Modul. Arquit. CUC 33, pp. 57-87, Julio–Diciembre, 2024

José Luis Sert and Paul Wiener in Medellín: the pilot plan and the modern project *

José Luis Sert y Paul Wiener en Medellín: el plan piloto y el proyecto moderno.

DOI: 10.17981/mod.arq.cuc.33.1.2024.03

Artículo Recibido: 28/06/2024. Aceptado: 30/08/2024. Publicado: 15/09/2024

Juan Jose Cuervo Calle
Universidad Pontificia Bolivariana
juan.cuervo@upb.edu.co

Victoria Eugenia Sánchez Holguín
Universidad Pontificia Bolivariana
victoria.sanchez@upb.edu.co

David Vélez Santamaria
Universidad Pontificia Bolivariana
david.velezsa@upb.edu.co

Diana Catalina Álvarez Muñoz
Universidad Pontificia Bolivariana
dianac.alvarez@upb.edu.co

Para citar este artículo:
Cuervo Calle, J. J., Sánchez Holguín, V. E., Vélez Santamaría, D., & Álvarez Muñoz, D. C. (2024). José Luis Sert and Paul Wiener in Medellín: The pilot plan and the modern project. *Modul. Arquit. CUC, 33*(1), 57-87. https://doi.org/10.17981/mod.arq.cuc.33.1.2024.03

Abstract

This article examines the participation of urban planners Paul Lester Wiener and José Luís Sert in Medellín in the late 1940s, with the aim of recognizing its implications in the implementation of the Pilot Plan. The arrival of Wiener and Sert not only allowed for a critical reassessment of Medellín´s urban planning but also facilitated comparisons with other Latin American cities. The research underlying this article is structured in two stages: first, a review of the existing bibliography on the subject, and second, an analysis of archival material and specialized serial magazines of the time. While this topic has been explored within the local context, this study offers a dual contribution. On the one hand, it presents previously unpublished documentation resulting from extensive archival research. On the other hand, it highlights the most significant traces of Wiener and Sert's work in Medellín. Rather than reiterating existing scholarship, this article seeks to enrich the academic discussion on the process of construction, thought and practice on an urban scale. By addressing these issues, it aims to contribute to a more nuanced conversation on Medellín´s urban planning.

Palabras clave: City, urban planning, urban design, modernity, Medellín

Resumen

Este artículo revisa la participación de los urbanistas Wiener y Sert en Medellín al finalizar la década de 1940, con el propósito de reconocer las implicaciones actuales en la implementación del Plan Piloto. La llegada de estos dos urbanistas trajo la oportunidad, no solo de revisar a Medellín en términos de planificación urbanística, sino la posibilidad para equipararse con otras ciudades latinoamericanas. Para lograr este propósito se llevó a cabo una investigación de tipo documental estructurada en dos etapas: la primera fue la revisión bibliográfica existente sobre el tema y segundo, la indagación de material de archivo y revistas seriadas especializadas de la época. Si bien el objeto de estudio ya ha sido indagado en nuestro contexto, este trabajo ofrece, por un lado, nuevo material documental inédito resultado de un riguroso trabajo archivístico, y por el otro, la identificación de las huellas actuales más importantes del trabajo de Wiener y Sert en Medellín. En aporte, este artículo no pretende repetir lo ya dicho, sino complementar las discusiones académicas alrededor del proceso de construcción, pensamiento y práctica urbanística para la ciudad como un asunto vigente para ser discutido dentro de la planificación urbana de la ciudad.

Keywords: Ciudad, urbanismo, diseño urbano, modernidad, Medellín

* Scientific research article derived from the work Habitar: city and modern habitation in Medellín, 1940-1972, assigned to the Architecture, Urbanism and Landscape Research Group (GAUP) of the Universidad Pontificia Bolivariana, Medellín headquarters. Internal filing CIDI 700B-10/16-35.

Módulo Arquitectura CUC no. 33, p. 57-87, Julio–Diciembre, 2024
Barranquilla. ISSN Impreso 0124-6542, ISSN Online 2389-7732

Introduction

A significant historical aspect of modernism in architecture and urban planning in Latin America is the work of urban planners Paul Lester Wiener and José Luis Sert in countries such as Brazil, Cuba, Colombia, Peru, and Venezuela. The arrival of these architects to Central and South America was facilitated by various circumstances that enabled their integration into the institutional, academic, and professional realm of architecture and urban planning.

This article focuses on examining the Colombian city of Medellín, a significant center of activity for urban planners Wiener and Sert through the design of its Pilot Plan in 1948. The aim is to understand the implications of the Pilot Plan's implementation for Medellín today. This article does not intend to reiterate previous research on the topic but rather to complement existing discussions and generate new contributions based on evidence from newly compiled, unpublished archival material.

Two main scenarios facilitated the circulation of ideas preceding the urban planners' interventions in Medellín: the scholarly realm and the dissemination mechanisms centered in contemporary architecture and urban planning magazines. At the scholarly level, a pivotal event that significantly influenced architectural conceptual reflections was the establishment of the first faculty of architecture in the city. In 1942, the Bolivarian Catholic University[1] "... filled this great gap in the teaching of the discipline"[2] (Gil, 1942, p. 1328) under the leadership of architect Ignacio Vieira Jaramillo[3].Until then, in Colombia only existed the Faculty of Architecture at the National University in Bogotá, established in 1936. The announcement of the creation of the second faculty of architecture in the country, seven years later, was a momentous event, as the first generations of architects were crucial in consolidating the new academic structures of the emerging faculties of architecture and urban planning that would educate future professionals.

Since 1920, at the Second National Congress of National Improvements (Segundo Congreso Nacional de Mejoras Nacionales),[4] the need to establish local architecture and urban planning schools in Colombia had been discussed. The establishment of the Faculty of Architecture in Medellín represents one of the most significant milestones in the city's urban history. This event signaled a departure from traditional models such as City Planning and the Garden City, which had been variously replicated in the Future Plan for Medellín (Plan Futuro para

1 Currently named Universidad Pontificia Bolivariana (Pontifical Bolivarian University)

2 The establishment of local schools of architecture and urban planning in Colombia has been a subject of discussion since 1920, as highlighted during the deliberations of the Second National Congress on National Improvements.

3 Architect graduated from *Academie Royale des Beaux-Arts, Ecole Supérieure d'Architecture*, 1933.

4 See Cuervo, Schnitter, Múnera (2021) on the role of the National Improvement Congresses in Colombia.

Medellín) since the early 20th century. It paved the way for a modern revolution, creating tensions between the traditional approaches to architectural practice and the emergent concepts of modern architecture.

These tensions compounded the challenges faced by a city that was just beginning to assimilate modernism's theories, which were directed at an audience still relatively unacquainted with the subject. Within this context, there was a growing acceptance of modern architecture and urban planning concepts in Medellín, leading to the demand for new directions and the recognition of emerging challenges for the city's future development.

Two key magazines were instrumental in disseminating modern ideals in Medellín. Pórtico (1947–1951), published by the Faculty of Architecture at the National University, emerged as a voice for promoting a local culture of modern urban planning and architecture. Additionally, Progreso, the publication of the Public Improvement Society of Medellín–Sociedad de Mejoras Públicas de Medellín- (1911–1979), documented the city's urban development, its progress, and the establishment of civility as a paradigm for urban living.[5]

Discussions surrounding the Neighborhood Unit (NU), particularly in the context of workers' housing developed by the Territorial Credit Institute (Instituto de Crédito Territorial, ICT), became a central theme in modern architecture and urbanism in Medellín. These discussions also played a crucial role in fostering local understanding of the modern principles advocated by the International Congresses of Modern Architecture (CIAM). Grasping the concept of the NU in Medellín is crucial, as it addressed one of the primary topics Wiener and Sert incorporated in the Pilot Plan for Medellín. The ICT, established in 1939 as a state agency to address rural housing shortage, expanded its scope to urban housing in 1942. This shift marked the centralization of the construction of "model working-class neighborhoods" (barrios populares modelo) in collaboration with various municipalities.[6]

In this process, the ICT incorporated several key principles of modern architecture aimed at optimizing the construction process, including prefabrication, the adoption of standardized housing typologies, the systematization of construction methods, minimal housing designs, and experimentation with materials and construction techniques. Moreover, the development of model working-class neighborhoods, as mandated by Decree 380 of 1942, was grounded in the premise that '... the current conditions of working-class housing in Colombia are deplorable in all respects, necessitating far more intensive transformative efforts than those

5 Although the dissemination of modern precepts primarily took place between 1935 and 1947.

6 By 1947, the ICT had built 3,000 rural homes and 1,450 homes in twenty-two model workng-class neighborhoods (Minute 276, august 2, 1947, p. 589).

achieved thus far.' This decree also required municipalities to '... establish and maintain social and public assistance services within model working-class neighborhoods ...´ (Article 5).

In the emerging academic field, this novel urban housing concept sought to restore in Medellín the values of "... harmonious coexistence, cooperation grounded in individual responsibility, democracy, and social well-being ...", "... values imperiled by the rapid pace of modern life and the automation imposed by the techniques of the machine age" (Mejía, et. al., 1948, p. 22).

The historiographical review of Medellín's Pilot Plan included an examination of various local sources,[7] as well as key primary documents associated with Sert's work on the Plan. This review notably focused on the seminal texts Can Our Cities Survive? (1942) and The Heart of the City: Towards the Humanization of Urban Life (1961), alongside additional secondary literature that conceptually underpinned the analysis presented in this article.

To augment and enrich this bibliographic research, local archives were visited and consulted, including the FAES Collection (Antioquia´s Foundation for Social Studies) in the Heritage Room of the Luis Echavarría Villegas Library and Cultural Center at EAFIT University; the Historical Archive of Medellín; the Historical Archive of Antioquia; the Central Archive of the National University of Colombia in Medellín; the Department of Document Management at the Pontifical Bolivarian University, and the General Archive of the Nation in Bogotá. Crucial information was also retrieved from local newspapers such as El Colombiano and El Correo. Furthermore, specialized serial publications were consulted, notably the Engineering and Reports Magazine [8] the Engineering, Architecture, and Construction Magazine,[9] the Proa Magazine,[10] the Progreso Magazine,[11] the El Urbanista Magazine,[12] the Pórtico Magazine,[13] and the Universidad Pontificia (Católica) Bolivariana Magazine.[14]

The materials related to Medellín´s Master Plan provide the basis for constructing a comprehensive overview of Wiener and Sert's interventions in the city. This research seeks to examine the contemporary influence of their proposals, ideas, and teachings on the processes of urban construction, thought, and practice in

7 Among the most relevant: "Medellín su origen, progreso y desarrollo" of Restrepo Uribe (1981), "Dos voluntades modernas. Disolución y Reinvención en la Unidad Vecinal Modelo del Plan Piloto para Medellín" of Juan Alberto Restrepo Sánchez (2011), "Las transformaciones de la estructura urbana de Medellín la colonia, el ensanche y el Plan Regulador" of María Verónica Perfetti del Corral (1995), "José Luis Sert y Colombia. De la Carta de Atenas a la Carta del Hábitat" of Patricia Schnitter Castellanos, (2007), "Arquitectura Moderna en Medellín, 1947-1970" of Cristina Vélez Ortiz, Diego Lopez Chalarca, Mauricio Gaviria Restrepo and Nathalie Montoya Arango (2010), "Cien años de la vida en Medellín, 1890-1990" of Fabio Botero Gómez (1994); "Pedro Nel Gómez, el Maestro, arquitecto, urbanista, paisajista" of Luis Fernando González Escobar (2014).

8 Issues reviewed: from 1962 to 1966.

9 It was only possible to review the issues from 1957.

10 Issues reviewed: from 1946 to 1972.

11 Issues reviewed: from 1926 to 1968.

12 It was only possible to review the issues from 1960.

13 Issues reviewed: from 1947 to 1952.

14 Issues reviewed: from 1940 to 1970.

Medellín. The most significant remnants of the Pilot Plan in the present-day city are analyzed in detail in the subsequent discussion section.

Materials and Methods

The aim of this section is to present the findings from the previously discussed archival research. This involves analyzing various primary sources through a comparative lens, supported by secondary sources that have addressed the subject. This section contextualizes the research within local perspectives on the Plan, and outlines four key aspects of the Plan, framed by the four functions of modern urbanism as defined in the Athens Charter as the Functional City: dwelling, working, recreation (cultivation of body and spirit), and circulation (transportation).

The Master Plan for Medellín

"A city developed without a master plan is akin to a house built without blueprints" (Restrepo, 1957, p. 15).

The decision to engage foreign consultants to guide urban planning efforts was justified by the shortage of local experts with experience in modern architecture and urban planning. In this context, the work of foreign architects in Latin America during the mid-20th century was significant. Medellín, like many other cities, was drawn to the innovative ideas proposed by these architects, who, in turn, viewed the city as a strategic center for realizing their revolutionary vision, as emphasized in the early International Congresses of Modern Architecture (CIAM).

In Medellín, this vision materialized through the work of urban planners Paul Lester Wiener and Josep Luis Sert,[15] of the Town Planning Associates (TPA) office, particularly in the formulation of the city's Master Plan (1948-1950). According to Xavier Costa, this proposal was the most compelling and comprehensive of TPA's projects during this period (Costa, 1997, p. 91). Sert's exposure to the North American school of thought, stemming from his exile from Europe, was instrumental in shaping not only the Plan for Medellín but also plans for other major cities across the Americas (Zabalbeascoa, 1997, p. 70). In these urban centers, he successfully materialized debates that originated decades ago, stemming from discussions in the United States and the G.A.T.C.P.A.C. (Mumford, 1997, p. 1).[16]

15 José Luis Sert is part of the second generation of modern architects, emerging during a period when the principles of modern urbanism were critically significant for Latin American cities. His ideas are grounded in the principles of the functional city, which originated from the early International Congresses of Modern Architecture (CIAM), as well as from urban debates in the United States during the 1930s. This context enabled Sert and his contemporaries to hybridize these ideas and adopt critical stances toward CIAM's orientations.

16 Grupo de Arquitectos y Técnicos Catalanes para el Progreso de la Arquitectura Contemporánea (Group of Catalan Architects and Technicians for the Progress of Contemporary Architecture).

Contextualization: The Pilot Plan within the framework of the Master Plan.

Since the early 20th century, municipal authorities and certain elite figures have consistently advocated for the regulation of the city's growth through urban planning.[17] During the first three decades, they actively engaged with ideas developed by various institutions under the initiative titled Medellín Futuro.

To fully comprehend the Medellín Futuro process, it is necessary to revisit the first half of the 20th century, when significant guidelines were established that would later be reflected in the 1950s through the Pilot Plan. Various planning efforts emerged during this period, including the 1913 Plano de Medellín Futuro promoted by the Public Improvement Society, the 1927 plan El Gran Medellín Futuro, and the proposals of Professor Karl Brunner in the 1940s. These guidelines were articulated as a series of ideas presented during a conference. The name of Plano de Medellín Futuro of 1913 remained largely unchanged until the late 1940s, when urban planners Wiener and Sert introduced their proposals, renaming it as Plano Regulador (Master Plan).

In 1947, following connections established with Le Corbusier, urban planner José Luis Sert made his first visit to Colombia. After being unable to complete engagements in Bogotá, he was invited by Bogota architects Carlos Arbeláez Camacho and Jorge Gaitán Cortez to visit Medellín, with the prospect of executing an ambitious urban plan. (Restrepo, 196?, p. f64-f68).

During this visit, the municipality initiated a preliminary engagement with Jose Luis Sert, who, alongside other local architects, proposed the development of a Master Plan for the city of Medellín (Restrepo, 1981, p. 344). However, the proposal was initially rejected due to budgetary constraints. Nonetheless, Law 88 of 1947 provided an opportunity for the plan to be financed by the Department of Valuation and Urban Planning.[18] In session 11 on July 23, 1948, as recorded in minutes 42 and 52 (MASA[19], 24 1974, p. 32), the Medellín Valuation and Urban Planning Board approved the execution of the Pilot Plan (Restrepo, 1981, p. 344) (Fig. 1).

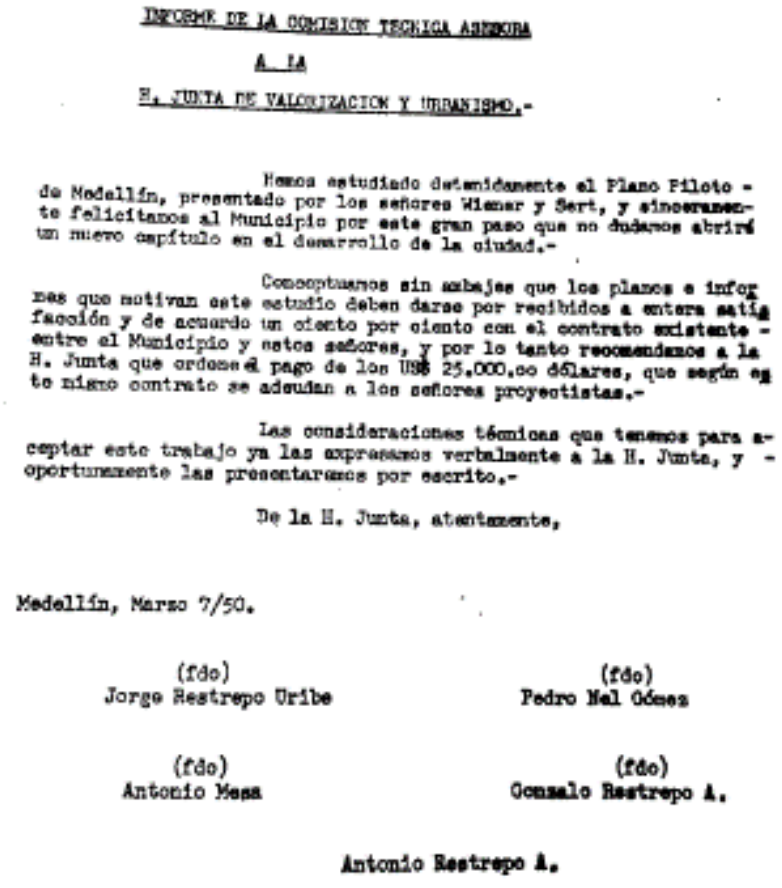
This approval marked a significant achievement for the public administration, following numerous previous efforts to advance urban planning in Medellín to address the city's escalating challenges caused by human displacement and industrial growth. Finally, on October 9, 1948, a contract for the execution of the Pilot Plan was signed between the municipality and Town Planning Associates. This led to the

17 At that time, Medellín had a population of approximately 300,000 residents. The Pilot Plan was designed to accommodate projected growth, aiming for an eventual population of around 700,000 inhabitants.

18 This mandate required municipalities with budgets exceeding two hundred thousand pesos ($200,000) to develop a regulatory plan outlining the appropriate forms of urban growth.

19 Municipios Asociados del Valle de Aburrá (Municipalities associated to the Aburrá Valley)

establishment of the Master Plan Office, headed by architect Nel Rodríguez. The office was responsible for ensuring the proper execution of the contract, overseeing the contractors' performance, and directing the progress and development of the city.



INFORME DE LA COMISION TECNICA ASESORA

A LA

H. JUNTA DE VALORIZACION Y URBANISMO.-

Hemos estudiado detenidamente el Plano Piloto - de Medellín, presentado por los señores Wiener y Sert, y sinceramente felicitamos al Municipio por este gran paso que no dudamos abrirá un nuevo capítulo en el desarrollo de la ciudad.-

Conceptuamos sin embajes que los planos e informes que motivan este estudio deben darse por recibidos a entera satisfacción y de acuerdo un ciento por ciento con el contrato existente - entre el Municipio y estos señores, y por lo tanto recomendamos a la H. Junta que ordene el pago de los US$ 25.000.oo dólares, que según este mismo contrato se adeudan a los señores proyectistas.-

Las consideraciones técnicas que tenemos para aceptar este trabajo ya las expresamos verbalmente a la H. Junta, y - oportunamente las presentaremos por escrito.-

De la H. Junta, atentamente,

Medellín, Marzo 7/50.

(fdo) Jorge Restrepo Uribe

(fdo) Pedro Nel Gómez

(fdo) Antonio Mesa

(fdo) Gonzalo Restrepo A.

Antonio Restrepo A.

Figure 1. Copy of the letter addressed to the Valuation and Urban Planning Board regarding the approval of the Medellín Pilot Plan by the Technical Advisory Commission.

Source: Jorge Restrepo Uribe Archive. (ICTAPR, 1950, p. f29)

According to the fourth clause of the contract, the Master Plan was to be executed in four stages. The first stage involved analyzing the city's existing conditions. The second stage, considered one of the most critical and referred to as the Pilot Plan, was carried out by a working group personally selected by José Luis Sert. This phase entailed:

"…the preparation of the preliminary project and the establishment of the general principles and direction to be followed. It is, in essence, the most dynamic phase of the Master Plan. The Pilot Plan outlines a general solution tailored to the city's unique conditions. It defines the course of action to be followed in the development of the Master Plan" (Wiener and Sert, 1950).

To evaluate the results of the Pilot Plan, the Technical Advisory Committee (CTA) was established under Resolution No. 23 on February 13, 1950, the date set for the plan's delivery. This committee was tasked with studying, assessing, and endorsing the project submitted by Wiener and Sert. Its role was to issue a recommendation for approval or rejection of the proposal based on technical considerations derived from daily meetings (Restrepo, 1950, p. F8).

The third stage involved the preparation of both general and detailed plans, collectively referred to as the Master Plan. The fourth and final stage was the implementation phase of the Plan, to be executed by the Municipal Mayor Office with Wiener and Sert serving as consultants

(ICTAPR, 1950, p. 16). Each of these stages required the study, proposal, and execution of an ambitious development plan for Medellín.

On February 16, 1950, Wiener arrived in Medellín to deliver the Pilot Plan. He submitted the proposal to the municipal authorities, articulated through twenty plans and three volumes (Schnitter, 2007, p. 67).[20] On March 7 of the same year, the Technical Advisory Committee (CTA) of the Master Plan approved the next stage, corresponding to the Master Plan for Medellín (ICTAPR, 1950, p. 29). The Committee noted, "The Preliminary Project of the Pilot Plan is a truly commendable work, deserving of the highest praise, and the regulatory plans will clearly define the points addressed" (ICTAPR, 1950, p. 7). Nevertheless, official approval was not granted until April 4, 1950, through Resolution No. 44 (MASA, 1974, p. 82). Article 2 of this resolution authorized the Urban Planning and Master Plan Section to commence work based on the general concepts outlined in the Pilot Plan, with the objective of executing the Master Plan (Restrepo, 1948, p. 4).

The CTA provided several observations on the Pilot Plan, primarily focusing on proposals concerning the Medellín River, workers' housing, the location of the hospital center, the overall road plan, neighborhood units, and the civic center (ICTAPR, 1950, p. 29). They also Delivered comments on the potential for regional expansion into the "Greater Region" (Fig. 2) and the immediate consolidation of the city, referred to as the "Metropolitan Area"[21] (Fig. 3). However, none of these recommendations affected the conceptual foundation of the proposal. (ICTAPR, 1950, p. f30).

Figure 2. Great Region Map. Connection of Medellín with the National Territory. Author: (Wiener and Sert, 1950).

Source: Historical archive of Medellín.

20 Although Archival research conducted at the Municipal Planning Library and the Historical Archive of Medellín uncovered 24 plans.

21 A term that remains in use to the present day.

Figure 3. Plan 1 (I-1), Zoning of the Metropolitan Area. Author: (Wiener and Sert, 1950).
Source: Historical archive of Medellín.

At the city scale, Wiener and Sert identified a pattern of fragmented development marked by uncontrolled growth, largely driven by the dominance of the speculative real estate market. This trend led to the construction of buildings in older parts of the city that were six or seven times taller than the houses they replaced, yet still located on narrow streets designed for a different urban fabric. This resulted in the growth of a chaotic and uncoordinated cityscape.

In response to these challenges, the concept of Neighborhood Units became central to the urban planning strategy. This concept provided a framework for organizing future land use based on the four core functions outlined in modern urbanism: dwelling, working, recreation (both physical and spiritual), and circulation. The Plan sought to segregate these functions while simultaneously promoting the elimination of mixed-use areas to create a more organized and cohesive urban environment.

The Phenomenon of Industry in Medellín

The city's industrial character, which had evolved over several decades, became increasingly prominent in the 1940s. This development unfolded without any coherent planning or clear relationship between residential areas and public spaces (Fig. 4). Sert and Wiener noted that the industrial activity in Medellín was dispersed throughout the Metropolitan Area (Fig. 5) without any location criteria, leading to pollution and other negative impacts from industrial activities encroaching on neighboring residential areas. These mixed-use zones, which had been established over many years, lacked a logical or systematic planning approach (Fig. 6).

Figure 4. Location of Industry in Medellín (black marks). Source: (PÓRTICO, 1950, p. 13).

The journal Pórtico states: "Promiscuity of Functions. Unhealthy zones surrounding factories. Smoke, noise, gases, crime, diseases, mortality" (Pórtico, 1950, p. 17). Pórtico portrays Medellín as a disruptive and turbulent city, serving as justification and support for the urgent development of the Pilot Plan by Wiener and Sert.

Figure 5. Map 2 (1-4), Zoning of the Metropolitan Area. Future land uses, final phase. Author: (Wiener and Sert, 1950). Source: Historical Archive of Medellín.

Figure 6. Map 5 (II-I), Zoning of the Urban Area. Current land uses. Author: (Wiener and Sert, 1950). Source: Historical Archive of Medellín.

Since the International Congress of Modern Architecture (CIAM[22]) in Athens, Sert was clear that the dispersion of industry, particularly when associated with residential areas, necessitated a classification of activities, establishing zones based on their function (Sert, 1942, p. 247). Wiener and Sert directed this function in two ways: towards industry itself and the commercial sector oriented towards business development.

The solution proposed by the Pilot Plan was the establishment of a new urban perimeter (Fig. 7) aimed at preserving and enhancing agricultural areas while consolidating industry in the southern zone of the city (Fig. 8) (Pórtico, 1950, p. 22). The Technical Advisory Commission of the Regulatory Plan was quite critical of the challenges Medellín faced in locating the industrial sector, noting in its report that this was the most serious issue within the general proposal of the Pilot Plan (ICTAPR [23], 1950, p. 5). According to the Commission, the Pilot Plan "...inhibited the spiritual significance that citizens attributed to the river," as Wiener and Sert assigned a purely utilitarian role to this industrial strip, benefiting only the industry while offering no perceived benefit to the general population (ICTAPR, 1950, p. 5). In other words, the Pilot Plan needed to establish a system that allowed for a normal appropriation of space by the city's inhabitants. The proposal by Wiener and Sert obstructed this outcome.

22 Spanish acronym

23 Spanish acronym for the Report of the Technical Advisory Committee for the Regulatory Plan

Figure 7. Maps 14 A (II-4), B (II-4), C (II-4), and D (II-4), Industrial and Commercial Zoning. In gray, proposed industrial zone. Author: Wiener and Sert, 1950.

Source: Historical Archive of Medellín.

Figure 8. Location of the industrial zone on the southern side of Medellín.

Source: Pórtico, 1950, p. 23.

Housing and the Profound Sense of Dwelling

The issue of housing, framed within the function of dwelling, was one of the most considered and significant aspects for Wiener and Sert in the structure of the Pilot Plan for Medellín. The Neighborhood Unit (NU) model was practically the central element shaping the urban proposal, as Sert believed that housing could only be effectively addressed at this scale (Sert, 1942, p. 46). This NU, in addition to being a point of convergence between the disciplines of architecture and urbanism, marked a significant transformation in the pragmatic approach of interventions, shifting from ornamental and aesthetic responses to systemic functionality, and in the morphological structure of the city, transitioning from blocks to the conception of polygons.

In Medellín's case, "the proposal ultimately ended up reverting to the traditional block pattern, with only a few late instances of polygonal configurations that indicate its influence, such as the neighborhoods Los Pinos, Carlos E. Restrepo, and Nueva Villa del Aburrá, all of them in Otrabanda" (Restrepo, 2020, p. 53).

The Pilot Plan proposal for Medellín, primarily structured through a grid of districts, which in turn were organized internally by Neighborhood Units, sought in its urban conception to decentralize the city and expand through the repetition of the model (Restrepo, 2011, p. 147).

The Pilot Plan Report (Sert and Wiener, 1981) focuses on identifying the best locations for housing in the expansion area on the western side and on the northwestern and southeastern slopes, which, due to their landscape and environmental conditions, were considered the most suitable sectors for housing development. The report also acknowledges the importance of conserving the old part of the city, where typical houses with small courtyards of one or two stories still existed: "...in the old city, much of its colonial character has been preserved, and some of the old courtyard houses are attractive and should be conserved" (Sert and Wiener, 1981, p. 352).

For Sert, the response to cultural influences—materials, customs, and indigenous constructions—was of great importance in his work (Zabalbeascoa, 1997, p. 72). In this regard, the influence of G.A.T.C.P.A.C [24] was fundamental, as he argued that historical styles were not the result of whims but expressions reflecting social structure, construction methods, material use, economic conditions, and spiritual aspirations. "Local traditions, customs, and procedures change with time. The fundamental elements remain, while secondary forms fade" (Freixa, 1979, p. 10, 12). He used this concept to promote democracy through collective association, not only in residential units but also in civic centers or hubs (Mumford, 1997, p. 1).

24 Acronym in Catalan for the Group of Spanish Artists and Experts for the Progress of Contemporary Architecture

According to Wiener and Sert, older buildings were the only ones that maintained a scale proportionate to the width of the streets, with better sunlight exposure despite their age, and thus demonstrated greater harmony in the sector than in newer neighborhoods. This was a fundamental aspect of modern architecture in terms of dwelling: "Nature plays an essential role in the function of dwelling (sun, space, greenery)" (Le Corbusier, 1976, p. 88). Therefore, in the Pilot Plan proposal for Medellín, residential areas were located with consideration for climate, topography, and existing communication routes, using green belts to separate industry from residential zones (Figs. 9-10), which, in essence, was the conceptual model that structured the Pilot Plan for Medellín.

Figure 9. Maps 13 A (II-3), B (II-3), C (II-3), and D (II-3), Residential Areas. Author: (Wiener and Sert, 1950).

Source: Historical Archive of Medellín.

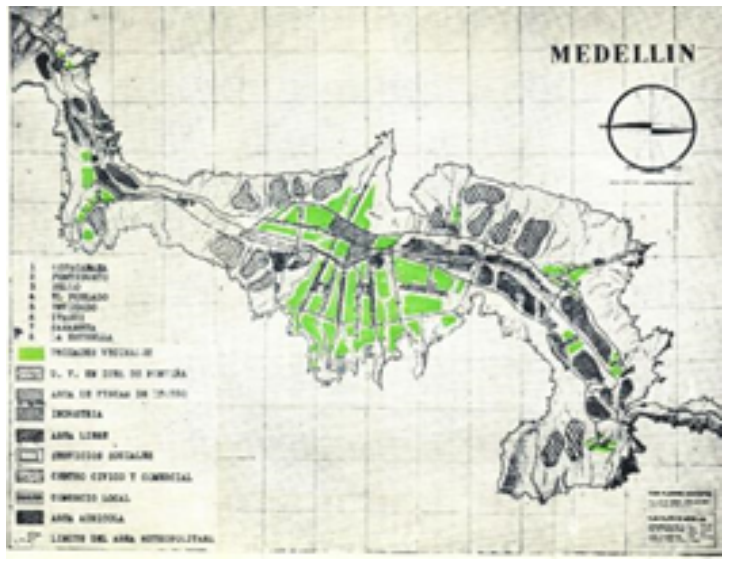


Figure 10. Location of Neighborhood Units in the Metropolitan Area.

Source: (Pórtico, 1950, p. 33).

Based on Medellín's topography, characterized by its location within a valley, Wiener and Sert proposed two basic models for the development of Neighborhood Units: one for flat areas (Fig. 11) and another for hillside sectors (Fig. 12). "Medellín's topography needs the creation of different types of Housing Units or Neighborhood Units" (Sert and Wiener, 1951, p. 12). These urban development models were primarily designed to be implemented on the western side of the city. Additionally, the linear parks along the creek served as boundaries between districts.

Figure 11. Plan. Model Neighborhood Unit for flat areas.

Source: (Wiener and Sert, 1950).
Historical Archive of Medellín.

Figure 12. Plan. Model Neighborhood Unit for hillside residential sectors, Fragment of map 13 C (II-3).

Source: (Wiener and Sert, 1950).
Historical Archive of Medellín.

Each Neighborhood Unit (NU), varying according to topographic conditions, was defined by two main features: on one hand, natural boundaries were established through creeks with the aim of preventing hillside erosion; on the other hand, each NU was circumscribed by

surrounding roads served by bus lines to ensure connection to the city center. Hence, the necessity of conceiving cities based on compact residential units, considering what Sert referred to as "human values" (Costa, 1997, p. 55).

One of Sert's most pointed critiques in the text Can Our Cities Survive? (1943) was the arbitrary placement of community services and their inadequacy in meeting the needs of the inhabitants (Sert, 1942, p. 54). In this regard, Sert proposed for Medellín a support system organized around social service hubs, incorporating large and small commercial units, markets, offices in some cases, elementary schools, daycare facilities, small churches, emergency clinics, and sports fields connected to linear parks[25] (Fig. 13). The report from the Technical Advisory Commission states:

In the plan titled "Model Neighborhood Unit," the designers present a typical case of the Neighborhood Unit in future urban developments. A brief study is enough to understand the immense advantages of this system: within its boundaries, and at distances calculated on a human scale, the family has access to everything essential for life—schools, churches, supply centers of all kinds, entertainment, sports, and ample open spaces… (ICTAPR, 1950, p. 14).

Some of these housing-related services aligned with the premises of CIAM II and III, which emphasized the natural adoption of communal aspects of life and allowed women to define new roles of domestic freedom (Aymonino, 1973: 79-80). This led to understanding Neighborhood Units (NU) as an urban strategy through modular systems that enabled the decentralization of the city "…as an alternative to the traditional conception of infrastructure" (Restrepo, 2011, p. 29). For Sert, housing as a collective whole, rather than as an isolated work, became the true foundation of the city, where the collective was the attribute that would humanize the urban scale (Sert, 1942, p. 234). In this sense, social interaction outside the home, facilitated by these essential services, was one of the most prominent components proposed by Wiener and Sert to be implemented within the NUs. Supporting infrastructures, seen as extensions of the home, were viewed as inseparable mechanisms that formed the basis of urban life (Sert, 1942, p. 84). This concept was well-received by the Technical Advisory Commission: "…we find the Neighborhood Unit system adopted by Wiener and Sert to be highly appropriate, and we recommend its acceptance by the Municipality" (ICTAPR, 1950, p. 14).

25 However, in Colombia, Decree 380 of 1942, Article 9°, stipulated: "Municipalities shall provide the inhabitants of model working-class neighborhoods with the following services, with the understanding that their provision shall be determined in the respective loan contracts, considering the number of houses to be built in each neighborhood and its location: a) A chapel for Catholic worship, if the distance between the neighborhood and the nearest church justifies its construction; b) A sufficient number of primary schools for the children of school age corresponding to the houses to be built, and school cafeterias; c) A daycare center, milk station, and kindergarten; d) Social workers; e) Sports and recreation fields; f) A cultural center and workers' cafeteria; g) A market square, if necessary due to the neighborhood's location and the number of houses; h) A police inspection station, if also necessary, considering the circumstances referred to in the previous section."

Figure 13. Fragment of plan 13 C (II-3). Model Neighborhood Unit for flat areas. Author: (Wiener and Sert, 1950).

Source: Historical Archive of Medellín.

The "revolutionary" conception of this housing model in Medellín introduced a series of key elements that shaped a new experience. In the development of Neighborhood Units, understanding the relationship between housing and the city was crucial. The Pilot Plan, in this sense, established an urban model based on this fundamental unit, not only as a matter of spatial distribution but primarily to improve the quality of life. For Sert, this model represented a new way of inhabiting, centered on a redefined family organization—more individualized yet requiring diverse forms of collective dwelling (Sert, 1942, p. 72).

The expression of these ideas had materialized in the Popular Model neighborhood, known as Los Alcázares, one of the neighborhoods built by the Territorial Credit Institute (ICT)[26] in 1948. This project was part of the emerging neighborhood units developed during the 1940s and 1950s, giving rise to what could be termed modern regional housing[27] . During this period, the institutions responsible for housing construction began to reference European modern architecture, which, in most cases, achieved a hybridization with local elements, allowing the emergence of a regionalist tradition. This tradition was combined with the stylistic, formal, and architectural guidelines of the modern movement, tailored to the local needs and traditions of national social life. Thus, a fusion between the regional[28] and the modern was achieved (Figure 14).

26 Acronym in Spanish: Instituto de Crédito Territorial

27 Concept extended until 1965

28 The term 'region' has been understood by some Latin American architects, both theorists and practitioners, as a pathway that seems to enable the emergence of architecture with a sense of place—an architecture that evokes a sense of belonging by seemingly becoming a representative of a people's identity. It refers to a local world shaped by a specific history, framed within certain geographic, economic, political, and/or cultural boundaries that have been shaped and transformed over time, in contrast to a world of purported universal conceptual languages" (García, 2000, p. 35). The ideas developed by García open an interesting space for reflection regarding the local context that the Regulatory Plan had to reconsider through the implementation of the Pilot Plan. For this, a housing model was developed, in which an architectural typology characteristic of the various modalities of Neighborhood Unit was implanted, helping to decentralize the city.

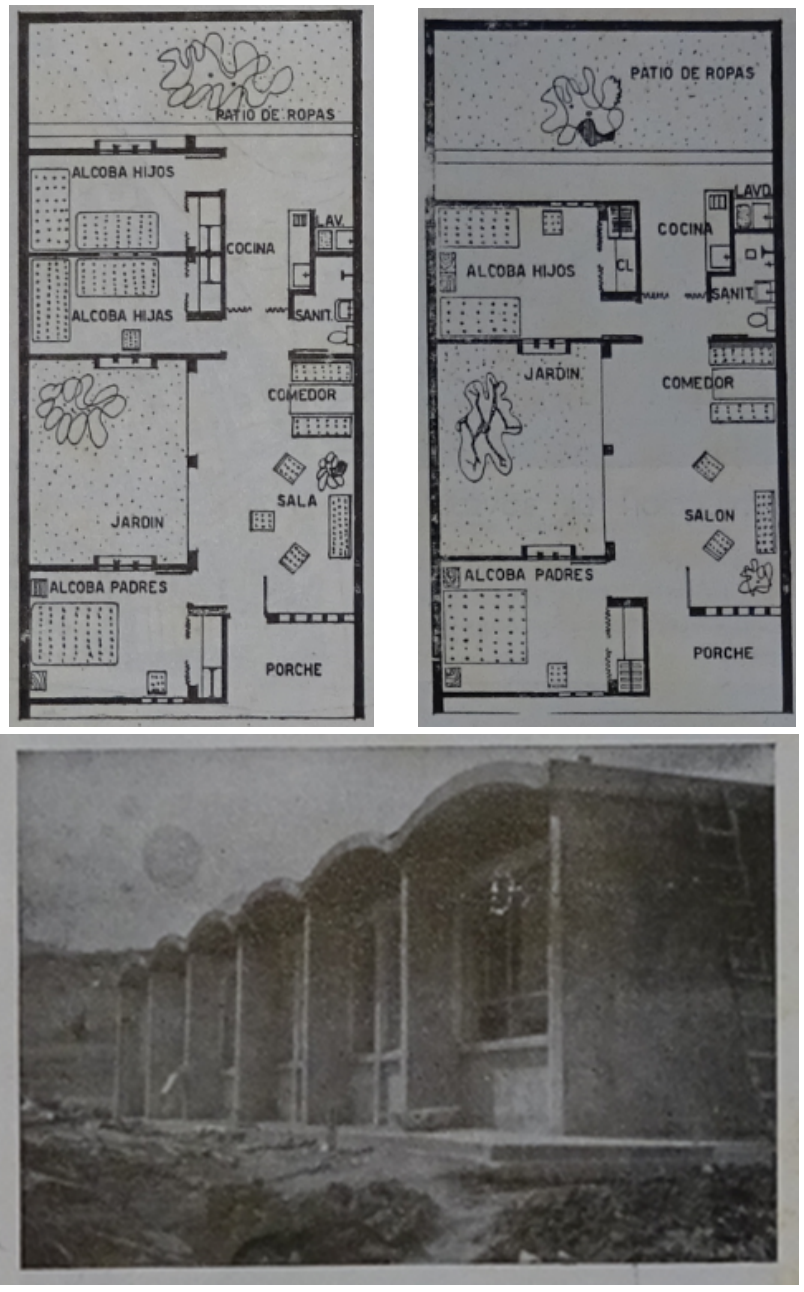


Figure 14. Housing typologies are defined by the number of 2 and 3 bedrooms. Los Alcazares neighborhood (Medellín).

Source: (Pórtico Journal, N. 8 p. 20).

The housing model proposed by the Territorial Credit Institute (ICT) led to "...the municipality, through Agreement 1 of 1943, authorizing the ICT to take charge of the construction of model working-class neighborhoods and low-cost housing projects in the following years" (Botero, 1999, p. 354). In response to the progressive demands of the time, which gradually fostered an atmosphere of civic trust, guaranteeing families a minimum level of well-being through new housing spatiality, a developmental vision emerged that considered local issues of tradition and customs. This vision stemmed from the observations made by the Office of the Regulatory Plan.

The ICT was able to interpret the local context of traditional living practices and successfully provide an architectural space adapted to the real needs of families. This approach demonstrated coherence between traditional ways of living and how space was legislated through public policy. It allowed the influence of modern architecture, with its rationalist principles and orthogonal geometries, to utilize serialization and spatial efficiency as a starting point. Local architects were thus able to implement rural spatial organization patterns, offering solutions to the housing demand present in the city at that time. The fusion of the modern and the local resulted in a housing typology that was generous in spatiality, referencing tradition-

al elements such as the zaguán[29] , living room, and central corridor. This allowed the configuration of a space for every purpose, achieved through objects that incorporated Medellín's domestic traditions

The Issue of Circulation

For Sert, it was clear that the problem with streets in most cities and suburbs stemmed from the fact that they were inherited from earlier eras—roads designed for pedestrian use and horse-drawn carriages (Sert, 1942, p. 248), but at a certain point, they began to be used by motor vehicles traveling at different speeds (Fig. 15), needing new road infrastructures. This was the critical moment Medellín was facing (Sert, 1942, p. 164). "The elements of transportation are mixed. The pedestrian displacing the vehicle. There is no separation of functions. Neither a motorized communication artery nor a place for the individual" (Pórtico, 1950, p. 19).

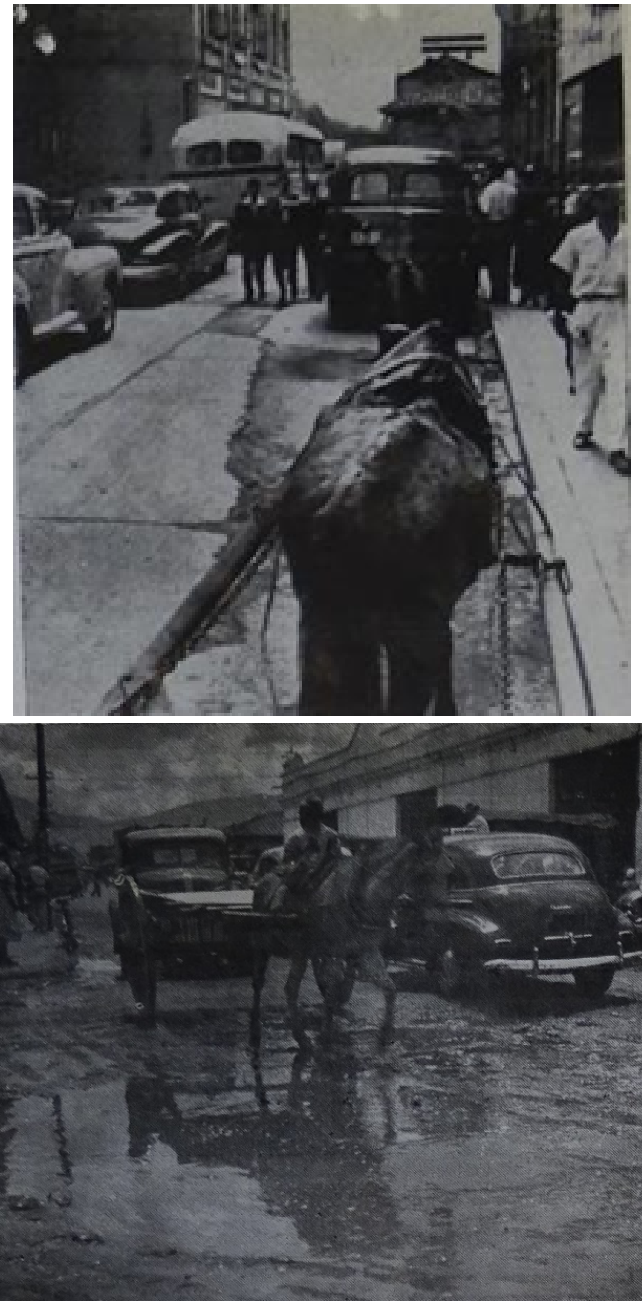


Figure 15. Critical moment in the city where animal-powered and mechanical vehicles are mixed.

Source: (Pórtico, 1950, p. 19).

29 Name in Spanish of the covered space located inside a house, which serves as the entrance to it and is immediately next to the street door

The circulation function in the Pilot Plan for Medellín was derived from the concept of the Metropolitan Area at which scale a comprehensive study of the basic road system was proposed (Fig. 16) to connect the municipality of Medellín with the surrounding urban centers.

Figure 16. Communications of the Metropolitan Area, final phase. Plan 3 (I-5).

Source: (Wiener; Sert, 1950).
Historical archive of Medellín.

In this function, urban planners encountered the most serious challenges for advancing proper city planning and the subsequent implementation of the Master Plan (Fig. 17). Wiener and Sert suggested the implementation of a modern road system that would help alleviate congestion, which had been evident for years, while also projecting it as a future system (Fig. 18). "We have designed two new and wide avenues for the central sector (...) 'We have based our criteria on the principle of parallel roads, meaning roads that do not run through a congested center but along its boundaries, feeding the central area via parking lots'" (Sert and Wiener, 1981, p. 365). This required the reorganization of existing roads and a hierarchical classification of streets, from high to low traffic, a key concern of modern urbanism (Le Corbusier, 1979, p. 122). In this context, pedestrian circulation shaped the Neighborhood Unit, establishing a network system.

Pedestrian traffic is distinctively segregated from motorized traffic, with parking spaces strategically allocated for the commercial sector, open-air theater, and other recreational and cultural facilities. This arrangement is designed to enhance the operational efficiency of the civic center, which will accommodate large assemblies of people both during working hours and leisure periods (Sert, 1961, p. 85)

Figure 17. General communications plan. Status. Plane 9 (II-8).

Source: Wiener and Sert, 1950.
Medellín Historical Archive.

Figure 18. Planes 17 A (II-9), 17 B (II-9), 17 C (II-9), 17 D (II-9). Plan for future communications.

Source: (Wiener and Sert, 1950).
Historical archive of Medellín.

In response to this situation, the Pilot Plan proposes a network of roads forming an irregular and organic system on the slopes, precisely adapting to the gradients created by the valley, many of which intersect with already established residential blocks (Hofer, 2003, p. 23). Surrounding this road system, rapid transit lines were also proposed, supported by service roads or direct routes, connected to ring roads and secondary streets of a domestic character. This transportation network primarily serves bus lines.

For the Technical Advisory Commission of the Master Plan, it was not difficult to understand the importance Wiener and Sert attributed to the Medellín River as a central and structuring axis (communicational). To the urbanists, the river was valued from a material and utilitarian hierarchy; however, the Commission considered that Wiener and Sert had overlooked a fundamental aspect: "spiritual interest". They stated, "From our perspective—South Americans, that is, people immersed in nature and with the spirit of distant Latin echoes—the primary value is spiritual…" (ICTAPR, 1950, p. 1).

In this context, it was suggested to plan the river with an artistic character (Figs. 19-21) that would preserve the human scale, providing citizens with "…a growing poem of today and for tomorrow." According to the Commission, this approach would restore "…an exceptional tourist wealth" within a few years (ICTAPR, 1950, p. 1). This would necessitate an artistic definition of the riverbanks, implying better integration among the urban elements in the area (Figs. 22-23). The Commission envisioned the riverbank as follows: "Water-esplanade

(concrete, grass, flowers), trees, foliage, architectural blocks, mountains…" They argued that Wiener and Sert had not considered this aspect and, instead, had projected "…the presence of a strip of dirty wagons and a shore filled with coal and oil" (ICTAPR, 1950, p. 4). Unfortunately, this vision never materialized. It took over 60 years for the Municipality to revisit this issue and develop the Parques del Río project, a public space intended for recreation and leisure, which essentially revisited the ICTAPR's ideas.

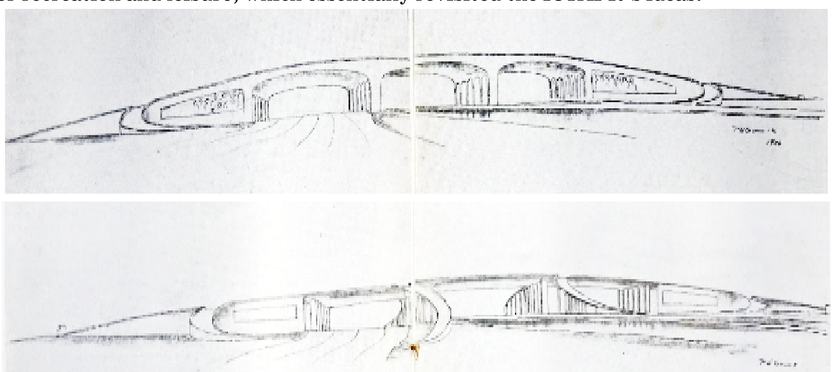
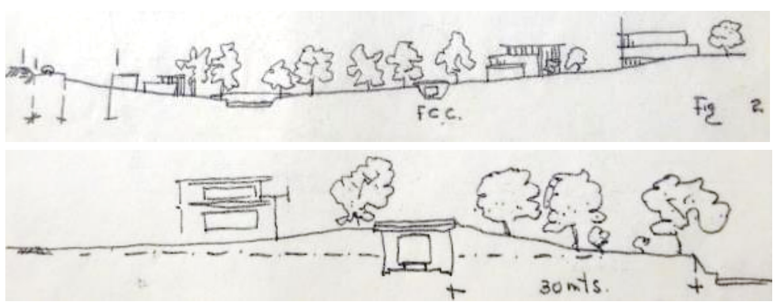


Figure 19. Project for the América Bridge over the Medellín River by Master Pedro Nel Gómez.
Source: (Gómez, 1950, p. 16-17).

Figure 20. Elevation of pedestrian paths in sections where pedestrian flow is interrupted by railway lines.
Source: (ICTA, 1950, p.3).

Figure 21. Sections of the Riverbed under the bridges of the trunk roads proposed by Wiener and Sert.
Source: (ICTA, 1950, p.5)



Figures 22-23. Cross section of the lower area intended for the railway station
Source: (ICTA, 1950, p.3).

Reorganization of public spaces to nurture the body and the spirit

The reorganization of public spaces in Medellín was one of the Plan's main initiatives for the urban agglomeration. The way previous government allocated spaces for the cultivation of the body and spirit was insufficient; as Pórtico Magazine states:

> The exposure of illiterate children to books. The disadvantaged and uneducated youth. Will we manage to strengthen the spirit? Future athletes emerging by chance, without playing fields, without study spaces in makeshift locations (...) will we manage to strengthen the body? The recreational spaces for workers and farmers, the lack of places for leisure, sports, and education. (...) There is a shortage of schools, sports fields, and recreational areas; there is an excess of taverns and brothels (Pórtico, 1950, p. 24).

These reflections on the academic and professional field highlight the expectations of the Pilot Plan. It was presented not only as a remedy for urban chaos but also as a solution to social problems; "In this amorphous and unaesthetic mass of planned blocks that did not respond to an overall scheme..." all possible excesses had been committed (Pórtico, 1950, p. 24).

To address this challenge, the recreational facilities was approached through the definition and reorganization of the city's green areas based on elements:

1. non-developable mountainous areas,
2. green areas within the city, and
3. the channelized creeks as linear parks and sports fields.

The waterways thus became one of the most favorable opportunities for structuring a system of open spaces in the city, as they could define the district polygons of the Neighborhood Units and become continuous green corridors leading to non-developable lands on the slopes, benefiting the maximum number of possible residences (Fig. 24). Subsequently, these green corridors were integrated into the so-called "Green Carpet," with neighborhoods designed by ICT such as Carlos E. Restrepo, Los Pinos, Tricentenario, and López de Mesa.

Figure. 24. Plan of open spaces. Final phase. Plan 15 (II-5). Authors: Wiener; Sert, 1950.

Source: Historical Archive of Medellín.

In this regard, the function of cultivating the body and spirit was closely associated with that of dwelling. By establishing a network of services through nodes dispersed across the city and incorporating them into an expanse of green space, it was possible to achieve spatial continuity between adjacent neighborhood units for urban living.

Since the IV CIAM Congress (1933), Sert anticipated recreational areas as a fundamental component for structuring urban growth. The insufficiency of outdoor spaces in most cities, their poor location, and the complex accessibility issues identified in Medellín led to their structured inclusion as sites for collective life (1942, p. 247). The first step in integrating these spaces into Sert and Wiener's plan involved proposing the recovery and enhancement of green areas through reforestation on the city's slopes, along with legislation for their protection. It was necessary to clearly delineate the boundary between the green belt on the slopes and the more buildable areas of the city to control its expansion. However, this boundary would require effective governmental management, as Sert argued that the lack of regulations for the proposed new developments would lead to the formation of low-income neighborhoods, as it fails to meet a fundamental need such as the provision of public space (Sert, 1942, p. 68).

Results and Discussion

The basis of this discussion is primarily founded on the findings from archival research and the observation of the current state of interventions that were carried out directly or indirectly from the perspective of the Pilot Plan. The findings are also structured around the four functions of modern urbanism: dwelling, recreation, working, and circulation; highlighting the effects and traces of Sert and Wiener's Pilot Plan on the present-day city.

One of the most significant contributions of the Pilot Plan was the designation of the industrial zone in the southern part of the city. In this way, authorities, led by the newly established Regulatory Plan Office, facilitated the urbanization of a large industrial area in the subsequent decades. It was in this zone that industries such as Coltabaco, Postobón, and the Fabrica de Licores Antioquia were established. This development reinforced the goals that the Pilot Plan aimed to implement in its original design. However, it is important to note that by the 1990s, Medellín's rapid expansion absorbed the industrial zone into areas of residential and service development, significantly deteriorating livability conditions to a critical level. The impact of this decision on the use of residential urban space can be examined in a different context, as it holds considerable significance in light of the suggestive residential urban projects are being developed, and which are providing a diversified and prominent structure for Medellín.

Regarding the function of dwelling, one of the contributions during this period was the approach to the neighborhood unit, a strategy for constructing modern urban housing from a regionalist perspective. The fusion of local resources and traditions with modern techniques and new aesthetics shaped the social construction of the city's habitat in the mid-20th century. This is evidenced by cases such as the model working-class neighborhood where the ICT based its design on the Neighborhood Unit guidelines but respected the vernacular and rural housing traditions of the local area, reflected in the neighborhood layout and the modern regional typology[30].

In any case, the consolidation of a Neighborhood Unit under the principles of modern urbanism never fully completed. Instead, there was a rapid, anarchic residential expansion both in the riverside areas and on the eastern and western slopes of the city (Fig. 25), surpassing the urban perimeter proposed in the Plan (see Figure 7). However, it is noteworthy that until the early 1970s, the state promoted a series of social housing projects (many inspired by the Plan's models), where housing solutions were of high quality. This modernization process was carried out through existing institutions such as the previously mentioned Instituto de Crédito Territorial and the Banco Central Hipotecario, among others, incorporating macroeconomic planning recommended by foreign advisory missions from Lebret, Currie, and CEPAL, and, of course, the influence of discussions held at CIAM II and III regarding minimum housing and the rational use of space, respectively.

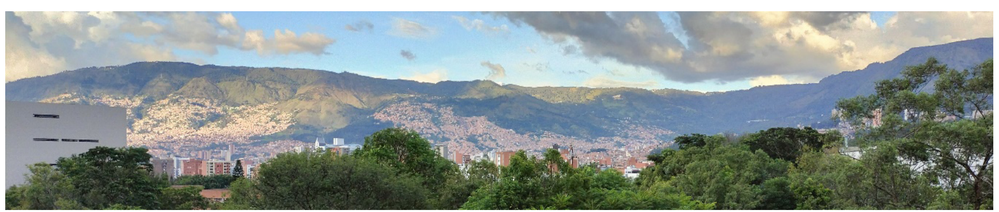


Figure. 25. Growth on the hillside of the current city.

Source: the authors

30 In Act 288, October 27, 1947, p. 625 of the ICT (before Gaitán Cortés introduced the Neighborhood Unit ideas to the ICT): "Visit of the Mayor of Medellín, Eduardo Fernández Botero, to request the ICT's collaboration in the construction of 36 houses in the Barrio Popular Modelo."

Conclusions

Sert and Wiener's intervention in the city of Medellín guided mechanisms for a comprehensive (economic and urban) development and the potential consolidation of a series of public policies for the city and social housing, which strengthened their management and production. This process began to decline in the first five-year period of the 1970s, reflecting a transition from state institutions responsible for housing and city production to the creation of new state agencies and private companies to address both informal urban developments and housing shortages. Existing institutions would take new directions, finding support in banks, cooperatives, and mutual associations. This aligns with the establishment of minimum urbanization, public, and community service standards in Colombia, regulations designed to minimize the specifications for various components of residential areas: roads, lots, and integrated spaces. These minimum standards, which were based on some of the premises of the Pilot Plan, helped initiate a new phase in the commodification of the city and housing[31].

Regarding the function of circulation, the objectivity in the reading and proposal of road infrastructure for the city resulted, only by 1969, in the consolidation of a new Traffic Plan. This plan reviewed the Pilot Plan with the aim of prioritizing the city's roads according to their traffic volume and the services emerging from industrialization. The consolidation of certain roads was crucial to Medellín's current urban structure, including Carrera 80, which was conceived in the Pilot Plan as a ring road serving as a boundary between flat areas and hillside neighborhoods. Today, it is a source of both support and contention due to the construction of the Light Rail (see Fig. 26).

Figure. 26. Plans 17 A (II-9), 17 B (II-9), 17 C (II-9), 17 D (II-9). Future communications plan. Existing streets derived from the Pilot Plan. Modified by the authors.

Source: Historical Archive of Medellín.

The Avenida Oriental, initially known as Transversal Oriental and later as Avenida Jorge Eliécer Gaitán, has been a case study extensively explored by urban historians (often as an isolated fact). Its construction brought serious issues to the urban fabric, which is why it has been described as a scar (Jiménez, 2019)

31 Not only the Pilot Plan for Medellín but also those for other Colombian cities brought various advances in urban planning in Colombia, leading to the establishment of Law 388 of 1997 on territorial ordering, which facilitated the introduction of tools for urban management at the national level.

and as an “avenue without identity” (Spitaletta, 2019) (see Figure 27). Over the years, its central divider has been adorned with colorful pyramids, which were later replaced by green corridors—changes that have led to significant criticism. The objective of this road in the Pilot Plan was to create a perimeter circulation around the city center as an alternative to relieve congestion, thereby replacing Carrera Unión, a traditional domestic road. This development involved demolishing over six hundred houses inhabited by approximately three thousand people and also the removal of traditional Royal Palms, guayacanes, and ancestral Ceibas. Consequently, the continuity of familiar streets and neighborhoods such as Prado, María Auxiliadora, and Boston was lost, impacting about twenty blocks of Medellín’s traditional heart.

Figure 27. Avenida Oriental, a scar.
Source: Navia (2023)

We also find Carrera 55 (Railroad Avenue) and Carrera 52 (Avenida Guayabal). Additionally, four cross streets across the Valley emerged as structuring elements separating residential areas, as proposed in the Pilot Plan: Calle 50 (Calle Colombia), Calle 44 (San Juan), Calle 33, and Calle 30. The purpose of these major roads was to ensure that they did not fragment the Neighborhood Unit (see Fig. 28).

Figure 28. Current streets: from right to left (green lines) Calle 50 (Colombia Street), Calle 44 (San Juan Street), Calle 33, and Calle 30, derived from the Pilot Plan.
Source: authors

The second five-year period of the 1940s was marked by intense tension between traditional approaches to urbanism and the revolutionary methods of modern architecture and urban planning. This clash led to the ostracism of several traditional architects and urban planners. From this point on, major Colombian cities, including Medellín, began a process of renewal through the so-called Regulatory Plans[32]. This enthusiasm lasted until the early 1950s, after which the academic and professional spheres entered a period of reflection, critically questioning the actions of modern urban planners in the country.

32 For example, urban planner Karl Brunner, whose work was primarily carried out in the city of Bogotá.

The study of the Regulatory Plan for Medellín proposed by urbanists Sert and Wiener was one of the most important urban projects, not only for the city of Medellín but also for the urban history of Colombia. While many of the proposals in the Pilot Plan were successful, it is undeniable that some of the urban proposals were seriously disconnected from local realities, leading to strong criticism in academic and professional circles. One example is the treatment of the Medellín River as a corridor for specialized roads, which turned the river and the creeks into passageways, disregarding their relationship with local communities. These issues only became apparent during the execution of the Plan.

Nevertheless, the Pilot Plan was fundamentally influential, as it sparked intense discussions that opened new avenues for the city's urban development. Numerous external influences impacted the regulatory plans, not only in Medellín but throughout Colombia, making it a fallacy to assume that these proposals strictly adhered to the principles of the Athens Charter and the Heart of the City. However, considering the complex geographic situation, local approaches to urban space, valuable colonial architectural heritage deserving preservation, and a complex and abundant water system, the Pilot Plan by Sert and Wiener made a significant contribution.

The 1940s and 1950s was a period of searching for a new architecture and urban conception in Medellín. It was a time of creating new neighborhoods, partly in response to the uncontrolled growth of the city, accompanied by a new way of living supported by modern architectural concepts. This brought significant changes to the urban morphology: from the structure and new guidelines for block grouping to the residential cell itself. Guided by modern criteria, following the principles of the Athens Charter and the new postulates in the Heart of the City, the housing proposals moved definitively away from traditional housing with new layouts, abstractions, and repetitions.

In the overall conception of the Pilot Plan for Medellín, there were conceptual mismatches and variations that aligned with the city's local realities. It became evident that the regulatory plans by mail [33] due to technological and communication difficulties of the time, did not address all of Medellín's actual needs, especially those related to housing. Attempting to impose a residential model completely unfamiliar to the inhabitants, based on the principles of the Neighborhood Unit, greatly disrupted the established routines of individuals, particularly in already consolidated neighborhoods like those in the traditional city center.

The coincidence of the Plan with one of the most violent historical periods in Colombia led to a demographic growth that overwhelmed the city's capacity and urban form. In this context,

33 The lack of on-site presence led to a misunderstanding of many of the realities.

the Neighborhood Unit proposed by Wiener and Sert—one of the most crucial elements of the Pilot Plan—would[34], likely have struggled to accommodate such a large displaced population due to its low-density, porous structure, and high costs, as demonstrated by the experimental Barrio Los Alcázares project. This situation, combined with negative publicity in Revista Proa, affected Sert and Wiener's credibility among some politicians, academics, and professionals of the time.

The introduction of modern urban planning principles in cities like Medellín, which already had an established social, cultural, and economic dynamic and ways of living—many of which retained predominantly rural characteristics—impacted the effective implementation of the Pilot Plan. For Sert and Wiener, adapting many of these elements without deviating from their original vision proved to be a contradictory task. Bridging issues discussed in contexts for large European and North American metropolises with local times, rhythms, and practices required a deeper understanding of the population. Although Town Planning Associates worked intensively with local architects and engineers, as evidenced by archival material, a greater presence of these international experts might have provided a more accurate understanding of the city's daily life and lifestyles.

Regulatory plans in Colombia, particularly in Medellín, were developed in a fragmented manner through discrete sections until well into the 2000s. While this article highlights some of the most significant impacts of the Pilot Plan, further research might be necessary due to the substantial implications these developments have for the current city. The incomplete implementation of the Pilot Plan in Medellín was primarily due to a lack of clear public policies and insufficient resources.

34 The potential for addressing housing needs is evident from local institutional efforts such as the formulation of the "Metropolitan Guidelines for Territorial Ordering" (Área Metropolitana del Valle de Aburrá, 2007a) and the "Integral Metropolitan Development Plan: Metrópoli 2008-2020" (Área Metropolitana del Valle de Aburrá, 2007b). These documents demonstrate that achieving a medium-density housing development (80-120 dwellings per hectare) by 2020 would address the accumulated housing deficit from the years of La Violencia. In contrast, low-density developments such as Alcázares (a Modern working-class Neighborhood in La Floresta), directly advised by Wiener and Sert, would not have had the capacity to accommodate the displaced population.

References

Área Metropolitana del Valle de Aburrá, (2007a). Directrices Metropolitana de Ordenamiento Territorial. Hacia una región de ciudades. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.metropol.gov.co/planeacion/Documents/Directrices-Metropolitanas-de-Ordenamiento-Territorial.pdf

Área Metropolitana del Valle de Aburrá, (2007b). Plan Integral de Desarrollo Metropolitano. Metrópoli 2008-2020. Hacia la integración regional sostenible. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.metropol.gov.co/planeacion/Documents/plan-metropoli-2008-2020.pdf

Aymonino, C. (1973). La vivienda racional: ponencias de los congresos CIAM 1929-1930. Gustavo Gili.

Botero, G. F. (1994). Cien años de la vida en Medellín 1890-1990. Medellín: Concejo de Medellín.

Botero Gómez, F. (1999). Cien años de la vida de Medellín: 1890-1990. Medellín: Universidad de Antioquia.

Costa, X. (1997). Sert: arquitecto en Nueva York. Museu D Art Contemporani de Barcelona,

Costa, X. (2001). La inflexión moderna, centenario de José Luis Sert. Arquitectura Viva, Madrid, Núm. (76), p. 72-75. https://arquitecturaviva.com/articulos/la-inflexion-moderna

Cuervo-Calle, J. J., Schnitter-Castellanos, P., & Múnera-Barrios, M. G. (2021). Ricardo Olano Estrada y los congresos de mejoras (1917-1946). Bases para una planeación urbana en Colombia. Revista de Arquitectura (Bogotá), 23(2). https://doi.org/10.14718/RevArq.2021.2734

Freixa, J. (1979), Josep Ll. Sert. Gustavo Gili.

García Moreno, B. (2000). Región y lugar. Arquitectura latinoamericana contemporánea. Bogotá: CEJA. Centro editorial Javeriano.

Gil, S. J. (1942). La Facultad de Arquitectura y Urbanismo de la Universidad Católica Bolivariana. Progreso. núm. (42) p.1328-1332.

Gómez, P. N. (1950). La arquitectura en Medellín. Pórtico, vol. 1, (núm. 1), pp. 15-25.

González, L. F. (2014). Pedro Nel Gómez: el maestro – arquitecto – urbanista – paisajista, Medellín, Universidad Nacional de Colombia.

Herrán, C. (2013). Los Parques Lineales como nuevas oportunidades de espacio público en Medellín. Universidad Pontificia Bolivariana.

Hofer, K. A. (2003). Karl Brunner y el urbanismo en América Latina. Ancora Editores.

ICTAPR. (1950). Informe del Comité Técnico Asesor para el Plano Regulador. Sala Patrimonial del Centro Cultural Biblioteca Luis Echavarría Villegas, Universidad EAFIT. Código AJUR-C-54.

Jiménez, D. (2019). La Oriental, el trazado que partió en dos el centro de Medellín. El Colombiano. https://www.elcolombiano.com/antioquia/historia-de-la-avenida-oriental-de-medellin-CC11752451

Le Corbusier. (1976). Cómo concebir el urbanismo. Infinito.

Le Corbusier. (1979). La Carta de Atenas. Ariel.

MASA. (1974). La contribución de valorización y la planeación de Medellín. IDEA, DPA, Municipios Asociados del Valle de Aburrá.

Mejía, R. A.; Mejía, A. F.; Mesa, G.; Gonzalo R. (1948). Informe de la Comisión al IV Congreso Panamericano de arquitectos de Lima. Pórtico, vol. 1 (núm. 2), p. 22-40.

Mumford, E. (1997). Los CIAM y Latinoamérica. En: Xavier Costa (ed.), Sert Arquitecto Nueva York. Museu d'Art Contemporani.

Navia, M. (2023). La Avenida Oriental: Una cicatriz en Medellín. Trabajo de grado para optar el título de arquitecta. Universidad Pontificia Bolivariana.

Ortiz, P. (2014). Los parques lineales como estrategia de recuperación ambiental y mejoramiento urbanístico de las quebradas en la ciudad de Medellín: estudio de caso parque lineal La Presidenta y parque lineal La Ana Díaz. Maestría en Estudios Urbano regionales, Universidad Nacional, Medellín.

Perfetti, C. V. (1995). Las transformaciones de la estructura urbana de Medellín. La colonia, el ensanche y el plan regulador. Madrid. Tesis presentada para optar el título de doctor, Departamento de urbanística y ordenación del territorio, Escuela técnica superior de arquitectura de Madrid

Pórtico. (1950). Evolución de Medellín, Pórtico, vol. 2, (núm. 7), p. 10-13.

Restrepo, S. J. A. (2011). Dos voluntades modernas. Disolución y Reinvención en la Unidad Vecinal Modelo del Plan Piloto para Medellín, Medellín, Tesis de grado para presentar el título de Magister en Arquitectura, Universidad Nacional de Colombia.

Restrepo Sánchez, J. A. (2020). Capítulo 2: La unidad vecinal modelo del plan piloto para Medellín. Una aproximación a las determinantes proyectuales.

Restrepo, U. J. (1948). Contrato 143. Sala Patrimonial del Centro Cultural Biblioteca Luis Echavarría Villegas, Universidad EAFIT. Código JRU-C-53.

Restrepo, U. J. (1950). Resolución N. 23 del 13 de febrero de 1950. Sala Patrimonial del Centro Cultural Biblioteca Luis Echavarría Villegas, Universidad EAFIT. Código JRU-C-58.

Restrepo, U. J. (196?). Respetable junta directiva de la S.M.P. Sala Patrimonial del Centro Cultural Biblioteca Luis Echavarría Villegas, Universidad EAFIT. Código , Cód. JRU-C-46.

Restrepo, U. J. (1981). Medellín su origen, progreso y desarrollo. Servigráficas.

Restrepo. U. J. (1957). Conferencia sobre urbanismo, plano regulador y valorización. Alcaldía Municipal de Buga.

Schnitter, C. P. (2007). José Luis Sert y Colombia De la Carta de Atenas a una Carta del Hábitat. Universidad Pontificia Bolivariana, el Área Metropolitana del Valle de Aburrá.

Sert, J. L. (1942). Can our Cities Survive?: An ABC of Urban Problems, their Analysis, their Solutions. Harvard University Press.

Sert, J. L.; Wiener L.P. (1951). Urbanisme en Amerique du Sud, Town Planning in South América. L'Architecture d'Aujourd'hui, núm. 33.

Sert. J. Wiener. P (1950). Contrato del Plan Piloto de Medellín. Archivo histórico de Medellín.

Sert. J. Wiener. P. (1981). Informe del Plan Piloto de Medellín. En: Restrepo, U. J, Medellín su origen, progreso y desarrollo. Servigráficas.

Sert. J.L. (1961). el Corazón de la ciudad. Por una vida más humana de la comunidad. Editorial Científico-Médica.

Spitaleta, R. (2019). Medellín, ¡Cómo te siento!. Editorial Universidad Pontificia Bolivariana.

Vélez, O. C.; Lopéz, Ch. D.; Gaviria, R. M.; Montoya, A. N. (2010). La arquitectura moderna en Medellín. 1947-1970. Universidad Nacional de Colombia.

Zabalbeascoa, A. (1997). Sert en Nueva York, la modernidad humanizada, Arquitectura Viva, Madrid, vol. 53, pp. 70-72, marzo-abril.

Biodata

Juan Jose Cuervo Calle. Universidad Pontificia Bolivariana. PhD in architecture and urban planning from the University of São Paulo. Master in Habitat from the Universidad Nacional de Colombia, Medellín. Architect of the Universidad Pontificia Bolivariana, Medellín. Researcher assigned to the Architecture, Urbanism and Landscape Research Group (GAUP) of the Universidad Pontificia Bolivariana, Medellin Colombia.

Victoria Eugenia Sánchez Holguín. Universidad Pontificia Bolivariana. PhD en Arquitectura, Universidad of Texas, architect of the Universidad Stuttgart, Alemania, Austin. Researcher assigned to the Group of investigation in Arquitectura, urbanismo y paisaje (GAUP) of the Universidad Pontificia Bolivariana, Medellín- Colombia.

David Vélez Santamaria. Bachelor of Architecture (National university Colombia), has a Master degree in Architecture criticism (Pontifican Bolivarian University UPB). Professor and researcher at UPB – History and Theory of Architecture area. His work is currently focused on the criticism of architecture and the design, latin american modern architecture, contemporary movements and curatorial practices.

Diana Catalina Álvarez Muñoz. Research teacher of the Architecture, urban planning and landscape group. Architect degree from the National University of Colombia (1998) with a master's degree in territorial planning and regional development from the University of Barcelona, Spain (2002). University teacher in Urbanism at Pontifical Bolivarian University (Medellín, Colombia) since 2007.