Urban Design on a Global Scale: A Comparison of Four Cities

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of the Requirements for the Degree
Bachelor of Science

by

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We would like to express our gratitude to Professor Keith Woodcock and Brianna Lelieur for their guidance and support through this project. We are grateful for the opportunity to have worked with such knowledgeable people that have great passion in the field of planning and urban design.

We would also like to thank the rest of the City and Regional Planning Department, as well as our cohort, for the immense support we have been given over the past four years.

We are excited to share this project with you.

Avery Crower and Shane Strunk
In June of 2022, the authors of this report, Avery Crower and Shane Strunk, participated in an urban design workshop in Lisbon, Portugal at Lusófona University (Universidade Lusófona) with Cal Poly, San Luis Obispo professor Vicente del Rio. This was an interdisciplinary program where they worked alongside fellow College of Architecture and Environmental Design students from Cal Poly as well as other students from around the world.

This two-week program was framed as a walk-to-plan, plan-to-walk analysis. The walk-to-plan portion consisted of an urban design analysis of Lisbon and all its neighborhoods, which provided the student planners with the knowledge of how to design a culturally accurate addition to the university’s infrastructure.

The authors were inspired by this program to compare and contrast different urban design qualities of cities around the globe to understand what makes each city iconic in its own right.

The cities under analysis in this report are:
• Los Angeles, USA
• Paris, France
• Rio de Janeiro, Brazil
• Tokyo, Japan

Disclaimer: We value and acknowledge the differences that each city encompasses. As we are comparing the different urban design qualities within each city, we understand that we can not generalize these qualities to represent any other city besides the ones we are researching. Our analysis is based on visuals of the cities and internet research. The compare and contrast section of this analysis is to showcase particular elements that work well for the city, as well as elements that could benefit from other cities’ portrayals of the same elements.
03 THE OBJECTIVE

The objective of this report is to analyze eight important urban design qualities in Los Angeles, Rio de Janeiro, Tokyo, and Paris, and provide takeaways on how each of these cultural capitals integrated these qualities into their cities. Each of these cities share these qualities, yet depict them in their own unique way. This report will compare and contrast each city’s utilization of the eight urban design elements to get a better understanding of urban design on a global scale.
The Urban Design Associates principle for design is relatively simple in theory:
• Identify and preserve the best things about a place;
• Identify and redesign the least desirable attributes about a place;
• And use new methods to innovate in ways that fulfills people's desires
This method seems simple enough in theory, but what makes the “best” and “worst” things of a place?

Urban design qualities may shed some light into this question. The goal might be to make a place the best it can be, but in order to do that, we must discern what determines “good” or “bad” in terms of placemaking.

Disclaimer: There is no universal solution to all problems that cities face. Different cultures may produce different successful solutions based on the values of that society.

To be objective in the analysis, eight elements of urban design will be used to examine what works and what does not for the selected cities. The elements include:
• Imageability
• Legibility
• Enclosure
• Human Scale
• Transparency
• Linkage
• Complexity

The Urban Design Associates analyze places through the lens of Frameworks and Development Patterns through the various scales of development: regions, cities, districts, neighborhoods, blocks, and individual buildings. Since this study is on cities, regions will not be a considered scale of development.

The authors use the human skeleton as an analogy for the framework of the various scales. The framework is the foundation or the essential structure to each level and foundational to their identity. These frameworks can be either man made or natural features, and are often covered up or hidden by the individual developments made in a given space.

To continue the analogy stated in the previous paragraph, the development patterns of the scales are the flesh to the framework’s skeleton. These patterns are what we see on a surface level and can highlight disparities in different areas.

As established, the frameworks and development patterns help identify commonalities and differences between places at different scales and identify what makes up a place. This is when we can move on to analyzing the urban qualities which we seek to make a valuable place.
The following definitions of the 8 elements of Urban Design were interpreted from a report named Identifying Measuring Urban Design Qualities Related to Walkability by the Robert Wood Johnson Foundation.

These elements were chosen by the Robert Wood Johnson Foundation, which were compiled from a plethora of Urban Design professional literature. These elements exemplify the details of urban design and what users of urban space value.

**Imageability** refers to the traits of a space that contribute to making it memorable and recognizable. When physical elements of a place capture attention and leave an impression, then a place has high imageability.

**Legibility** is the quality of orientation in any given place. It is a matter of wayfinding, establishing reference points, and the structure of streets. You can measure legibility by how well you can make a mental map of a place. Additionally, street networks contribute to this quality, specifically whether or not there are lots of connections.

**Enclosure** refers to the quality of feeling secure within the built environment. Things that contribute to this are tall trees, buildings, and other vertical elements. Being able to know your surroundings makes people feel safe, and in turn, makes people want to explore.

**Human Scale** refers to matching the size and proportions of physical elements within a space to the size and proportions of humans. This includes the size, texture, and articulation of elements such as urban furniture, landscaping, and building details.

**Transparency** is the quality of seeing through the built environment. Having lots of windows or see-through elements contribute to this. Humans are intrigued by other human activity, so having transparency in the built environment can give that visibility beyond the edges. Long streets that connect to landmarks or nodes contribute to this feeling of transparency as well.

**Linkage** refers to how the physical and visual connections of a place work together. This works along one side of a street or across the street. Additionally, linkage is measured by accessibility from place to place, building to building, and from one side of the street to another.

**Complexity** refers to a place with visual abundance, which depends on the array of physical elements such as architectural diversity, the number and variety of buildings, landscape features, street furniture, signage, and human activity.

**Coherence** is the quality that refers to the organization and structure of spaces. To achieve coherence, facades must mesh well together and buildings must flow into one another without stark differences in height or width.

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**05 LOS ANGELES, USA**

Britannica describes Los Angeles as a city of “widely dispersed settlements loosely connected to downtown.” This meek connection to its downtown results from the lack of daily connection to the activities that take place there. The land uses which people use on a daily basis, to work, shop, play, and live, do not exist there on a livable scale. Either these uses don’t exist or they are inequitable. The main connections between these widely dispersed settlements are Los Angeles’ incredible freeway network that is infamously always backed up with traffic. Something that Los Angeles gets right is its activation. There are major hubs of attractions that lure all kinds of people to the city; Hollywood, Century City, and WeHo to name a few. Iconographies like the Hollywood sign, the Ghetty, and Griffith Observatory embellish the Hollywood hills and make Los Angeles a place to remember. According to Planetizen, Los Angeles has very few walkers because of how distant its nodes are. Additionally, there are few parks and plazas to take a break from urban life which makes suburbia much more desirable to those that live there. There isn’t a set standard for architectural styles in Los Angeles due to its sprawling nature. The difference in density between the suburbs and the skyscrapers Downtown is so immense that comparing their architectural styles is pointless. Additionally, trying to sum up the density of the city is hard because it varies so much, but the order of density is exponential, building up from the suburbs to the Downtown core. Active transportation infrastructure follows the idea of Los Angeles being a city of widely dispersed settlements; there are groups of interconnected bikeways and pedestrian connections throughout the city, but little greater connectedness. There is an argument to be made that these bubbles of infrastructure include all the daily uses an Angelio may need, but that is just a hypothesis.
Imageability

In the context of imageability within Los Angeles, a metropolis renowned for its extensive car-centric transportation may present some difficulties in terms of imageability. Los Angeles and its downtown are made up of a variety of distinctive neighborhoods and districts, with some overlapping, lacking a clearly defined and unified center. Los Angeles does, however, include identifiable monuments and famous locations that add to its reputation, as stated in the overview, as well as a unique character and aesthetic with a plethora of public art. Los Angeles has made efforts towards improving imageability through projects like the Downtown Revitalization Plan, which includes the Metro Regional Connector. Due to Los Angeles’ vastness, the imageability can vary depending on where you are and the visual identities an area may possess.

Legibility

Los Angeles is known for its many interconnected freeways which are always backed up with traffic. Legibility is strong in LA because it is teeming with major highway systems and grand boulevards, such as the one in the picture below, which contribute to orientation within the city. Additionally, there are plenty of landmarks and nodes of activity to use as reference points. This can be a negative though, because there are so many things to see and so many landmarks, over stimulation may cause disorientation.
Enclosure

Enclosure in LA is a mixed bag because there are so many different levels of density within the city. On one hand, in Downtown LA, the enclosure is strong due to the tall buildings, tree-lined streets, and focal points at the end of the streets, and on the other, in a place like West Hollywood, there is very little enclosure from buildings because everything is three stories or less. Street trees are still present, as they are in most built-out areas in LA, but with buildings that are short compared to the downtown area, the streets are much more empowered to take over the landscape.

Human Scale

Human scale in LA also comes up with mixed results due to the city’s large size and lack of cohesion all around. In the downtown, some might say that the buildings are way too large to be human scale, and in the suburbs, others might say that the sprawl is too much and the city isn’t walkable enough to be at the human scale. There are places in LA that are in the good medium, but since the city has both extremes of the human scale present, overall it is relatively poor. Additionally, the city is about 496 square miles big (census.gov), which is way too large for a city to be human scale, as no one would visit all areas of the city in an average day. This is why there are a plethora of distinct neighborhoods and districts within the city that all have their own character. Different people live in different ways and in a city this large, there is representation of all ways of life, which in a way represents the human scale well.
**Transparency**

Transparency is good in LA. There is human activity everywhere so it isn't hard to find. Regardless of that fact though, many, if not most, of the buildings in LA are lined with windows that show what the happenings are inside, and most streets end with a focal point that lets people know what is going on in that general direction. Transparency does, however, vary depending on the neighborhood, with some being more dense than others with less transparency.

**Linkage**

Linkage plays a significant role in the overall urban fabric and accessibility within a city. In the case of Los Angeles, this large and sprawling city has been confronted with achieving optimal linkage and connectivity throughout its urban fabric, however, efforts have been made to improve accessibility and connectivity within the city. Los Angeles has been extending its public transportation system including the Metro rail and bus networks. These transformations have aided connectivity by increasing the availability of various means of transportation and facilitating easier movement within the city. In addition to these transportation initiatives, there have been urban planning initiatives for more walkable and bike-friendly neighborhoods. It is important to note that linkage varies depending on what neighborhood you’re in, since some may have better walkability and access to public transit than others.
Complexity

Los Angeles is visually abundant because of its wide variety of physical elements and the dynamic amongst human activity that distinguishes Los Angeles’ urban landscape. Many elements contribute to Los Angeles’ richness and complexity, including the architecture, the quantity and variety of buildings, the environment, street furniture, and the mere abundance of individuals with many different backgrounds.

Coherence

Given the array of neighborhoods and historical development, there is a vast and complex variation of structure heights and architectural components. However, each neighborhood has a good coherence of organization and structure of spaces. Los Angeles is known for its sprawling and decentralized layout and a mix of urban forms. In recent efforts, however, Los Angeles has strived towards more walkable and pedestrian-friendly neighborhoods, encouraging mixed-use development, and using transportation systems to form better connectivity through the city.
Paris' physical identity today can be defined by Baron Haussmann's renovation of the city post-French Revolution. In the renovation, new grand boulevards pierced through the existing narrow, convoluted street networks (BBC, 2013) and the iconic Parisian architectural style was born with Haussmann's stringent architectural code (Hohenadel, 2022). These buildings make up 60% of the housing stock today and the grand boulevards are arguably some of the most iconic feats in urban planning history.

The city's long history means that there are monuments and relics of time periods dating back to 250 B.C. (Wagner, 1998). There are many monumental landmarks which are symbols of Paris' longevity and innovation in planning and architecture; the Eiffel Tower and Arc du Triomphe are the first that come to mind. Every era of recorded history can be found in Paris which contributes to its allure and tourism.

Haussmann's renovation highlighted the historical monuments of Paris while refreshing its street network. One criticism that can't be ignored is that Haussmann's project was and is the leading cause of Paris' gentrification and that the renovations were to make it easier for the military to control its population (Penn State, 2022), but Paris arguably wouldn't be what it is today without gorgeous tree-lined streets like the Champs Elysee which makes the city so walkable and memorable.

The city is comprised of 20 municipal districts (called arrondissements in French) which each has their own mayor, town hall, and unique character (Britannica, 2023). The districts start at the heart of the city at the Île de la Cité, where Parisian civilization began thousands of years ago, and reach out to the outer edges of the city like the modern 13th district which features 20th century architecture and design (Voconces Culinary Ltd, 2010). Although from different eras of Paris' development, the 20 unique districts have relatively similar densities and street networks, and very walkable characters, with the metro immensely contributing to the ease of transportation throughout the city.
Imageability

Paris is well known for its great imageability and aesthetically pleasing urban design. The city encompasses many famous attractions, including the Eiffel Tower and the Notre Dame Cathedral, which assist in making it memorable and provide strong visual connotations. The city’s striking Hausmannian architecture, grand boulevards, and picturesque streets all contribute to its overall visual appeal. The traditional appeals of districts like Le Marais and Montmartre have been preserved, while others have been remolded with contemporary architecture aiding in the visual interest of the city. The city is enhanced with the River Siene and its banks and promenades.

Legibility

Paris seems to excel in its efforts of legibility. Its layout and street structure assist in forming a navigable environment, allowing for the ability to easily create a mental map. The city’s radial street pattern, which is originates from the iconic landmarks of the Arc de Triomphe and the Place de la Bastille, is one important aspect that improves the city’s legibility. This radial layout aids in orienting and clarifying the placement of individuals throughout the city. In addition, Paris’ grand boulevards provide prominent axis’, which include many iconic landmarks for visual reference points. Lastly, the city has well-defined neighborhoods and distinct districts, as mentioned in the intro, that further contributes to the legibility.
Enclosure

With Paris’ variety of towering buildings, such as the Hausmannian buildings and modern skyscrapers, these components enclose the area and serve as a background to define and separate public places. In addition to, Paris is renowned for its wide and well-designed boulevards which encompass bordering of tall buildings with trees and other vegetation. This bordering mechanism fosters a sense of safety and shelter for individuals. Various parks and green spaces also contribute to the feeling of enclosure, since they often are surrounded with some form of vegetation, as seen in the photo below of the Luxembourg Gardens.

Human Scale

The size and proportion of the facades and architectural details of the Parisian buildings often consider the human scale. The windows, doors, balconies, and more architectural features seem to be created with pedestrians in mind. This element fosters a close relationship with the built environment and its occupants. Additionally, there is an array of urban furniture within the wide boulevards that allow for comfortable movement and enjoyment for the pedestrians.
The relationship between the indoor and outdoor spaces play a crucial role in the transparency of Paris. A common characteristic in the Parisian buildings is large windows and lots of natural light. This creates a visual link between interior and exterior of the buildings, and allows passerbyers to understand what's occurring inside the buildings. Additionally, there are a few transparent features, such as the Louvre museum, that fosters visitors to ‘peer beyond the horizon’ and see human activity.

Paris does very well when it comes to accessibility and linkage. It goes without saying that Paris’ metro is very comprehensive and dense, even at its outer reaches. At a block to block level, Paris seems to also do well establishing visual connections between one side of the street to another. There are many mid-block crossings and, in the example from the image above, posts in the center of the street to also visually signify where those crossings are in addition to the painted lines on the street.
Parisian facades are iconic. The iron balconies, stone details, and tall windows make for complex and memorable buildings. This style represents the history of Paris as this style originated in the days of the carving of Paris' boulevards. These facades add to the walkability of the city because they are so visually stimulating that walking along the street would never get boring. Although this kind of facade isn't present in the entire city, this is what Paris is known for unlike other modern cities which have a more eclectic feel.

Due to the iconic style of Parisian architecture that dominates the cityscape, Paris exemplifies coherence. Most buildings mesh well with each other and the height and facade regulations ensure each building flows from one to the next. Additionally, since most buildings are attached unless separated by an alley or street, the flow from one building to another is close to seamless.
Rio de Janeiro is a huge city with a large metropolitan area on the eastern coast and suburban neighborhoods branching out North, West, and South. Several neighborhoods are known as favelas, which are neighborhoods reminiscent of natural growth, with people individually building their homes. There are also very large national parks throughout the city which split up its neighborhoods. The topography is very steep in places, making connections from one area of the city to another more challenging than other urban environments. There are many iconic landmarks, destinations, and open spaces to visit within the city. Because of Brazil’s long history of colonization, the architectural styles are very diverse within the downtown of Rio.
**Imageability**

Rio de Janeiro’s imageability corresponds with its beautiful natural surroundings, variety of architecture, and many cultural events. Attractions such as Christ the Redeemer and Sugarloaf Mountain contribute great visual appeal to the city. In addition to its visual appeal, this city is shaped by its activities like the yearly carnival and its sports venues such as the Maracanã Stadium. Despite some difficulties, such as socio-economic disparities, crime rates, and the presence of informal settlements, Rio de Janeiro acquires a distinct character due to its natural surroundings and variety of architecture.

**Legibility**

Rio de Janeiro legibility is formulated by its informal settlements, topography, and attractions. The city’s hilly terrain may challenge legibility, however, attractions, like the ones mentioned in imageability, assist in an individual’s ability to understand the city. Due to the atypical layouts within the favelas, it may be hard to navigate, however, this could be easily addressed through signage and better transportation accessibility.
**Enclosure**

In Rio de Janeiro, there are multiple levels of enclosure, due to its variety of open spaces and intimate environments. There are a range of beaches, such as Copacabana and Ipanema, that provide openness to individuals, but comparatively, there is also colonial architecture with small streets that contribute to the element of enclosure. There are also many public squares and parks, like the Cinelândia Square, that are enclosed with buildings and landscaping. Overall, there is a wide variety of spaces for individuals to encounter.

![Copacabana Beach](Source: Travel Channel)

![Cinelândia Square](Source: Culture Trip)

**Human Scale**

Human scale is a complex element in Rio because of the difference in character from the downtown area and the many favelas. Both show elements of human scale in different ways. In favelas, the neighborhoods are arguably of good human scale because the residents build their neighborhoods by themselves so they build it to the scale they want. In the downtown/urban areas, there are many different densities on the same streets, but a lot of streets are slim, which add to the human scale, especially when densities are lower.

![Copacabana Beach](Source: Travel Channel)

![Cinelândia Square](Source: Culture Trip)
**Transparency**

Rio de Janeiro has a wide range of architectural styles and designs that incorporate transparency, allowing for glances of human activity and fostering an eye catching urban environment. However, with the abundance of favelas, there is many obstructed views. There are many large windows, glass facades, and open-air structures that provide transparency and encourage a connection between the interior and exterior of the areas. This design strategy encourages people to see and interact with their surroundings by allowing natural light to enter the structures and fostering a feeling of openness. This provides humans the opportunity to peek beyond the structure and see the life and activities that may be occurring. This is seen in buildings like the one in the picture, called the Museum of Tomorrow. In contrast, there are many tight-knight corridors throughout Rio de Janeiro, as seen in the second photo. There is less transparency within these areas, since they are more concrete structure, close together, with a very minimal amount of windows.

![Transparency](Source: Laura the Explorer)

**Linkage**

The linkage within Rio de Janeiro varies from area to area. The favelas play a big part in the complexity of linkages and connectivity throughout the city. Within the city there is both a grid-like street pattern, as well as other neighborhoods with winding streets and natural contours. There are major boulevards that connect the majority of the city, such as Avenida Atlântica, which assists in linking neighborhoods and landmarks, as well as a major walkway for pedestrians. Safe and accessible networks for pedestrians is essential for good linkage, and while there are many main boulevards, the linkages within the buildings aren’t as accessible given the congested building areas. The public transportation plays huge role in the linkage, as there is an extensive network of buses, trams, and metro lines that connect the various neighborhoods and destinations. There are also many landmarks that assist with linkage such as Christ the Redeemer.

![Linkage](Source: Transit Maps)

![Transparency](Source: Architectural Digest India)

![Linkage](Source: Hoteis)
With the wide array of styles and physical elements within Rio de Janeiro, there is a high level of complexity and visual abundance. The architectural diversity plays a huge role in the complexity. There is a range of buildings from neoclassical to modernist to contemporary, with great historic buildings alongside modern skyscrapers and residential buildings coexist. There is also a wide range of signage and street furniture that contribute to the complexity within Rio de Janeiro, as well as public spaces and streets with a diverse range of activities, events, festivals, and celebrations that create a dynamic complexity within the city.

The coherence within Rio de Janeiro varies throughout the city. Some neighborhoods reflect a coherent organization and style, while some are incoherent. The historic district of Santa Teresa reflects coherence within Rio de Janeiro, with buildings flowing seamlessly together without stark differences in height. However, in contrast, it is seen in the complexity element the blend of heights and variety of eclectic architectural styles and facades. Additionally, with the surplus of favelas, there is a lack of coherence in many neighborhoods.
Tokyo is one of the world's mega cities and is the world's most populated city with over 37 million residents in the greater metropolitan area (Britannica). It is then apparent that since the population is so high that the development in Tokyo is very dense. The city is structured in a somewhat-radial pattern resembling cobwebs. The focal point of the city is the Imperial Palace which sits at the center of the figurative "cobweb". Tokyo is comprised of 23 special wards which serve as a more localized jurisdiction than the greater metropolitan center. There is obviously much to see in the city, but some of the most famous landmarks include the Tokyo Tower, the aforementioned Imperial Palace, and the Shinjuku Gyoen National Garden. Although there are many monuments of an older era, most of the architecture in Tokyo is hyper modern. Tokyo innovated in the field of seismic-resistant architecture because of the catastrophic earthquakes the country has faced in the 20th century. There are several centers of activity which have similar modern character but specialize in different things like shopping, government, tourism, and business. Additionally, Tokyo is known for its complex metro system which takes its residents and tourists through the city and to the surrounding cities.
There are many landmarks, nodes of activity, and streets which make Tokyo memorable and awe-inspiring. To many outsiders, Tokyo's districts have similar characteristics but the unique character of each district comes from the activities that take place there, not the urban form. There are several hubs of activity which rival New York's Times Square in its captivation. Additionally, several iconic landmarks and buildings line the Tokyo skyline, including Tokyo Tower, the Imperial Palace, and Tsukiji Fish Market.

Imageability

Tokyo is an extremely large city with lots of different neighborhoods, often with a self-sustaining ecosystem which its residents may live in day-to-day without exploring the greater city. In terms of the neighborhood unit, legibility is very good because the uses which people need on a day-to-day basis are in such close proximity, but in terms of the city unit, there is the general cobweb structure, but the natural growth of the city does not lend to its legibility.

Legibility
When it comes to enclosure, Tokyo benefits from its skyscrapers in its downtown, and from its narrow streets in its suburbs. The built environment throughout the city incorporates tall buildings, vertical elements, and tall trees and greenery that provide a sense of enclosure and security. The city is dominated with dense clusters of tall buildings, which often form and border public spaces creating edges. Enclosure is also defined through the cities well-defined neighborhoods that possess unique characters with a mix of residential and commercial uses.

Human Scale

The individual neighborhoods of Tokyo all possess human scale because they all used to be individual towns/villages before Tokyo became a metropolis. While Tokyo consists of many tall buildings and skyscrapers, a majority of the building elements respect the human scale. Architectural elements such as doorways, windows, and facades are designed proportional to pedestrians. In addition, the wide sidewalks and streets contribute to the comfortability of humans and assist with easy navigation through the busy streets.
**Transparency**

Tokyo incorporates a lot of glass and reflective materials, as well as well-connected streets that offer visibility beyond the edges. The reflective features allow for natural light to flood into the more crowded spaces offering a form of transparency, as well as permeating into interior spaces offering glimpse of activities from within. The long street networks that connect to landmarks and nodes offer transparency and a visual connection for the pedestrians by having a clear line of sight to any activity that may be beyond.

**Linkage**

Tokyo’s streets are meticulously laid out and linked, allowing for easy mobility and navigation. Pedestrians may easily go from one side of the roadway to the other because of the city’s large network of well-kept sidewalks, pedestrian-friendly crossings, and strategically located bridges. Furthermore, the Tokyo metro is one of the most comprehensive in the world. Its effective transportation network, which consists of subway lines, trains, and buses, further improves linkage by offering convenient connectivity throughout the busy city.
Complexity

Tokyo is extremely visually abundant with an abundance of street furniture, enticing signage, diverse architectural styles, and lots of human activity. The buildings embody and honor the Japanese designs and heritage as well as incorporate modern and contemporary designs. There are many historic landmarks contrasted with modernized skyscrapers, which creates enticing and unique sights for humans. Amongst the high rises and hustle and bustle of the city, there are also a plethora of green spaces and gardens, as seen in the photo below. There are many crowded marketplaces and street events and performances that also contribute to the complexity of Tokyo.

Coherence

There is organized chaos in Tokyo’s order. With the chaos there is a sense of visual unity as structures flow smoothly from one to the next providing a feeling of interconnectedness as you walk through the city. There is relatively a uniform building height with tall skyscrapers and high rise developments, as seen in Shinjuku and Hiroo. In contrast, there are other neighborhoods with varied styles such as Asakusa, which is blending a more historical and traditional style with modern elements. Coherence still remains in this as it reflects and preserves on the area’s identity.
This section is dedicated to a compare and contrast of the cities that have been analyzed in the previous section. Our first comparison will be between Tokyo, Japan with Rio de Janeiro, Brazil, and the second comparison will be between Paris, France and Los Angeles, USA. The purpose of this comparison is to understand what urban design elements work and do not work for each city and see if other cities could benefit from the ways other cities implement these elements.
## Comparison 1: Los Angeles & Paris

<table>
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<tr>
<th>Category</th>
<th>Los Angeles, USA</th>
<th>Paris, France</th>
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<tbody>
<tr>
<td><strong>Imageability</strong></td>
<td>Historic architecture, grand monuments, large, open boulevards.</td>
<td>Iconic landmarks, distinctive neighborhoods.</td>
</tr>
<tr>
<td><strong>Legibility</strong></td>
<td>Radial pattern, long and wide boulevards with small alley streets in between, landmarks as orientation devices.</td>
<td>Semi-grid, with N/S grids intersecting with diagonal grids, and a complex highway system.</td>
</tr>
<tr>
<td><strong>Enclosure</strong></td>
<td>Use of vegetation and trees to enclose spaces, multi-story buildings supporting enclosure.</td>
<td>Mixed bag, downtown uses trees and tall buildings to enclose, residential neighborhoods are low density and oftentimes car-oriented.</td>
</tr>
<tr>
<td><strong>Human Scale</strong></td>
<td>Architectural elements and urban furniture contribute to human scale, wide sidewalks, and proportionate buildings</td>
<td>Many different scales represented, very low to very high-density development, and areas with medium density express human scale best</td>
</tr>
<tr>
<td><strong>Transparency</strong></td>
<td>A blend of the indoor and outdoors with sidewalk seating for restaurants and a large presence of windows.</td>
<td>Lots of human activity, most buildings have lots of windows, and many focal points lead to areas of human activity.</td>
</tr>
<tr>
<td><strong>Linkage</strong></td>
<td>The comprehensive metro system, mid-block crossings, and great visual connections between blocks and streets aid with linkage.</td>
<td>Early expansion of the public transportation system and innovative planning methods for crossings create connections.</td>
</tr>
<tr>
<td><strong>Complexity</strong></td>
<td>Iconic and detailed facades that are homogeneous without being boring.</td>
<td>Visually abundant and eclectic while remaining cohesive.</td>
</tr>
<tr>
<td><strong>Coherence</strong></td>
<td>Similar architectural styles and attached buildings create coherence/flow, and a great overall city organization.</td>
<td>New initiatives leading to connecting the city better. The individual neighborhoods have similar characters and a good organization.</td>
</tr>
</tbody>
</table>

**Major Differences: Legibility, Historical Components, and Complexity.**

The main differences between Los Angeles and Paris in terms of urban design are elements rooted in historical context. Paris is an ancient city and Los Angeles is a semi-modern one. Most of the development in Paris was completed before automobiles dominated the world market, so the city was designed with walkability and shorter commutes in mind, in addition to its large network of underground subways. Los Angeles, however, was mostly developed after the popularity of the automobile, and even the oldest state highway in the Country (the 110) is in Los Angeles. The development within LA was based on the fact that there were plenty of highways to carry residents around the city from home in one place to work in a completely different places.

In addition to the orientation of the street network, history plays a role in another significant difference between the two cities. In the 18th century, Haussman created a standard for the redevelopment of Paris which included strict facade and building height standards, none of which existed in Los Angeles (At least not as strict as Paris). Paris’ architectural style can be referred to as classical, which reflects the taste of the architectural style at the time. Los Angeles has an eclectic feel with many different architectural styles, but many famous historic buildings in LA use the Art Deco style, including Griffith Observatory and the Pantages Theater.

In this way, Paris and Los Angeles are similar in opposite ways. Parisian buildings are more or less the same, but the complexity of the facades ensures that there is never a dull moment within the urban fabric. Los Angeles has an eclectic character, but because there are so many different styles, they work together to form cohesion through the visual abundance of urban design. Both cities find ways to balance between being boring and overwhelming in a way that makes each one great in each their own right.
**Comparison 2: Tokyo & Rio de Janeiro**

<table>
<thead>
<tr>
<th></th>
<th>Tokyo, Japan</th>
<th>Rio de Janeiro, Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Imageability</strong></td>
<td>Diverse districts, vibrant activities, and iconic landmarks.</td>
<td>Natural surroundings, diverse architecture, and cultural events.</td>
</tr>
<tr>
<td><strong>Legibility</strong></td>
<td>Residential areas are easily navigable, but the sprawling of the city center makes it difficult. However, through the cob-web network streets are well-connected.</td>
<td>Favelas, hilly terrain, and distinguishable landmarks.</td>
</tr>
<tr>
<td><strong>Enclosure</strong></td>
<td>The dense clusters of tall buildings, well-defined neighborhoods, and narrow suburban streets create a sense of security and enclosure.</td>
<td>A diverse range of spaces. Open beaches, intimate colonial streets, and public squares create multiple levels of enclosure.</td>
</tr>
<tr>
<td><strong>Human Scale</strong></td>
<td>Proportional architectural elements and wide sidewalks and streets contribute to the comfort of humans.</td>
<td>Human scale varies depending on where you are, but the downtown areas have varying densities and narrow streets that contribute to human scale.</td>
</tr>
<tr>
<td><strong>Transparency</strong></td>
<td>Lots of glass and reflective materials, well-connected streets, and long street networks.</td>
<td>There is a blend of transparency and obstructed views. The favelas challenge transparency, while the open-air structures and glass facades contribute heavily.</td>
</tr>
<tr>
<td><strong>Linkage</strong></td>
<td>Lots of pedestrian-friendly crossings and bridges, a comprehensive metro system, and meticulously connected streets provide great linkage.</td>
<td>Informal settlements challenge linkage, however, the major boulevards, landmarks, and public transportation assist it.</td>
</tr>
<tr>
<td><strong>Complexity</strong></td>
<td>A variety of street furniture, captivating signage, diverse architectural styles, and high human activity.</td>
<td>Visually abundant with a variety of architectural styles, signage, and dynamic public spaces with diverse activities, events, and celebrations.</td>
</tr>
<tr>
<td><strong>Coherence</strong></td>
<td>Organized chaos with uniform building heights and varied architectural styles that blend seamlessly and reflect the area's identity.</td>
<td>Varying levels of coherence within the neighborhoods, due to favelas. A mix of building heights, eclectic architectural styles, and facades.</td>
</tr>
</tbody>
</table>

**Major Differences: Density, Environmental Aspects, Level of Technology, Coherence, and Organization**

Tokyo possesses high density and advanced technology with a strong emphasis on coherence and organization, while Rio de Janeiro exhibits a variety of densities, a lesser degree of expertise in technology, and a more varied coherence and organization affected by its natural environment and historical background. Tokyo is renowned for having highly developed technology, notably in its public transportation systems, which include a well-connected metro system. In many facets of its urban life, Tokyo welcomes innovation and uses lots of cutting-edge technology. Tokyo has a higher degree of technology than Rio de Janeiro. Although it has a good transit system, it may not be as vast or high-tech as Tokyo's. However, the city has worked to advance some of its technologies for significant occasions such as the Olympics.

Tokyo’s urban planning exhibits a great degree of coherence and organization. The city retains visual cohesiveness despite its size and complexity, due to its seamless transitions between buildings. While each district and neighborhood has its own distinctive personality, the urban fabric as a whole is linked and harmonious. Rio de Janeiro demonstrates a more varied and complicated organization. In particular areas, like the Santa Teresa district, it reflects a cohesive design, while others like the favelas, display a variety of heights and styles, reflecting a less cohesive area. The city’s inherent topography and the integration of old and new features have an impact on how it’s overall organized.
10 CONCLUSIONS
A Summary of Important Takeaways

- Each city explored in this report; Los Angeles, Paris, Rio de Janeiro, and Tokyo, are representations of different ways that the elements of urban design are expressed through the built environment.
- Even though language in this report may imply superiority of some cities over others, different countries and different people have different standards of needs and desires. This report, being made by two Americans, is analyzed through a subjective lens based on inherently Western ideals which may have an impact on how cities were judged.

Lessons from cities across the globe that can be applied to American cities:

- The standardization of regulations is what makes the coherence of cities like Paris excellent.
- History is more strongly reflected in the built environment outside of the United States.
- Informal housing like the Favelas in Rio de Janeiro is an effective solution to housing crises.
- Creating street patterns that highlight nodes of activity or landmarks makes recognizable and legible cities.
- Cities like Tokyo utilize technology within the built environment to increase the standard of living, for example, how fast the rail system is.
- Areas where people feel enclosed, comfortable, and safe from cars, such as pedestrian streets or alleyways as seen in Paris or Tokyo promote informal gathering and community social capital.
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