



# Analysis of Guayaquil through the 12 criteria to determine a good public space based on New City Life by Jan Gehl.

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**Abstract**— Public space as a concept has been determined as a privatized and disused space that suits the short stay of its users. One of the main challenges facing public spaces in Latin America is poverty and inequality. Many urban residents of the region live in informal settlements or slums, where public spaces are often scarce or of poor quality. In addition, crime and safety issues can limit the use and enjoyment of public spaces in some areas. The present study analyzes the conditions of public space through the urban imaginary, typical in the public spaces of Guayaquil, which have problematic conditions in terms of insecurity, privatization, and disuse, leading to determine these spaces as urban voids. The objective presented is to use a qualitative analysis model of Jan Gehl's 12 criteria of public space as guidelines for the design and improvements of the new public space within Guayaquil. The methodology used is based on case studies and evaluation of the indicators of each of the criteria, thus entailing a theorized framework. As a result, the application of 12 criteria can strengthen use, reduce insecurity, de-privatize public space, and improve the current designs of public spaces under the conditions of sustainable public space, thus increasing the amount of green area.

**Keywords:** Urban strategies, public spaces, green areas, strategic guidelines.

## I. INTRODUCTION

The urbanization process of the city of Guayaquil has developed with greater force in the last 25 years, in its beginnings, it arises thanks to its port-commercial character, the consequent expansion of the city, and, consequently, the need for both formal and informal settlements and squares arranged for commerce and daily life resulted in the chaotic and irregular growth of the city [1]. The poor economic, social, governmental, and urban management, corrupt, between 1960 and 1990 led the city to a state of decadence and the loss of its political influence and cultural dynamism at the national level. From 1992 new development models were implemented and since 2004 proposals for the reconstruction of historic neighborhoods, popular markets and the improvement of public transport have been encouraged. However, their social problems are perpetuated over time [2]. Within contemporary urbanism, human dimensioning has been minimized within the approach of cities, while vehicular traffic routes have become mistakably primordial. Additionally, ideas of a modernist nature have only abandoned the questioning of public space and meeting places for the citizen [3]. The architecture of the city has become commercial over time, individualistic, and isolated from the community. The risk of the loss of social and cultural spaces is latent. These variables change the space, which has turned the city into a hostile environment for pedestrians. For safeguarded preservation, it has left aside the sidewalks and, in some cases, these old spaces of permanence have disappeared. Jane Jacobs already raised in the 70s the dangers of the urban ideology of the Modern Movement, ideas which end up destroying urban space and life for the automobile cities. His testimony was one of the first signs that we should re-analyze our way of conceiving cities, and that we should also have a much more holistic and humanistic vision. The interest of the human dimension is the reflection of the demand for better urban quality [4]. It should be considered for these issues of primordial investment and its incalculable benefits.

## II. MATERIALS AND METHODS

Public spaces in Latin America vary widely in their design, accessibility, and use. Cities such as Buenos Aires and Mexico City, have historic squares and parks that have long been important public gathering places, Sao Paulo consists of more modern public spaces, such as centers and other commercial spaces.[5]

One of the main challenges facing public spaces in Latin America is poverty and inequality, many urban residents of the region live in informal settlements or slums, where public spaces are often scarce or of poor quality, in addition, crime and security problems can limit the use and enjoyment of public spaces in some areas.

Despite these challenges, there are also efforts to improve and create new public spaces in Latin America, cities are investing in the revitalization of historic squares and the creation of new parks and green spaces [6]. There are also initiatives to transform underutilized spaces, such as abandoned lots or waterfronts, into new public spaces. In addition, some cities are experimenting with innovative approaches to designing public spaces, such as temporary or emerging spaces, or incorporating community engagement and participation into the design process.

Jan Ghel, architect, urban planner and researcher, has proposed 12 criteria to evaluate the quality of public space [7], which are:

- Accessibility: the ease of reaching and moving through space
- Inclusivity: the space must be welcoming and accessible to all members of society
- Multifunctionality: the space must serve multiple uses and activities.
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- Sustainability: the space must be designed and managed in an environmentally friendly way
- Security: Space must be safe for all users
- Aesthetics: The space should be visually pleasing and contribute to the overall character of the area.
- Comfort: The space should provide comfortable conditions for users, such as shade and seating.
- Identity: The space should reflect the unique characteristics and history of the area
- Identity: The space should reflect the unique characteristics and history of the area
- Surprise: The space should include elements of surprise and discovery to make it more interesting and attractive.
- Access to nature: Space should provide opportunities for users to interact with nature.

## III. METHODOLOGY

The analysis of public space is a qualitative methodology used to evaluate the quality and functionality of public spaces, through a critical analysis under the criteria to evaluate a good public space dictated by Jan Ghel, which provides clear guidelines on urban imaginaries and how the urban image should be proposed by designers or designers of the city in a future context of redesign and rescue of the city with new designs and improvements in the conformation of public spaces for the city of Guayaquil [8]. To carry out the critical analysis, 3 sectors were established in which the permanence in the public space, the insecurity and the privatization of the public space is affected, among the models studied are: Samanes Park, Historical Park and Guayarte, being also points where the activity of public space becomes dynamic due to the change of uses within the space.

## IV. RESULTS

Based on the results obtained through the analysis carried out in the central helmet of Guayaquil, it can be determined that one of the existing problems is given by the road configuration that has been developed many decades ago and that over time was adapted to the vehicle, prioritizing mechanical vehicular mobility, in many roads of private vehicular use, for which pedestrian circulation was inscribed in the background, with remaining spaces in the configuration of the roads, which have been conceived mostly as simple delimiters of the roads and buildings, taking as an example narrow sidewalks that only serve for the passage of people, and on many occasions the passage of a single one, in which in addition to its narrowness, we find physical limitations for free transit, such as advertising and urban furniture poorly designed and poorly located, having the sidewalks as a simple step and not for the development of other types of activities that allow the interaction of the inhabitants of the city and much less to be able to make stays in certain sectors for use and appropriation of the citizen's public space.

### 1. Traffic protection

Guayaquil ranks 89th most traffic-congested cities in the world, according to the INRIX 2020 report. Its considered part of 25 most congested, and due to the covid-19 pandemic, car mobility was drastically reduced globally. It is believed that this figure will only rise in the coming years [9]. Knowing this, it is essential to seize the opportunity that currently exists with this recent reduction in traffic. Currently, existing urban regeneration plans have helped to retake certain of the pedestrian areas, such as Panama Street, although these are part of a gentrification model. This urban intervention is designed for the development of cultural and transitional spaces close to the Malecón 2000, with a view of the influx of both locals and tourists. Within these regenerative plans,

one of the urban objectives is to give a safe space to the pedestrian, prioritizing it before the car, so that the city can relate to the environment in a natural and safe way.

## 2. *Safety in Public Spaces*

J. Jacobs comments in his book *Death and Life of the Great Cities* that: If the streets of a city are safe from barbarism and fear, the city is tolerably safe from barbarism and fear [10]. When the urban imaginary of the population about the city or a part of it is dangerous or that it is a jungle, it mainly means that they do not feel safe in their spaces. In the urban environment of Guayaquil, the high crime rates and the scarce optimal spaces for the transit of people results in a kind of metropolitan barbarism. Citizens avoid sidewalks, due to the scarce pedestrianization regulations and their correct application in areas of high pedestrian density. Examples of narrow sidewalks in front of high-traffic areas carry more than one problem: visual and auditory pollution, danger of accidents to pedestrians and vulnerability to crime [11]. Many of the existing parks are fickle in the face of crime, due to the lack of urban incentive for their maintenance and appreciation.

The city of Guayaquil has 1900 inventoried parks that are offered in the tourist part by the Municipality of Guayaquil, of them six are the ones that have more daily and weekly influx of citizens, these are distributed as follows: three are located in the northern part of the city: Parque de los Ceibos, Clemente Yerovi Park and Los Samanes Recreational Area and three in the southern part: Forest Park, Pio López Park, Eco Sports Park located on Trinitaria Island, on the other hand green areas currently have little flow of visitors, regardless of whether it is a holiday or ordinary, because people are used to preferring other types of places such as shopping centers, cinema, amusement parks, among others; that provide a variety of recreation and gastronomy services. The others are just dead spaces, devoid of urban life. These places become risk areas where degenerative activities are generated. It must be the city's job to appropriate these places of life, to give them a reason to make people feel safe and comfortable again.

## 3. *Protection against unpleasant sensory experiences*

Unpleasant sensory experiences are oriented to the infrastructure of the city and how it provides security, mainly, against climatic or environmental effects that directly affect the user such as wind, rain, pollution, dust, and reflections from the sun. The latent sensory experience of the city of Guayaquil is noise pollution. Data from the Geoinformation and Remote Sensing Laboratory of Espol on noise levels in Guayaquil show that most of the city, especially downtown areas, with the maximum decibel measurement rate at approximately 70 db to 80 db [12]. WHO recommends that the highest permissible level of noise exposure in the workplace be 85 dB for up to 8 hours a day [13]. The problem is that our average is stable throughout the day, being a health risk for citizens. Noise pollution puts into consideration the growing rate of people with hearing problems in the last decade.

Likewise, Guayaquil should follow the guidelines recommended by the WHO to reduce the risk, these being in its urban action access to quiet areas for the ears to rest and reduce the risk of hearing damage.

## 4. *Walking Spaces*

J. Gehl mentions in his book *The Humanization of Urban Space* that: It is not enough to simply create spaces that allow people to come and go. There should also be favorable conditions for wandering and entertaining in these spaces, as well as for participating in a wide range of social and recreational activities [14].

It is defined in a few words the complexity and structure of the spaces to walk since they must not only allow the mobilization, but they must offer elements of interest to enhance and enjoy the wandering. Known as "the city of cement", Guayaquil has few spaces where you can explore nature and outdoor activities. What is most noticeable when traveling through the city are the number of streets that there are to connect the entire city, few trees and space for pedestrians. So, when looking for real green areas, with nature with which one can disconnect and appreciate the tropical dry forest, the mangrove, the estuaries and the wildlife of Guayaquil of before, where nature is hidden within the urban area to birds, reptiles, even crocodiles in a vibrant and urbanized city. Places where both water and climate give options to take advantage of activities such as: paddle board and rowing, jogging, walking or the use of bicycles among trees and mangroves. Here is one of the best known to be able to travel it, being excellent to do it as a family:

The Samanes National Recreation Area (See Fig. 1) is considered "a mountain experience in half a city". It is a place for true nature lovers with beautiful roads and bridges in dense dry forest and the presence of large ferns. 7 km of rustic cycle paths and 1.2 km of paved paths allow visitors to explore the rugged terrain on foot or by bike. Where swamps, ravines, ups and downs, watchtowers and wildlife are presented make it so exciting with the possibility of different experiences every time you visit. When walking through the sector you should be careful with iguanas or snakes that may cross your path.



Fig. 1 National Recreation Area Los Samanes. Note: CONSTRUDIPRO database.

This is a recreational park that shows the wild nature of Guayaquil between the city and the country of cocoa, taking you to the picturesque Guayaquil of the cocoa boom of the eighteenth and nineteenth centuries. Wild animals and traditions are shown, through a visit to preserved and regenerated ecosystems, you can learn more about the animals that are part of the Guayaquil natural heritage.



Fig. 2 Historical Park. Note: Municipality of Samborondón database.

This is a square in Guayaquil with artistic and culinary content, whose main objective is to open artists and urban entrepreneurs to outdoor art and cultural content projects. With a variety of restaurants, you can walk comfortably and enjoy the view of the estuary, an ideal place for you to clear your mind and go for a walk with your pet. Guayaquil is a great city that has it all; Although there is a lot of urbans there are also places to relax with nature.





Fig. 3 Guayarte. Note: Municipality of Guayaquil database.

### 5. Permanence Spaces

The important thing about the social life of sidewalks and urban agglomeration is precisely that they are public, bring together individuals who do not relate intimately and, in most cases, do not intend to do so. Jacobs mentions that "if all interesting, useful and meaningful contacts between people are reduced to friendships suitable for private life, cities would end up totally brutalized" [10]. Truly intimate social interactions are in danger of extinction. Under the era of the technological revolution, many of the present communication tools have replaced the customs of socialization in public spaces, which causes a social impoverishment that is increasingly noticeable within the new generations. The excessive use of social networks has caused an increase in anxiety disorders globally.

According to the WHO in 2019, almost one billion people – including 14% of adolescents worldwide – were affected by a mental disorder [13]. Suicides account for more than one in 100 deaths and 58% of them occurred before the age of 50. Mental disorders are the leading cause of disability and are responsible for one in six years lived with disability. With the present post-covid, people need more than ever to reconnect from person to person.

Parks, squares and meeting areas are social shelters, transitory places that invite social intimacy. They are the purgatories of the cities. These spaces must be understood beyond architecture and urbanism; They have a high psychological degree, which affects the way the population relates to its environment. If these are hostile, they only aggravate the current problem. Jacobs comments that: "Impersonal streets make anonymous people; it is not a question here of aesthetic qualities or mystical emotional effects on an architectural scale"; Now, although at the urban level it is added that public space does not promote a kind of interactions and, on the contrary, dissuades the individual, we are facing a barrier that prevents social cohesion and recognition [10].

### 6. A place to sit

Hand in hand with the prolonged stay and the spaces of permanence in the public area, a vital city offers opportunities to interact with the instant environment through the observation of the environment and people in their daily lives, a characteristic provided by places destined for rest. J. Gehl in his book *Cities for People* [7], That there are good views depends, naturally, on the site, but observing the people and urban vitality is the main attraction. When climate, location, protection and views combine in one place, sitting there is equivalent to entering the best of all worlds. People feel that they have found a nice place, in which they can stay for a long time. However, the pace of life of the people of Guayaquil does not give way to the appreciation of this type of experience, for this reason the deterioration of public space is also common, especially in crowded areas such as the city center, and boardwalks. The regulations established for regenerated areas, such as the Malecón 2000 and Malecón del Salado border on the concept of anti-city by prohibiting sitting in a certain way in regenerated areas, floors, and edges of pools, according to Pelletier in 2019 [15]; it could be taken as a contrast to what Jan Gehl expresses about urban edges, since each space that lends itself to support contributes to the establishment of reliable points for people to live the city. Although there are benches with backs as the first option, as in the case of the Boulevard. 9 de Octubre, the urban environment and building facades should be oriented to provide secondary stays of short stay, such as bollards, steps, planters, and monuments.

### 7. Possibility to Observe

Within a chaotic city like Guayaquil, it is unusual to stop for a minute to contemplate how human life passes through the flow of time. It is more common to see the city from the window of a car trapped in the traffic of the city, where all you get to appreciate is the usual chaos that occurs on autopilot. Oliveira in 2017, mentions in about the city "In our most permissive moments, we have surrendered to the aesthetics of chaos, of "our" chaos [2]. But in the technical sense, chaos is what happens when nothing happens." Within this chaos, there are places of small pauses where time seems not to follow the messy course so common of the urban core, in Guayaquil there are at least three points where you can stop and contemplate. The Mirador de Bella Vista, Cerro del Carmen, and the Lighthouse. "The balcony of Guayaquil" also called, is a place where you can appreciate the city from north to south, is endowed with vegetation and games where children can perform activities. The Cerro del Carmen, which is accessed by stairs, considered home to one of the symbols of the city, the monument to the Sacred Heart of Jesus. And the Lighthouse offers a 360 view of the city center. While these places offer the possibility of observing the city, and even the possibility of permanence, they are in only one sector of the city. The exact point is to find places in the city where you can observe feeling part of it and thus generate places where "things" happen.

### 8. Opportunity to Chat

As mentioned by Gehl "The main attraction of the city is: urban life", when urban life is animated, the conditions conducive to carry out different social interactions are created. The human being as a communicator needs the space where he can express and transmit all his ideas, the city is the stage where this action should be carried out. When there are activities in the city it comes alive, it will have movement, things happen inside it, on the contrary if there are no people transiting it will be desolate and dead. As people transit and navigate their city, the most basic form of interaction is possible, and this gives way to more active interactions. People gathered in squares, sidewalks, local shops, parks, among others, are the engine for the city to begin to feel urban life. The urban spaces needed to be the backdrop for these meetings must be both attractive and friendly, thus giving rise to the exchange of experiences within a community.

The dominance of the vehicle generates unpleasant stimuli that cause the abandonment of the streets; Visual and auditory pollution are the cause of abandonment of the streets. Knowing that the population frequents shopping centers, restaurants and parks to get away from the urban environment, a feasible solution would be to bring these elements to the urban. A healthy symbiosis of the needs of mobilization in conjunction with those of pedestrians, their safety and comfort. Again, urban regenerations, if well planned, would result in the stay of pedestrians and, consequently, in the long term, reduction in vehicular traffic.

### 9. Places to Exercise

One of the current proposals from the decentralized government of Guayaquil, is the adaptation of bio-healthy exercise machines, which must be implemented within all public parks, and in some cases, these can be contributed to private associations if requested, these machines, despite being a healthy implementation. They are not efficient for their demand or for general routine needs. The machines, as set out in the technical specifications, are based within the scope of mobility. Mobility exercises are within the low-impact movements, designed for better motor development in the first place.

This is one of the reasons why those who mainly use these machines are older adults, people with health problems that require physical therapy, and people with problems adapting to more active high-impact routines.

For the correct development of sports routines, in the first instance, they need sufficient space. Running tracks around parks provide a specialized space for cardiovascular training. Additionally, the proposed machines should have variants for exercises of greater impact. A bar would be enough to supply calisthenic exercises and the squares can be used for static routines.

Not far from the reality of the city, there are other more passive alternatives for pedestrian spaces; They can lend themselves to hiking and jogging if they are wide enough. Spaces of bicycle paths, skates, among others are additional passive solutions that can be implemented to the nearby and existing urban regenerations, with connection plans to the various areas of the city.

### 10. Human Scale

The city continues to be the most attractive focus for the population that expects better living conditions. According to data from the World Bank, 55% of the population lives in cities and it is estimated that this will increase by 18% by 2050, thus having two thirds of the world's population living in cities. Ecuador is no exception to this growth, in recent years there has been a reduction in the population of rural areas. The research carried out by Rimisp – Latin American Center for Rural Development – reveals that in 2001, in Ecuador 39% of people lived in the countryside, while for 2015 data this figure fell to 32%. The Ecuadorian migrant population over 10 years old amounts to 1.4 million, of which 29% are from rural areas. Since this growth is imminent, the challenge is to meet the increase in demand for infrastructure, for the livability of cities.

Guayaquil is the second most populous city in Ecuador; however, its metropolitan area makes it the largest population in the

country. Faced with this with the growth of the population, the growth of the territory it occupies is also immediate. In the case of the study city, it is a notoriously diffuse one. Created from informal settlements to date, the design of the city is basically scarce, without connection points or articulations, without respite centers within the chaos, and flooded with streets that increasingly take more extension, being a clear example of an anti-city.

#### *11. Ability to Take Advantage of the Climate*

In the public spaces analyzed, the use of the sun and winds would generate a sustainable proposal through the use of solar panels and the introduction of wind energy in public spaces to maintain the constant lighting system, this being an indispensable guideline to maintain the safety of public space.

There are many ways public spaces can take advantage of their local climate. For example, they may include features such as shaded seating areas, water fountains that cool the air, or vegetation that provides natural shade and helps reduce the urban heat island effect. In addition, many cities are now incorporating green infrastructure, such as green roofs and walls, into their public spaces to improve air quality and reduce the urban heat island effect. In addition, many cities are now incorporating green infrastructure, such as green roofs and walls, into their public spaces to improve air quality and reduce the urban heat island effect.

#### *12. Good sensory experience*

The senses play a fundamental role in the way we experience the city and develop according to interactions and experiences in public space. These sensory experiences can vary depending on the planning and pre-established conditions that determine the quality of interactions that occur in public space.

A good example for this point would be the "The Hills" Project, the exclusive set of apartment towers which will be built in Puerto Santa Ana. According to the executive, The Hills will have a large component of innovation and sustainability. The energy demanded by the towers will be photovoltaic and, in its structure, "the green" will predominate. The urban development of the project has priority in improving the accessibility of visitors and residents of the area, taking advantage of the view of the Guayas River, designing a new attractive public space for the city. This important contribution is part of the planning, providing a pedestrian public promenade along the river, which will be developed as a landscape and recreational element for visitors, the walk will also have bicycle paths, green spaces, creating visual connections of the city on the Guayas River.

The Municipality of Guayaquil will contribute to this urban development that seeks and improves the planning of the city with sustainable mobility. The design takes advantage of the view of the river, creating flexible, open, integral, and even spaces and will be complemented by public spaces, rest areas, spaces for children and exercise areas, open squares and amphitheaters.

### IV. DISCUSSION

Among the 12 points analyzed, the observation about Guayaquil with important urban deficiencies was unanimous, especially in the variables related to the human scale, importance to the pedestrian and the transition spaces. The city does not have the optimal equipment for the satisfaction, comfort and safety of its citizens. The urbanism of Guayaquil is one that has abandoned the passer-by and has dedicated the last decade of its growth to encourage the use of the vehicle. At present, there are proposals that aim to correct and improve the problems caused by excess vehicles, but these are not efficient, and many have important deficiencies within their field of application.

Although the present urban reactivation projects have achieved the small recovery of spaces for pedestrians, many fall into gentrification, which in the future may be the product of other difficulties associated with cultural loss and privatization. It is necessary to rethink the future growth of the city and how it can be directed on a more human scale; Within the possibilities of development several more solutions are exposed it is necessary that the positions of power are concerned about these deficiencies and act for the city.

### V. CONCLUSION

The analysis of the 12 criteria around the qualitative comparative study of cases suggests that the viable solution is the change of approach to the development of current public spaces, which determines improvements for the problem conditions corresponding to criteria to indicators such as:

- Accessibility: Public spaces should be accessible to all members of the community, regardless of age, ability, or socioeconomic status. This includes providing accessible ramps, elevators, and restrooms, as well as ensuring spaces are well lit and maintained.
- Security: Public spaces should be designed with safety in mind, including providing clear sight lines, adequate lighting, and surveillance cameras when needed.
- Sustainability: Public spaces should be designed to be environmentally friendly, with the use of native plants, permeable

pavements and rainwater harvesting systems.

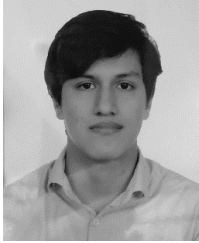
- Inclusivity: Public spaces should be designed to be inclusive and welcoming to all members of the community, including people of different ages, abilities, and cultural backgrounds.
- Flexibility: Public spaces should be designed to be flexible, capable of accommodating a variety of activities and events, from small gatherings to large festivals.
- Connectivity: Public spaces should be designed to be well connected to other public spaces and community services, such as parks, public transportation, and bike lanes.
- Aesthetics: Public spaces should be designed to be visually pleasing and enhance the overall aesthetics of the community.

Its implicit application within the criteria as guidelines demonstrates the formation of a guide for the sustainable design of public spaces that solve the problems seen on the site such as disuse, insecurity and privatization within the public spaces of the City of Guayaquil.

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