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Rethinking Livability in Megacities: Applications of Jane Jacobs’ Theories on Tokyo and Los Angeles

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Rethinking Livability in Megacities: Applications of Jane Jacobs’ Theories on Tokyo and Los Angeles

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Readers:
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Professor Marc Los Huertos
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Abstract

This senior thesis in Environmental Analysis compares critical infrastructure pieces in Tokyo and Los Angeles, on three discrete levels, with a particular focus on the pedestrian experience. As global population grows, with more people projected to live in urban cities more than ever, it is critical that we re-evaluate how we think about and “do” city-planning. Following Jane Jacobs’ theoretical framework, this thesis dissects what urban greenspaces, city neighborhoods, and sidewalks look like in LA and Tokyo. It analyzes, for each proxy, how two of the world’s most “developed” and largest cities have developed into the current landscape. Historical, cultural, economic, and political legacies matter, and a comprehensive evaluation of the three proxies in context of these legacies are recommended for more pedestrian-friendly city planning in rising metropolises.
Introduction

日比谷公園 (Hibiya-Koen; Hibiya Park) right outside my 28 floor-tall building was my sanctuary for the nine weeks that I worked in 霞ヶ関 (Kasumigaseki) this summer. It was where I went for a quick bite in the shade under the trees, or for quiet walks after work. In the midst of client meetings and staring at the computer all day, walking in the park - or even just glancing at the lush greenery outside the window from my cubicle - provided me with a sense of relaxation.

I also remember, whenever on a taxi to attend client meetings, the 皇居 (Kokyo; Imperial Palace) to the left of me as we approached the 丸の内 (Marunouchi) area from Kasumigaseki. It was a peculiar feeling to be moving inside a car with very different landscapes to my left and right: on my right, edifices of tall office buildings dominated, while on my right, the Kokyo river and tranquil greenery that surrounded it. This Marunouchi area, known as the economic hub of Tokyo, as well as the adjacent 永田町 (Nagatcho) area, where the National Diet is located, is truly a hybrid. Skyscrapers, home to hundreds of domestic and international companies, tell the economic success story of one of the biggest megacities in the world; the Tokyo station, structurally made from red bricks and influenced heavily by German design, reminds us of the Meiji Era assimilation of Western thought and systems; and the centuries-old legacy of the Imperial rule provides a the single biggest greenspace in the area for city workers to enjoy.

My experience was quite different in Los Angeles, when I worked at Los Angeles Cleantech Incubator (LACI) located in Arts District, Downtown LA. During my sophomore year second semester, when I was partaking in the Pomona College Internship Program (PCIP), I ventured out to LA every Friday. I would walk to the Claremont Metrolink station from my dorm and hop on the train for an hour until the LA Union Station stop. To be completely honest, the
commuting experience was already stressful at this point, with trains only stopping once every hour (and I had on multiple occasions missed intended trains by a matter of seconds). Another difference was that there was no system at the station to log yourself in; riders either bought a physical ticket on the platform or an electronic one on their phones. Soon enough I recognized a significant number of commuters waiting until the ticket scanning officer walked by to purchase a ticket on their apps, a phenomenon that seems worrying for city transit revenue.

My first day at LACI, I decided to walk to the office from Union Station. At the time, a 30-minute walk seemed like the perfect way to learn the neighborhood and mentally prepare. It was the opposite. The walk to Arts District was far from peaceful, but rather stressful. Once I exited the Union Station area, Google Maps led me to walk on a very unfriendly path below the highway. What looked like the middle of a building construction appeared on multiple streets on the way, and the pedestrian path on which I was walking was covered with dust and trash. Cars bustled by as I walked, and it was clear that I was the only person walking in that area that morning. Implicitly designed pedestrian pathways, minimal signage, and the stench of gasoline made me nervous. The more I walked, the more I became aware of the lack of greenspaces and prevalent homelessness. It was only around the last bit of the walk on Santa Fe Avenue in sArts District that I finally could enjoy the walk, with quaint boutique retail shops and eateries.

These contrasting pedestrian experiences inspired me to investigate the various historical, economic, regulatory, and cultural development of Tokyo and LA that have contributed to the infrastructural design of these two cities as we know today. With a specific focus on the downtown areas of both cities, I intend to dissect the reasons for different cityscape programming and priority. City planning does not entail efforts made solely by municipal
agencies and city planners, but more so a puzzle made complete with legacy pieces of history, culture, and politics. In this thesis, my intention is to translate - literally and figuratively - the Tokyo development process, with a specific focus on urban green spaces (UGS), and compare it side-to-side with the development process of LA to answer the following questions:

1. Being one of the densest cities in the world, why is Tokyo still so pedestrian-friendly? How does Downtown LA differ from Downtown Tokyo on a micro-level, in terms of area structure and design?

2. How has LA differed from Tokyo in terms of city planning priorities and policies? How have these differences governed the way that UGS have been conceptualized and managed in both cities? How has Downtown Tokyo managed to protect UGS despite pressures of rising density?

3. What do the two Downtown stories offer as lessons for rising Central Business Districts (CBDs) in the world?
Chapter 1: Literature review

Why do cities exist?
Before diving in, it seems fitting to set the premise of this thesis and answer the basic yet critical question: why do cities exist in the first place? What I mean to convey by “city” here is not as the jurisdictional proxy larger in scope to neighborhood and smaller in level to county or prefecture, but as the concept of an urbanized area with far greater density than its non-urban counterparts. In other words, why have humans urbanized?

Immanuel Wallerstein, author of The Modern World System: Capitalist Agriculture and the Origins of the European World Economy in the 16th Century (1974), theorized that the modern world system, divided into the categories of “core”, “semi-periphery”, “periphery”, and “external”, is the outcome of capitalism. He argued that States in much of northwestern Europe developed as the first region, benefitting the most from the capitalist world economy and establishing strong central governments. The “peripheral” zones were controlled by these “core” States, often lacking independent governance; Wallerstein identified Eastern Europe and Latin America as such zones. The “semi-periphery” were in between these two extremes, and represented Italy, southern Germany, and southern France during the 16th century. Lastly, Wallerstein positioned Russia as an “external” State, maintaining its own economic system and relying on internal commerce than trade.

Wallerstein uses these four terms and concludes in his last chapters that by the 20th century, “core” States were encouraging the spread of capitalism in “peripheral” and “semi-peripheral” States. This gave way to an increase in the number of central governments across the world. While capitalist ideology insists that laissez faire is the best mechanism for decision-making, and
that consumer choice is the pareto optimal arbiter of public will, capitalism and state planning has always had an intertwined relationship. Big businesses have depended on complex regulations that keep smaller firms from competing with them, on suppression of insurgencies by the government, and in turn have “given back” to the government in the form of economic production.

Samuel Stein, a geography PhD candidate at the City University of New York Graduate Center and an Urban Studies instructor at Hunter College, extends this conversation to the city-level in his book, Capital City: Gentrification and the Real Estate. Positioning himself as a “radical,” Stein argues that while city planners see themselves and are often extolled as protectors of the common good, they are unwitting advocates for capitalism. He coins the term “Real Estate State” to the reality seen in the US and across the developed world where government planning is tied to private real-estate interests. President Franklin Roosevelt’s New Deal legislation, which established the Federal Housing Administration (FHA), is argued in the book to have activated real estate-industry practices within US housing policy that informs American city planning to this day.

This synergy between city planning and real estate profit, Stein argues, made way for two “federal programs”: redlining and urban renewal. He argues that public city planners were responsible for gentrification as much as developers were, with many neighborhood revitalization programs ending in physical displacement and social disruption for the urban working class, often times people of color. The capitalist economy is argued to be the culprit, not misguided liberal bureaucrats, as urban planners assume developers must receive a profit as part
of planning. This gives way to even more gentrification, as rental costs for properties near subsidized private development increase.

To me, this developmental history of cities feels pretty intuitive. My family and I have lived in “suburban” areas - 川崎市 (Kawasaki City in Kangawa Prefecture, right next to Tokyo) and Houston, Texas - all my life; I commuted via train for school and for getting out into core urban areas in Tokyo for weekends and events; and I developed a sense of appreciation for nature at my grandparents’, who reside in 九州 (Kyushu), the southwesternmost of all our islands. Having been lucky to exist in all these different spaces, from a young age, I subconsciously developed an understanding of the different types of economic, political, and social functions that urban, suburban, and rural areas serve in our capitalist world.

Stein admits that even among radical city thinkers like himself, there lacks consensus about what a “good city” actually looks like. While these radicals do not shy away from pointing out what is wrong, there is little agreement about who would be involved in the designing and funding processes. He does, however, recommend organizing around a political movement to fight for an “anti-capitalist city” to expand existing programs like incentivizing additional housing in wealthy neighborhoods over working-class ones, expanding rent control, and adding more area to community land trusts.

Only about 2% of the world’s population lived in urban areas in the 19th century. Now that figure has grown to nearly 55% of all people. The 2018 Revision of World Urbanization Prospects, published by the Population Division of the United Nations Department of Economic and Social Affairs, reports that this proportion will increase to 68% by 2050. As the world increasingly urbanizes, with a plethora of environmental impacts prospected to take place as
climate change exacerbates, learning from successes and repercussions of long-established cities is important in shaping how we proceed to design cities.

**Conceptual foundation of this thesis: Jane Jacobs**

Jane Jacobs is undeniably one of the first and most important critics of urban planning to this day. Born in 1916 to a middle-class Jewish family in the mining town of Scranton, Pennsylvania, and having moved to New York City in 1934, Jacobs was a journalist before becoming an activist for and later a writer about equitable city design. In her first book, *The Death and Life of Great American Cities* (1961), she captured a modernist approach to what was happening in American cities in the 1950’s, and the very first line of her book summarizes it perfectly:

“This book is an attack on current city planning and rebuilding. It is an attack, rather, on the principles and aims that have shaped modern, orthodox city planning and rebuilding.”

As an activist and through her books, Jacobs maintained a sense of humanity and urged that cities should be places for real people who deserve healthy communities, not pet projects of economic development or urban elites. A concept she coined as the “Radiant Garden City Beautiful”, Jacobs critiqued Ebenezer Howard and Le Corbusier, both leading city planning theorists at the time.

Ebenezer Howard, born in London in 1850, is the English founder of the garden city movement. Outlined in his 1903 treatise *Garden Cities of To-Morrow*, Howard intended on creating smaller “garden cities” that would be connected with canals and a system of permanent greenbelt. Howard envisioned this to overcome state of overcrowded and polluted industrial cities during the turn of the 20th century, with the aim of giving urban residents the best of both city and country living. He encapsulated this idea in the diagram below, which he captioned “A Group of
Slumless, Smokeless Cities”. His publication fueled the garden city movement of the 1900s, which first manifested Letchworth, a town in Hertfordshire, UK.

Howard’s model of placing a girdle of open and agricultural land around the town soon became part of the British planning doctrine. In 1944, it was reflected in the Plan for Greater London, followed by the passage of the New Towns Act in 1946. Soon enough Howard’s model became to be studied by a number of city theorists and planners, including Le Corbusier, and became the framework for design for cities around the world.

The Swiss-French architect Le Corbusier is famous for his concept of the *Ville Radiuse* ("Radiant City"). He proposed a new strategy in planning cities by laying down vertical architecture and leaving open space in between these structures for the public. The resulting horizontal areas were to serve as traffic corridors. This concept informed many urban renewal policies pursued in American cities from the 1930s, notably ones enforced by Robert Moses in New York City.

While lauded at the time as the radical reformist who proposed to turn polluted industrial cities into “towers in a park”, Moses has become controversial in his role of gentrifying New York. In the process of constructing middle-income apartments and tall skyscrapers, tenements for low-income residents were besieged. Robert Caro, in his profile of Robert Moses *The Power Broker*, recalls Moses’ legacy:

(Figure 2: Le Corbusier’s “Radiant City” diagram. From ArchDaily.)
“To build his highways, Moses threw out of their homes 250,000 persons - more people than lived in Albany or Chattanooga, or in Spokane, Tacoma, Duluth, Akron, Baton Rouge, Mobile, Nashville or Sacramento. He tore out the hearts of a score of neighborhoods.”

Jacobs shed light on the gentrifying effect Le Corbusier’s planning theory was imposing on American cities; she argued that urban renewal policies informed by his type of vision segregated the city’s activities into separate physical zones that were linked by highways. This went against the traditional multi-purpose street and dense neighborhood model of cities, which Jacobs perceived to be the bedrock of urban living. In her book, she shares her first-hand witnessing of Philadelphia’s urban renewal failures, where a zoning master plan swept existing multi-use buildings to make room tower blocks in the middle of randomly placed open spaces.

The pedestrian experience in downtowns
Before her iconic book, which was translated into six languages and sold over a quarter million copies, Jacobs was gained traction as the activist who mobilized against Moses’ Lower Manhattan Expressway Project. If accomplished, this Project would have replaced New York’s Washington Square Park and placed there a four-lane highway. The cover of Triborough Bridge and Tunnel Authority’s 1959 brochure, shown below, shows in bright orange lines the planned expressways of the proposed project. Moses was convicted that only a new system of multi-lane expressways cutting across New York would end congestion in the business district of Manhattan. At a hearing for his plan in 1958, Moses, flustered by voices of opposition, stated “There is nobody against this. Nobody, nobody, nobody but a bunch of… a bunch of mothers.”
As a resident of West Village, Jacobs understood how much the neighborhood valued Washington Park, and led the grassroots activist movement that finally dismantled the plan in 1967. She involved a diverse group of stakeholders, including campaigners, residents and politicians, in vocally standing up against the plan. In a letter to then-mayor Robert F. Wagner, Jacobs wrote to spur the moral obligation to design equitable cities: “It is very discouraging to do our best to make the city more habitable and then to learn that the city is thinking up schemes to make it uninhabitable.” In 1973, SoHo was designated as the first historic district in a primarily commercial area, marking a historic preservation victory that would have been impossible had the elevated expressway replaced its vibrant urban neighborhoods. Today, SoHo, the former manufacturing melting-pot neighborhood with its distinctive Cast Iron architecture, remains a center of art and culture in New York (while it has certainly, in more recent years, struggled with ramifications of gentrification).

Jacobs’ assertion that cities should be designed for its residents and not for cars or for economic profit during fight against Moses is expanded on thoroughly in the Death and Life of American
On the topic of the rise of the automobile in the US, Jacobs points out that it is not so much a cause than a symptom of incompetent city building.

“Of course planners, including the highway men with fabulous sums of money and enormous powers at their disposal, are at a loss to make automobiles and cities compatible with each other. They do not know what to do with automobiles in cities, because they do not know how to plan for workable and vital cities anyhow - with or without automobiles… How can you know what to try with traffic until you know how the city itself works, and what else it needs to do with its streets? You can’t” (7).

She proceeded in her book to dissect city infrastructural items that were previously overlooked as separate, mundane aspects of city life. Jacobs’ personal anecdotal and sharp criticisms around these ordinary city design pieces were effective in attacking the repercussions of orthodox city planning and rebuilding. Throughout this thesis, I intend to follow Jacobs’ theoretical framework, which consisted of the following proxies:

1. The uses of neighborhood parks
2. The uses of city neighborhoods
3. The uses of sidewalks
Chapter 2: The uses of neighborhood parks

Expanding Jacobs’ neighborhood parks proxy

One of the three mundane city infrastructures she utilizes in her book as proxies to evaluate the pedestrian experience in cities is the “uses of neighborhood parks”. She notes that parks are “volatile places” that have the potential of being extremely popular or extremely unpopular. She states that they “can be delightful features of city districts, and economic assets to their surroundings as well, but pitifully few are” (89).

She sets the framework for thinking about neighborhood parks by bluntly denying the legitimacy of the widely known saying that parks are the “lungs of a city”. This concept was established by Frederick Law Olmsted, a 19th century landscape architect and one of the earliest known advocates for green spaces in highly populated cities. Olmsted noted parks to be “essential for social cohesion that was maintained through the co-mingling of high and lower economic classes in public, and as a critical form of infrastructure which cleansed urban environments using the ecological processes of filtration and purification.” In his planning documents for New York’s Central Park, Olmsted also reiterated the effect greenspaces have on relieving stress of “people living in cramped, poorly constructed tenement housing.”

Jacobs states that it is “science-fiction nonsense” to assume that small pockets of neighborhood parks can have the environmental impact that Olmsted and scholars alike have claimed. “The first necessity in understanding how cities and their parks influence each other is to jettison confusion between real uses and mythical uses. It takes about three acres of woods to absorb as much carbon dioxide as four people exude in breathing, cooking and heating.” In fact, she brings up Los Angeles as the premier antithesis, a city “which needs lung help more than any other
American city, [but] also happens to have more open space than any other large city; its smog is partly owing to local eccentricities of circulation in the ocean of air, but also partly to the city’s very scatter and amplitude of open space itself… The air and open land paradox, and it is obviously not a temporary paradox is this: in modern cities generous scatters of space promote air pollution instead of combating it” (91).

Jacobs introduced critical observations of small neighborhood greenspaces in American cities in the 1950s, using personal anecdotes of conversations she had with park users in the city of New York, with drug use and crime being associated with parks. But more contemporary research has proven that urban greenspaces (UGS), including but not limited to neighborhood parks, provide significant physical and mental benefits for city residents, as well as a plethora of ecosystem services. For reasons that will be discussed in the coming section, I am redefining the second proxy from neighborhood parks in cities to all forms of UGS, ranging from municipal parks and gardens to public greenspace outside skyscrapers.

**Literature on role of UGS in healthy cities**

Margaritis and Kang from University of Sheffield, through a triple level analysis conducted in the agglomeration, urban and kernel level via various case study cities across Europe, studied the effects of UGS on traffic noise pollution. While there was no significant difference in the cluster of the higher green space index and the percentage of people exposed in the lowest or highest noise band in the agglomeration level, this was not the case for urban areas. Regression models for urban-level analysis showed that the balance of porous surfaces in a city could possibly contribute to the reduction of traffic noise through proper foresight, where city planners place
more emphasis on the ratio between UGS and built-up surfaces rather than the greenspace coverage itself.

More than 80% of people living in cities are exposed to levels exceeding WHO guidelines for PM2.5, PM10, and O3. A study by an international study group led by Pierre Sicard demonstrated that UGS can play a key role in improving air quality and that tree planting could be a viable strategy for reducing climate change impacts and improving air quality in urban areas. Through ground measurements and modeling studies, they calculated that the average annual percent air quality improvement due to urban trees and shrubs was less than 2% at the time, but with more and smarter structure of tree cover, cities can expect higher air pollution abatement. Green roofs’ significance in supplementing urban trees in improving air qualities in dense areas was statistically proven.

Hodson has shown that exposure to nature can reduce stress, improve focus, and even higher school-level performance. Outdoor play is critical to younger children’s social and cognitive development (Har, 1979; Proshanski et al., 1983; Nahban and Trimble, 1994), and for older children and youth, park-based activities have proven to be vital alternatives to passive pastimes including computer games and television, as well as juvenile delinquency (Burgess et al. 1988). Raney et al., in their study to show, through their impact evaluation of a large-scale playground greening project at a Title 1 elementary school in LA, that adding greens space to asphalt-

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covered schoolyards helps expose children to nature, increase daily activity levels, and promotes social wellbeing in sex- and age-dependent ways.

Dozen other studies have shown the physical and mental health benefits UGS confers for its city dwellers, including cooling down of dense urban environments through tree shades, maintenance of biodiversity, and decreased crime levels. All this research show that for a community to be healthy and safe, UGS contribute to public health and well-being, create a sense of place, increase community cohesion. And yet, it is inevitably true that the provision of UGS has been linked to an increase in real estate values or capital-intensive development projects with gentrification effects. Normative questions arise: how do we design socially and environmentally just neighborhoods or developments from the get-go? In other words, how do we plan UGS without sacrificing affordable housing or equitable access to green amenities?

In this chapter, I attempted to start thinking about these normative questions by answering the following three questions for LA and Tokyo, as well as their two downtowns:

1. What is the officially published data on UGS, and what do each level of our two study areas (LA County, LA City, LA Downtown, TMG, Downtown Tokyo)? How available and accessible are UGS in each level, in comparable units?

2. What are the different typologies of UGS in Japan and the US, and how do they manifest in LA and Tokyo?

3. What are the particular challenges pertaining to UGS access and distribution in downtown areas?


**Availability and distribution of UGS in LA and Tokyo**

For both LA and Tokyo, I’ve chosen the most comparable three levels of jurisdiction: LA County, LA City, and Downtown LA, along with 東京都 (Tokyo Metropolitan Government), 東京都 23 区 (23 Tokyo Wards), and 都心 3 区 (Downtown Tokyo, consisting of Chiyoda, Chuo, and Minato Wards).

In order to test my pedestrian bias about Tokyo and LA – with Tokyo being friendlier by design and infrastructure for pedestrians than LA – in regards to people’s access to sufficient UGS, I conducted a data comparison of officially published data on parks. Beyond the pure numbers, official reports and datasets were clear markers of the government narratives, as well as of the insufficiencies they were respectively trying to mask.

For LA, I downloaded the “ParksAndOpenSpace_w/Amenities” file from the LA County GIS Portal, which was a shapefile layer of the inventory of parks and open spaces that were analyzed during the course of the 2015 Parks Needs Assessment (PNA). In March 2015, the LA County Board of Supervisors approved a motion to initiate the Countywide Comprehensive Parks and Recreation Needs Assessment. The goal of the PNA was “to engage all communities within the County in a collaborative process to gather data and input for future decision-making on parks and recreation.” In the assessment, city and county parks, recreational facilities, regional parks, school recreational facilities with joint use agreements, trail corridors, and separately owned public trail rights-of-way outside of parks were included, while golf courses, cemeteries, plazas
and public art installations, beaches, and schools were excluded from the analysis. While there are regular publication of reports by both the LA County Department of Parks and Recreation and City Department of Recreation and Parks on increasing equitable access to parks, inventory data of all parks was not accessible in the form a comprehensive list units, area, location, etc. of individual parks. By converting the Attributes Table of the inventory shapefile layer into an Excel sheet, I was able to overcome the lack of metadata. A limitation, however, is that the shapefile was based on the PNA, which was completed over the 15 months between March 2015 and May 2016, and may be an outdated representation of the LA parkscape. As Appendix A, I’ve attached a screenshot of the first 36 rows showing relevant columns within the converted excel sheet.

The PNA data was a comprehensive data to analyze LA County UGS, but as columns describing individual parks’ residing zip codes was unavailable, I faced difficulty in filtering through the 2821 items to create a separate sheet for UGS in City of LA alone. I attempted to overcome this constraint by filtering via the Agency column for parks managed by the LA City Department of Recreation and Parks, but soon learned that this was a futile approach, as not all parks within the city boundary are administered by the City Department. For such limitations within the PNA data, I relied on another source to analyze the landscape in the city of LA. The Center for City Park Excellence (CCPE), a program within The Trust for Public Land (TPL), conducts the City Park Survey annually for the 100 biggest cities in LA. Based on these surveys CCPE even

publishes the ParkScore index, ranking the 100 cities in order of good park access and quality. Appendix Item B summarizes some key data collected on the City of LA.

The TMG Bureau of Construction, meanwhile, annually publishes 公園調書 (kouen chousho; Park Survey), summarizing meta-level data regarding all open spaces it defines as 公園 (parks), even ones that were not intentionally constructed under the 都市公園法 (toshi koen hou; Urban Park Law). The 425-page report listed all parks, categorized under one of 11 identified types, for all 62 市区町村 (shikuchouson; “cities, wards, towns, and villages”, a term coined for local governments within TMG). Appendix Item C shows the diagram used within the report for the 11 types, with English translations below each term.

Figure 5 shows the scale of area size of LA County, LA City, Downtown LA, with TMG, 23 Tokyo Wards, and Downtown Tokyo. Given the difference in total area of the US and Japan, as well as in the types and number of levels of government below the national government, I evaluated that instead of comparing numbers for just LA city and TMG, or any other combination of two areas in LA and Tokyo, laying data for the following six jurisdictions would be effective in best informing us about the UGS landscape of both places: LA County, LA City, Downtown LAs, Special Wards, and Downtown Tokyo. On the next page is the first chart I compiled:

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Area (ha)</th>
<th>Density (p/ha)</th>
<th>Parkland (m²)</th>
<th>Parkland %</th>
<th>Park m²/person</th>
<th># of Parks</th>
<th>Parks/10,000p</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA County</td>
<td>10,105,518</td>
<td>1,057,751</td>
<td>10</td>
<td>3,260,453,811</td>
<td>30.82%</td>
<td>322.6409</td>
<td>2,821</td>
<td>2.79</td>
</tr>
</tbody>
</table>

8 Here, Downtown Los Angeles refers to all five following zip codes listed under the County of Los Angeles Zip Code List as “Downtown LA”: 90013, 90015, 90017, 90021, 90029.
The first takeaway is that across all levels of area, Tokyo is denser than LA. This is an important landscape characteristic to note, and the history behind this will be further discussed in the following chapter. In terms of parkland percentage of entire area, LA County and City figures supercede all three Tokyo figures. The LA County figure is particularly impressive, with 30.82% of its entire land area being devoted to one form or another of parks. However, the next two columns showing park units within respective jurisdictions help us better understand the scale differences in parks between the two geographies. As of April 2019, TMG reported it had a total of 11,930 parks within its 219,396 hectares, approximately 4.2 times more in terms of individual park units than the County of LA, approximately 4.8 times larger in area. The last column showing the number of parks per every 10,000 people show that, across all levels, Tokyo provides more parks than LA does.
By summarizing the area and park units data for the four park categories that was attributed to each of the 2,821 inventoried sites, I wanted to understand what seemed like a contradictory phenomenon in LA: impressive total area allocated toward parkland but a surprisingly low number of parks. Figure 6 shows that a great majority (87%) of all County park area is allocated in the form of a “Natural Area”, which are areas “generally larger than 100 acres and contain no reported amenities”. Local Parks, which are “under 100 acres and contain active amenities such as athletic courts and fields, playgrounds, and swimming pools,” as well as Regional Open Space areas, “facilities that are more than 5 acres and generally contain passive amenities such as visitor centers, trails, picnic shelters, or restrooms”, are the smallest scale of the four categories; while they together make up 75% of all parks in terms of absolute park units, their covering area adds to only 11% of the entire county parkland area.

Summarized in Figure 7 is data available through TPL’s City Park Facts 2019 study, through which the LA was ranked 55th out of 100 US cities in their ParkScore, which evaluated park access and quality. In terms of parkland as a percentage of total land area, LA City exceeded the median figure for 18 high density cities by 0.4 percentage points, falling short behind New York, Washington D.C., San Francisco, Jersey City, Boston, Minneapolis, Philadelphia, and Seattle. More than 70% of the city’s parks were categorized as “Natural Parks,” which are sites “not developed for any recreation activities beyond walking, running, and cycling.” This aligns with the park supply characteristic that was observed on the county level, with very small portions of total park area being allocated toward intentionally designed playgrounds, neighborhood parks, or plazas. For the proxy “Park Units per 10,000 Residents,” LA City ranked 94th out of 100, the worst out of the 18 high density cities, signaling a stark shortage in the number of parks per capita.
For Tokyo, a single publication presented enough information to analyze the parkscape on TMG, 23 Wards, and Downtown levels. The Park Survey data sorts the 11,930 inventoried parks into a total of 11 categories, as shown in Appendix B. Four of these categories, comprising of a total of 8,252 sites, fall under 都市公園 (Toshi Koen; Urban Parks), which are parks mandated through the 都市公園法 (Toshi Koen Hou; Urban Park Act). The remaining 3,678 parks, covering seven categories, summarize all Tokyo parks that vary significantly from City Parks, were created before the 都市公園法, or are managed under different legislation.

In contrast, 75% of all park area is covered by Urban Parks in TMG, which is more or less reflected in units as well. It is also worth noting that more stakeholders are present in managing UGS, with not only the national and Tokyo Metropolitan Government but also individual 市区町村 (shikuchoson; local wards, cities, towns, and villages) as well as private foundations. As evident in the varying categorization of parks by the County of LA Department of Parks and Recreation and the 東京都建設局 (Figures 6 and 8), different geographies have developed different ways of conceptualizing parks, which has influenced the various typologies that exist.

9 都市公園法 (Urban Park Act), passed in 1955 and enacted in 1956, was the first legislation in the nation that established management and configuration standards for parks after WWII. This was legislated during a time of constant degradation of urban parks, with the war wiping away much of the existing parks in many cities and new residential development beginning to crowd out space for open space development. The first version stipulated requirements regarding location, type, and management of these urban parks, with the goal of increasing UP for the greater social good. It has since been updated multiple times, with the most recent version published in 2017. The Bureau of Construction classifies parks into the following three groups: Urban Parks, which are specified by this Act; Non Urban Park Parks, deemed equivalent to urban parks but constructed or managed by different courses of action; and Natural Parks, which are provisioned by the Natural Parks Act.
today. The next section will introduce the history of parks, as well as different UGS typologies we see across LA and Tokyo today.

<table>
<thead>
<tr>
<th>UGS typologies</th>
<th>Area (m²)</th>
<th>% of Park Area</th>
<th>Units</th>
<th>% of All Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>79,085,225</td>
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<td>11,930</td>
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<tr>
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<td>59,258,502</td>
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<td>2</td>
<td>0.02%</td>
</tr>
<tr>
<td>Ward UP</td>
<td>17,943,895</td>
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<td>4,281</td>
<td>35.88%</td>
</tr>
<tr>
<td>Local UP</td>
<td>19,250,160</td>
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<td>3,887</td>
<td>32.58%</td>
</tr>
<tr>
<td>Non UP Parks</td>
<td>19,826,723</td>
<td>25.0%</td>
<td>3,678</td>
<td>30.83%</td>
</tr>
<tr>
<td>Nature fureai</td>
<td>4,130,054</td>
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<td>6</td>
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<tr>
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<tr>
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<td>1,606</td>
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<tr>
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<td>Foundation</td>
<td>984,202</td>
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<td>244</td>
<td>2.05%</td>
</tr>
</tbody>
</table>

(Figure 8: Table summarizing 2019 Park Survey)

UGS typologies

While Olmsted and his senior partner, Calvert Vaux, are the two most remembered urban parks designers, the Western concept of parks as a place to congregate and engage in recreation existed for many years before their time. Hyde Park, said to be one of the 12 most fiscally valuable green
spaces in the world at 18.7 billion euros today, has existed before 1536, when Henry VII acquired the Park from the monks of Westminster Abbey. Over the years, the programming has evolved from a private hunting ground for the royal family to a public park, when Charles I opened the park to the general public. Throughout the centuries the royal family continued to renovate the park, gradually designing the park to become a venue for national celebrations, public speech, and general space for its residents to enjoy. Paris and other European cities follow a similar UGS history, with the most cherished parks and gardens like Jardin des Tuileries originally being works of and for the royal establishments. Thanks to these aristocratic histories, many old European centers have been able to provide its city residents access to UGS beyond municipally created parks, with many of them in the heart of cities and business districts.

Parks across the world have drawn on these European models as examples, Hibiya Park in Tokyo mentioned in my Introduction being one of them. It is worth noting that there is a wide variety of parks in terms of their landscaping styles, as well as typologies and functions they are designed to serve. Differences may be a result of national or regional culture, or a reflection of the types of park functions in demand.

Parks in the US has followed quite a different path of history from Europe. Until the mid 19th century, when “environmental conservationists” like Henry David Thoreau and John Muir


11 Quotations are put around this term, as figures remembered under this category were racist and exclusionary in their theories of ideal human relationships with nature. In his essay “Walking,” Thoreau wrote “in wildness is the preservation of the world,” and claims that American greatness was created as “the farmer displaces the Indian even because he redeems the meadow, so makes himself stronger and in some respects more natural. And while Muir is remembered as the important figure who founded the Sierra Club in 1892, he along with Sierra Club members have not always been conscious environmentalists in terms of understanding, or even recognizing environmental justice discourse. In a 1972, in which Sierra Club members were polled whether the Club would “concern itself as the conservation problems of such special groups as the urban poor and ethnic minorities,” approximately 40% of
radically shifted the attitude toward nature, the concept of “wilderness” dominated people’s perception of uninhabited, natural systems. Cronon quotes that wilderness was perceived as “a place to which one came only against one’s will, and always in fear and trembling” - a place that in its raw state, “had little or nothing to suffer civilized men and women.”  

Los Angeles

In her 1982 book, *The Politics of Park Design: A History of Urban Parks in America*, Galen Cranz argues that in the US, the distinct park typologies have evolved as a response to social demands, not to ecological issues. The four typologies of parks in the US that she theorizes are as follows:

1. Pleasure Ground
2. Reform Park
3. Recreation Facility
4. Open Space System

1. Pleasure Ground (1850-1900)

Most parks built in this time not modelled after European urban models, “but from an anti-urban ideal that dwelt on the traditional prescriptions for relief from the evils of the city – to escape to the country. ” It was a model based on nineteenth-century Romanticism, expressed by the American Transcendentalist philosophers, that there was innate goodness in natural settings. Pleasure grounds entailed open spaces within the city that signified pieces of the rural setting, respondents strongly opposed, and only 15% were remotely supportive. Human relationship with and access to nature has always been controversial in US, another historical and social aspect that makes for a very different landscape from Japan.

with fresh air, meadows, lakes, and sunshine right in the city. They were designed to encourage exercise, instruction, and psychic restoration, and common activities included racing on horses, polo playing, bicycle riding, coasting on the rinks, and shooting matches. Such activities were meant to fill in the exercise that once was offered by work but lost in industrial factory production.

In LA, such pleasure grounds include Elysian Park, Westlake (now MacArthur), Eastlake (now Lincoln), Echo, Hollenbeck, Sunset (now Lafayette), and Griffith. It was during this time that the City of Los Angeles established its Department of Parks. Daniel Prosser, Historic Sites Architect for the Kansas State Historical Society before retiring, argues that “there was a pragmatic business side to these pleasure ground parks”. Developers coordinated with the City in supplying land that had no profitable use, or donations of land which developers could not sell, in hopes that a publicly run park would eliminate a visual nuisance and in turn make their holdings more desirable. In other cases, the parks were privately developed with the intention of enticing potential buyers to adjacent lots, and turned over to the City to maintain. In the PNA data, these parks - a total of 17 inventoried in the County - are categorized as “Regional Recreation Parks”.

14 Ibid.
2. Reform Park (1900-1930)

The "reform park" came next, lasting until the 1930s. The early 1900s brought about a wave of larger incomes, earlier retirement, shorter work weeks, and longer vacations, all of which left more people with more time on their hands. This free time instigated a demand for increasing recreational service to be provided by the city. Reform park organizers utilized the vulnerability of children as arguments for their cause, claiming that unattended children promised particular threats. These reform park organizers were often part of the larger reform movement of the Progressive Era, as they argued that recreational needs should be met daily at accessible sites, rather than via occasional outings to the city’s outskirts. Instead of the picturesque details of pleasure ground buildings, these new reform parks were characterized by perpendicular pathways, structures resembling adjacent factories, and location in the tenement districts.

These municipal reform parks in LA manifested as one of three types of facilities; cultural and educational institutions, adult playgrounds, and special facilities. The first included the Eastlake
Park Conservatory and Griffith Park Zoo. The second was anything from horseshoe pitches to
golf courses, sites that gave adults something to do with their newfound free time. The third,
coined “special facilities”, were placed adjacent to “wilderness parks [that] supplied adequate
space and an appropriately rugged landscape”\textsuperscript{16}. These manifested in the form of camps like the
Auto Tourist Camp in Elysian Park and the Boys and Girls Camps in Griffith Park.

(Figure 10: Image of Griffith Park Zoo taken in 1961.
From USC Libraries, Los Angeles Examiner Photographs Collection)

3. Recreational Facility (1930-1965)
From the 1930s to 1965, parks were designed to be “recreational facility.” Cranz explains that
there was a heavier emphasis on activity, one that was significant enough that these venues were
no longer parks in the sense of having copious green areas in them. For example, a stadium
managed by the parks department, along with the parking lot, was considered a park. Robert
Moses, commissioner of New York City’s Park Department from 1930, was influential in this

\textsuperscript{16} “Los Angeles Citywide Historic Context Statement: Municipal Parks, Recreation, and Leisure 1886 - 1978” (Los
Angeles Historic Resources Survey, December 2017), 10.
shift to the recreational facility model of parks. While park planners in previous two periods had to enumerate all the things that were projected to be accomplished through a new park – causes including reducing class conflict, socializing immigrants, stopping the spread of disease, and educating people – Moses lifted this justification requirement for expenditures in new parks. Emphasis was instead placed “on multiplying and extending into the suburbs and all the areas that didn’t yet have a field house or some other kind of park.”

This merging of the park and playground into a recreational facility hybrid – and creating a space that would serve all ages – became so dominant in LA that in 1947 the City’s separate park and playground bureaus were unified into what we now know as the City of Los Angeles Department of Recreation and Parks. Taking on structures of the playground and combining them with outdoor amenities of the park, these new parks were inevitably sited increasingly in suburban locations, by need for parking. Most parks that fall under this typology are listed in the PNA as “Local Parks,” which represent approximately 54% of all LA County parks in terms of park units, but only 2% in terms of cover area.

(Figure 11: Image of Grand Hope Park. From The Cultural Landscape Foundation)

1965 and after is given the title “the open space system,” representing “a new attitude that recreation is potentially everywhere – in the street or on the rooftop, at a waterfront, or even an abandoned railway site –” and not constrained to the specific programming of a site. Cranz argues that this ideology gave rise to a more artistic, participatory sensibility, as park organizers incorporated new types of programming in parks.

Cranz ends her book by arguing that American park typologies have evolved as a response to social demands, not to ecological issues. As evident in the four typologies summarized above, parks have been defined by municipal park agencies in the US have ranged from anything from children’s playgrounds and athletic fields to golf courses, botanical gardens, and land reservations. Over the years, environmental justice research has gained traction primarily with a focus on disproportionate exposure to pollution and lack of equitable access to environmental policy processes, but access to environmental amenities have increasingly become recognized. Cranz’s four typologies of US parks help us understand the social As services that are funded primarily through taxpayer money, UGS should be available to all residents – regardless of socioeconomic background or place of residence – at a constant level and quality.

Tokyo

Greenery has always held a significant place in Japanese people’s hearts. Ancient poems extoll the serenity of bamboo forests and zen gardens among other traditional UGS. A large portion of UGS in Tokyo are centuries-old cultural and religious legacies, while most, if not all, LA UGS have been intentional products by the Department of Parks and Recreation. From a compilation
of park inventory and each park’s year of establishment, legislative documents, and individual research on public open spaces, I’ve identified the following UGS typologies for Tokyo.

1. 庭園 (teien; gardens)
2. 神社 (jinja; shrines)
3. 寺院 (jiin; temples)
4. 国民公園 (kokumin koen; National Parks)
5. 西洋式公園 (seiyoshiki koen; European-style landscape parks)
6. 都市公園 (toshi koen; Urban Parks)

庭園 (teien; Japanese gardens) have long been a part of the city fabric of Japan, especially in cities that accommodated the political elites. In the past few decades, the Japanese garden zen concept has been popular among Western culture as well, with almost every big city in the US has their own Japanese garden. but were then built as part of the programming for the aristocratic residences, beginning with the 平安京 (Heiankyo). 『作庭記』 (Sakuteiki) by 橘俊綱 (Tachibana Toshitsuna), written in the 11th century, is the oldest publication on garden design and methodologies, famous for its emphasis on connection of water throughout gardens via ponds, rivers, waterfalls, etc.

During Tokugawa’s rule, 江戸 (Edo; what is now Tokyo) flourished as a political, economic, and cultural hub, becoming a city like no other in the world during its time. During 参勤交代 (sankin-koutai), around 300 大名 (daimyo; feudal lords) from across the nation were ordered to reside in Edo, and it was due to this influx of the elite that so many gardens were made during this time. It is said that the total number of gardens, which were constructed next to 上屋敷、中屋敷、下屋敷 (residence types for different social ranks), from this time sums up to more than
a thousand. Soon, wealthy 町人 (chonin; city people) began to construct gardens outside their homes as well, contributing to the 庭園都市 (teien toshi; garden city) we remember as Edo.

With the 明治維新, however, these feudal lords lost their legitimacy, along with them their gardens. While some remain to this day, most gardens were wiped out for redevelopment. For ones that did manage to stay, many were programmed under a new garden culture of the Meiji era. Powerful individuals like members of the 皇族 (Imperial family) and wealthy businessmen began a new wave of garden culture, one that was rooted in assimilation of Western architecture.

(Figure 12: 浜離宮恩賜庭園; Hamarikyu Gardens. From Tokyo Metropolitan Park Association)

In 2004 Tokyo Bureau of Construction announced 「東京都における文化財定点の保存管理計画」, a plan that laid out how Tokyo’s 文化財庭園 (bunkazai teien; Important Cultural Asset Gardens) were to be managed. This has been amended three times since then, with the most recent one published in March 2017. There are today 18 such gardens, of which nine are managed by TMG.
2. 神社 (jinja; shrines)

Shinto shrine precincts with their trees, ponds, and gardens have functioned as informal UGS for the Japanese public for centuries. 東京神社庁 (Tokyo-Jinja-Cho), a religious foundation that oversees all shrines in Tokyo, reports that there are 1,398 shrines in total the prefecture alone. Shinto, the indigenous faith of the Japanese people, does not celebrate a single “god” but posits sacred spirits in wind, rain, mountains, trees, rivers, and fertility, among other elements. This philosophy of influences their management of their natural components, refraining from major deforestation efforts and leaving much of the trees grow in natural directions and scales. Shrines have more recently gained traction as important sites to study local biodiversity as well to shape Japan’s national understanding and appreciation values around the natural world.

(Figure 13: Image of 愛宕神社; Atago Shrine entrance. From Atago Jinja Official Website)

3. 寺院 (jiin; temples)
Tokyo is estimated to be home to over 2000 temples, from small to large. Temples are Buddhist institutions, housed by and maintained by monks and nuns who have dedicated their lives to the religious cause. In Japan, temples are also where most households have funerals and house their ancestors, and it is not uncommon for temples to have cemeteries within their precincts. 浅草寺 (Asakusa-dera; Asakusa Shrine) the oldest temple in Tokyo which was founded in 628, was the cultural hub during Edo and remains to attract many local and foreign tourist visitors all year round. More than two million people visit the institution every year to celebrate 初詣 (Hatsumoude; New Year’s visit to the temple).

(Figure 14: Image of 本門寺公園; Honmonji Park, located adjacent to Ikegami Honmoji. From Ota Ward Official Website)

Fujita at the University of Tokyo Graduate School of Agricultural & Life Sciences and Kumagai, a professor at Tokyo University of Agriculture, published a joint study comparing the

differences in spatial distribution of shrines, temples, and parks in the TMG 23 Wards. Through GIS functions, Fujita and Kumagai observed that shrines and temples were, on a planar level, distributed randomly while temples followed a trend of concentration. They hypothesized that shrines are randomly distributed due to their functions as 森の鎮守 (mori no chinju; protector of the forest) and their nature of being built per community across the entire area, whereas shrines were established in forms of 寺町 (tera machi; temple communities). They argued that the random distribution of parks are due to the fact that they have been designed under homogeneous distribution planning by city planners.

4. 国民公園 (kokumin koen; National Parks)

The four that are located in Tokyo are: 皇居外苑 (kokyo gaien; Kokyogaien National Garden), 新宿御苑 (shinjuku gyoen; Shinjuku Gyoen National Garden), 北の丸公園 (kitanomaru koen; Kitanomaru Park), 千鳥ヶ淵 戦没者墓苑 (chidorigahuchi senbotsusha boen; Chidorigafuchi National Cemetary). With the exception of 皇居東外苑 (kokyo higashi gaien; Kokyo East Gardens) portion of the Koukyo Gaien National Park, which is owned and managed by 宮内庁 (kunaicho; Imperial Household Agency), all of these National Parks sit under the jurisdiction of 環境省 (kankyo sho; Japan Ministry of the Environment).

Kokyogaien National Gardens, originally part of the Imperial Palace grounds, were first opened to the public as Special Historic Relics and Important Cultural Assets in 1949. These Gardens, together with the Imperial Palace grounds, represent the single largest green area in the core of Tokyo.
Completed in 1906 as a residential garden for the 内藤家 (Naito ke; the Naito feudal family), Shinjuku Gyoen National Garden was designated as a National Garden after WWII. The site blends three distinct garden styles - formal, landscape, and Japanese traditional.

Once part of the Edo Castle grounds, Kitanomaru Park has been open to the public since 1969. The park surrounds the 武道館 (budokan), famous as a martial arts training center and concert venue, and is near the National Museum of Modern Art. Its location in 九段下 (Kudanshita), one of the busy business train stops, makes the park a popular destination for city workers.
In 1959, the Japanese government established the Chidorigafuchi National Cemetery as a nationally protected site to house the remains of many unknown Japanese soldiers and civilians who died overseas during WWII. Every spring, Chidorigafuchi Park is a popular destination for city residents to engage in お花見 (ohanami; cherry-blossom watching), inviting hundreds of people to eat, drink, and enjoy each other’s company underneath the cherry blossom trees.

With the exception of Shinjuku Gyoen National Garden, all these National Parks are located within Chiyoda Ward. This is significant, because, in land area (m²) terms, the combined area of Kokyogaien, Kitanomaru, and Chidorigafuchi make up 31% of Downtown Tokyo’s entire UGS.
In a ward that is so commercial, protection of these expansive open greenspaces serve a critical role for not only Chiyoda residents, but also all of Tokyo as well as domestic and foreign visitors.

5. 西洋式公園 (European-style landscape parks)

It is said that 太政官布達第 16 号 (16th Publication of the Dajokan Futatsu) in 1873 marked the beginning of Japan’s provision of parks as a state infrastructural project, but it was not about two decades later that discussions around creating new parks became serious. The 1873 legislation stipulated that the government is charged with the responsibility of protecting sites of congregation and named such important sites 公園 (koen; parks), but for a considerable time the legislation didn’t do much but officially recognizing existing greenspaces outside shrines and temples. At the turn of the 20th century, however, 東京市区改正審査会 (Tokyo Shiku Kaisei Shinsakai) is established, with a particular goal of redesigning the capital of Japan into a city that resembled Western building culture and ideologies. The organization was managed with the tasks of transportation infrastructural works including the construction of roads, bridges, and railways, as well as ports, cemeteries, markets, and even parks. In 1893, the plan to construct 日比谷公園 (Hibiya Park) was announced, and in 1903 Tokyo gained its first Western-influenced, top-down government administered park.
6. 都市公園 (Urban Parks)

Today, most inventories parks in Tokyo are Urban Parks and managed at the national TMG, Ward, or local cities and towns level. Urban Parks encompass a wide variety of typologies, with Hibiya Park being recognized as one as well. The newer Urban Parks, however, have been smaller neighborhood parks or children’s parks, with amenities including benches, playgrounds, etc.

Geospatial analysis of downtown UGS

As a part of unravelling why my walking experience in the two cities’ downtowns felt so different, I hoped to conduct a geospatial analysis of the coverage, types, and distribution of UGS in the two downtown boundaries. The metadata comparison is effective in illustrating the state of park availability in terms of comparable area proxies, but insufficient in conveying the story of spatial distribution of different types of UGS. Geospatial analysis via Esri’s Geographic Information Systems (GIS) technology can show us distribution and relationships between multiple events, circumstances, and factors. By modelling a number of factors as layers, and using the weighted overlay function, I attempted to answer my last question: What different
forms of UGS exist, and how have they developed over time? How are they distributed, specifically in the two downtown areas?

Unfortunately, due to limited compatible shapefiles with parcel data of individual parks in Tokyo, I could not create a GIS map for Downtown Tokyo. Given Tokyo’s context of copious parks, density, and provisions within the Urban Parks Act that ensure approximately equal access to neighborhood and children’s parks, I ultimately ruled out the necessity to highlight areas within walkable distance to the nearest park in Downtown Tokyo.

**Mapping Process for Downtown LA**

I began my GIS mapping process for Downtown LA by importing the “ParksAndOpenSpace_w/Amenities” shapefile from the LA County GIS Data Portal, and clipping it to Downtown LA Neighborhood Council Boundary layer. This restricted the extent of the new layer, “DTLA_Parks_and_Open_Space,” to that of Downtown LA boundary. This new layer included 16 individual parcels of parks. Scrolling inside the boundaries of Downtown LA via Google Earth aerial images, however, I found that there were additional four patches. Seeing as they contributed 6.1% to total UGS cover in Downtown LA, I draw these four parks manually and included them in my analysis (“DTLA_Manual”). As I imported the data from Google Earth.

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18 There were several technical difficulties when I tried to conduct geospatial analysis of parks for the Downtown Tokyo study area. First, navigating through the Ministry of Land, Infrastructure, Transport and Tourism’s National Land Numerical Information Download Service for shapefiles that could be processed through Esri’s ArcGIS software was difficult. Most were in KML form, which could be converted into shapefiles via processing through the software. However, attributes tables containing data were lost, which I presume is due to the fact that the items were in Japanese text. While Tokyo published a considerable number of consistently updated reports and corresponding datasets in excel formats, there was no geospatial data on UGS. The Download Services portal divided information into the following categories: Designated Regional Area, Coastal Zones, Nature, Land Related, National Land Skeleton data, Facilities, Census of Commerce, and Hydrology. I attempted to then manually draw parcels of UGS, but due to time constraints, I was not able to create a shapefile layer showing all 265 parks in Downtown Tokyo.
as a KML file, I then converted it to a shapefile. I combined the new shapefile with the “DTLA_Parks_And_Open_Space” to create the “DTLA_UGS_Merge_Shp_Clip” layer. In summary, I identified 20 units of UGS within Downtown LA limits, totaling 375,214 m². Figure 22 at the end of this section summarizes the 20 UGS.

In order to visually show which areas within Downtown LA were within reasonable distance from the nearest park, which much park equity research has argued as within a quarter-mile, I performed the Euclidean Distance function for the merged shapefile layer. I then reclassified the product layer (EucDist_LA3) into the next five values: 1 (1~0.25 mile), 2 (0.25~0.50 mile), 3 (0.50~0.75), 4 (0.75~1.00), 5 (1.00~) and colored them in the scheme that is shown in the legend on the left in Figure 20.

Jennifer Wolch, professor of City & Regional Planning at University of California Berkeley, argues that a quarter-mile is reasonable “for parents taking toddlers and small children to a park for everyday outings and playground opportunities. In LA, she noted, “trips of more than a quarter mile - especially in high-traffic areas or neighborhoods where parents have safety concerns - are unlikely to be acceptable to parents.”
Figure 20 shows that the area shaded dark green, which calculates to 27% of the entire area Downtown LA area, is within a quarter-mile from the nearest park. Most of this dark green cover is concentrated in the southwest corner of Downtown LA, covering the Civic Center, Bunker Hill, Financial District, Historic Core, and Little Tokyo neighborhoods. This visualizes a legacy piece from the passing of Proposition 13 in 1978, which instigated the divide between affluent communities, certainly in suburban areas but also within urban, and low-income communities in ability to keep and create parks.

![Figure 21: Screenshot of Downtown LA’s PNA Layer](image)

The shapefile layer summarizing the PNA evaluations, however, show the left majority of Downtown LA as a “Very High” need area and the right portion “High” need area. This is due to the fact that the PNA scored their study areas via a composite score that incorporated five metrics, which included Park Condition, Park Land, Park Pressure, Park Amenities, and Park Access. As an Assessment that heavily informs the County’s fund allocation into and new provisioning of parks, it seems questionable that areas within walkable extent of parks may be highlighted at a higher urgency for parks than areas that do not have a single UGS parcel.
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</tr>
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(Figure 22: Table summarizing 20 UGS identified in Downtown LA)
Chapter 3: The uses of city neighborhoods

“[F]or all the innate extroversion of city neighborhoods, it fails to follow that city people can therefore get along magically without neighborhoods. Even the most urbane citizen does care about the atmosphere of the street and district where he lives, no matter how much choice he has of pursuits outside it; and the common run of city people do depend greatly on their neighborhoods for the kind of everyday lives they lead.” (Jacobs, 117)

LA and Tokyo have had very different city planning histories, with very different group of stakeholders during very different times laying down much of the foundation for how

LA: Home of the Auto

It is quite impossible to get around Los Angeles without a car. Even in Downtown LA, there is a limited list of places that one can get to seamlessly and solely through public transportation and her feet. As epitomized by Banham’s Autopia ecology, LA is the premier example of the post-World War II car-oriented transportation and urban development in the United States. It was the earliest adopter of the automobile, boasting by 1919 one car for every nine residents – more cars per capita than any other large city in the United States. By 1929, this ratio had tripled, as the city had about one car for every three residents.20

Surprising as it may be, LA used to be home to one of the best interurban passenger railroad systems in the US. The construction of a railroad connection to the East Coast, which was completed about a century after the Spanish settlement of El Pueblo, spurred the migration of Easterners ready for a new life in the land of paradise. Two direct rail lines with the East were completed in the 1880s (the Southern Pacific in 1881 and the Santa Fe in 1885), heavily contributing to the population boom. In the process of railroad construction by these two companies, new towns and smaller cities emerged.
In 1887, private developers completed the first electric trolley and streetcar lines, with an intention to promote real estate. By 1911, the growing electric streetcar lines were consolidated with the Southern Pacific interurban streetcar network, and the Pacific Electric Railway Company was established. These Pacific Electric streetcars were known as “Red Cars,” a term parallel to the “Yellow Cars” (local streetcars in central LA operated by the LA Railway). These electric streetcars remained the most popular mode of transportation in LA until the mid-1900s. Wachs argued that it was Pacific Electric’s operations, not the laying down of highways, that gave birth to the sprawling nature of the Greater LA Area. In the early 1900s, the company poured copious funds into connecting Downtown LA to Santa Monica, Long Beach, Newport Beach, Santa Ana, Ontario, San Bernardino, and the San Fernando Valley. This sprawling region spanned almost 100 miles end to end. Traffic peaked in 1924, but the company failed to make ends meet after 1931, the last year that the system’s revenues covered their operating costs.

While in many other American cities it was common for transit to shift from private to public ownership, the LA City Council in 1948 voted 8-6 against the creation of a rail rapid transit district, and in 1961 the LA Metropolitan Transit Authority eliminated service on the last of what had been the Pacific Electric Lines. This made LA the largest US city without a rail transit system.

Local and National Legislative Push: Auto and Single Home-Ownership

While the dispersed nature of LA may have been instigated by the railway system, it was the combination of national and state legislation that encouraged single home-ownership in the

1930s that was one of the two biggest factors contributing to the LA sprawl crisis we are experiencing today. In 1934, Congress passed the National Housing Act and created the Federal Housing Administration which promoted home-ownership by guaranteeing home loans with long repayment periods that lenders previously were unwilling to give. The byproduct of this was redlining, a systematic denial of economic investment, largely on the basis of race. Home loans were handed to predominantly white communities that were determined to be “safe areas for investment”, while communities of color faced the serious repercussions of displacement due to gentrification.

The Collier-Burns Act, passed in 1947, added to this planning movement around white single home-ownership in LA. This state legislation increased transportation-related taxes and allocated millions of dollars to building highways. Fuel tax was raised by 50%, vehicle registration fees by 200%, and the California Division of Highways - now Caltrans - was formed. This highway funding spigot was further reinforced by the 1956 Federal-Aid Highway Act, and catalyzed the shift towards an even more auto-dependent city, one that people did not reside where they worked but commuted long distances via the highway. Single-homeownership and highway-funding legislation reinforced each other; the more that people drove, the more sense it made for them to live in a large house across the highway. By 1970, almost half of LA was zoned for single-family use only.
These legislative and infrastructural changes influenced heavily how Angelenos perceived their relationships with their neighborhood. Instead of seeking a space to socialize and take the children out to play in public parks or other forms of open spaces, families in LA basked in their backyards or home pools, using the car when needed to get to places for particular functions. As mentioned in the previous chapter, Angelenos expectations for street infrastructure differed greatly from that of Tokyo residents, mainly because they rarely ever needed to use it.

This is not to generalize that nobody in LA has ever wanted less hostile pedestrian streets. In Chapter 4, I discuss LA’s striking death toll figures of pedestrians in traffic collisions, and how the repercussions of the highway are being experienced on a daily basis at extremely disproportionate levels depending on one’s zip code.

*South Figueroa Corridor Plan*

In 2010, a plan to construct a “complete street” from Figueroa Street in Downtown to USC was proposed by the Community Redevelopment Agency of Los Angeles (CRA/LA). The idea was
to redesign the three miles from South Figueroa from 41st Street to Seventh Street, the half mile of Martin Luther King (MLK) Boulevard, and the half mile of Bill Robertson Boulevard from into Exposition Park starting at MLK Boulevard, into a street system that serves all road users, including drivers, pedestrians and bikers.

(Figure 24: Image of MyFigueroa elements. From MyFigueroa Official Website)

But over the last decade, the $20 million project, funded by a Proposition 1C grant, has significantly watered down, and the street remains to exist primarily for the car. Before a full year had passed since the launch of the MyFigueroa project in 2010, CRA/LA dissolved, and project custodianship was transitioned over to LADOT. Construction began in October 2016, and on August 30, 2018 the complete street finally opened. Since its opening, however, bicyclists and pedestrians alike have turned to blogs and social media to express their frustrations. Some common points of discontentment among MyFigueroa users included: drivers’ parking in the green bike lanes, incompliance with bus-only lanes, and turning right across heavily-walked crossroads, where only bikes are allowed to turn. While Figueroa is a full-featured street by

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22 Proposition 1C funding exists to “improve infrastructure for new developments in urban areas, with the goal of making streets, sidewalks and transit more accessible for residents of affordable housing.” (From State of California Department of Developmental Services)
design, challenges in enforcing rules have resulted in unintended consequences for pedestrians and bicyclists.

In 2018, the city-funded Complete Streets program was announced, with plans to redesign six additional streets into safer multi-function streets. However, Mayor Eric Garcetti’s budget recommended cutting funding for the program by approximately $10 million and diverting more funds into the sidewalk repair program. The latter entails technical installations and minimal design changes of streets, including replacement of broken pavement, installation of ADA ramps, and removal of trees. While important, sidewalk repair does not instigate change toward walk-first streets.

**Why Didn’t Tokyo Go Car Crazy Post-WWII?**

Given Japan’s surrender in WWII, not to mention that our current constitution was promulgated during the control by the Supreme Commander for the Allied Powers (or more commonly known in Japan as “GHQ”), it is peculiar that Japan was not similarly motioned to lay massive highway projects and become car crazy like the US. A number of legacy pieces, however, reveal that Japan was geographically and culturally not “fit” to implement a massive highway project or introduce the idea of car ownership to all of its residents. Kenichi Kawabe, in his book 『東京道路奇景』 (*tokyo douro kikei*), explains the three main legacy reasons why Japan’s transportation system did not import America’s auto-reliant transportation model, but instead developed around the rail.

Kawabe traces the first driver for Japan’s priority in rail development before auto infrastructural projects all the way back to the Meiji Restoration. He notes that the government was tasked with redesigning the feudal city of Edo into modern city Tokyo, a necessary step in proving to the rest
of the Western world the Japanese State’s capabilities. This redesigning was not easy, however, with considerable gaps in spatial interpretation existing between Japanese and Western planners. While Western cities were fast to introduce horse-drawn carriages and supporting road infrastructure, Edo was built to hinder automobile traffic for maximum military protection. Stone-paved roads have been around in Europe since the Roman times, which made the gradual development of the automobile road possible, while most of Japan’s roads had not been flat or sturdy enough to support a dramatic introduction of automobiles. Roads tended to be narrower, with local businesses forming on the streets. With all these considerations, the Meiji government decided to prioritize the railway infrastructure over the auto. The expansive reach of a railway system, which would allow for considerable transport of items on a main route, aligned better for a government whose top priority was to modernize as soon as possible, as visual as possible.

(Figure 25: Image of 宝永御江戸縮図. Shows Edo during the early 18th century under 徳川綱吉 (Tokugawa Tsunayoshi)’s rule. From the Japanese National Diet Library)

As the city developed around the rail, Tokyo became harder and harder geographically to implement the auto on the same scale as its European counterparts or the US. A lifestyle of 職住分離 (shoku juu bunri; separation of work and residential sites) set root, with people living in
city fringes and commuting to work via train. As the rail expanded, real estate development ensued around them. The vicinity areas of “terminal stations” like Shinjuku became business districts, assembling office spaces and small retail stores. Kawabe also makes the claim that people progressively associated places in relation to the railway, both because it became more instinctual but also because it made more spatial sense. The figure below shows, from left to right, networks of rail, main roads, and the highway in Tokyo’s 23 Wards, along with six key locations. All six dots lie perfectly on the rail network, whereas their geography within the right two diagrams are harder to gauge and not perfectly aligned with network lines. Instead of explaining Shinjuku’s location as “near the intersection between 甲州(Koshu) and 明治(Meiji) main roads” (right image), it made technical and intuitive sense to conceptualize it as “the intersection of the 山手(Yamanote) and 中央(Chuo) rail lines” for people (left image) (Figure 26).

(Figure 26: Diagrams of Tokyo’s Transportation Networks. From Toyo Keizai Online article23)

As the third reason, Kawabe argues that the rail supplemented the traffic capabilities of the auto. He states that this role of supporting the road was a critical factor that the rail continued to grow.

after WWII. In April 1953, 「首都高速道路に関する計画」 (Plan for Metropolitan Expressway) was announced, marking the first public highway project. Until then, most of domestic long-distance transportation of commodities and people were conducted via the rail, with roads acting as “capillary veins” supporting the in-betweens. And while demand for the road grew as more car ownership soared in the 1950s in Tokyo, the infrastructure remained minimal, causing traffic congestion. The ‘60s Rapid Economic Growth period didn’t help either, as population boomed and development projects became denser than ever. Procuring enough land to lay a comprehensive roadwork became increasingly difficult, while even the rail began to struggle with the hike in transportation demand.

To curb these congestion issues, members of the Tokyo Metropolitan Assembly in 1954 voted in favor of a TMG-funded subway system. Utilizing existing roads and waterways to create viaducts and tunnels, the Assembly’s concept was to maximize space use in a 3D sense to compensate for the lack of ground transportation. Kawabe concludes that this positioning of the rail system - as a mode that filled in the demand gaps and infrastructural shortages of the auto - has allowed Tokyo to continue developing its rail and subway lines.
Chapter 4: The uses of sidewalks

“A city sidewalk by itself is nothing. It is an abstraction… Think of a city and what comes to mind? Its streets. If a city’s streets look interesting, the city looks interesting; if they look dull, the city looks dull.” (29)

In analyzing the quality of sidewalks, Jacobs employed two perspectives: safety and contact.

This chapter employs the two perspectives in analyzing LA and Tokyo’s sidewalks, a basic yet critical component to city design.

Safety

Traffic safety is the first and perhaps most basic benchmark of sidewalk performance. The degree to which how safe a sidewalk is for pedestrians is determined by a combination of multiple factors, including the number and types of lanes, speed limits near an intersection, and the number of access points or driveways near the intersection.

According to the Metropolitan Police Department, pedestrian deaths are becoming to hold a bigger proportion of casualties caused by traffic accidents, covering 42% of all traffic accident induced deaths. Of the 60 pedestrian deaths Tokyo saw in 2018, 33 were of walkers above the age of 65. 90.0% of these 60 cases involved careless driving or some form of traffic rule violation by the driver 10.0% were train related). Some pedestrians were irresponsible themselves, with 56.7% of all cases reported to have involved ignoring the stoplight or illegal crossing.

The Neighborhood Data for Social Change (NDSC) platform, a project under the University of Southern California Price Center for Social Innovation, reports that from 2012 to 2016, more than 14,200 pedestrians were injured in collisions on LA city streets, with 439 pedestrians losing their lives. In 2015, Mayor Garcetti launched the Vision Zero initiative, setting a goal to
eradicate traffic deaths by 2025. Statewide Integrated Traffic Records System (SWITRS) data shows, however, that the number of these pedestrian fatalities has even increased since 2015 to this day.

As part of LA GeoHub, the city publishes geospatial data of improvement installations under the Vision Zero initiative as well as the High Injury Network (HIN), a GIS map “spotlight[ing] streets with a high concentration of traffic collisions that result in severe injuries and deaths, with an emphasis on those involving people walking and bicycling.”

(Figure 27: Screenshot of the High Injury Network Interactive GIS site.)

A quick glance at these geospatial maps can tell us that only a small fraction of streets account for the vast majority of all collisions in the city. HIN reported that 65% of severe and fatal traffic collisions involving pedestrians occurred on only 6% of the city’s entire streets. The most

dangerous intersection is said to be Northridge, which had 108 traffic accidents from 2006 to 2016 in the Devonshire and Reseda intersection alone.

(Figure 28: Aerial view of Devonshire and Reseda intersection. From Google Earth)

What makes this intersection so dangerous? The Federal Highway Administration reports that the number of crashes increase as the number of driveways increase in a given area. As the aerial image above shows, the Devonshire and Reseda intersection is busy with driveways and access points to fast-food franchises, gas stations, and a large car wash business. As vehicles turn in and out of multiple driveways, each access point becomes a dangerous opportunity site for crashes with pedestrians on the sidewalk.

Contact

“The point of both the testimonial banquet and the social life of city sidewalks is precisely that they are public. They bring together people who do not know each other in an intimate, private social fashion and in most cases do not care to know each other in that fashion.”

Jacobs argues that the frequency and quality of person-to-person contact on a sidewalk is correlated with the physical and metaphysical well-being of a sidewalk. It is quite intuitive that the more a sidewalk is used, the less hostile that sidewalk feels. Beyond this, I hypothesize that the quality of a sidewalk is not determinant solely on how clean or smoothly paved the street is, but by a multitude of tangible and cultural factors surrounding the city dweller’s daily commute experience itself. Here, I intend to raise the most common cases of how people interact (or not interact) with the sidewalk in Tokyo and LA, and how personal and infrastructural design of choices shape the two downtown’s nature of interpersonal contact on streets.

The Ministry of Land, Infrastructure, Transport and Tourism’s Kanto Regional Development Bureau conducted its sixth “person trip” survey om 2018. Pilot ed in 1968, the survey attempts to measure “what kind of person” travels “for what purpose”, “from where to where” and on “what type of transportation mode” on an average day for all residents in the Kanto region. A “trip” is the proxy for a person going from one location to another with a certain goal, and includes all the forms of transportation it takes for her or him to arrive at the destination. The figure below encapsulates the concept of “person trip”. In this chart, the man begins his first trip from his home in Saitama City, Saitama Prefecture at 7AM. He gets on the train to commute to work, getting off at Shinjuku station and walking to his home office from the station. He then takes a bus to his client’s office in Minato-ku, from where he will train back to Saitama to end his day at around 7PM.
According to the sixth survey, for which data was collected from September to November 2019, for the entire Kanto region, trains accounted for the mostly used mode of transportation in a given trip (33%), followed by cars at 27%, walking at 23%, and biking at 13%. The ratio for trains has been rising since the inception of this survey, and the auto ratio has been experiencing a consistent declining trend since 1998. For TMG, these ratios are compounded in their trends, with trains accounting for 51%, followed by walking at 24%, biking at 13%, and cars at 8%. Data showed that the farther away from Tokyo, the higher the ratio was for car use in a given trip. Yet, the ratio for train use increased for almost all 14 identified regions (Chiba Southwest).

On the premise that most people walk some distance from their homes to their train stations, a combined 56% of the average person trip involves walking on the sidewalk. This figure adds up to 69% when the figure for biking is added, showing how critical the sidewalk is as a commuting infrastructure for a majority of Tokyo residents and workers.

Meanwhile, the 2017 US Census data for the city of LA tells a different story. Of all workers above the age of 16 who commuted to work, 74% reported that they commuted by car, truck, or
van alone, with 9% answering they carpooled. This adds up to 83% of all commuters relying on their local roads or highway to get to work, with the mean travel time to work at 31 minutes. Public transportation accounted for only 5% of all means of commuting, consisting of bus or trolley bus at 4.79%, subway or elevated at 0.60%, and railroad at 0.28%.

The average commuting experience is dramatically different between the two cities, and, consequently, so are the levels of human contact on LA and Tokyo sidewalks. As mentioned in the previous chapter, Angelenos do not spend a lot of time on sidewalks, or on foot at all. If anything, they are so dependent on their cars that LA city planning legislation requires most commercial buildings to provide a parking lot bigger than the edifice itself.26 This feeds into the cycle that exacerbates Angeleno’s dependence on the car, as developers focus on procuring off-street parking requirements rather than constructing wide, inclusive sidewalks.

Chapter 5: Alternative redevelopment

While the preceding chapters, following Jacobs’ three proxies of neighborhood parks, city neighborhoods, and sidewalks, have all shown that the impacts of infrastructural legacies are large, not all is bleak. New forms of redevelopment and space utilization, based on a code of pedestrian-first principles, are beginning to catch traction in both LA and Tokyo. While varying in key planners, motivation, and form, LA and Tokyo’s newer redevelopment case studies may offer some inspiration for other cities.

Free Lots Angeles

The City of LA is reported to have around 2000 vacant lots in its inventory, and approximately 10 times more if privately owned lots are included. Often times these forgotten sites are located in the middle of low-income, park-poor communities and aggravate the disproportionate rates of chronic diseases and crime. Free Lots Angeles (FLA), a collective of six LA-based nonprofit organizations with a mission to program vacant lots into parks, gardens, and playgrounds, has worked with communities and councils across the city to design six vacant lot activations since 2014. Kounkuey Design Initiative (KDI), a community development and design nonprofit and the design lead of FLA, emphasizes the importance of involving the local community from the very first design processes. In their six temporary activations in Wilmington, Watts, North Hills, Jefferson Park, El Sereno, KDI engaged over 1,500 residents, who expressed a strong desire to be able to access, revitalize, and manage vacant lots in their neighborhoods.

These six vacant lot activations sparked the Adopt-A-Lot, a pilot program to repurpose city-owned lots into green spaces. The program was introduced as a motion by Councilwoman Monica Rodriguez of 7th District on July 27, 2018. Work is currently in progress to locate and turn 10 city-owned lots to repurposed public spaces for neighborhood members to enjoy.

In a city of bubble high property value, stark lack of affordable housing, and building codes that reinforce even more new construction of parking spaces, unused sites can either perpetuate spatial inequity or be programmed into the best kind of city infrastructure. And this movement of transforming former or unutilized parking space is catching traction in a number of US cities, including Dallas, which opened Pacific Plaza Park in their Downtown this October. The Park sits on a former surface level parking structure, and now serves as a critical UGS infrastructure to its people.
“Vertical Garden City” Concept in Tokyo’s Private Redevelopment

In Tokyo, the “Vertical Garden City” concept has begun to catch the attention of many private development firms. This concept draws its roots in Howard’s Garden City regime, but has been modified to fit the particularly dense Tokyo landscape. Mori Building, one of the richest private development firms in Tokyo, has coined this term throughout their skyscraper projects. In the 虎ノ門・麻布台プロジェクト (Toranomon-Azabudai Project), a Redevelopment Plan that was approved as a designated National Strategic Special Zone in 2017, Mori attempts to revamp the Vertical Garden City enterprise by constructing a “Modern Urban Village” within Minato Ward.
This Project features a Central Square (left image), which the designers prioritized before the built facades and sketched first in their planning drawings, which will sum up to approximately 6,000m² in area. During the three decades of conversations with District Councils and individual rights holders, allocation of this Central Square was a key feature all stakeholders agreed on. Throughout the entire , the greenery of the Central Square is supplemented by bushes and trees on the surface of other edifices, which entail residential units, offices, retail stores, a hotel, and an international school.

While it could - and most likely would - have city gentrification implications under different city planning regimes and socioeconomically less homogenous contexts, Tokyo’s private development firms’ role in spurring green design buildings has been critical given its dense environment. A rising number of Tokyo skyscrapers are integrating greenery, with Ginza Six’s rooftop park providing Ginza visitors a break from the tall Ginza experience, and Shibuya’s Stream’s green plant wall providing commuters a refreshing change of scenery. What makes Tokyo’s case different from the distributional inequity seen in Downtown LA, where a higher concentration of UGS existed within its more commercial northwestern area, is the relative homogeneity and bigger scale of Tokyo’s core business areas.
Conclusion

What I hoped to do through this thesis is not to assert that Tokyo “does better” at creating walkable spaces for people, nor to argue that Los Angeles should abandon the car. Chapter 2 showed that Tokyo provides more units and equitable access to parks, but this was largely thanks to historical UGS that have existed for centuries, as well as the government’s “capability” to redesign much of the city after it was significantly burned in WWII. Personal biases aside, the way we live in our spaces are determined by a puzzle of historical, cultural, and economic legacy pieces that have shaped how city planning has been administered. My hope is that, through this thesis, the reader walks away with a glimpse of the complicated and multi-stakeholder nature of city planning histories of LA and Tokyo, as well as inspiration for creative ways to introduce friendlier infrastructural features in our capitalistic cities.
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参考文献は、以下のURLからご確認ください。

Appendices

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Appendix C: 公園調書 summary of all local jurisdictions in TMG