

URBAN MORPHOLOGY Analysis between the urban tissues of the controlled and uncontrolled urban settlements

Case study: Bogotá, Colombia

Msc. URBAN SYSTEMS ENGINEERING

SUBJET: URBAN MORPHOLOGY

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Table of Contents

1. INTRODUCTION.....	- 5 -
2. GLOSARY.....	- 6 -
Built Form.....	- 6 -
Barriers and fences.....	- 6 -
Invisible boundary	- 6 -
City.....	- 6 -
Character	- 6 -
Connectivity	- 7 -
Culture.....	- 7 -
Facade	- 7 -
Fabric or Urban Fabric.....	- 7 -
Gentrification	- 7 -
Growth Management	- 8 -
Informal settlement	- 8 -
Slum	- 8 -
Morphology.....	- 8 -
Open space	- 8 -
Public Space.....	- 8 -
Quality of Life.....	- 8 -
3. METHODOLOGY.....	- 9 -
4. INTRODUCTION.....	- 9 -
Stratification in the area.....	- 11 -
5. GENERAL REVIEW OF THE AREA AND SOME CONCEPTS TO CONSIDER....	- 12 -
6. IDENTIFICATION OF URBAN TISSUES.....	- 15 -
6.1. TYPE A.....	- 16 -
6.1.1. Roads of type A	- 16 -
6.1.2. Plot series – Blocks.....	- 18 -



6.1.3. Plots	- 19 -
6.1.4. Build-up Area.....	- 20 -
Buildings	- 21 -
6.2. TYPE B	- 23 -
6.2.1. Roads of Type B	- 23 -
6.2.2. Plot series- Blocks.....	- 25 -
6.2.3. Plots	- 25 -
6.2.4. Build-up Area.....	- 26 -
Buildings	- 26 -
6.3.1. Roads of type	- 28 -
6.3.2. Plot series-blocks	- 28 -
6.3.3. Lot.....	- 2 -
6.3.4. Buildup area	- 2 -
Buildings	- 2 -
7. CONCLUSIONS	- 3 -
<i>Bibliography.....</i>	- 2 -



1. INTRODUCTION



Figure 1 Area object of analysis. Image taken from Google Earth Pro

The purpose of this paper is to identify, analyze and compare different urban fabrics found in a previously selected study area.

It is also intended to determine the relationship between the urban fabrics that contain urban settlements of controlled origin with those of uncontrolled origin. It is important to consider that the urban fabrics do not relate in the same way with the urban structure and context, for which the patterns present in each of the identified fabrics will be determined.

In the development of the same we intend to make a general description of the location, a brief description of the historical conformation along with some key concepts. Once presented, we proceed to the analysis of the fabrics found and the study is limited to three of those identified in the area because they are located on the slope of the eastern hill of the city.

The structure of each of the fabrics will be differentiated between roads and connections, blocks, lots, and built-up areas. The aim is to identify the urban morphology of the area as a tool for understanding the processes of transformation and consolidation of the different urban settlements.

Considering the complexity of the area and the context to be analyzed, the scope of this work is limited, but it gives a sample of the relationships in complex cities such as Bogotá, which is home to more than 8 million people and has diverse conceptions of habitability, appropriation of space and their relationship with it.



To make the analysis evident we will consider a case of study in Bogotá Colombia, and we will use the urban Morphology as a methodology in order to consider the main aspects on how a neighborhood can be related to the city depending on its origins.

2. GLOSARY

Built Form

“Built form refers to the function, shape, and configuration of buildings as well as their relationship to streets and open spaces” (Urban Design Lab, 2022)

Barriers and fences

“Barriers such as bollards and fences can define boundaries and protect people from traffic hazards and level changes. They also protect trees and shrubs from people and vehicles. A barrier may be made as bollards, screens, rails, fences, kerbs and walls.” (Urban Design Lab, 2022)

Invisible boundary

Invisible boundaries are those constructed by the people prior the physical boundary is developed. It can contain physical aspects and cultural aspects.

City

“A city is a large human settlement. It can be defined as a permanent and densely settled place with administratively defined boundaries whose members work primarily on non-agricultural tasks.” (Urban Design Lab, 2022)

Character

“Character areas are an important tool in helping to deliver contextually responsive urban design, allowing the urban designer to understand and respond to the unique qualities of any particular site or neighborhood.” (Urban Design Lab, 2022)



Connectivity

“The number of connecting routes within a particular area, often measured by counting the number of intersection equivalents per unit of area. An area may be measured for its ‘connectivity’ for different travel modes – vehicle, cyclist or pedestrian. An area with high connectivity has an open street network that provides multiple routes to and from destinations.” (Urban Design Lab, 2022)

Culture

“Culture are the aspects of life that people value and enjoy. It is considered a defining characteristic of humanity that includes things like language, art, music, architecture, customs, rituals, pastimes, festivals, cuisine, fashion, history, stories and myth.” (Urban Design Lab, 2022)

Facade

“The principal wall of a building that is usually facing the street and visible from the public realm. It is the face of the building and helps inform passers-by about the building and the activities within.” (Urban Design Lab, 2022)

Fabric or Urban Fabric

“The term ‘urban fabric’ describes the physical characteristics of urban areas, that is, cities, and towns. This includes the streetscapes, buildings, soft and hard landscaping, signage, lighting, roads and other infrastructure. Urban fabric can be thought of as the physical texture of an urban area.” (Urban Design Lab, 2022)

Gentrification

“Gentrification is the transformation of a city neighborhood from low value to high value. Gentrification is also viewed as a process of urban development in which a neighborhood or portion of a city develops rapidly in a short period of time, often as a result of urban-renewal programs in which an abundant growth of population migrates to an area in order to live on it.” (Urban Design Lab, 2022)



Growth Management

“The process of regulating the pace and character of development in a community.” (Urban Design Lab, 2022)

Informal settlement

“Informal settlements are areas developed outside of planning regulations and legally sanctioned housing and land markets.” (Silva, 2018)

Slum

“Slum are urban areas characterized by poverty and substandard living conditions.” (Silva, 2018)

Morphology

“Urban morphology is the study of urban forms and of the agents and processes responsible for their transformation over time. Urban form refers to the main physical elements that structure and shape the city including streets, squares (the public space), street blocks, plots, and buildings.” (Urban Design Lab, 2022)

Open space

“Urban open spaces (UOS) are defined as publicly accessible open places designed and built from human activity and enjoyment.” (Urban Design Lab, 2022)

Public Space

“Public space is an area that is open and accessible to people. Common examples include roads, paths, sidewalks, parks, public squares, natural areas, beaches and public buildings such as libraries.” (Urban Design Lab, 2022)

Quality of Life

“Quality of life is the well-being of individuals, communities and societies. It is a comprehensive measure that can be used to evaluate efforts to improve cities and nations. The following are examples of things that impact quality of life.” (Urban Design Lab, 2022)



3. METHODOLOGY

Urban morphology is a methodology has been widely discussed as a tool for future design of urban spaces. Urban morphology is the study of the physical form and structure of cities and urban areas. It involves analyzing and understanding the patterns, layout, and organization of streets, buildings, open spaces, and other elements that make up the urban environment. This analysis is often done through the examination of maps, diagrams, and other visual representations. Urban morphology aims to describe, explain, and evaluate the physical aspects of urban areas, and it can also provide insights and guidance for urban planning and design. (Oliveira, Morphological Research in Planning, Urban Design and Architecture, 2021)

The regular and standardized urban growth is complex and has a lot of considerations. In this context it is important to consider the urban morphology as it enriches professional practice by providing a scientific basis for decision-making in planning, urban design, and architecture. It offers insights into the physical form of cities, their evolution, and the balance between conservation and change, ultimately contributing to the creation of livable, sustainable, and culturally significant urban environments.

4. INTRODUCTION

Bogotá is the Capital of Colombia and is one of the most important cities in the country due to the activities it concentrates and the strategical location.

Bogota's growth has been exponential since the twentieth century due to five factors, driven by the industrial revolution, within a context of economic backwardness and political dependence on one or another world power:

1. Railroads, tracks, means of transport, and metropolitan facilities.
2. Electric Power
3. Industries
4. Working-class neighborhoods and population growth



5. Internal Conflict

The area of analysis of the present paper is in the north-central hills of the city due to the factors that make this area a place of interest for the subject, considering the convergence of diverse events that make up mixed urban fabrics where different types of neighborhoods and urban settlements are developed.

The Urban development on the hills in the north-central zone is closely related to the development of the expansion of the colonial limits at the end of the XIX century, most of the properties on this site were quintas, recreation and summer vacation places for of the Bogota elite.

The urban consolidation on the hills before 1943, were columns of smoke rising to the skies, quarrying, chircales, coal mines and cement production, until, in the early 40's, the administration of Bogota and its concern for the environment on the hillsides, closed the quarries and closed the chircales that operated in some of the farms. (Bogotá Hills Organization, 2022)

Bogotá and its concern for the environment and the activities developed on the slopes of the hills, closed the quarries, and closed the chircales that operated in some of the farms, turning this place into the settlement of many of the workers who worked there and thus giving birth to many of the other neighborhoods that appear on this area.

The urban development of the eastern hills of the central zone territorial unit is composed of three moments:

The first one refers to the history of the Muisca on the foothills of the Bogotá savannah and the establishment of the first hamlets in this area due to the native diversity, subsistence of species and the water streams that spring from the Hills. The place was a favorable setting for Indian settlements and the resting place of the Zipa (El Chorro de Quevedo) before Europeans arrived.

A second moment refers to the history and consolidation of Bogota in the Colonial period with the arrival of the Spaniards and the place of the government of the Viceroyalty of New Granada



(1797), the urban development of the city is generated at the foot of the hills of Guadalupe and Monserrate between the Rivers: San Francisco and San Agustín, based on a grid that obeys the cardus and decumanus, configuring new residential nuclei around parishes, 4 traditional neighborhoods: the Cathedral, Las Nieves, Santa Barbara, and San Victorino, towards the middle of the nineteenth century the integration of new sectors such as Egypt, Las Aguas, Las Cruces and at the end of the century suburbs to the north, such as San Diego, San Cristobal to the south.

Finally, there is a movement of the rural population in search of more opportunities in Bogota, due to the new urban functions that the capital of the country assumed, the lack of space in the colonial limits, and the breakup of the downtown; the city expands in a north-south trend along the regional roads and puts continuous neighborhoods in the latter parts, many of which are considered neighborhoods full of misery. Other neighborhoods like La Perseverancia, on the eastern hills, were dubbed.

Stratification in the area

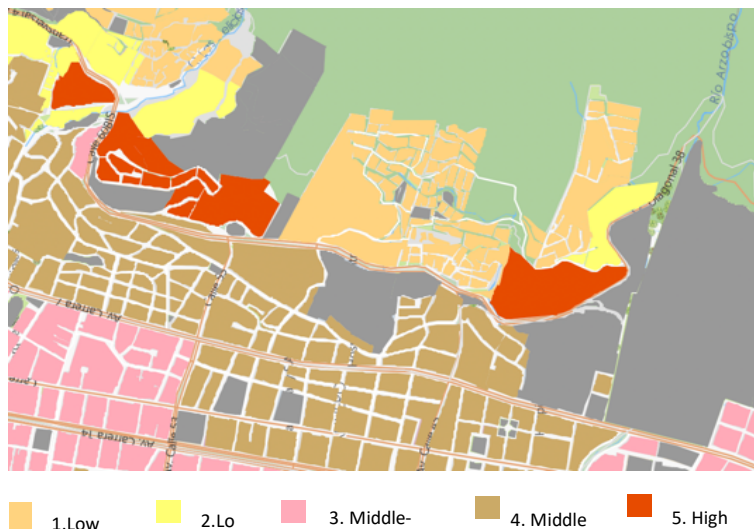


Figure 2 Stratification in the area of analysis

Residential properties are classified according to their socio-economic status to receive public services and to pay taxes in relation with its classification. By comparing the income of different areas, we can determine where wealth is. However, this type of tool is also used as a discriminatory way of classifying people. In this area we can identify

that there are converging 5 different strata: Low class, Middle low class, Middle low class, Middle class, and High class.

The informal settlements particularly are in the lowest strata (1,2) which means that the coverage of public services and utilities is lesser than in the middle- and upper-class neighborhoods.



There are six different strata, from 1 (the lowest) to 6 (the highest). If someone lives in the highest strata, it means that urban equipment, quality of buildings, and urban infrastructure in the neighborhood are quite superior, therefore the charge for utilities and taxes will be higher. By contrast, the lowest stratum contains properties with the worst coverage of urban services (poor).

The higher strata means that the quality of the constructions in terms of materials and design is higher and the commercial value of it is higher.

5. GENERAL REVIEW OF THE AREA AND SOME CONCEPTS TO CONSIDER

The reason to choose the area of analysis is that as it is shown on the previous graphic, in that area are different type of neighborhoods that exist together and are connected by one main axis to the city. In the zone of analysis there are many different neighborhoods connected by one of the most important and traditional highways. It also shows that all strata are converging and are developed in it, which make it more interesting to study the way they coexist and interact with the city and with its network.

The neighborhoods are Marly, Cataluña, Sucre, Villa del Cerro, Sagrado Corazón, Pardo Rubio y El Paraíso. The origin of them came from two different perspectives, one is the controlled or planned neighborhoods which is the case of Marly, Cataluña, Prado Rubio, on the other hand there is the uncontrolled neighborhoods which is the case of Villa del Cerro, and El Paraíso, the last one containing at the same time 2 different urban tissues corresponding to a different stratum and a combination of different origins.

The stratification of the area appears with the need to charge taxes to the inhabitants of the city and is important to consider that even though the neighborhoods are close to each other, the residents of the lower-income neighborhoods cannot take advantage of the activities and services provided in the area because they are intended for middle- and upper-class residents with higher incomes. Consequently, the vulnerable population must travel to other areas of the city to access basic services such as health care, supermarkets, schools, and universities.



El Paraiso neighborhood has been object of gentrification¹ that makes it to have different projection and ways to relate with the space and surroundings. In this paper will be shown the influence of the gentrification in the traditional neighborhood part of an uncontrolled urban process, in terms of morphology and the way the tissue is in constant transformation and seeking a new consolidation. This will be an example of what has been happening with all the east part of the city which is growing to the hill as isolated settlements.

In terms of informal settlements, morphology refers to the physical form and layout of these settlements, including their spatial organization, street networks, and building patterns. It involves analyzing the structural characteristics of informal settlements and understanding how their physical configuration influences social interactions, accessibility, and integration within the city. This analysis can help inform interventions and improvements in informal settlements to enhance their connectivity and integration with the wider urban fabric. (Oliveira, Urban Morphology An Introduction to the Study of the Physical Form of Cities, 2016)

To understand the relations and the origin of both, we must give a definition for both. The controlled urban process begins in the design on the other hand, the uncontrolled urban settlements can start as part of the design of the city but at some point, the illegal fact came into consideration, neither because they started as a pirate neighborhood or as an invasion.

In regards of the Uncontrolled settlements, it is essential to identify the difference in between the possible origins of the types. The pirate neighborhoods started as a projection of the planned city, but due to the lack of cashflow in the area, the pirate developer bought the lands located there and developed those areas having his own ideas of habitability and without any consideration of the regulations that should be on those areas. In the “invasion” neighborhoods, there are not part of the planned process at any point and the consolidation of them is a process of the occupation of the land depending on the need of the inhabitants. Both types at some point after the consolidation of the city they became part of it and had to be recognized and legalized.

¹ According to Eric Clark's definition of gentrification as the "spatial restructuring of an urban area through the injection of fixed capital¹⁸ into the real estate and infrastructure market, aimed at the replacement of lower-middle income users by users with higher economic power, in a context of land commodification". (Clark, 2005)



The regular process of development on the controlled settlements can be seen in the following graphic, and it is a subsequent process:

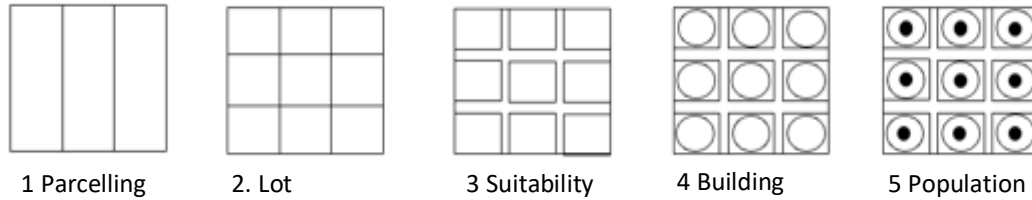
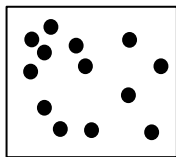


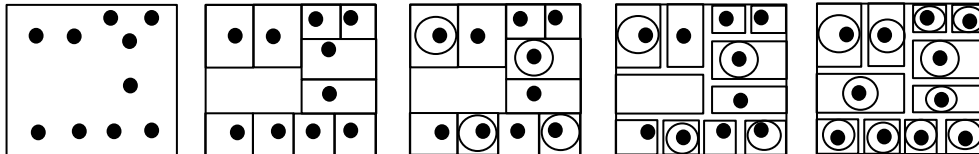
Figure 3 Hypotheses of growth processes Planned urbanization processes (Molina, 1982)

As a result of this consecutive stages, is easy to identify how the controlled urban settlements relate to the urban network and interact in between them.

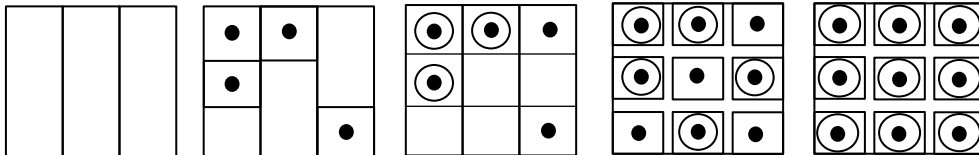
1. Shanty or slum proliferation



2. Progressive development by invasion



3. Traditional progressive development



4. Progressive development according to a pattern of minimum standards

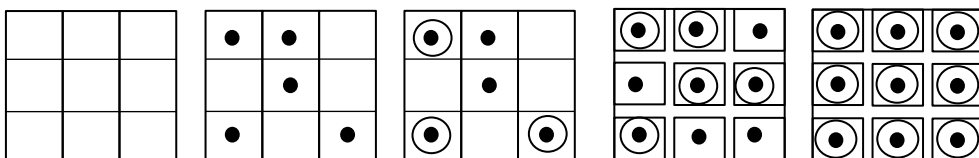


Figure 4 uncontrolled Urbanization process (Molina, 1982)

On the other hand, because of uncontrolled folding processes, different types of neighborhoods emerge, which behave and have a development process similar to that of controlled settlements.

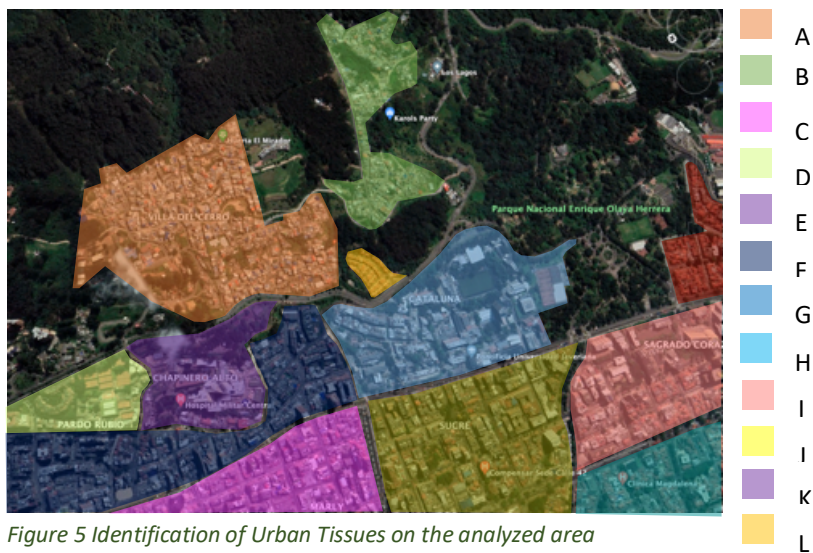
The process can be seen according to the type of neighborhood as follows:



The stages of the development are the same as the controlled urban processes, but the difference is that the Parceling, the lot, and the suitability of the terrain are simultaneously occurring, and the building and population are a continuous process.

Both type of settlements and developments are related differently to the urban network, and they interact with the rest of the activities located within its structure in different ways.

6. IDENTIFICATION OF URBAN TISSUES



On the area chose there are different urban tissues coexisting. There are 12 identifiable. Some of them have mixed use or single uses depending on the location.

As the scope of this trial is limited, two of the identified here will be selected for further study. The 3 urban tissues that are selected are those considered part of uncontrolled urban settlements: type A and type B and one of the controlled urban settlement Type L.

The analysis of these specific urban tissues will help by giving overview the relations between them, the existing urban network, and the role of the agents that are creating, living, and transforming the spaces.



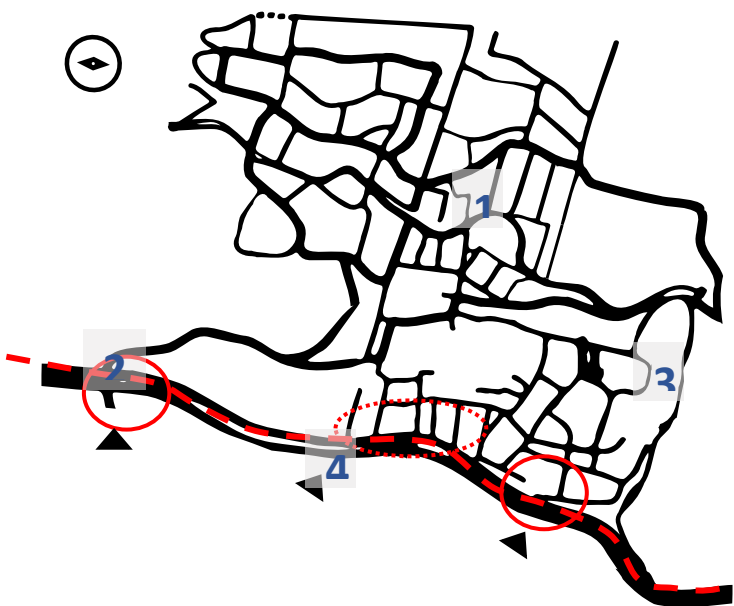
6.1. TYPE A

It is in the Chapinero district. Its origin dates to the first decades of the twentieth century and is basically associated with the history of the clay industry, the handmade production of bricks (chircales) and the lands that the owners were plotting, selling, or ceding, depending on the case, to the inhabitants of the Cerro who worked in the chircales.

In the past, the landscape of this sector was characterized by the presence of mining, open pit ovens, clay ovens, mills where the clay was kneaded with the feet and then with the help of donkeys that moved rudimentary machinery, until more industrialized forms to build bricks that were then used throughout Bogotá; and a large amount of smoke that polluted the environment and the lungs of its inhabitants.

This type is mainly for residential purposes but has a mixed uses on it with some residual spaces for green areas. This neighbor was organically developed adapting the form to the terrain and geographical features.

6.1.1. Roads of type A



The main road to access the type A is the Carrera 1 Avenue, that was developed before the locality was formed. The roads are connecting to the main axis in some specific nodes. This avenue has 4 lines, divided by a central separation that makes them to go in 2 different directions.

The main connections are shown with the red circles and were the original access to the areas.

Figure 6 Roads network of type A



There Is no evidence of a formal design of the roads in this specific type. The current situation of some of the roads still unfinished or in progress. The internal roads were formed in parallel to the main road adapting to the topography with no intervention.

There are just 3 access to this urban tissue. The other small routes and just for internal access of the people that lives there and don't have a direct access to the main axis.

Attached are some pictures² that shows the current situation of the roads and internal connections that are in the urban tissue object of analysis.



1



2



3



4

The roads are in the access paved and in the highest parts of the area are not. Due to the topography, and informal origin of the Tissue Type A, there is an organic way of adaptation to the soil and a minimum conception of the regulations. The main axis has a section of 8.50 ml each direction and the internal roads the sections are not constant and goes between 3 ml to 6 ml with no regular section. There is no regular wide on the streets, some are narrow and just for pedestrians and the only one that is wide is the main axis.

² All pictures are taken from Google Earth, referenced, and actualized in April 2022.



Figure 7 Plot series of type A made by the author

6.1.2. Plot series – Blocks

The blocks are a configuration of the occupied space by the informal housing the inhabitants developed. There are long section blocks in which the natural features act as a functional barrier between the neighborhood and the surrounding area, which generates problems of discontinuity in the urban fabric.

There is no regulated size. There are long blocks of different sections and forms. The open spaces are the residuals of the discontinuity of the blocks.

The blocks that are facing the main axis are of different sections and conditions. The plots are aligned to the topography from the main axis developing to the east part of the city into the mountain.

This tissue is unique in that it consists of a single large superblock bounded by streets with several pedestrian access points. Due to the narrow streets, it is not possible to access the inside of the superblock (or the neighborhood) by car.

Since the streets are narrow due to dense occupation, it can be problematic because there is not enough ventilation and natural lighting.

There are public areas in different parts of the tissue although it is difficult to access them, especially for disabled people. This is because the sidewalks are not in proper condition due to the sloping topography.



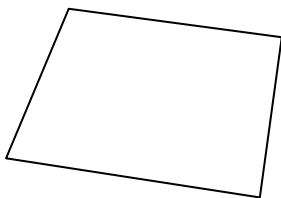
6.1.3. Plots



Figure 8 plots in the urban tissue by the author

The rationality that persists in the spatial organization is similar as the neighborhoods of normal origin. In this regard, there is also a layout pattern subordinated to the arrangement of the blocks in the form of a bar, whose dimensions are the result of the size of the lots, which in the case of the normal origin shows the absence of exploration of new housing typologies.

Having this into consideration, the plots of type A can be categorized in 4: Long plots, medium plots, regular plots and atypical.



Long plots for specific uses such as institutional with 37m wide and 65.20m long.



The atypical blocks are with irregular shapes and are the ones that result as a residual of the union of other serial of plots but does not have the enough space to be developed



The typical blocks are with regular shapes and are the ones configured simulating the regulated urban settlements. The sections can be from 6m wide and 12 m long to 8 m wide 15 long.



The shapes of the plots in some areas of this urban tissue are part of a process of subdivision of the superblocks depending on the need and conception of the space of each developer. In some cases, in one single plot can live more than 1 family depending on the density of the buildup area.

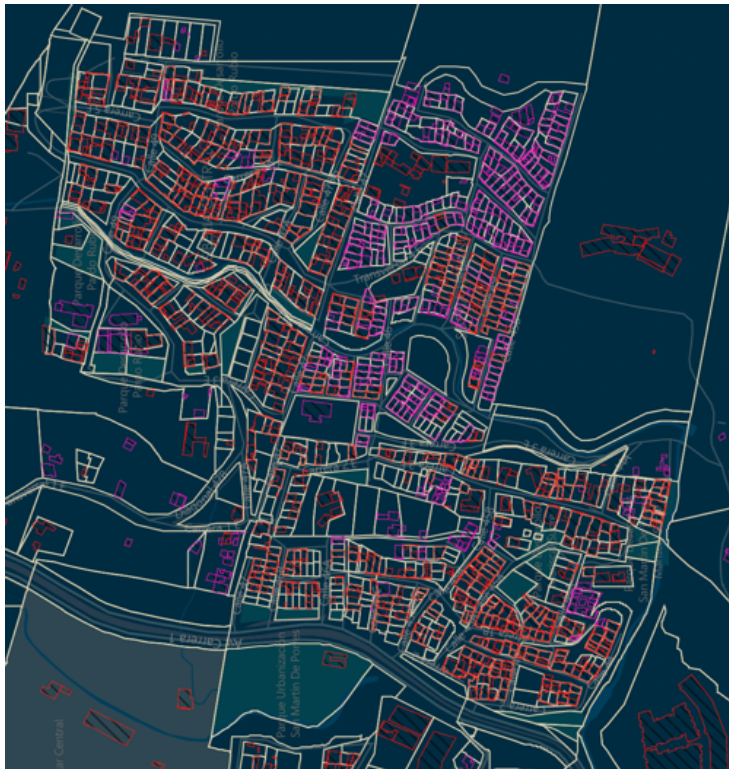


Figure 9 Build-up area taken from cadastral information available in Mapasbogotá.gov.co

6.1.4. Build-up Area

The Buildup area in the informal settlements is based on trying to maximize the usage of the soil.

Those lots designated for industrial purposes and those that are part of a planned process have into consideration the ratio of occupancy each lot can have. In the other hand those designated for residential purposes are entirely occupied. In the graphic those that are in pink are new buildings or those that are still under construction and those in red are those

that are already finished.

The graphic shown is taken in base of cadastral information³ that identifies the building in relation with each lot.

³ Available in MapasBogota.gov.co



Buildings

There are different types of buildings over the urban tissue type A. There are difference resulting of the usage.

In regards the stratification of the tissue object of analysis, being all strata # 1 Low class, most of the buildings are in different stages of construction. As discussed over the general overview, the uncontrolled urban process settlements, the stages of the development are happening in different timing, Parceling, lot, and the suitability of the terrain are simultaneously occurring, and the building and population are a continuous process. As discussed, the tissue Type A appeared on the first decades of the 20TH century, but there are some buildings that haven't finished the process of the construction.

The consolidation of the urban process of this type of development in isolated and undevelopable land depends on the gradual investment of the inhabitants in the self-construction of their homes, with which the achievement of relative habitability conditions on the urban and architectural scale is obtained in the long term. But it is also subject to the community's capacity for self-management, insofar as the regularization and provision of public utilities depend on it.





There are the most consolidated buildings that most of the ones that are parallel to the main axis to access the neighborhood.

Some others that are facing the open spaces that are functioning as public parks are some of them finished, however, the difference between them and the ones that are facing the main access is that they have less consideration of the regulations and minimum qualities of habitability. The construction keeps going higher and there are some constructions that's goes up to 5 floors in lots that are consider a risk due to the erosion of the soil.

Going upper on the hill of the tissue type A there are some housings that still in progress and the construction is not adapting to the terrain and as it is shown on the previous pictures⁴ the access at some is limited and the access is just for pedestrians. The occupation of the plots is almost 100% without any isolation. The natural features became in some cases the barriers.

⁴ The pictures shown are taken from google earth pro, actualized in April 2022.

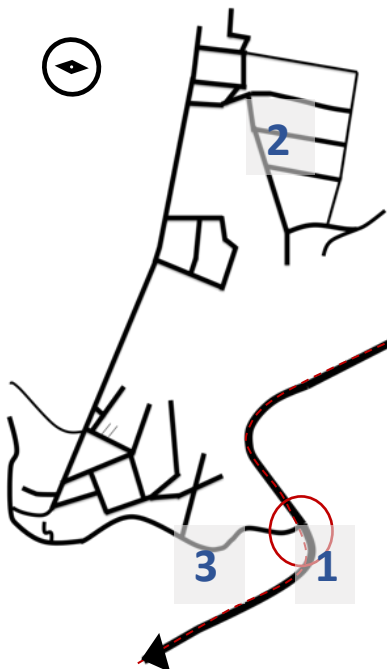


6.2. TYPE B

This area began in 1950 in what used to be the chircales of the Catalan Ferré Amigó family and is in the upper part of the Chapinero sector. The family shut down the business and sold the land to former employees. Following the neighborhood struggles the vital conditions of this sector were improved in terms of the provision of basic services such as water, through the construction of a dam between El Cable Hill and Monserrate; the laying of the electricity network, telephone service, the health post, and other fundamental road works to improve the existence of its inhabitants. (Universidad Antonio Nariño, 2022)

This tissue is a part of the neighborhood El Paraíso which was formed by the previous workers of the industries that were located there and were the original owners of the land. Today, it is a thriving sector whose residents continue to strive every day to improve their lives through basic necessities. Given the situation outlined above, on December 29, 2015, the District Planning Secretariat resolved (through resolution 1630) to legalize El Paraíso⁵

6.2.1. Roads of Type B



The main axis that connects the urban tissue type B to the urban network is the Carrera 1 Avenue. The road network of the type B is limited. There is one main axis, and it is connected just by one node to the main network. The development of this typology is known to be for extra perimetral extension for isolated nodes and joint by a single channel of interaction type of connection with the city through

Figure 10 Road network tissue type B. Drawn by the author

⁵ It is important to point out that in 1996, the then Administrative Department of District Planning announced that approximately 200 neighborhoods in 14 localities would be legalized. Among them was El Paraíso, in the Chapinero district (El tiempo, 1996)



what is known as an umbilical cord (Tarchopulos Sierra & Ceballos Ramos, 2005)

The settlement is not governed by the extension pattern of the road network or by the planned urban structure patterns.

There are dead end roads which have the function of giving access to the residential areas. There are also too narrow streets that are the once to give access for pedestrians to some of the housing located on the area.



1



2



3

As the pictures⁶ are showing, all the roads are paved and have an inclination with constant inclination.

⁶ Taken from Google earth actualized in April 2022



6.2.2. Plot series- Blocks



Figure 11 Plot series-blocks of the Urban tissue type B. Drawn by the author)

The blocks are related and created parallel from one of the internal axes. The blocks are created from the union of the different plots. There is no regular size. There are long blocks of different sections and forms. The open spaces are the residuals of the discontinuity of the blocks. This area is connected directly with some areas from the city that are considered rural, however, the present analysis is considering those who are occupied and already became part of the city as a neighborhood.

Even though the origin of the sector was uncontrolled, this urban tissue shows more regulated sections and characteristics than the urban tissue type A.

Due to his strategical location has become interesting for the real estate in the city. The small sections of the blocks and the minimized intervention on the sector has made that this tissue is lately transforming.

6.2.3. Plots



Figure 12 plots of type B. Drawn by the Author

The plots of this urban tissue are more related to the controlled urban process. The from goes from 6m wide to 12 m long. The plots are more regular in comparison with the plots of the urban tissue type A.

The open spaces as plots in this specific urban tissue are the public spaces destined to be parks. The lots immediately after the urban tissue type B are part of the rurality of the city.

Though the origin of the tissue started as part of the designed urban area, the lack of investment made it to become a



progressive construction settlement. This is the reason why is evident that the structure of the extension of the city's road network while maintaining the basic typology.

6.2.4. Build-up Area

The buildup area has an approximately occupancy of 80% of the plots. This urban tissue is considered a Progressive development according to a pattern of minimum standards.

On the graphic is shown in pink the new buildings and the red ones as the consolidated constructions. however, there are other plots with smaller size, about 4 meters wide and 11 meters long, it means 44 m². The most regular plot structure is in the outer blocks. The inner blocks have a more irregular plot structure.

In general, the houses have a backyard which allows better lighting and natural ventilation. However, these plots have a lower density occupation

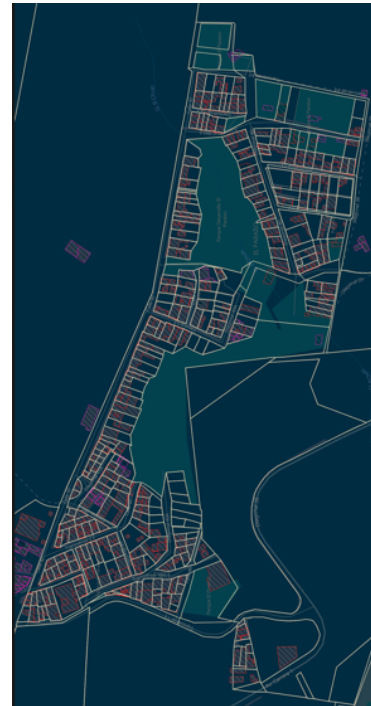


Figure 13 Build-up area taken from cadastral information available in Mapasbogotá.gov.co

Buildings

As in the Type A, the buildings located on the higher part of the area are less developed. But in general, the consolidated constructions have better characteristics than the Type A.

The formal construction is evident in some areas with a project of multimilitary housing. Due to the recent interest in the area, there are more projects to consolidate new condominium type housing.

In the following pictures is it shown the different types of building that leaves in evidence the continuous process of transformation and consolidation of the urban tissue type B.



The difference found in between urban tissue A and B in this regard is that the first one is entirely an informal type settlement, in contrast, the second has a mixture of typologies of constructions.



Progressive construction taken from google earth



Undeveloped construction taken from google earth



Undeveloped construction taken from google earth



Multifamily housing construction taken from google earth



Atypical construction by developing a residual block taken from google earth



consolidated progressive construction taken from google earth

6.3. TYPE L

This urban tissue is consolidated by once condominium of High class housing. It's isolated by urban tissue type A and B by nature and the forest that is from the area. This tissue is also part of the neighborhood El Paraíso which was originated as an informal settlement.



This urban fabric composed of the Miramonte residential complex is located on 42nd Street and Carrera 1 and consists of 70 houses. Its construction began approximately in 2006 and is already completed. Each house is 140 square meters in size and has four bedrooms. They have access to private parking and high-quality amenities. This was built on what was previously a landfill lot.

The location of this condo made the real estate of the sector start to behave in a different way bringing a special attention to the sector and its surroundings. The infrastructure of public services and roads and the panoramic view that El Paraíso has, make the neighborhood an attractive site for construction firms. Because of the above, El Paraíso is considered one of the privileged sites in the city, where it is possible to generate high levels of ground rent.

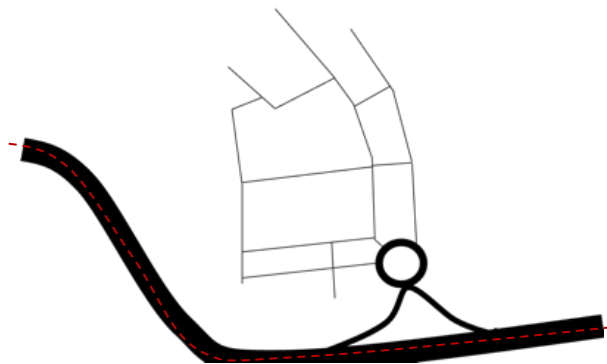


Figure 14 Roads of type L drawn by the author

6.3.1. Roads of type

The urban tissue Type L is connected directly to the main axis and has some internal roads that serve just for private owners of each house. The quality of the roads is due to the stratification and the market it is offered.

6.3.2. Plot series-blocks

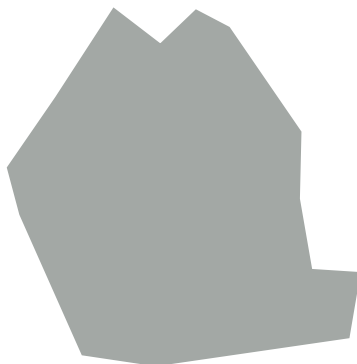


Figure 15 Blocks on type L drawn by the author

The block is made by the configuration of the condominium. It is considered one block and it is subject to horizontal property regulations. Though it is recognized in cadastral information as one, it has small plots for the 70 houses located inside the condominium.

6.3.3. Lot

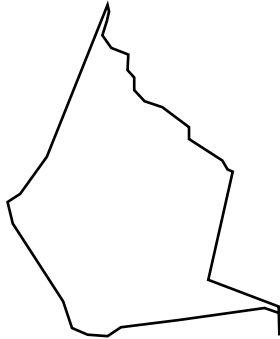


Figure 16 Plots of type L drawn by the author

There is one big lot subdivided per each unit, there has no updates on the cadastral information reason why it is only drawn the Larger lot.

6.3.4. Buildup area

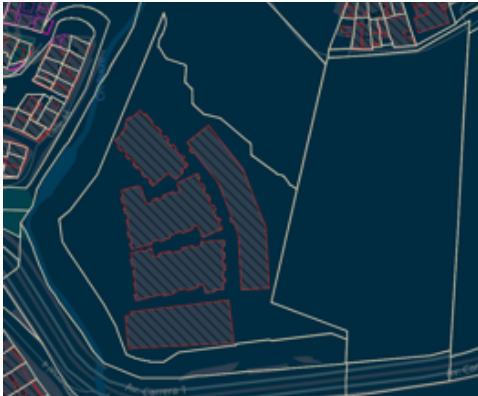


Figure 17 Blocks on type L taken from www.mapasbogota.gov.co

The information is not actualized on the cadastral source⁷. However, inside there are 5 different blocks with 4raw housing.

Buildings



⁷ Picture taken from cadatral open information in Mapasbogota.gov.co.



The interior of the housing it with good quality and having in mind the regulations of the development.

7. CONCLUSIONS

The analysis of the urban morphology of the study territory revealed some differences and similarities between urban tissues.

In general, it is observed that informal settlements present similar characteristics in terms of the quality of buildings and coverage of public services. However, the blocks and plots are different due to the way each neighborhood is developed.

There is a similar pattern observed in the legalized and planned neighborhoods where some block structures are larger than others due to adaptation to evolving housing needs (larger blocks to develop residential complexes) and even the demand for activities and land uses (educational facilities). Despite this, they are related in terms of the characteristics of the buildings, the quality of the urban environment, and the quality of the urban infrastructure.

It's evident that the informal or non-planned settlements, are related to the main axis by at least one direct node and depends on it to have access to the rest of the city and the services it provides. The analyses show that The type A is an entire informal settlement that never had the notion of urban planning, the type B started form a regular and legal process but not as a part of the conception of the city and with the time was developed as a progressive urban settlement and the type L is the most consolidated and well known type of planned urban tissues of the city despite the lack of connection to different services, only by one node to the direct condominium.

It is striking how over time the location of neighborhoods of informal origin, which occupy hillsides that previously lacked the interest of real estate developers, are now attractive to investors considering the panoramic view of the city.



The district as a state entity has recognized the informal neighborhoods and has incorporated them into the urban fabric, exercising a form of legality in these areas that previously lacked recognition. This has led to new dynamics of occupation and appropriation of the territory.

Legal neighborhoods present a more compact and clear structure in terms of the shape of the blocks and the occupation of the land. They also have a substantial number of public spaces and better connectivity in their road infrastructure. In terms of population, the formal settlements have more regulated the areas having in consideration how many people the infrastructure can serve.

In contrast, informal settlements have lack of road coverage, the quality of housing is deprived, and the coverage of public spaces is deplorable. The public places are in the informal settlements the residuals of the land that due to the topography no one occupied. The lack of consideration of the regulations makes hard for the city to supply the appropriate infrastructure due to the dense population and the constant increment of inhabitants.

Even though the neighborhoods are next to each other, the urban morphology (blocks, plots, and buildings) is completely different, which is due to the way in which these settlements developed, the inhabitants use them, and the way the city has deal with its regularization.



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