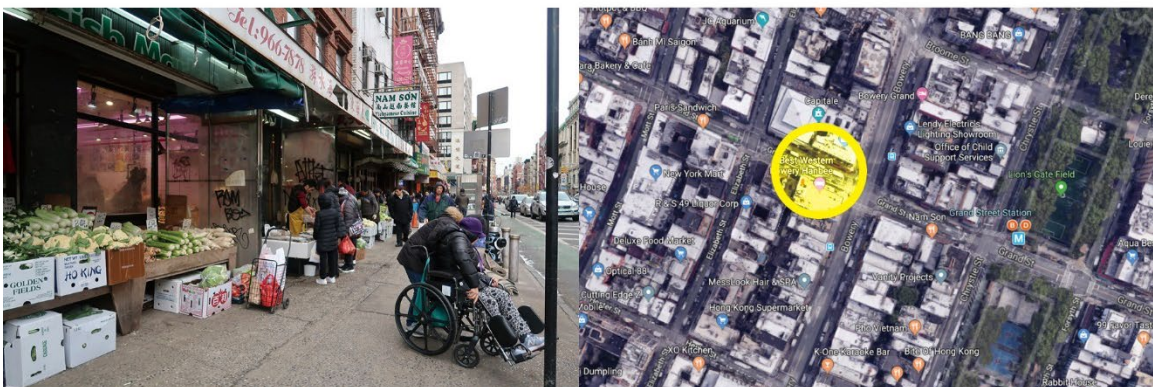Acticity: grocery and sea food shopping
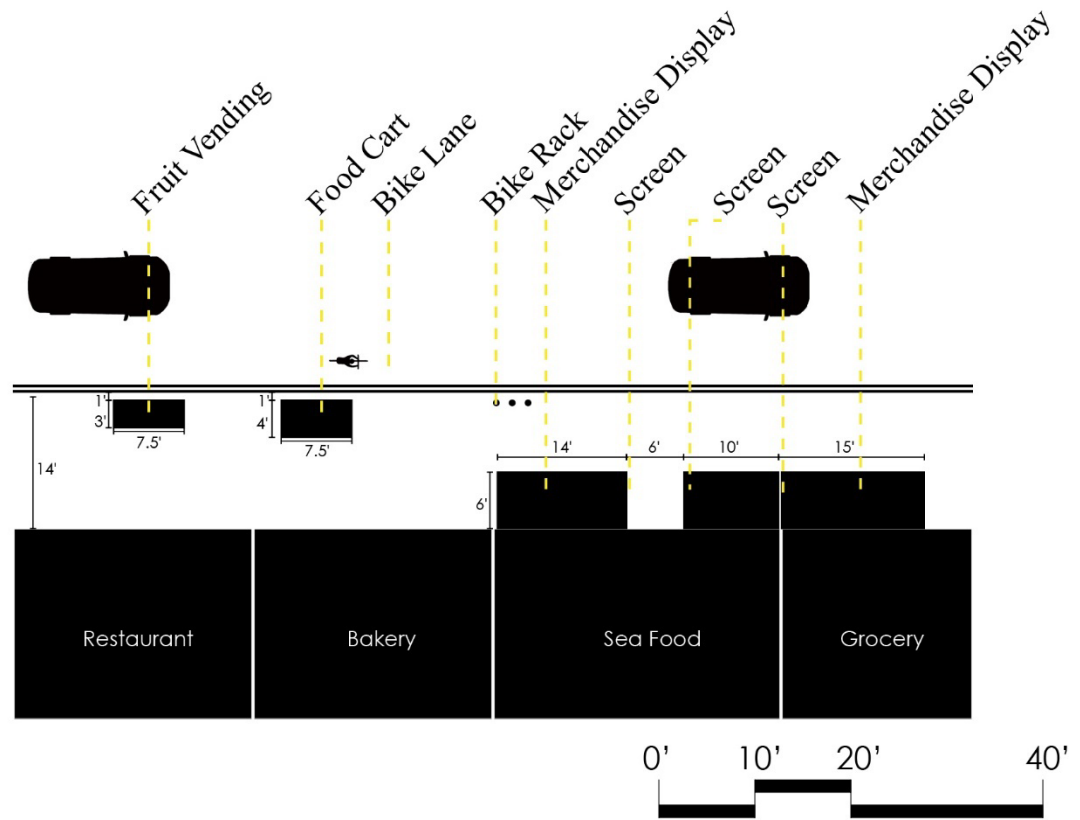
Figure 48 Photos – Defensive Screen

Figure 49 Plan - Defensive Screen
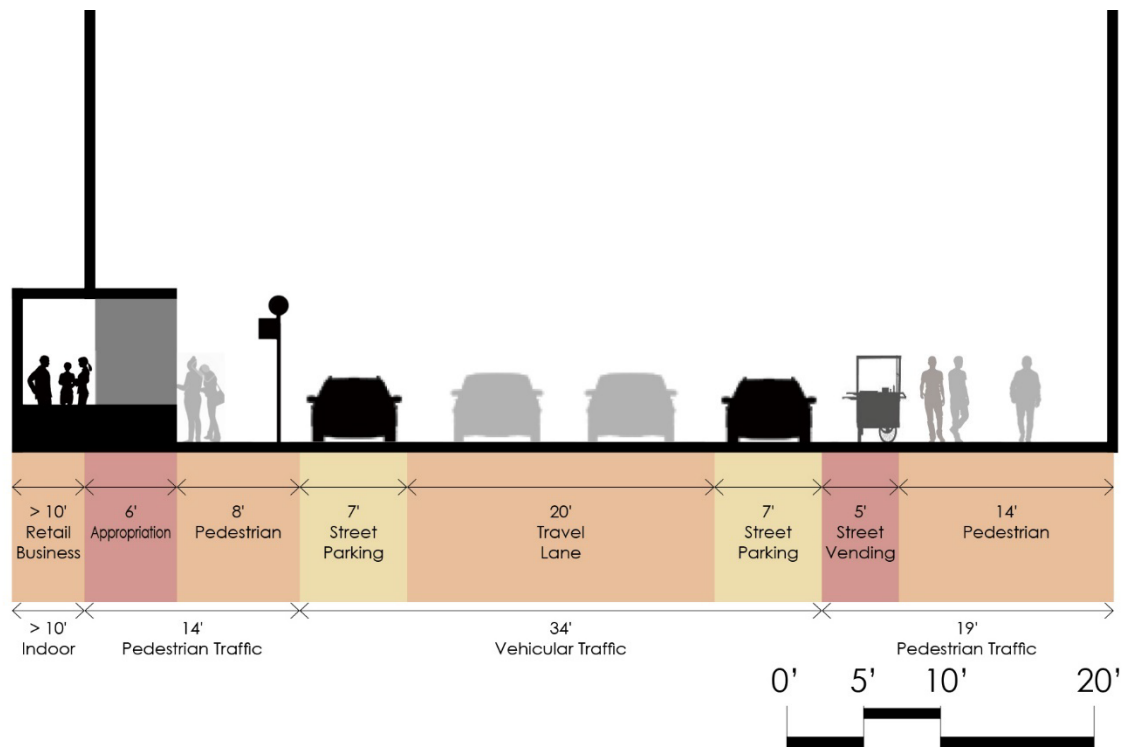


Figure 50 Section - Defensive Screen

The defensive appropriation is to prevent the intrusion from others, which usually as relatively permenant strustures. It is common to see between shops or for the sidewalk cafe. The defensive screen usually takes the form of transparant screens or short fence so that it prevents the physical intrusion but does not block people's view. The screens between shops usually do not influence people's access to the business. However, those for the sidewalk cafe is trying to exclude the pedestrian.

Spatial Sequence



Figure 51 Activity Setting Diagrams - Defensive Screen

*Outdoor Hallway*


Hallway


Entrance


Outdoor Seating of A Restaurant


Flower Shop

Location: Mott Street at Mosco and Worth Street
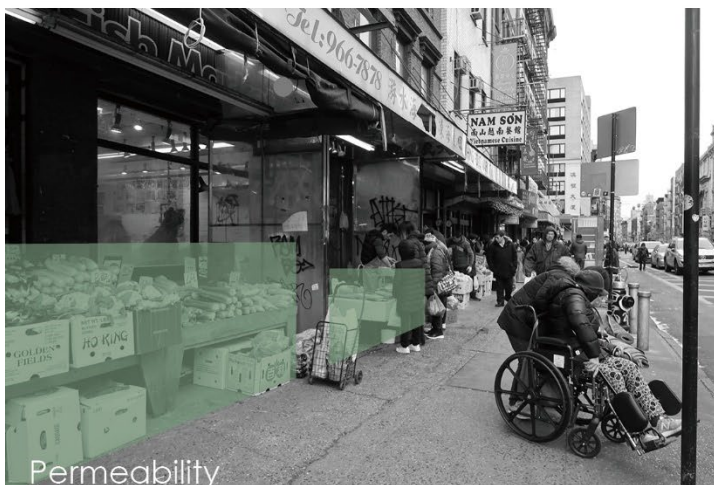Acticity: restaurants, waiting
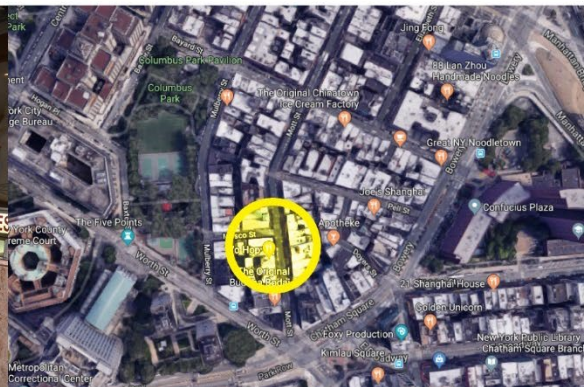


Figure 52 Photos – Outdoor Hallway

Stairs to Lower Level
Outdoor Hallway
Low Stone Wall
Restaurant Sidedoor
Stairs to Lower Level
Light Post

2'  6'  2'  4'  8'  6'  4.5'

12'

5'

4'

10'

Restaurant    Restaurant    Restaurant

0'    10'    20'    40'

Figure 53 Plan - Outdoor Hallway

| >10' Crafts | 6' Appropriation | 6' Pedestrian | 7' Street Parking | 12' Travel Lane | 7' Street Parking | 8' Pedestrian | 4' Appropriation |
|---|---|---|---|---|---|---|---|

| > 10' Indoor | 11' Pedestrian Traffic | 26' Vehicular Traffic | 12' Pedestrian Traffic |
|---|---|---|---|

0'    5'    10'    20'
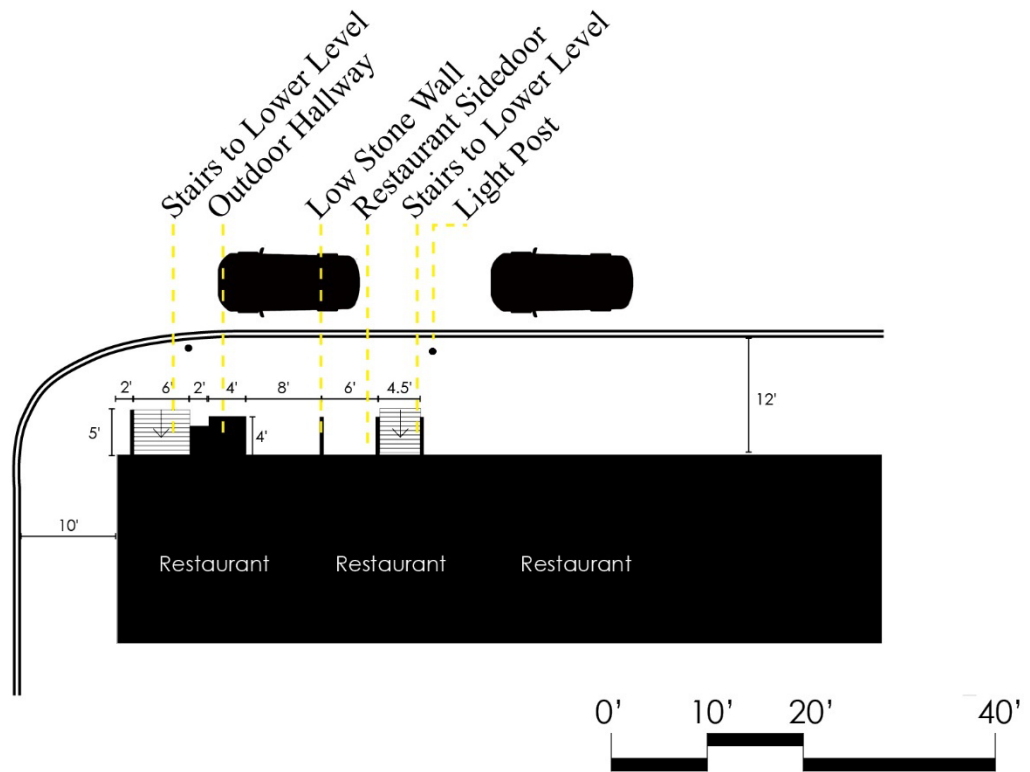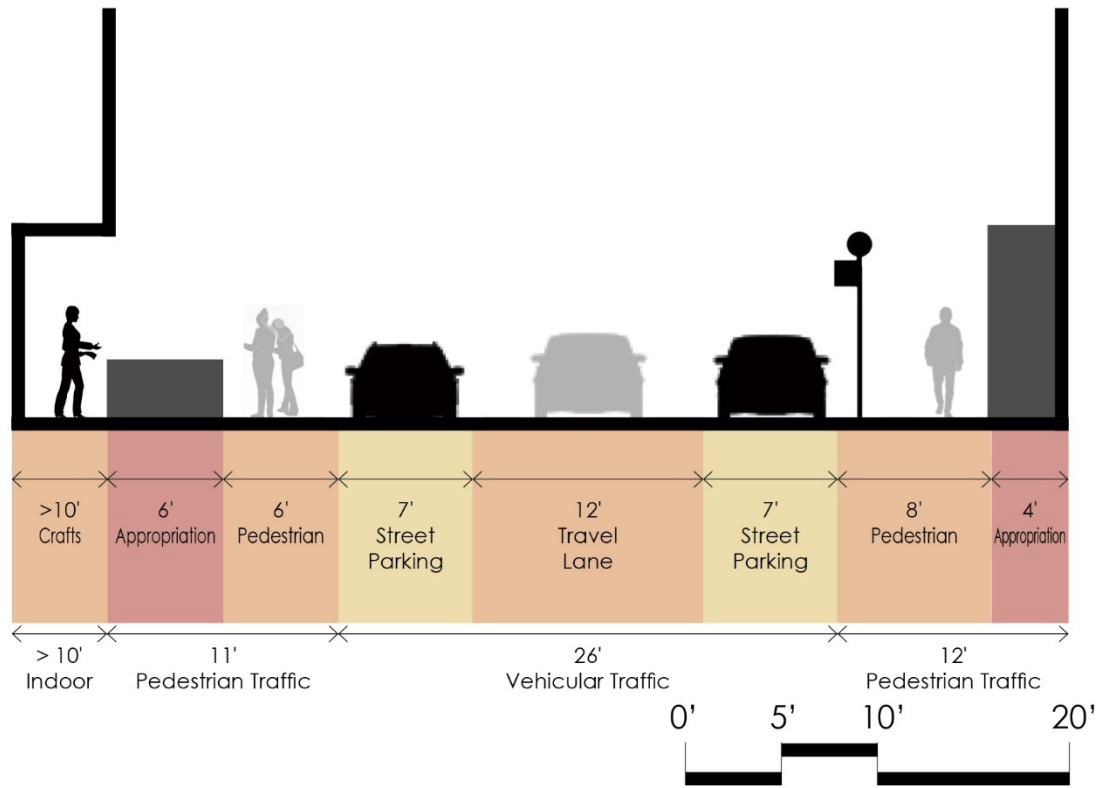
Figure 54 Section - Outdoor Hallway

The outdoor hallway is a both temporary and permenant structure. It is specifically for winter season and removed during the summer, but will stay on the sidewalk during the night time. The outdoor hallway is usually a enclosed indoor space that completely excludes the pedestrian from the business unless they are using the service. People access the business through the door on the side of the hallway. The structure does not occupy the whole storefront area. People sometimes might wait and talk outside the entrance in the indented space.

Spatial Sequence



Figure 55 Activity Setting Diagrams - Outdoor Hallway

The above diagrams highlight the various spatial characteristics of each typologies. Based on their different forms, appropriation structures either serve as a transition zone between the indoor space and the outdoor sidewalk or prevent pedestrian entering the area. Common sidewalk appropriation structures that are not in Chinatowns usually work as boundaries to define the ownership of the space, completely excluding people from entering. Typical examples would be sidewalk cafés or accessible infrastructures. In Chinatown, the main purpose of sidewalk appropriation is to extend the indoor function – selling products – onto the outdoor public space that pedestrian can easily see or access. Whyte argues that transition zone that provides sightline to another place stimulates impulse uses.[122] Appropriation on Chinatown's sidewalk is exactly this kind of transition zone that provides a view for the indoor retail businesses. When pedestrian see it, they will be interested in using it – buying, in this case. The next chapter demonstrates how people use such space by showing pedestrian movement data collected for each appropriation typology.

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[122] Whyte, *The Social Life of Small Urban Spaces*.

## Chapter 6 Sources of Street Vitality

### 6.1 The Indicators of Street Vitality

In order to identify the key features of appropriation that influence street vitality and their significance, a specific vitality indicator is introduced to measure the different levels of vitality. Gehl considers that the vitality and social activities of a place are influenced by the number of people in and the diversity of their activities in the space.[123] Therefore, the physical expression of street vitality can be interpreted as the richness of people's activities and interaction on the street, which should include the combination of the following elements with the same weight:

(1) The number of pedestrians presented in the defined street space.

(2) The number of people involved in interactive activities.

(3) The types of activities that people are involved in.

*Observation Time*

The field observation data were collected from December 2018 to February 2019. During the observation time, the weather and temperature vary at some extent, excluded the rainy days and snow days. The general condition was possible for people to walk and conduct activities outdoor. Each typology was observed for three half-hours in one morning (9 am to 12 pm) and one afternoon (3 pm to 6 pm) during weekdays and one afternoon (2 pm to 6 pm) during weekends. Since the purpose of this research is to measure the vitality sources rather than the activities differences, the observation times were determined based on the previous observation about the significance of the pedestrian density and social interactions.

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[123] Gehl, *Life Between Buildings*.

*Observation Contents and Methods*

The major method to study the street vitality indicators is environmental behavior observation, which provides first-hand data about how and to what extent does the physical environment support or hinder people's behaviors. Behavior observation allows researchers to see how much the sidewalk appropriation will influence the observed objects[124] – people in Chinatown in this thesis. Considering the study of sidewalk appropriation involves illegal issues to some extent, people in Chinatown community would be relatively conservative toward such topics. They are not reluctant to discuss the content with and also refused to be surveyed by outsiders. In this case, observation is an appropriate method to obtain information about how people use the space and how space influence people's behavior without intruding the privacy of them. Observing from a distance also ensure that the act of observation by the researchers does not change individual's behavior in that environment because if people realize that there are other people watching them, they might act differently from they usually do.

The field observation was conducted collectively by two people, me and a friend of mine who volunteered to help me with the research. One person counted the number of the pedestrian within 5 minutes during a randomly selected observation period and multiplied the number counted by 6 to calculate the approximate pedestrians presented on the sidewalk within 30 minutes and record the number and location of activities or interaction in the space. However, because of the large number of pedestrian flow and their constantly changing status, the data might not be perfectly accurate, but it was as close as possible to reality. The other person secretly followed one pedestrian every 5

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[124] Zeisel, *Inquiry by Design*.

min during the observation period to document the movement and the time that the person stayed in that space.

| Indicators | Content |
|---|---|
| V1 - Pedestrian number | Number of people presented on the street within 30 min |
| V2 - Staying | The number of people involved in activities or interactions within 30 min |
| V3 – Activities | Shopping |
| | Talking |
| | Others (stationary activities such as taking photos, eating/drinking, watching other people, smoking, etc.) |

Table 56 Vitality Indicators

(the above indicators are determined based on Jan Gehl's argument and the condition of Chinatown Sidewalk)

## 6.2 Statistics of Pedestrian Density and Activities

The observation of pedestrian movements shows that pedestrians generally can be categorized into two types based on their purposes of being on the street: only for passing by or involving in certain kinds of activities or interactions with others, such as shopping, talking, taking photos, visiting and so on. It is these people with their different kinds of activities that constitute the popularity of Chinatown streets. However, popularity does not equal vitality, which shows the vibrant activities of a certain object. The number of pedestrians only indicates the traffic flow of a street, while those who stay on the street and their diverse activities show the vitality. Therefore, the number of pedestrians is also separated into two categories: passing by and staying. Because the purpose of this research is to analyze how the sidewalk uses influence pedestrian's movements, the data

is comparing the passing and staying activities for each location, not comparing the
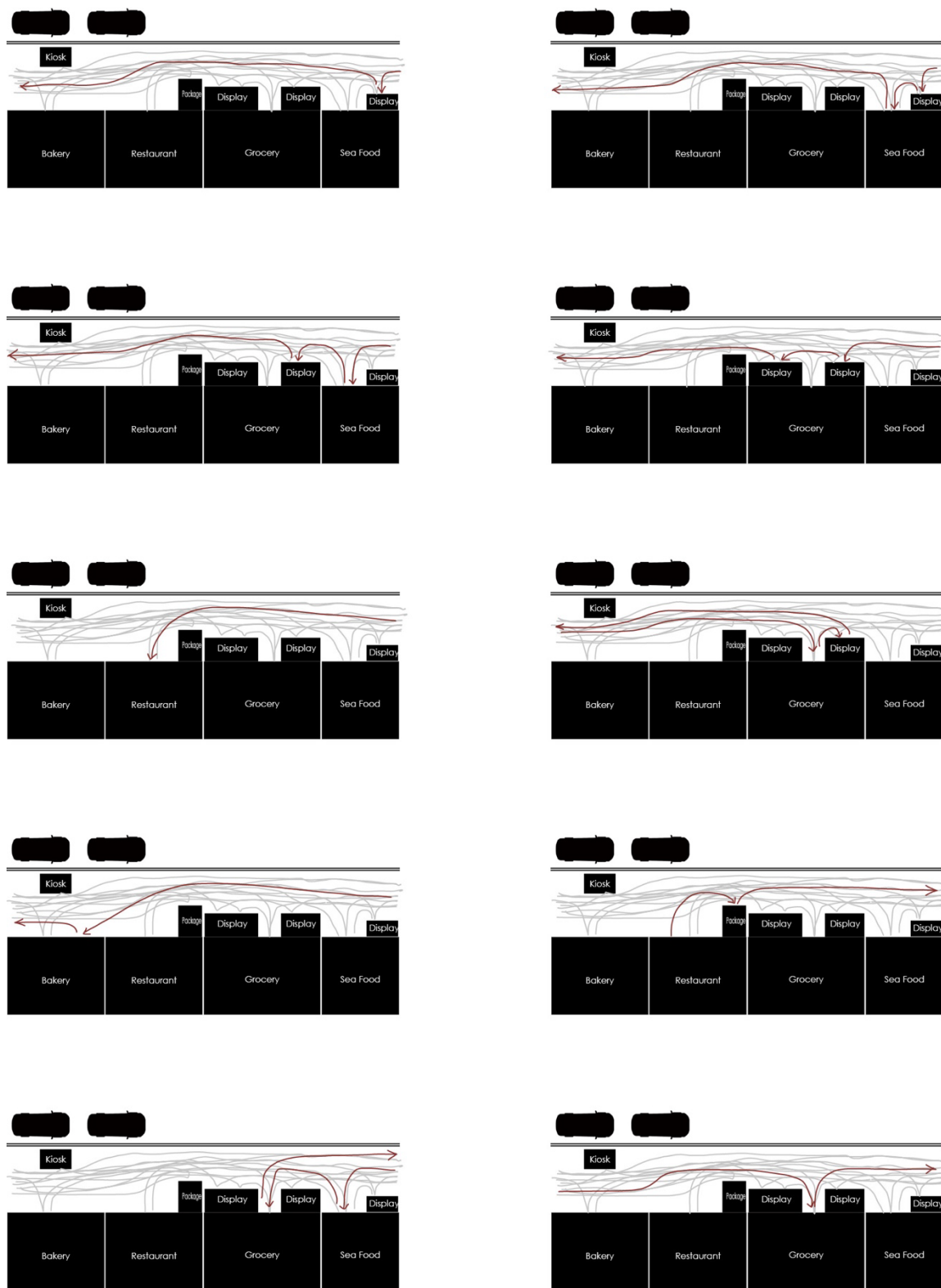
different locations.

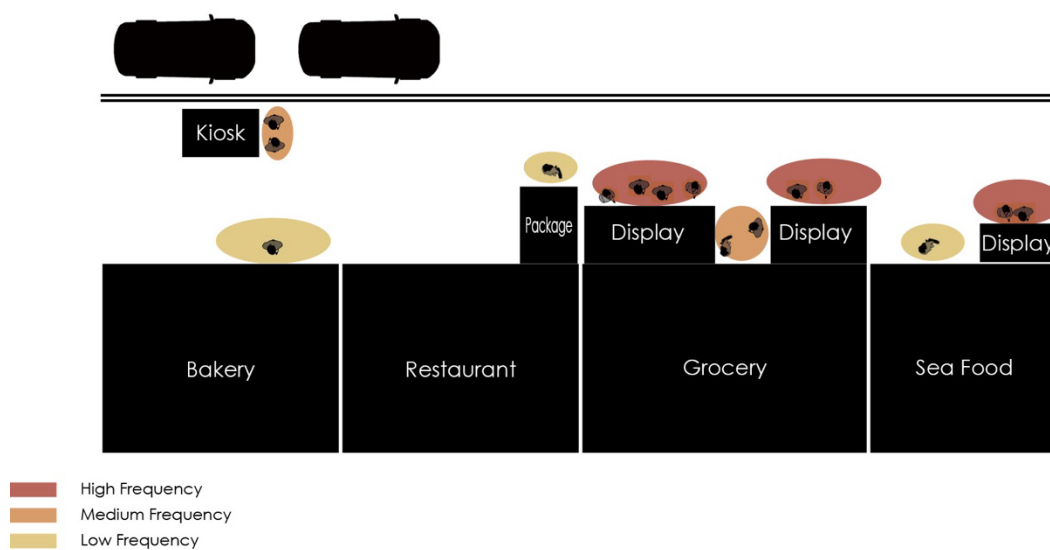Figure 57 Movement Traces – Merchandise Display

Figure 58 Activity Location – Merchandise Display
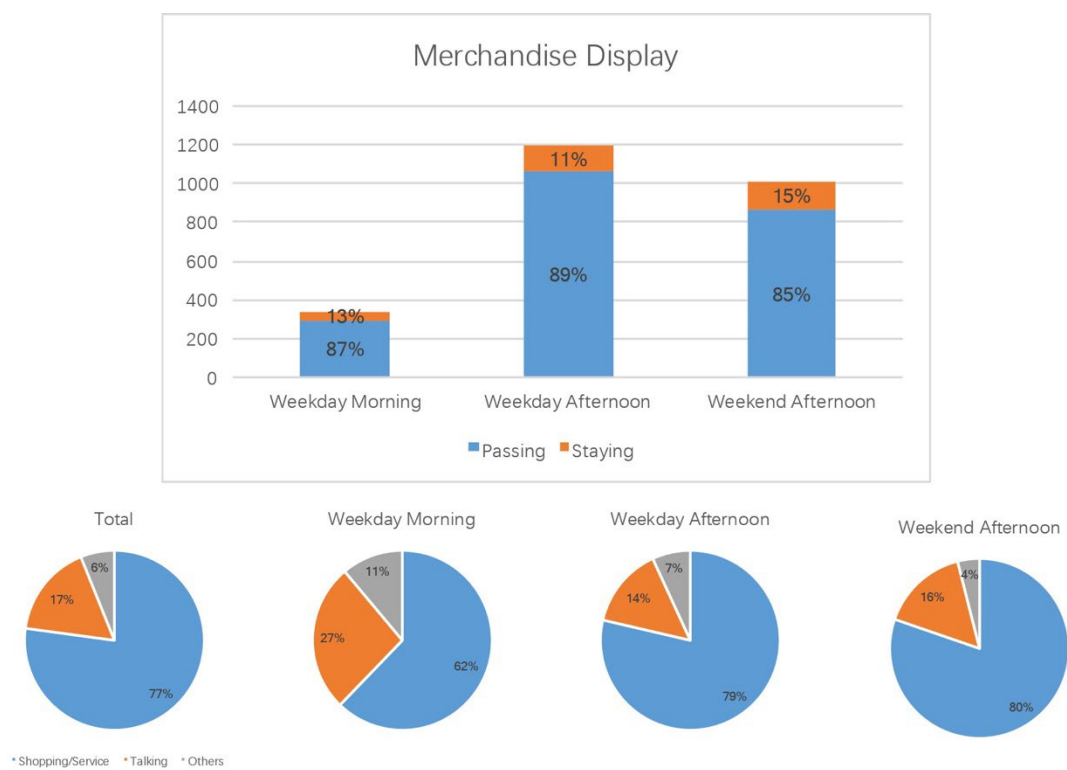


Figure 59 Pedestrian Movement Data – Merchandise Display

Figure 60 Movement Traces – Street Vending

High Frequency
Medium Frequency
Low Frequency

Figure 61 Activity Location – Street Vending
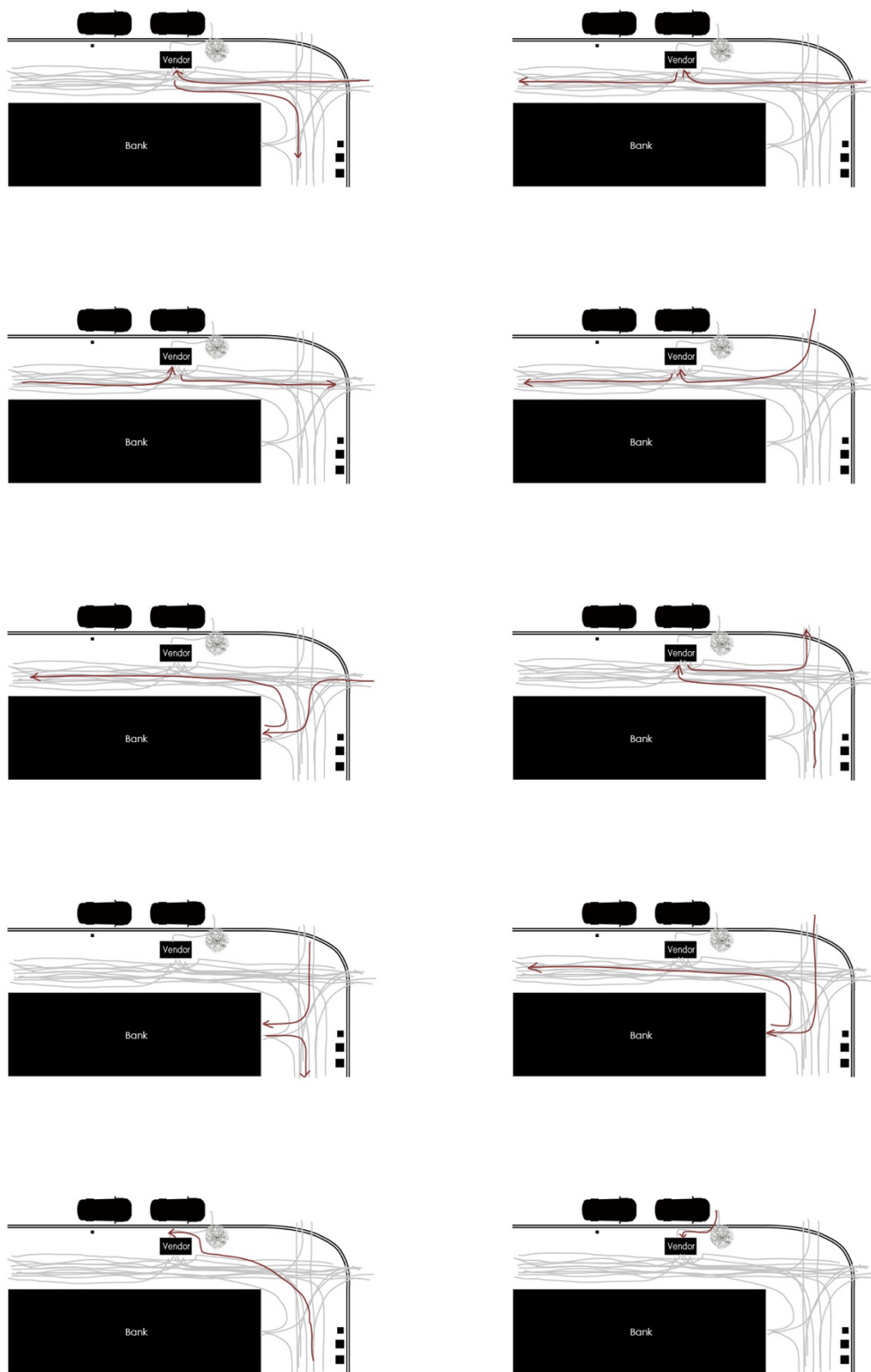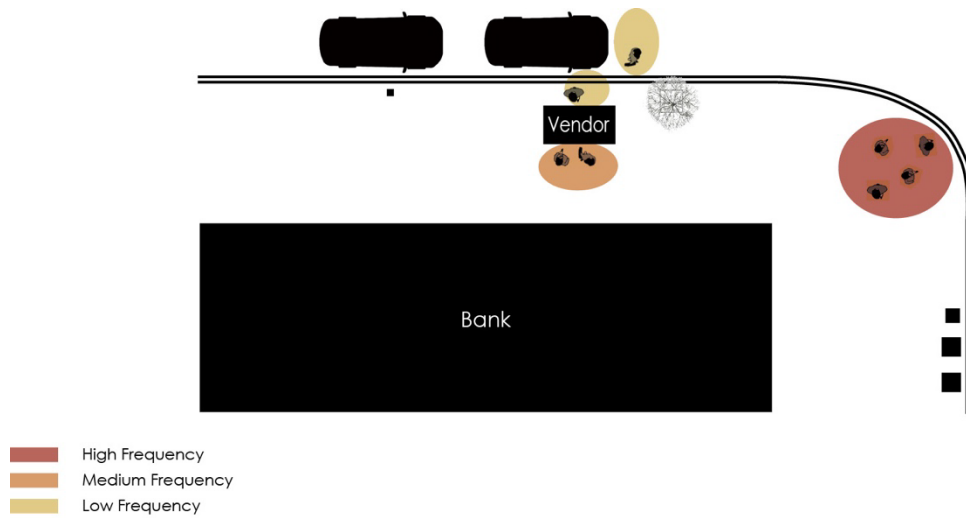


Figure 62 Pedestrian Movement Data – Street Vending

Figure 63 Movement Traces – Ground-level Extension
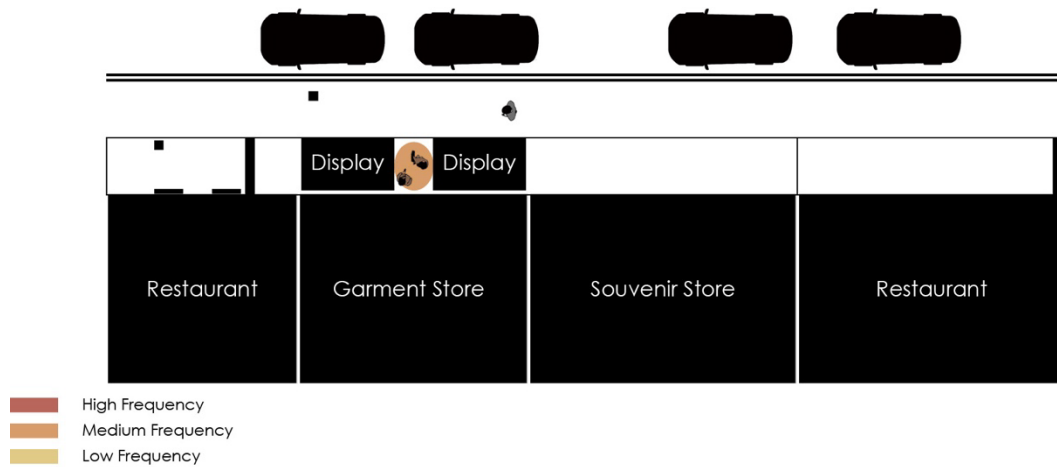
Figure 64 Activity Location – Ground-level Extension
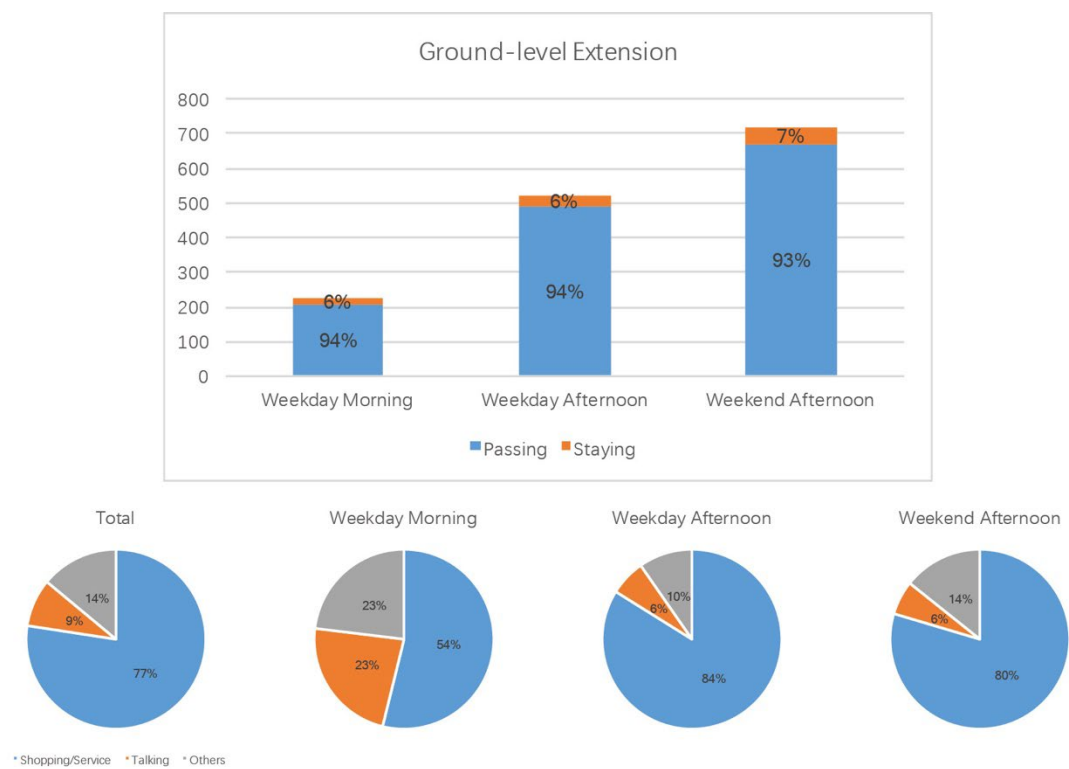


Figure 65 Pedestrian Movement Data – Ground-level Extension

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Jewelry Store    Tea Shop    Garment Shop    Convenient Store

Figure 66 Movement Traces – Extended Canopy
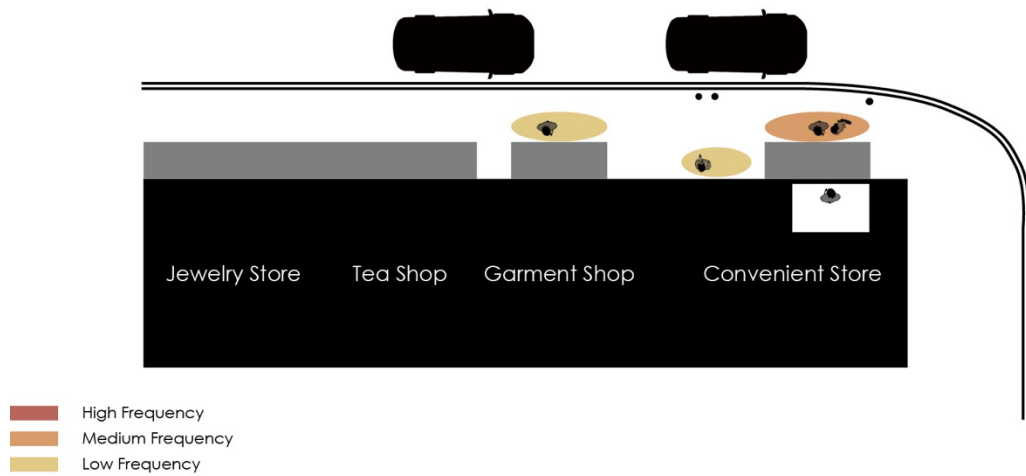
Figure 67 Activity Location – Extended Canopy
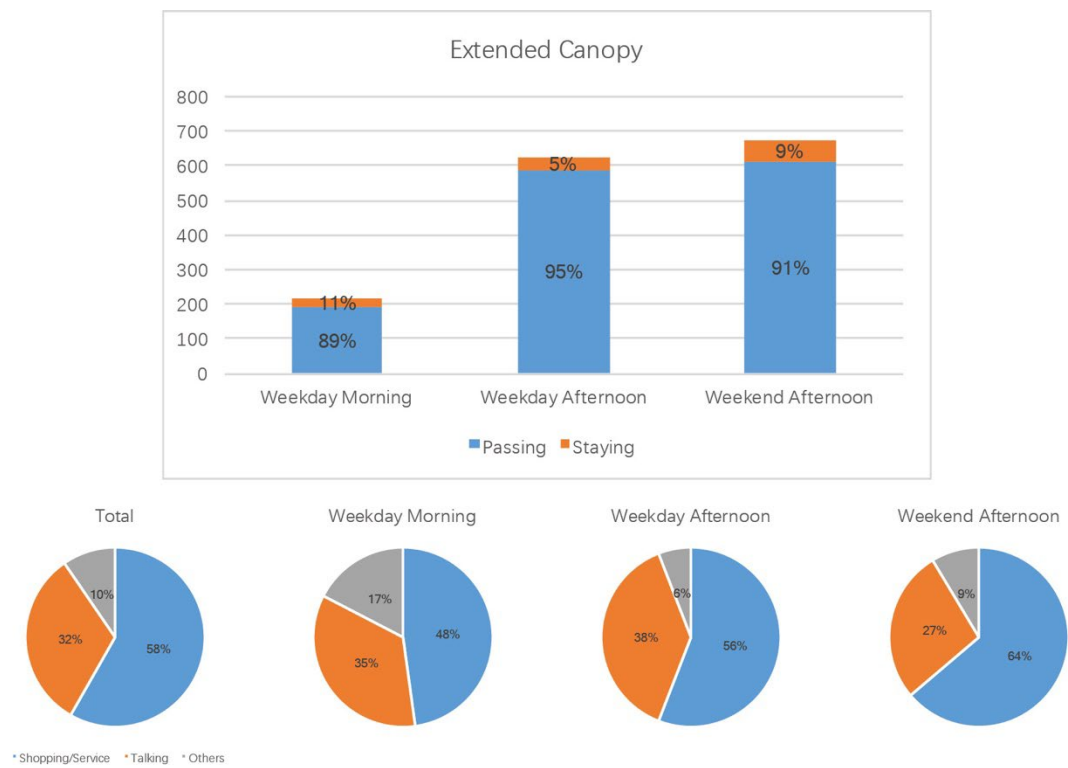


Figure 68 Pedestrian Movement Data – Extended Canopy

Figure 69 Movement Traces – Defensive Screen
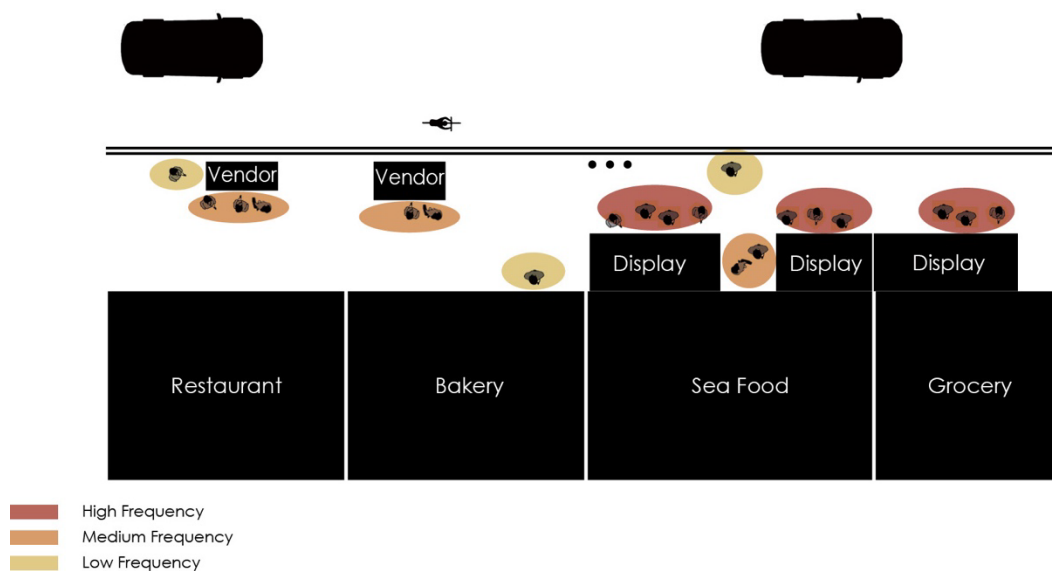
Figure 70 Activity Location – Defensive Screen



Figure 71 Pedestrian Movement Data – Defensive Screen

Figure 72 Movement Traces – Outdoor Hallway

Figure 73 Activity Location – Outdoor Hallway



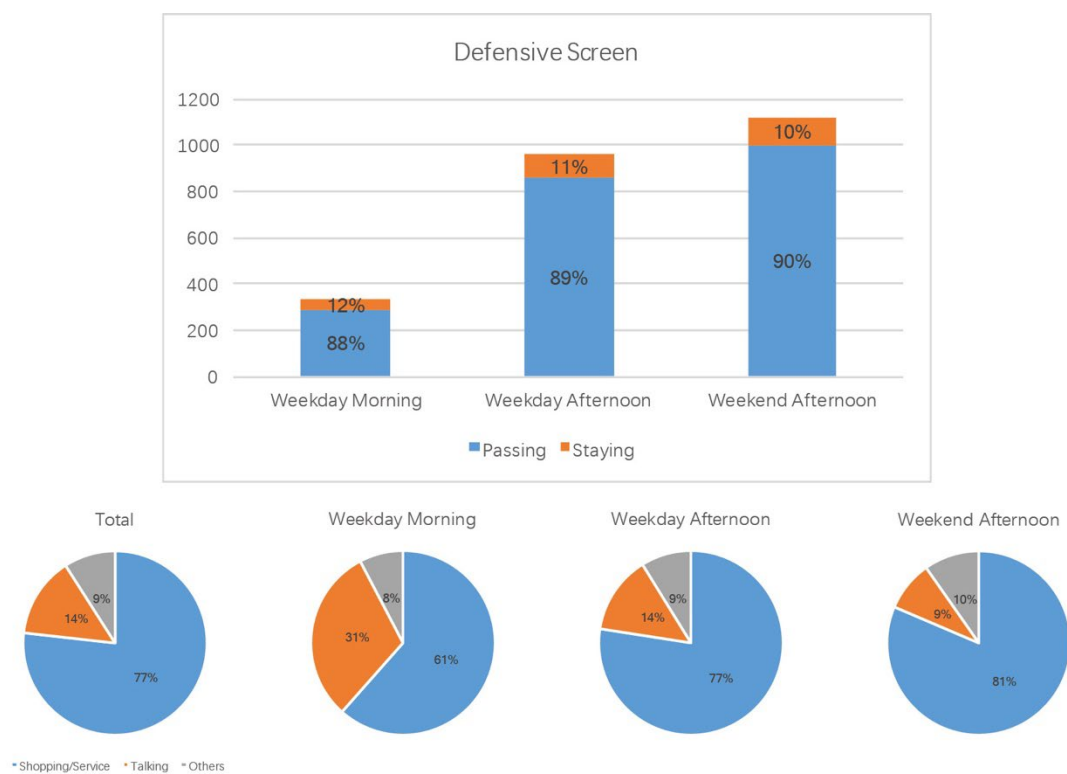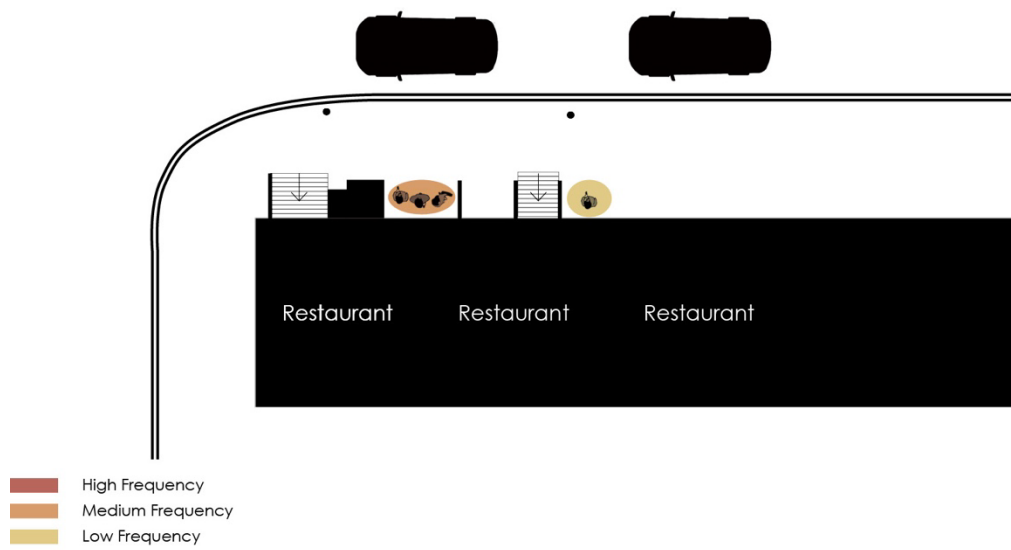Figure 74 Pedestrian Movement Data – Outdoor Hallway

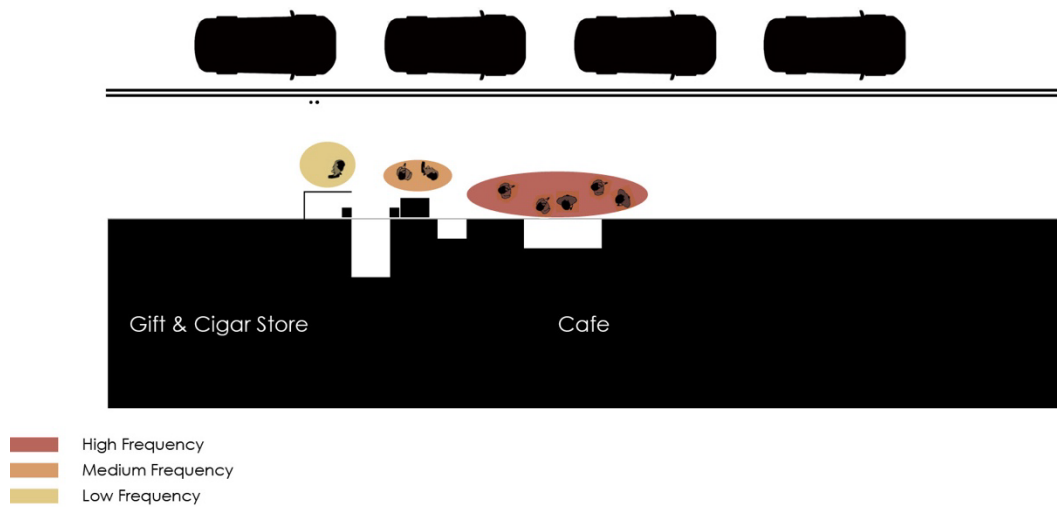Figure 75 Movement Traces – Sign/Advertisement

High Frequency
Medium Frequency
Low Frequency

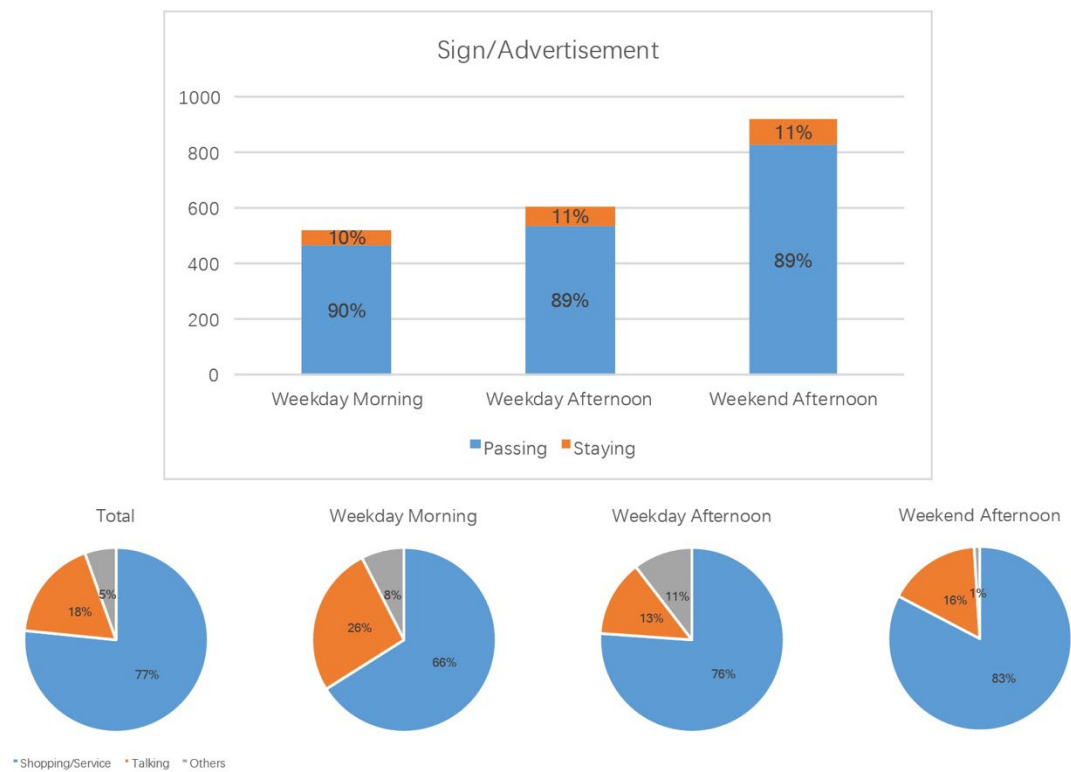Figure 76 Activity Location – Sign/Advertisement



Figure 77 Pedestrian Movement Data – Sign/Advertisement

## 6.3 General Trends and Observations of Pedestrian Movements

*Pedestrian Circulation*

- The pedestrian flow has a relatively higher density during the weekday and weekend afternoons than during the weekday mornings.

- The pedestrian flows between the weekday afternoons and weekend afternoons are not significantly different, but generally, the weekends have a higher density.

- The increase of pedestrian density results in the increase of people staying on the street space.

- The proportion of people who stay on the street for different kinds of reasons ranges from 5% to 15%.

- The pedestrian movements usually continue in the same direction after people conducted activities (stopped for a while).

- The pedestrian flow slows down with the increased pedestrian density.

*Activities*

- Activities conducted on the sidewalk based on observation including the following: shopping (including buying from food carts), looking at the products, looking at store windows, looking at the restaurant menu, asking for information, chatting, eating/drinking, taking photos, talking on the phone, packing/unpacking merchandise, smoking, waiting for friends, waiting for crossing the road, watching the pedestrian on the sidewalk.

- The major activities happened on Chinatown's sidewalks are shopping and talking.

- Different activities do not exclude each other. Some people might conduct only one activity such as eating, drinking or smoking, while others might involve in two or more than two kinds of activities, like shopping and talking at the same time. In this case, if the main activity is shopping while talking is an affiliating activity, such activity was counted as shopping. People who involved only in talking, including with friends, shop operators who are their acquaintances or asking the shop operators or vendors for information were counted as the talking group.

- The majority staying on the sidewalk in weekday mornings is mostly Chinese elders while the afternoons involve more diversity of pedestrian for age and ethnicity.

*Activity Locations*

- Most interactive activities took place where there is access to the stores and vendors.

- Most non-commercial activities that are relatively stationary try to avoid the crowd, taking place where the presence of the persons has not blocked the way of pedestrian or commercial activities.

- Many pedestrians conducted activities in multiple locations on the same street.

- The increase in sidewalk width allows more than one activities happened in the same place.

**6.4 Sources of Vitality**

A city street's vitality is defined by the activities that happen on the street, while the physical environment of the street influences the activities. Vitality is not a design and cannot be designed. It is a product of design that happens as a result of people responding to spatial quality. For Manhattan's Chinatown, the main reason why it is so vibrant is that there are so many activities going on in the street space. Part of that is because of the high concentration of Chinese immigrants in this ethnic community, as well as a large number of tourists who are attracted by the exotic culture. The increase in density, whether it is of the local community of the visitors, increases the opportunities for people to conduct different kinds of activities on the street. Also, this high concentration of Chinese culture, resulted from the concentration of immigrants, attracts more visitors for the exotic experience. Such an environment is constituted by many essential elements including humanized scales, diversity in business, architectural style, safe street space and the richness of street activities.

*Exotic Experience*

The most exotic features in Manhattan's Chinatown are those embellishments attached to the building facades, by both the government as well as property owners. Manhattan's Chinatown started as an ethnic enclave that provides a transitional neighborhood for coming immigrants. The New York City Planning Council has acknowledged the diversity of demographics as well as the physical environment in the Chinatown and tried to utilize such differences. Several planning projects that try to embellish Chinatown with Chinese architectural elements express the government's wish to cast the whole neighborhood as an exotic tourist location for Western society. The

architectural features that are used in Chinatown are exaggerated, which are not necessarily authentic but align with the Western's imagination of what China should look like. Even though the local community opposed many projects of this kind because they preferred government's investment in public housing, the community associations and the retail businesses inevitably adopt many similar actions in order to attract tourists to support the neighborhood.

Compared to the top-down actions that try to frame the neighborhood as an exotic place visually, the different uses of space by the local community display the Chinese culture by everyday practices from the bottom-up. Sidewalk appropriation by the retail businesses is the most apparent and representative everyday use of public space in Chinatown. Working within the regulations, the storefront businesses use the area within the right-of-way as part of their stores since they have the right and responsibility to manage that space. It is a cultural tradition in China to use the street as a marketplace and shop on the sidewalk. Such cultural implication is formed by the users themselves spontaneously instead of being designed by the professions. Sidewalk appropriation in Chinatown is a cultural difference related to everyday life that indicates people in the neighborhood are also exotic, not only the physical environment. It is the everyday cultural activities that apply the authenticity of Chinese culture to the place.

*Activities Location*

From the statistics of pedestrian movements, it seems that the pedestrians are unevenly distributed in Chinatown. Generally, places with more access to different businesses have a higher concentration of pedestrians as well as activities throughout the day. Retail businesses in Chinatown have great diversity, including produce, seafood,

dry-salters, garment, souvenir, jewelry, accessories, snack, etc. Those businesses can complement each other and also encourage activities in different period because they can attract various customer groups. For instance, people can go to the grocery shop and then use the vendor that sells fruit as an alternative source.

On the contrary, like the observed site of the outdoor hallway, there is only one function in that area – restaurants – thus, except those people who want to go to this specific restaurant, there are not many people passing by that place. A sidewalk with several different businesses is able to satisfy people's multiple needs at the same time. The diversity of businesses also related to the location of the sidewalk. Typically, those sidewalks that are near the access points of public transportation usually have more businesses and more diverse because people can access those place more easily.

In Chinatown, people and their activities usually concentrate in the same area, because activities on the sidewalk can be seen as a self-reinforced process, in which activities themselves attract more activities. As Gehl writes, "something happens because something happens,"[125] or Whyte's discovery that "people attract people."[126] People usually prefer to gather where everybody else gathers and sometimes attract by other people's activities and then join in it. Such phenomenon is the manifestation of the activity consolidating its existence. In order to enhance the vitality brought by different kinds of activities, it is essential to ensure that people can observe others' activities in a certain place. In Manhattan's Chinatown, because the sidewalk appropriation extends the activities, such as talking and paying for the merchandise, on to the sidewalk space where everyone is able to watch, it increases the activities in the open space and also the chance

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[125] Gehl, *Life Between Buildings,* 75.
[126] Whyte, *The Social Life of Small Urban Places*.

that such activities can be seen by others. It allows the development of the positive self-reinforced effect of activities so that the streets in Chinatown can attract more people to stay and conduct activities.

*Spatial Scale*

A human-scale is the foundation for people to establish a sense of intimacy with space. In cities or building clusters with an appropriate scale, people can have a better connection with the place from the narrow streets, the small space, architectural details that can be easily noticed or the less distance with other people, while people might feel detached in large cities with huge open space, wide streets and skyscrapers because it is difficult to establish connections with space with a much different scale. Ashihara discusses the appropriate proportion – the ratio of the distance and the height (D/H) – of the street space in his book *The Aesthetic Townscape*: when the D/H > 1, the sense of detached increases as the D/H grows larger; when D/H < 1, the space becomes crowded with the decrease of the D/H ratio; the street space reaches a balance when D/H =1.[127] In Manhattan's Chinatown, the ratio of the distance between buildings and the buildings' height (usually less than 100 feet) is around 1. However, what influences people's activities is the first floor of buildings and the sidewalk space. Because of the street parking that separates the roadbed with the sidewalk, the distance that people can feel when walking on the sidewalk is the sidewalk space rather than the whole street. The ratio of the sidewalk width and the first-floor height is also around 1, which conform to the humanized street scale suggested by Ashihara. The space with such scale provides a comfortable place for people to stay or conduct activities, which increases the chance to

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[127] Yoshinobu Ashihara, *The Aesthetic Townscape* (Cambridge, Mass: MIT Press, 1983).

interact with each other and then encourages more activities that bring vitality to the
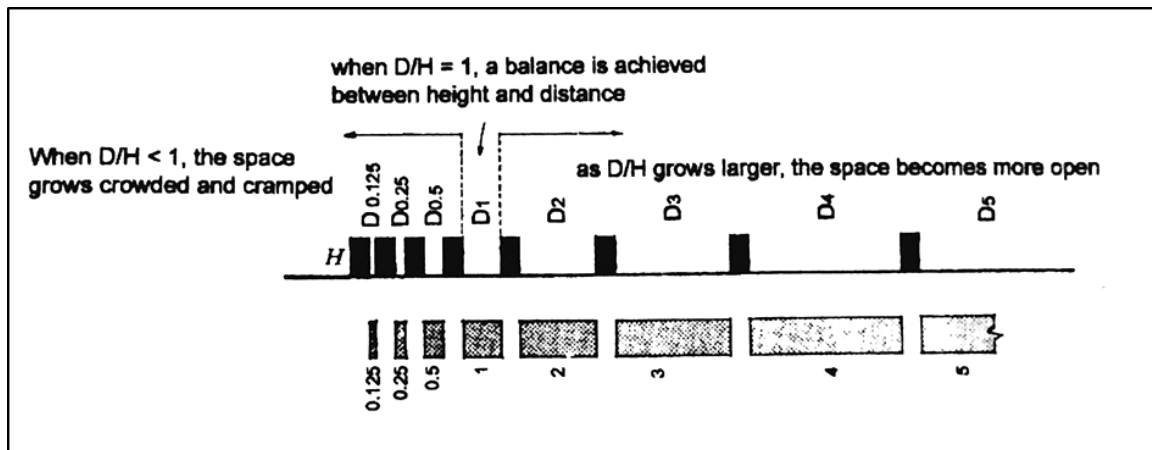
streets.



Figure 78 The Ratio of Streetscape: Comparison of Distance (D) and Height (H) of Adjacent
Buildings
(the ideal ratio of D/H is 1)

*Accessibility*

The stores that are more accessible by the pedestrian appear to be appealing to a

greater extent because, in Chinatown, the action of looking for merchandise is closely

related to the pedestrian movements. Whyte concludes from his observation of the

characteristics of urban public space that the connection of a space with its surroundings

is beneficial to increase the convenience of using that space by different groups of

people.[128] When the storefront business shares a larger section with the sidewalk, it forms

a closer connection with the sidewalk space, which the pedestrians have more direct

contact with the business. It increases the chance that people will see the merchandise

that they are interested in and buying it. Especially in a tourist destination like Chinatown,

people rarely look for a specific product but rather are interested in those that attract their

attention in the first glance. Therefore, for many stores, the sidewalk is the place where

they do business while the indoor space is actually for storing. The less distance between

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[128] William Whyte, *City: Rediscovering the Center* (Philadelphia: University of Pennsylvania Press, 1988).

the stores and the pedestrian encourages contact, which becomes interaction and

production.

## Chapter 7 Conclusion - A Vibrant Neighborhood in Manhattan's Chinatown

### 7.1 Recommendations

The purpose of this research is to understand how the sidewalk experience in Manhattan's Chinatown – the cross-cultural activities of shopping on the sidewalk space – influences the uses and perception of the street. The analysis using activity setting and environmental behavior observation approaches provides some evidence on how different types of sidewalk appropriation are integrated into the street space, as a form of nodes that encourage activities. The findings of this research try to provide some inspirations to more inclusive street design strategies that incorporate users' social and cultural needs.

*Place Identity*. The history and development of Manhattan's Chinatown indicate the transcultural identity of the neighborhood as an immigrant community. The exterior force of immigration and planning policies and the interior force of self-selected, social and economic network define the concentration of both Chinese immigrants and Chinese culture in this neighborhood. It is the high concentration of an exotic experience (for the Western population) as well as the indigenous experience (for Chinese immigrants) that attracts visitors and residents. Especially in today's increasingly homogeneous and identical modern landscapes, Chinatown stands out for its legible and distinct place identity. While the cities have the ability to accommodate people with diverse backgrounds, a sense of belonging brought by place identity becomes essential for a neighborhood to thrive.

*Activated Space*. The main difference between streets in Manhattan's Chinatown and other modern areas in Manhattan is that the sidewalk space in Chinatown is actively

used by people. The sidewalk appropriation transforms the sidewalk space to adapt to people's everyday activities. Here, the everyday activities refer to those that satisfy people's psychological needs rather than the daily activities of moving from one place to another – transportation. Such use of space encourages interactions, whether they are social or commercial, happen in the open space, where everybody else can see. And Whyte discovers that people themselves attract people.[129] Similarly, Time Square, as a famous tourist destination that numerous visitors hang out outside the buildings, attract more people to stay, than any other open spaces. The density and diversity of interactions that pedestrian can easily see on sidewalk space in Chinatown, therefore, attract more people.

The core area of Chinatown shows a particular vibrant streetscape compared to other lower Manhattan's neighborhoods, but it does not mean that Chinatown has not suffered from the decline of a traditional ethnic enclave. Two main problems of today's Chinatown are gentrification and the increasing number of vacant lots. Attracted by the pedestrian-friendly environment and the convenient connection to the surrounding commercial districts, more young professions are choosing to reside in the surrounding neighborhoods of Chinatown. Those new residents include not only Chinese immigrants but also people from other Asian regions. In addition, the overseas investment in real estate is aggravating the gentrification process of Chinatown district. Along with the industrialization, which is the main cause of the decline of garment and hand laundry industries in Chinatown, a large portion of the residents are forced to leave or displaced to other areas with a lower rent. This displacement results in many vacant properties on

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[129] Whyte, *The Social Life of Small Urban Spaces*.

the ground level where the businesses' profit cannot support the rent of the place plus the life of the shop owners. Those areas become increasingly deserted, with the residents as well as visitors.

The analysis of vitality sources of different typologies in street space in the core area of Manhattan's Chinatown provides some clues about how to keep such vitality or use them to revitalize other areas that suffer from a decline. However, it is almost impossible to design every corner of the neighborhood into a perfect place. This thesis is not trying to identify the future of the neighborhood – whether Chinatown should transform into a modern district, develop as a tourist destination, or return to an ethnic community. Rather, it identifies some critical elements that professions can adapt to revitalize the neighborhood based on the existing site condition.

## 7.2 Conclusion

The spatial arrangement in Manhattan's Chinatown is a combination of the modernist urban planning idea of the street and the traditional street space. Similar to Le Corbusier's composition of the efficient street, Chinatown's streets have a clear separation of the pedestrian and vehicular traffic by the street parking. However, this separation of different modes of traffic does not ensure the efficiency of the flow. Because the streets in Manhattan's Chinatown are narrower than other streets and even the standard in the commercial district in Manhattan, vehicles have to slow down for the safety purpose. Similar to the sidewalk, because of the narrow space as well as the large flow of pedestrians, people can hardly walk as fast as in a relatively empty sidewalk. People's sense of safety walking on the sidewalk increases because of the lower speed of vehicular traffic. Such separation only applies to the types of the movements – without

vehicles or with vehicles – but not the functions of the sidewalk. Sidewalks in Chinatown not only carry the pedestrian traffic but also serving as the marketplace and public space for social interactions, especially those related to commercial activities. This mixed use of sidewalk space, which is similar to the successful streets that Jane Jacobs describes, encourages activities to take place which add vibrancy to the place. The ambiguous publicness of sidewalk right-of-way allows different kinds of activities happen in the same space. The encounter between commercial activities and pedestrian movements promotes more social interactions between the passerby and the shop operators. Compared to the main streets full of retail businesses, other areas without such sidewalk appropriation or even closed feel dull and very desolate. Not many people walking in that area, not to mention stopping and talk to others.

The characteristics of sidewalk space in Manhattan's Chinatown also expand Kevin Lynch's idea of the image of the city. Lynch argues that the image of the city is constituted by five elements – paths, edges, nodes, districts, and landmarks. In his thinking, the paths are the predominant elements of the city images which people move through and use it to organize the images while the nodes are usually junctions among other elements or strategic points.[130] However, the paths – the sidewalks – in Chinatown are not only linear features that people move through. The nodes here are not only intersections of different elements but more about the intersection of different movements and activities which people stay or gather. The mixed-use sidewalk space can be realized by the diverse street vending along the sidewalk, which multiple nodes are attached to the paths so that every single linear feature is broken into several short ones. People do not move through the paths directly without any stops but turn to the nodes one or more times

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[130] Lynch, *The Image of the City*.

along the paths. Those nodes not only attract more people but also keep them longer on the sidewalk.

Therefore, the vitality of Chinatown streets comes from the different uses located along the street as well as the mixed-use sidewalk space itself.

## 7.3 Discussion for Further Research

Focusing on sidewalk appropriation, this thesis provides a general investigation on its spatial characteristics and their impacts on pedestrian movements and the function of the sidewalk space, considering their relationships to the street vitality. Further research is necessary to obtain a comprehensive understanding of the formation of vibrant street space. Several elements that are mentioned in the previous chapters raise questions needed further investigation, but they are not the focus of this thesis.

After identifying the key features of sidewalk appropriation that impacts the street vitality, the next step will be to obtain feedback from people who are using the space. What do different interest groups perceive such use of street space? Do they think it is a good thing or a bad thing? The feedback from actual users as well as the planning board or city government is critical to improve the current quality of the environment. This step is critical for professions to incorporate such use into the place-making without offense to the regulation or resolve the negative impact of such uses.

Another critical question relates to the street width and its impact on street vitality. In Manhattan's Chinatown, because of the high density of population and buildings, the street, as well as sidewalk space, are narrower than those of a similar scale. However, they keep the minimum standard of regulations in order to ensure the basic function of transportation. It seems obvious that the streets and sidewalk width should not be smaller.

The narrow sidewalk space increases the connection and intimacy between people, which is beneficial to construct the place as a locale. If the street is only designed as a path for transportation, the density of pedestrian might decrease the efficiency of the street. To determine the ideal width of the street and sidewalk depends on their actual functions and how people use the space.

This analysis did not mention the role of street trees, not because it is not important for street space. In Chinatown, there are not many streets presented on the sidewalk space. Most of them are located in areas where there is more open space. Even when there is a street tree, it is in poor condition that it is usually used as a post that people put objects next to it rather than for shading or adding some green in the space. Therefore, it raises the question of whether street trees that function as vegetation impact the street vitality and how.

Moreover, as mentioned before, the sidewalk becomes a living space because the street parking separates cars and people and provides a safe sidewalk space. In Manhattan's Chinatown, such separation is the key feature that defines the sidewalk space. However, other elements or structures can also result in the separation between vehicular and pedestrian traffic like fences or elevation change. In this way, is the street parking an essential element for the place making or is the separation the critical elements? How do people's perceptions of street space change if there is no street parking?

This thesis shows that the sidewalk appropriation in the district represents more than an economic opportunity or daily needs for the community. It also provides a significant opportunity to promote social interactions in public spaces. The research reveals some potentials regarding the sidewalk as public space that can be used to

revitalize the urban area and also identifies some issues that might need to be resolved. I hope my research can provide some inspirations for the professions in order to design vibrant public spaces that can (re)vitalize of Chinatown, as well as other urban areas have similar problems.

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