

**Framing Dispersal**  
**Urban Strategies for Mexico City's Sprawl**

by Gabriel Kozlowski  
Bachelor of Architecture  
Pontifícia Universidade Católica, Rio de Janeiro, Brazil, 2011

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Signature of Author: \_\_\_\_\_  
Department of Architecture  
May 21, 2015

Certified by: \_\_\_\_\_  
Rafael (Rafi) Segal, PhD  
Associate Professor of Architecture and Urbanism

Accepted by: \_\_\_\_\_  
Takahiko Nagakura  
Associate Professor of Design and Computation  
Chair of the Department Committee on Graduate Students

|

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# Framing Dispersal

## Urban Strategies for Mexico City's Sprawl

by Gabriel Kozlowski

Submitted to the Department of Architecture on May 21st 2015,  
in partial fulfillment of the requirements for the degree of  
Master of Science in Architecture Studies at the Massachusetts Institute of Technology

### ABSTRACT

Within the framework of Mexico City's urban sprawl, this thesis investigates one specific type of territorial occupation: the urbanization of subsidized housing developments on the periphery, which accounts for 17% of the city's total urban footprint, and has generated unlivable neighborhoods. Understanding urban design as a tool to critically address Mexico City's current mode of expansion, the thesis proposes strategies to revert this process. More specifically, it develops a conceptual as well as a design solution at four scales: a *project for the city*; a *new paradigm for the existing housing developments*; an *urban design intervention* for three of these developments; and a *set of new building typologies* to replace the current housing model. This approach that engages with Mexico City's urban problems through an analysis of the periphery has been previously neglected. With this study, I hope to open a broader discussion on urban design, and the role it can play in the future of Mexico City.

### Thesis Supervisor

Rafael (Rafi) Segal, PhD  
Associate Professor of Architecture and Urbanism

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# **Framing Dispersal**

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Urban Strategies for Mexico City's Sprawl

## **Thesis Supervisor**

Rafael (Rafi) Segal, PhD  
Associate Professor of Architecture and Urbanism

## **Thesis Reader**

Arindam Dutta, PhD  
Associate Professor of the History of Architecture

## **Thesis Type**

Research + Design

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adaptation to conform  
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For the original see  
gabrielkozlowski.com*



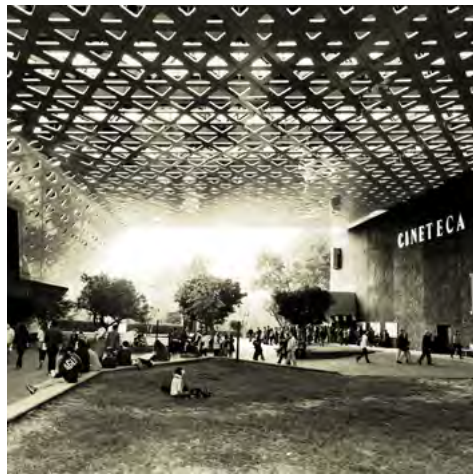
*Preface* | **Notes from within**

While doing my initial research on Mexico City, and long before defining my thesis, I came across a text by Jose Castillo that said, if you fly to Mexico City you should take a left window seat on your way in and a right one on your way out in order to see the city from above. After some months, when my research got serious, I received a MIT grant (MISTI) to visit the city, and this advice indeed proved itself very useful.

Arriving in Mexico City on a clear day is an impressive experience. You can see this enormous city stretching endlessly throughout the territory. It is difficult to recognize the borders and limits, of both the city with its surrounding landscape, and the neighborhoods in-between. The city fabric is, at first glance, homogeneous. Apart from the business districts such as the one along Avenida de la Reforma, the city's urbanization follows a pattern of low-density constructions, two- or three-floor buildings, confined on an orthogonal, Cartesian street grid. The grid pattern is only disturbed by the large industrial footprints on the northwest of the city and the slums that encircle the bottom half of the hills. The dramatic effect of the continuous extension of the grid is accentuated by the pollution that blurs the horizon, hiding the outskirts of the city while merging the grey sky with the built ground.

The purpose of my travel to Mexico City was to move away from my research desk and experience the object I had so coldly been studying. Through reading, writing, collecting data, and drawing maps one gets too confident about their knowledge of a city to the extent that it seems worthless to visit it. However, the presence of a city is undeniably powerful. Visiting a new city with the purpose of understanding how it works is an experience of immersion that can rapidly change many of the preconceptions and assumptions that one had before; it gives a granularity of textures, colors, sounds, smells, and memories to the before ink-and-paper maps, which transforms one's analytical reading.

Mexico City smells like fried oil. There seems to be one taco stand for every two street corners, and these are the best places to eat.





Mexico City balances between the formal and the informal, with those stands representing one aspect of this informality. While the formal is concerned with order and cleanness, assuring high end places suitable for tourism and propagation of a specific image of the city, the informal gives life to the boredom of those places and are a genuine expression of culture. This informality is sufficient to make you constantly aware of your surroundings but not extreme enough to make you uncomfortable. This adds a layer of unpredictability to the experience of the city, which builds a fertile ground for creativity – the way people assemble their temporary kiosks, carry and sell goods, and provide specialized services on the streets – that sets the rhythm of their daily lives.

Coming from Brazil, I am used to this coexistence between formality and informality, yet in Mexico the two seem to inhabit more extreme poles. Depending on where one goes, Mexico City can be both perceived as a first world city, with many beautifully design museums with priceless collections, shinny towers, and well kept parks with free wi-fi; or as the worst of a third world city with extreme poverty, poorly built houses, and a lack of basic infrastructure. The Mexico City I visited is somewhere between the two: the first half of the trip I spent on the city core, that relates to the former description, and the second half, I begun my excursions to the peripheries, up to the edge of the city.

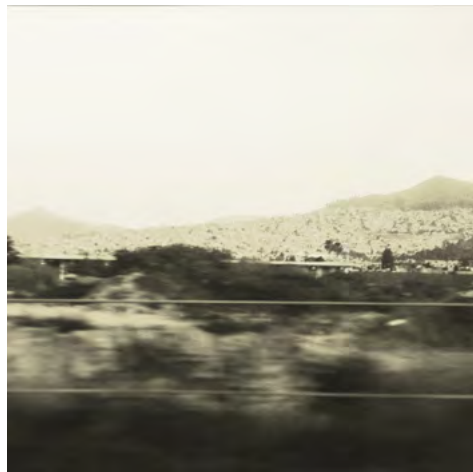
Although it is easy to identify a center in Mexico City because of the Zócalo, to understand what is periphery is a bit more complicated. If it is to be defined geographically, in relation to the built area, than the periphery of the city is pushed 30 km far into the state of Mexico. However, if the periphery is defined by its political relation to the city's governance, then the marginalized or peripheral areas form a thick ring around the center that represents 80 per cent of the city. The periphery I am interested in is the one that started to be built in the 60s, which comprises neighborhoods solely built of subsidized housing developments. These neighborhoods are peripheral in the two senses mentioned above: they are both underserved and politically excluded form the city's decisions, and occupy the most distant, peri-urban, sites.



The subsidized housing neighborhoods have become the urbanization model of Mexico City's growth. This is a model that was imported along with neoliberal measures where individuality is the most important quality of a person, and to own a house with a private garden and a car is one's highest achievement. Urbanization is reduced to the simple provision of shelter. These neighborhoods are created out of the restless multiplication of one type of single-family house, without proper provision for basic infrastructure, disconnected from mass transportation lines, and lacking public spaces and amenities. They are built on cheap land on the limits between the city and the countryside, normally sharing borders with agricultural fields or vacant lands.

The two most interesting examples of this type of neighborhood I visited are each located 30km away from the Zócalo. Northwards, I took the Tren Suburbano until the neighborhood of Cuautitlán; and southeastwards, I went to visit San Buenaventura, a fraccionamiento – as those types of housing developments are called – in Ixtapaluca, the case study of my thesis.

The effect of the massive repetition of one housing type and the homogeneous landscapes it generates is overwhelming. Once inside, these neighborhoods seem to have no end, with the pattern of houses only occasionally interrupted by empty lots overgrown by weeds. The search for identity to escape homogeneity comes through the owners in the form of the colors used and the self-built extensions either on the front yard or on top of the house. Although densely built, both Cuautitlán and San Buenaventura were very quiet; I could walk minutes and meet very few people. As a matter of fact, because of the intentional exclusion of other programs or uses from the design of those places, they ended up becoming dormitory cities. As if reviving a failed modern dream, sleeping is again an activity to be separated and performed on the suburbs. Today, 40% of the units in these types of neighborhoods, throughout Mexico City, are vacant by failing to provide a more contemporary way of living, one necessary to survive in this metropolis.



As an answer to the growth of the city, it is clear that this model is not working. In the coming future, a change in strategy now could mean a major restructuring of the role of the periphery in relation to the city. These places have the potential to become a key component in the large-scale transformation of Mexico City. Because of its edge condition, the neighborhoods can act as either barriers to the city growth, absorbing the growth while imposing a physical limit to it, or as seeds for decentralization, developing as satellite poles of agglomeration. Regardless of the strategy, the most important thing is to recognize the need to break with the current process of urbanization and rethink what housing provisions should mean.

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## Introduction

This thesis engages with the phenomenon of urban sprawl and its outcome, the periphery. The term *periphery* defies a fixed definition for it is in constant mutation and differs significantly from city to city; in fact, for many cities it has yet to be conceptualized. In this work, the specificity of the term is studied in the context of Mexico City. Rather than studying the more consolidated, formal parts of the city, attention is directed to the periphery because that is where I believe the biggest challenges of the contemporary city lie. Especially in developing countries, the periphery, while being the largest area of the city, is also the most overlooked by the government, where urbanization is often left to chance.

Mexico City's urbanization follows a persistent pattern of low-density environments and horizontal dispersion, which generates the impression of a city that stretches endlessly throughout the landscape. The spreading of the city inhabits a thin line between spontaneous, uncontrolled growth, and an articulated tactic to generate territory and expand the city's sovereignty. The coexistence of these two conditions, and the pace at which the city grows, creates a periphery that is constantly expanded through an uncritical replication of only a few urbanization patterns. More specifically, Mexico City's periphery is constituted mainly by two urban patterns that together account for approximately 60 per cent of the city's total urban footprint: the informal settlements of the *colonias populares*, and the subsidized housing developments, or *conjuntos habitacionais*.<sup>1</sup> The focus of this research is on the latter.

I chose to investigate the urbanization of Mexico City's subsidized housing developments because, contrary to informal settlements – where urban design is commonly not the conscious result of one form of urbanization over another, but rather the outcome of organic processes at the moment of its implementation – the housing developments are *de facto* planned projects. Secondly, they are mono-functional private enclaves that were not designed to negotiate with their surroundings and that lack a public sphere: the streets are their only public spaces. Lastly, they are a particular formal manifestation of capitalism – reproducing into the physical space its mentality of programmed accumulation and multiplication – taking place over the last twenty years, and therefore a type of spatial production that has

<sup>1</sup> Priscilla Connolly, "Tipos de Poblamiento En La Ciudad de México." (Observatorio Urbano de la Ciudad de México. Departamento de Sociología Área de Sociología Urbana, 2005): 25.

Felipe Correa and 2  
 Carlos Garcíavelez Alfaro,  
*Mexico City: Between  
 Geometry and Geography*,  
 Bilingual edition (Applied  
 Research & Design,  
 2015).

Esther Maya Pérez 3  
 et al., La producción  
 de vivienda del sector  
 privado y su problemática  
 en el municipio de  
 Ixtapaluca (México, D.F.:  
 Universidad Nacional  
 Autónoma de México,  
 Facultad Arquitectura,  
 Investigación y Posgrado :  
 Plaza y Valdés, 2005).

recently shown its consequences.

Up until now, the issue of Mexico City's urban sprawl, in general, and the urbanization of the subsidized housing developments, in particular, has barely been addressed, neither practically nor academically. Apart from brief written or visual essays stating the overall problem, the city's growth has found little resistance exactly because there is no understanding of what this growth has generated, or because those who do understand are not financially or politically interested in changing this system. Recently, while I was defining the body of my research, Felipe Correa and Carlos Alfaro published an analytical study of Mexico City's urbanization.<sup>2</sup> This book is the first of its kind to address a wide range of topics about how the city is structured and its urban history through mapping tools. However, because of its general coverage, the book does not devote time, or attention, to research the complexities of the periphery. It understands the whole city as one continuous object of interest, inevitably ending up, as any overview does, overlooking the nuances of the different parts. Similarly, the history this book introduces is a brief urban evolution of the whole city, while the one I present in my thesis engages with the specific moments of the 20<sup>th</sup> century responsible for creating the form and the contemporary urban environment of the periphery. In terms of the second issue, the urbanization of the subsidized housing developments, not much has been written that provides a critical view on the subject. One of the exceptions is the contribution from Esther Maya Pérez whose book on housing production in Ixtapaluca offers thoughtful insights about this process.<sup>3</sup> Although Pérez develops applied research on the periphery, her aim is not to offer design solutions. Conversely, Correa and Alfaro do propose a design solution by showing how mass-transit projects can be used to rethink an "urban agenda", yet they do not give attention to the periphery.

This thesis fills this gap with a narrative structured as follows: research on Mexico City's urban evolution [*history*]; an investigation on the condition and form of Mexico City's territorial dispersal [*analysis*]; a projection of how the city can deal with its urban sprawl and the subsidized housing developments in the coming years [*prospects*]; a selection of an intervention site and its analysis [*place*]; design strategies

to create a framework for the intervention [*foundations*]; and urban and architecture projects to intervene in the housing neighborhoods [*proposal*].

Within this structure, I present the design work at four scales: a *project for the city*; a *new paradigm for the existing housing developments*; an *urban design intervention* for three of these developments; and a *set of new building typologies* as a substitute to the current housing model.

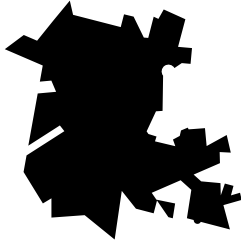
The project for the city addresses the general condition of territorial dispersal from the point view of Mexico City's metropolis. It builds upon an understanding that continuous urban sprawl is detrimental, arguing for the necessity of limiting physical growth by consolidating a border for the city. The border institutes a finite city form that establishes a clear distinction between the areas that should continue the urbanization process, from the areas that should de-urbanize to become again rural, productive landscapes. The act of defining a physical limit is also an act of framing the city, and so in doing deals with questions of control, manageability, legibility, and political intention towards the urban environment. Within a project of framing the city, the second project scale reconsiders the role of the subsidized housing neighborhoods: they can be seen as highly strategic sites for the city, rather than remain detached and neglected. In other words, instead of being on the outside, they can be perceived as border elements, materializing the limits of the urbanized area. Their strong, fixed form would act as legible demarcations for a former undefined field.

The third project scale is an urban design intervention. This thesis understands that urban design can be a means to critically address the failed models of urbanization created in the 20th century and replicated in Mexico City even now. It proposes that there are new ways to reuse these developments' existing infrastructure, including its buildings, in order to reverse the process of urban dispersal. Through strategic spatial interventions, these housing neighborhoods that are partially underused, partially vacant, can be redesigned into new and better urban environments, and accommodate the city's future growth. In order to do so, I selected a group of three adjacent housing neighborhoods as a case study, proposing an urban

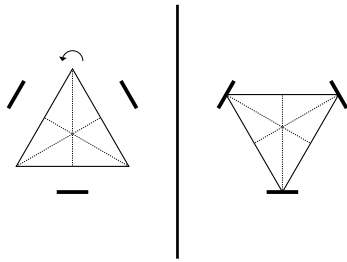
plan to gradually change their form, their purpose and the way they operate, among themselves and in relation to the larger metropolitan context. The design transforms the three individual, mono-functional neighborhoods into one independent urban center. Finally, the fourth scale treats the building as the decisive unit to change the future of the city. By redesigning the housing typologies that have been used for the lower classes, it is possible to create a completely new and better urban environment that can physically and conceptually change the way the periphery is built.

To sum up, this thesis interrogates the specificity of Mexico City's current condition of territorial dispersal, and the urban models generating and replicating it. The solutions I offer are multi-scale design projects intended to open critical debate about Mexico City's urbanization and about the role of urban design in shaping the form of cities.

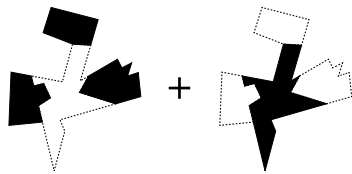
4 scales



*Project for the city*



*A new paradigm for the subsidized housing developments*



*Urban design*



*Building Typologies*

**This thesis understands that urban design can be a means to critically address the failed models**

of urbanization created in the 20th century and replicated in Mexico City until the present days.



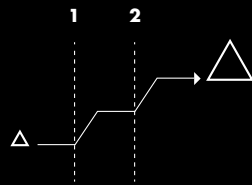
1. Urban evolution of Mexico City

Movement from city to countryside

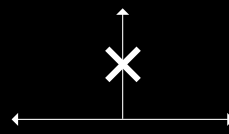
*conceptual reference:* Ambrogio Lorenzetti's "Pallazzo Pubblico Siena 1332." The painting depicts the period the countryside becomes no longer dangerous, opening up the possibility of inhabiting it. The formal city expands out from its defense walls, and a new typology of building is created: the aristocracy's countryside house.



1  
**Urban Evolution of Mexico City**  
history



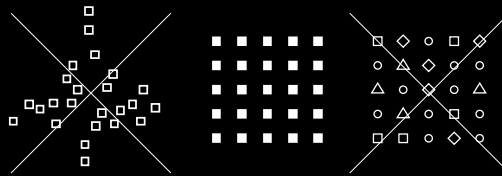
Key Historical Moments



Conditions of Sprawl



Agreements and Policies



Specific Type of Urbanization

This part of the research was written with the intention of understanding why Mexico City's urban environment is the way it is; why does the city have this form; and which were the key moments that defined its current conditions and model of urban sprawl. The six periods discussed over this paper summarize the history of Mexico City's urbanization. During those periods, sometimes one decision, sometimes the combination of multiple factors, had strong, large-scale, and lasting impacts on the form of the city. Like imprints on the internal layers of a tree, the results of these moments can still be recognized on the city fabric of today. Each one in its time, they have defined the way the city would grow and what that growth would look like. By identifying those moments, and naming them according to their main spatial outcome, it became possible to grasp what the visible urban patterns of the city correspond to, thus opening a window through which address each one specifically. The paper started from the assumption that the strongest urban characteristics and form of the built space were the result of partially failed attempts to replicate or adapt foreign models of urbanization. That was confirmed throughout the research: as an example, the persistence of low-density urban environments, of three-story high buildings, that constitute the bulk of the city has its roots on the vision of the Garden City; or the countless neighborhoods generated out of the replication of one type of single-family house, was the result of the adoption of neoliberalism with its American ideology of individualism, and as an extension, property ownership. By understanding those connections, Mexico City moves from being this ungraspable urban conundrum to be seen as the result of an overlap of very clear and specific urbanization models.



## Context

Since the term megacity was coined in the end of the 1980s, Mexico City has been taken as an example of the crisis scenario of it.<sup>1</sup> Every number that expresses the country's growth, for either the good or the bad ends of the spectrum, is exorbitant: from the GDP, the amount of new companies per year, and the birth rate, to the crime, corruption, and social segregation rates. The accelerated growth that was triggered with the country's economic miracle during the middle of last century, arouse a massive internal migration to Mexico City, which accounted for a significant part of the demographic jump that the city experienced – from 1.6 million in the 1940s, to 6 millions around 1960, and 20 million in the turn of the century. Since the 1970s, 90 per cent of this population growth happened in the peripheries;<sup>2</sup> the city grew uncontrolled, spreading outwards throughout the territory. Because of the defective intervention from the government, and concurrently, the international capital flooding the country with huge investments on the real estate industry, land speculation became a widespread, highly profitable activity. Following the scale of the city, the subsidized housing developments also became *mega*, representing 17 per cent of the urban territory and comprising of 660 million homes.<sup>3</sup> Thus, unlike the State, planning authorities, or architects, and along with the communities' self-organization, real estate developers soon became major figures in shaping the physical aspect of the city growth.

Mexico City's urbanization has followed a specific and persistent pattern of low-density neighborhoods and horizontal dispersion. A type of dispersion generated by the replication of no more than three or four approaches to city building. The city appears to have expanded by a simple arithmetic repetition, calibrated to generate figures to satisfy statistics and those who capitalized on that. To illustrate this, the famous "Two million homes for Mexico" built in less than five years were carried out by a group of about five contractors and has done nothing to relieve the problem of housing shortage: 40 per cent of those houses are empty due to their inability to provide the minimum living standards. Furthermore, the government's withdrawal from the planning of this growth, resulted in a lack of provision of basic infrastructure to those rapid expanding areas of the

**1** José Castillo, "After the Explosion," in *The Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society*, by Richard Burdett et al. (London: Phaidon, 2007), 174.

**2** Wendell Cox, "The Evolving Urban Form," *New Geography*, accessed December 4, 2014, <http://www.newgeography.com/content/002088-the-evolving-urban-form-the-valley-mexico>.

**3** Priscilla Connolly, "Tipos de Poblamiento En La Ciudad de México." (Observatorio Urbano de la Ciudad de México. Departamento de Sociología Área de Sociología Urbana, 2005): 25.

Diane E. Davis, 4  
“Whither the Public  
Sphere: Local, National, and  
International Influences on  
the Planning of Downtown  
Mexico City, 1910-1950,”  
*Space and Culture* 7, no. 2  
(2004): 193–222.

city, deepening the inequalities between the more developed and fixed city core and the growing periphery. The result is an apparent endless field of flat and precarious urbanization.

Mexico City represents a large-scale failure of capitalism’s mechanical production of dwellings. If the 20th century saw the project of the soviet communal housing fall apart, the 21st century is denouncing the need to rethink the model of the massive multiplication of single-family private houses. Understanding this phenomenon in a location where it is ubiquitous, and that simultaneously contain a very strong national identity and is inserted in a network of international cultural imports, was crucial for this research; therefore allowing the work to be developed both specifically as well as generically in relation to its context.

### **The symbolic image of the center towards the periphery**

Diane Davis in “Whither the Public Space: Local, National, and International Influences on the Planning of Downtown Mexico City, 1910-1950”<sup>4</sup> discusses the urban evolution of downtown Mexico City in the light of the city’s understanding of its public sphere. The paper is aimed towards the practical side of urban planning, even before it was recognized as a profession, and the major political decisions that were constantly transforming the city’s downtown, especially throughout the first half of the 20th century. It discusses the shifts between the different views of what the city should be, and how that shaped its urban environment and expansion. Along the history of the plans for downtown, Davis implicitly tries to make visible the answers to the questions such as: “what is public,” “where should the public sphere reside,” and “who should ‘the idea of the public’ represent.”

In the opening of the text, Davis argues for focusing the research on the downtown areas of the city. Davis starts by acknowledging the historical aspect of it: the current downtown area was the city even before it expanded to the point where it made sense to distinguish the downtown from the rest of the city. Furthermore, Davis elaborates on the notion of centrality, of the downtown’s symbolic image as the heart of Mexico (with the Zócalo being its

maximum representation), both for the public imagery and for the idea of the city as a recognizable unit. The other aspect Dave raises is the downtown's political constitution as a place where the struggle for defining the public sphere of the city occurred. Generally, the notion of the downtown as the core of the city was maintained for many decades, and the policies and decisions applied to it affected all the other regions and guided the way the city was structured.

The more we push the periphery out of the research focus, the harder it is to understand it especially because of its continuous growth. As opposed to the downtown and the more consolidated bourgeois neighborhoods of the city, the periphery is not a fixed urban entity that can be defined by an area and what it contains, but rather is subjected to a constant process of expansion and redefinition of its limits. The periphery grows through a process of thickening: as the city spreads outwards, what was considered periphery yesterday is added to the recent peripheral area of today. In the case of Mexico City, due to its consistent urbanization pattern of low-density neighborhoods and a population influx of ten people per hour,<sup>5</sup> the urban expansion is a synonym for urban dispersal, and this dispersal can be seen as the process of thickening in itself. Because the city fails to provide the proper infrastructural provisions for those areas in expansion, they become subject to their communities' self-organization and peripheral, not just physically but also in relation to the city's governance. Hence, this growing periphery is excluded from the formal territorial organization of the city, enlarging their disparities in relation to the downtown.

Although Diane Davis' research is immensely important and is the basis for many arguments here, her point of view is diametrically opposite to the one proposed in this paper. The mentioned reasons to talk about the center are used here exactly as reasons to *not* talk about the center. If the center is the place that is representative of the city, one should ask which are the places that are not representative and not remembered; the places that are not the aim of public interventions but are formed from the externalities out of the politics that shaped the places that are. In this paper, the history in play is the history of the urban evolution of the city's edges: a shift in focus from center to periphery. By addressing the questions of how the city expanded the way it did; what the models were that this expansion followed; what

5 Richard Burdett et al., *Living in the Endless City: The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society* (London: Phaidon Press Ltd, 2011).

Davis, 6  
 “Whither the Public Sphere.”:  
 197.

Ibid.: 197. 7

Alfonso Valenzuela 8  
 Aguilera, “Green and  
 Modernity: Planning  
 Mexico City, 1900-1940,”  
 in *Greening the City: Urban  
 Landscapes in the Twentieth  
 Century*, by Dorothee Brantz  
 and Sonja Dümpelmann  
 (Charlottesville: University of  
 Virginia Press, 2011), 40.

Davis, 9  
 “Whither the Public Sphere.”:  
 197, 198.

the key events were that had the most extreme and lasting spatial footprints on the city fabric, this paper presents what I consider the key historical moments that built up the path for the current mode of urbanization of Mexico City’s periphery and its growth throughout the 20th century.

### **Bisection**

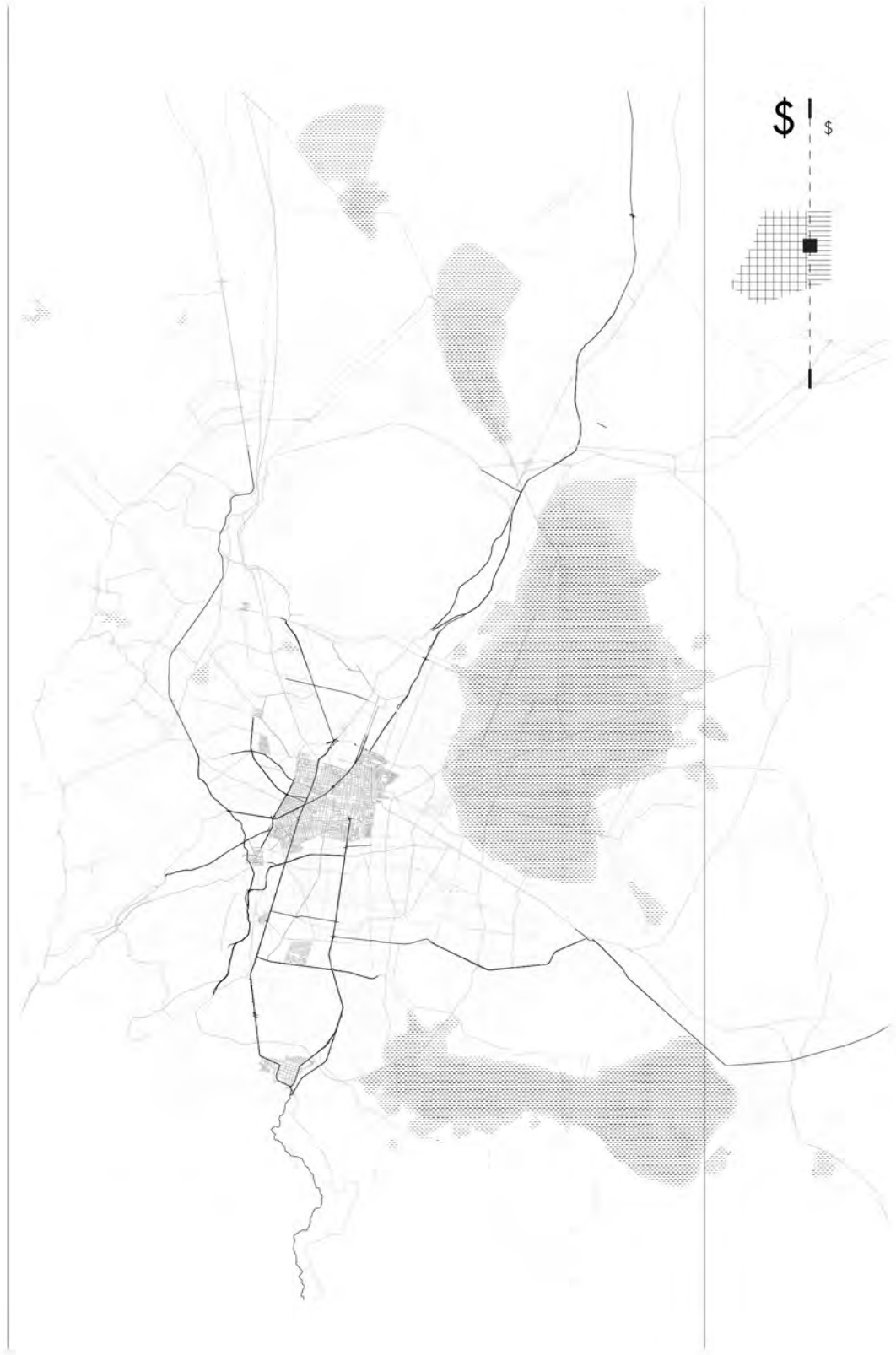
*mid19th c. to the beginning of 20th c.*

The first significant move towards expanding Mexico City happened around the 1860s under the French Emperor Maximilian, who during the French invasion of Mexico in 1861 declared the country a monarchy. In this period, Maximilian built the *Paseo de la Emperatriz* (which after the re-establishment of the Republic was renamed as *Paseo de la Reforma*) as a way to link the center of the city to his palace at Chapultepec Park.<sup>6</sup> The *Paseo*, inspired by the French boulevards such as *Champs-Élysées*, was a huge infrastructural intervention that opened ground for the future development that would take place some decades later during Porfirio Díaz’s regime.

The late 1880s saw a wave of private investments on areas along the *Paseo de la Reforma*. At that time more roads had been built south and westwards, mainly to provide access for the wealthy to their weekend “country” homes, and many of the open plots structured by the road system were vacant, building a propitious scenario for speculation and new constructions. The city growth towards west was mainly supported by the commercial business elite and real estate developers, connected to the political group of Porfirio, who sought to shift the center away from the Zócalo to the newer neighborhoods.<sup>7</sup> During this time, the government relaxed taxes and provided licenses to stimulate real-estate development for national and international investors, and as a result districts with modern infrastructure, such as Roma, Juárez, Hipodromo Condesa, and Santa Maria la Rivera were built for the higher classes.<sup>8</sup> This shift seemed of interest of the bourgeoisie because their occupation in direction of *Paseo de la Reforma* left the area around Zócalo, especially those from the east, to be occupied by the lower classes, including the increasing number of indigenous immigrants that came to the city around that time.<sup>9</sup>

The end of the 19th century and beginning of the 20th





For first plan for **10**  
the Mexico City was  
formulated in 1889 by  
Salvador Malo and strongly  
influenced by Haussmann's  
ideas.

Davis, **11**  
"Whither the Public Sphere":  
198.

century, was a moment of French influence for many Latin American cities. The addressing of the concerns with hygiene and public health in cities had its apotheosis with Haussmann's plan for Paris, and was imported by many cities such as Montevideo, Buenos Aires, Rio de Janeiro, and indeed Mexico City.<sup>10</sup> Each of these cities had their large avenues opened around this time: Montevideo's *Artigas Boulevard* in 1878, and *Rambla* in 1910; Buenos Aires' *Avenida 9 de Julio* from 1888 to 1935; and Rio de Janeiro's *Avenida Rio Branco* in 1903. The mission to "civilize" and "modernize" colored the turn of the century in these cities. In Rio de Janeiro, for an example, this period was marked by the slogan "*O Rio civiliza-se*" (Rio civilize itself), and the city saw the destruction of many poor housing for the sake of progress and hygiene.

This was not different in Mexico City. The drive to "civilize" the city led the state to intervene in poor areas and "embellish" the downtown by removing unwanted uses from it, such as prisons and hospitals. . The poor, along with those public equipment, were relocated to the periphery, allowing the private and foreign sector to capitalize on that by building the new suburbs. At the same time, the center was being flooded with commercial programs to satisfy the elite's need for consumption, materialized by the building of large Parisian-department stores.<sup>11</sup> Thus, a strong image of what the city should be was formulated, and had defined a standing point and a *modus operandi* of how to act on it in order to achieve this vision. As an extension, a mentality of what the periphery meant was created, setting the ideological ground for many of the future interventions in the inner and outer parts of the city. At this moment, the periphery was not the city, but an undesired outcome that nevertheless could generate profit for the real estate developers.

In the end, Mexico City's "modernization" and expansion to the west and southward direction were two factors that strongly contributed to a clear division of the city between rich and poor, west and east. The impact of such division was profound in the city, to the point it is still visible on today's city fabric. Furthermore, it was not a geographical division only, but also a conceptual one (that had many outcomes throughout the century): the periphery, instead of a continuation of the center, was the center's opposite, and therefore could only serve for speculation and to house the center's unwanted

programs and people. This condition, however, did not hold much, being clearly destroyed on the second half of the 20th century when the “periphery” became bigger and more representative than “the city.”

### **Garden City**

the paradigm of low-density *1910 to 1940*

The first wave of modernization (and social exclusion) of the beginning of the century was interrupted in 1910 by the explosion of the Mexican Revolution, which put an end in the seven-term reign of the President Porfirio Díaz. From then on, the city experienced a gradual shift in its management from an elitist progressivism to one concerned more with the middle and popular classes. A new model of understanding the city accompanied this new mentality: if before it was the authoritarianism of Haussmann, at this moment the city’s spatial diffusion and social welfare, disseminated by the Garden Cities’ model, were the inspirations.

In the years following the revolution, social awareness was moved to the center of the discussions about city planning, and measures were provided to address some of the concerns surrounding this topic: from basic infrastructure – new roads were built to connect the center to peripheral areas, which is the case of Avenida Insurgentes – to more elaborate discussions about the public sphere of the city.<sup>12</sup> During this moment Mexico City saw a great influx of rural immigrants, the neighborhoods and streets were crowded, and there were almost no public or green spaces to provide a relief from the harsh reality of urban life. Facing these issues, some individuals exerted great influence in the course of the city growth that had lasting effects on the urban fabric.

In the greater picture, Ebenezer Howard’s garden cities, Jean Claude Forestier’s *systèmes de parcs*, and Patrick Geddes’s regional planning ideas were the reference, however more interestingly is discuss how their ideas were translated to the Mexican context through some intellectuals in the planning elite.<sup>13</sup> Miguel Angel de Quevedo, under the guidance and mentorship of Forestier, was one of the main figures in this scenario. De Quevedo was an engineer born in Guadalajara, with a degree on Agriculture Hydraulics and Maritime Engineering acquired in France, who tried to “reformulate Mexican

<sup>12</sup> Ibid.: 202.

<sup>13</sup> Aguilera, “Green and Modernity: Planning Mexico City, 1900-1940.”

Emily Wakild, **14**  
 “Naturalizing Modernity:  
 Urban Parks, Public Gardens  
 and Drainage Projects in  
 Porfirian Mexico City,”  
*Mexican Studies/Estudios*  
*Mexicanos* 23, no. 1 (February  
 1, 2007): 101.

Davis, **15**  
 “Whither the Public Sphere.”:  
 204.

Wakild, **16**  
 “Naturalizing Modernity.”:  
 110.

Aguilera, **17**  
 “Green and Modernity:  
 Planning Mexico City, 1900-  
 1940.”: 43.

*Ibid.*: 39. **18**

Davis, **19**  
 “Whither the Public Sphere.”:  
 203.

Aguilera, **20**  
 “Green and Modernity:  
 Planning Mexico City, 1900-  
 1940.”: 41.

nature and its citizen.”<sup>14</sup> Facing the country’s rapid industrialization and urbanization, de Quevedo condemned the living condition of the urban population while strongly argued for the planning and introduction of parks and green spaces in the city as a means to ameliorate those conditions. In his view, the open green spaces of the city could function both as a remedy for the unhealthy urban congestion, as well as an instrument of democracy: they offered a more equalitarian concept of what the public sphere should be.<sup>15</sup>

De Quevedo was very influent among politicians and planners. He worked closely with José Yves Limantour, who, besides sharing de Quevedo’s view of the city and a lover of nature, was the president’s principal advisor.<sup>16</sup> That helped him to disseminate and implement his principles for building a Modern Mexico: in 1903 de Quevedo was appointed the head of Mexico City’s Department of Parks and throughout his career he increased the amount of public open spaces from 2 to 16 per cent of the territory, and created more than forty national parks.<sup>17</sup>

Right after the Agrarian Revolution of 1911, de Quevedo published a paper that had much influence in Mexico planning condemning the health conditions generated by the urban agglomerations while arguing for a country life and the creation of building standards in the city, such as building heights and road widths.<sup>18</sup> A decisive factor in de Quevedo’s view was his argument for the preservation of the “Latin City,” which he saw as dependent on its low-density character.<sup>19</sup> Therefore, height restrictions became central to his policies, conditioning the city growth to further spread throughout the territory.

De Quevedo was introduced to Ebenezer Howard’s garden city ideals by the architect José Luis Cuevas Pietrasanta. Cuevas was an academic who played a big role in spreading Howard’s ideas through his teachings of urban planning in the National School of Fine Arts and National University of Mexico, and his practical work, such as “the first two garden cities of Mexico: Chapultepec Heights (1922) and the Hipodromo Condesa (1929).”<sup>20</sup> To illustrate the penetration and acceptance of the garden city model in the Mexican context, Alfonso Aguilera highlights the note about the former project in the *Mexico City Monthly Review*:

“The modern city suburb is not country in the old sense: it is



Ibid.: 42. 21  
 Juan José Gutiérrez 22  
 Chaparro, "Planeación  
 Urbana En Mexico: Un  
 Análisis Crítico Sobre Su  
 Proceso de Evolución.  
 (Spanish)," *Urban Planning in  
 Mexico: A Critical Analysis of  
 Its Evolution Process. (English)*  
 12, no. 19 (May 2009): 58.

Davis, 23  
 "Whither the Public Sphere.":  
 210.

Ibid.: 211. 24

a transformation of city into a country of the fusion of the two. (...) It offers the ideal, most sensible, most healthful as well as economical manner of living. The proof of this is the fact that every large American city today is surrounded with lovely, garden-like suburbs inhabited by a healthy, happy, hard-working population, and there is an eloquent proof that such a population might also live in Mexico City. This proof is the remarkable success of Chapultepec Heights, the first Garden City of Mexico."<sup>21</sup>

Urban planning in Mexico (Planeación Urbana) emerged as an outcome from the post-revolutionary period of national reconstruction and was adopted in the beginning of the 1920s as an instrument for urban intervention. Its main precursor was the architect Carlos Contreras who, trained in the US, based the conceptual body of Mexico City's urban planning in the ideas of functionality and public health of modern international urbanism. Contreras was an advocate of formalizing urban planning as a scientific discipline in order to make it be adopted and acknowledge by the city's inhabitants and authorities.<sup>22</sup> This process led to the establishment of the first Planning Commission of Mexico City in 1928, the first Regional Plan for Mexico Valley in 1928, the first Zoning Law in 1931, and the first Comprehensive Planning Law in 1933.<sup>23</sup>

The connection between Contreras and the Garden City ideas came from his position as the architectural director of the *Asociación Nacional Para la Planificación de la República de México* (National Association for the Planning of Mexico's Republic). The *Asociación* was organized in parallel to the city's Planning Commission in 1928, and through its monthly publication disseminated urban planning practices of other parts of the world to "lay the intellectual foundations for the acceptance of planning in Mexico." Among the *Asociación's* international founding members was Ebenezer Howard himself.<sup>24</sup> Thus, the "foundations for the acceptance of planning" were exactly being built under Howard's influence.

In 1933, Carlos Contreras headed the "Development Plan for Mexico City 1935-1985," which was intended to define the future growth of the city. The plan envisioned a series of new public parks and forests, revitalization of old parks, nationalization of private parks, suburban residential development driven by the extension of

avenues and the implementation of electrical trains for both middle- and working-classes, land uses changes, among others. The plan was not only designed from Contreras' ideological position, but also as an investment scheme by stressing its economic profit-based inclination. By making the plan interesting for investors, Contreras was at the same time guaranteeing its implementation, while fighting for a more green, healthy and socially oriented city. In order to support the creating of new parks, for example, Contreras quoted reports from the American Association for the Scenic and Historic Transportation of the United States which showed revenue figures from the U.S. main parks that summed up to 1 billion dollars per year. Although not fully implemented, the plan was highly disseminated and set the physical infrastructure necessary for Mexico's economic miracle to take place: its vertiginous growth between the three decades from 1940 to 1970.<sup>25</sup>

### **Towards outside**

industrialization driven urbanism *1940s – 1970s*

From the Mexican Revolution to the 1940s, Mexico built the foundations for the fast economic growth that the country would experience in the next decades. With measures such as the establishment of the Constitution of 1917, which fostered the unity of the nation, and therefore of the state, while empowering the labor sector; the formation of the center-leftist party PRI (*Partido Revolucionario Institucional*) in 1929, also described as a “state party” with fully decision-making autonomy;<sup>26</sup> the Mexican oil expropriation of 1938, in which the country nationalized all the petroleum reserves and facilities operated by foreign companies; and the import-substitution industrialization that profited from the instability of the post-World War II international trade market, replacing the dependence on foreign imports while fuelling national production, the country gained political strength and capital surplus to massively implement its industrialization.

Mexico City, as the house of the country's policy-making machine (the Federal District), was the convergence point of the major share of the benefits and changes unleashed by this process. During these decades, the city achieved a concentration of approximately

**25** Aguilera, “Green and Modernity: Planning Mexico City, 1900-1940.”: 47,51.

**26** The PRI stayed sovereign as the nation's only party for seventy-one years.

Peter M. Ward, 27  
 “Mexico City,” in *Problems  
 and planning in the Third  
 World cities*, by M. Pacione  
 (London, 1981), 31.

Ibid.: 35, 39. 28

40 per cent of the country’s gross internal product and of the total industrial output, while being the center for the national migrating population. Nevertheless, Mexico City was not the only urban center to undergo this economic expansion – Guadalajara and Monterrey also experienced the rapid changes and growth of this period. By the 1940s those cities had sizeable populations to provide the needed labor supply, a scalable infrastructure for industrial uses, and a financing system of uncomplicated access comprising a constellation of national and international firms. Moreover, the state played a big role in encouraging the development of the industrial sector by securing investments, fiscal supports, and a continuous investment on infrastructure on those cities.<sup>27</sup>

In 1941, a new zoning law defined the territorial occupation of Mexico City. As argued by Peter Ward, scholar on Mexican planning and policies, the delimitation of the location of the large and heavy industrial sites, conditioned the whole future land-use pattern and growth direction of the city. A wave of low-income, many times illegal, residential developments flourished along the occupied areas by the industry. To weight the impact of this relation between industry and residential uses, it is worth mentioning that during the 1950s and 1960s the growth rate of the residential developments floated between 10 to 15 per cent annually. At this time, residential occupation followed industry.<sup>28</sup>

The industrial sector was overly concentrated and expanding towards the north of the city - the heavy industries clustering around the railheads - with some development of light industry on the east, in Ixtapalapa. Although the industry started occupying these sites up north, until the 1950s the physical expansion was relatively compact, evolving in a rather dense way. The industries preferred to locate themselves inside the Federal District due to the provision of infrastructure and the early mentioned fiscal incentives, to the extent that the four central boroughs (*delegaciones*) by then contained 70 per cent of the urbanized area. In 1955 the Federal District faced an over concentration of industrial uses and high land speculation, which led the State to withdraw the incentives by cutting the fiscal advantages. Because of the high level of bureaucracy and lack of exchange between the states and their planning agencies (there was no continuity or translation of the policies between the Federal District and the State



of Mexico), the abolishment of incentives just shifted the location of industries from the D.F.<sup>29</sup> to the edge of the State of Mexico, and further inland during its expansion. As a result, the 1960s saw a rapid process of suburbanization, which absorbed many of the outlying towns, and the informal settlements that were periphery on the 1950s became the city's intermediary ring.<sup>30</sup>

If one of the factors that triggered industrialization was the surplus of labor force, the pace and scale at which this enormous industrialization took place soon inverted this scenario, creating a new and increasing demand for labor. Coupled with this, and because of the unidirectionality of investments towards industry, the country's agricultural sector was experiencing a downfall with a steady decline in productivity. As an outcome, a significant part of the population migrated from the countryside to the cities. The arrived migrants, who in the previous decades could still settle in old colonial buildings in the downtown under a rent basis, at this moment were pushed to the *colonias populares*<sup>31</sup> in the intermediary and outer periphery rings (also in rental accommodations), or settled in the *ciudades perdidas*<sup>32</sup> (which by the time developed mainly along the railway lines) by building their own houses. While the city's main problem regarding the *ciudades perdidas* was on how to eliminate them, with the *colonias populares* it was the issues of land regularization and provision of basic infrastructure and services, which in most cases were rudimentary or sometimes even inexistent.<sup>33</sup>

From its beginnings around 1929, the *colonias populares* type of urban territorial occupation rapidly became the most predominant of all types. Although *colonias populares* is a general characterization, it is still the most useful way of referring to this specific type of settlement, and therefore to differentiate it from the others. It is used here the same way as proposed by the Mexican government for the definitions of their census tracks (AGEB – *Área Geoestadística Básica*): it describes the types of land occupation that are constituted by their irregular character, both due to the inexistence of a property title or the non-authorized aspect of the urbanization, and the additive component of their implementation, both regarding the provision of urban infrastructure as well as the construction of the buildings themselves.<sup>34</sup> These settlements were usually formed by a gradual process of land cessions, subdivisions and invasions; many of them

**29** D.F. stands as short for *Distrito Federal* (Federal District).

**30** Ward, "Mexico City.": 31, 35, and 38.

**31** Neighborhoods defined by the initial and/or continued informal character of their land occupation.

**32** Also known as shanties or Mexican slums that appeared in the 1940s and 1950s.

**33** Ward, "Mexico City.": 39.

**34** Priscilla Connolly, "Tipos de Poblamiento En La Ciudad de México." (Observatorio Urbano de la Ciudad de México. Departamento de Sociología Área de Sociología Urbana, 2005): 18.

*Ejid*os are 35 agricultural communal lands established during the Mexican Revolution. They are for the landholder's usufruct solely and are legally not subjected to land alienation.

Ward, 36  
"Mexico City": 49.

occurring in former *ejidos*,<sup>35</sup> where landholders, who did not possess the right over the property, subdivided and sold – or “ceded” for a price – those lands. This practice took advantage of a law created during the agrarian reform, which provided the *ejidarios* the right to establish an urban zone, but not residential development, inside their lands to enhance some processes of production. The “land cessions” market also opened up room for violence, territorial disputes, and political strategies. The landholders who did not accept to sell or subdivide their properties, at many times had their lands subject to invasions; or lands were invaded by political groups in order to gain control over an area. As pointed by Peter Ward, from the 1950s on, despite the existence of proper regulations to prevent those mechanisms of land alienation to take place, land cessions, subdivisions, and invasions together accounted for the major portion of the rampant physical extension of Mexico City.<sup>36</sup>

The low-income residential developments occurred almost unhindered during the 1950s, and generated an accelerated process of suburbanization. This was a reflection of the D.F.'s and the State of Mexico's loose regulations and diminishing means of their enforcement, in conjunction with a series of events related to land subdivision that took place on the preceding decades. Among them, in the 1920s the government ceded large land areas for private proprietors for agricultural improvements, which were now being sold to large real estate companies who would massively capitalize on their subdivision. From 1946 onwards, the state legally approved land subdivision but under the constraint of supervising and guiding it by the newly created boards to assist the community during the process. However, those boards were soon bribed by the real estate companies and failed their regulatory project. In 1958 an elaborated law of subdivision was formulated which demanded the subdividers to supply the new plots with basic infrastructure (water, electricity and sewage). Conceptually, that was not just a way for the government to transfer its responsibility over the private sector, but also as a strategy to accept the subdivision process against which it had not been successful to fight, while ensuring the minimum living standards. Again, complicity between authorities and companies due to the high interest of those operations – between 1946 and 1959 land value sky-rocketed 27,400 per cent - set the law aside: companies that had

received permit to expand underserved neighborhoods in exchange of the providing infrastructure failed to comply with the agreement, and yet were not punished. Generally, there was no governmental control over the unstructured, profit-oriented growth of the city.<sup>37</sup>

Although the amount of informal constructions being built during the second half of the 20th century was significantly high (just during 1970 to 1975, an average of 76 units were built every day), the economic and physical expansion of the city could not prevent the job and housing deficits: by 1974 the economy created only 60 per cent of the jobs necessary to meet the growth of the workforce, and at the same time the city was going through an increasing housing shortage of about 577,000 units (close to half of the existing units). That forced both the private and public sectors to react and propose remediation plans to these issues. The answers to the housing problem were basically addressed in the realm of funding programs, and until the early 1980s can be divided in three phases.

First, between 1947 and 1964 the Federal Government financed public housing mostly through rental accommodations, however it was a deficient program that was far behind the needs of any Mexican cities. On 1964, the government acknowledged the impossibility of keeping the old model and shifted towards the creation of a more structured program for housing provision.<sup>38</sup> This led to the establishment of the PFV (*Programa Financiero de Vivienda*), a housing fund supported by international seed capital and constituted out of the Operation Fund and Housing Finance (FOVI) created the year before.<sup>39</sup> From this moment until 1970, the PFV financed the construction of more than three times the amount of units built on the previous phase, corresponding to 74.4 per cent of the total public sector construction. However, the social aspect of the PFV financing was still less social than it was planned for, and could not service the needed class: the 70 per cent of the population earning the minimum wage or less. Lastly, around 1970 protests arose claiming access to housing, regularization of land titles, and the provision of services for underserved neighborhoods (a famous protest being the one in Netzahualcóyolt).<sup>40</sup> That forced president Echeverría to implement housing policies and develop other mechanisms to fund low-income housing construction. In 1972 the Federal Government founded the INFONAVIT (*Instituto del Fondo Nacional de la Vivienda para los*

37 Ibid.: 50, 51.

38 Ibid.: 41.

39 UN-Habitat, *Housing Finance Mechanisms in Mexico, The Human Settlements Finance Systems Series* (Nairobi: UN-Habitat, 2011): 16.

40 Ward, "Mexico City.": 42, 47.

Ingenieros Civiles 41  
Asociados.

Diane E. Davis, 42  
*Urban Leviathan: Mexico  
City in the Twentieth Century*  
(Philadelphia: Temple  
University Press, 1994): 150.

Sergey Pigach, 43  
“An Urban Mutagen,”  
in *Mexico DF / NAFTA:  
Scapegoat 6 Architecture  
Landscape Political Economy*,  
by scapegoatsays (CreateSpace  
Independent Publishing  
Platform, 2014), 175.

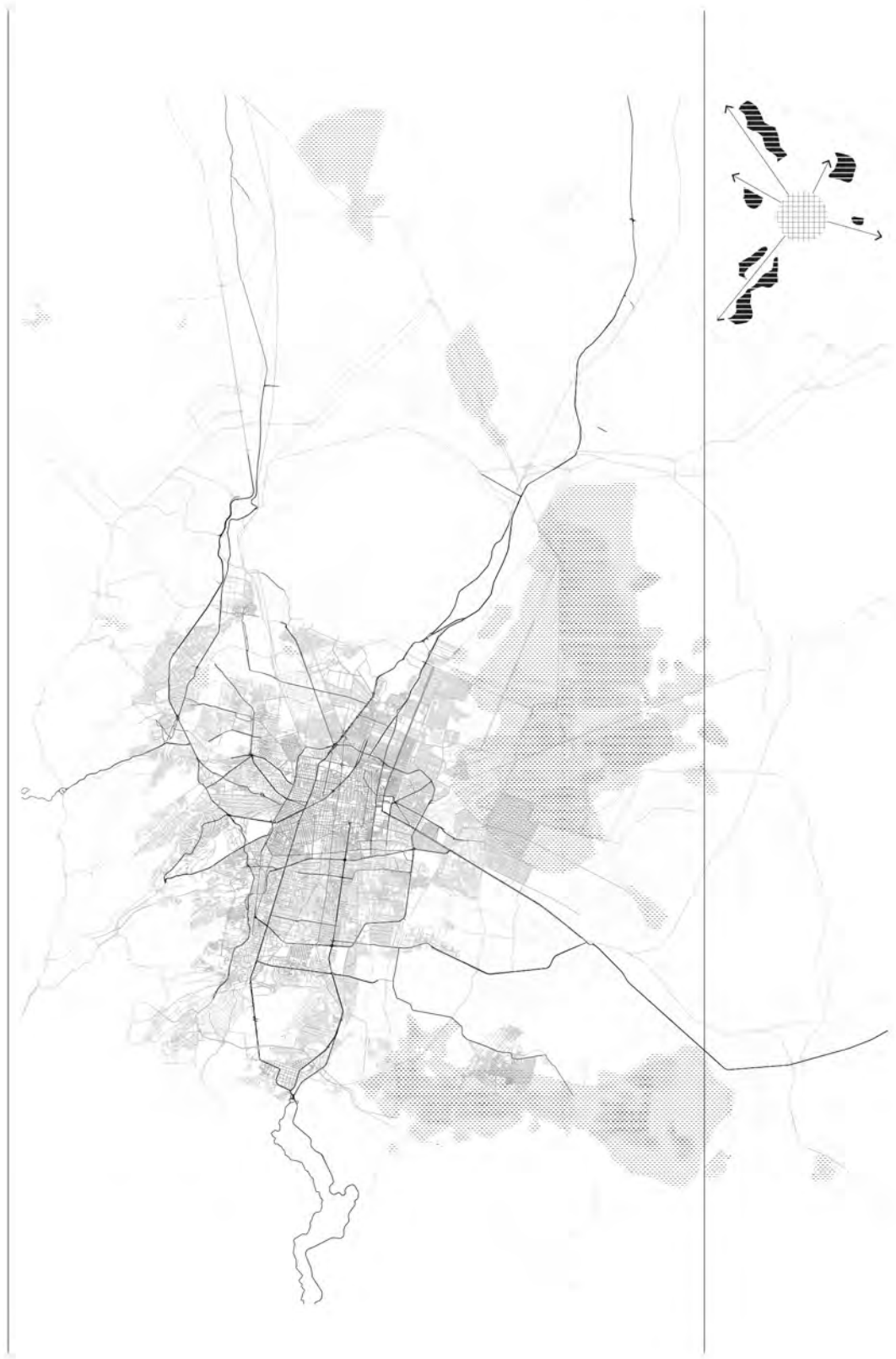
Ibid.: 176. 44

*Trabajadores*) which was aimed at covering this gap and providing the lower classes the real possibility of access to housing through low-interest mortgages. The INFONAVIT was sustained by the 5 per cent tax paid by the employer over the salary of any formal worker. That allowed it to operate on a continuous founding basis and uninterruptedly build cheap housing units. Despite the many phases it went through, such as a crisis and major restructuring around 1995, the INFONAVIT would become the largest mortgage lender in Latin America, and one of the main actors in the physical construction of Mexico City urban sprawl.

In order to further understand the reasons of urban growth of Mexico City during the 1970s, it is crucial to relate the expansion of the housing sector to the major infrastructural change the city went through in this decade: the implementation of the subway system. The subway was a mark for the city’s physical extension, triggering the possibility of massively pushing the low-income development market far from the center.

The conversation about the implementation of a mass transit system in Mexico City started around the early 1950s, and gained body and attention in 1960. The proposal of a subway system did not come from the mayor, but by the engineering company ICA,<sup>41</sup> which was seen as the most knowledgeable and prestigious engineering and construction company in Mexico City.<sup>42</sup> Building any underground infrastructure in Mexico City had never been easy due to the watery conditions of the soil, the natural occurrences of earthquakes, and the constant sinking of the city (60mm per year), which made the subway proposal a technological challenge of large proportions.<sup>43</sup> The ICA took that as a frontier to be surpassed, and used this image to brand the subway as a modernizing icon for the city, hence gathering support for its execution. That, especially in the light of the upcoming Olympic games of 1968, attracted the technocrats of the PRI and the President Díaz Ordaz, who was also married with the daughter of one of ICA’s founder.<sup>44</sup>

The subway became the opportunity to remodel the city center, alleviating congestion, decentralizing and revitalizing it. It was embraced as the solution that “would help to restructure [the] old and so-called inefficient patterns of land usage” of the center;



Davis, 45  
*Urban Leviathan*: 151.

Ibid.: 152. 46

Pigach, 47  
“An Urban Mutagen.”: 175.

it would replace the low-income residential and small/local scale commercial uses for large business and banking enterprises.<sup>45</sup> The real estate market was the main supporter of the operation because of the prospect of massively capitalizing on the gentrification (from both ends: for the rich on the center, and the poor on the periphery) and the increasing of land values that would result from that. The ICA itself, despite their heroic branding about the modernizing aspect of subway, had nothing of naïve, and expected to highly profit from the operation. The ICA was not just the engineering company that would build the subway, but also one of biggest real estate developers in the city. In the previous years the ICA had built the first satellite city of Mexico City, a high-end new-urbanism style development in the southwest of the city called exactly *Ciudad Satelite*, and many others upper-class condominiums and neighborhoods.<sup>46</sup> One other large interest involved in the construction of the subway was coming from the PRI. The party expected the subway to have repercussions similar to those of the import-substitution industrialization act from the 1940s, which accentuated the imbalance between the rural and urban populations triggering an influx of migrants to the city. They expected a significant growth of the city, and thus more heated market and real estate opportunities. Notwithstanding the large group supporting the subway project, it is also important to note that there was opposition, and its main representative was the D.F.’s mayor Ernesto Uruchurtu, who feared the D.F would suffer a drain of fiscal gains and qualified working force because of the urban sprawl and decentralization that the subway would generate.<sup>47</sup>

Regardless the fight between the D.F. and the other parties, including the Federal Government, the Mexico City subway, named *Sistema de Transporte Colectivo – STC*, ended up being implemented in 1969. As expected by its promoters, this underground rapid-transport system completely impacted the urban geography of the city: the center became not just physically bigger but also spread along the subway lines, and many suburbs lost their peripheral status, while a new periphery was being built. As a result, land prices boosted forcing the low-income population to move to the edges of the city, which in turn rapidly expanded outwards with the residential developments necessary to house those displaced inhabitants and the new wave of immigrants. Ten years later, the population had more than doubled

(from 9.2mi in 1970 to 14.4mi in 1980),<sup>48</sup> and the housing developers and agencies, such as the INFONAVIT, were engaged in the process of building this “new” Mexico City. As observed by Sergey Pigach, the “metro’s main purpose was not ideological but spatial,” it strategically changed the way the city was organized.<sup>49</sup>

### Urban cutouts

spaces of high-modernism 1950s-1960s

International Modernism emerged in Mexico as an outcome of the Revolution. The post-Revolutionary period was colored by a nationalistic, progress-oriented feeling towards building a new Mexican society. In light of this, some architects turned themselves to Europe and to the U.S for inspiration, and found on the optimistic and reformative ideals of Modern architecture the perfect image for the country’s moment. However, the translation of the International Modernism to the Mexican reality came with the cost of its reduction. In order to be absorbed into the local culture, and become Mexican in its character, many of it’s the core aspects were ignored: the term “Modernism” in the Mexican context is said to be exchangeable for “Functionalism.”<sup>50</sup> Mexican architectural historian Alberto Pérez-Gómez, when interviewed by Edward Burian, criticized the adoption of Le Corbusier’s Modernism by Mexican architects without the philosophical framework and “plastic search” that created the tension upon which his architecture was built. In his view, functionalism was borrowed as a compositional device only: “You may remember how Le Corbusier insists that students of architecture have to start with a gridded sheet of paper. That’s the Le Corbusier that the Mexicans import[ed].”<sup>51</sup>

The case of the Polytechnic School is a good example when discussing Mexican Modernism, not only because of its pedagogical role in disseminating the movement’s ideals through key figures such as Hannes Meyer and Juan O’Gorman, but also because it’s campus design clearly illustrates the “reduction” mentioned above. The Polytechnic’s vast campus was conceived under the reference of Mies van der Rohe’s Illinois Institute of Technology (IIT), to express the technological achievements and Modern spirit of the Institution, as well as of the country. Nevertheless, the ideological position from

48 Ibid.: 177.

49 Ibid.: 176.

50 Edward R. Burian, “Mexico, Modernity, and Architecture: An Interview with Alberto Pérez-Gómez,” in *Modernity and the Architecture of Mexico*, ed. Edward R. Burian (Austin: University of Texas Press, 1997), 34.

51 Ibid.: 33.

Ibid.: 46. 52

Celia E. A. Zambrano, "Modernity in Mexico: The Case of the Ciudad Universitaria," in *Modernity and the Architecture of Mexico*, ed. Edward R. Burian (Austin: University of Texas Press, 1997), 91.

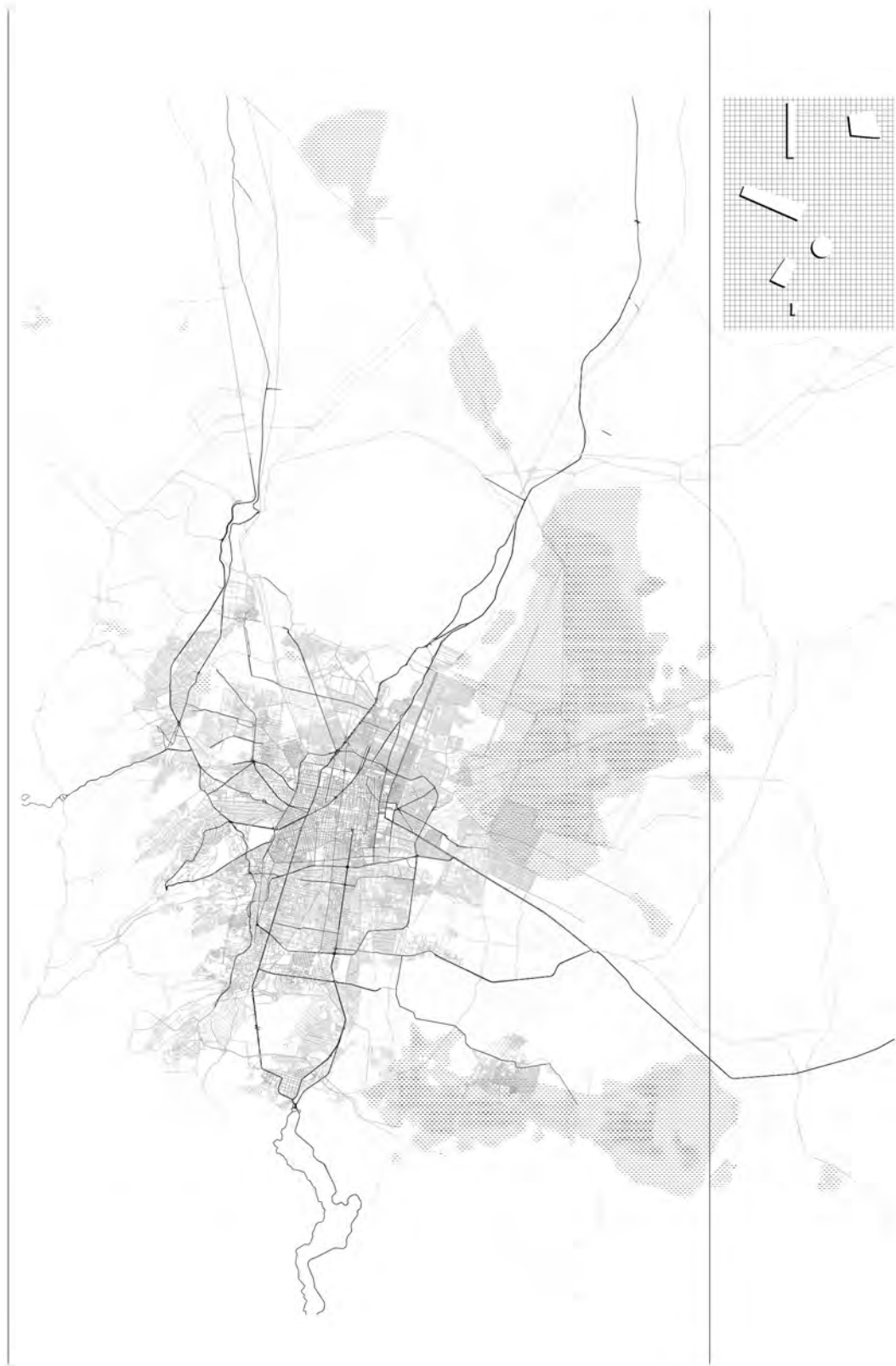
where the two designs and construction processes stand substantially differed from each other. If the IIT project was the apotheosis of the industrial country the U.S. had become, extracting beauty out of the rationalization of the industry, the Polytechnic did not fit in Mexican's production system nor expressed its current cultural condition: the available labor force was an economical (and social) impediment for the country to embrace prefabrication. For the Polytechnic's construction each piece had to be fabricated exclusively to this purpose. As a result, the Polytechnic connection to the IIT was resumed to aesthetic and formal resemblances.<sup>52</sup>

This is the context from which to understand the major Modernist urban interventions in Mexico City around the 1950s and 1960s. The government had identified itself with the nationalistic/ progressive character of Mexican Modernism, and wanted to brand and disseminate it. Because there was neither an established support from the industry nor from the society, the interventions demanded a huge movement of political power and capital to be implemented. They did not occur as outcomes from a procedural evolution of the city but as imposed moments of a "formal" modernity; they always maintained the strangeness of being exterior to the context of their implementation. By this time, the city was producing, in parallel, two completely different realities, on the one hand, the Modern dream of the production of a space for an idealized society, and on the other the uncontrolled, underserviced visceral expansion of the city. The result was large punctual modern urban developments cut out from the city fabric: islands of *tabula rasa* urbanism amidst a sea of dense urbanization.

The project for the *Ciudad Universitaria* (University City) and the urban housing developments of architect Mario Pani were the main products of this moment.

The *Ciudad Universitaria* (1950-1952) was conceived to be the physical manifestation of the Mexican Modernism. As professor Celia Zambrano puts it: similarly to the way International Modernism demanded an ideal universal man, Mexican Modernism demanded a ideal Mexican man, and consequently an idealized place for him to be born. The *Ciudad Universitaria* project was the dream of this place.<sup>53</sup> Furthermore, the University was built over the site of the ruins of a former pre-Hispanic city dating back to 600 b.c., which was





1960s

1950s

Ibid.: 92. 54

Ibid.: 83. 55

Louise Noelle Merles, "The Architecture and Urbanism of Mario Pani," in *Modernity and the Architecture of Mexico*, ed. Edward R. Burian (Austin: University of Texas Press, 1997), 177.

Ibid.: 179. 57

abandoned after a volcano eruption and since then was involved in a myth of the return of its lost civilization.<sup>54</sup> The chosen site was both symbolic charged and the perfect Modernist blank sheet from which to start the "new" without the disturbance of the "former."

The realization of the *Ciudad Universitaria* was a joint effort of the State, the D.F government, and singular figures such as the director of the Banco de México, plus more than 150 architects, engineers, and artists headed by Mario Pani and Enrique del Moral. On the one hand, the University was designed as an International Style Modern complex, comprising of super blocks, functional zoning, vehicle and pedestrian separation, isolated buildings, and large open green spaces with the buildings respecting Le Corbusier's five points. On the other, it was the apogee of the *integración plástica* movement that proposed to integrate national art, architecture, and sculpture: most of the campus' buildings were designed to receive mural works of pre-Hispanic motifs.<sup>55</sup> All that converged to make the *Ciudad Universitaria* the precise and controlled creation of the image of Mexico's Modernity.

Although the ambience around the creation of the University is emblematic of the Nation's Modern project, the *Ciudad Universitaria* was a case excluded from Mexico City's urban environment, and therefore not subjected to the friction between different urban realities. It is in this sense that Mario Pani's housing urbanism becomes extremely interesting.

Mario Pani was probably the most well-known and prolific Modern Mexican architect. After studying in Paris and attending Le Corbusier's lectures,<sup>56</sup> Pani arrived back in Mexico where he found a country thriving with its industrialization and eager to embrace a new image of National Modernity. Through the National School of Architecture, he got in contact with José Villagrán Garcías' theoretical formulation, and soon developed his own architecture: an amalgam of International Modernism and Mexican traditions. His immense body of work includes buildings such as the National Conservatory of Music, the Torre Insignia, the masterplan for *Ciudad Satélite* and for *Ciudad Universitaria*, among many others. During the 1950s and 1960s, Pani designed and built several housing developments that expressed his obsession with the "rationalization of urban growth."<sup>57</sup> Pani's urban designs were highly influenced by Le Corbusier's schemes,

especially the *Ville Radieuse*, promoting self-sufficient urban units of multi-story developments, which punctuated a free, open, park-like ground floor serviced with amenities and civic functions. Three of them are discussed here.

His first housing development was the *Multifamiliar Presidente Alemán*, in 1949. The project was initially commissioned for two hundred units, but after a feasibility study done with ICA, Pani convinced the contractor to build instead one thousand units for the same cost. This was the first high-density multifamily housing development in Mexico, which coined the term *multifamiliares*. It consisted of six buildings of thirteen stories and six others of three stories, plus a few one-story structures for social and commercial services.<sup>58</sup> However, the six tall buildings are connected and form one continuous megastructure. The second project was the *Centro Urbano President Juárez* (1950-1953). This was a larger development of nineteen apartment buildings of four different sizes, and with twelve different units types.<sup>59</sup> Previously, the large site was divided in two by a road that cut through it; Pani's design connects the two parts by bridging four buildings and their ground floors over the road. The project not just starts from a clear half-kilometer square site but, by ignoring the preexisting road, it expresses and extends its desire to operate in a blank context. Moreover, it offers a disproportionate rate of building footprints to open area while being surrounded by densely occupied urban blocks. Lastly, and the most extreme case, the *Cuidad Habitacional Nonoalco-Tlatelolco* (1960-1964). It was a two-kilometer long site of a former abandoned train yard in the intersection of low-income, informal, and industrial neighborhoods. One hundred and thirty buildings were built with schools, hospitals, markets, businesses, police stations, and a church, for more than 100,000 inhabitants. The development was a neighborhood in itself to house people from different economic classes, including a large part dedicated to the working class. *Tlatelolco* is the utmost expression of the Modern city the State wanted Mexico City to be.

Those three housing developments show how, despite their nationalistic intent, Modern urban projects in Mexico rejected the existing city: they set clear boundaries with the urban context while turning themselves inwards. Their formal and organizational discrepancy from the surroundings promoted the fragmentation

58 Ibid.: 180.

59 Ibid.: 182.

Davis, 60  
*Urban Leviathan*: 239.

U.S. Energy 61  
Information Administration,  
“U.S. Imports from Mexico of  
Crude Oil,” *EIA. Independent  
Statistics and Analysis*, accessed  
December 14, 2014, [http://  
www.eia.gov/dnav/pet/hist/Le  
afHandler.x?n=PET&s=MCR  
IMUSMX2&f=A](http://www.eia.gov/dnav/pet/hist/LeafHandler.x?n=PET&s=MCRIMUSMX2&f=A).

Energy Information 62  
Administration, “Crude  
Oil Price History Chart,”  
*Macrotrends*, December  
14, 2014, [http://www.  
macrotrends.net/1369/crude-  
oil-price-history-chart](http://www.macrotrends.net/1369/crude-oil-price-history-chart).

Davis, 63  
*Urban Leviathan*: 241.

of the urban landscape, institutionalizing/making apparent the dichotomy between the formal and the informal, the elaborated and the rudimentary. Therefore, those types of developments acted as State apparatuses for both promotion of an image of progress to attract investments from the national and international bourgeoisie, and segregation, pushing the poorer classes out of the central areas, now occupied by those projects.

### Dispersal

building a neoliberal state *1970s to early 1990s*

Still on the wave of Mexico’s economic miracle, José Luis Portillo’s mandate (1976-1982) was marked by high expenditures based on a petroleum-led, development-oriented governance.<sup>60</sup> The 1973-74 OPEC oil embargoes, which prohibit the OPEC members to export to the nations that supported Israel in its “Yom Kippur War,” forced the U.S to import oil from Mexico as an alternative to its internal crisis.<sup>61</sup> The accelerated rise of oil prices (the crude oil jumped from \$20 in 1970 to \$51 in 1974, and \$160 in 1980),<sup>62</sup> coupled with the new oil discoveries in Mexico, highly increased the country’s oil revenue, and resulted in a series of large international loans based on Portillo’s confidence on the maintenance of this scenario. Mexico’s loans were directed to large-scale investments in oil pipelines, highways, and nuclear energy, among others.

When Portillo was elected, he appointed Hank González as the mayor of Mexico City. Similarly to Portillo but on the scale of a city, Hank was also dedicated to enhance development and growth through major infrastructure projects. To be able to expand Mexico City as a metropolis, and because much of the city’s growth was occurring outside the D.F. on the State of Mexico, Hank created the *Instituto AURIS*, a governmental agency to promote the integration of Mexico City with the state of Mexico. That way, Hank would be allowed to carry large public works with less bureaucratic intervention.<sup>63</sup>

On the one hand, Hank’s large-scale urban project encountered resistance from many sides, including from Portillo, who often declined to support them with federal funds, and the local population who were against the projects that involved the

displacement of residents from their communities. On the other, those projects received high support, being pushed forward by the architects and engineers from ICA who had joined governmental administrative positions when Hank took the office; by the private, national and international, investors to whom Hank resorted after Portillo's withdrawal of national financial assistance; and the city's developers and "pro-growth" forces to whom infrastructure development would generate higher market opportunities with the renovation of parts of the city, and better accessibility to areas on the city's outskirts. The two main projects carried by Hank, which were also the ones that generated more tension between the supporters and the opposition, were the *ejes viales* and the extension of the subway. The former consisted of a plan to redesign the city's main roads in order to realign them into a gridded orthogonal order, and resulted in huge expenditures and the displacement of around 25,000 families.<sup>64</sup> While the later, although supported by communities because of its appeal of physical connectivity to other parts of the city, by 1981 had produced the main share of Mexico City's debt. During Hank's mandate, the budget consumed by the subway was equivalent to four times the total cost to supply the 9 million inhabitants of the Federal District with drainage, drinking water, and health services.<sup>65</sup>

Both the road network improvements and the subway extension increased land values and heated the real estate market, while significantly contributing to increase the city's sprawl. At the same time, the impacts of the import-substitution industrialization program, which had been in place since the mid-forties, were being felt in Mexico City. The program's policies were heavily oriented towards shifting the investments from agriculture to industrial production, therefore deepening the disparities between rural and urban conditions. Food production declined, and intra-country migration to cities boomed. The arrived migrants, mostly unemployed, settled on the growing outskirts of the city, while residents from the "inner" periphery took advantage of the inflated land values selling their properties and moving outwards.<sup>66</sup> Hence, the outcome of the import-substitution industrialization program, coupled with Mexico City's large infrastructure projects, played a major role in the uncontrolled dispersion of the city, and the thickening of its periphery.

By the beginning of the 1980s, large companies had fled to

<sup>64</sup> Ibid.: 248.

<sup>65</sup> Ibid.: 249.

<sup>66</sup> Ibid.: 87.

Ibid.: 250. **67**

David M. Walker, **68**  
*Gentrification Moves to the  
 Global South [electronic  
 Resource]: An Analysis of  
 the Programa de Rescate, a  
 Neoliberal Urban Policy in  
 México City's Centro Histórico*  
 (Lexington, Ky.: [University  
 of Kentucky Libraries],  
 2008): 89.

James B. Greenberg **69**  
 et al., "The Neoliberal  
 Transformation of Mexico," in  
*Neoliberalism and Commodity  
 Production in Mexico*, by  
 Thomas Weaver (Boulder:  
 University Press of Colorado,  
 2012), 3.

Walker, **70**  
*Gentrification Moves to the  
 Global South [electronic  
 Resource]*: 89.

Greenberg et al., **71**  
 "The Neoliberal  
 Transformation of Mexico.":  
 2.

Ibid.: 4. **72**

satellite towns within the farther periphery of Mexico City in search of less taxes and cheaper rents, leaving Mexico City with low-tax small firms – as shown by Daine Davis, in 1970 60.26 per cent of the city's budget came from tax revenues, in 1980 the number dropped to 22.14 per cent, and arrived at 9.66 per cent by 1982.<sup>67</sup> The city, with its continuous investment on the subway despite the decline in its income, became highly indebted, however was still relying on the perspective of its recovery with the petro-dollars that had been flooding the country.

All this together put the country, in general, and Mexico City, specifically, in a highly vulnerable position. Thus, in 1982, the abrupt fall of the oil prices triggered by Ronald Reagan's election (1981-1989) and the dissolution of the oil cartel,<sup>68</sup> exposed Mexico's deficient growth structure, and threw the country into an enormous debt crisis. Because the country depended on the elevated oil prices to ensure the payment of its loans, the opposite scenario scared investors and caused a cascade effect of capital flight from the country. In a matter of weeks, and under the pressure of IMF (International Monetary Fund), the peso devaluated 268 per cent, and the fiscal debt reached 17.6 per cent of the country's GDP.<sup>69</sup> Portillo's reaction was to massively nationalize the banks: months prior finishing his mandate in 1982, 59 banks were nationalized, further destabilizing of the economy.<sup>70</sup> This state of affairs set the right conditions to force Mexico into the experiment of neoliberalism.

Neoliberalism emerged with the economic policies of Margaret Thatcher and Ronald Reagan, and was first applied in Latin American countries. Mexico was the second earliest adopter (behind Chile) and where the neoliberal measures were more aggressively and comprehensively applied.<sup>71</sup> The crisis derailed in 1982 forced Mexico to reach the IMF and the World Bank to renegotiate its debts and acquire new loans. With that came rigorous conditions of structural adjustments for economic liberalization, including the open adoption of free trade and free market.<sup>72</sup>

Because neoliberalism is based on the premise that the market is the ideal mechanism of social, political and economic regulation, ironically the State had to work towards losing its own sovereignty: eliminating subsidies, privatizing national industries, downsizing



1990s

1970s

- Walker, 73  
*Gentrification Moves to the Global South* [electronic Resource]: 28.
- Irmgard Emmerlhainz, 74  
“The Mexican Neoliberal Conversation and Differentiated, Homogenous Lives,” in *Mexico DF / NAFTA: Scapegoat 6 Architecture Landscape Political Economy*, by scapegoatsays (CreateSpace Independent Publishing Platform, 2014), 20.
- Walker, 75  
*Gentrification Moves to the Global South* [electronic Resource]: 90
- Greenberg et al., 76  
“The Neoliberal Transformation of Mexico.”: 1.
- Ivonne 77  
Santoyo-Orozco, “The Apparatus of Ownership,” in *Mexico DF / NAFTA: Scapegoat 6 Architecture Landscape Political Economy*, by scapegoatsays (CreateSpace Independent Publishing Platform, 2014), 63.
- UN-Habitat, 78  
*Housing Finance Mechanisms in Mexico, The Human Settlements Finance Systems Series*: 21.
- The Zócalo 79  
as the reference point.

the governmental machine (cutting employees, bureaucracy, and regulatory policies), eliminating programs on health, education and welfare, and joining free trade agreements.<sup>73</sup> As Inmgard Emmerlhainz, quoting Aihwa Ong, puts it, the “reconfiguration of the relationships between the governing and the governed, (...) and sovereignty and territoriality, is integral to the neoliberal project.”<sup>74</sup> In Mexico that was reflected in the decentralization of the government, which compromised its management of cities, giving more autonomy to the private capital. This happened in every level, on trade and economic policy, Mexico went through a shift from a state-led industrialization – shaped in the form of the import-substitution industrialization program – to a neoliberal export oriented industrialization.<sup>75</sup>

This neoliberal decentralization of the government can also be seen as a move from the collective towards the individual; it transfers the government’s social and economic responsibilities to the citizen. Neoliberalism is idealized around the notion of the free and democratized subject, one that can be shaped as a consumer on the image of the Western individual.<sup>76</sup> In that sense, ownership and, as an extension, private property, become the pillars of the system: symbols of this “new” individual who is no longer the worker aided by the collective environment of the State, but “an amateur investor (...) who own a home mortgage” and prioritize his own needs.<sup>77</sup> The neoliberal city then, is achieved on the one hand by the collection of [globalized] areas for consumption, and on the other, by the private spaces where individuality can be secured. Soon, investors and real estate developers, benefiting from the withdrawn of governmental intervention on the market and on city planning, intensely capitalized on that, putting the construction of single-family houses on the core of Mexican cities’ growth.

From the 1980s to the 2000s Mexico City’s urban footprint expanded by 2.5 times, and the housing stock tripled.<sup>78</sup> The city spread further in the State of Mexico, with single-family housing developments built as far as 30 km from the city center.<sup>79</sup> Hence, the word *decentralization*, applied to the neoliberal reformulation of the political structures, can also be used as a metaphor for the physical territorial dispersal that was triggered by it.

The dependence of Mexico City in neoliberal agreements



worsened in the following years after 1982. In 1985, the oil prices dropped by 50 per cent, the inflation increased to 63.8 per cent, and to worsen this scenario, Mexico City was hit by an earthquake that killed 20,000 people and destroyed many buildings. In an attempt to readjust the economy, Mexico took new adjustment loans in exchange for structural reforms in trade liberalization, such as the cut of 45 and 60 per cent of tariffs on dutiable and controlled goods, respectively. This decision allowed the country to acquire a membership on the GATT (General Agreement on Tariffs and Trade), and commit to a three-year program to lower tariffs. Among the measures taken under GATT, Mexico allowed small and medium size firms to have a majority of foreign ownership without the need of governmental authorization. As immediate result, international capital (U.S. accounting for 60 per cent) started entering the country again.<sup>80</sup>

However, that did not last. In 1987 the U.S. stock market crashed, throwing Mexico into an even more critical situation than before 1985. Without market protection, or the benefits of not having it, Mexico was caught in between the process of defining its political and economic model. The push towards a more explicit neoliberal adoption came from the part of the IMF and the World Bank, who put together a \$10.7 billion “comprehensive financial package” to rescue Mexico. The package demanded major structure reforms on trade liberation, taxes, public programs, public expenditures, and specially privatization. In the first year after the implementation of the reforms, Mexico privatized 47 per cent of its public owned companies, and by 1992 only 15 per cent remained.<sup>81</sup> Among the companies sold there was TELMEX that was bought by Carlo Slim, who would become the single individual to most impact the urban form of Mexico City.<sup>82</sup>

The privatization process also impacted the land system of the *ejidos*. The World Bank highly pressured Mexico to dismantle the *ejido* structure, which by the time corresponded of half of the country’s farmlands and three quarters of the small producers, alleging its obsolescence and the need to create new and better models of land use. Furthermore, the Bank advocated for the privatization and inclusion of those lands in the open market, thus being subjected to sale and mortgage. The argument was that those measures would enrich the *ejidarios* and allow the market to more efficiently manage

**80** Greenberg et al., “The Neoliberal Transformation of Mexico.”: 6.

**81** Ibid.: 7.

**82** Walker, *Gentrification Moves to the Global South [electronic Resource]*: 133.

Greenberg et al., **83**  
 “The Neoliberal  
 Transformation of Mexico.”:  
 8.

Ron Loewe and **84**  
 Sarah Taylor, “Neoliberal  
 Modernization at the  
 Mexican Periphery:  
 Gender, Generation and  
 the Construction of a New,  
 Flexible Workforce,” *Urban  
 Anthropology and Studies of  
 Cultural Systems and World  
 Economic Development* 37, no.  
 3 (2008): 364.

Irmgard Emmelhainz, **85**  
 Jane Hutton, and Mercin  
 Kedzior, “Editorial,” in  
*Mexico DF / NAFTA:  
 Scapegoat 6 Architecture  
 Landscape Political Economy*,  
 by scapegoatsays (CreateSpace  
 Independent Publishing  
 Platform, 2014), 9.

Greenberg et al., **86**  
 “The Neoliberal  
 Transformation of Mexico.”:  
 8.

Emmelhainz, **87**  
 Hutton, and Kedzior,  
 “Editorial.”: 7.

Greenberg et al., **88**  
 “The Neoliberal  
 Transformation of Mexico.”:  
 12.



the land.<sup>83</sup> In 1992, the Article 27 of the Constitution was reformed, putting an end on 70 years of the Mexican Revolution’s land reform, and opening the *ejidos* for the market’s speculation.<sup>84</sup> That meant that no more land would be expropriated to the creation of new *ejidos*, and that small farmers and producers would no longer have the rights of access to land, or have their interests protected from the private sector. Because the *ejido* proprieties were mainly located on the outskirts of the city, the decision to modify the Constitution was also a decision to further urbanize the lands beyond the current periphery. Without proper infrastructure, far from commercial spaces and amenities, and not connected to the main transportation routes, those lands were left to be filled by profit-oriented, low-income housing developments.

### Homogeneous spaces

corporatism and mortgage driven urbanism *1994 to the present*

The definitive consolidation of neoliberalism in Mexico came in 1994 with the ratification of NAFTA (North American Free Trade Agreement), which established a free-trade zone between Canada, the U.S., and Mexico. Following the World Bank’s cumulative demands to achieve market liberation reforms in Mexico, NAFTA created a “juridical frame of subordination”<sup>85</sup> from which the country’s full adherence to neoliberalism would be unavoidable. In return, the Bank committed itself to support the growth of the private sector as the motor for national development.<sup>86</sup>

With NAFTA, cheap high quality commodities were dumped into the market, and several sectors of the Mexican economy had to adapt, e.g. agriculture was highly impacted: Mexican small producers could not compete with US and Canadian farmers, being forced to leave their lands and migrate to cities in search of waged jobs. In the nine years from 2005 to 2014, Mexico lost its food sovereignty, and became dependent on the import of 42 per cent of its food needs.<sup>87</sup> Similarly, many industries offshored their manufacturing, draining the tax revenues and jobs associated with them. Not only on its imports but also on its exports, Mexico became deliberately dependent on the U.S.’s economy and vulnerable its fluctuations: ten years after NAFTA, 80 per cent of all Mexican exports were directed

to the American neighbor.<sup>88</sup>

In Mexico City neoliberalism had antagonistic spatial consequences. Concomitantly, a privileged portion of the city was reinvigorating through the massive inflow of international private capital, while the other, and largest portion, was deteriorating without the basic needs. On the one hand, the former took the shape of large investments on financial, information, and tourism services, with many buildings built for these purposes. Office districts and areas for entertainment/consumption were created and populated with international companies, first-world museums, and shopping malls.<sup>89</sup> Examples of this first part comprise the renovation and gentrification of the historic center through the *Programa de Rescate*, the transformation of the Santa Fé garbage dump in a high-end transnational living and business center, the renovation and consolidation of the financial corridor of *Avenida Reforma*, among many others.<sup>90</sup> On the other hand, the later suffered the consequences of the privatization of the built environment and the retreat of the government from the supply of basic services. Among the consequences: although garbage collection had been privatized, the dirtiness of streets became a major issue; parks, plazas and governmental building had no maintenance; the informality had risen with the shrinkage of the governmental body and the rural migration from the failed national agricultural business; and new towns of [only] single-family houses were flourishing on the city's periphery.<sup>91</sup> Although in opposite ends of the social spectrum, the two models of city that were being built – the global corporatism, and the generic third-world suburb – shared a similar process of flattening and homogenization of the built environment.

The rise of neoliberalism, and the twenty years of crisis, was accompanied by a rise in social uneasiness. Poverty had risen 73.3 per cent between 1989 and 1996; in 2000, more than 43 per cent of the population, or 47 million people, were below the poverty line.<sup>92</sup> The population was manifesting their discontent through strikes and self-organizing into resistance groups, such as the uprising against the Tlatelolco massacre of 1968, the peasant *El Barzon* movement, the guerrilla and Zapatista movements, and the grassroots community organizations. At the same time, the decentralization of the political system and the state's loss of autonomy to private capital, between

**89** Emmerlhainz, "The Mexican Neoliberal Conversation and Differentiated, Homogenous Lives.": 27.

**90** Santoyo-Orozco, "The Apparatus of Ownership.": 64.

**91** Walker, *Gentrification Moves to the Global South [electronic Resource]*: 103.

**92** *Ibid.*: 95.

**93** *Ibid.*: 96.

Ibid.: 112. 94 1982 and 2000, had weakened the ruling party's hegemony.<sup>93</sup> As a result, in the elections of 2000 the PRI, after seventy-one years in power, was defeated, and the candidate Vicente Fox Quesada, from the PAN - *Partido Acción Nacional*, took over the presidency.

Ibid.: 43. 95  
Ibid.: 7. 96  
Ibid.: 104. 97  
Ibid.: 192. 98 In 2001, President Quesada (2000-2006), with the mayor of Mexico City, Andres Manuel Lopez Obrador, created a public-private partnership to implement a plan to "rescue" the Historical Center.<sup>94</sup> The result was the *Programa de Rescate*, which consisted of large-scale investments in physical interventions to revitalize, beautify, and modernize the downtown. The plan aimed at renovating an area close to three times the historic center of Lima, in Peru, or Barcelona, in Spain – or more precisely, 9 square kilometers with 668 blocks and more than 1,700 buildings – to turn the city into a global center, attracting large corporations, foreign investments, and tourism.<sup>95</sup>

In order to do so, the plan was divided in three phases. Firstly, the intervention would replace the water and sewage infrastructure, demolish the buildings affected by the earthquake, and establish a commercial link between the Zócalo, and the business district of *Paseo de la Reforma*. Secondly, tourism would be the priority, with the building of modern hotels, visitor's centers, and the tallest building in Latin America. Lastly, the third phase consisted of a large renovation and transformation of existing buildings into multi-use complexes with high-class amenities.<sup>96</sup> Overall, the *Programa* was branded with a vision to "normalize" the center; it operated as a large gentrification initiative to "clean" the streets from the informal businesses of the *ambulantes*, preparing its adoption by the international community.<sup>97</sup>

The main figure behind the *Programa de Rescate* was the multibillionaire Carlos Slim Helú, head of Grupo Carso and TELMEX, the former state telecommunications company. By 2007, Carlos had spent around 482 billion pesos (32 billion dollars) solely in purchasing buildings in the Center. Although the *Programa* believed in its heroic mission to change the city, sixty per cent of its investments in the Center went to the renovation and creation of new museums, theaters, and cultural events, and the rest was directed mainly to infrastructure (water, sewage, and lighting projects) to serve the areas in which those buildings were located.<sup>98</sup> The drive for the "normalization" of the built space can also be read as an attempt to hide the urban conflicts, by pushing the undesired uses to the periphery,



Livia Corona **99**  
 Benjamin, “From the Series  
 Two Million Homes for  
 Mexico (2006-Present),”  
 in *Mexico DF / NAFTA:  
 Scapegoat 6 Architecture  
 Landscape Political Economy*,  
 by scapegoatsays (CreateSpace  
 Independent Publishing  
 Platform, 2014), 35.

Ibid.: 35. **100**

Santoyo-Orozco, **101**  
 “The Apparatus of  
 Ownership.”: 59.

Benjamin, **102**  
 “From the Series Two  
 Million Homes for Mexico  
 (2006-Present).”: 35.

as with the case of the informal businesses, while replacing them with generic spaces for “cultural” consumption. “Normalization,” in this sense, appears as the process of mitigating, or completely erasing, the nuances and diversity of the urban environment. Ultimately, the *Programa de Rescate* stands a symbolic mark for the moment when the attempt to define the future of the city is shifted from the public to the private domain, and the means to achieve this, from urbanism to buildings.

The election of President Quesada also established another milestone for Mexico City’s urbanization, but this moment on the opposite end of *Programa de Rescate’s* clientele. Quesada was elected president under the promise of building two million homes in six years: “My presidency will be remembered as the era of public housing.” By the end of his mandate 2,350,000 houses had been built, which accounts for 2,500 houses per day.<sup>99</sup>

This pace of construction was enabled by the new structure of INFONAVIT, which before 1992 regulated, assigned locations, and built those housings, and after became an administrative and financing organization. The INFONAVIT granted credit and assigned housing construction to a small group of developers, who massively carried out the building of those units.<sup>100</sup> The developments consisted of the replication of poorly- and quickly-built single-family houses for future low-income residents. Furthermore, the neighborhoods generated by this model lacked basic infrastructure, basic services, or amenities, besides the fact of being far away from commercial areas or the major transportation services and networks of the city. The building of public housing was a profit driven activity that capitalized on the neoliberal dogma of individuality through the desire for property ownership. As observed by Santoyo-Orozco, property ownership became in itself an ideological apparatus to control the masses and heat the economy, and its physical outcome generated a *mortgage-driven mode of urbanization*.<sup>101</sup>

Popularly, those types of neighborhoods are known as “*Casas Geo*,” the name of Mexico’s largest home builder, and vary from 20 to 80,000 identical units.<sup>102</sup> Until today, those developments have been created in distant, semi- or non-urbanized sites, mostly former *ejido* lands on the outskirts of the city, and account for a large part of Mexico City’s urban sprawl. Because of that, and coupled with the unlivable

nature of the neighborhoods they produce – “dormitory towns” with no public spaces – there is a total of five million abandoned or empty homes in the country.<sup>103</sup> Ironically, at the same time Mexico suffers from a housing deficit of nine million homes,<sup>104</sup> which reveals the interest behind the production of those developments: they are machines to enrich certain groups while falsely satisfying housing statistics – “more two million homes towards solving the housing shortage crisis.” Thus, with no ideology behind or interest in making those neighborhoods part of the city, this has proven to be a failed model of urban development that reflects the abandonment of core notions of city building from the government’s agenda.

**103** Emmerlhanz, “The Mexican Neoliberal Conversation and Differentiated, Homogenous Lives.”: 30.

**104** Santoyo-Orozco, “The Apparatus of Ownership.”: 59.

## Conclusion

The history of Mexico City's urban evolution is also the history of the creation of the city's periphery. Throughout the 20th century, Mexico City's periphery has been defined by the struggles between opposed forces such as the rich and the poor, the formal and the informal, the national identity and the international culture, the State and the private capital. The tension between those forces has physically divided the city since the beginning of the century, making it possible to understand the changes in the city's urban form by a parallel reading of the policies concerning the center and the ones concerning the periphery.

While the attention and investment focus has always aimed at the center and the more consolidated parts of the city, the periphery was left to expand on its own, subject to the forces of speculation and informal territorial occupation. The repetitive measures to regularize, "clean," and isolate the center from the periphery, constrained the former to its initial size, and allowed the later to go through a continuous process of thickening. Nowadays, because it accounts for a much larger portion of the territory, what is called periphery relates less to its geographic location and more to its peripheral relation to the city's governance.

The strongest characteristics of the built form of the periphery, and generally of the city, emerged during the two richest intellectual moments of the urbanization of Mexico City. In those moments, governmental agents, city planners, and architects formulated a vision for the city, and intervened on the urban realm grounded on an ideology (that can be said to have been absent during other periods). Although in the two cases the long-term outcome was the opposite of their goals, they were nevertheless moments of autonomy of the intentions towards the built environment.

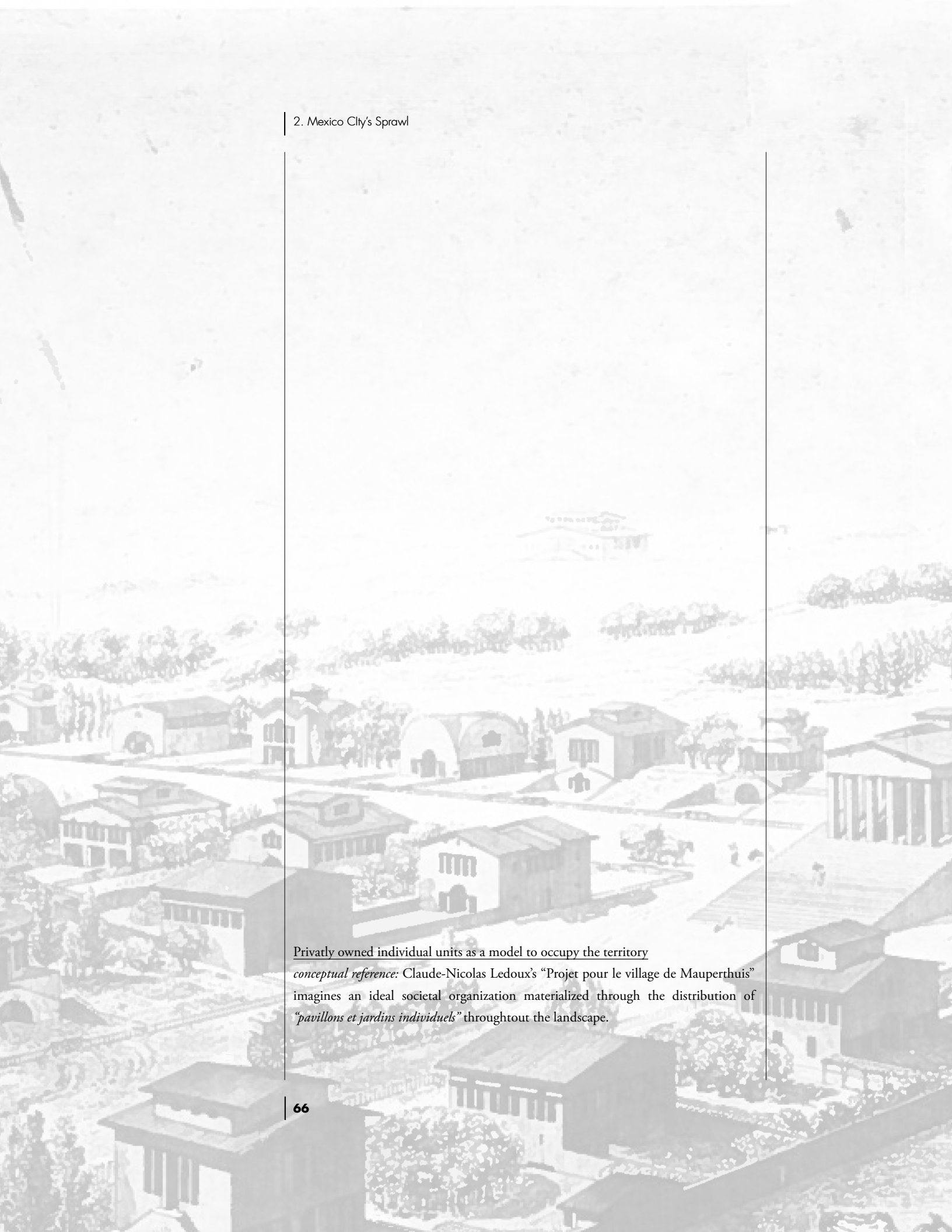
The first was conceptualized in the image of the Garden City, following Ebenezer Howard's ideas of low-density environments, self-contained communities, separation of functions, and the merger between city and countryside. This vision was supported by influential figures with strong political ties, which guaranteed the creation of policies to ensure its implementation. However, because it was never fully carried on, this city vision lived in a limbo between execution



and dismissal. Some measures were applied, such as building's height constraints and an extensive occupation of the territory towards the countryside, but some others were abandoned, such as the clear organizational pattern of the city and an efficient connection between the urbanized poles. As a result, until today the city is built following a persistent pattern of maximum three-story high buildings, and that, coupled with the constant population growth, creates a conjuncture for which the only answer is to spread the urban fabric.

The second was the period of Mexican's high modernism. During this moment, the city became again an object of intellectual reflection. Architects, artist, and political leaders worked together to create the image of the future of Mexico. This time, punctual but large-scale urban intervention were executed and served as a model for the building of the country's modernity. Comparably to the results of the Garden City model, Mexico's modern architecture was not given sequence, however it inaugurated a new urban typology that would become the most predominant type of development: the subsidized housing blocks (initiated with Mario Pani), as isolated islands of repeated identical residential units. With the rise of neoliberalism in the country, this model was reduced to its rough components and depleted from its reformatory ideology, to be exhaustively explored as a solution for the city growth. That has created a whole failed system of homogenized urban environments that is still showing its consequences.

To conclude, studying the history of Mexico City through an urban design point of view reveals many of the mechanisms applied in third world cities to create space and urbanization. It tells how the city's built form came to be, and shows the constant struggle between the ideological conceptualization of the city against the forces of capital. Mexico City is more than the apparent chaos that it is known for; rather, it is the outcome of an extremely controlled and orchestrated set of political, economic and spatial decisions.

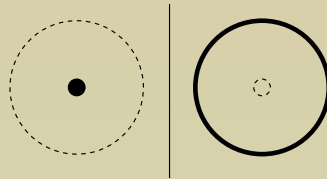


Privately owned individual units as a model to occupy the territory  
*conceptual reference:* Claude-Nicolas Ledoux's "Projet pour le village de Mauperthuis" imagines an ideal societal organization materialized through the distribution of "pavillons et jardins individuels" throughout the landscape.

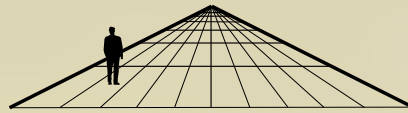
2

# Mexico City's Sprawl

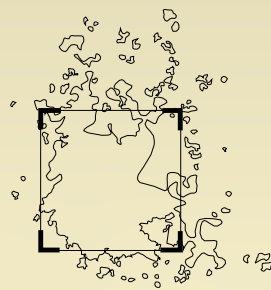
analysis



**Center x Periphery**  
**City x Countryside**  
**Traditional Landscape x Technological Landscape**



**Infinite Extension**



**Framing as a Political Statement**

## 2.1 Territorial Dispersal

Recently, many architectural discussions have addressed *territory* as the discipline's domain of action.<sup>1</sup> Although many times not properly defined, territory is an apparatus to control and rationalize space in order to make it perceivable and manageable by humans; it exists in an overlap between physical intervention, landscape, and politics. Furthermore, the idea of territory is a construct that intertwines questions of property and political power over land. As proposed by Stuart Elden, territory is a "political technology"<sup>2</sup> "used to describe a particular and historically limited set of practices and ideas about the relation between place and power."<sup>3</sup> In this framework, architecture becomes both a tool to spatialize the processes and systems that traverse the territory, as well as a means to negotiate between power and the built domain. As an extension, the city, then, stands as the utmost materialization of man's will to control and to spread its dominion over space.

As cities grow beyond any limit imagined just a few decades ago, as the former areas known as countryside get more urban, and as the lines that used to separate the country from the city become blurred and many times non-existent, it is extremely difficult to maintain classical definitions of the city through distinctions between city and landscape, or urban and non-urban. This calls for a redefinition of the idea of urbanization. Is there an outside? Have the urban and the natural become the same? Is the idea of limit and border still operative

**1** For example, *Architectural Design* has devoted a whole edition to this topic: Gissen, David. "Territory: Architecture beyond Environment." *Architectural Design* 80, no. 3 (May 2010).

**2** Stuart Elden, *The Birth of Territory* (University of Chicago Press, 2013): 322.

**3** *Ibid.*: 7.

Picon, Antoine. 4  
“What Has Happened to  
Territory?” *Architectural  
Design* 80, no. 3 (May 2010):  
94–99., and Picon, Antoine,  
and Karen Bates. “Anxious  
Landscapes: From the Ruin  
to Rust.” *Grey Room*, no. 1  
(October 1, 2000): 65–83.

Segal, Rafi, and 5  
Els Verbakel. “Urbanism  
without Density.”  
*Architectural Design* 78,  
no. 1 (January 2008): 6–11.

when dealing with cities? The shift from the dichotomy of the urban vs. the non-urban, towards an understanding of the [dispersed] city as a continuous territory may open new possibilities for theorizing and acting on the city. Edward Soja has argued that every inch of the world is urbanized to some degree, and, much before him, Lefebvre in the 70s foresaw a world completely urbanized; recently, Antoine Picon coined the term “Technological Landscape” to explain the post-industrial shift from the condition of “the city in the landscape” to “the city as the landscape.”<sup>4</sup> Within this debate, to understand the relationship between the city and the territory seems essential if one is to understand – and further intervene in – a city that spreads continuously as Mexico City does.

An entry point on the subject is the condition of dispersal itself, which is inseparable from the discussion of the city and the territory. Dispersal is used here as suggested by Rafi Segal and Els Verbakel for the umbrella of terms related to urban expansion, sprawl, and redistribution as generators of low-density environments.<sup>5</sup> Dispersal is perhaps one of the few spatial characteristics common to any mega city, and in Mexico City, the most predominant. The continuous expansion of the city outwards is definitely associated with a vision of what city growth should mean; in the Mexican case, the constant three-story maximum height limit, the uninterrupted paving of new roads, and the exhaustive multiplication of the grid, together build a conjuncture for which the only answer is to spread the urban fabric. Consequently, urban dispersal appears in tension between control and spontaneous occurrence; the question that is inevitably posited is if this spread is a tactic to build territory by controlling land, or simply a dysfunctional consequence of the lack of governmentality. This doubt

is raised because, despite the visible lack of governmental control over the city's growth (reflected on the lack of planning and provision of infrastructure), the newly built areas, even if informal, keep replicating the same urban pattern that structures the whole city.

This urban pattern is generated by the creation and extension of Mexico City's territory through a Cartesian logic: the control of land and the enlargement of the city's sovereignty – growing into the adjacent states – occurs through a mechanization of space, which is materialized by the exhaustive application of the orthogonal urban grid. This generates a space that, because of its geometrization, becomes rational and predictable, while in its extension is it infinitely divisible.<sup>6</sup> In this sense, the Cartesian grid is the most direct way to uncritically extend the city's territory under a capitalist system, because it is abstract enough to not demand previous knowledge of the existing site conditions (the state of nature), while turning land into a measurable unit. Similar to the way Mumford explains the American city, the rationality of the grid allows treating “the individual lot and the block, the street and the avenue, as abstract units for buying and selling, without respect for historic uses, for topographic conditions, or for social needs.”<sup>7</sup> In other words, the abstractness of the Cartesian space is rendered exactly to meet the criteria of function, utility and efficiency.<sup>8</sup> Analogous to what the *projection screen* did for Perspective, the urban grid acts as an instrument of control: it is used to capture reality and break it into manageable pieces that are then reconstructed on another surface.<sup>9</sup>

Although the grid can be seen as a territorializing tool to register and gain instrumental knowledge of the former natural landscape, it is also a neutral geometrical device. Its neutrality lies in the fact that the grid does not necessarily need to be applied with political intentions;

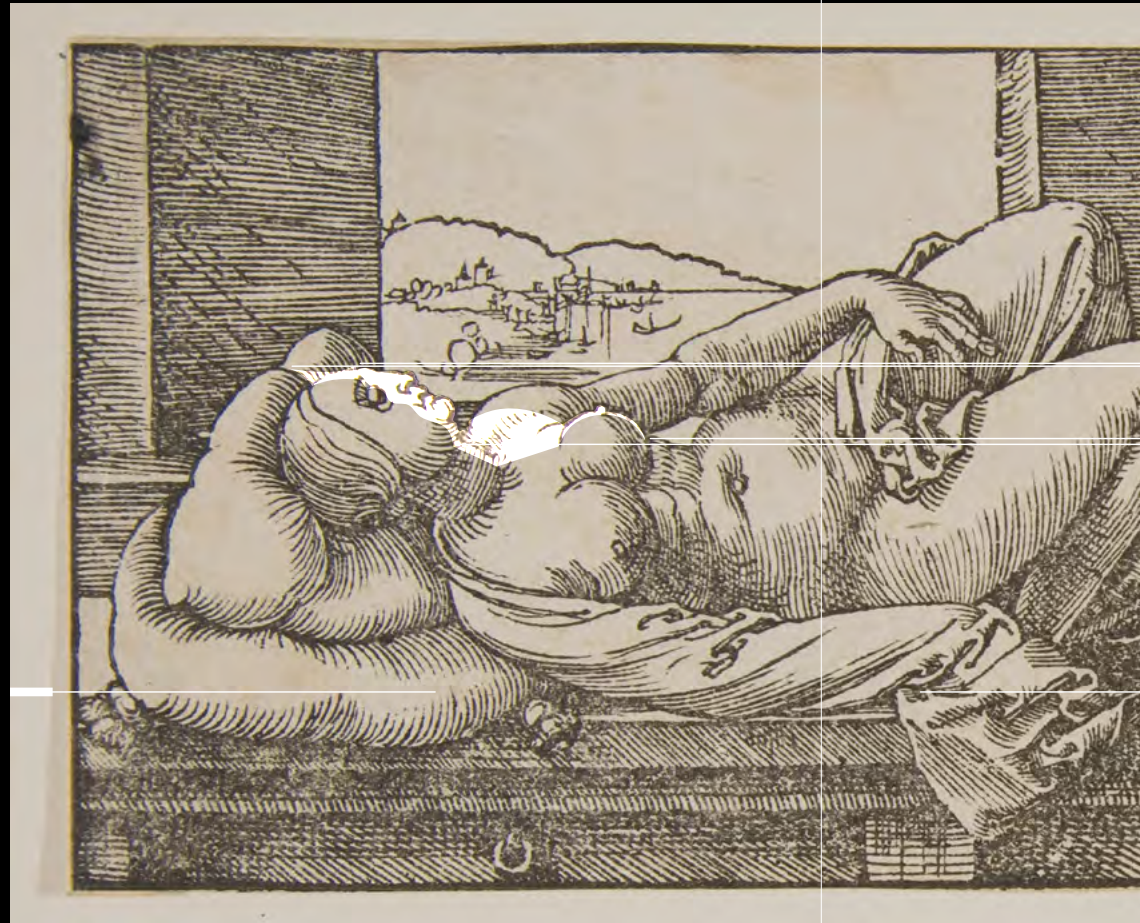
6 “Descartes, Rene | Internet Encyclopedia of Philosophy,” accessed November 11, 2014, <http://www.iep.utm.edu/descarte/>.

7 Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects* (New York: Harcourt, Brace & World, 1961): 421.

8 David E. Denton, “Notes on Bachelard's Inhabited Geometry,” *Environmental & Architectural Phenomenology Newsletter*, accessed April 12, 2015, <http://www.arch.ksu.edu/seamon/Bachelard.htm>.

9 Jack H Williamson, “The Grid: History, Use, and Meaning,” *Design Issues* 3, no. 2 (1986): 15–30.

The grid as a medium to render nature as a rationalized form,  
therefore subject to control







Albrecht Dürer's Projection Grid (16th c.)



David Friedrich's Wanderer above a Sea of Fog (c. 1817)

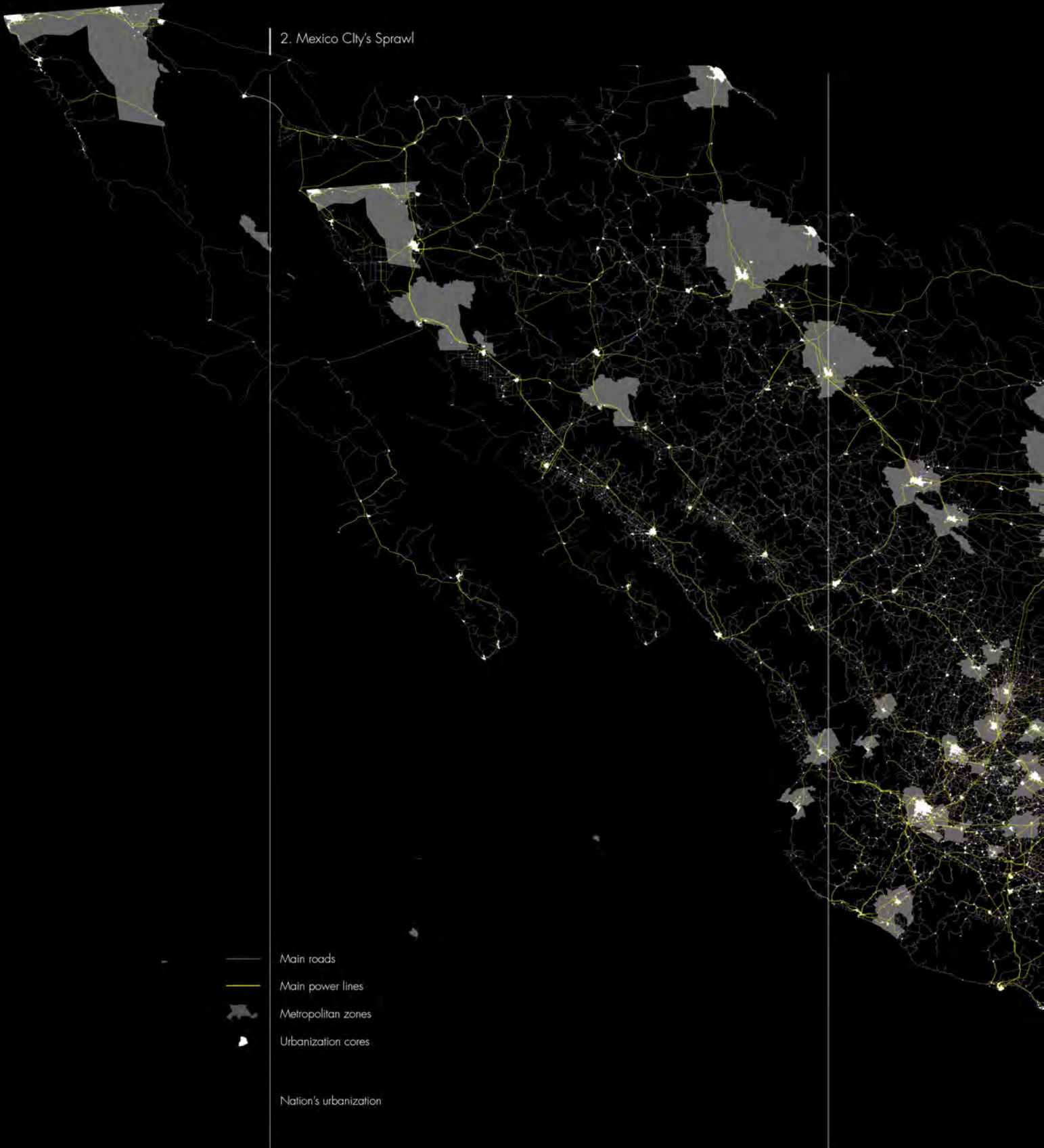
rather it can be deployed solely as an efficient and fast way to take possession of the land. I argue this is the case in Mexico City: the grid is taken for granted and mechanically replicated as the “natural” response to city growth. The uninterrupted extension of the grid generates a built space that appears to stretch *ad infinitum*, making the city boundless and diluting into the landscape. This condition illustrates Antoine Picon’s argument that “the [contemporary] urban landscape is no longer framed. Its absence of borders constitutes a rupture with the Western landscape tradition, which used to depend invariably on a pictorial framing.”<sup>10</sup> Hence, the inhabitants of this city finds themselves in a similar position as that of David Friedrich’s Wanderer, where the subject can now only contemplate the infinity of a space that lies before him and cannot be apprehended; a space that has no end.

Finally, the mechanical extension of territory seems to reflect a conceptual withdrawal from the question of what the city is, or should be, as a political entity. The continuous urban sprawling forces the city to be continuously redefining itself, rather than settling on one configuration and devoting enough time to understand what this configuration means. If, as Pier Vittorio Aurelli holds, the act of framing is always political, it expresses intentions by defining, limiting and separating one part from another,<sup>11</sup> can a city with no boundaries be seen as a city with no clear political intention? This thesis probes this question, exploring how a city can once more redefine its borders so it can be consolidated as a finite form, and thus come to grips with its identity and future intentions.

**10** Antoine Picon and Karen Bates, “Anxious Landscapes: From the Ruin to Rust,” *Grey Room*, no. 1 (October 1, 2000): 72.

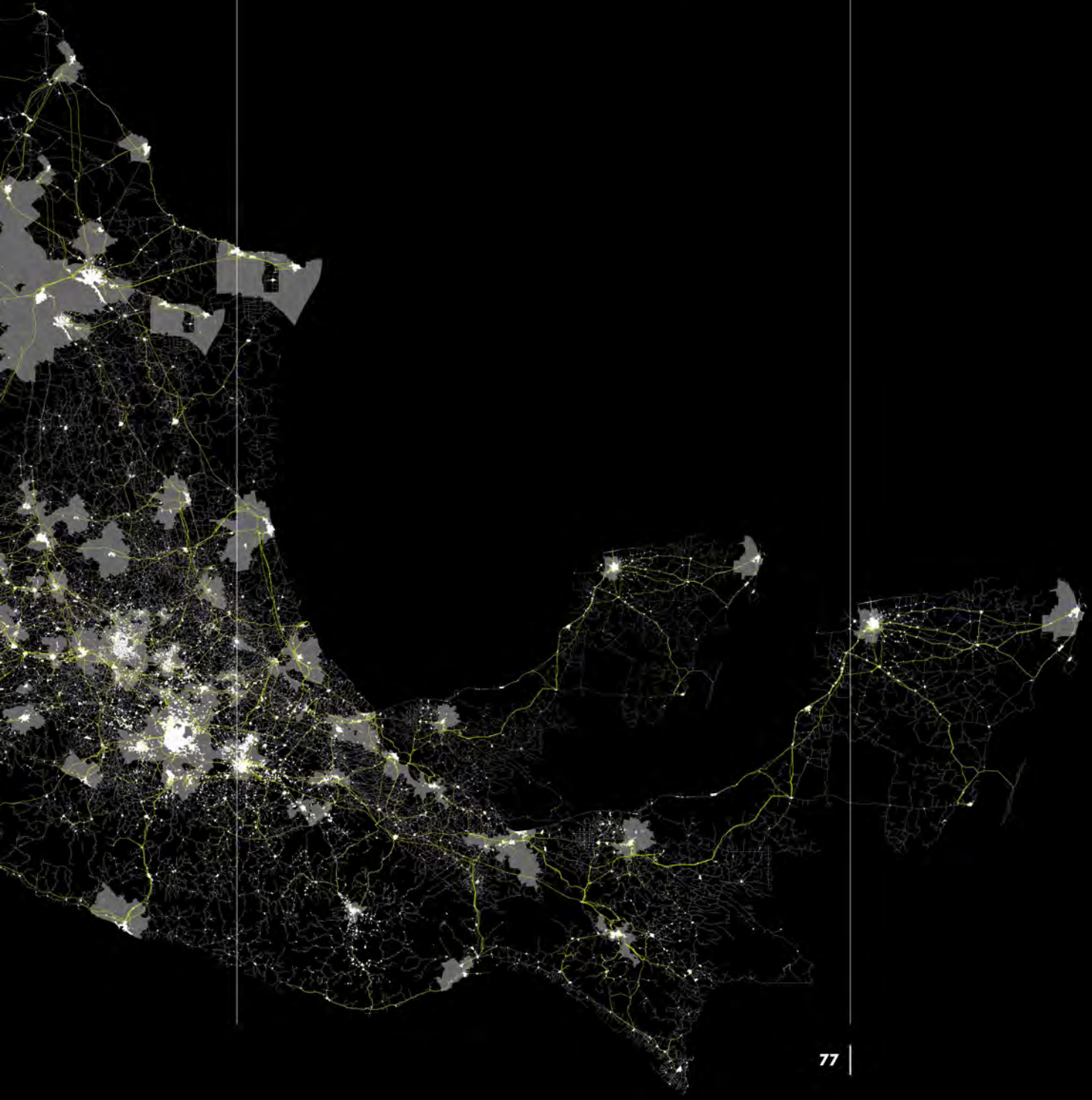
**11** Pier Vittorio Aurelli and Martino Tattara, “Architecture as Framework: The Project of the City and the Crisis of Neoliberalism,” in *New Geographies. 1, After Zero*, by Neyran Turan et al. (Cambridge, Mass: Harvard University Graduate School of Design, 2009):.39.

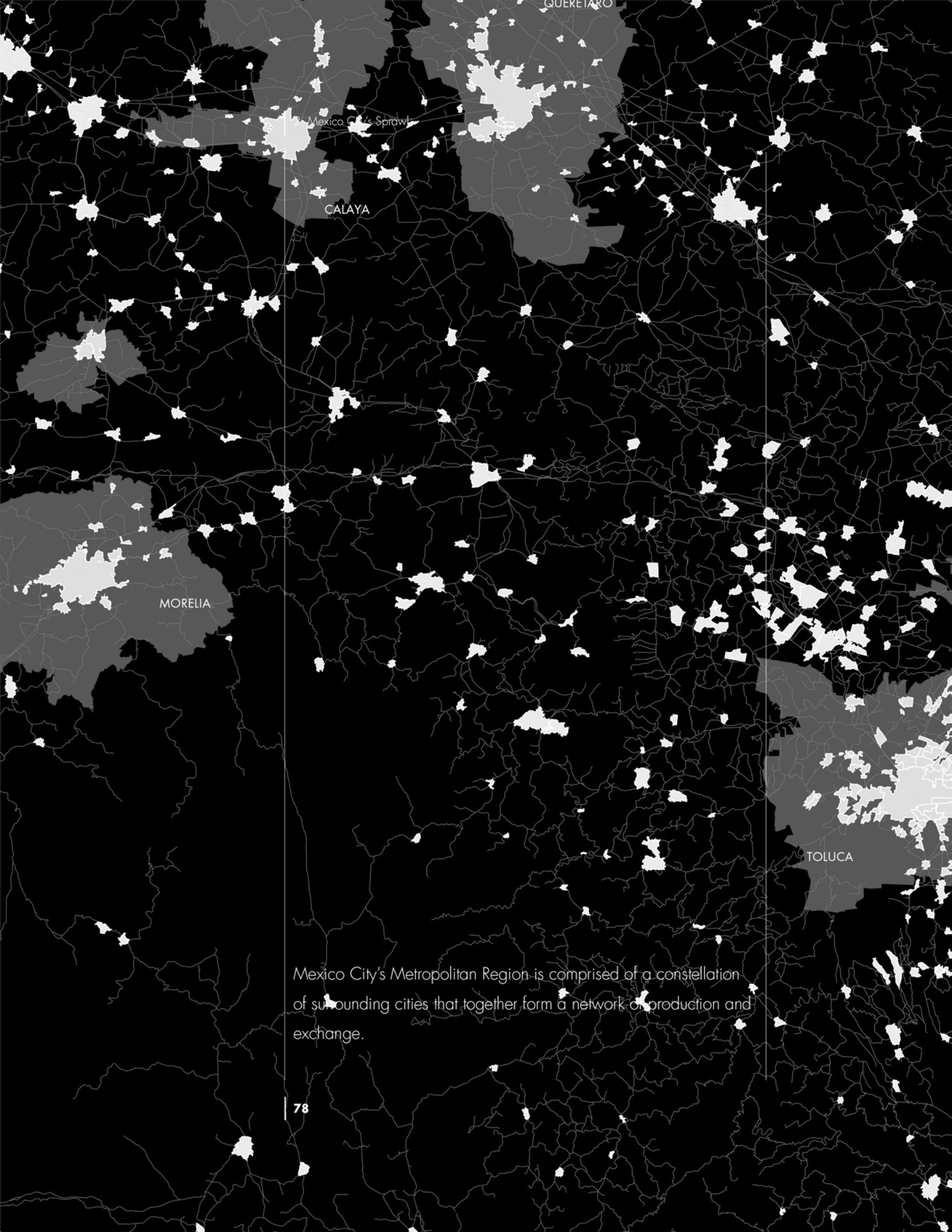
## 2. Mexico City's Sprawl



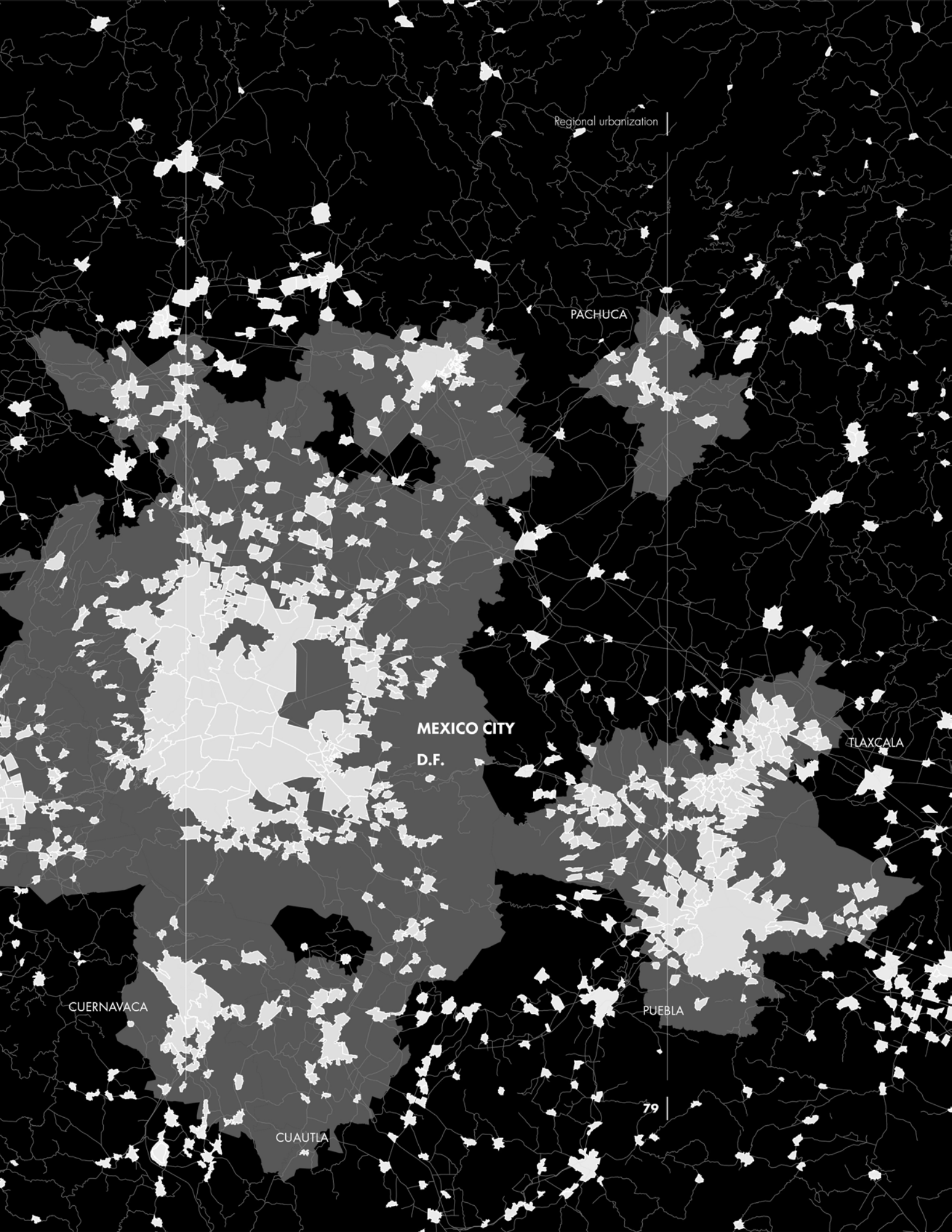
2.2

Mexico City's Urbanization





Mexico City's Metropolitan Region is comprised of a constellation of surrounding cities that together form a network of production and exchange.



Regional urbanization

PACHUCA

MEXICO CITY  
D.F.

TLAXCALA

CUERNAVACA


PUEBLA

CUAUTLA

2. Mexico City's Sprawl

population 

8.6 mi 


20.1 mi 

12.880 /km<sup>2</sup>

**+ 10**  /h 2010 - 2025

Zócalo

transportation

2.6 mi 

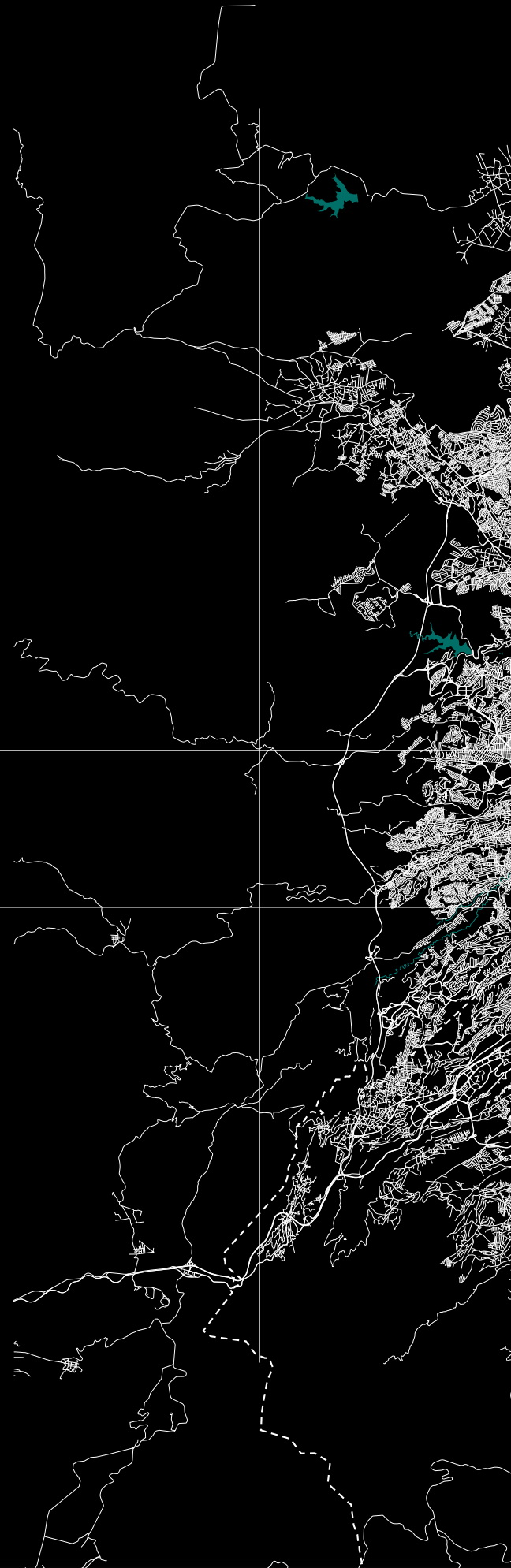
hours commuting

17 million h/day

=

2.1 mi <sup>8-h working days/day</sup>

ZMVM - Zona Metropolitana del Valle de Mexico








2. Mexico City's Sprawl

population 

8.6mi 


20.1mi 

12.880 /km<sup>2</sup>

**+** **10**  /h 2010 - 2025

Zócalo

transportation

2.6mi 


hours commuting

17 million h/day

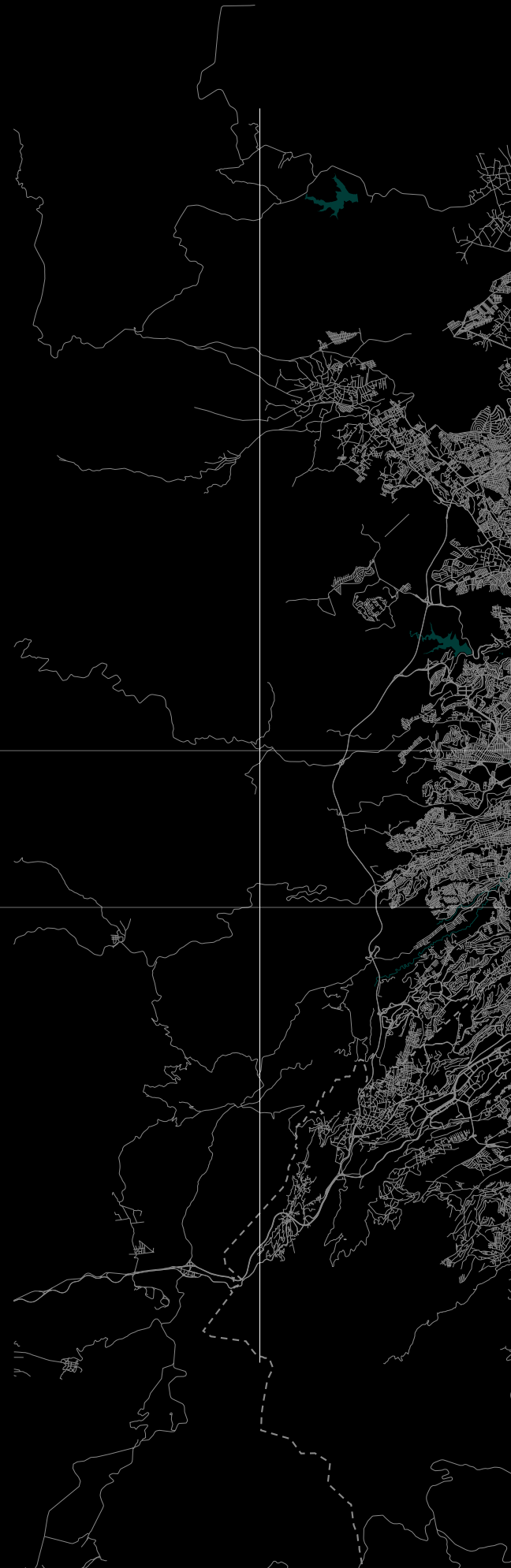
=

2.1mi <sup>8-h working days/day</sup>  
metro system

191 km

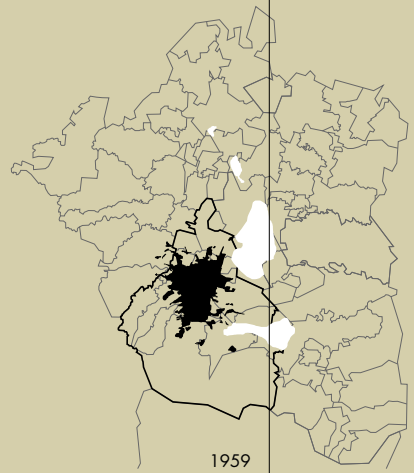
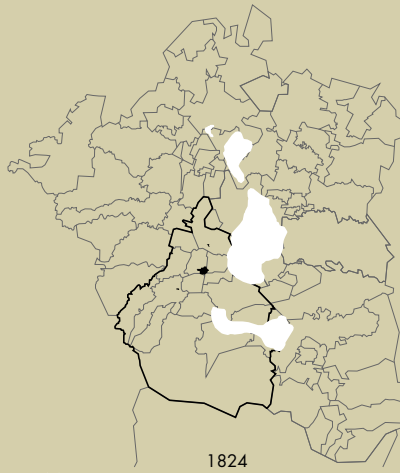
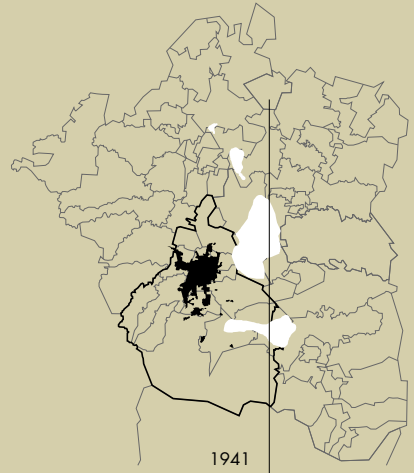
1.3mi  in 11 lines

ZMVM - Zona Metropolitana del Valle de Mexico



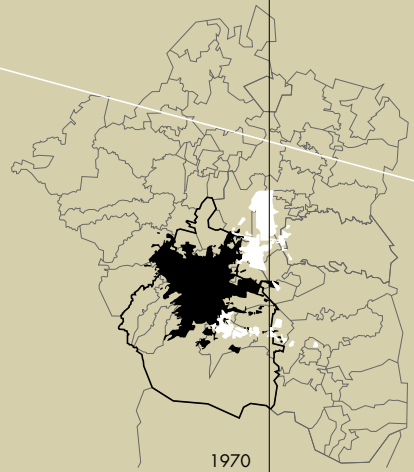
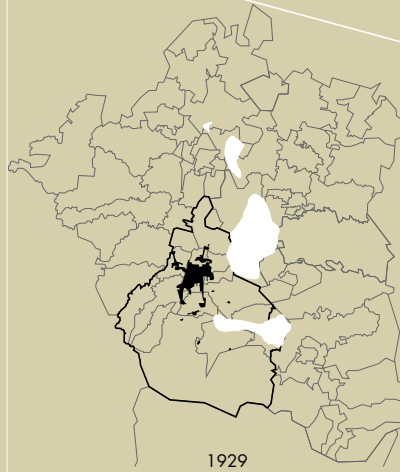


2. Mexico City's Sprawl



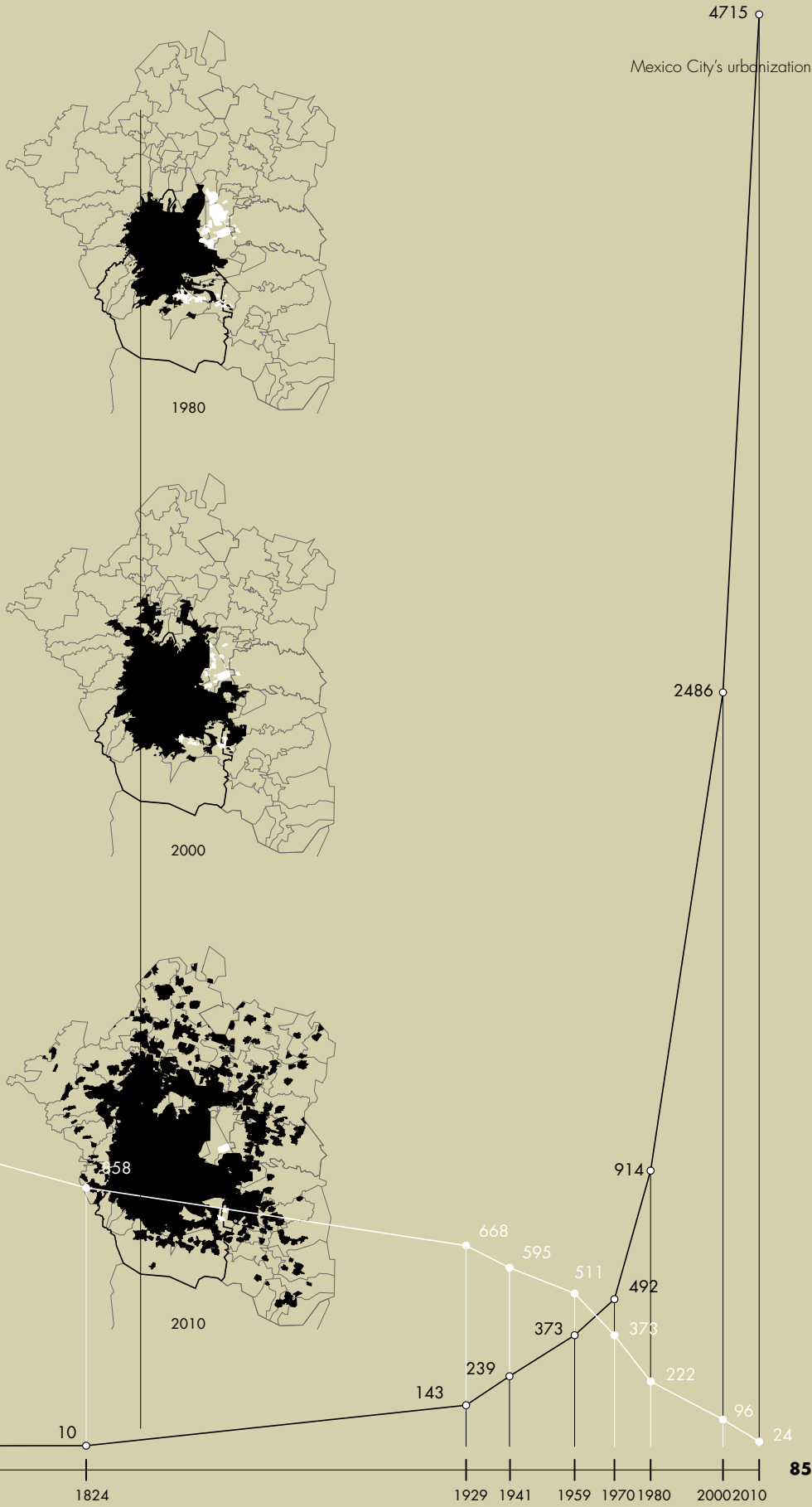
Water Footprint

1844

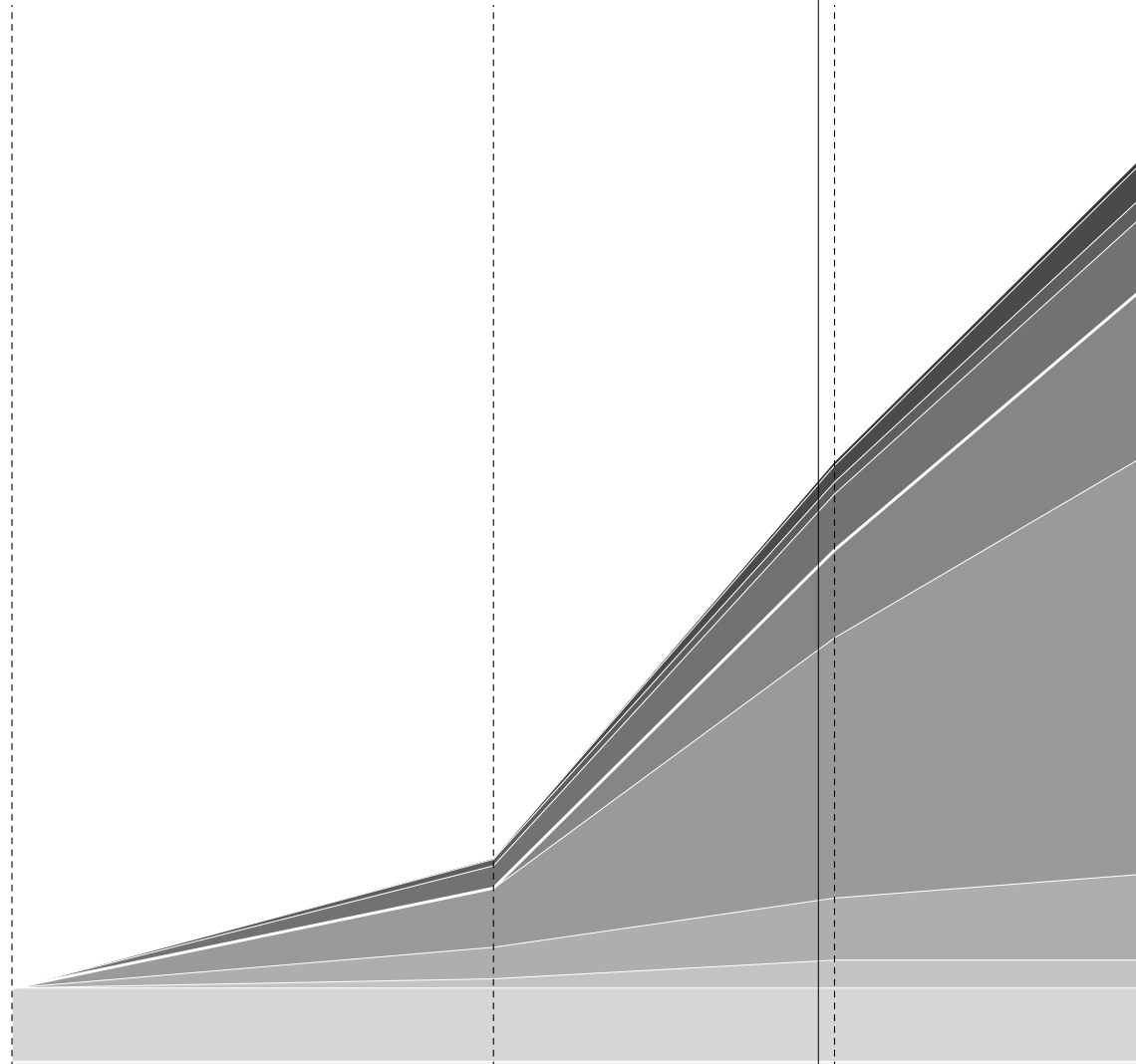


Urban Footprint

7



Among the types urbanization deployed in Mexico City, the subsidized housing developments are the second most predominant after informal neighborhoods (*colonias populares*)



Evolution of the different types of urbanization (*Poblamientos*)

1929

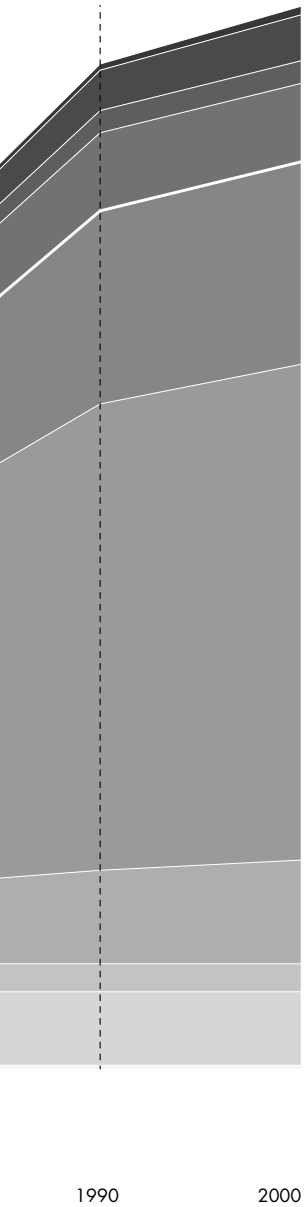
1953

1970


2.3

**Subsidized housing developments**

*a specific model of building the periphery*



57	Uso no Habitacional - <i>No Residential Use</i>
189	Predominantemente no Habitacional - <i>Mostly not Residential</i>
93	Residencial Alto - <i>Residential High</i>
322	Residencial Medio - <i>Residential Medium</i>
<b>832</b>	<b>Conjunto Habitacional - <i>Subsidized Housing</i></b>
thesis range	
2037	Colonia Popular - <i>Popular Colonies</i>
426	Pueblo Conurbado - <i>Conurbated Community</i>
115	Cabecera Conurbada - <i>Conurbated Village</i>
302	Ciudad Central - <i>Central City</i>
15	Ciudad Colonial - <i>Colonial City</i>
<u>4373</u>	Total AGEs (Sensus Tracks)

An aerial photograph showing a vast, dense residential area in Ixtapaluca, Mexico. The houses are small, uniform, and packed closely together, creating a sea of orange and yellow buildings. In the background, a large mountain with a snow-capped peak rises against a clear sky. The foreground shows a busy street with a market area featuring colorful awnings and stalls.

## 2. Mexico City's Sprawl

The neighborhood of Ixtapaluca is one of the most extreme examples of the urbanization model of the subsidized housing developments: endless mechanical repetition of single-family houses. Generally poorly built and without the basic infrastructure and services, those neighborhoods reach a vacancy rate of **40%**.





2. Mexico City's Sprawl

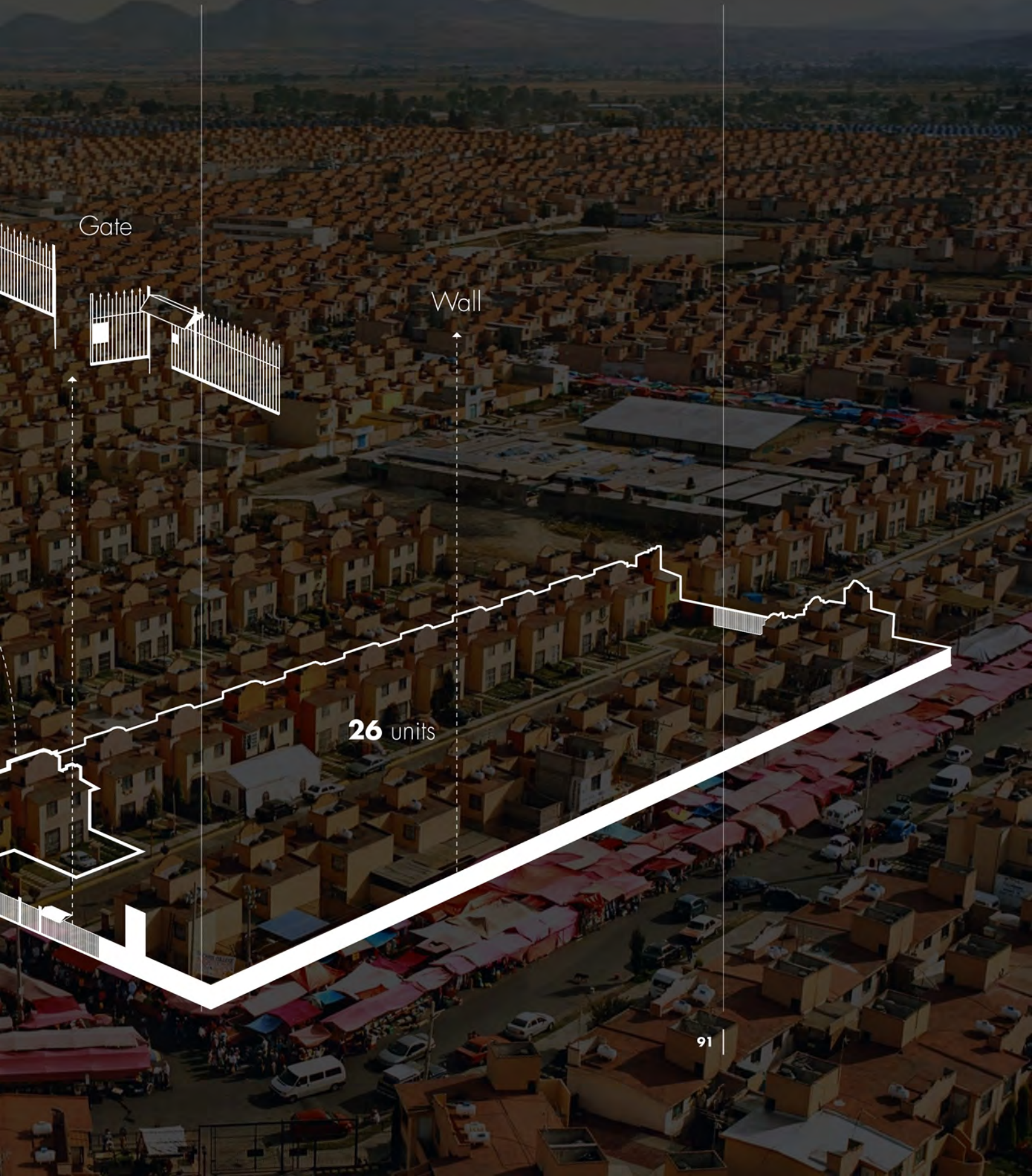
private garden

pediment

x **20,342** units

moments of **identity**: your car + your mailbox





Gate

Wall

26 units

The streets are the last remaining breath of democracy



Monotony *as rule*

Diversity *as scape*



### Erased City

One of the most pressing problems of the subsidized housing developments is not only the homogeneity of the urban environments generated by them, but their closeness. They are designed as enclosed communities where each family owns their own house, their own front yard, and their own private car. The image of the field of repeated houses, the strongest visual component of these developments, hides a more complex structure of exclusion that is replicated in every level of their organization. In the scale of the neighborhood, they are designed without any consideration for their surroundings; they are deployed in any location without adjustments to the places they are inserted in. In a street scale, smaller groups of around 20 to 30 houses are grouped in fenced condominiums, detaching the houses from the public street. By doing this, there is a break between the public and the private domains because it eradicates the two fundamental aspects that keep disparate systems balanced: conflict and contact. These two aspects generate a dialog and constant negotiation between the parts that prevents them from becoming absolute and centered on their own. The third exclusion happens on the building scale, the single-family houses act as units of individuality where little exchange is possible with the community. As a result, if these layers of exclusion are taken in consideration, these neighborhoods can be conceptually understood as missing parts of the city; they are not inserted in or perform any task in the collective system that constitutes it. As if deleting them from the map, the sheer size of their footprints added together can be seen as forming an erased city from the Mexican metropolis.

Zona Metropolitana de la Ciudad de Mexico



Subsidized Housing

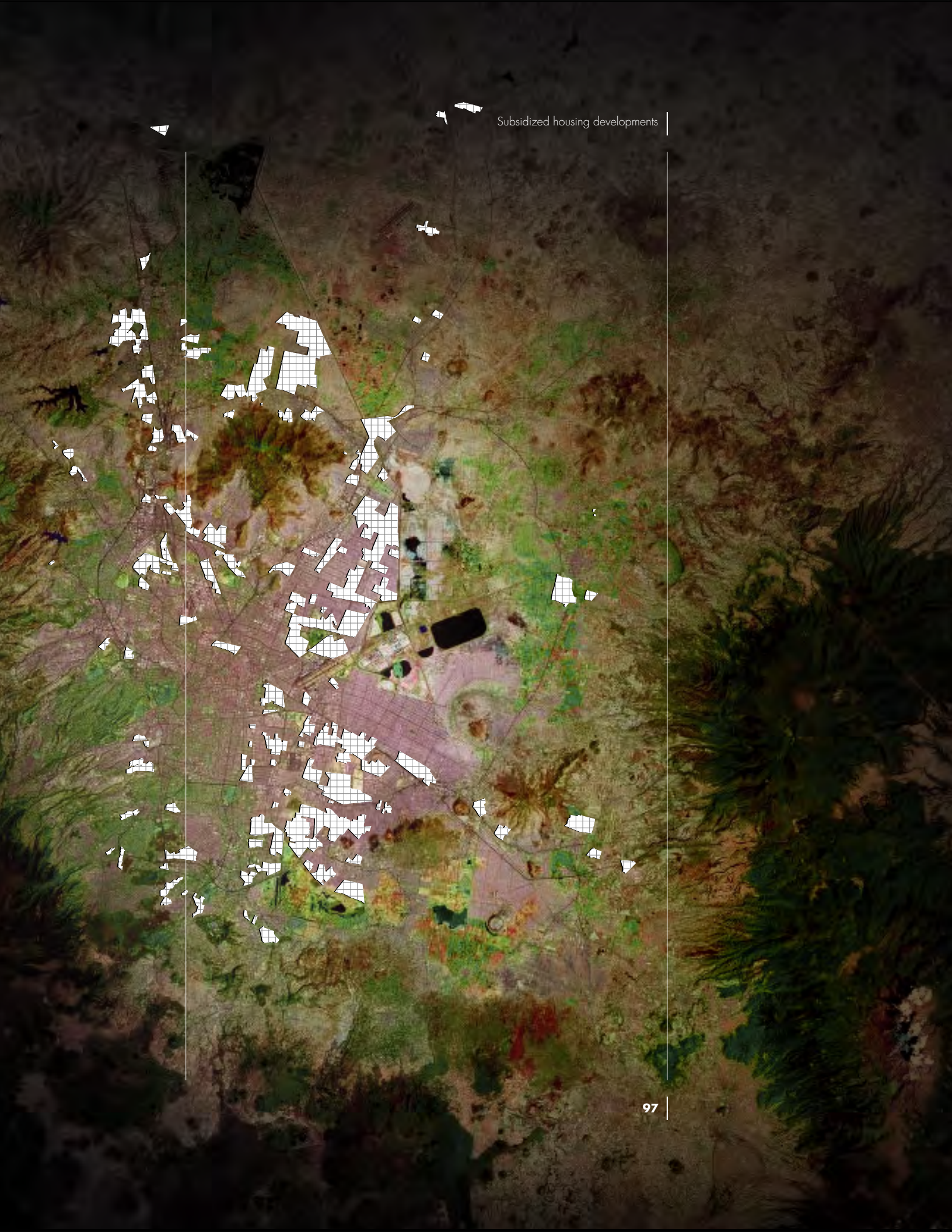
660mi homes

**17%** ZMCM's urbanized area

115 km<sup>2</sup>

Zona Metropolitana de la Ciudad de Mexico





Just as a matter of understanding what Mexico City is constituted of, deleting also the *colonias populares* from the map leaves the city with 42.2% of its built area, only.

Subsidized Housing +  
Colonias Populares

3,320mi homes

**57.8%** ZMCM's urbanized area

795 km<sup>2</sup>

Zona Metropolitana de la Ciudad de Mexico



## 2.4

### Formal and Visual Analysis

What is the urbanism that comes from the subsidized housing developments? How is to be inside these places? This part intends to visually show which kind of city these neighborhoods, generated by the housing developments, create. It analyzes some of their examples first through a bird-eye-view photographic essay by Jorge Taboada, then by satellite pictures and drawings that show the structure of these neighborhoods, the place they are inserted in, the unit that is repeated, and the amount of times the repetition occurs.

These neighborhoods are usually built in cheap land on the outskirts of the city. Their borders are shared with other housing developments, agricultural fields, or insipient, self-built informal neighborhoods. Completely detached from the city, there is no urbanism intentions associated with these places: they are the simple result the execution of an excel sheet where the goal is to meet the number of units to be built for maximum profit. These neighborhoods are not connected by public transportation lines, which makes commuting a problem and forces their inhabitants to own a car, nor offer amenities, commerce, or public facilities to attract outside users, or even simpler, to provide their own people the daily-life services they need. Furthermore, the contractors who build these places have power over the final configuration and are allowed to impose highly strict regulations to control the built form, which inhibits the possibility of adaptation of throughout time. All this together create a conjuncture that makes living in these places many times impossible – this understanding has started to surface in discussions about the model under which the city is expanding. It should be clear by now that this type of urbanization can no longer be used and that we have to find solutions of the thousands of square meters that were already built this way.









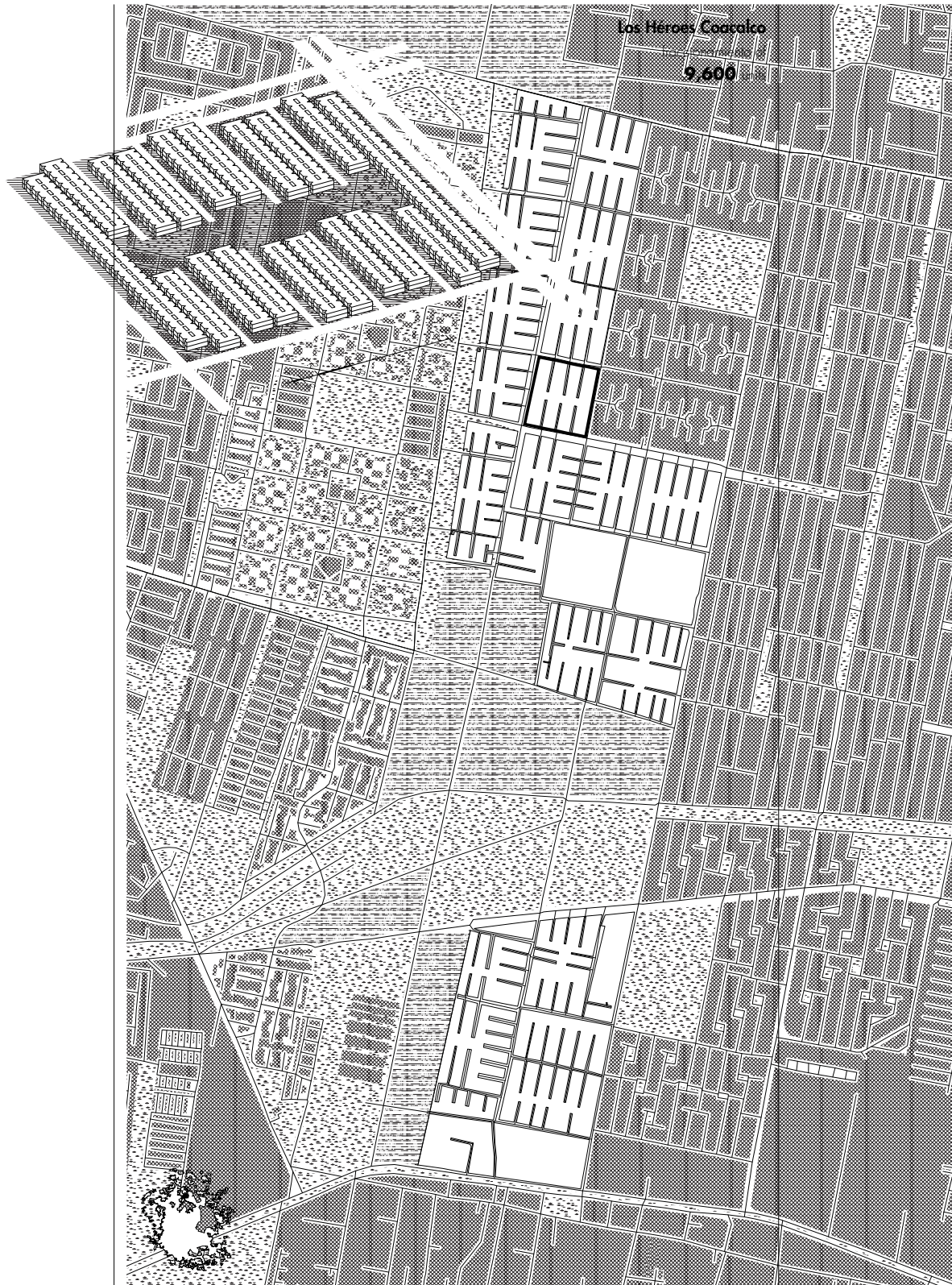


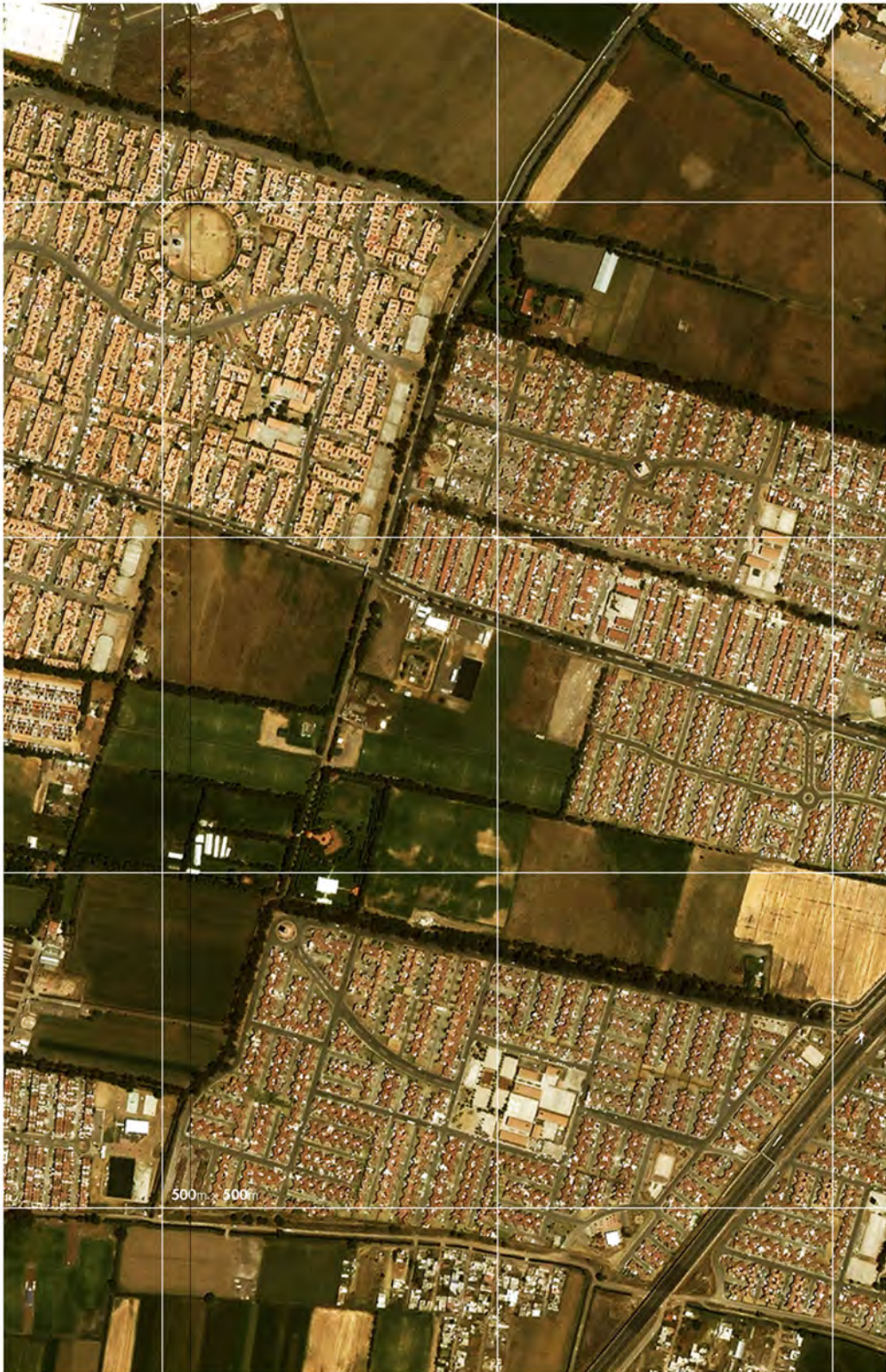


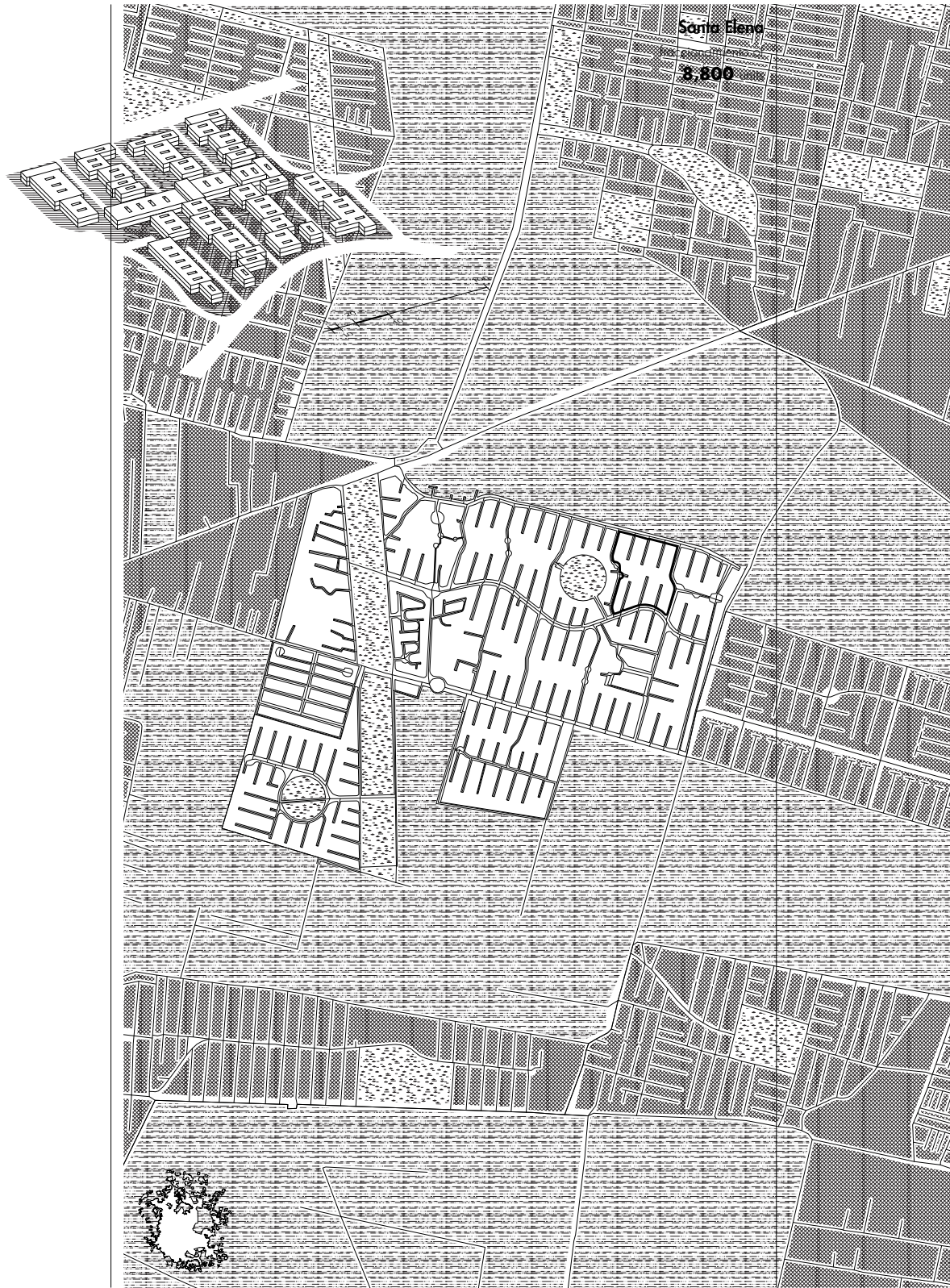






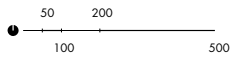
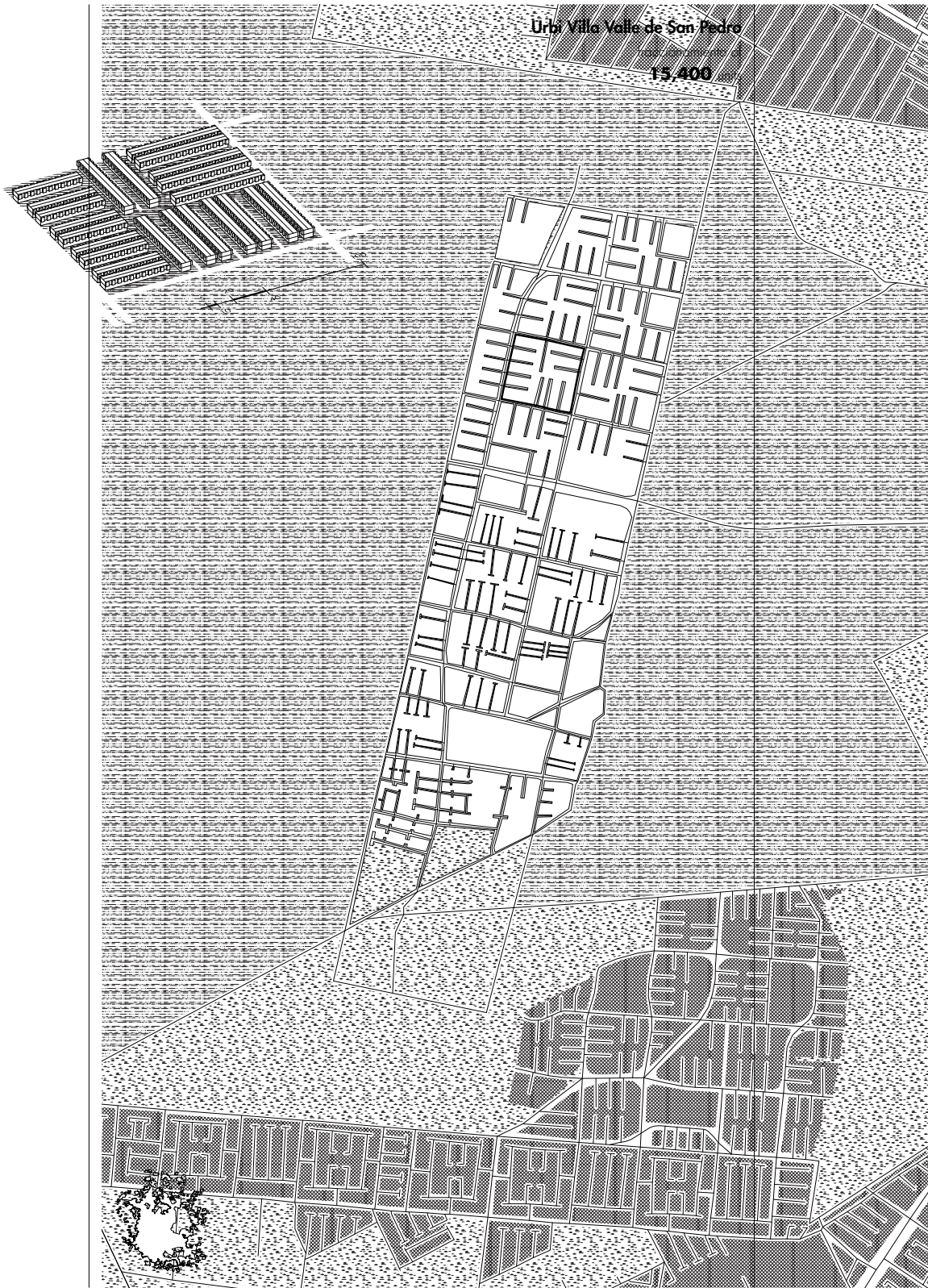




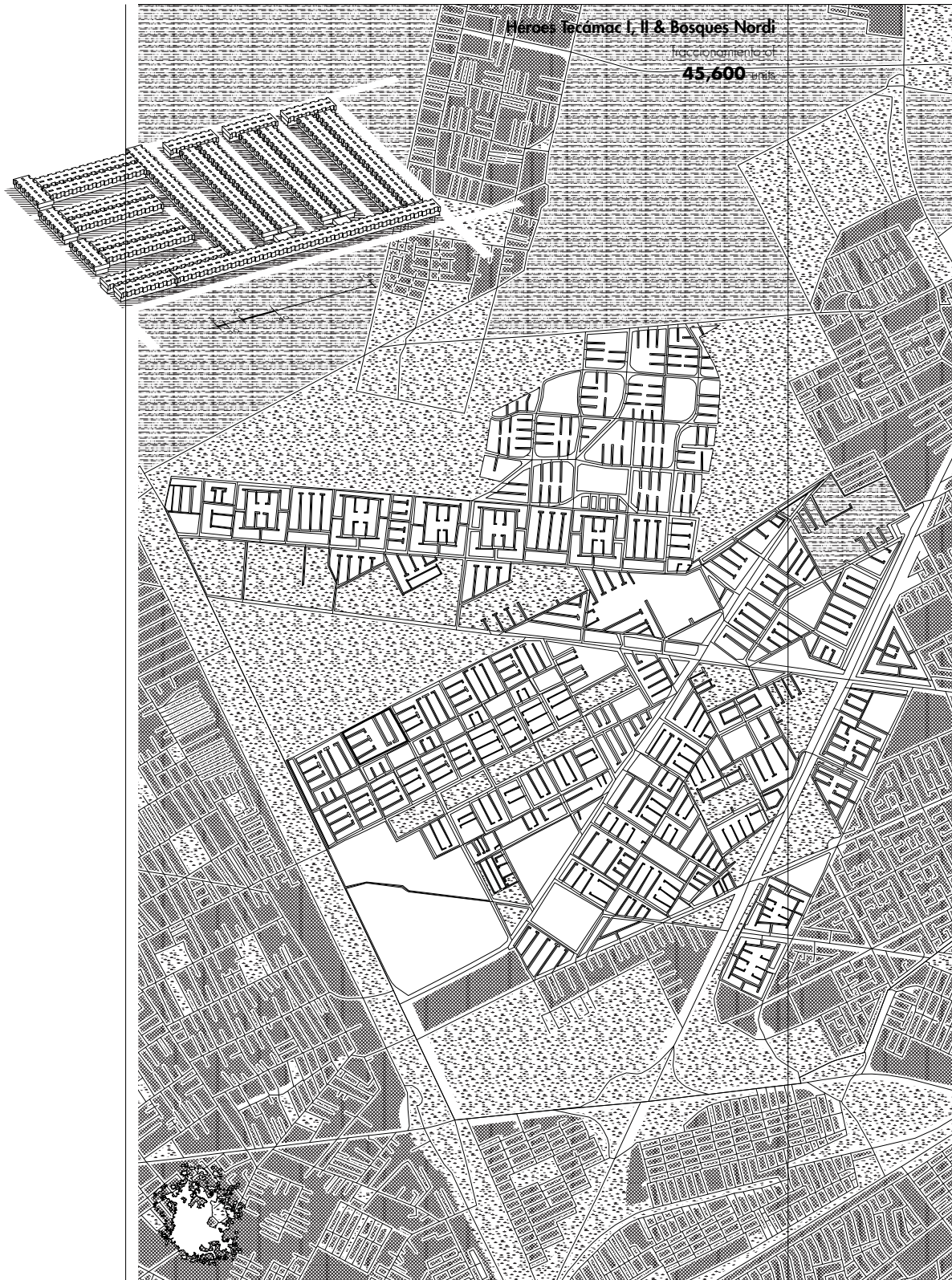




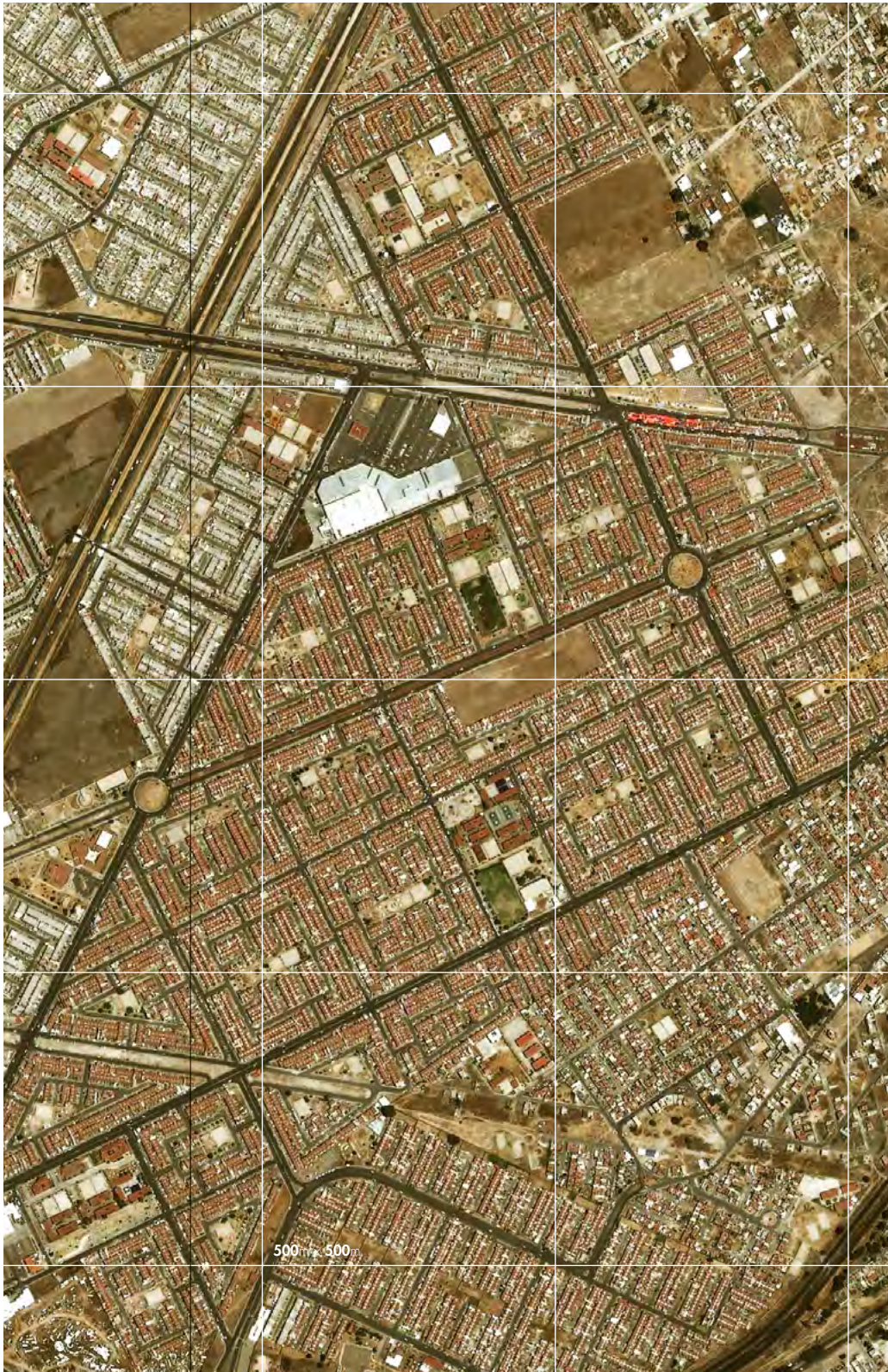






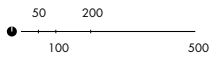


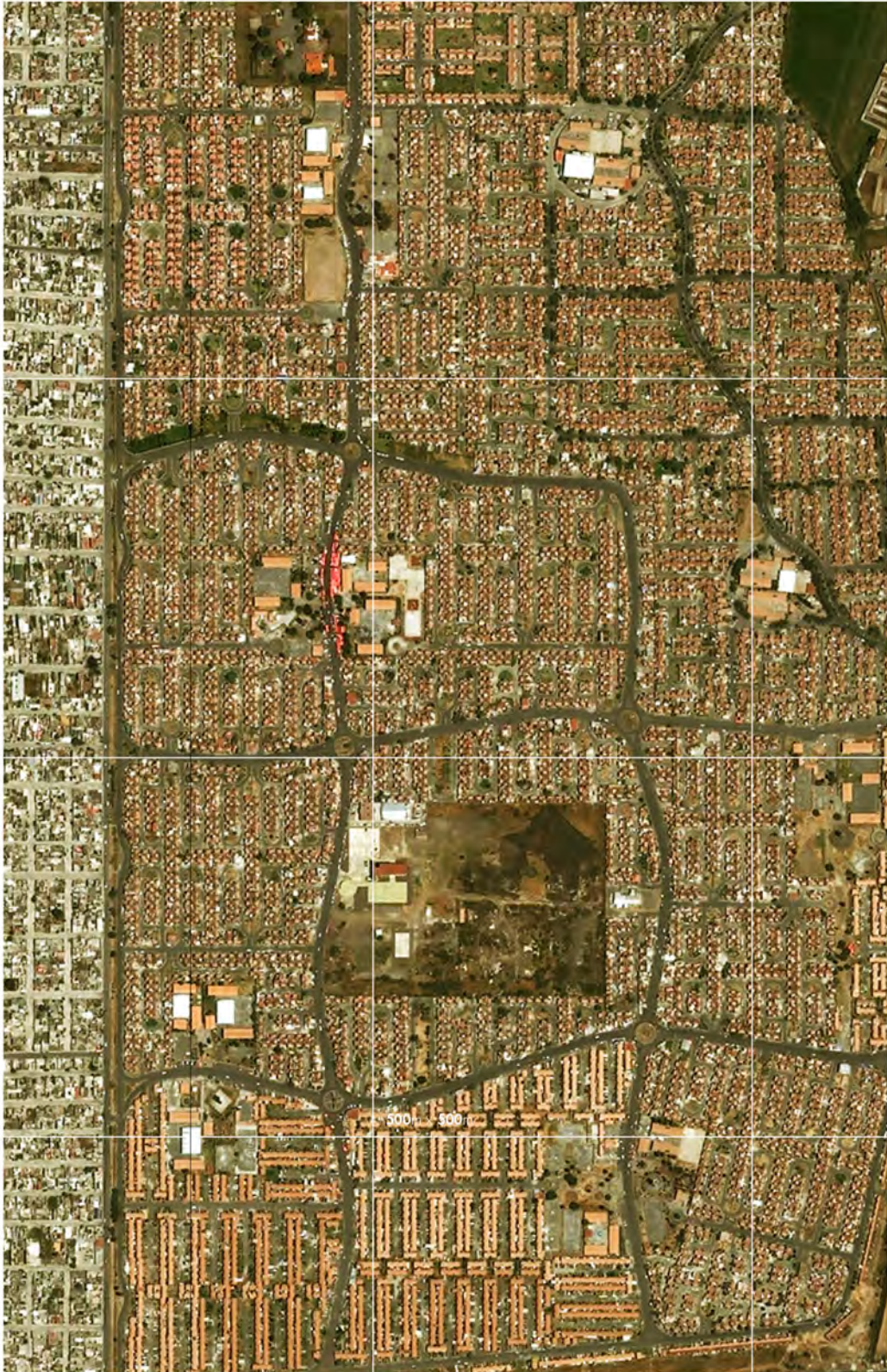
2. Mexico City's Sprawl





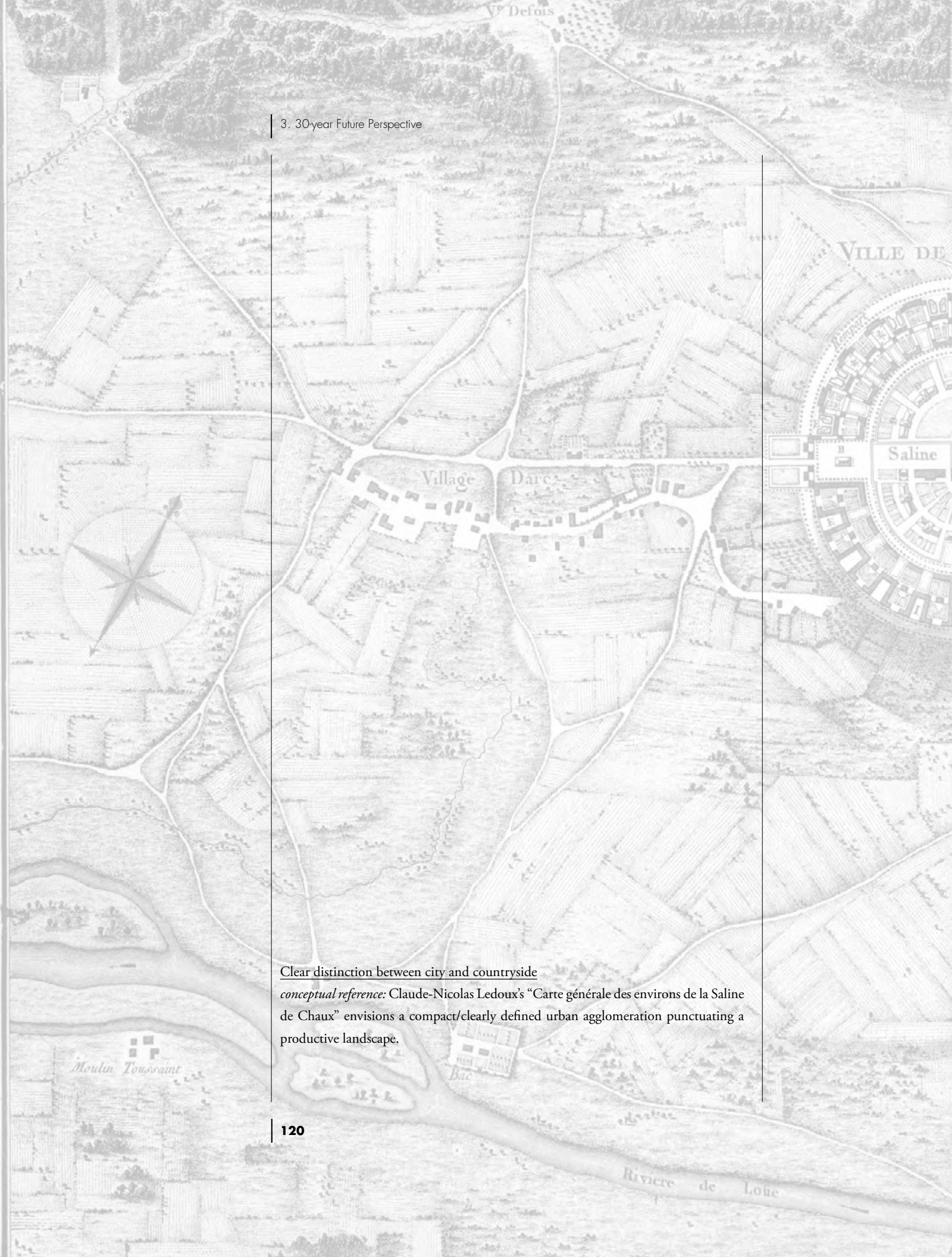
Heroes Tecamac II, IV, VI  
23,000





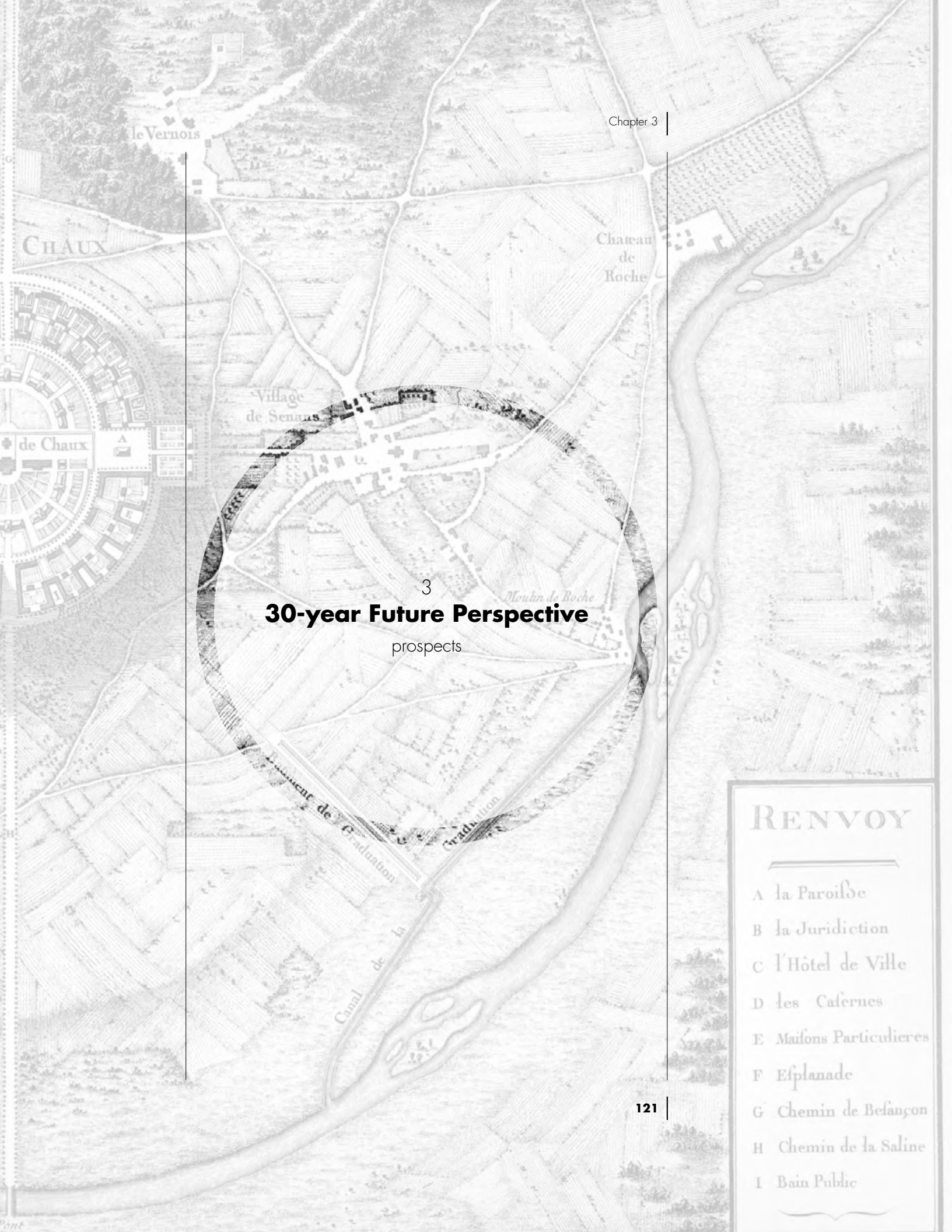


3. 30-year Future Perspective



Clear distinction between city and countryside  
*conceptual reference:* Claude-Nicolas Ledoux's "Carte générale des environs de la Saline de Chaux" envisions a compact/clearly defined urban agglomeration punctuating a productive landscape.





3  
**30-year Future Perspective**

prospects

# RENVOY

- A la Paroisse
- B la Juridiction
- C l'Hôtel de Ville
- D les Cafernes
- E Maisons Particulieres
- F Esplanade
- G Chemin de Belançon
- H Chemin de la Saline
- I Bain Public



## 3.1

The problem of uninterrupted urban sprawl

With modernity, it was no longer possible for cities to be confined within a finite space, such as the one demarcated by defensive walls, and they sought to expand in order to both accommodate the population jump and increase control over a larger territory. Until now, the physical growth of cities still goes hand in hand with the notion of prosperity. However, this has proven to be a misconception. Physical growth is not necessarily good, but because it is material – the building of things is represents progress – it is easier to be perceived as positive. Contrary to the growth of the economy or educational indexes, as an example, that are immaterial and less clearly associated with a one-to-one reaction, construction has a direct impact on the environment, it occupies a space that was once empty, unblocked.

The 20th century saw city growth gain massive proportions, to the point of completely changing the scale of many cities, and urban sprawl become the ubiquitous outcome. This sprawl did not take many shapes, the American suburbs being its apotheosis, nor was it subject to critical thought; as a result, today, thirty years distant from the explosion of this phenomenon, it is well known that cities have grown following an unsustainable model. I maintain that many cities were careless about their growth because of a desire for profit, and the heating up of the economy were more important than people's well being, the distribution of wealth, and the environment. Cities fabricated an intentional naivety with the purpose of opening a ground for "progress."

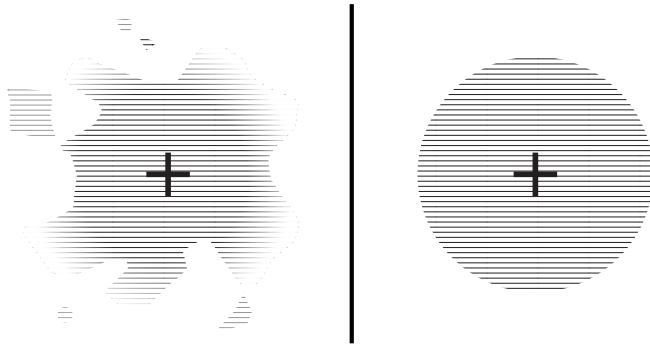
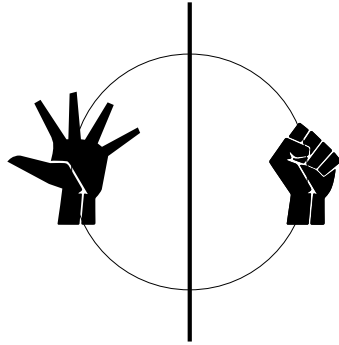
Recently, this mentality has changed to an understanding that a city simply cannot grow forever, and physical expansion comes with high costs. Because of the discussions around climate change, the environment has received enormous importance and has been placed at the center of discussions about the size of cities and, specifically, the periphery. Although in fact a critical component, the environment is by far not the only, or even the most relevant, in arguing for limiting the city's physical growth. What follows is an analysis of the problems of uninterrupted growth, of limitlessly sprawling the urban fabric throughout the territory, to build an argument for its opposite: to once more frame the city.

### CONTROL

One of the highest costs associated with urban sprawl is a managerial one. How can a city with no limits be managed? When urban growth cannot be controlled, so cannot the city. The city cannot expand loose, it has to follow strict guidelines, and respond to a whole system. Urban growth has to be part of a project for the city. We must get back in control.

### LEGIBILITY

Through a finite form, complex systems become intelligible and of easier access. The definition of form comes with the building of identity; once the city is related to a specific form it becomes easier to read, understand, and recognized it as one whole. Boundaries also represent political intentions, thus its opposite, the continuous field, can be seen the lack governmentality. A line that divides a territory comes charged with the idea of what each side should be. The city has to know its physical limits.

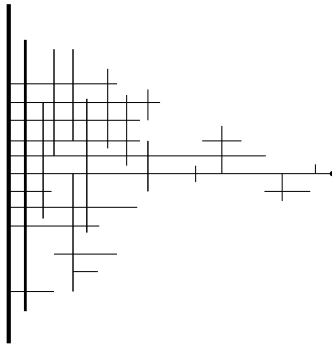
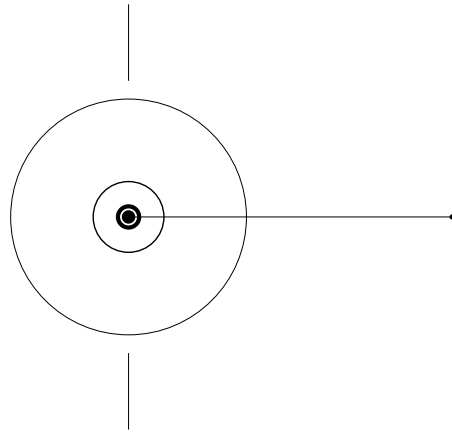


### DISTANCE

Distance is a critical factor in sprawling cities. The more the city grows horizontally, the more distances are stretched and inhabitants are pushed away from the center. Commuting becomes a charged and costly activity that has to be seriously weighted before happening, instead of a light practice, almost as an extension of one's curiosity. This condition generates an impediment for the city to be explored and used in its entirety; thus, rather than an open field of connections and flows, it starts to be organized as a constellation of self-confined zones, generating segregation. Distances have to be shortened, and accessibility unimpeded.

### INFRASTRUCTURE

Similarly to the problem of commuting, infrastructure's efficiency gets worsen with distance. Extending the grid (road, electricity, sewage, water) towards the periphery is the highest economic cost of building suburbs. As it stretches outwards from the denser parts of the city, infrastructure becomes gradually isolated and monofunction. Even if less people use it, infrastructure can never go below a basic functional mass/size; the rate of people supplied to infrastructure's volume drops proportionally to distance covered. To some infrastructural systems, such as water, this distance makes them heavily demanded and sometimes expensive to the point of becoming prohibitive. Infrastructure has to be concentrated rather than spread.



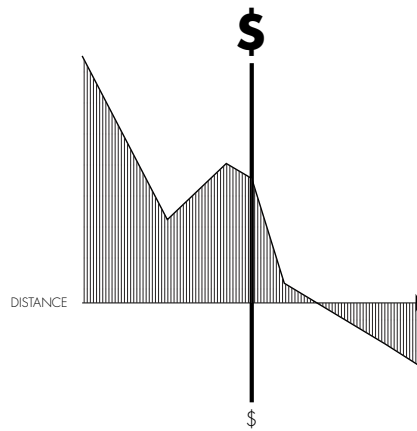
### URBANITY

The city becomes more unattractive as it moves far from its core. The city is a place where one is constantly being stimulated by its surroundings, a place where many different flows intersect, a heterogeneous environment where urbanity can occur. The feeling of experiencing the urban, with all the opportunities, pleasures and dangers that comes with it, can only happen in the denser parts of the city, where functions overlap and large amount of people unintentionally meet. The city should embrace and foster its urban character.

### POVERTY

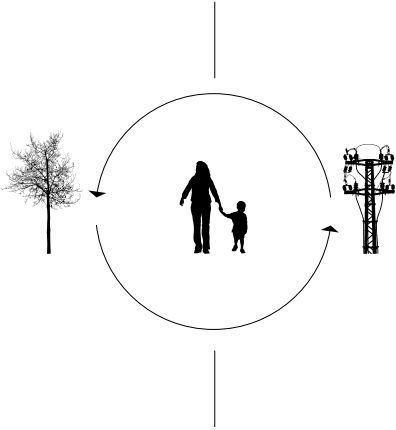
The farther from the more consolidated areas of the city, the poorer their inhabitants tend to be. The periphery is historically the solution to host the lower classes, and that has not changed much. Many of the cities' peripheries are poor places, lacking basic infrastructure, public transportation, and services, among many others. Largely due to the low price of land, these places are used for profit only, and the built environment eventually becomes the simple accumulation of precarious constructions. The poor has to live inside the city in order to share the same benefits and infrastructure as the rich, thus being exposed to more opportunities and enhancing their quality of life.





### ENVIRONMENT

Discussions around environment have generated the most intense attacks against urban sprawl. Indeed, sprawling cities besides having elevated levels of CO<sub>2</sub> emission due to commuting, consume natural land that could be used to counteract the carbon footprint of the urban environment. The amount of asphalt needed, the low-density neighborhoods, and the urbanization model of the stretching periphery can no longer be afforded if cities are to become better integrated with the natural environment. Environmental consciousness will help lead, concomitantly, de-urbanization and extreme concentration.



### 3.2

#### Limiting physical growth

In order to think about, and design, the role the periphery should play in Mexico City, it is necessary to imagine how the city growth will unfold in the coming future. In thirty years, three million and a half more people will be demanding a place to live and work. Even if the city would not grow, there were already enough problems to solve in this period. If it aspires to grow wealthier while enriching its population and their quality of life, one fundamental aspect to be engaged with is the physicality of the metropolis, its size, form and configuration. Mexico City has to change the paradigm of managing its physical resources: move away from being negligent of its spatial arrangement, to start seriously controlling and planning its built, and unbuilt, space.

Mexico City developed horizontally because initially there were no major limits or barriers to its expansion. Having mastered the channeling of the river from the beginning, the Spaniards found in the Mexico Valley a blank slate from which to conquer land. They laid down an extendable system, and the grid has since then been used as the way to stretch the city through the territory. Although geography provided the possibility of uninterrupted growth, it also brought the first resistance to this growth: in the middle of the 20th century, the urbanization reached the mountain chain on the west and the hill on the north. The hill was easily encircled but the mountains remain as a fixed rigid line. The second resistance was artificially built: northeastwards a line was drawn to secure both what remained of lake Texcoco (which dried, regardless), and land for federal use and large-scale plants (water desalination, sewage, garbage dump).

Until the 70s, Mexico City was confined within the range of these two lines, developing smart ways to adapt the urban grid, densify, and use these barriers as elements of urban design. The urban fabric of this city in 1980 is proof of how urbanization can be organized within a finite area. However, from that point on urban sprawl became rampant, boosted by weak urban policies and the country's open adherence to neoliberalism, consuming open land where there were no legal restrictions. The city's built area was multiplied by five. Because of this uncontrolled process of expansion, today the challenge is, firstly, to situate all the pieces of this spread urbanization as parts of one whole,

bigger system, then, to redefine these pieces' roles within this system to plan the future of the city. Mexico City has to substitute the old, failed model of territorial dispersal, and that can only be done by limiting its physical growth: new lines have to be drawn.

Natural Limit




Enforced Limit



3. 30-year Future Perspective

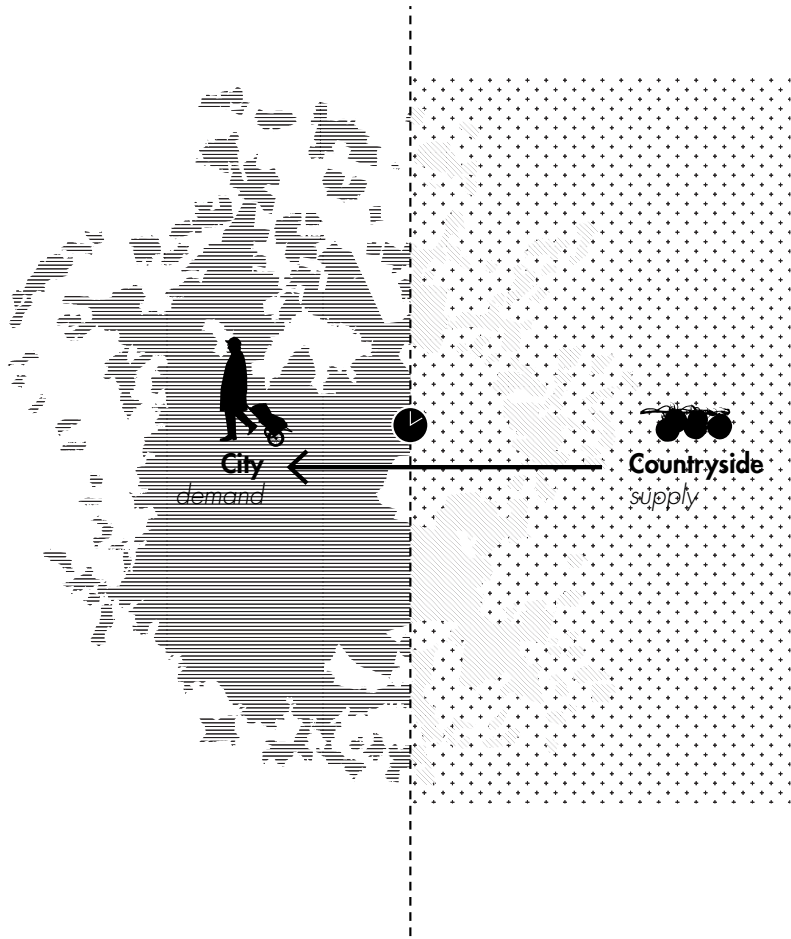




An aerial photograph of a city grid, likely Mexico City, showing a central park area (Paseo de la Reforma) and surrounding urban blocks. The image is in black and white with a high-contrast, almost solarized appearance. The grid lines are clearly visible, and the central park area is a large, dark, irregular shape. The overall tone is dark and textured.

Limiting physical growth

Contrary to intentions of urbanization, sharp limits occur to preserve conflicting political or economic interests, and power relations. In places like Mexico City, where much of the built environment is produced informally, the clearer the edge, the more intensely charged these relations are. Instead of solely expressing conflicts, this technique of **territorial separation can be used actively to mediate urban conditions** and foster spatial improvements.



## 3.3

Reestablishing local productive landscapes

The city has to know its borders. Mexico City has to clear the indefinite region between the urban and the rural. Currently, the distinction of city and countryside is being blurred through a peri-urban building process. However, instead of a hybridization of the two conditions as prescribe in peri-urbanization, being both urban and rural simultaneously, where one takes advantage of the other, in the Mexican case there is no reciprocity, they only share the same space. This weakens the two sides, while the urban part is far enough from the more productive areas of the city that access to, and commuting from those places become prohibitive for inhabiting them, the rural area is diminished and fragmented, lowering their agricultural productivity and impacting the industry.

Defining a clear physical limit to the city growth is not only advantageous but also necessary. Besides avoiding the indeterminacy problem mentioned above, it reduces the costs of stretching out the city's infrastructure (roads, public transportation, water, sewage, and electricity lines have to be extended to those distant sites), and the investment costs of providing attractiveness to make them desirable places to live in. Because these places fail to fulfill the needs of their inhabitants, they eventually become under used and partially abandoned, thus the massive infrastructural effort for building them, wasted. On a more abstract level, limits generate legibility; it associates the city with a finite form, and because of that it becomes easier to understand and manage its complexity.

The definition of limits to urbanization comes in hand with the rescue of the neighboring countryside as a productive landscape. These immediate sites beyond the imposed urban edge will be able to meet the city's growing need for fresh, on-time, locally produced, and carbon-neutral food. The world's food market is shifting from large-scale, non-site-specific, industrial production, to small-scale, target oriented, organic production; Mexico City could set the ground for this change.

3. 30-year Future Perspective



National Park

Agricultural Fields

Mount Taranaki, New Zealand

Territorial separation as intention of urbanization

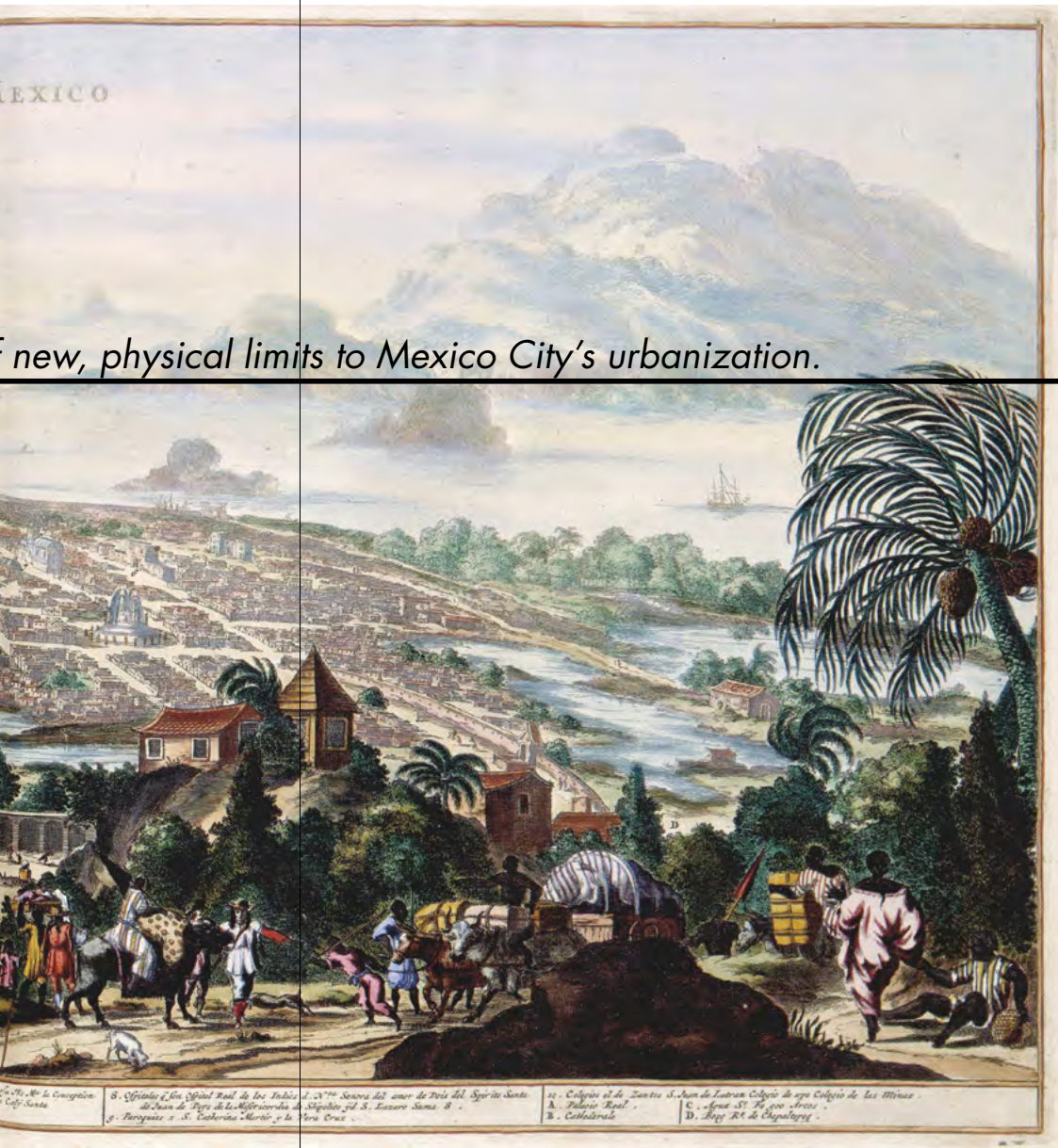
Example of the relation between:

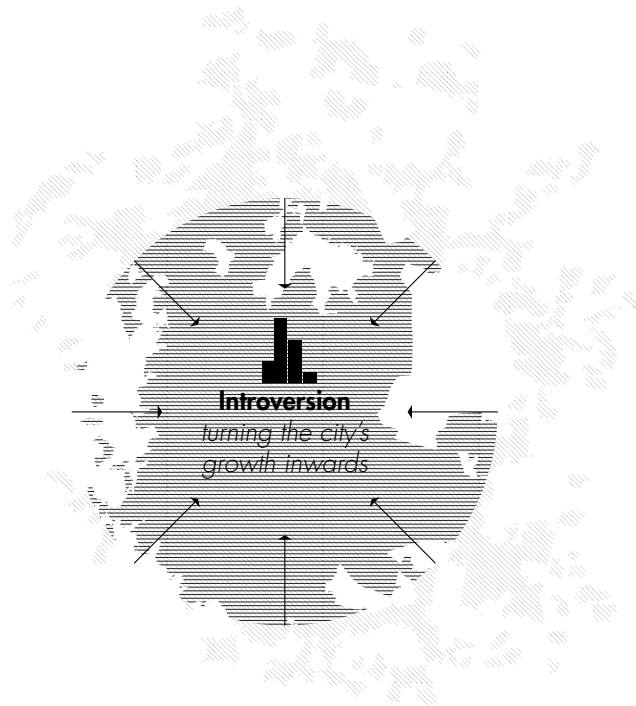
**Geography**

**Geometry**

and **Productive Landscapes**









## 3.4

Strategies of containment

Drawing the periphery's limits as a way to frame physical growth does not mean avoiding or fighting against this growth; on the contrary, growth is accepted and recognized as extremely important for an emerging economy like Mexico City. In order to propose a city as a self-contained unit, it is necessary to speculate on how the growth that would before happen towards outside, could now happen on within the city. Thus, before actually designing the form of these limits, this thesis builds four hypotheses – or *strategies of containment*– on extreme ways this internal growth could take place.



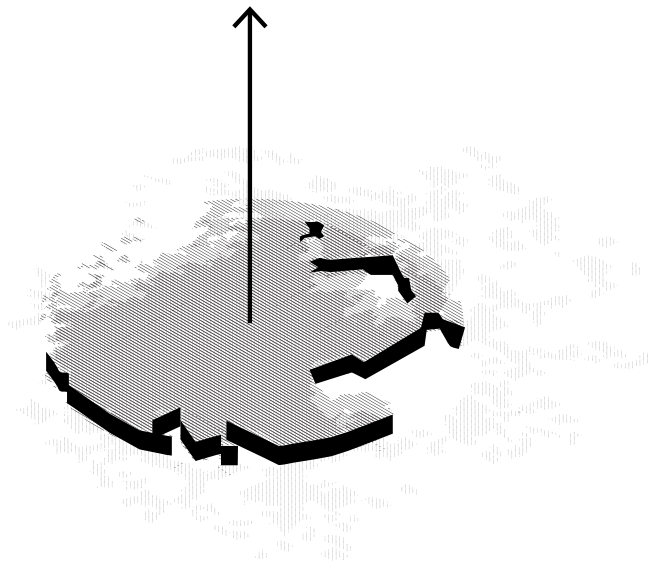
## Strategies of containment

## 1

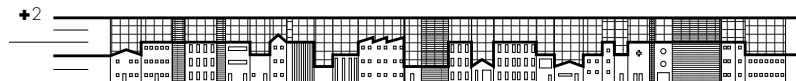
**THICKENING**

The first scenario draws over one of the strongest physical aspects of Mexico City: the persistence of the two- to three-story high urbanization. From 1910s to 1930s the planning authorities and architects were strongly influenced by the Garden City's ideas; as an outcome, policies were created to maintain low-density environments. As a heritage, today more than four fifths of the built area follows this pattern, which as a consequence, was responsible for the continuous horizontal dispersion of the city.

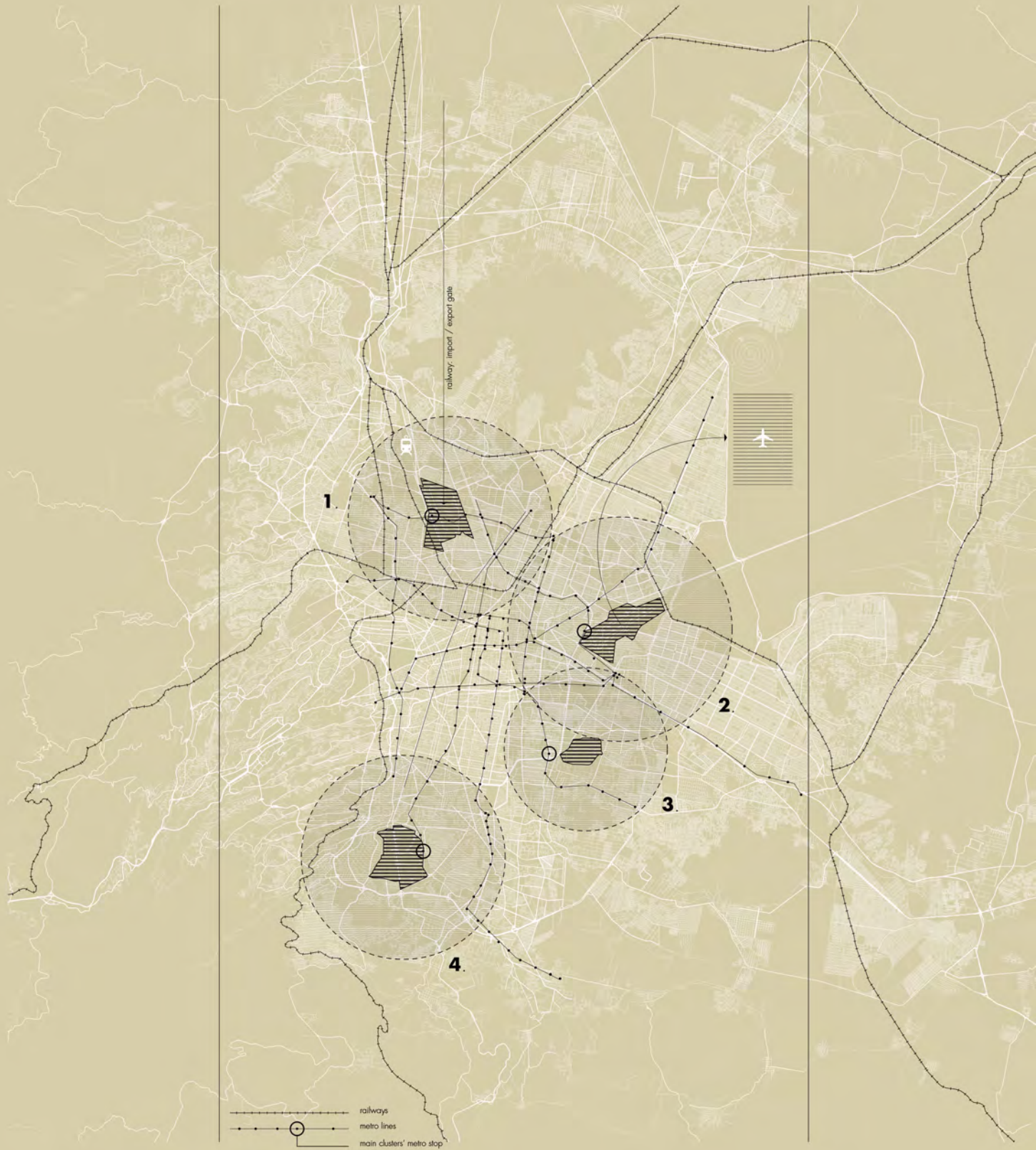
Instead of spreading horizontally, Mexico City could grow in height. As if baking a cake, the city could thicken its built environment. If two more floors were allowed to any existing structure, the city would be able to host all its housing needs for the next half a century. Furthermore, this city's new layer could allow a mix of functions to mono-function zones, breaking with the old residential model and opening up for the possibility of a more contemporary life, where living and working are intrinsically connected to each other.



new  
max height  
former  
max height



3. 30-year Future Perspective



Strategies of containment

**2****NODES OF DENSIFICATION**

The second strategy proposes specific nodes of densification. Contrary, but complimentary to the first and general strategy, this scenario addresses precise locations which are use-intense, large-scale sites specialized on certain programs. Solely due to their size and the magnitude of activities they host, these sites are already logistically of great importance to the city, and any intervention on them could mean large repercussion, specially on their near surroundings. Each of the four chosen sites occupy one direction on the first ring of periphery, making them perfect locations for mediating between the inner, more developed part of the city, and the outer, less developed one.

The strategy proposed for these sites are of programmatic intensification: it stretches their uses to an extreme, while exacerbate they condition of clusters. Three of the clusters revolve around their main existing activity, – the UNAM, education; Railyards, logistics; Central de Abastos, food – while the Airport site is currently being used as an airport but this function will soon be relocated to a enormous site up North, where the largest airport of Latin America will be created, freeing up a world of possibilities for this 7 square kilometer central site. The four clusters would form a network of specialized services that complement each other, and to where new firms and industries would converge.

- 1.** Logistics
- 2.** Housing and services
- 3.** Food and goods
- 4.** Education and technology

3. 30-year Future Perspective



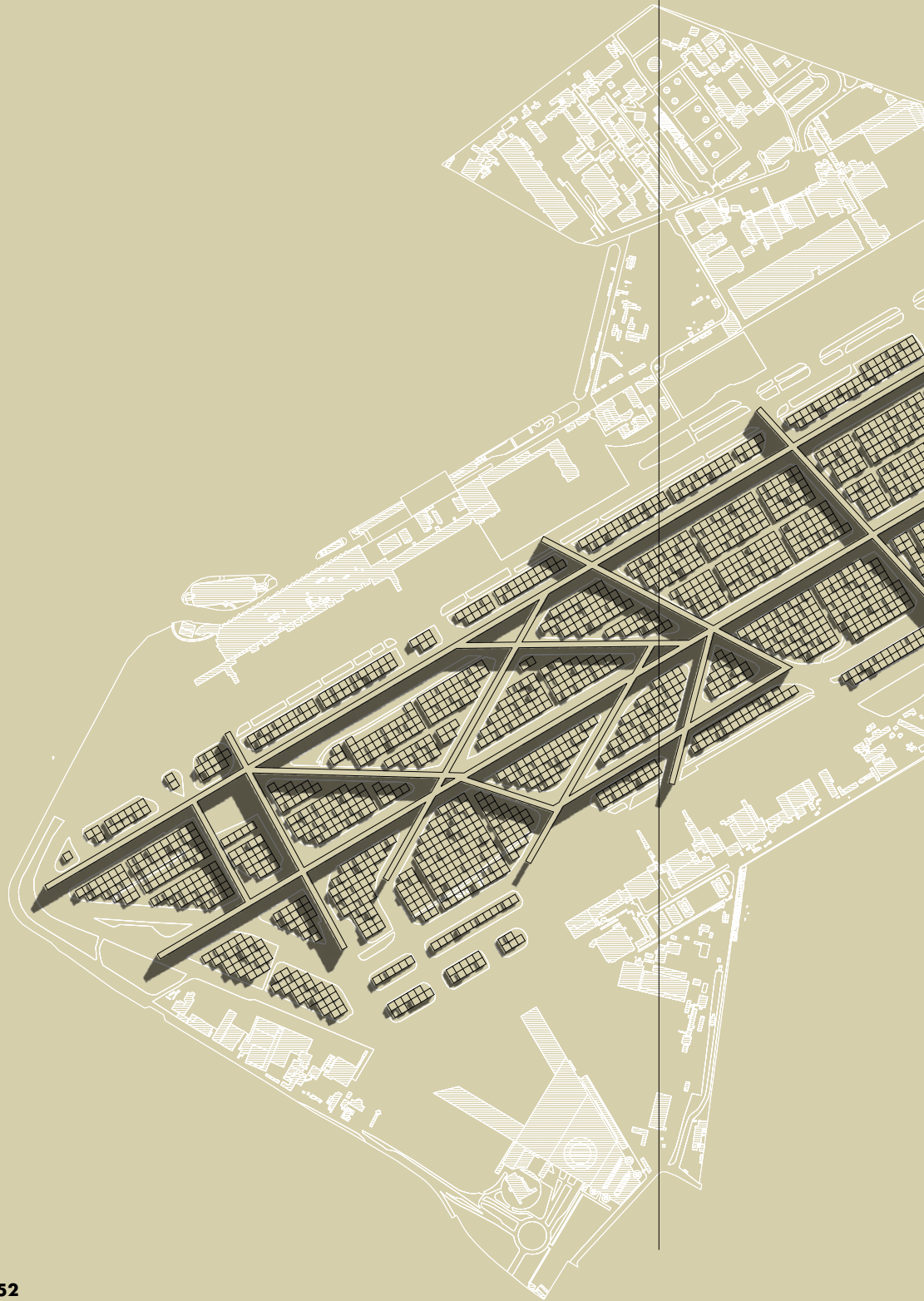
Cluster 1 **RAILYARDS**

Logistics

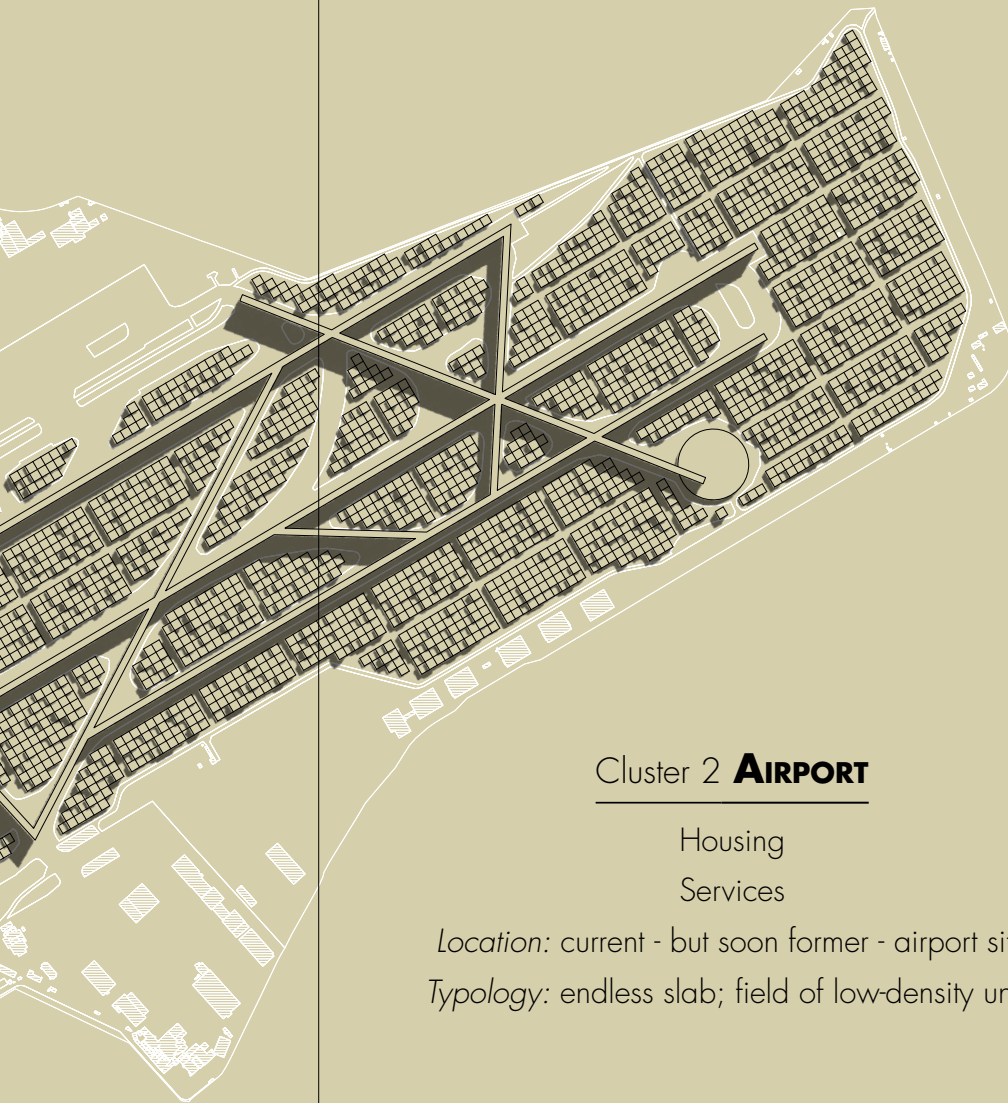
*Location:* Railyard terminal, warehouse district

*Typology:* XL-warehouses; towers









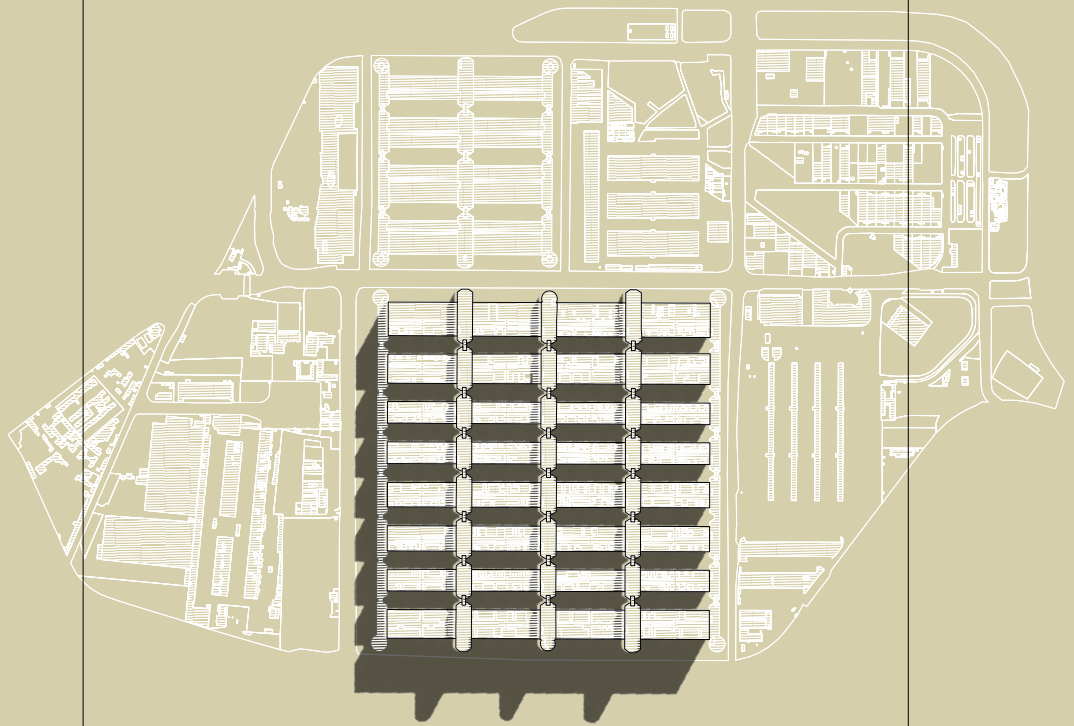
Cluster 2 **AIRPORT**

Housing

Services

*Location:* current - but soon former - airport site

*Typology:* endless slab; field of low-density units



Cluster 3 **CENTRAL DE ABASTOS**

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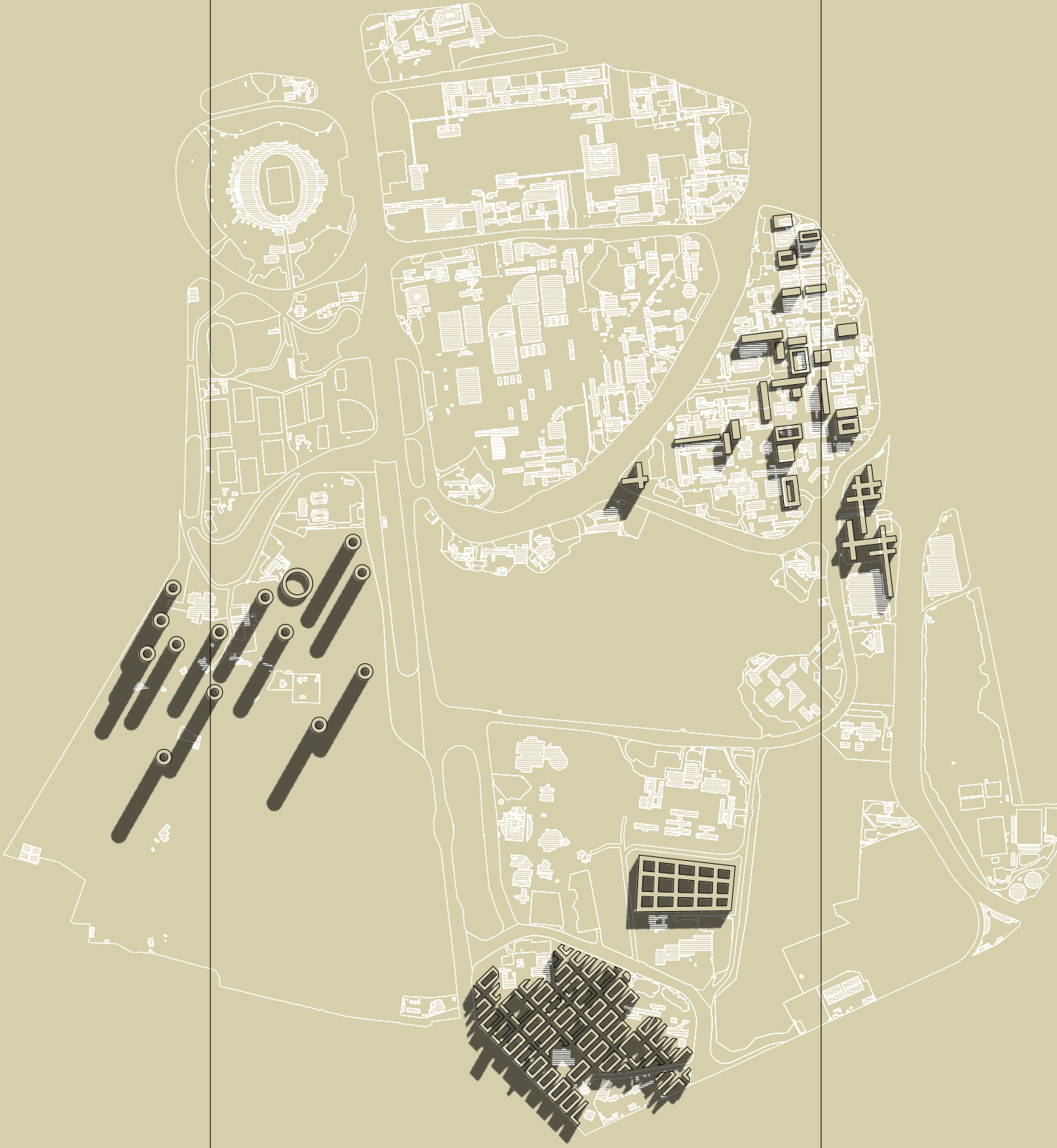
Food

Industrialized goods

*Location:* city's largest wholesale market

*Typology:* mega-box

*Note:* in its existing state, already one of the world's biggest buildings



Cluster 4 **UNAM**

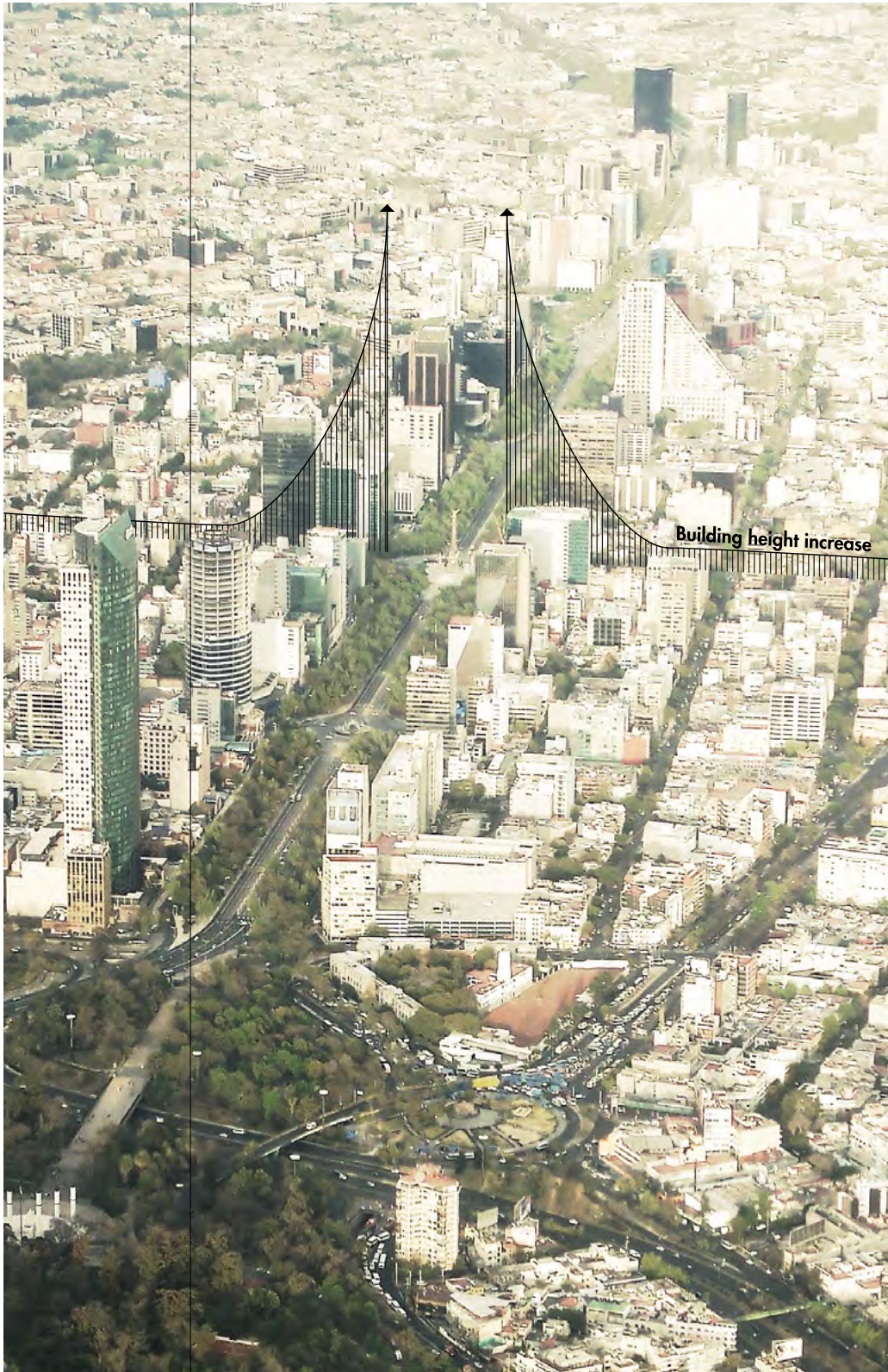
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Education

Technology

*Location:* National University campus

*Typology:* isolated towers; courtyard blocks;  
interconnected slabs



Paseo de la Reforma

## Strategies of containment

**3****LINEAR CITY**

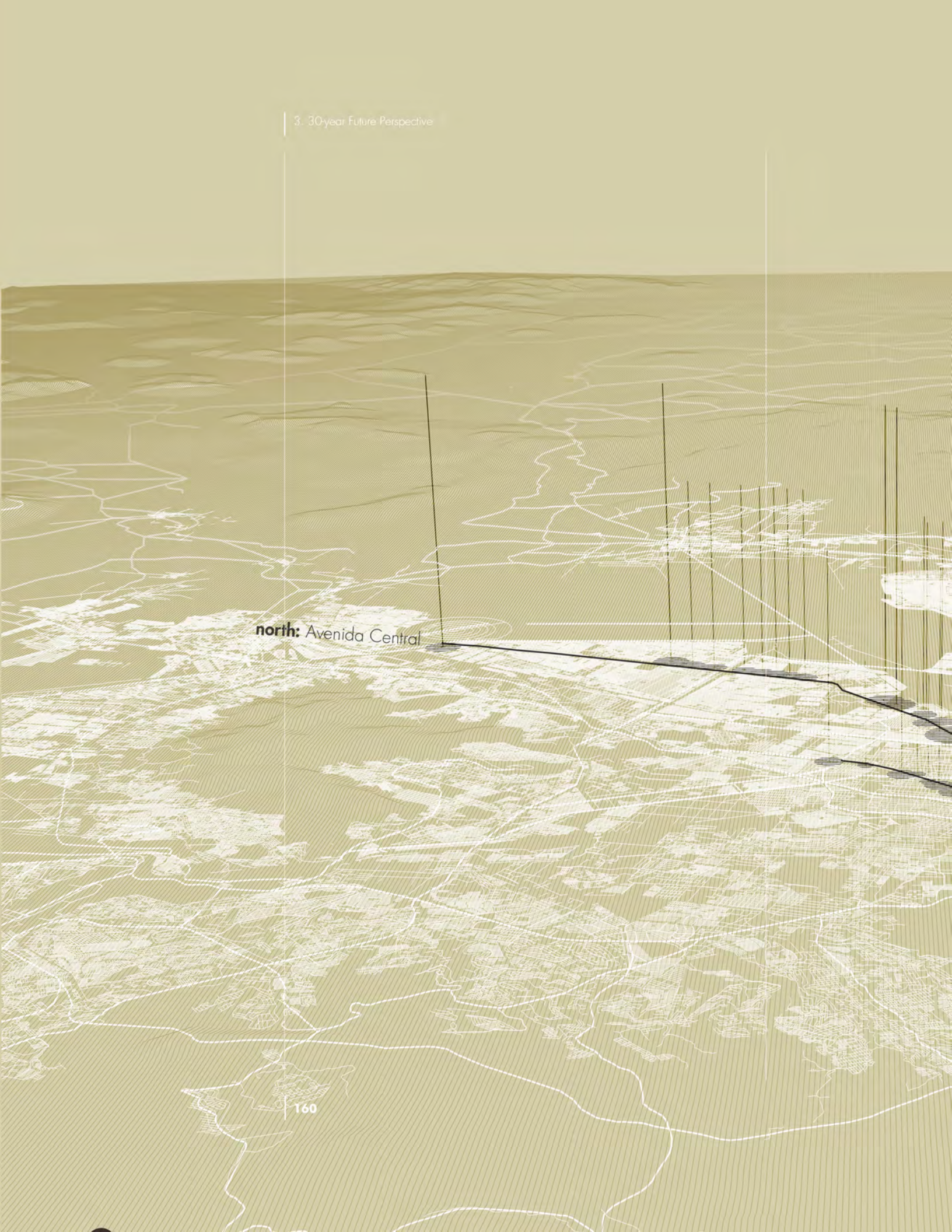
The Linear City is a strategy of verticalization along main transportation corridors. It is based on Paseo de la Reforma's success of creating a linear business district, despite being located on a densely built part of the city. The Paseo de la Reforma's effect is not just the skyscrapers, but also the new uses the strip attracted: restaurants, public arts, and entertainment facilities. Although not designed as boulevards, the roads chosen as potential corridors to undergo this verticalization share with la Reforma their large width and the accessibility by public transportation.

The four selected corridors would stitch the three peripheral zones – North, East, and South – to the Downtown, by creating an interconnected and continuous network of concentrated business and commercial activities. By freeing up the building height regulations on those lines through unlimited FAR, and extending the business zones to the peripheries, the new Paseos would work towards decentralizing the city. New business districts would be created not in areas designed to represent a certain economic status but by other parameters, such as real estate opportunities on under-developed zones, or potential of local economic growth. The decision of which corridors to develop creates a framework that ensures the linking of the correct areas of the city, while offering the market the possibility of self-organizing and finding the best spots for future development.

3. 30-year Future Perspective

north: Avenida Central

160

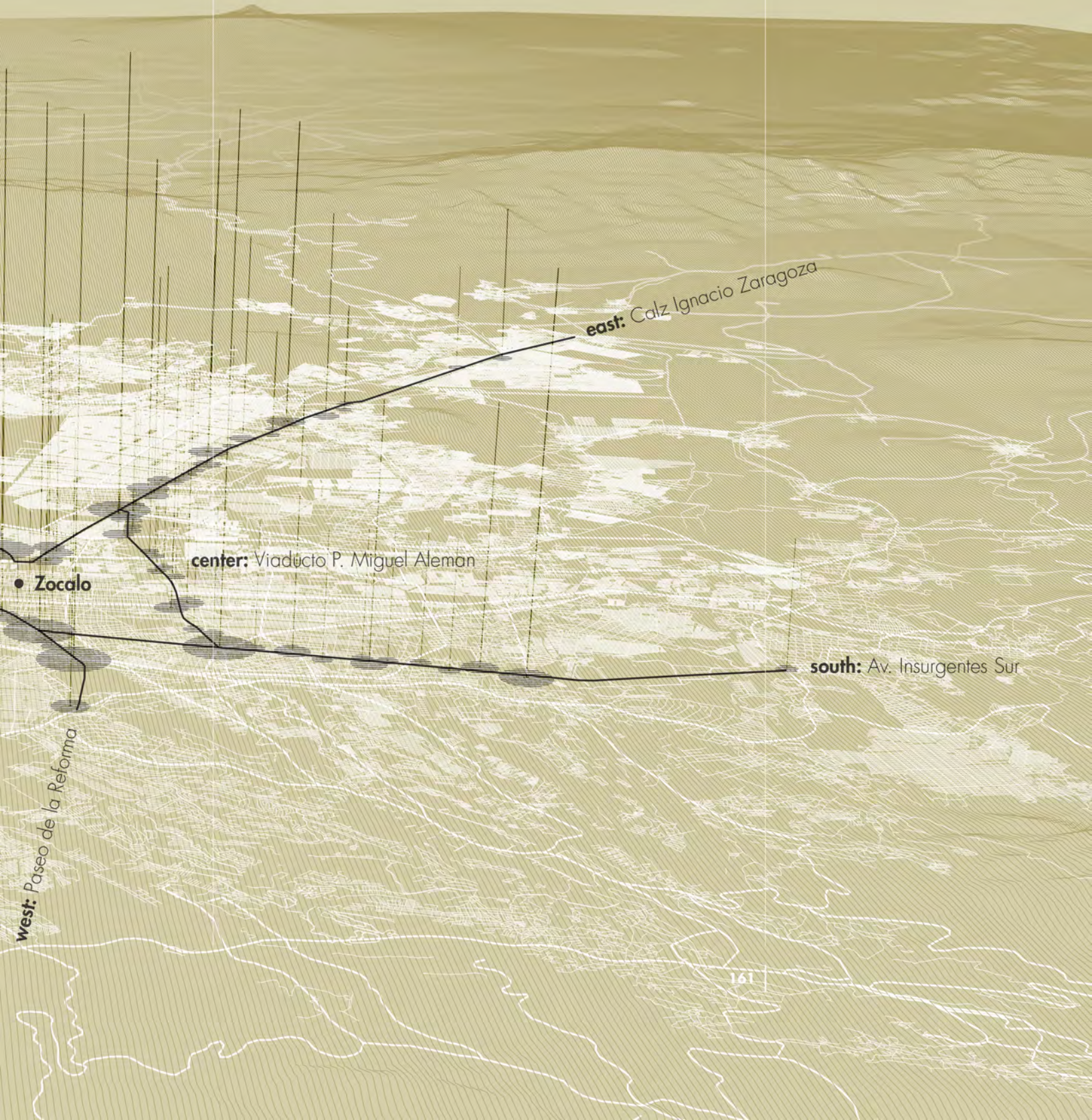


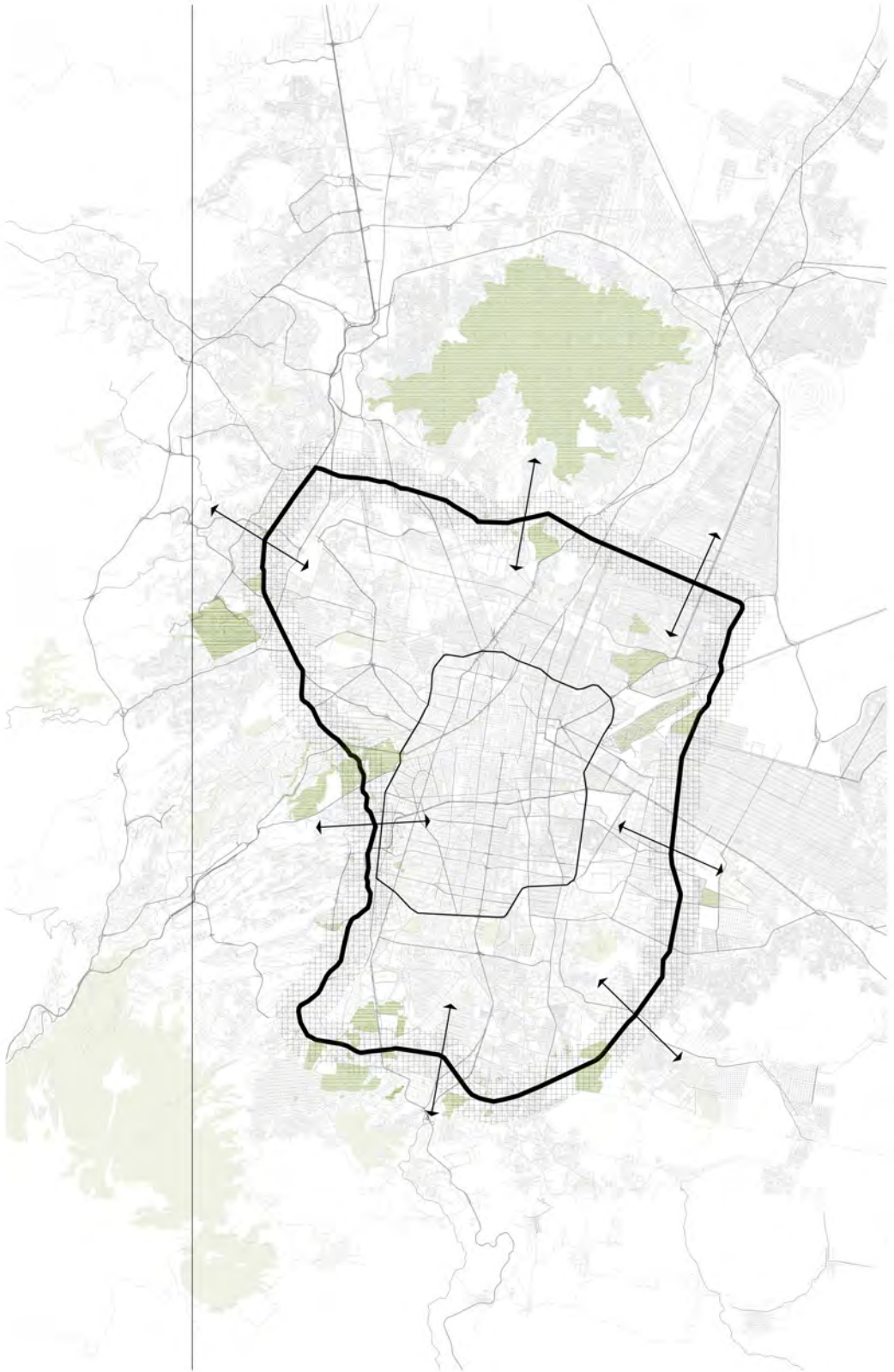


Strategies of confinement

3

**LINEAR CITY**





## Strategies of containment

**4****OUTER RING**

The fourth and last strategy of confinement uses Mexico City's outer road ring as seed for urban densification. Contrary to the inner ring, which nowadays encircles only the consolidated city center, the outer ring still contains a large and significant part of the city. This ring cuts through the periphery and is located half way towards the outskirts of the city. Development efforts along this corridor could mean both a new conscious towards the periphery, understanding it as strategic sites to be close to, and a redefinition of what the center of the city is, since the traditional definition no longer holds because of the proportion and size the city has acquired. The ring would generate a highly connected loop of urban agglomeration suitable for the scale of Mexico City, while recalibrating the scale of interventions in this metropolis.

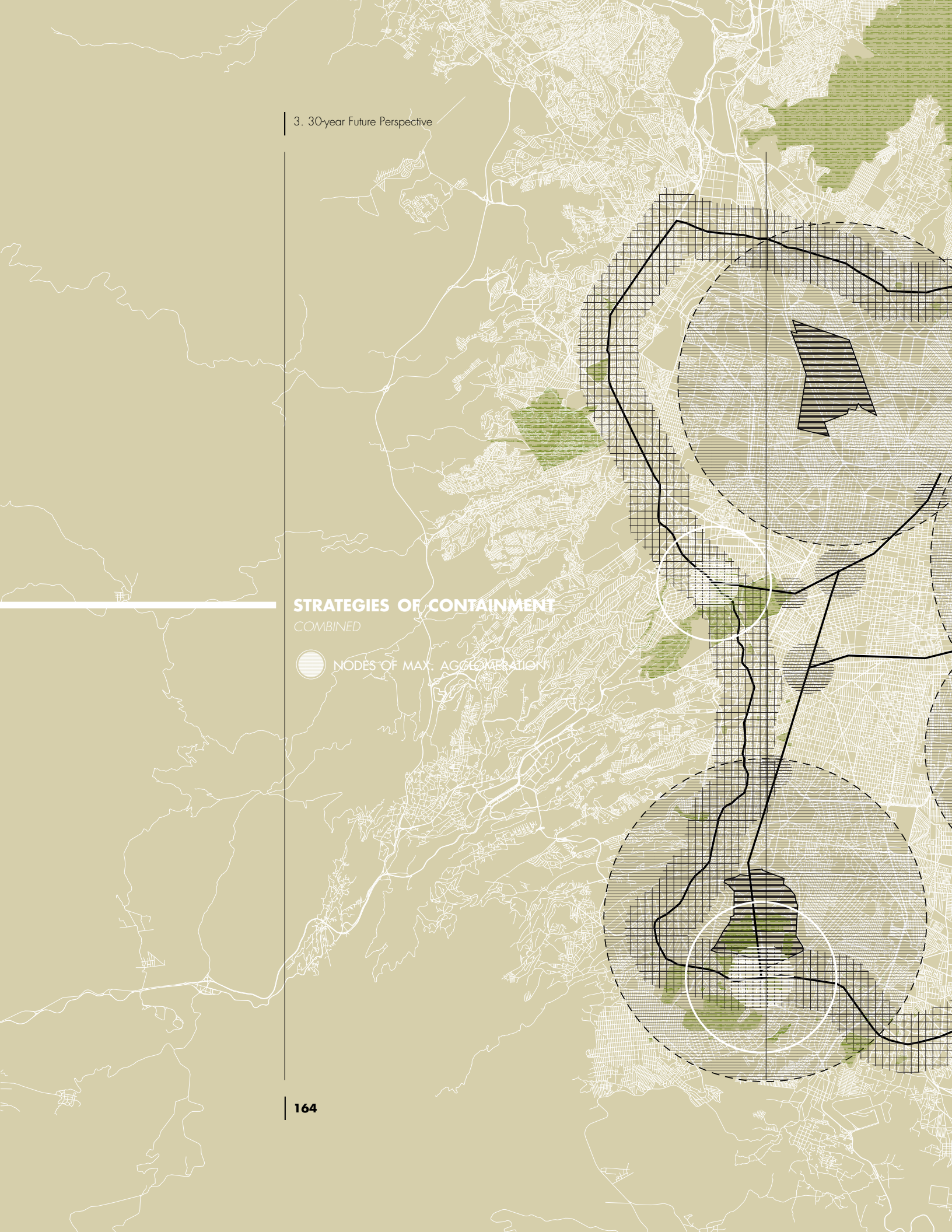
The development along the ring would comprise of a two-kilometer thick band, and benefit from more flexible regulations, higher FARs, and the direct access to mass transportation routes provided by the highway. The loop would address not only flow of people, as of today, but throughout time would modernized its infrastructure to also facilitate the flow of information, capital, energy, water, and waste, while establishing a network with the existing urban parks and green spaces. The ring would become a multi-layered, condenser infrastructure.

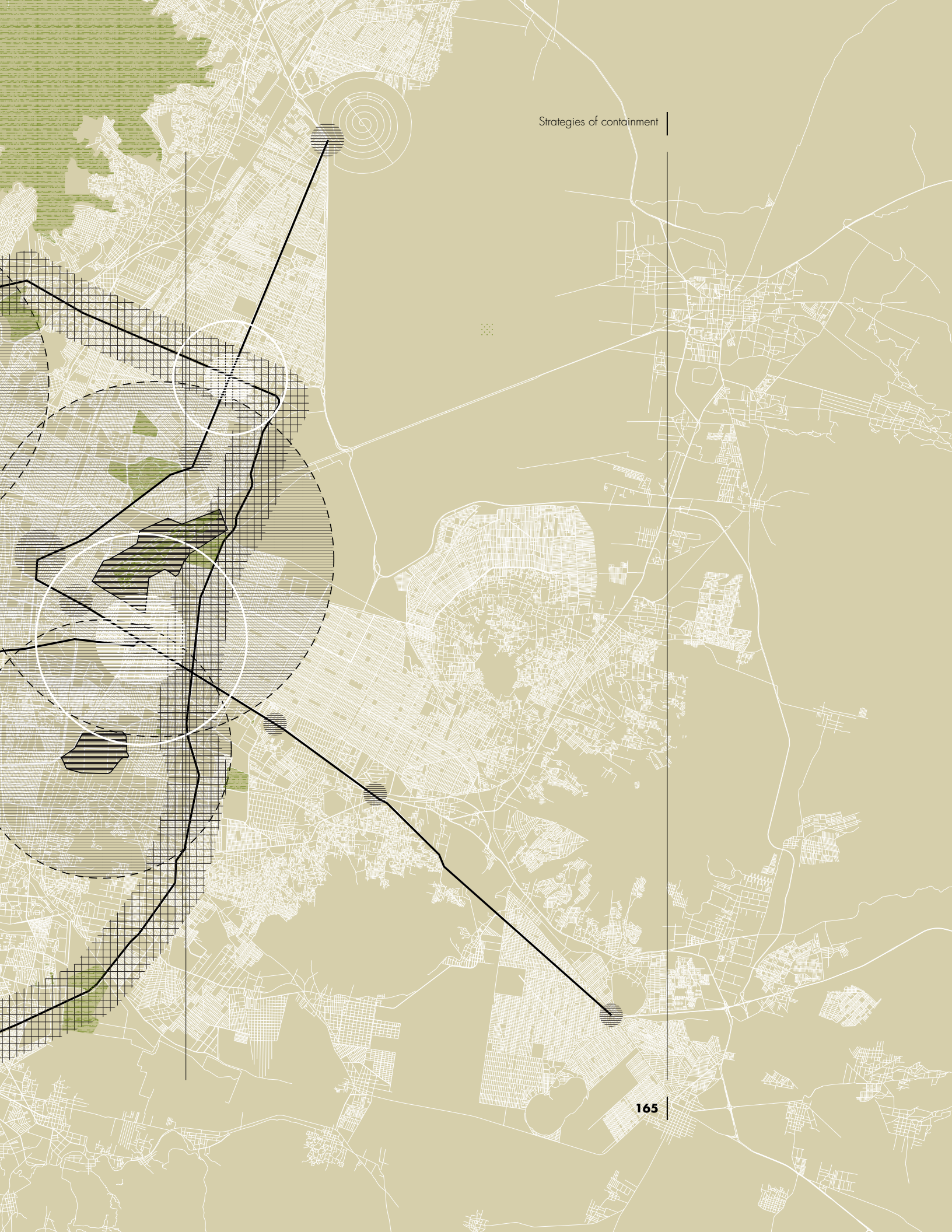
**STRATEGIES OF CONTAINMENT**

COMBINED



NODES OF MAX. AGGLOMERATION





### 3.5

#### Framing Urbanization

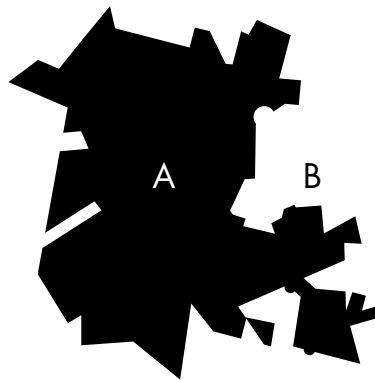
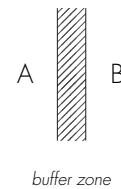
Man's process of defining a territory and taking possession of an area has always happened through geometry: a sequence of vertical marks, a line or combination of lines, a regular polygon. The intelligibility of geometry is transferred to the before indistinct land, allowing it to be apprehended, thus managed. This process of defining the edge, then, is not a natural one but an – necessary – artificial construct that allowed man to settle and live as a community within the conquered territory.

With the modern growth of cities, the clear boundaries used to contain urbanization became diluted, or even erased. From a *sharp line* (walls, channels, or roads), the edge of the city turned into a *buffer zone*, a transitional area from city to countryside (such as the settlements and markets outside but adjacent to the city's defensive walls, or the periphery ring around the city core), and from *buffer zone* to *blurred field* where there is no more clear distinction between urban and rural, just a continuous urbanization with varying degrees of concentration. With the dissolution of clear limits came the issue of control over the city: if urbanization is everywhere, and nowhere, how can it be managed? As discussed before, the problems of this indeterminacy, labelled here as the *blurred field*, are many; and we have reached a point where the need to propose solutions to these problems is pressing. This thesis proposes the reverse way: we have to once more frame urbanization with a legible geometry.

In order to define the physical limits of Mexico City, the different characteristics of its outskirts had to be taken in consideration. The first point was to differentiate the urban from the peri-urban. It was necessary to identify the distinct degrees of urbanization to be able to separate the two, to then propose discrete solutions to each one of them. The urban sites were considered the ones: 1) with a physical continuity with the city's main built area; 2) provided with, or most likely to be connected to basic infrastructure services, such as paved road, electricity lines, water and sewage pipes; 3) with a minimum density of construction and inhabitants; 4) where reversing the urbanization process would be unfeasible. The peri-urban site

were their opposite: sites of precarious urbanization, detached from the city, small or less dense enough to be subject to de-urbanization. They are normally in a stage of incipient consolidation with their growth occurring informally, or “spontaneously” through self-construction.

The second point to consider was the existing, well-defined edges of the urban fabric. These are places where the built environment meets the rural landscape, or nature, through a clear cut. They happen in many places around Mexico City’s outskirts, mainly because there is no urbanization model to follow nor a clear idea of how the periphery should be built; cheap land is bought and built up by real estate companies without any relation to the neighboring sites. The third consideration was to identify places where new dividing lines could, or should, be drawn. These lines would separate conflicting areas into “inside” or “outside” the urban perimeter, and by doing so, defining these area’s future role in relation to the city. Lastly, in order to design Mexico City’s edges, as a finite form to contain its urbanization, the three points are combined, and some geographic and geometrical adjustments made. The new line separates the areas to be densified – where urban growth will occur in the coming years – from the areas to be de-urbanized – where development will be disincentivized in order to cede ground for rural uses, such as agricultural production.



3. 30-year Future Perspective







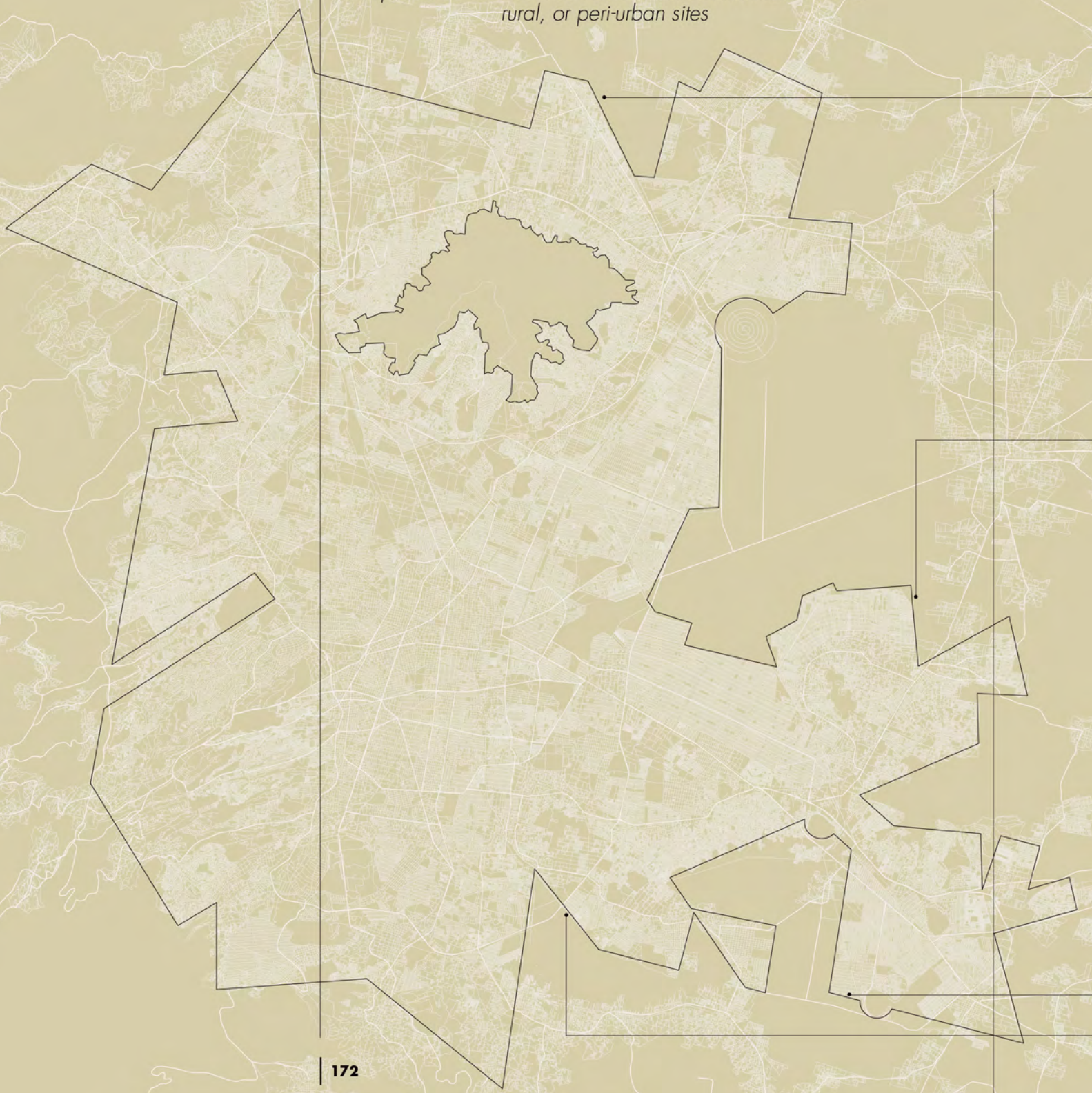


Urban  
*towards **Densification***



Edges

*sharp delineations between consolidated urbanization and rural, or peri-urban sites*





3. 30-year Future Perspective

Peri-Urban sites

*constellation of small, poorly-urbanized, underserved villages*



3. 30-year Future Perspective





## Hilberseimer's Strategy of Progressive Erasure towards *De-urbanization*

In 1955, Ludwig Hilberseimer proposed the replanning of Rockford, Illinois. The plan consists of a gradual process of converting the existing city grid from a concentric, orthogonal configuration to a linear, more organic, one. Hilberseimer's project, as pointed out by Albert Pope, rejects the un-specificity of the Cartesian

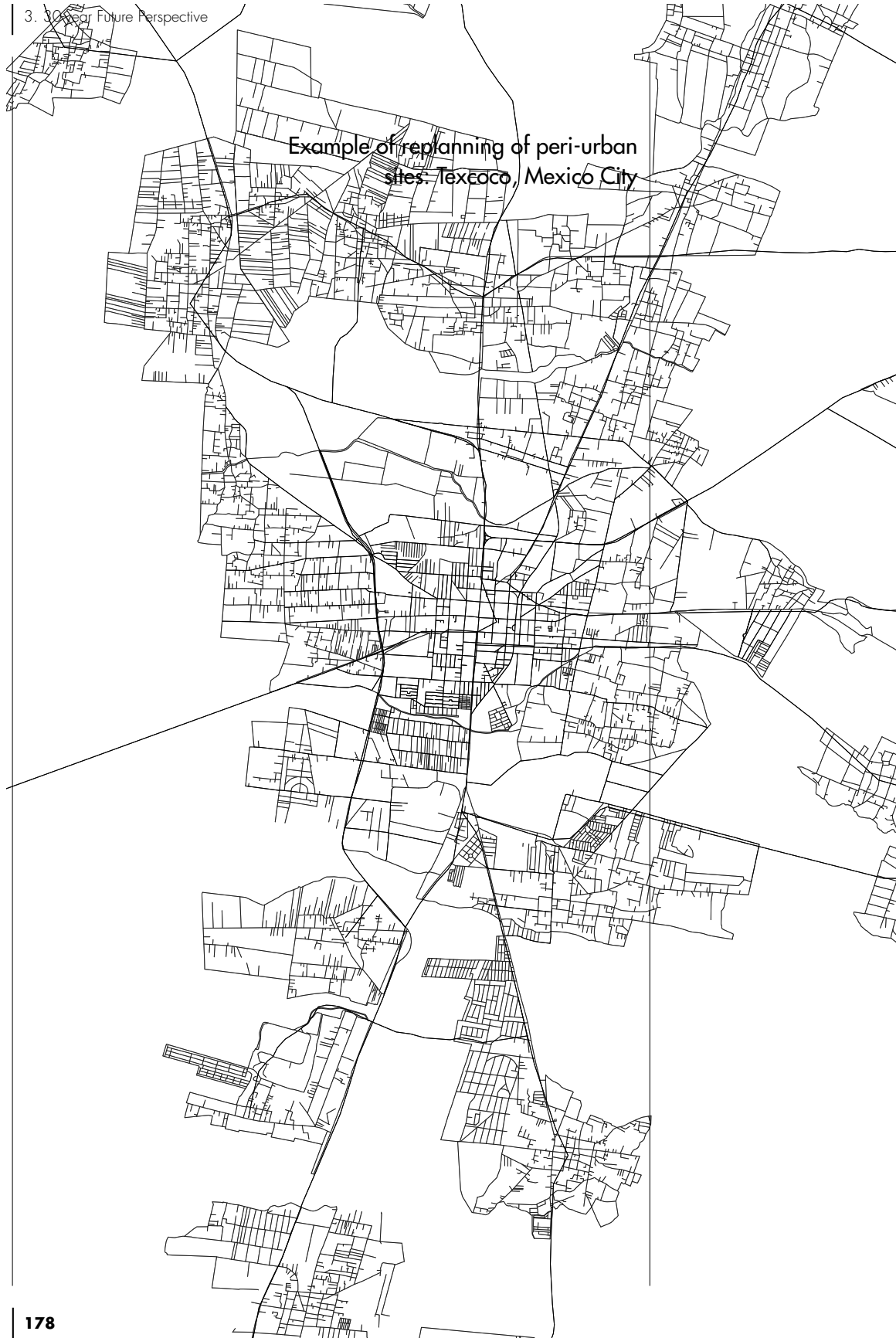


grid, and instead proposes a design that would merge the city with its surrounding natural environment, i.e. the form of the river and the topography. Through a phased demolition program of the existing grid, the current city would open ground for the new one; in this process, the main roads are kept to structure the transition and, by a hierarchical selection, the less important roads are erased progressively. Lastly, new roads are created to direct the city towards its new controlled form.

The de-urbanization process proposed in this thesis for the peri-urban sites could follow a similar path to Hilberseimer's Rockford, but in a rather more factual way: if the Rockford of the 50s was already a consolidated city, those Mexican sites are barely urban, with many lacking even the basic infrastructural services. What one can learn from Hilberseimer is not the proposed final form of the city, which fails in many ways, but that urbanism can work through erasure instead of addition. These sites can shrink in order to become a basic, confined unit to assist the rural landscape.

<sup>1</sup> Albert Pope, "The Island Organism," in *The Petropolis of Tomorrow*, by Neeraj Bhatia and Mary Casper, AatR: 47 ([Houston, Texas] : Actar Publishers & Architecture at Rice, [2013], 2013),102.

Example of replanning of peri-urban sites: Texcoco, Mexico City



Ludwig Hilberseimer's four stage replanning of  
Rockford, Illinois  
*[stage 1]*



3. 30-year Future Perspective



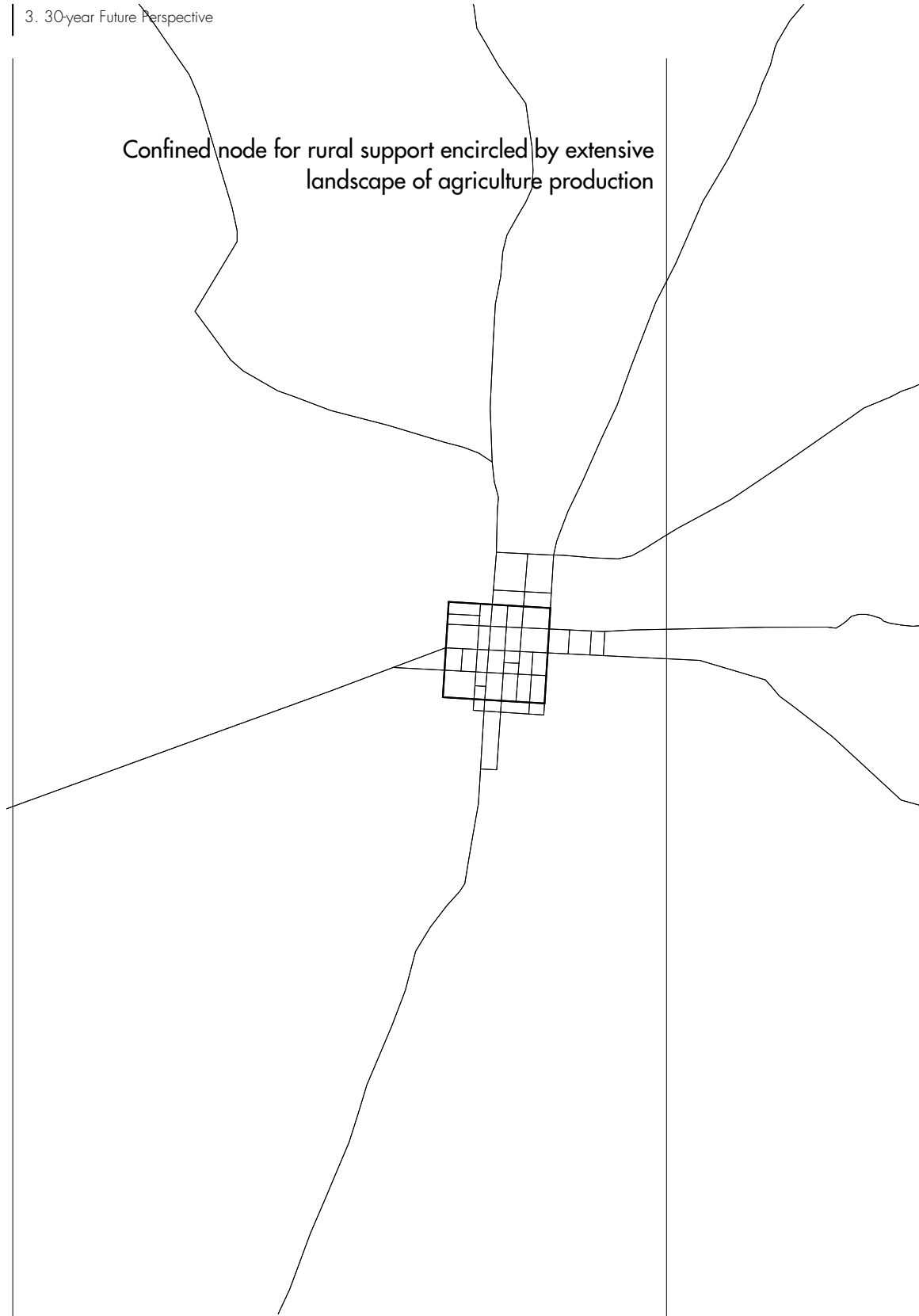


3. 30-year Future Perspective





Confined node for rural support encircled by extensive landscape of agriculture production









***Why not a wall?*****Defining the materiality of the dividing element**

What should be the material form of this limit? Does imposing a limit mean building a wall?

The wall is the main historical device to build separation. From the first walled cities in Mesopotamia, like Uruk (around 4000 BC), to the Renaissance star-shaped cities, like Palmanova in Italy (1593), the wall had been the most efficient way to establish what was contained, or excluded from a community. Although defense was seen as their main purpose, the wall was also an instrument to make the territory under influence of a ruler, legible; it built a visual reference for the reach of the ruler's power. However, the degree of control in these historical cities cannot be replicated anymore, especially because the city can no longer be understood as an object. With the increase in complexity, and size, there has been a shift from *object* to *field*, and with that shift so has the element wall been re-conceptualized.

The new wall is partially material, partially immaterial. The controlled entry is not mediated by a gate but by a program, the uses of the edge; the success of the division is not measured by the thickness or height of the solid block but by the sophistication of the set of codes: laws, incentives, zoning. The wall is heterogeneous, being made of a series of elements that perform tasks of separation: they divide, exclude, break, cut, set apart, differentiate, and agglomerate. Finally, the wall redefines the edge through a gradual process: it is activated throughout time.

+ WALL TYPOLOGIES

BUILT FORM

ORGANICISM

3. 30-year Future Perspective

MATERIAL

BUILDING

WATER CHANNEL

MATERIAL

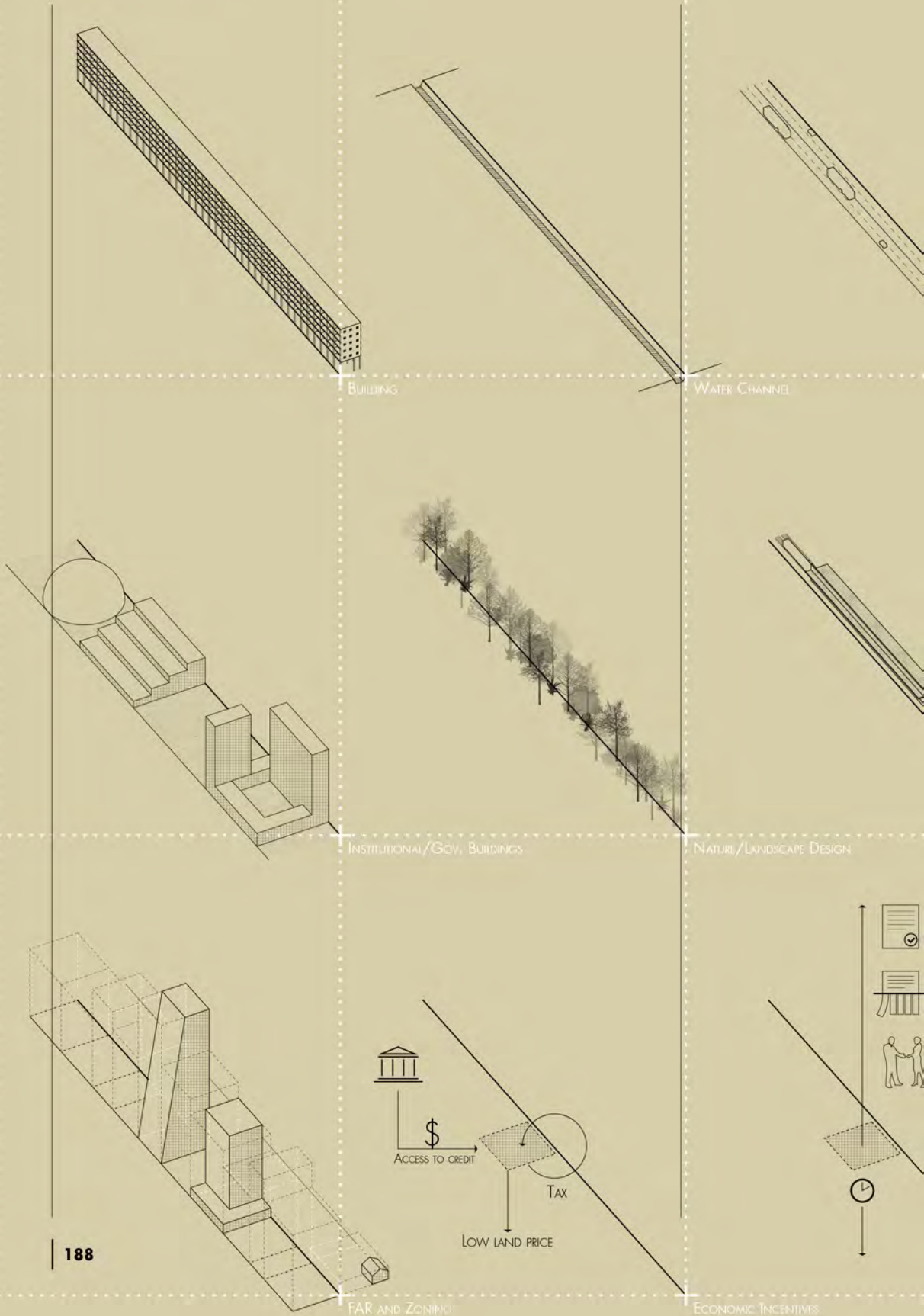
INSTITUTIONAL/GOV. BUILDINGS

NATURE/LANDSCAPE DESIGN

IMMATERIAL

FAR AND ZONING

ECONOMIC INCENTIVES

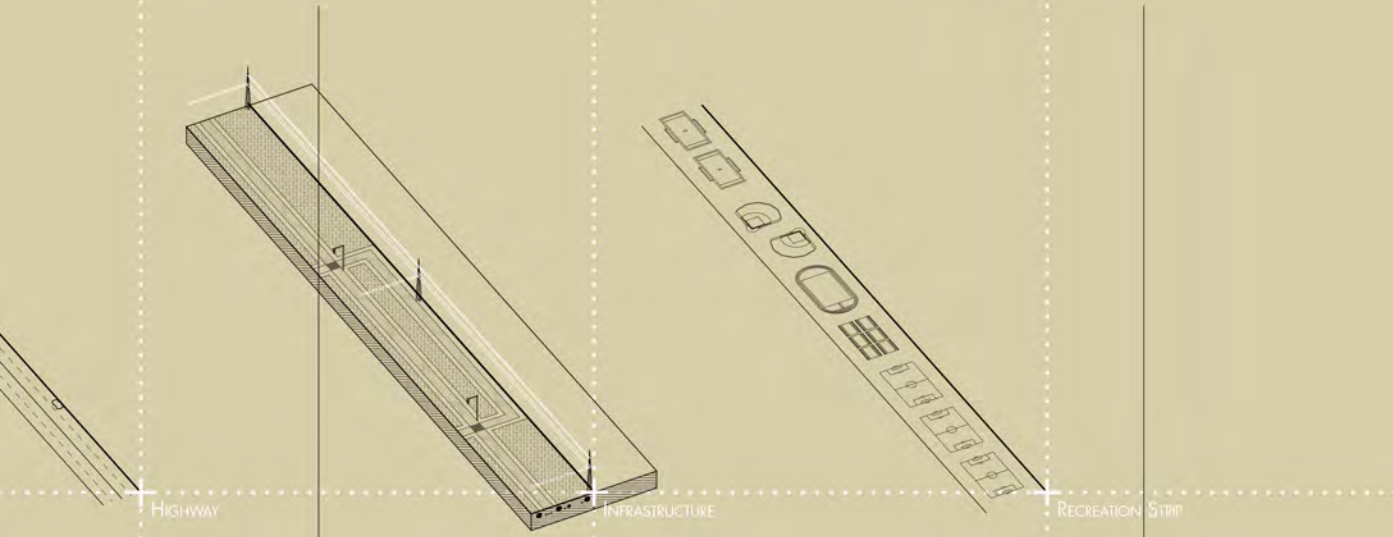


MOTION

HARDWARE

SURFACES

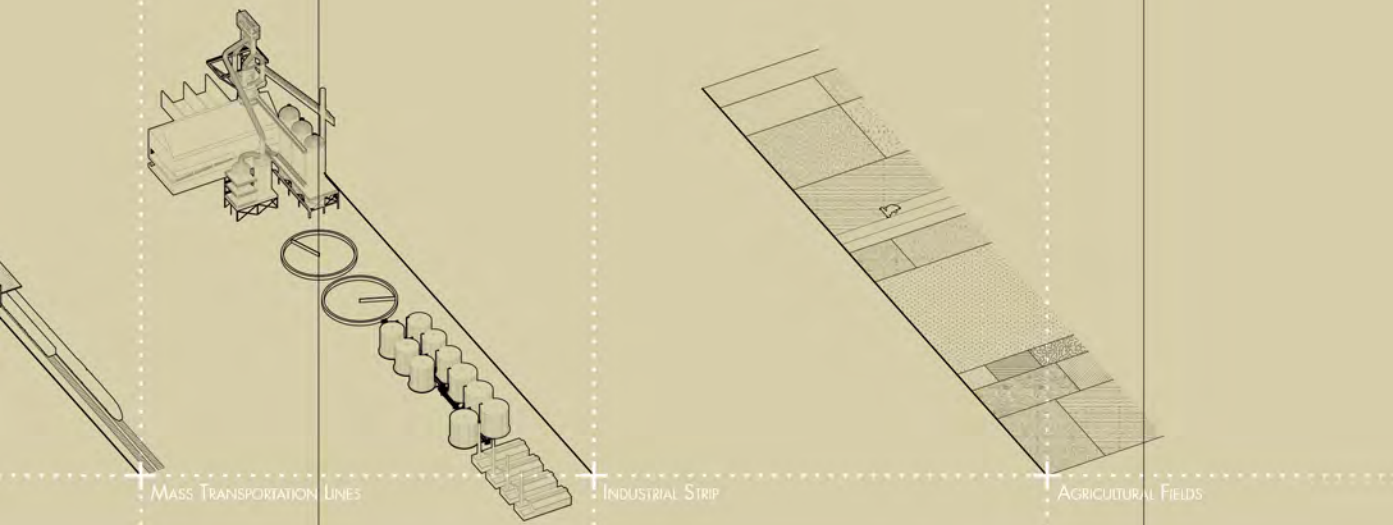
Framing urbanization



HIGHWAY

INFRASTRUCTURE

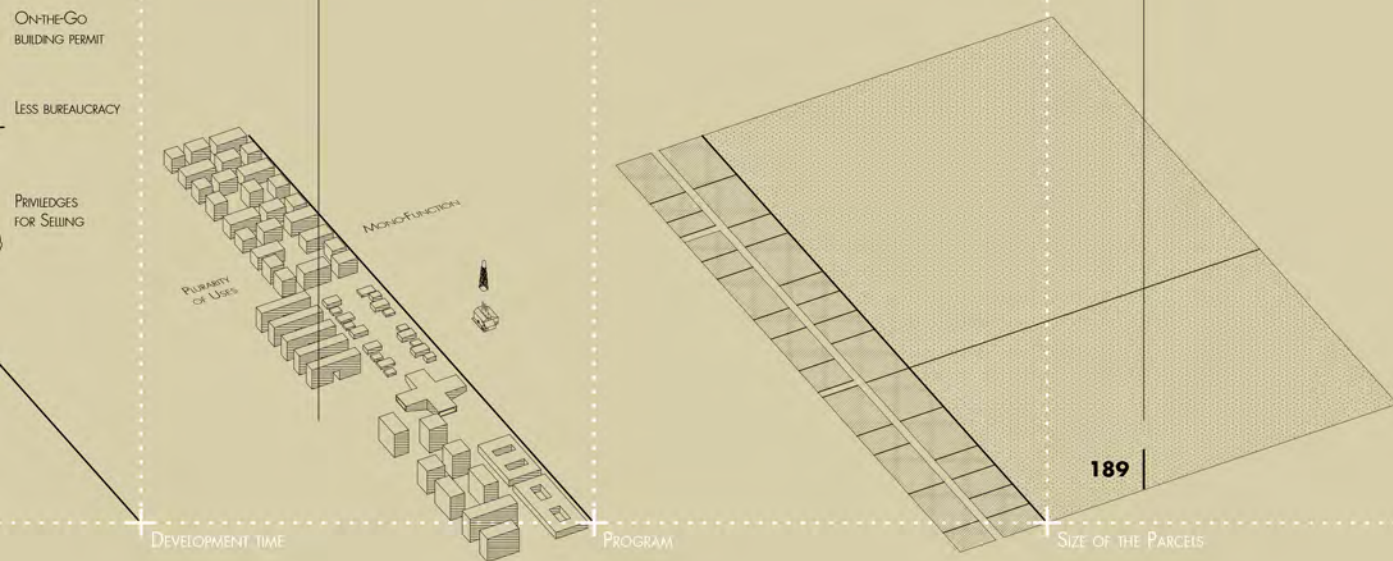
RECREATION STRIP



MASS TRANSPORTATION LINES

INDUSTRIAL STRIP

AGRICULTURAL FIELDS



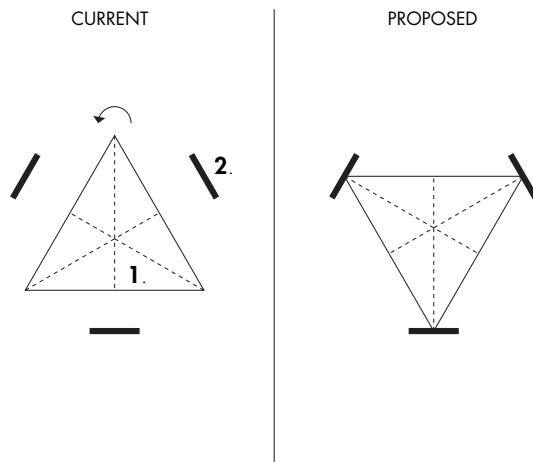
3. 30-year Future Perspective





WALL TYPE: **WATER CHANNEL**

*North Mexico City between Alborada Jalisco and Ojo de Agua*



1. How the City is perceived
  2. Subsidized Housing Neighborhoods
- Shift:** From detached to highly strategic sites



## 3.6

The role of the subsidized housing neighborhoods

In the case of Mexico City, the physical dimension of the entity “city” is by its nature ambiguous. To begin with, Mexico City was originally founded and kept confined within the Distrito Federal for four hundred years, up to the middle of the 1960s. Since then, more than two thirds of the city has spread outwards into the State of Mexico, causing confusion regarding the political borders of the city. Another aspect of this ambiguity is that there were many terms created to try explaining this territorial dispersion, such as Greater Mexico City, ZMCM (Zona Metropolitana de la Ciudad de México), ZMVM (Zona Metropolitana del Valle de México), MCM (Megalópolis del Centro México), each one comprising different areas and municipalities. What is contained or excluded from the definition of what constitutes the city, in this case, depends on which point of view is being used or to which other territorial entities it is being compared to, such as the *countryside*.

Within this condition of unfixed identity, any interpretation of the body “city” becomes subjective. In the case of the subsidized housing neighborhoods, because of their sheer distance from the city center, they may be understood as detached from the city, with no role besides sleeping. However, this thesis argues that this state is an artificial construct, therefore a matter of perspective: by reconsidering their roles, these neighborhoods can be shifted from being seen as neglected to been highly strategic sites for the city. In other words, instead of the being on the outside, they can be perceived as the border elements of the city, constituting the limits of the urbanized area. Their strong, finite form would act as legible demarcations of a former undefined field.



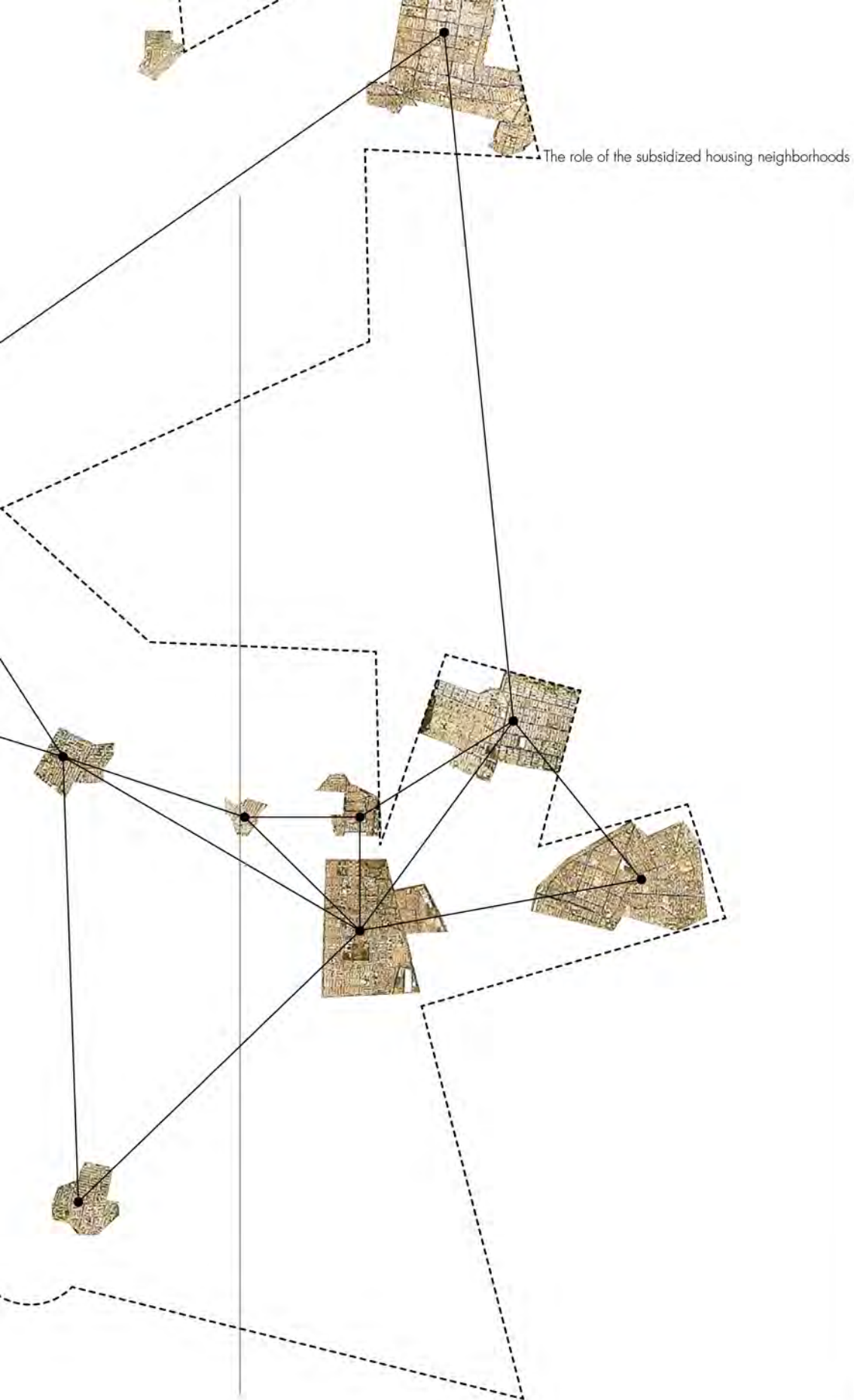
© 2014 Urban Future Perspectives

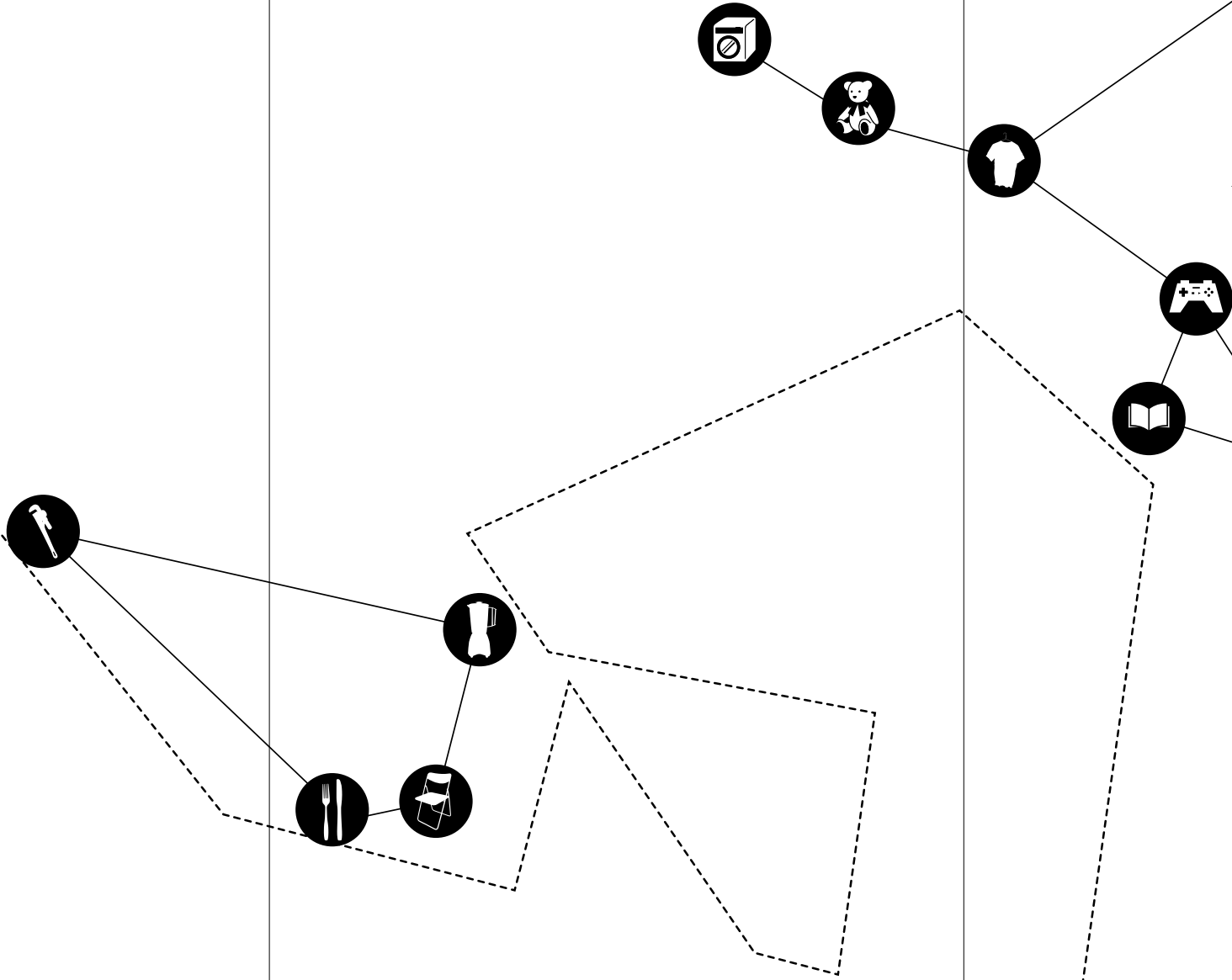
The role of the subsidized housing neighborhoods



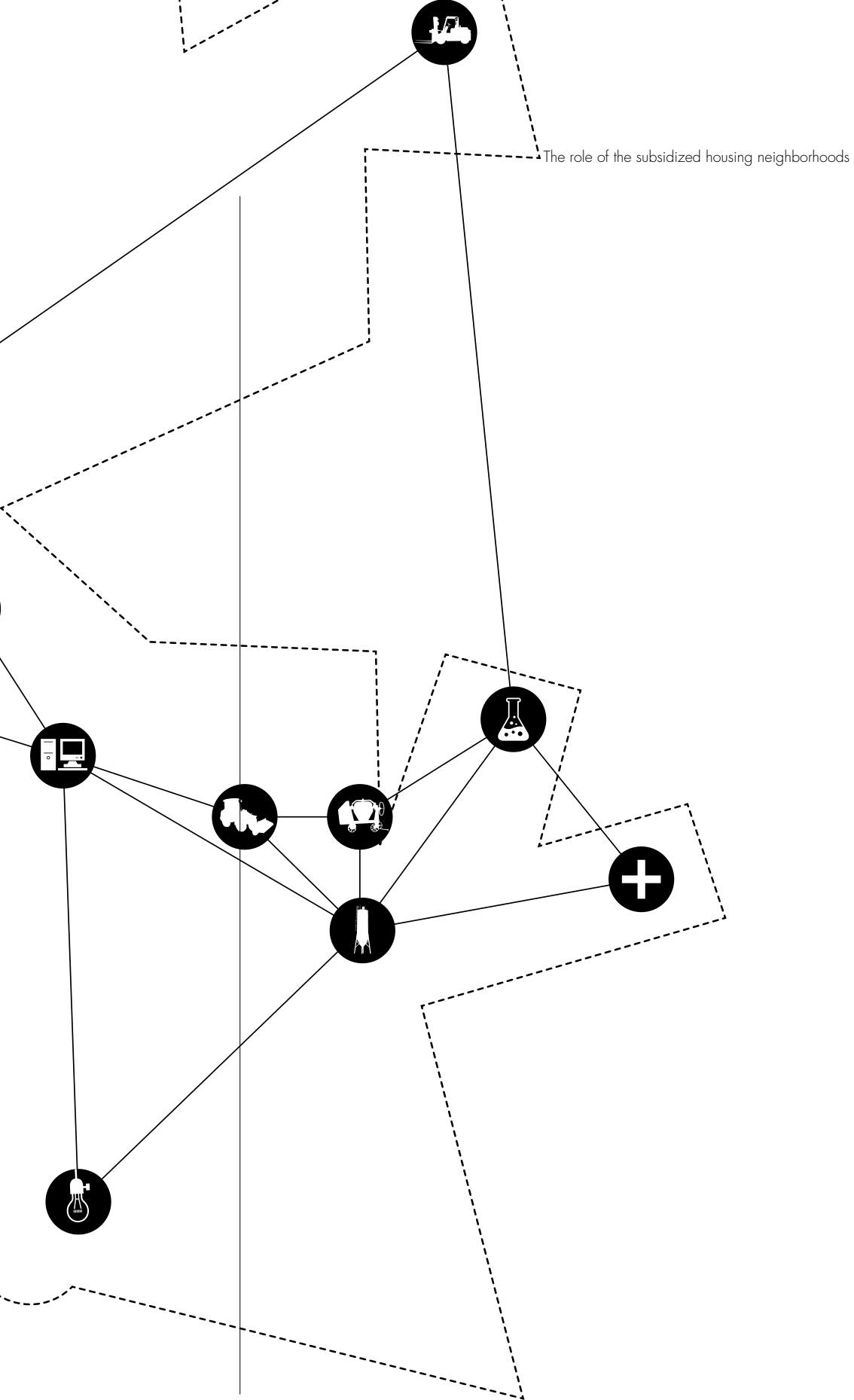


Archipelago  
*Network of Complementary Production*





Archipelago  
*Network of Complementary Production*



**i** INDUSTRY TYPE



30-year Future Perspective

Time and Fluidity  
*Connecting Core to Edge*



The role of the subsidized housing neighborhoods



- Current Metro line
- ▨ Proposed BRT line (extension of the Metro)
- Main roads
- ▨ Unlimited FAR Corridor

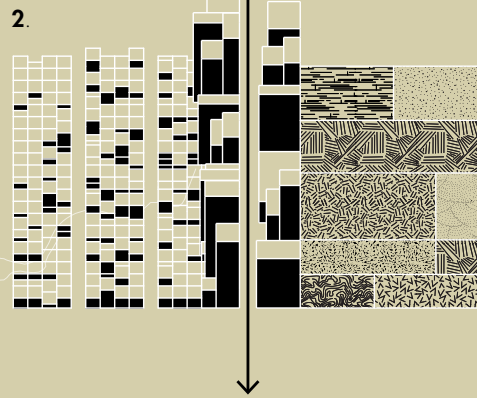
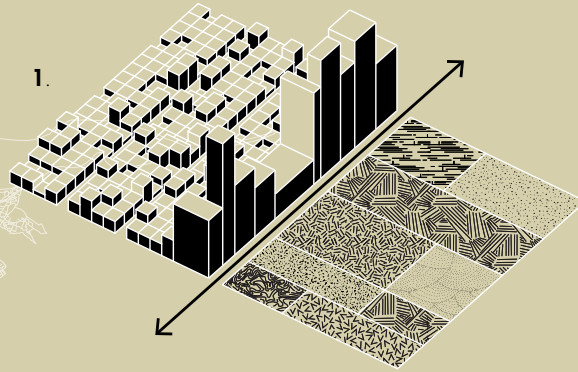


Time and Fluidity

*Proposed Network of Mass Transportation Systems*

*[City Scale]*

Cases of exacerbated difference due to **Unlimited FAR**  
along **Transportation Corridors**



- **Current**  
Metro lines
- ..... **Proposed** extension  
of the Metro lines
- ==== **Proposed**  
BRT lines

### Koolhaas' City of Exacerbated Difference

Some years ago, Rem Koolhaas coined the term City of Exacerbated Difference© (COED©) – humorously with the copyright symbol – while studying the Pearl River Delta with Harvard University. This study culminated in the book *Great Leap Forward*. The COED© is a term, among others in the book, that tries to capture the contemporary reality of cities and build a proper vocabulary

to express what they are; according to Koolhaas, architects' current lexicon can no longer encompass the process through which cities are urbanizing, specially on fast developing countries such as China. The term *exacerbated difference* expresses the degree of maximum separation and heterogeneity between the parts of the city, built not as a result of aspiration towards an ideal goal, but rather as consequence of an “opportunistic exploitation of accidents and imperfections.” Simultaneously, each unique, self-contained part preserves its own characteristics while

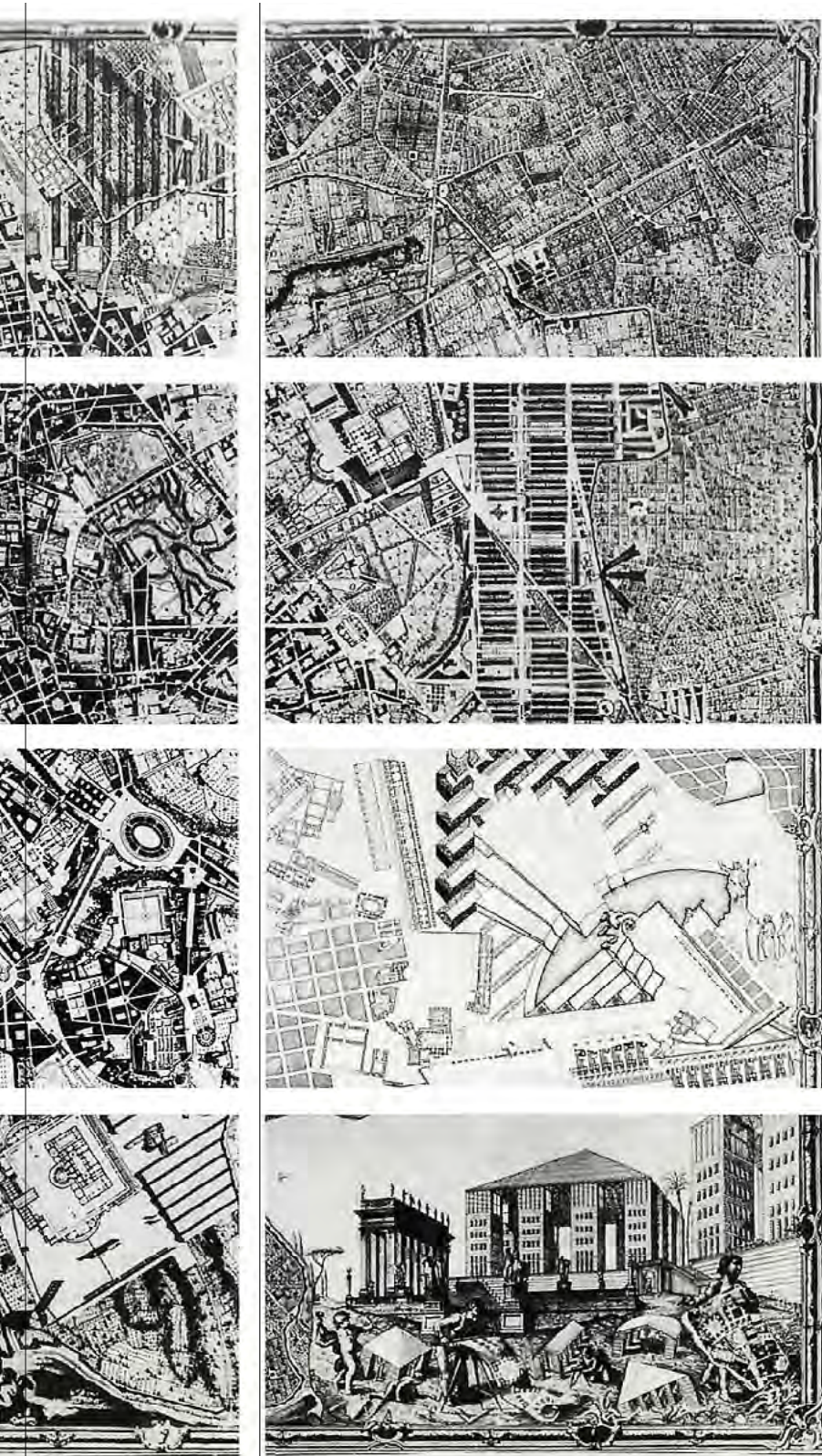
maintaining a balance with another diametrically opposed part; as Koolhaas puts it, a disturbance or modification in one necessarily causes an adjustment on another.

Much before *Great Leap Forward*, this idea of *exacerbated difference*, although not named as such, was already explored in previous situations. In 1978, for the occasion of the exhibition *Roma Interrotta*, Giambattista Nolli's 1748 map of Rome, the first attempt to represent Rome in its entirety, is used as a framework to generate twelve distinct, isolated critiques to the project of the

roman city. The projects illustrate twelve “disjoint narratives” that nevertheless rebuilds the city into one unity composed of a patchwork of – what can be seen as – exacerbated differences.

By understanding the subsidized housing developments as islands, and proposing strategies of separation to define a border for Mexico City, this thesis sees *Roma Interrotta* as a metaphor for how the contemporary city can be conceptualized and intervened, and COED© as a possible operative tool to do so.

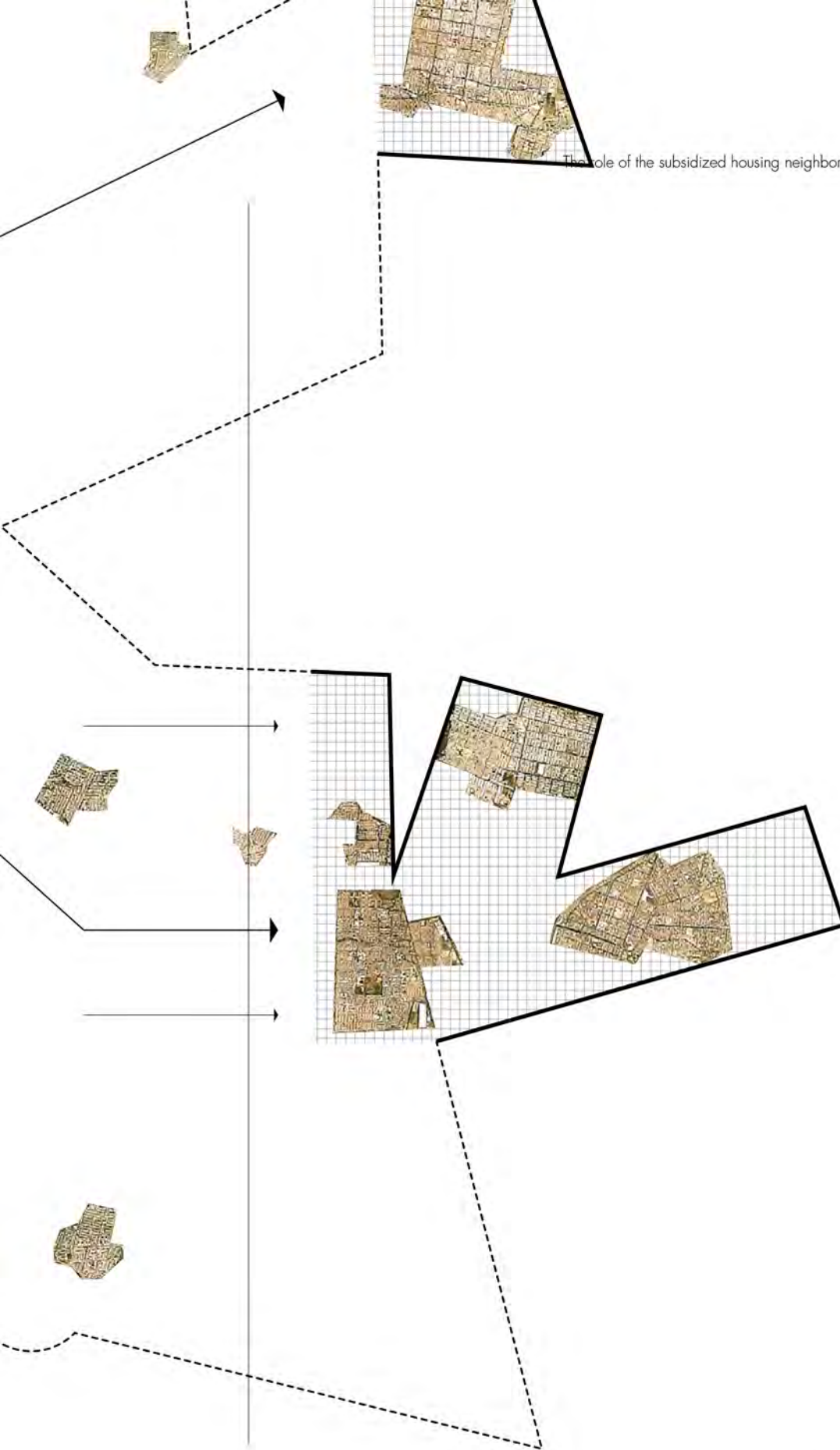




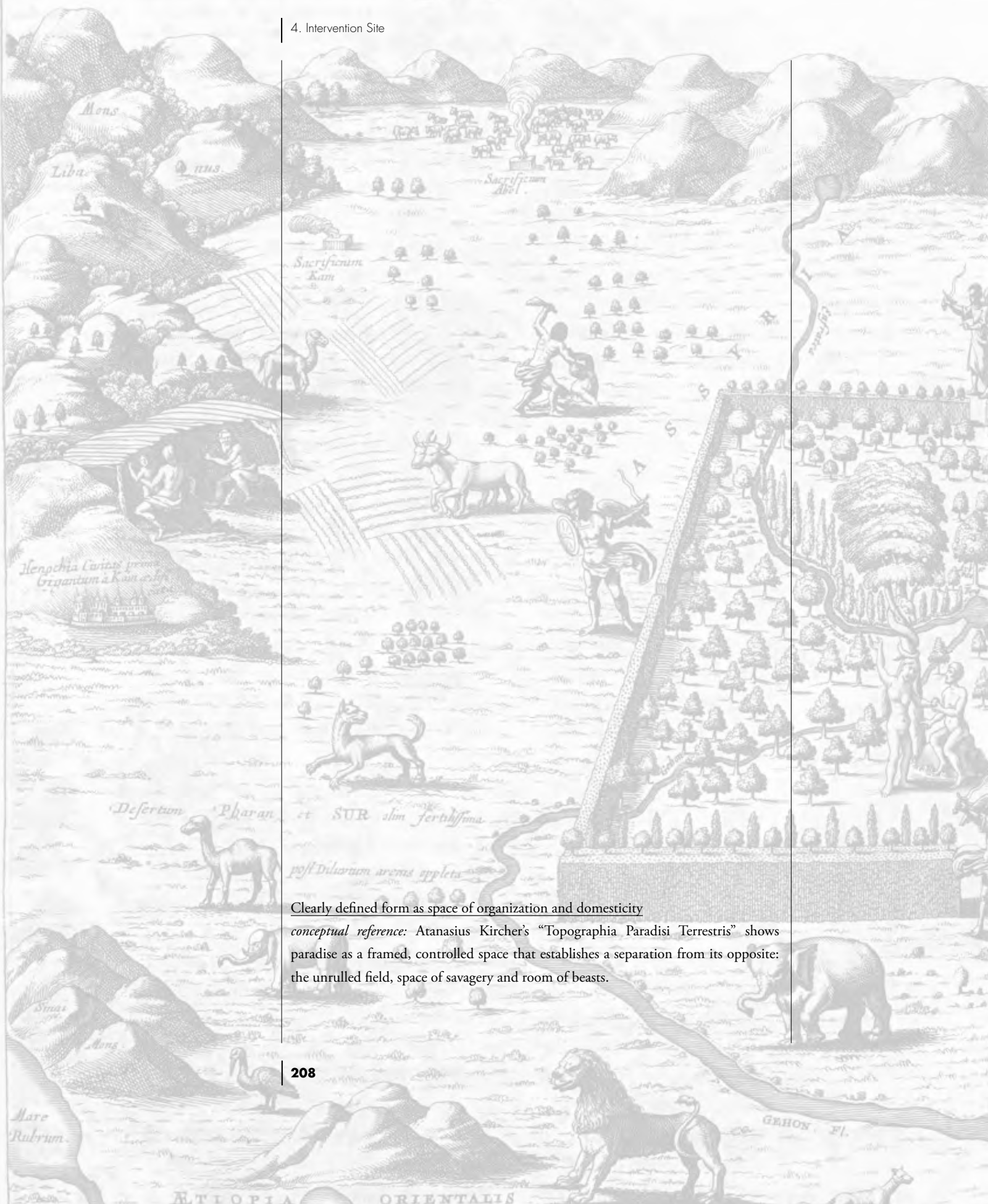
1 Chuihua Judy Chung and Bernard Chang, *Great Leap Forward, Project on the City: 1* (Köln : Taschen ; Cambridge, Mass. : Harvard Design School, 2001., 2001), 29.

2 Léa-Catherine Szacka, "ROMA INTERROTTA # 1 | The Booklist," *The Booklist*, accessed March 13, 2015, <http://www.the-booklist.com/2014/07/roma-interrotta-1.html>.





4. Intervention Site



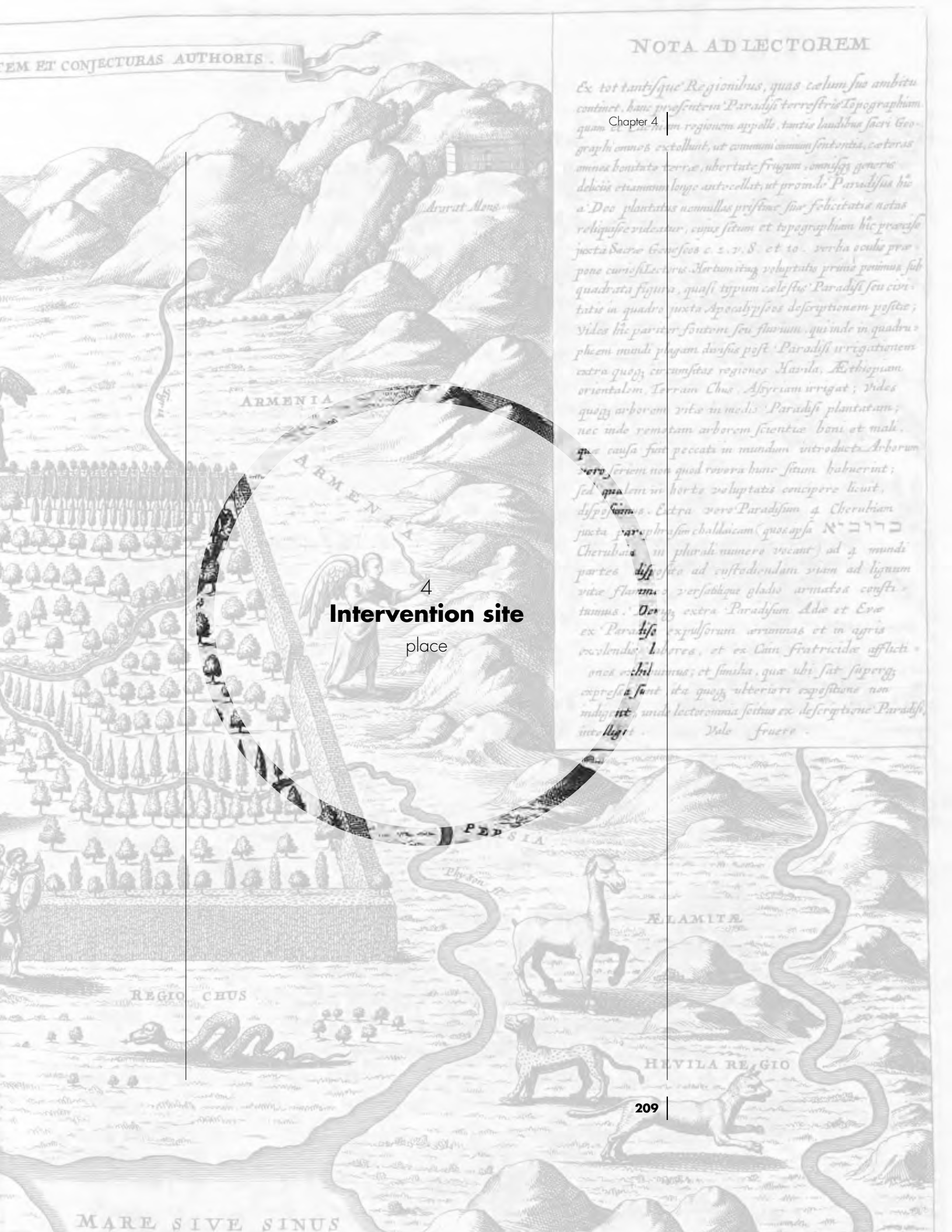
Clearly defined form as space of organization and domesticity  
*conceptual reference:* Atanasius Kircher's "Topographia Paradisi Terrestris" shows paradise as a framed, controlled space that establishes a separation from its opposite: the unrulled field, space of savagery and room of beasts.



Chapter 4

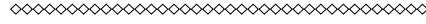
Ex tot tantisque Regionibus, quas caelum suo ambitu continet. hanc presertim Paradysi terrestriis Topographiam quam *Chus* in regionem appello. tantis laudibus sacri Geographi omnes extollunt, ut communium sententia, ceteras omnia bonitate terrae, libertate frugum, omnique generis deliciis etiamnon longe antecellit, ut promissus Paradysus hic a Deo plantatus nonnullis pristinae suae felicitatis notas reliquias videatur, cupis situm et topographiam hic praesertim juxta sacro Genesios c. 2. 7. 8. et 10. verba scilicet proponere curis lectoris. Hortum itaque voluptatis primum peninus sub quadrata figura, quasi typum caelestis Paradysi seu civitatis in quadro juxta Apocalypsis descriptionem posita; Vides hic pariter fontem seu fluvium, qui inde in quadrum mundi plagam divisus post Paradysi irrigationem extra quoque circumstitas regiones *Harila*, *Aethiopia* orientalem, *Terram Chus*, *Abyriam* irrigat; Vides quoque arborem vitae in medio Paradysi plantatum; nec inde remotam arborem scientiae boni et mali, quae causa fuit peccati in mundum introducta. Arborum vero seriem non quod vera hunc situm habuerint; sed qualem in horto voluptatis concipere licuit, dispositam. Extra vero Paradysum 4 Cherubim juxta paraphrasin chaldaicam (quae ipsa כרובים Cherubim in plurali numero vocant) ad 4 mundi partes disposita ad custodiendam viam ad lignum vitae fluvium; versatibique gladio armatos constitimus. Denique extra Paradysum *Adae* et *Evae* ex Paradysi expulsi sermone et in agris excolendis labores, et ex *Cain* fratricidae afflictione *Abilumus*; et similia, quae ubi sunt superque expressa sunt ita quoque ulteriori expositioni non indigent, unde lector omnino scietur ex descriptione Paradysi, ut illi.

Vale fruere.



4  
**Intervention site**  
 place

Maya Pérez et al., 12  
*La producción de vivienda del  
 sector privado y su problemática  
 en el municipio de Ixtapaluca.:*  
 45.

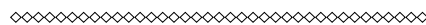


“[...] the housing developments, in general, are a preconceived urban design, where the production of urban space and housing hold particular characteristics: **a)** they are spaces that, delimited or not by physical barriers, differentiate themselves from the continuous spaces as their urban image is homogeneous from within but different from their surroundings; in this way, they identify themselves as different from the rest; **b)** they contain a number of houses which is quantitatively preconceived and inalterable, rather than qualitative, while allowing in some cases physical transformations and expressions that give meaning to the individualities and heterogeneity of those who inhabit them; **c)** they offer one or more housing typologies that are repeated for one or another domestic group, and **d)** they have communal spaces with defined use (where to walk, to park the car, to shop, to play).”<sup>12</sup>

Duhau, 1998

“[...] los conjuntos habitacionales, en general, son un diseño urban arquitectónico preconcebido, donde la producción del espacio urbano y de la vivienda guarda características particulares: **a)** son espacios que, delimitados o no a través de barreras físicas, se diferencian de los espacios continuos puesto que la imagen urbana que proyectan es homogénea en su interior y mantiene rasgos diferentes con respect a su entorno; en este sentido, se identifican a sí mismos como diferentes del resto; **b)** contienen un grupo de viviendas cuyo número es preconcebido e inalterable en el sentido cuantitativo mas no cualitativo, porque permiten en algunos casos trasformaciones físicas y expresiones que dan sentido a las individualidades que encierran y a la heterogeneidad de la gente que los ocupa; **c)** ofrecen una o varias tipologías de vivienda que se repiten para uno u otro grupo domestic e, **d)** cuentan con espacios colectivos con un uso definido (dónde caminar, estacionar los vehículos, realizar compras, jugar)”<sup>12</sup>

Duhau, 1998



## 4.1

A brief analysis of San Buenaventura, Ixtapaluca

A former agricultural area comprised of ranches and farms, the current region of Ixtapaluca started to develop in the 1970s with illegal settlements. In the 1990s, with the possibility of easy credit access through INFONAVIT and the urbanization model based on private investment promoted by the federal government as solution for the country's housing shortage, big private real estate companies arrived in the area to take advantage of the "stock" of unbuilt land and the crisis of the agricultural sector.<sup>1</sup> As product of real estate speculation, between 1992 and 2002 the municipal and federal government approved eight real estate developments: Ranch El Carmen, Villas de Ayotla, Los Héroes, Geovillas de San Jacinto, San Buenaventura, Geovillas de Jesús María, Geovillas de Santa Bárbara, and Ciudad Cuatro Vientos. In 2002, these eight housing complex together already gathered 68.625 units and 160.213 inhabitants (with a growth rate of 5.62% between 1990-1995 and 11.6% between 1995-2000).<sup>2</sup> As of today, these developments are home for more than 430.000 people, with the development of San Buenaventura jumping from 9.000 families in 2000 to 48.000 in 2005, equivalent to a medium size city in Mexico.<sup>3</sup>

The new mode of operation of private property development deployed in Mexico City brings in one company all the practices related to housing production, from land acquisition, to its urbanization, construction of houses, marketing and financing of the units.<sup>4</sup> Although this centralization of functions could have meant more control and reliability over the whole process, it actually allowed the companies to speed up the building process while neglecting the quality of the constructions and of the urban environment to seek for profit only. Among the externalities of this process is the large problem of provision and maintenance of basic infrastructure after land occupation and the construction of buildings occurred: there is a deficit around 20% of water, energy and sewage supply.<sup>5</sup>

Along with these housing developments comes propaganda and imposition of a specific suburban life style where individuality is one's highest praised characteristic and home ownership its material outcome. The houses are sold as the only way for low-income people to own a property through legal means and as a promise of admission to a modern life style. This created a new indebted class for whom owing

**1** Azucena Arango Miranda, *La periferia conurbada de la Ciudad de México: movilidad cotidiana y manejo de tiempo de la población en unidades habitacionales de Ixtapaluca*, 2010.: 80.

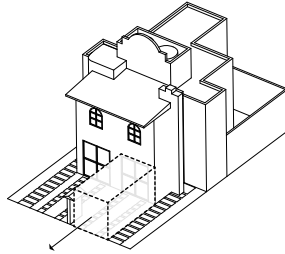
**2** Esther Maya Pérez et al., *La producción de vivienda del sector privado y su problemática en el municipio de Ixtapaluca* (México, D.F.: Universidad Nacional Autónoma de México, Facultad Arquitectura, Investigación y Posgrado : Plaza y Valdés, 2005): 31.

**3** Miranda, *La periferia conurbada de la Ciudad de México.*: 87.

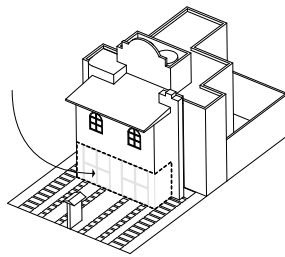
**4** María Teresa E. Hernández, "Los habitantes de San Buenaventura: uso y apropiación del entorno," in *La producción de vivienda del sector privado y su problemática en el municipio de Ixtapaluca*, by Esther Maya Pérez et al. (México, D.F.: Universidad Nacional Autónoma de México, Facultad Arquitectura, Investigación y Posgrado : Plaza y Valdés, 2005), 53.

**5** Maya Pérez et al., *La producción de vivienda del sector privado y su problemática en el municipio de Ixtapaluca.*: 40, 43.

Main areas used for commercial purposes



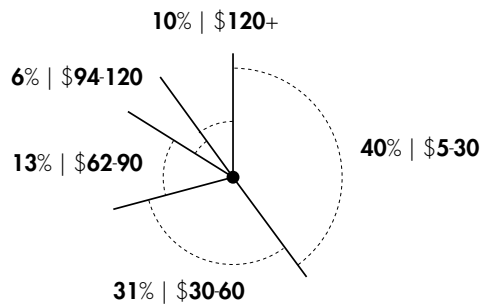
**1.** Parking



**2.** Living room

Daily commuting expenses

% of inhabitants



property is an end in its own. In these housing neighborhoods, 90% of the families won their house, but 89% of those are still paying;<sup>6</sup> in order to accomplish their dreams of becoming house owners they compromise by being in debt from 25 to 30 years.<sup>7</sup> The price of buying this “dream” under an “affordable” housing system, denounces how there is nothing of affordable in it but a strategic profit mechanism: in San Buenaventura a 60m<sup>2</sup> house, that in 5 years will need a renovation due to the precariousness of its construction, costs \$240.000 pesos (15.000 dollars), while the same square footage when self-built in a surrounding neighborhood costs \$50.000 pesos.<sup>8</sup>

The neighborhood (or *fraccionamiento*, as they are called) of San Buenaventura is one of the most emblematic examples of this type of developments. Built in 2001 by Consorcio ARA, San Buenaventura is made of 20.342 identical houses, 13 schools, 2 hospitals, 1 church, 1 water reservoir, and some few other amenities. Beside the points discussed previously, this neighborhood reveals two big issues shared by the majority of these developments: their mono-functional character, and their distance from the city. The two issues are interconnected and reinforce each other.

The lack of proper services or commercial uses, and the distance from places to work, make San Buenaventura to both become a *dormitory city* and engage in a process of informal construction and unregulated commerce to supply the demand for easier-to-reach products. On one hand, 76% of the heads of households work in the city, of which 40% don't work close to Ixtapaluca; they work mainly in the municipalities of Cuauhtémoc and Ixtapalapa in the D.F., or in Nezahualcóyotl, on the State of Mexico. For these families, commuting alone accounts for 52% of their income.<sup>9</sup> On the other, 14% of the families work on their own homes, mainly with small business, shops or services.<sup>10</sup> Notwithstanding the strictness of the regulation defined by Consorcio ARA regarding the permission of modifications on any built part of the neighborhood (building facades, materials used, common areas, etc), threatening the inhabitants of losing their financing,<sup>11</sup> the self-built extensions to host local commerce creates a landscape of informality and poorly-built constructions overlaid to the orthodox regularity of the original neighborhood design. Although this introduces diversity to a former homogeneous and monotonous site, it also devaluates the neighborhood, and generates conflicts over the

**6** Patricia Ramírez Kuri and Miguel Angel Aguilar, *Pensar y habitar la ciudad: afectividad, memoria y significado en el espacio urbano contemporáneo* (Rubí (Barcelona); Iztapalapa, Mexico: Anthropos Editorial ; División de Ciencias Sociales y Humanidades, Universidad Autónoma Metropolitana, 2006): 36.

**7** Hernández, “Los habitantes de San Buenaventura: uso y apropiación del entorno.”: 55.

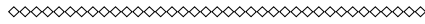
**8** Miranda, *La periferia conurbada de la Ciudad de México.*: 91.

**9** Ramírez Kuri and Aguilar, *Pensar y habitar la ciudad.*: 44.

**10** Esther Maya Pérez, “La importancia de los equipamientos de uso colectivo en los conjuntos habitacionales: el equipamiento urbano de San Buenaventura,” in *La producción de vivienda del sector privado y su problemática en el municipio de Ixtapaluca*, by Esther Maya Pérez et al. (México, D.F.: Universidad Nacional Autónoma de México, Facultad Arquitectura, Investigación y Posgrado : Plaza y Valdés, 2005), 106.

**11** Hernández, “Los habitantes de San Buenaventura: uso y apropiación del entorno.”: 61.

Hernández, 13  
“Los habitantes de San  
Buenaventura: uso y  
apropiación del entorno.”: 62.

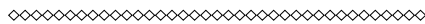


“Here there is no market, actually there is one but on the second section and yet is closed. The other services are very far, is slightly inconvenient because I have to walk far to that side to arrive where the shops are. I walk 20 minutes to buy a tomato!”<sup>13</sup>

(lady, section 4)

*“Aquí no hay Mercado, hay uno, pero en la segunda sección u aún está cerrado, los demás servicios están muy lejos, es un poco incómodo porque tengo que caminar todo de aquel lado para llegar a donde están las tiendas, ¡camino como 20 minutos para comprar un jitomate!”<sup>13</sup>*

(señora, sección 4)



questions of privacy and the right to common spaces – such as the sidewalk.

To conclude, because it stands as the one of the most representative cases of the urban form generated by Mexico City's suburbanization process, San Buenaventura is taken here as the intervention site for an urban design proposal. The proposal will address both the specific issues encountered in this neighborhood, as well as understand it as a generic sample of what the subsidized housing developments should mean for the city. This thesis maintains that through urban design is possible to explore the potential of places like San Buenaventura, and reverse their state of crisis to a condition of prosperity.

4. Intervention Site

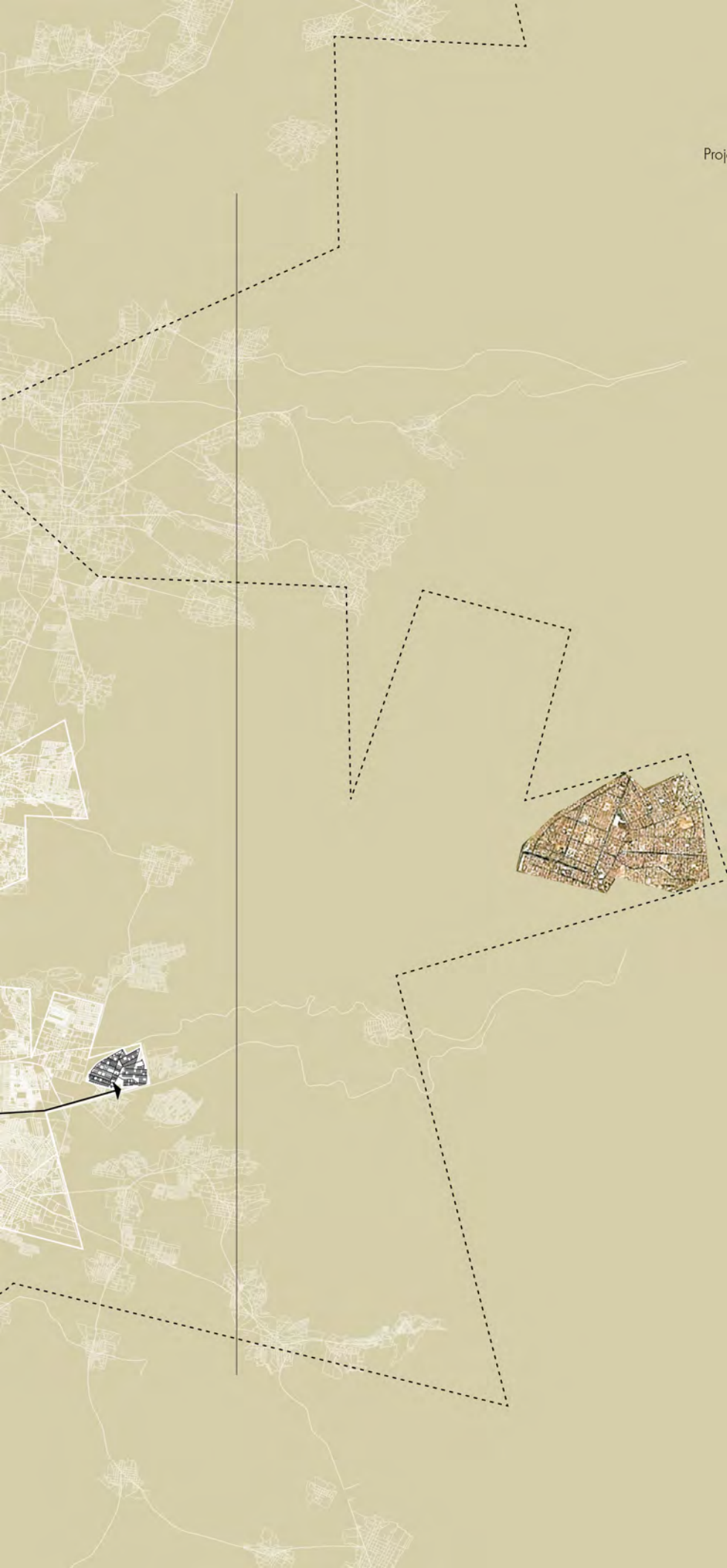
4.2

**Project site in 4 scales**

*San Buenaventura, Ixtapaluca*

**38**km away from Zócalo  
**1:30**h traffic-free





4. Intervention Site

**Nabor Carrilo Lake**  
*last remainings of Lake Texcoco*

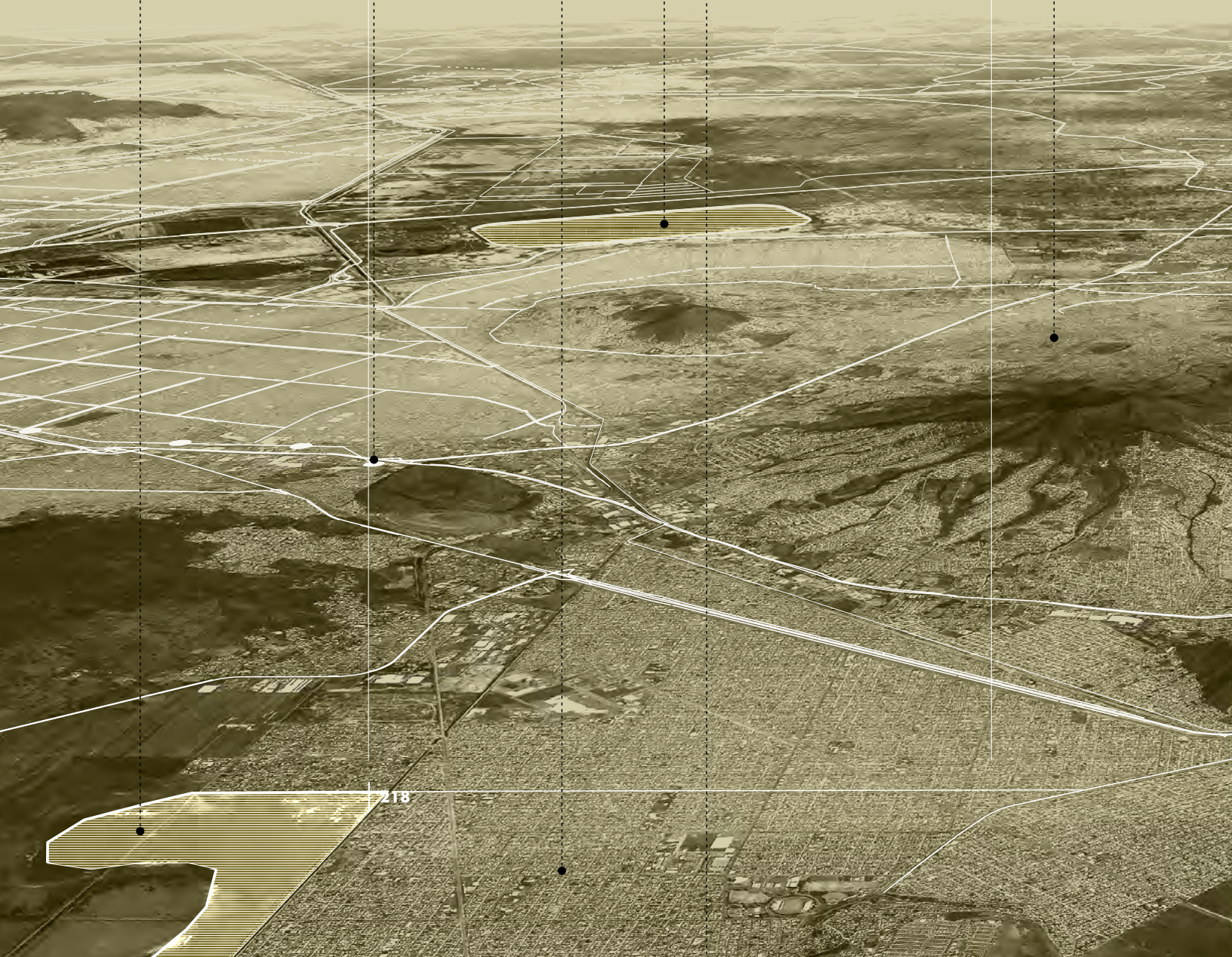
**Chicoloapan de Juárez**  
*population: 170.035*

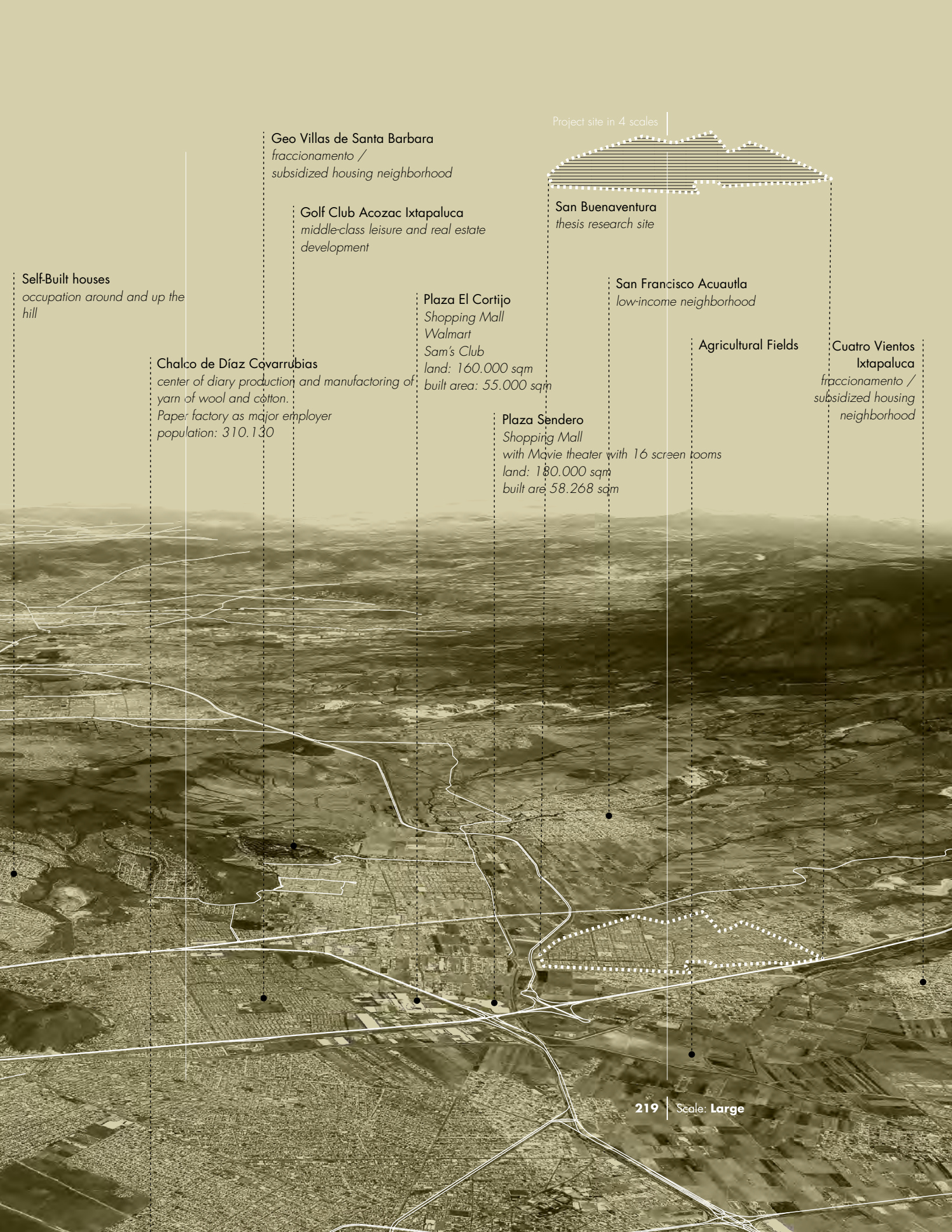
**La Paz Station**  
*last metro stop*

**Valle de Chalco Solidaridad**  
*former ejido lands  
lack of basic infrastructure  
population: 357,645*

**Lagunas de Xico**  
*rain water lakes*

**Xico Volcano**  
*agricultural fields inside the crater due to  
rich volcanic soil*





Project site in 4 scales

**Geo Villas de Santa Barbara**  
*fraccionamiento /  
subsidized housing neighborhood*

**Golf Club Acozac Ixtapaluca**  
*middle-class leisure and real estate  
development*

**San Buenaventura**  
*thesis research site*

**Self-Built houses**  
*occupation around and up the  
hill*

**San Francisco Acuautla**  
*low-income neighborhood*

**Chalco de Díaz Covarrubias**  
*center of dairy production and manufacturing of  
yarn of wool and cotton.  
Paper factory as major employer  
population: 310.130*

**Plaza El Cortijo**  
*Shopping Mall  
Walmart  
Sam's Club  
land: 160.000 sqm  
built area: 55.000 sqm*

**Agricultural Fields**

**Cuatro Vientos  
Ixtapaluca**  
*fraccionamiento /  
subsidized housing  
neighborhood*

**Plaza Sendero**  
*Shopping Mall  
with Movie theater with 16 screen rooms  
land: 180.000 sqm  
built are 58.268 sqm*



Intervention Site

210

Project site in 4 scales



4. Intervention Site



Project site in 4 scales |

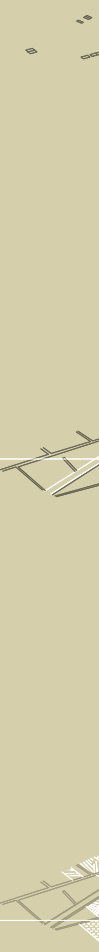


4. Services

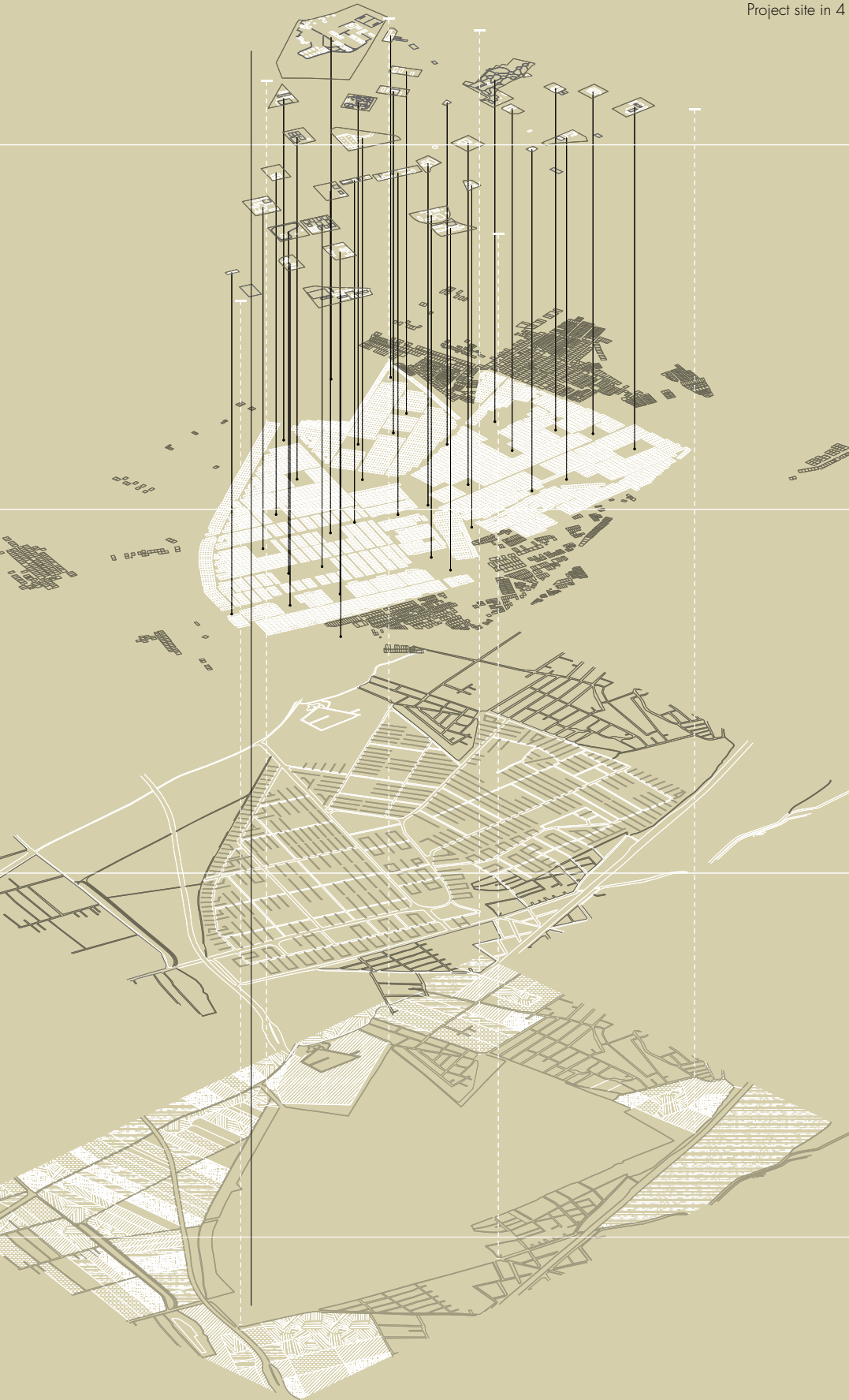
3. Parcels

2. Road Network

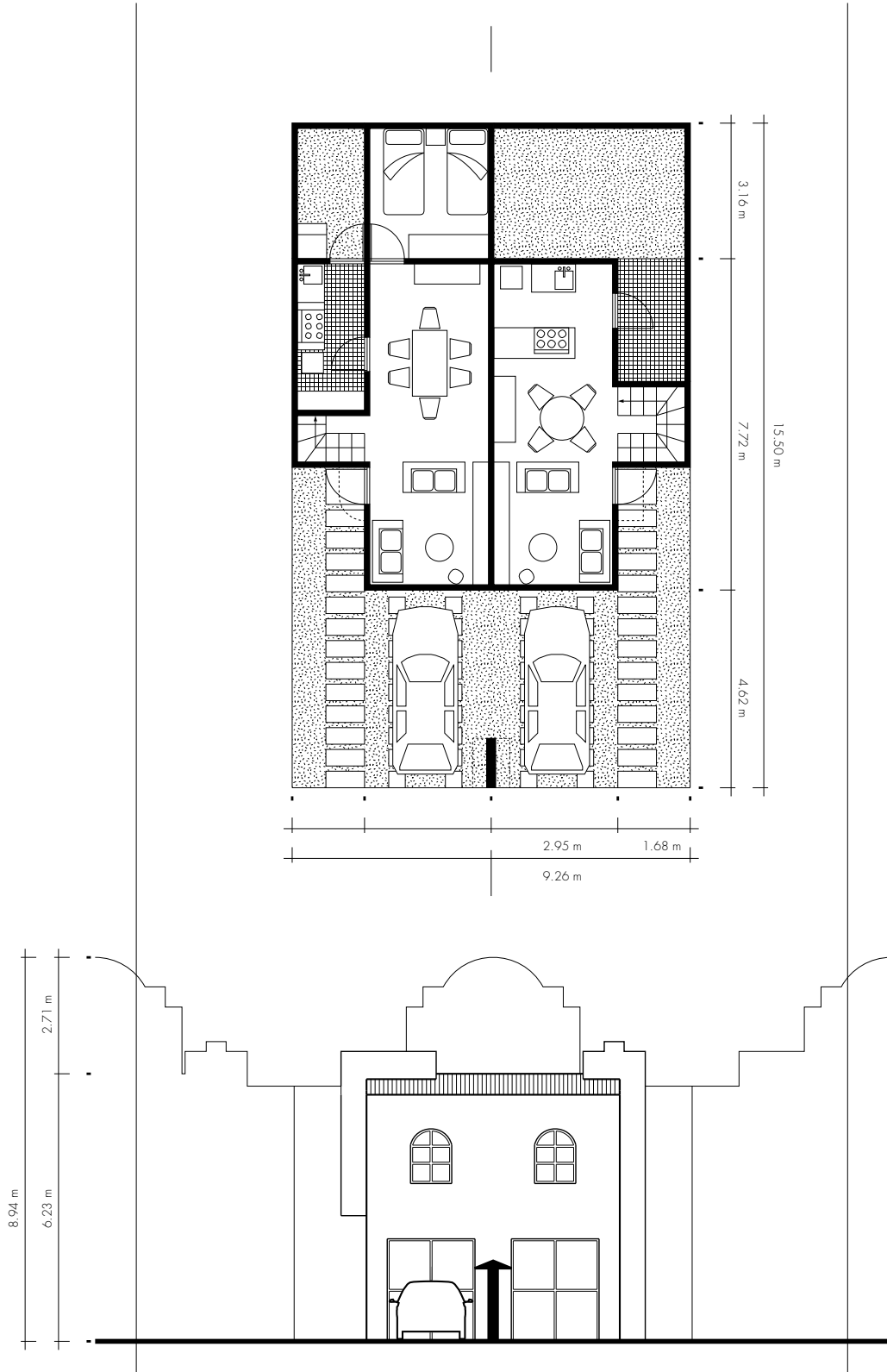
1. Agricultural Fields

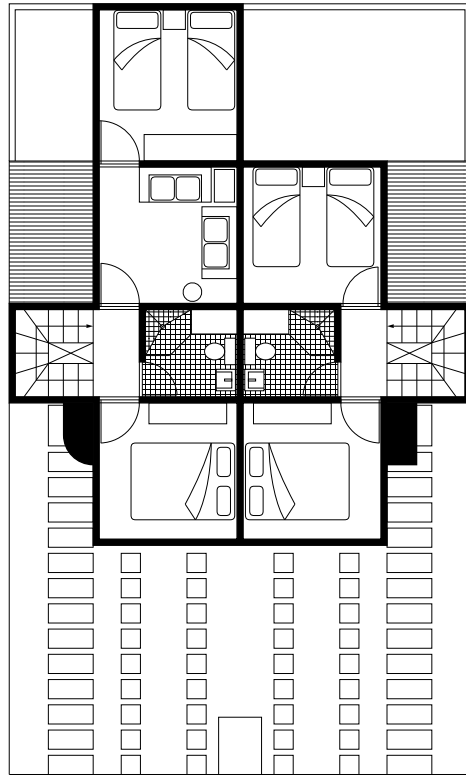




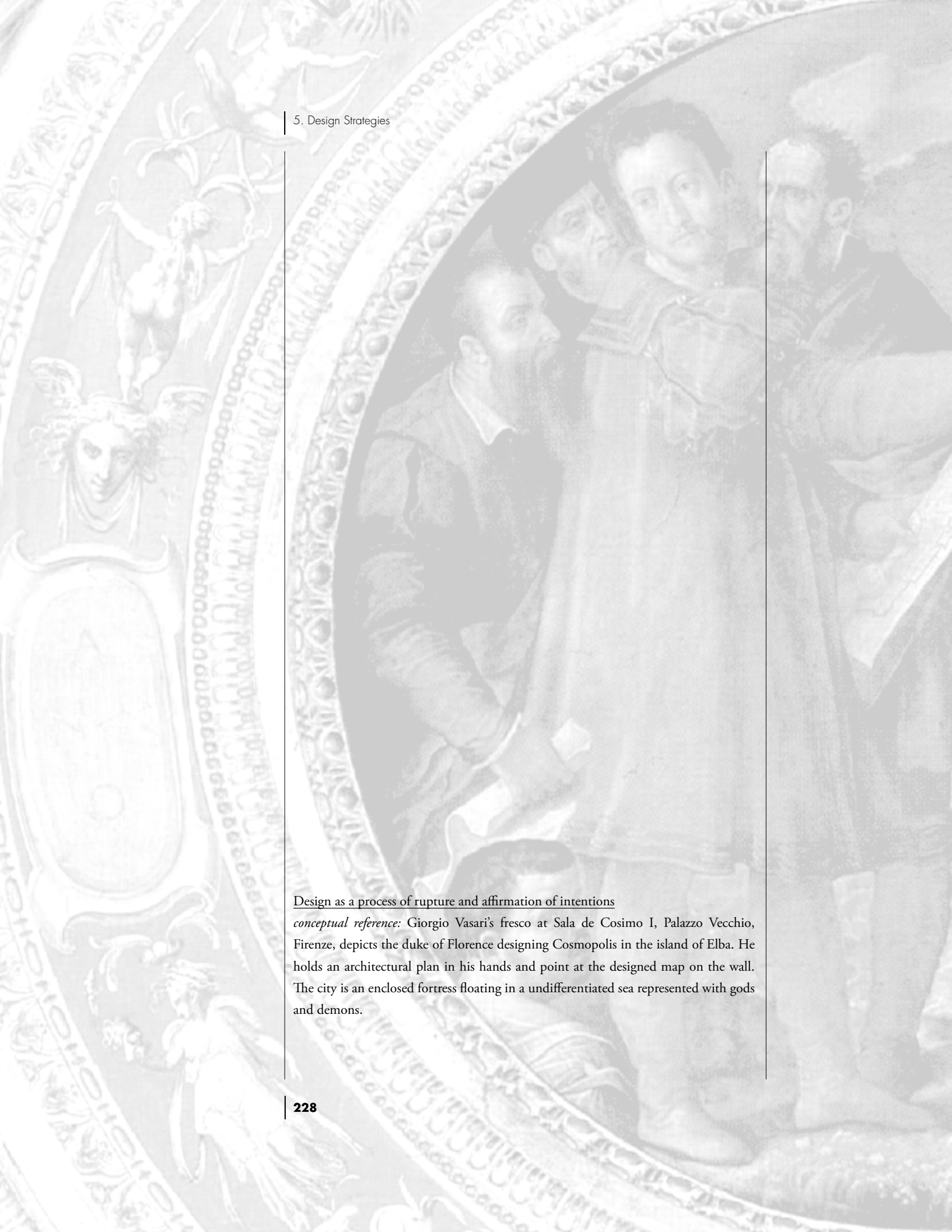


4. Intervention Site





Unit type [x 20.342]



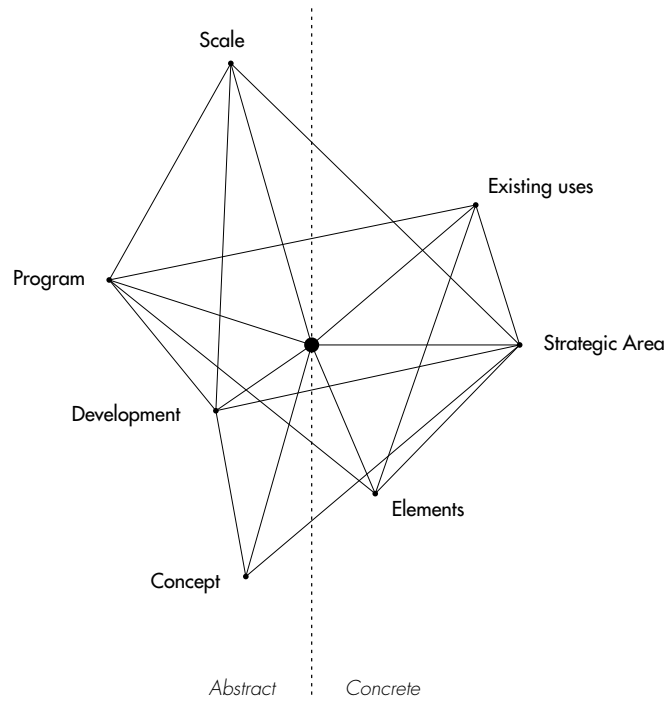
Design as a process of rupture and affirmation of intentions

*conceptual reference:* Giorgio Vasari's fresco at Sala de Cosimo I, Palazzo Vecchio, Firenze, depicts the duke of Florence designing Cosmopolis in the island of Elba. He holds an architectural plan in his hands and point at the designed map on the wall. The city is an enclosed fortress floating in a undifferentiated sea represented with gods and demons.

5

## Design Strategies

foundations



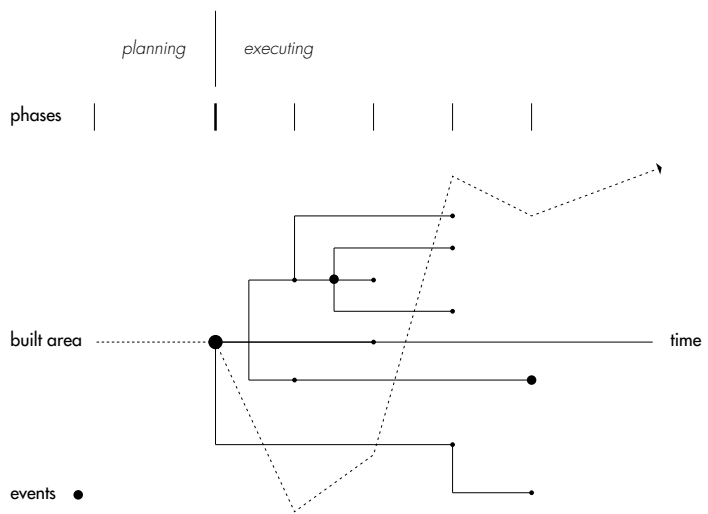
## 5.1

Defining the framework of the intervention

There are some parameters that have to be laid out prior to design. In fact, design happens exactly because these parameters were previously determined: they build a framework from which to act. When design comes into play, it is used as an investigative tool – design as research – to readjust the initial assumptions, and then modify the framework while closing any loops. The parameters are fundamental domains of the intervention, and vary from concrete entities such as site elements and strategic areas to abstract notions of scale and concept. Far from passive, these parameters represent an intention towards the transformation of the area and build the paths through which design will be led. The discussion is organized as follows:

<i>1. development</i>	<b>Time as design component</b>
<i>2. scale</i>	<b>Field of intervention</b>
<i>3. elements</i>	<b>Set of parts</b>
<i>4. strategic area</i>	<b>Interstitial space</b>
<i>5. existing uses</i>	<b>Local potentialities</b>
<i>6. program</i>	<b>Inverting the dormitory-city logic</b>
<i>7. concept</i>	<b>Within and against individualism</b>

Design Components





## 1. *development* | **Time as design component**

To propose any urban intervention the first think to be taken in consideration is the notion of *time* as a design component. There is no instant implementation of an idea, nor is there the possibility of designing based on the current situation only. After a certain mass threshold, or critical size, an architectural object loses its independence from *time* to become more a process than a fixed result. This does not mean that the intended form cannot be fixed, or well defined, – on the contrary, I argue it has to be – but rather that form has to be achieved through a temporal progression. Instead of a passive entity, an inevitable presence within which things change, *time* is used actively to shape the intervention, and unchain the events that will consolidate it.

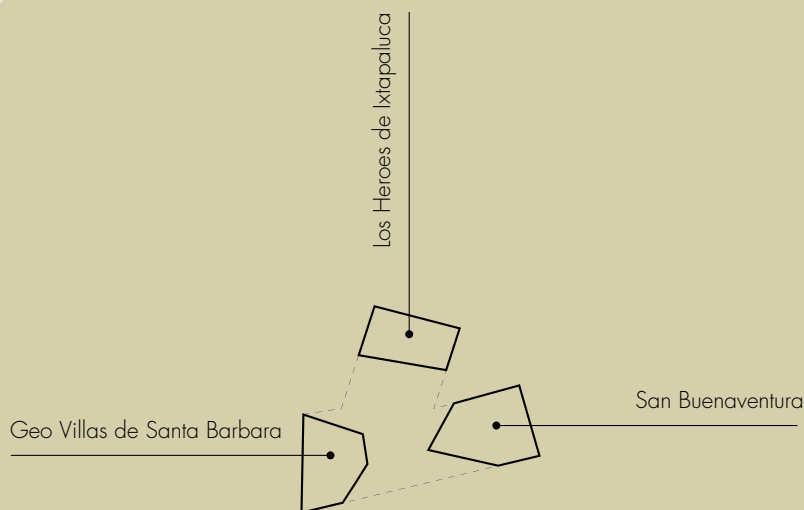
Urban design looks at the future. Subsidized housing neighborhoods hold a certain position in relation to the city that can be different from their future one. The role of an urban intervention is to model this new position, first by getting in control and being well familiar with the existing condition, and then by projecting a new reality to it. This new reality will be structured by a series of events that are interrelated, and that gradually modify the built environment. Slightly different from the notion of *phasing*, each event, although interrelated, maintains a certain autonomy that allows its individual failure without dismantling the whole scheme; in the case of success, each is designed to strengthen the other, and set the ground for the coming ones.

5. Design Strategies

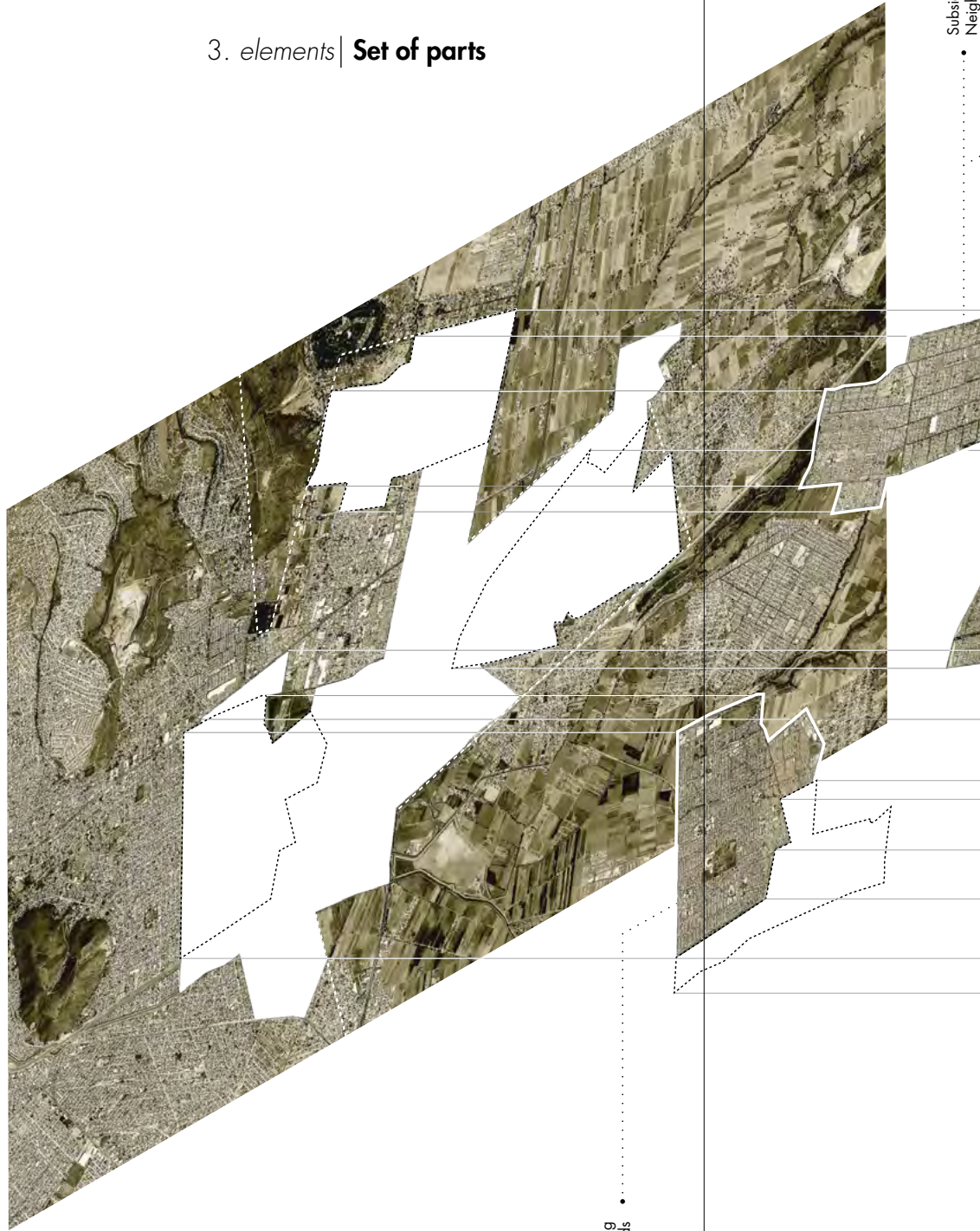


## 2. *scale* | **Field of intervention**

The question of *scale* precedes the majority of other parameters; only after it is defined is it possible to dive into the condition of the site, and extract information relevant to design. The zoom in for the project will not only focus on San Buenaventura, as one detached neighborhood, but also will encompass a collection of two other adjacent housing neighborhoods, and posit the three of them as a system. This is a necessary decision if the intention is to confront the closeness of these sites, and propose a dialog among them and with their surroundings. By delimiting the **area of intervention** it is possible to select which elements are fixed and which are susceptible to change, or relevant for the proposal; in other words, the correct scale permits a calibration between the present and future conditions.

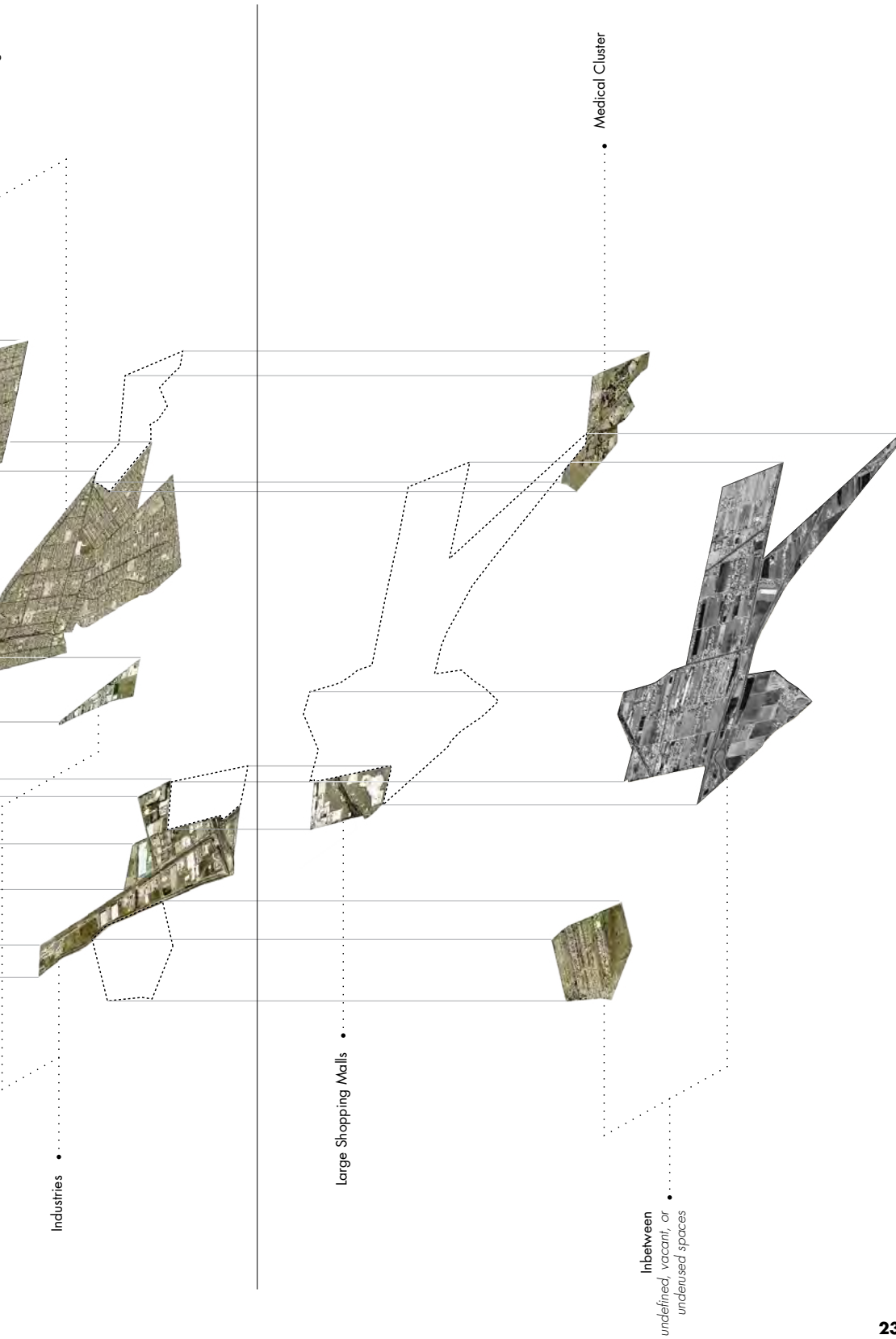


3. *elements* | **Set of parts**



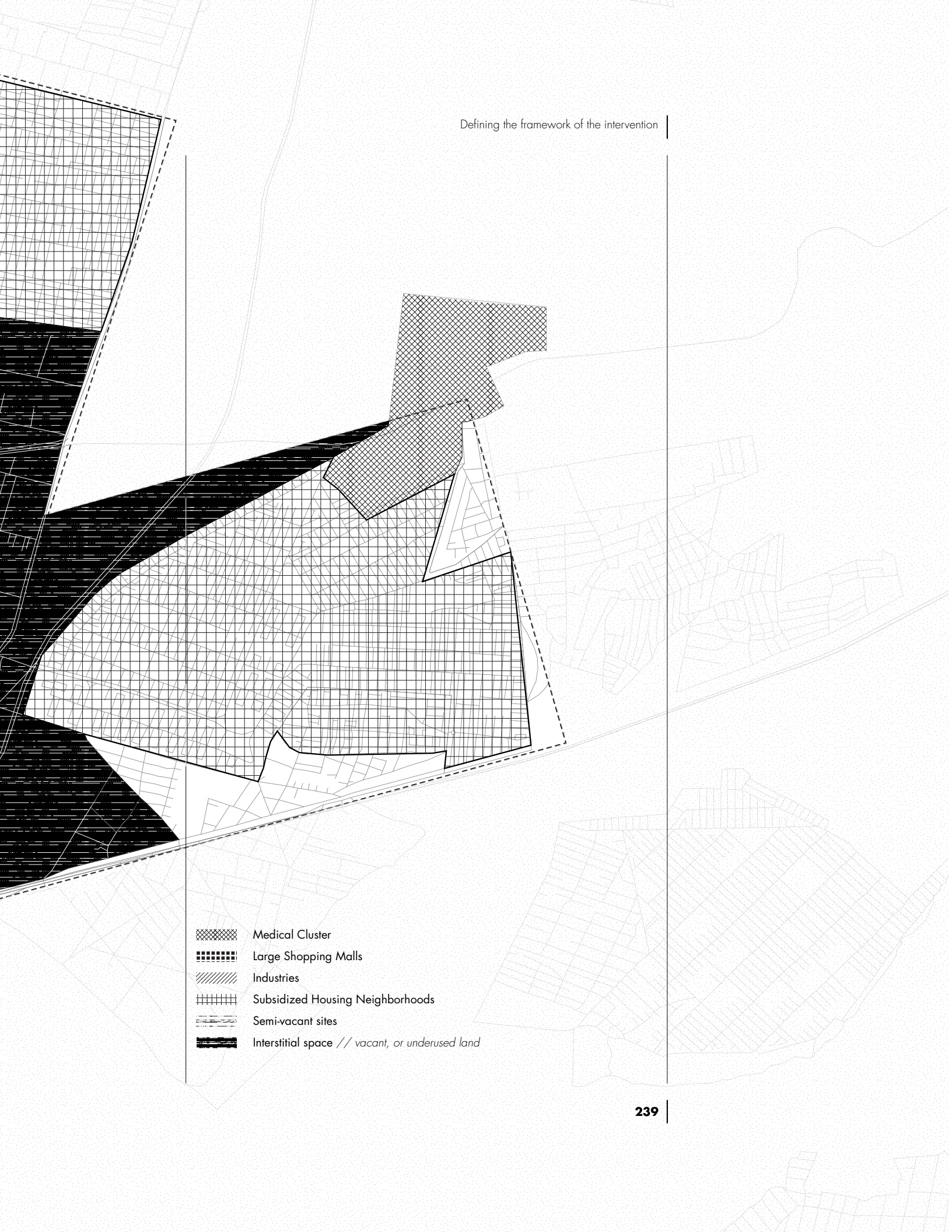
Subsidized Housing  
Neighborhoods

Subsidized Housing  
Neighborhoods



5. Design Strategies



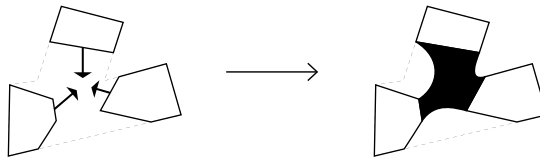


-  Medical Cluster
-  Large Shopping Malls
-  Industries
-  Subsidized Housing Neighborhoods
-  Semi-vacant sites
-  Interstitial space // *vacant, or underused land*

4. *strategic area* | **Interstitial space**Establishing a binding field among isolated parts

The main characteristic of the intervention site is the presence of three large-scale subsidized housing neighborhoods – spaces of repetition and homogeneity – sitting on a field condition of amorphous / informal urbanization and unbuilt land, either vacant or of agricultural use. The way these neighborhoods were designed, as introverted communities without consideration of the context they were inserted into they perform as isolated units. Their isolation prohibits them from overcoming their design's inherited weakness and creates a barrier for these communities to evolve into more structured urban forms.

By analyzing this condition, I found it possible to identify the potential of the space *in-between* the housing neighborhoods. Currently, this is an interstitial space, a no-man's land in which what happens there and its future is unclear. However, the negative aspect of this state of indeterminacy can become the very strength of this site. This interstitial space can become a highly articulated zone that establishes the missing connection between the neighborhoods in order to foster reciprocity among them, making the area to develop as one complex, instead of an unrelated set of parts. This space would start as the common denominator of the three distinct neighborhoods, and progressively move towards being the center of a four partite body. It would create the physical link among them, as well as negotiate with their hard edges. The finite forms of the neighborhoods could find on this space a moment of transition and dilution that creates openness to their former self-confinedness.





## 5. *existing uses* | **Local potentialities**

### Biomedical as driving industry

Along with defining the interstitial space as a strategic area for the project, it was necessary to identify the local potentialities that could help drive and initialize the intervention. This consists of a process of analyzing the site conditions and components, and selecting which of their elements can be used to anchor the future intervention and fuel its progression through time.

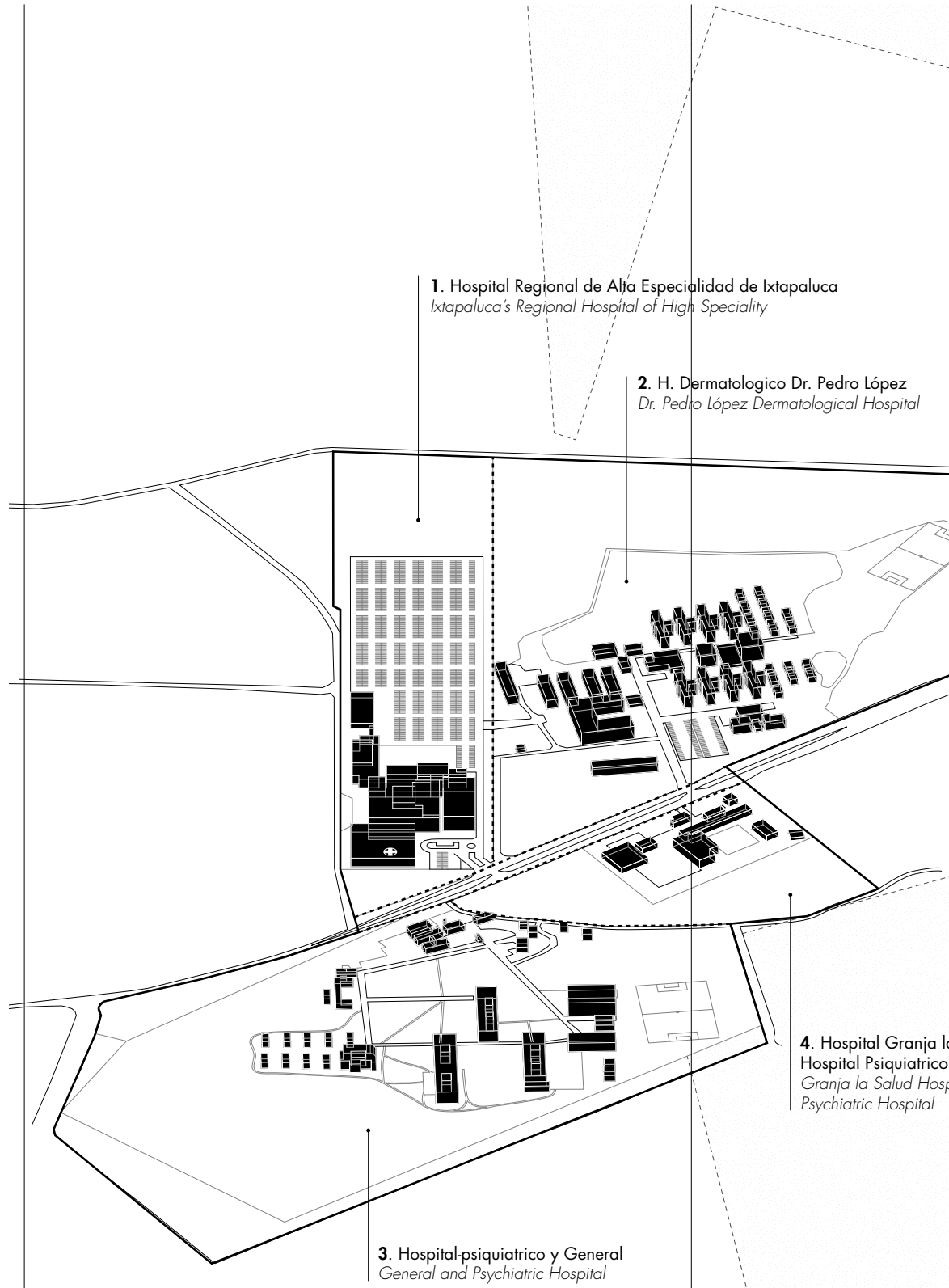
I identified three groups of objects of interest, each with a varying degree of importance. The first, and least pivotal, is the industrial agglomeration to the south. This agglomeration, although small, shows the potential of the site to develop industrial uses. The highways that cut north-south and east-west facilitate the in-and-out flow of products, and the large empty land offers the adequate square footage for industrial activity. The second group is the shopping mall complex next to the industrial sites. It consists of two large-scale shopping malls, of regional influence, that cluster leisure and commerce related uses. Within a radius of 9 km, these malls are the city equipment of most impact: they stand on the symbolic place that previously would have been occupied by governmental buildings or churches. Because of its concentration of capital and people, and attractiveness, the malls become seeds for new urban development. Lastly, and most importantly, as stated in the *30-year future perspective chapter*, the subsidized housing neighborhoods can be understood as an archipelago, where each would specialize in one industry in order to create a network of complimentary production. This would change the character of these neighborhoods by introducing other uses besides residential, creating jobs, and ending the isolation of these places. Specifically on the site's north-east corner, there is already a concentration of medical facilities that consist of three large medical campuses specialized in different sectors of the industry. Together they form an insipient cluster that can be strengthened and enhanced to consolidate a Biomedical industry pole to drive production on this area.



## Interstitial Space

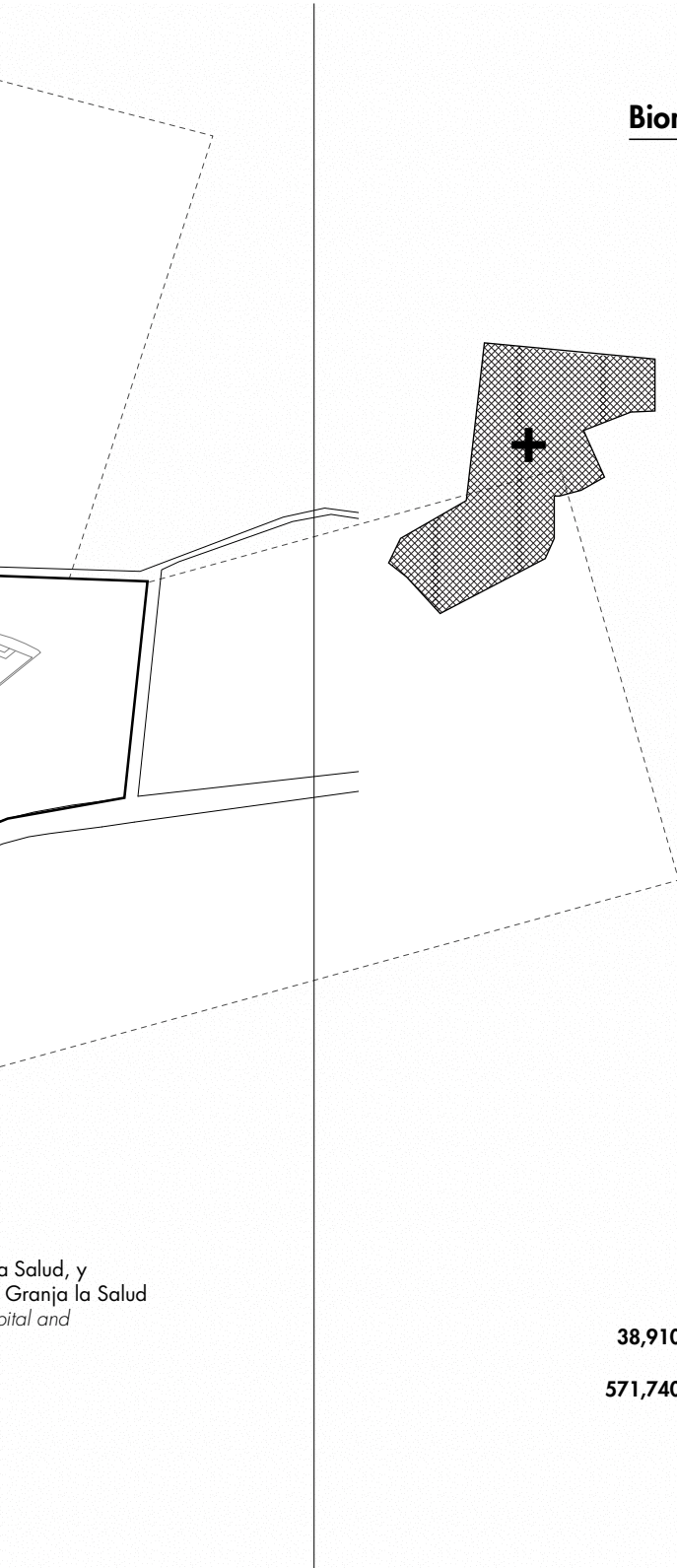
*glue between the housing developments*

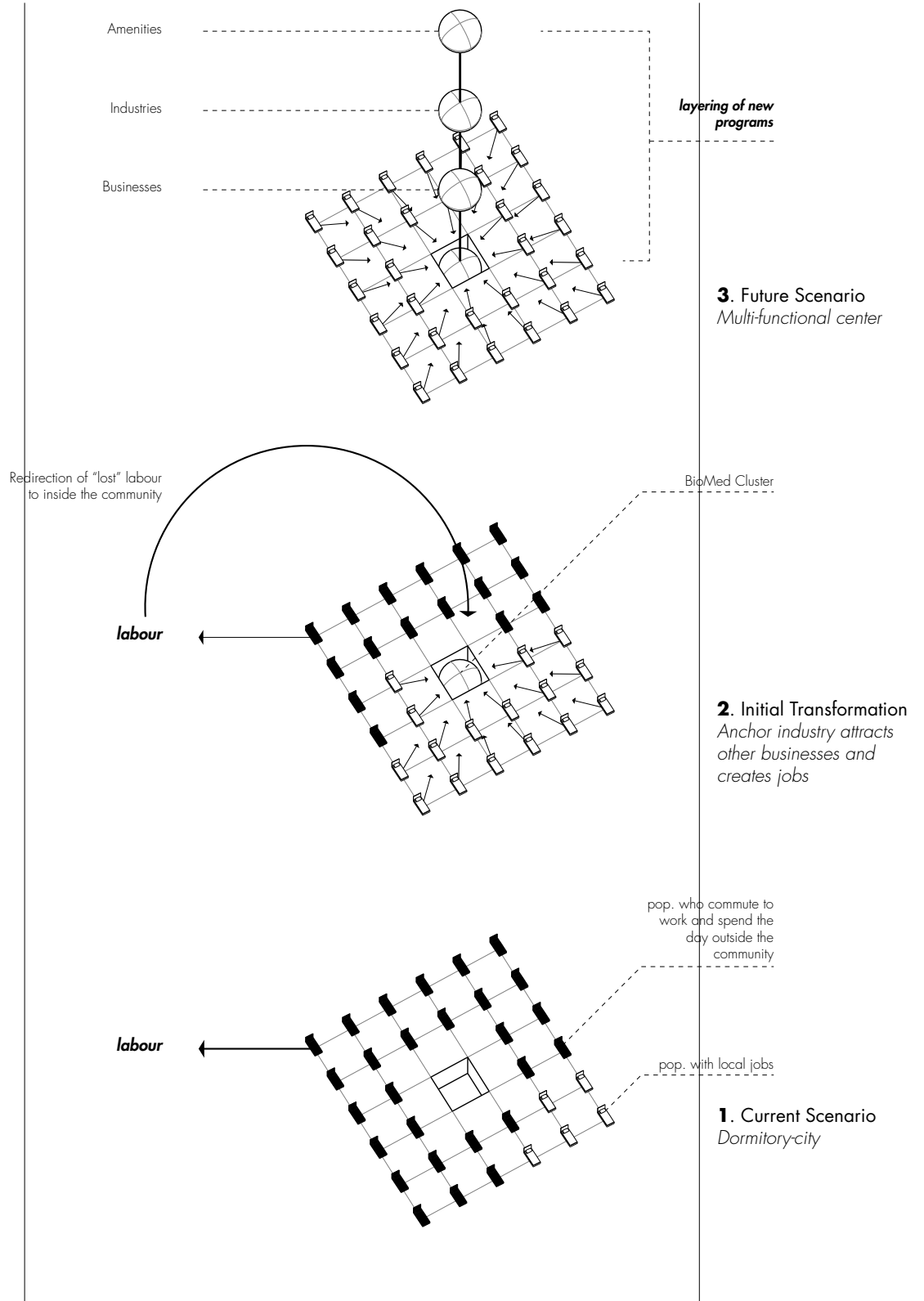




## Biomedical Cluster

*initial phase*





## 6. program | Inverting dormitory-city logic

Currently, only 14% of those who live in these subsidized housing neighborhoods, mainly women and children, work and spend the day inside their communities, the rest return at night to sleep.<sup>1</sup> This condition results from the lack of job opportunities and the long commuting time to reach the more central parts of the city. Even those who engage with informal activity prefer working in central places rather than settling their businesses inside or around the place where they live. The mono-functionality of these areas is problematic because it isolates these communities in two ways: for those who inhabit them, there are no incentives to stay, and for the outsiders, there are no reasons to visit.

To change the way these neighborhoods operate and alter the living conditions of their inhabitants, it is necessary to reinvent them programmatically. Only through the introduction of new uses and local jobs, the population would have the possibility of choosing not to commute, and, as an extension, to see these neighborhoods as places to live, rather than to sleep. Bringing the workforce back inside the community initiate a cycle of improvements: people start caring about the environment where they live and work; they can spend more time with family and neighbors; and they start to be proud of their neighborhood, working towards making it a better place.

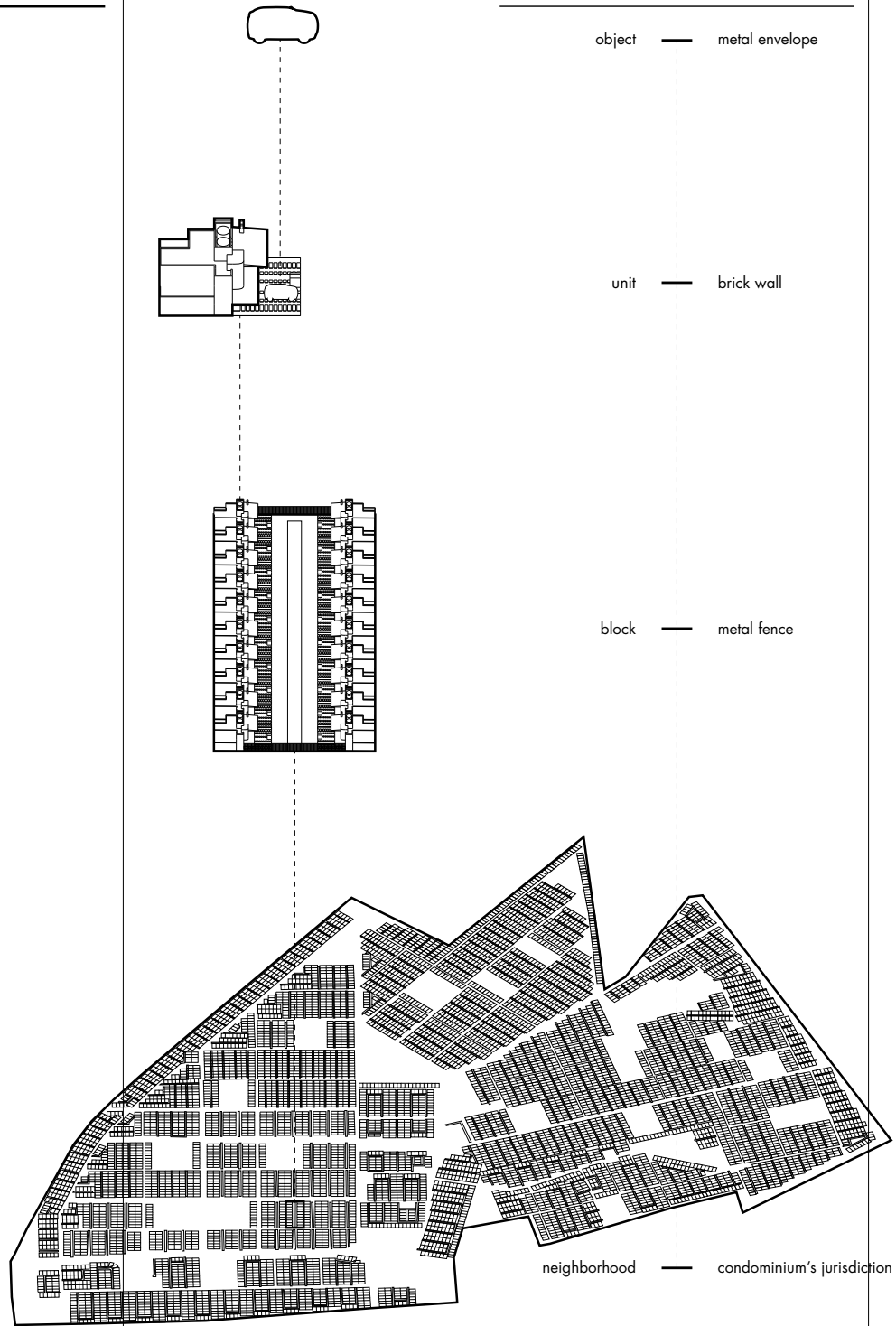
As proposed, rupturing the dormitory-city logic begins with the consolidation of a strong industry, in this case the Biomedical, which triggers the process of attracting other industries and business, and supplying the population with local jobs. In time, the character of the neighborhood shifts from a peripheral repository of beds to a multi-function and active center.

1 María Teresa E. Hernández, “Los habitantes de San Buenaventura: uso y apropiación del entorno,” in *La producción de vivienda del sector privado y su problemática en el municipio de Ixtapaluca*, by Esther Maya Pérez et al. (México, D.F.: Universidad Nacional Autónoma de México, Facultad Arquitectura, Investigación y Posgrado : Plaza y Valdés, 2005), 71.

*degrees of individualism*

*scales of exclusion*

*dividing material*

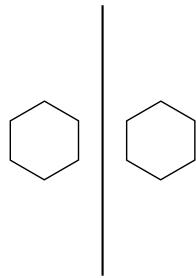




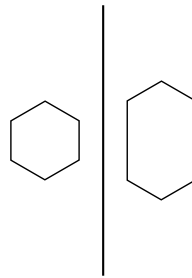
## 7. *concept* | **Within and against individualism**

The housing development boom occurred as a result of the country's uncritical adherence to neoliberalism. The same way the country loosened market regulations to allow a free flow of international products and services, it also permitted, or willfully incentivized, the import of many aspects of North American culture. Among these stand the preservation and acclamation of individuality as the core component of everyone's life. Because the traditional Mexican values were no longer appealing, the housing developments were all built based on the new [enforced] values of this society that replicated the model of the American suburb. Thus, these developments reproduce structures of individuality at every level of its organization: the isolated neighborhood, the enclosed condominium, the ratio one-family one-house, and the private car.

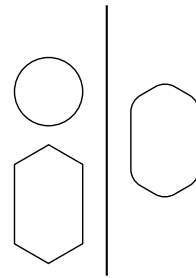
To rethink the neighborhoods generated through this formula means to rethink how society organizes itself. If the notion of individualism is already embedded and weighted to the population, the intervention has to consider the relevance of this component and propose its modification from within, instead of discarding it as non-ideal. The mentality has to be changed gradually. Since home ownership is a decisive factor today, the intervention starts from this point, however through a different urban model which enhances the notion of collectivism.



Copy



Transform



Combine

## 5.2

Design as Research

There is no single design solution to urban problems; instead there is always a multiplicity of ways one can approach and propose solutions to any given circumstance. To avoid being shallow, design cannot come into play as a straight solution but have to be used as a working tool, a component of the research process. Through experimenting in diverse ways, design is used to extract strengths of the site and reveal possibilities of intervention. In this context, design is seen as a force that is constantly pushing against the urban constraints until it cedes. Design as research is meant to exhaust the problem: the more design is used to test intervention methods in the site, the more precise it will inform the final decision, to the point of making it stand as the one inevitable solution.

In this thesis, 6 test cases were deployed exploring ways of acting on the site from different perspectives. From these tests it was possible to adjust some of the early assumptions in relation to the intervention area, and identify components to be used in the final proposal.

*Design Research* **0.** BASE SITE





*Design Research*

- Extension of site lines
- Break of neighborhood in smaller groups
- 1.** Consolidate mega transportation and commercial hub
- Use of strong urban form

Industrial Strip following the existing concentration of industries on the south

Divide the neighborhoods to break with long extensions of homogeneous environments, and have more control over the pieces of intervention; the identities of smaller parts are easier to be changed



System of parks along main axes

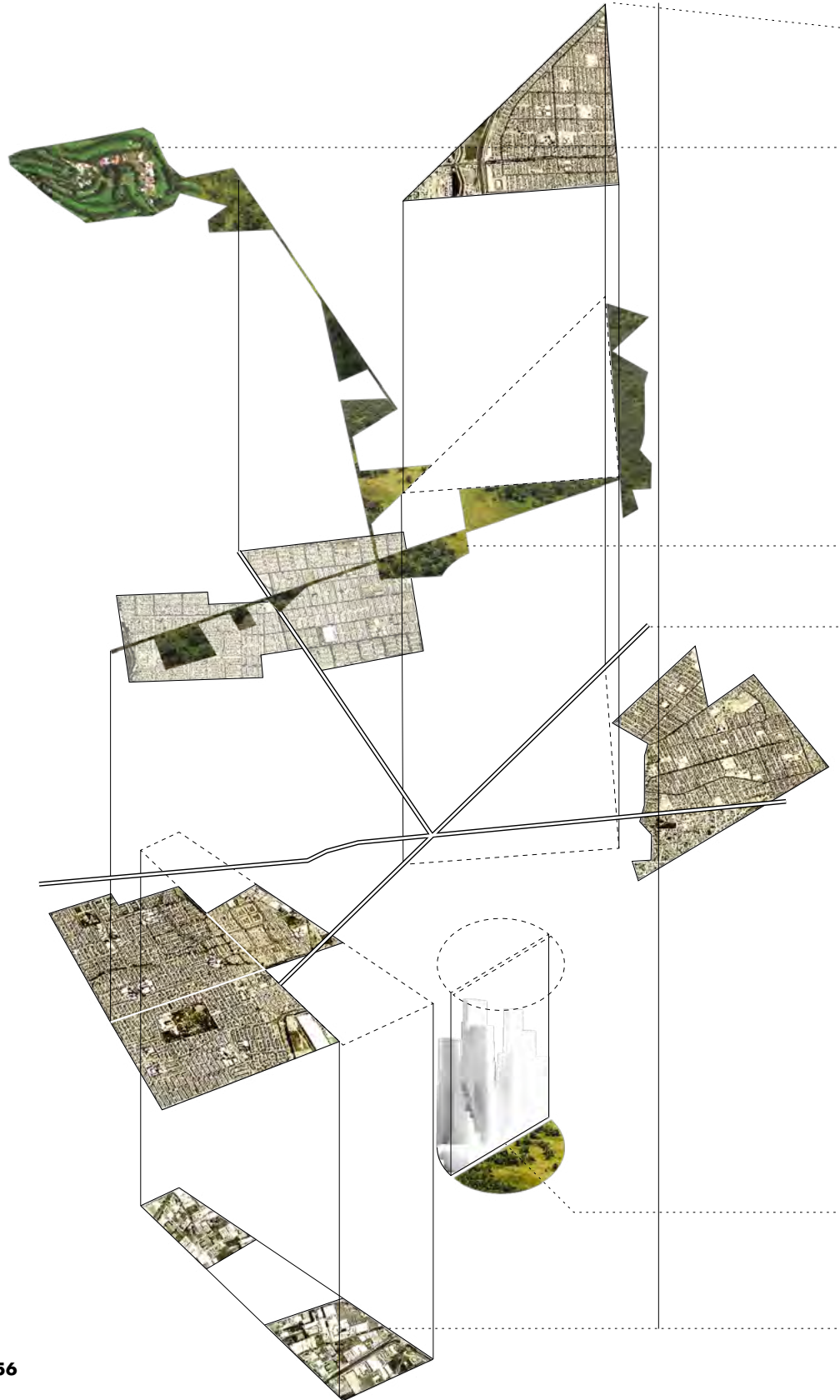
Each area defined by the intersection of the extended lines can be designed as individual small neighborhoods

Recompose a part of the existing neighborhood into a strong urban form to guide the intervention through an intelligible element

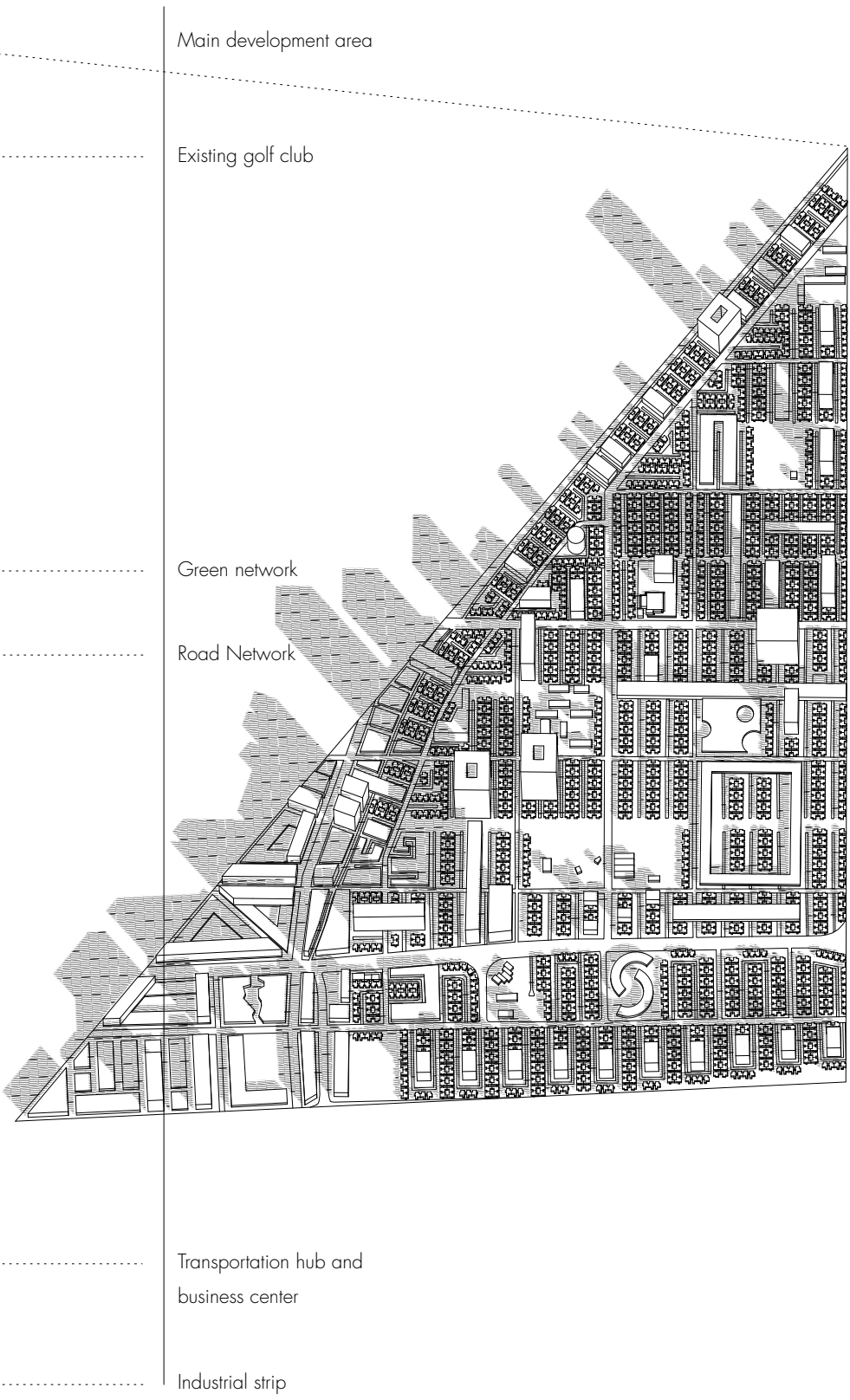
Multi-modal station, shopping mall complex, and concentration of high-rises

*Design Research*

1.







*Design Research*

**2.**

Green space as connection element  
Finite intervention areas for exacerbated urban difference  
Growth along BRT line

Intersection as void: Linear parks make  
the negotiation between the different  
neighborhoods

4 well-defined development areas, each hosting opposite types of urbanization for maximum differentiation and heterogeneity

Extreme verticalization: unlimited FAR along transportation corridors

Design Research





Design as research

*Design Research*

**3.**

Extension of existing urban fabrics and  
Intersection areas  
Heart of the site is its geographical center

Extension of neighborhood B

Center of total intersection:  
extreme agglomeration?

Extension of neighborhood A





*Design Research*

**3.**







Design Research

4.

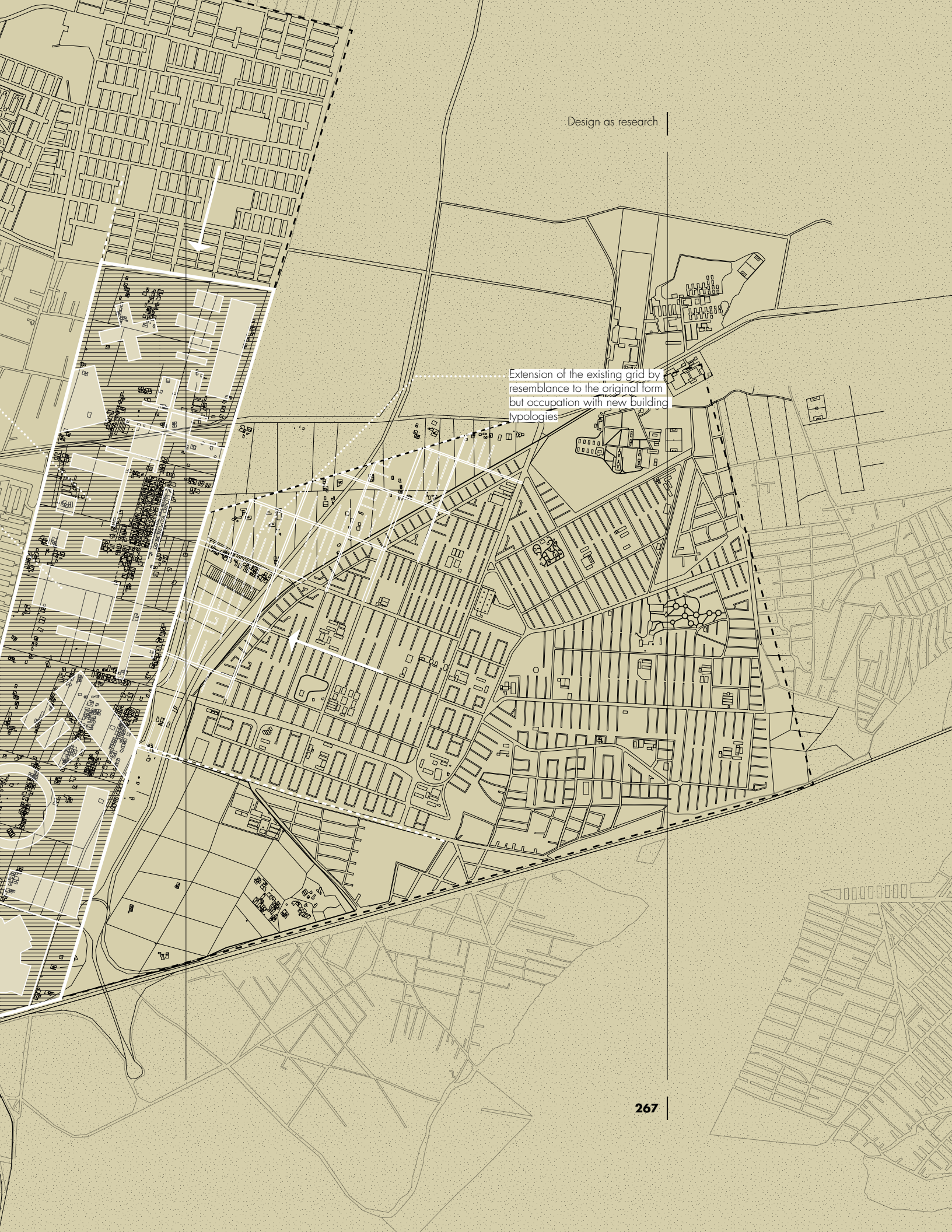
Programmatic Strip to inject new uses.  
Urbanization area is limited to the extension of the neighborhood towards the strip

lower on a park typology: spaces in-between for leisure, recreational uses and green areas

Logistical / institutional strip: concentration of gov. buildings, cultural facilities, amenities, campuses, etc.

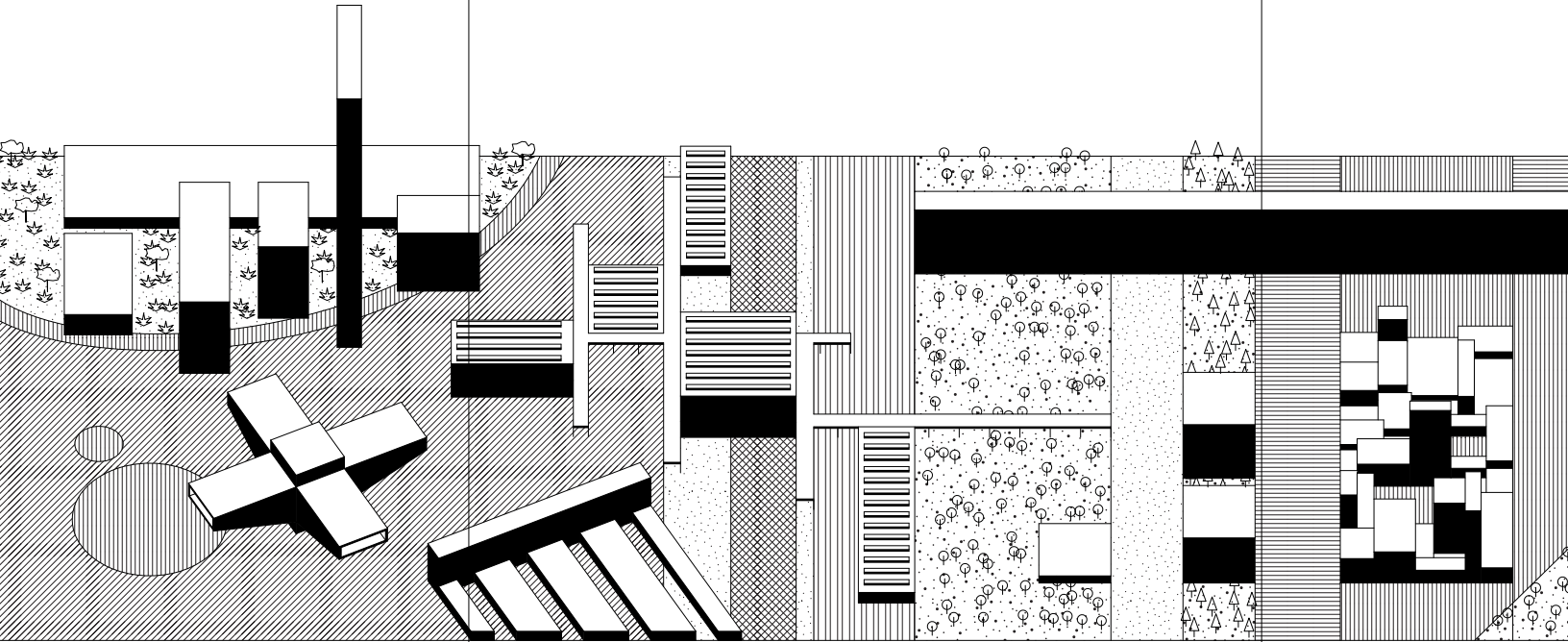
Extension of the urbanized area of each neighborhood to meet the logistical strip

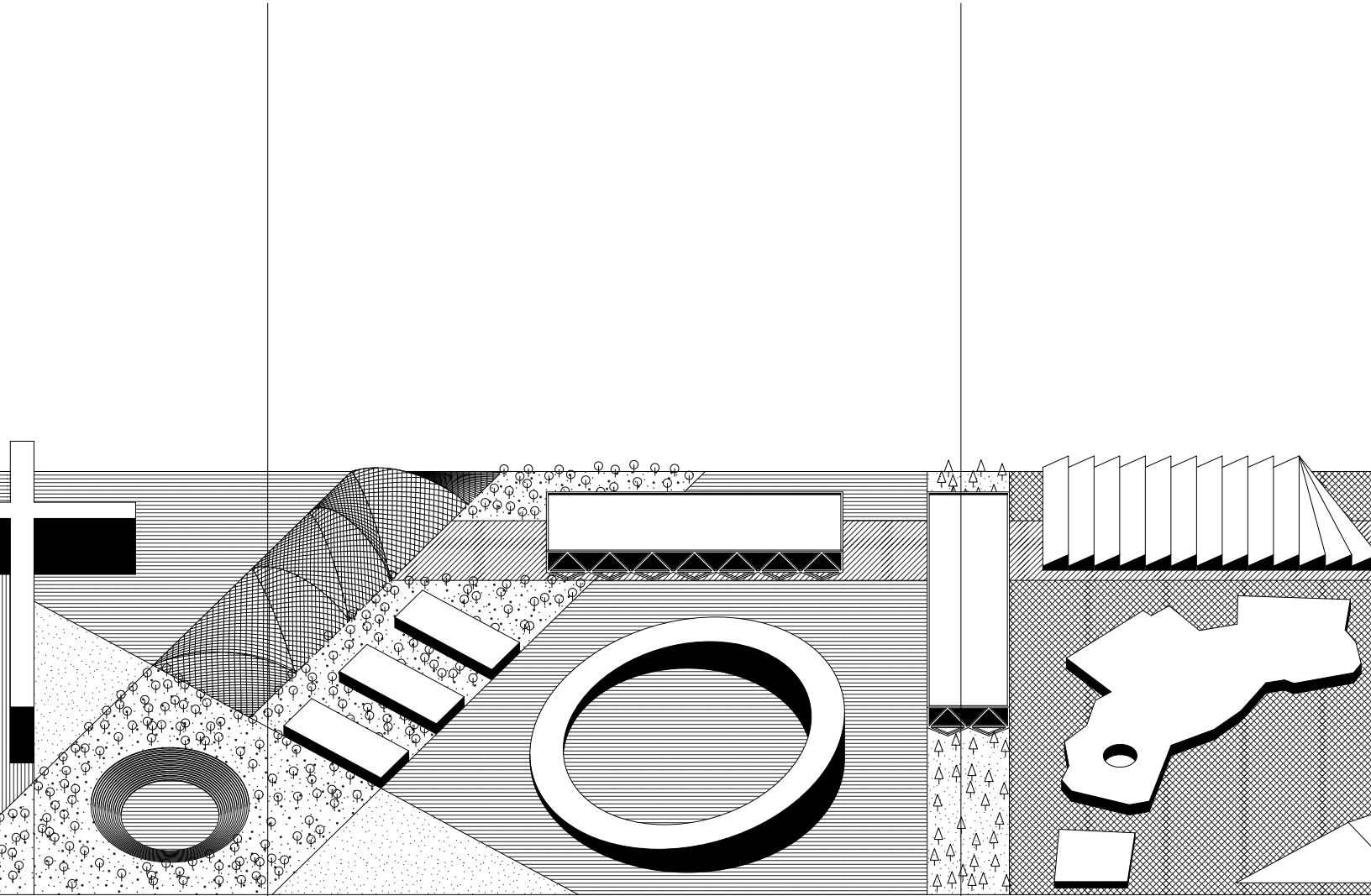
Extension of the existing grid by  
resemblance to the original form  
but occupation with new building  
typologies



*Design Research*

**4.**





*Design Research*

**5.**

Morphogenesis: development of forms and structures through the insertion of an alien embryo  
Densification of the spaces in-between

"Copy and Paste" urbanization:  
reproduction of existing urban forms



Erasure, and the insertion of new urban forms as seed to gradually modify the existing ones

Known urban forms as seed for the development of new urbanization model

Some spaces in-between dedicated to green areas

the rest, and majority, to be built with new building typologies and higher FAR

*Design Research*  
**5.**







*Design Research*

6.

Overlay of socialism and capitalism:  
communal housing ribbon and high-rises define the edge  
and connect the 3 existing neighborhoods  
Nature fills the interior

Communal housing ribbon and  
transportation loop

Real estate developments: Towers  
facing the park

Cultural equipments plugged to the ribbon

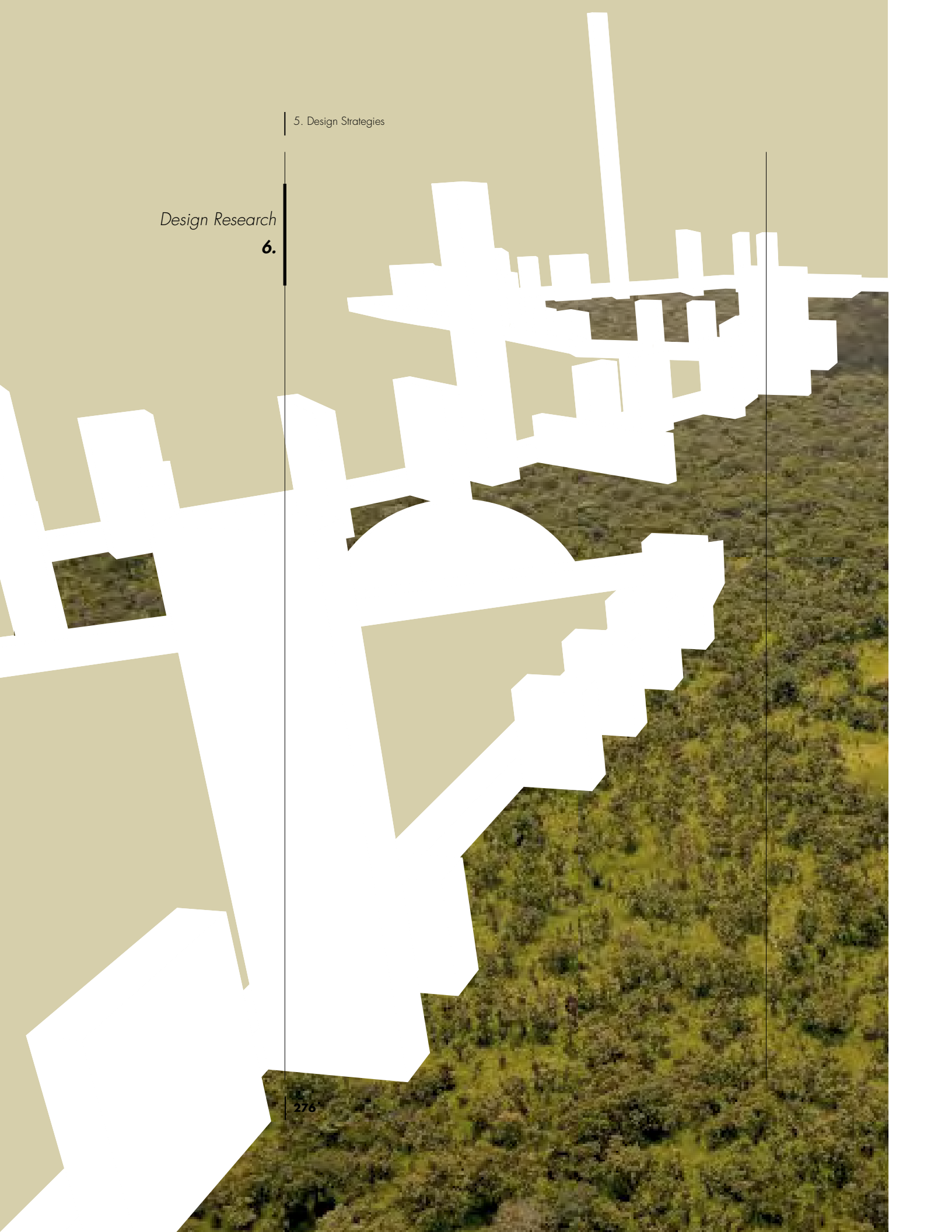
Unbuilt core: Central Park





*Design Research*

**6.**





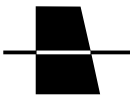
## Extracting Operative Components

Learning from the design investigations

Design research #

Design component

**1** a



### **Brake the continuous field of housing**

Divide the existing neighborhoods in smaller pieces to manage their complexity, create a more intimate scale for community building, and to compartmentalize the intervention in order to apply different urban typologies for each, generating heterogeneous environments.

b



### **Industrial strip**

Demarcate an area for heavy uses, such as those of industrial purposes: material logistics, product handling, storage and production. Consolidating the industrial uses on an assigned area guarantees the maintenance of those uses even when real-estate development becomes aggressive, thus preserving the coexistence of diverse programs on the site.

c



### **Strong form**

Reconfigure the housing neighborhoods by changing their form. The triangle, specifically, creates a legible urban mark for the intervention while orienting the housing program to the center of the site, giving it both a symbolic and a physical importance on the urban intervention.

**2**



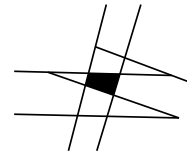
### **Delimited development areas and their exacerbated difference**

Patchwork of well-defined, clearly limited areas of intervention that will develop according to distinct urban design and typologies and generate the highest degree of heterogeneity among them.

### **Intersection as maximum agglomeration**

The intervention's center is defined by the intersection of the surrounding sites, and is the point of maximum clustering of buildings, densification, and verticalization.

3



### **The core is programmatically intense**

The core of the intervention area is the place of where all the programs overlap while hosting the most representative buildings.

4



### **Erasure and addition of new urban types**

The existing neighborhoods can change via erasure of their urban fabric, and consequently the addition of new developments with different programs.

5



### **Coexistence of distinct modes of living**

The proposed intervention breaks with the model of segregated neighborhoods to foster the interaction between different social classes and modes of living. Through the manipulation of the built form it democratizes the urban space and allows new modes of coexistence arise

6

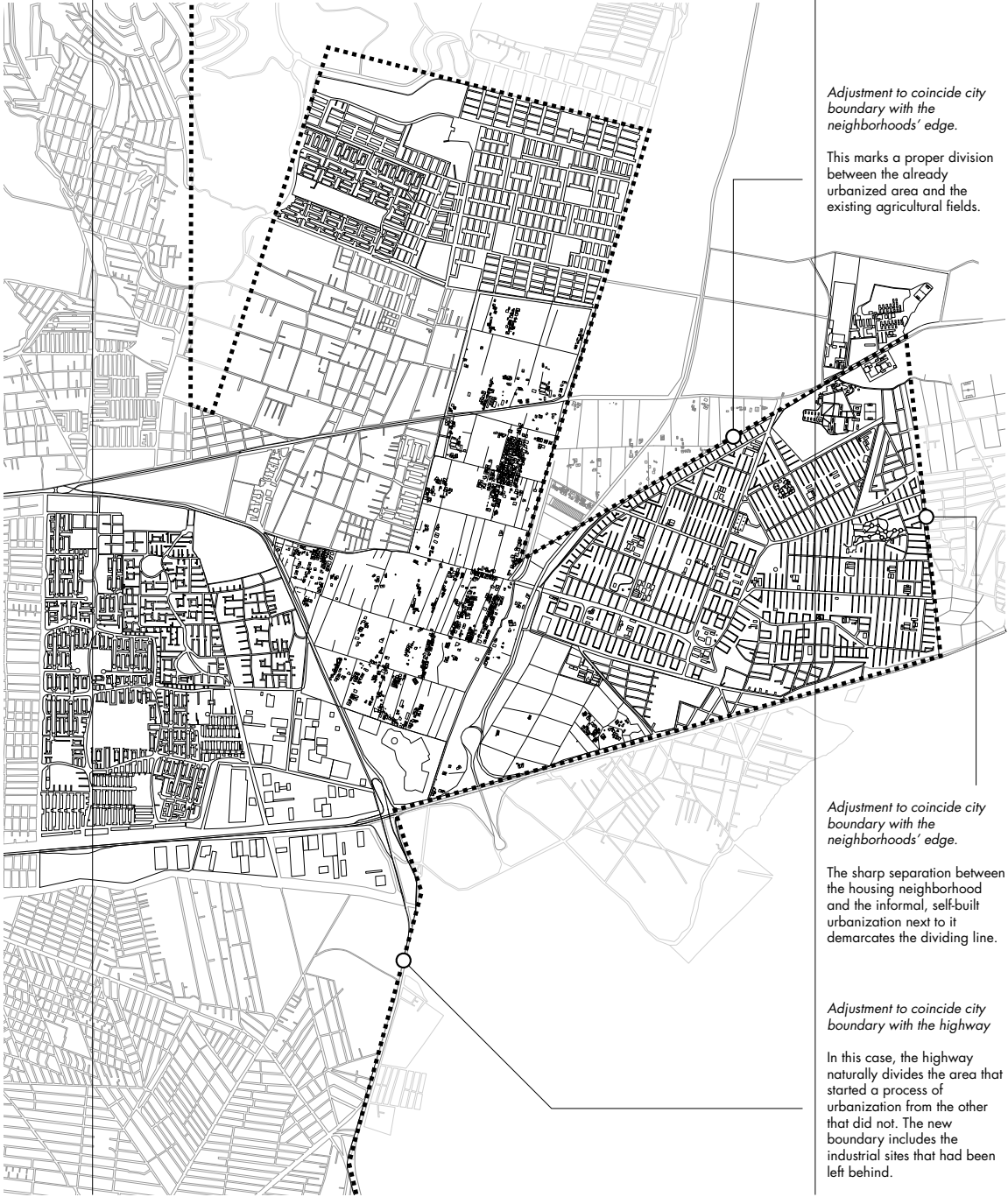


## Fine-graining the city's boundary

Initial assumptions recalibrated through design research







*Adjustment to coincide city boundary with the neighborhoods' edge.*

This marks a proper division between the already urbanized area and the existing agricultural fields.

*Adjustment to coincide city boundary with the neighborhoods' edge.*

The sharp separation between the housing neighborhood and the informal, self-built urbanization next to it demarcates the dividing line.

*Adjustment to coincide city boundary with the highway*

In this case, the highway naturally divides the area that started a process of urbanization from the other that did not. The new boundary includes the industrial sites that had been left behind.

5. Design Strategies



{placeholder}



***The new boundary allows the clear delineation of some strategic areas for the intervention***

Area assigned to the development of the BioMedical cluster

Main development area to demarcate the boundary of the city

Consolidation of an industrial strip

The city as an articulation of designed forms

*conceptual reference:* Giovanni Battista Piranesi, “Campo Marzio dell’Antica Roma, 1762,” shows the city as a designed entity; an articulated series of spaces defined by clear architectural forms.

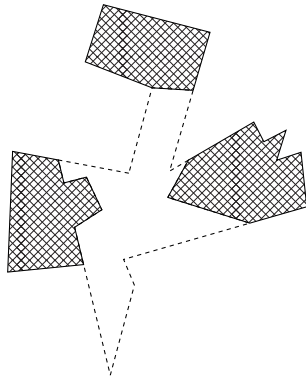


6

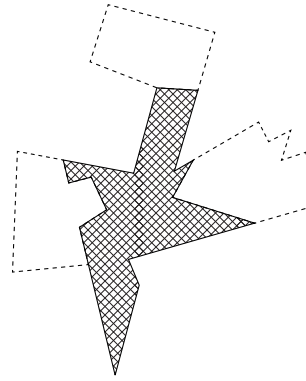
# Urban Design

proposal

1. Neighborhoods



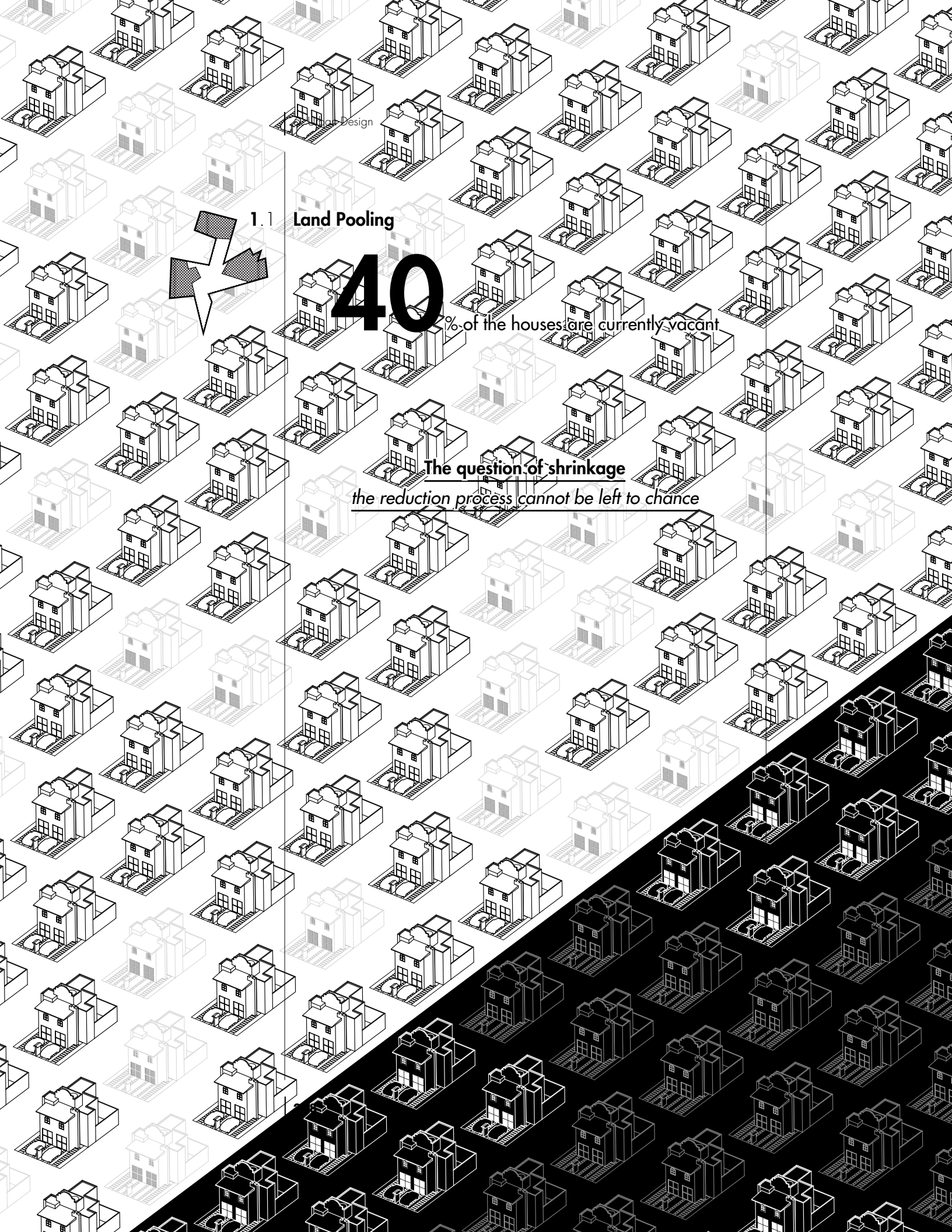
2. Interstitial sapce



## 6.1

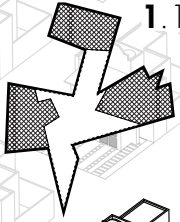
Structuring the intervention: 2 Moves

The urban design proposal consists of two moves, *interventions on the housing neighborhoods* and an *urban plan for the interstitial space*, with the purpose of making the studied place an independent urban center. The two moves are interrelated, each responding to the other simultaneously, to achieve a full coherent plan. They comprise of strategy sets, materialized as physical answers to the existing condition, that build up the layers of the intervention. These layers are treated differently according to which move it relates to. In move 1, although every layer is autonomous, they are all concrete variations of the first, and conceptual, layer: the proposal to use shrinkage as design tool. On the other hand, in move 2 the layers are interdependent, each being a progression of the previous one. Together, the layers of the two moves represent the overall structure of the urban plan, and each of them are later developed as a detailed design proposition.



Design

# 1.1 Land Pooling



# 40

% of the houses are currently vacant

*The question of shrinkage  
the reduction process cannot be left to chance*



The image features a dense grid of 3D architectural models of houses, viewed from an isometric perspective. The houses are arranged in a regular pattern. In the upper-left quadrant, the houses are rendered as simple white wireframes. A diagonal line separates this area from the rest of the image. Below the line, the houses are rendered with solid black outlines and some have their windows filled with a bright white glow. The text 'Structuring the intervention: 2 moves' is positioned in the upper right, above the diagonal line. In the lower center, there is a block of text with a white background and black border, containing the main title and three bullet points.

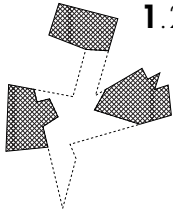
Structuring the intervention: 2 moves

**Shrinkage as urban design tool**

*to give form to disappearance,*

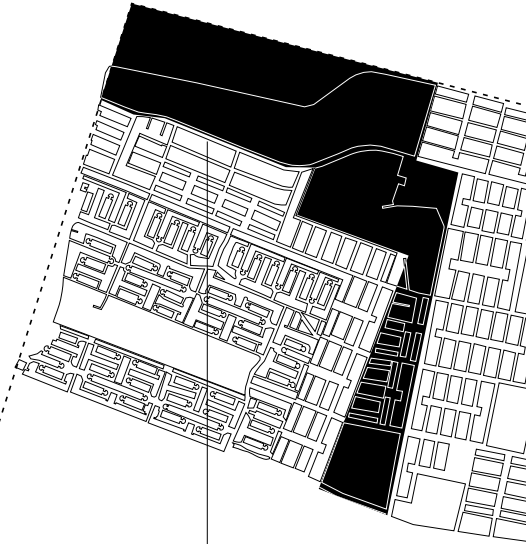
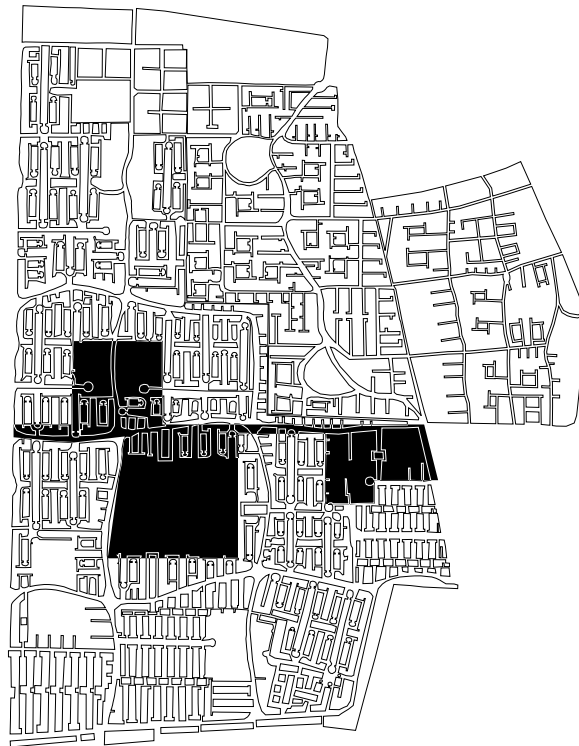
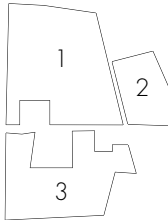
*to concentrate usage*

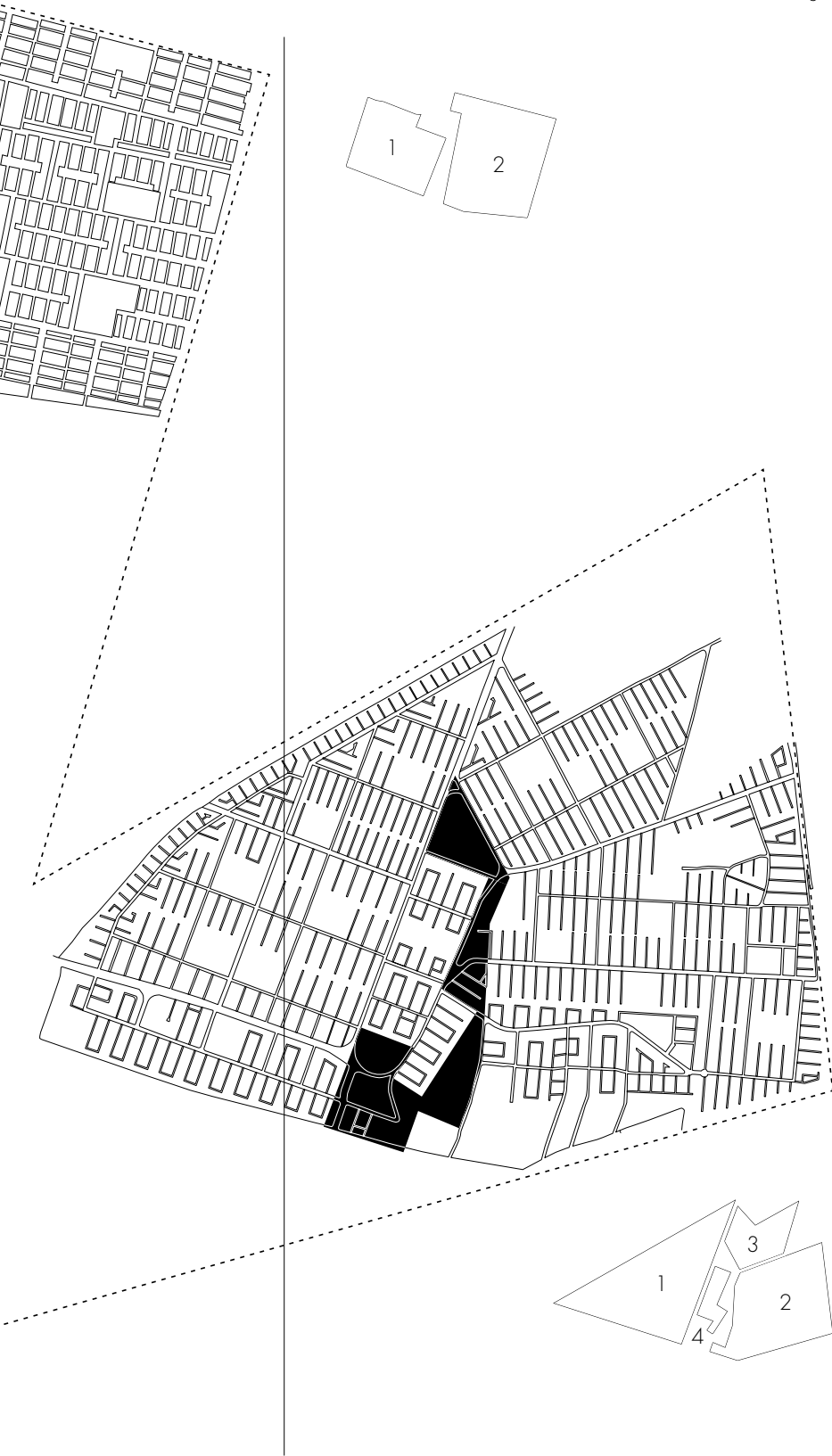
*and to avoid the unpleasantness of ghost houses*

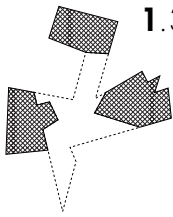


## 1.2 Spaces of separation

Urban parks as means to break the continuum of houses in smaller, independently managed, parts. Each of these parts, referenced here as “smaller neighborhood units”, can follow and experiment with different urban evolutions.



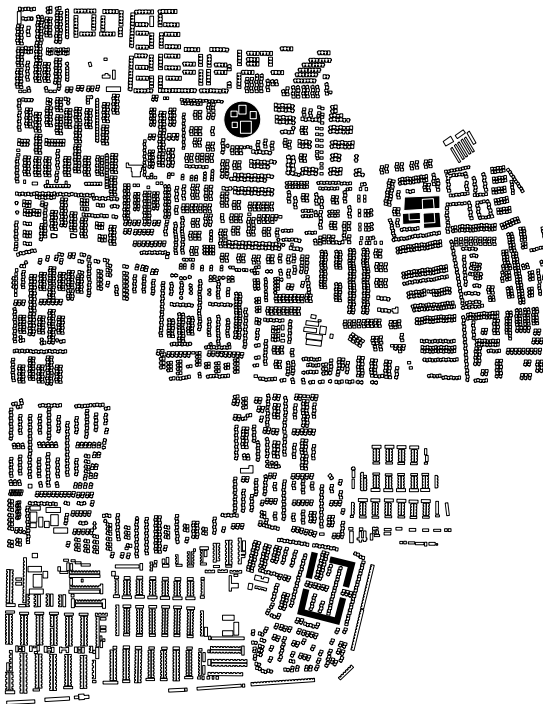
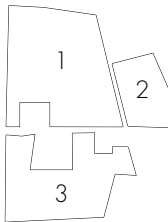


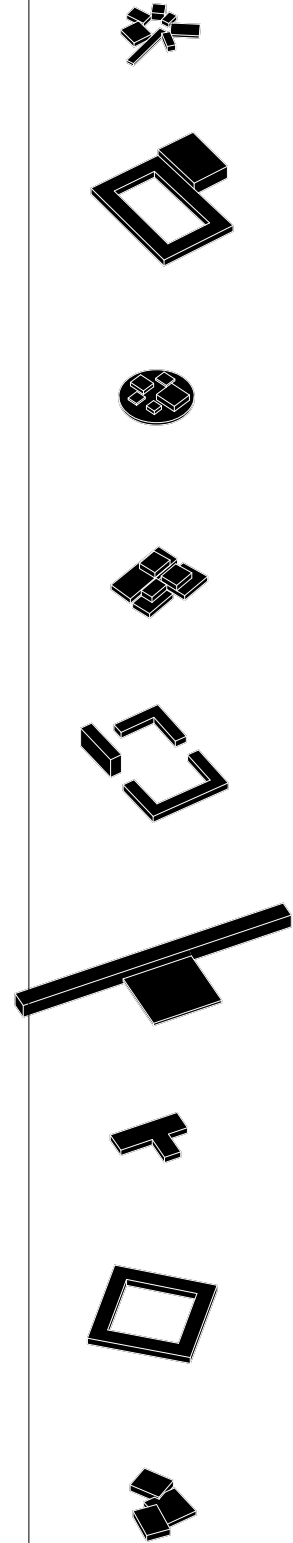
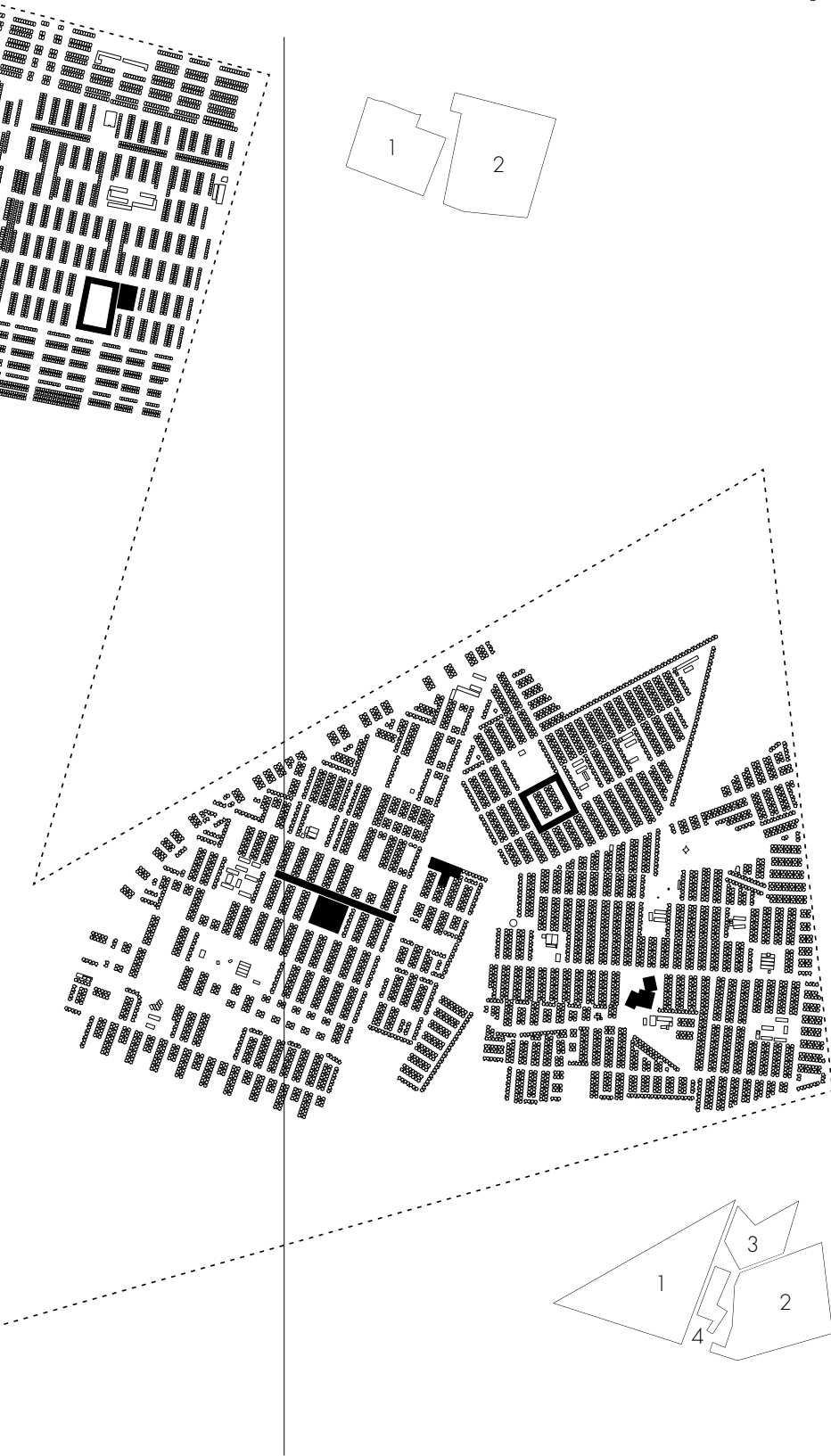


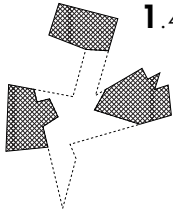
1.3

**Seed program**

Seed programs are the first built step to change the reality of these neighborhoods. Almost as ready-made urban kits, they introduce and concentrate many uses that both break the mono-functionality of these places as well as start giving autonomy to each smaller neighborhood unit.



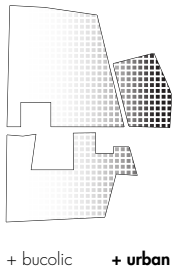




### 1.4

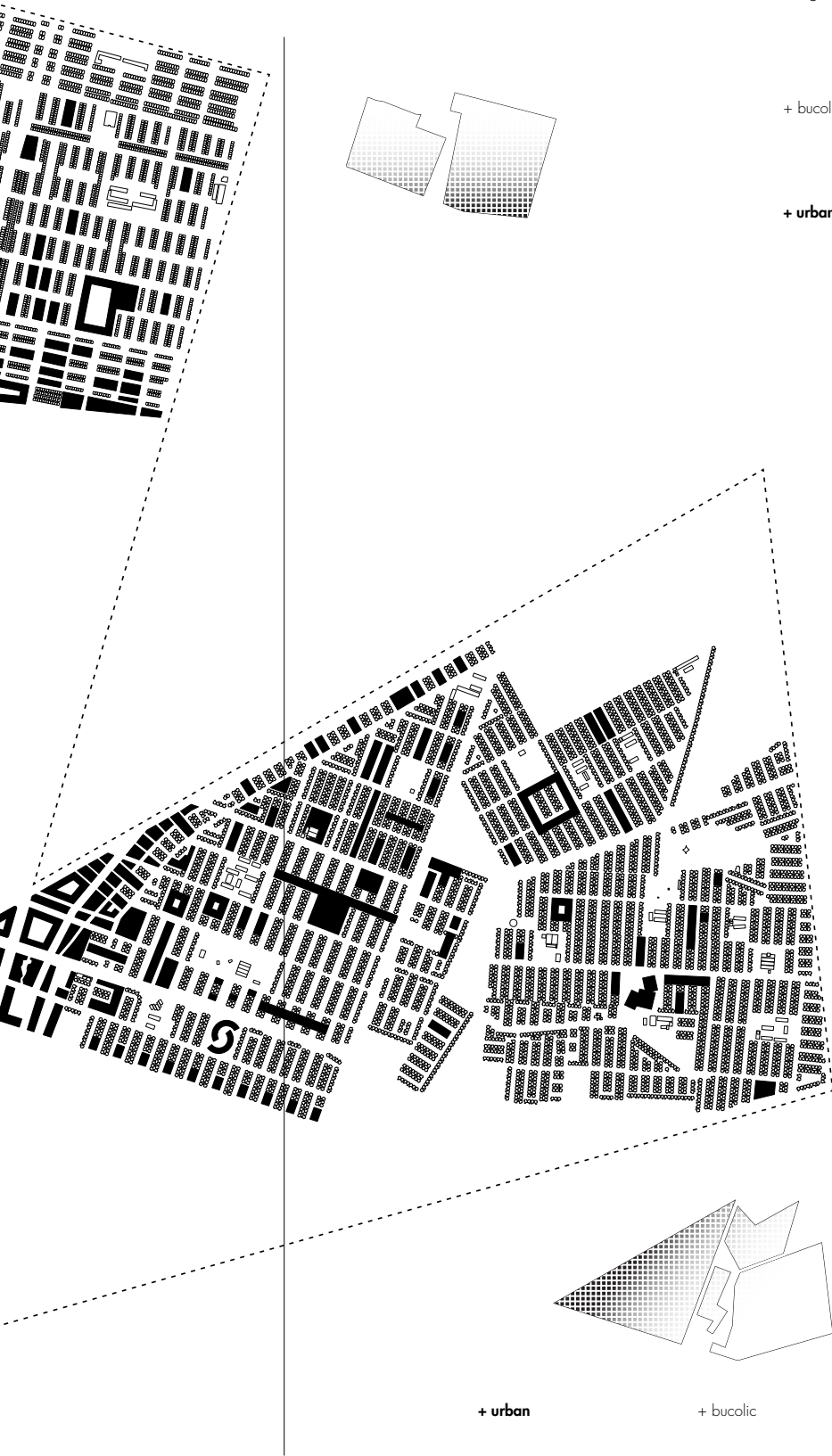
## Urban gradient

Working within the concept of land pulling, the intervention follows a gradient pattern: on one hand, the closer to the interstitial space the more houses will be removed and more development allowed; on the other, the farthest the more these places will keep their current bucolic atmosphere.



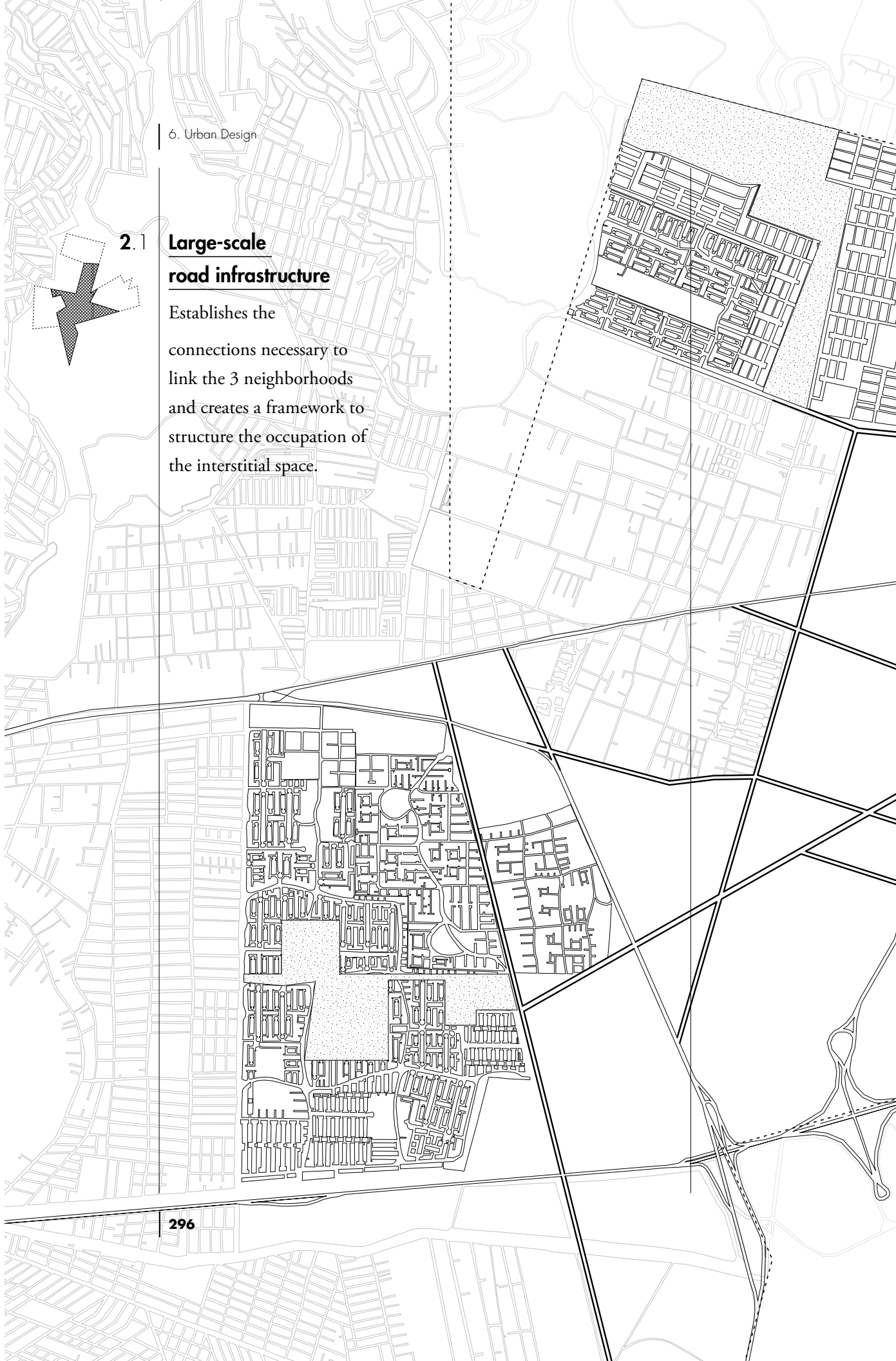
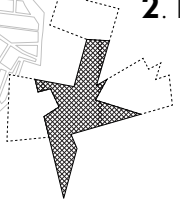
+ bucolic + urban





2.1 **Large-scale  
road infrastructure**

Establishes the connections necessary to link the 3 neighborhoods and creates a framework to structure the occupation of the interstitial space.

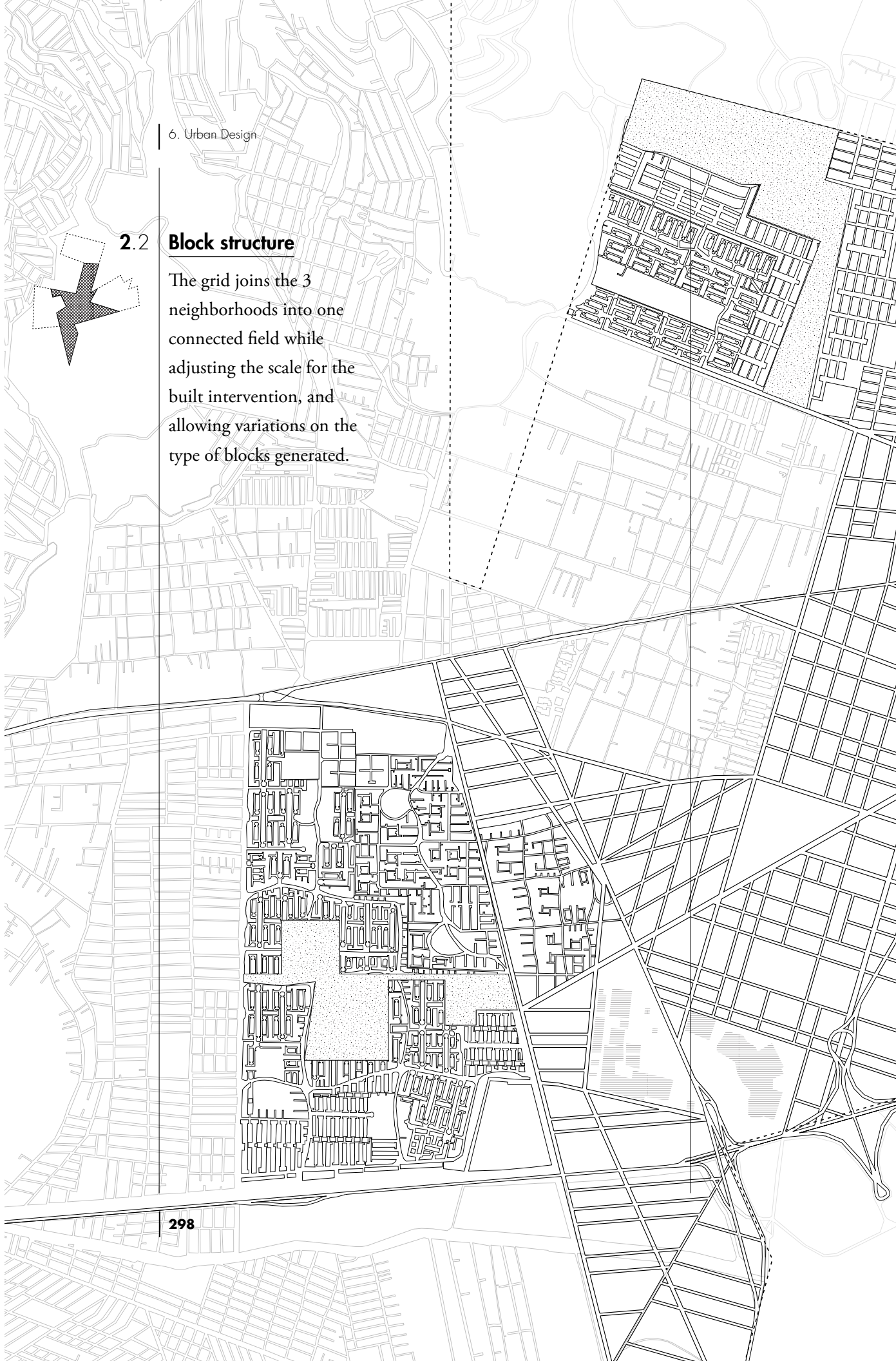
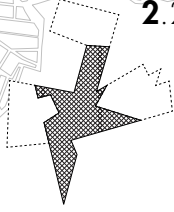




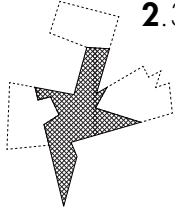


## 2.2 Block structure

The grid joins the 3 neighborhoods into one connected field while adjusting the scale for the built intervention, and allowing variations on the type of blocks generated.

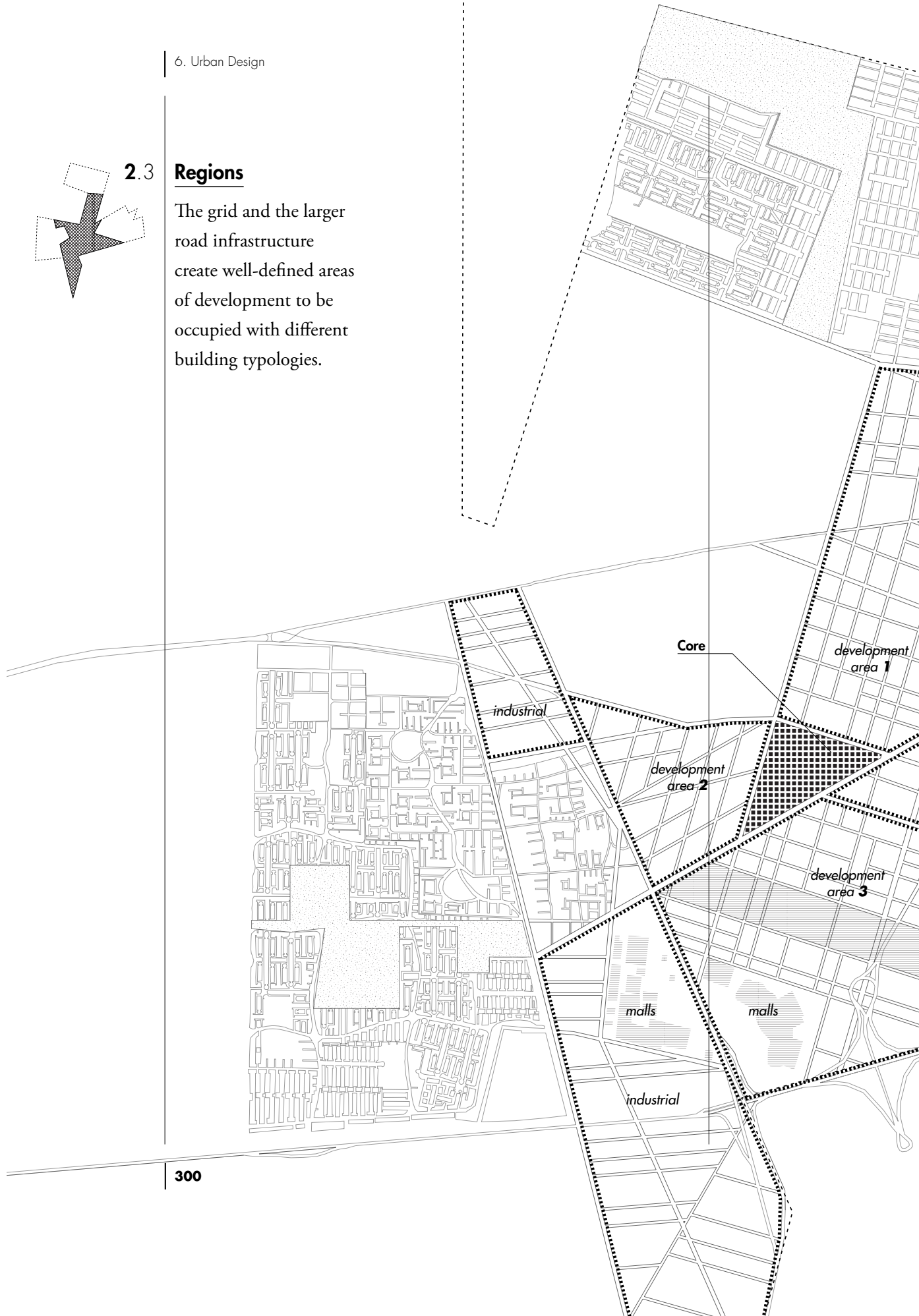




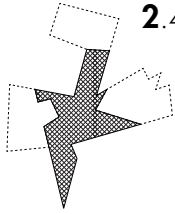


## 2.3 Regions

The grid and the larger road infrastructure create well-defined areas of development to be occupied with different building typologies.

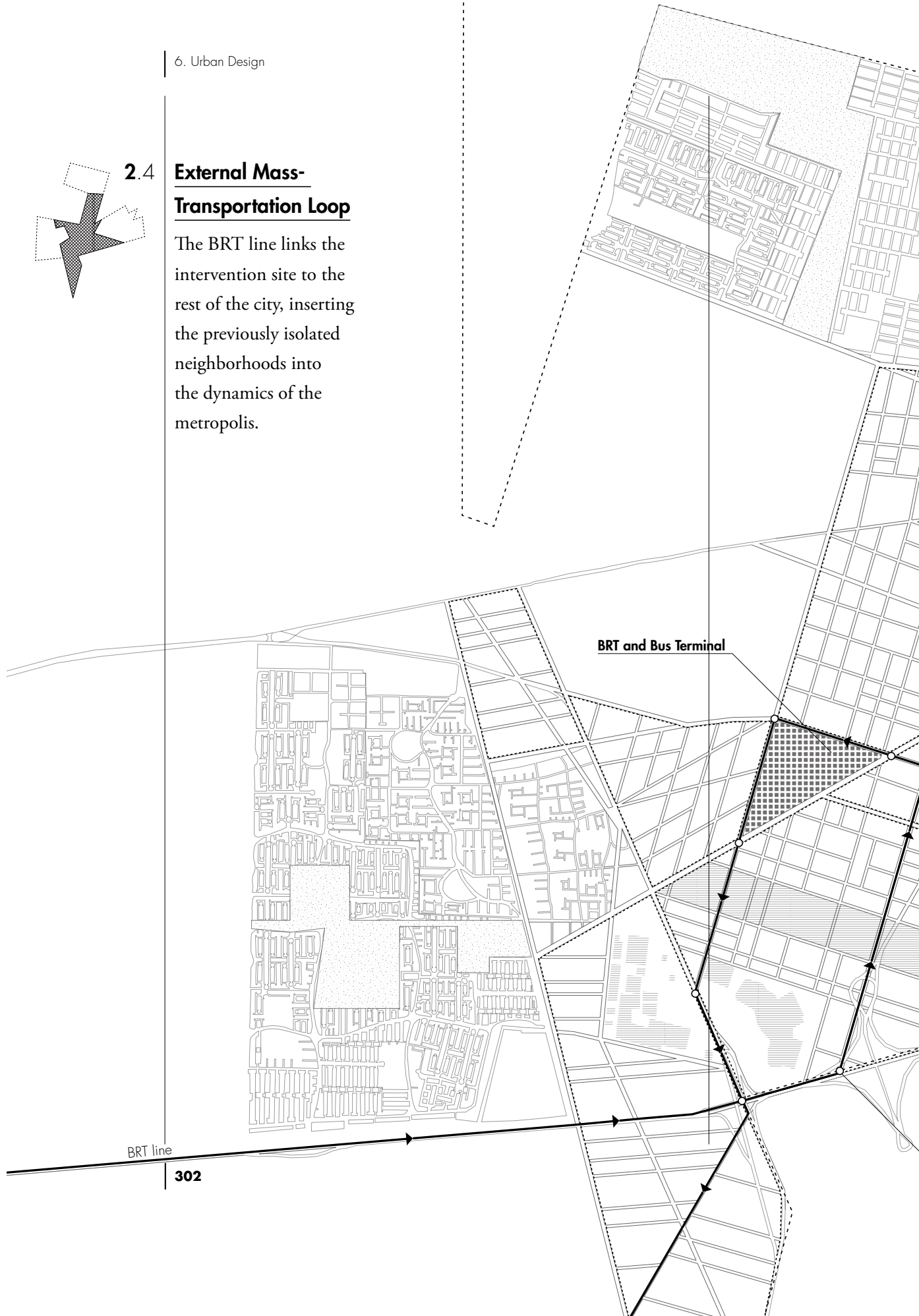






## 2.4 External Mass-Transportation Loop

The BRT line links the intervention site to the rest of the city, inserting the previously isolated neighborhoods into the dynamics of the metropolis.

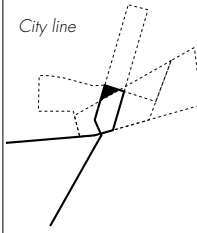


BRT line

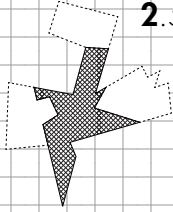


**BRT line Loops**

*City line*

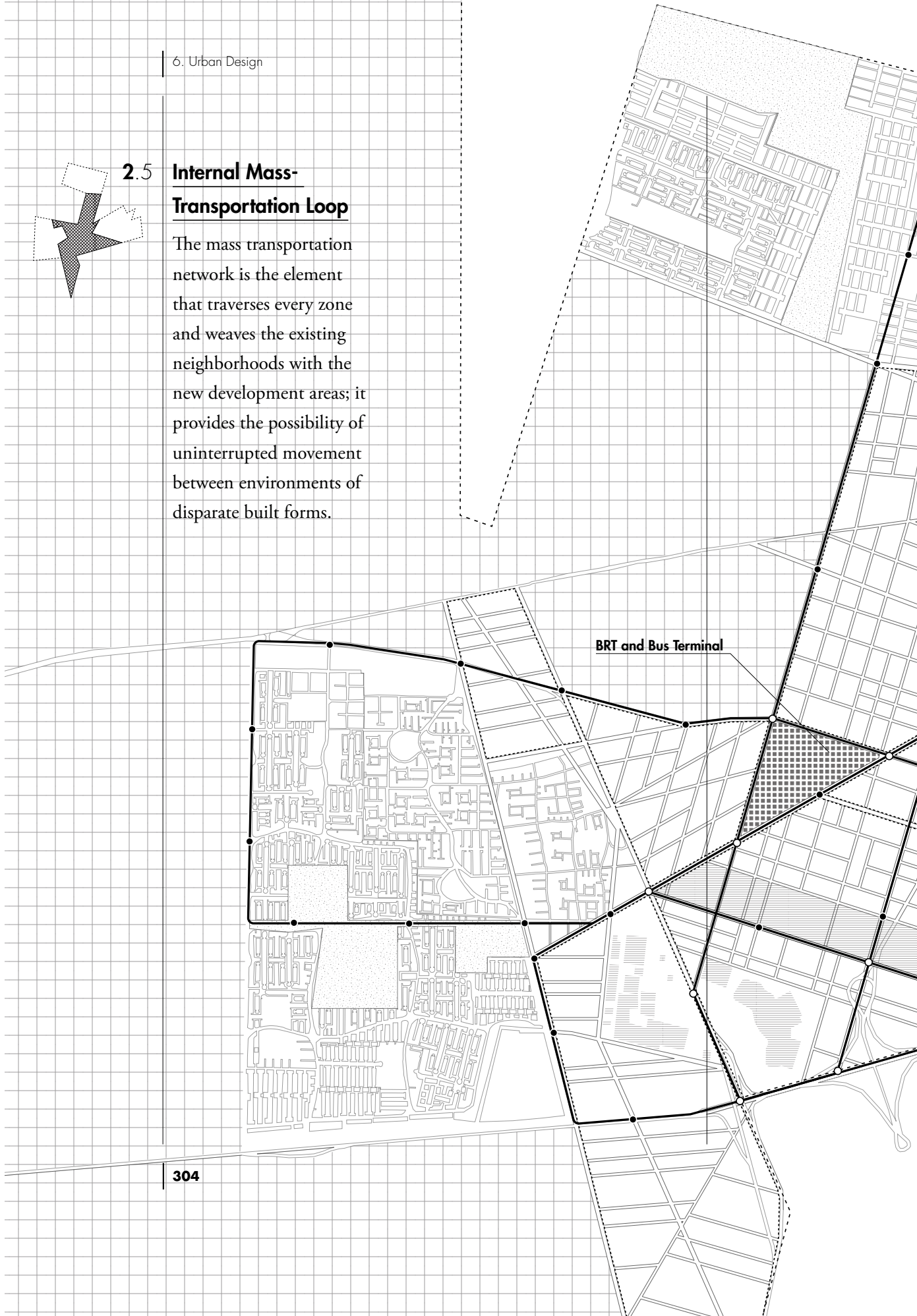


**BRT to BRT  
Exchange stops**



## 2.5 Internal Mass- Transportation Loop

The mass transportation network is the element that traverses every zone and weaves the existing neighborhoods with the new development areas; it provides the possibility of uninterrupted movement between environments of disparate built forms.





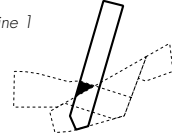


**BRT to BRT  
Exchange stops**

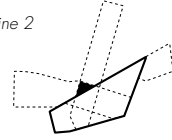
**BRT stops**

**BRT line Loops**

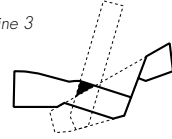
*line 1*

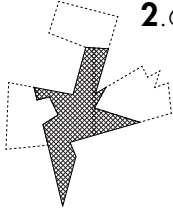


*line 2*



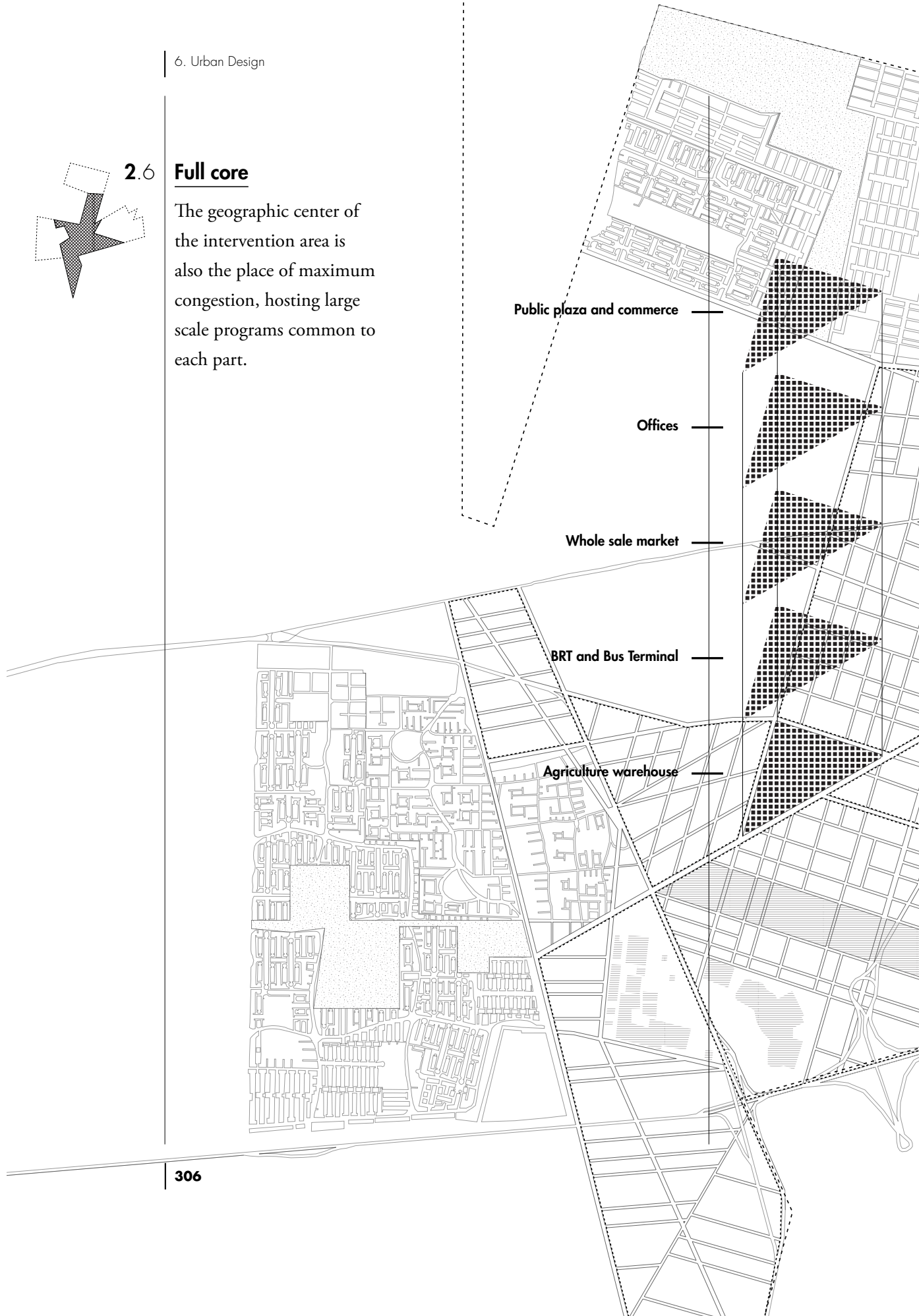
*line 3*





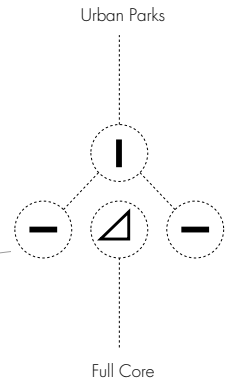
## 2.6 Full core

The geographic center of the intervention area is also the place of maximum congestion, hosting large scale programs common to each part.





**Intervention Diagram**



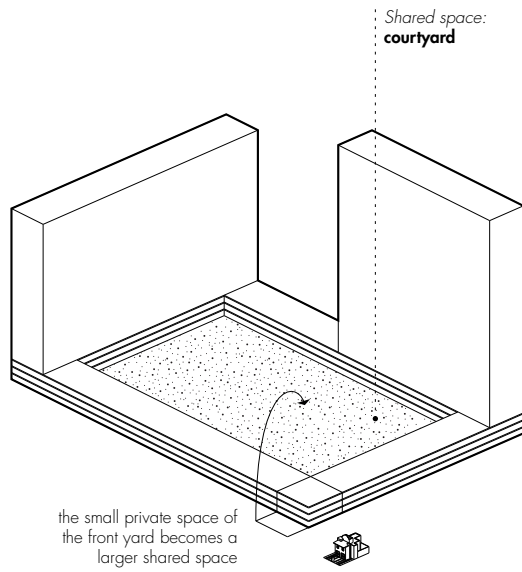
## 6.2

### Block Typologies

Each *region* defined in the previous step was assigned a different block typology, exploring the concept of *Exacerbated Difference* to both work with clear formally defined enclaves, like the housing neighborhoods, as well as to generate heterogeneous and diverse urban environments. The typologies were defined taking into account the current housing type, where each house has its own private front yard that can serve as parking, as leisure area, or be creatively appropriated for different uses, such as informal commerce. In the new typologies, the former small private yard become a shared large common space, opening new possibilities of use and breaking with the isolation and individuality propagated by the current housing model.

Each typology combines subsidized housing, to replace the existing model and that occupies the first floors, and other different uses housed in towers, which can vary depending on the market but could include offices, hotels, residential, etc. Because of Mexican regulations, up to five floors a building does not need to have elevator, and this is used here as a mean to make housing affordable. Furthermore, the housing is built by the developer of the block, or of the building, who, on the other hand, is compensated with higher FARs.

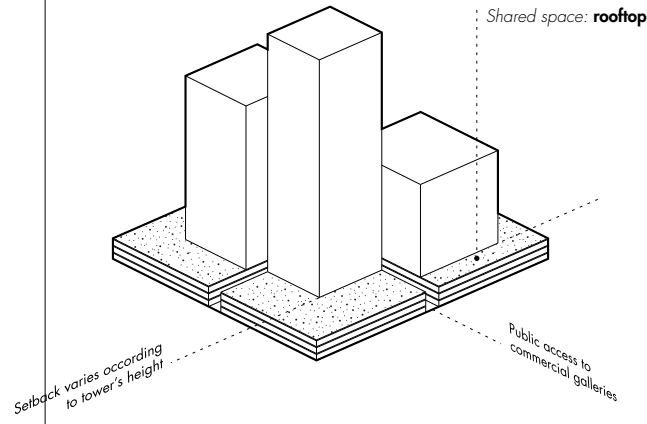
Type 1: **Courtyard**



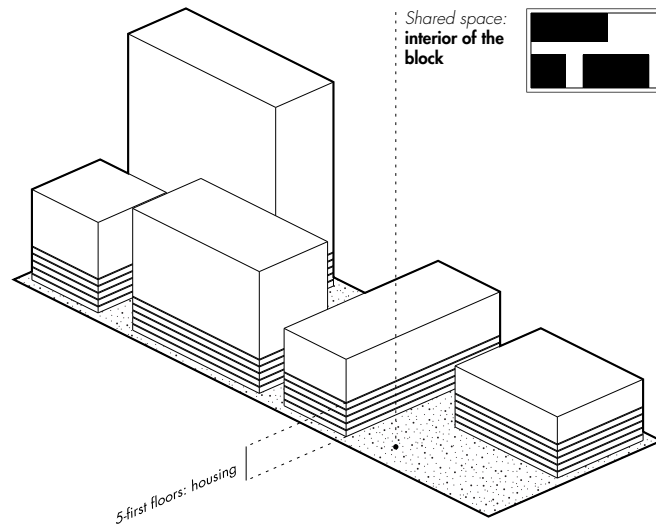
Shared space:  
**courtyard**

the small private space of  
the front yard becomes a  
larger shared space

*Type 2: Tower with plinth*



*Type 3: Open block*



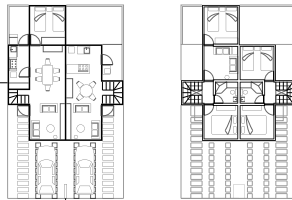
Predominant Type: **Single-family house**

Ground-floor

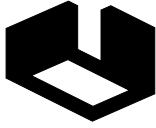
First floor



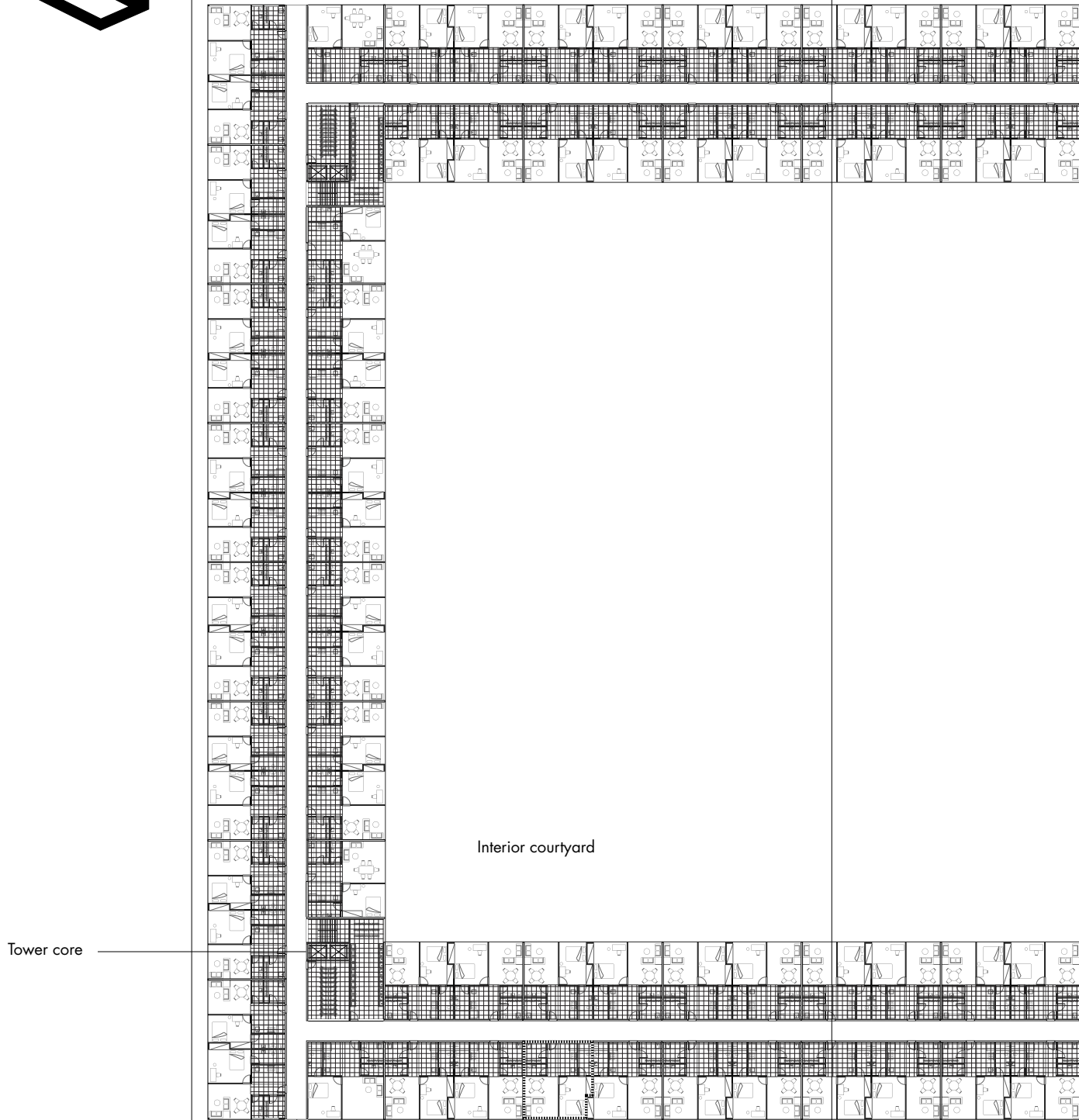
Unit: 114 m<sup>2</sup>



Front lawn



Type 1: **Courtyard** Ground-floor

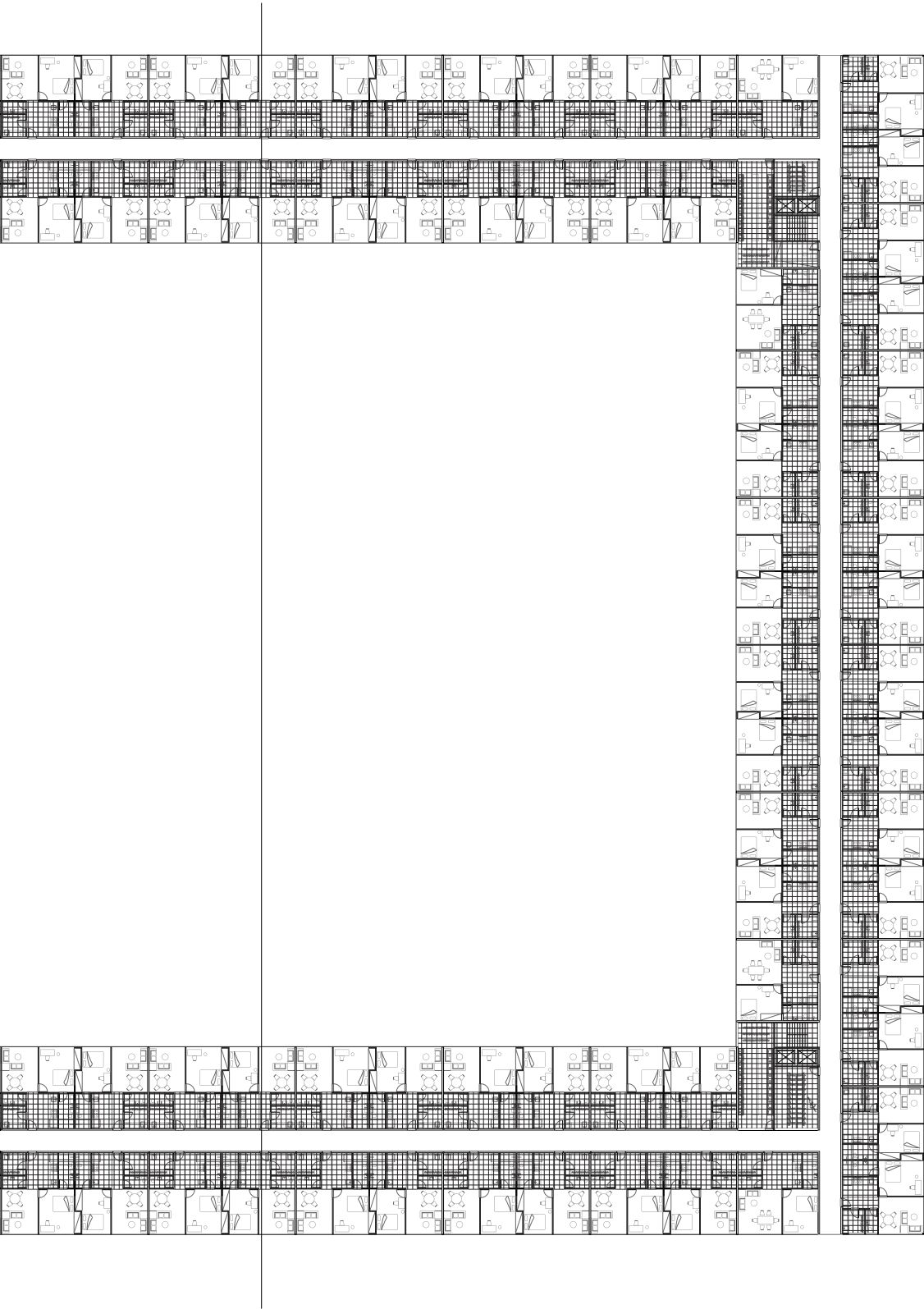


312

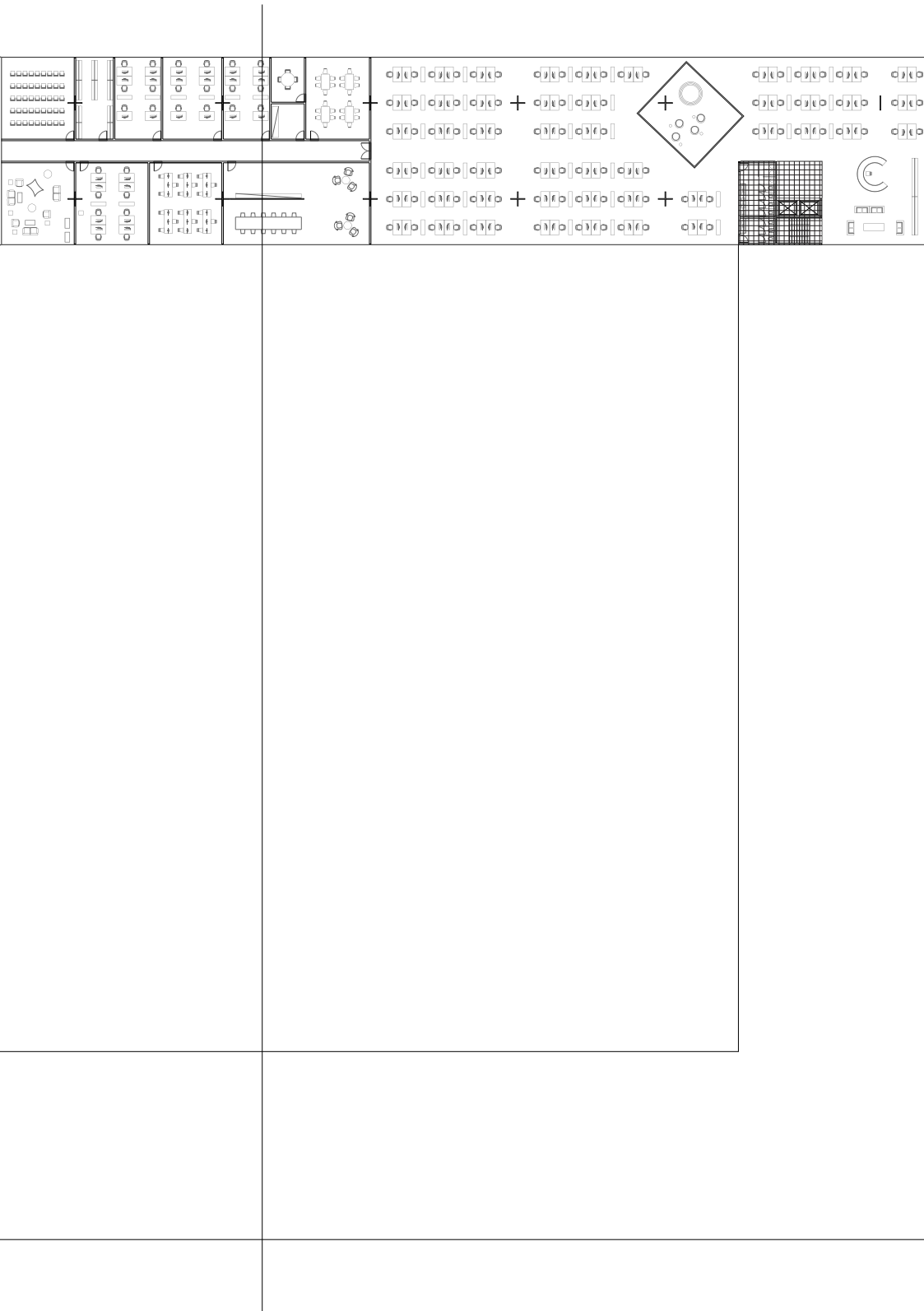
Access to  
units and  
tower

Unit: 54 m<sup>2</sup>





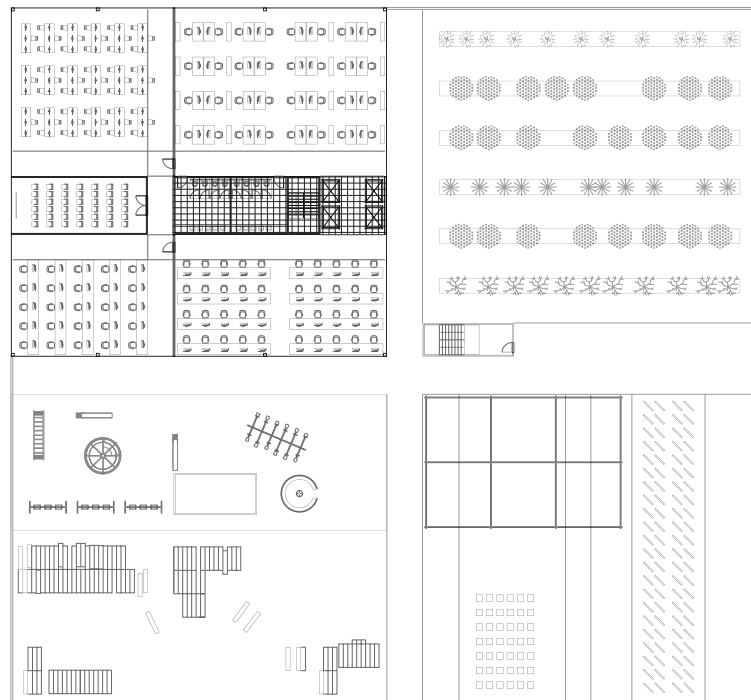






6. Urban Design

Type 2: **Tower with plinth** Tower floor plan



Rooflop: communal area

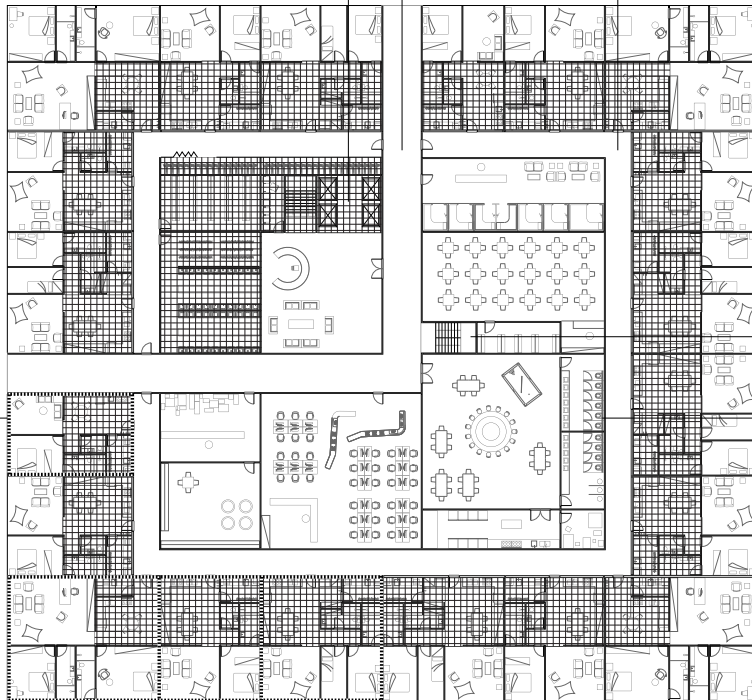
Unit: 64 m<sup>2</sup>

Ground-floor

Tower core

Public Passage

Private access to units



Rooftop access

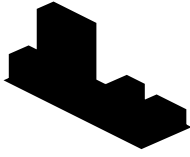
Public Galleria

Unit: 64 m<sup>2</sup>

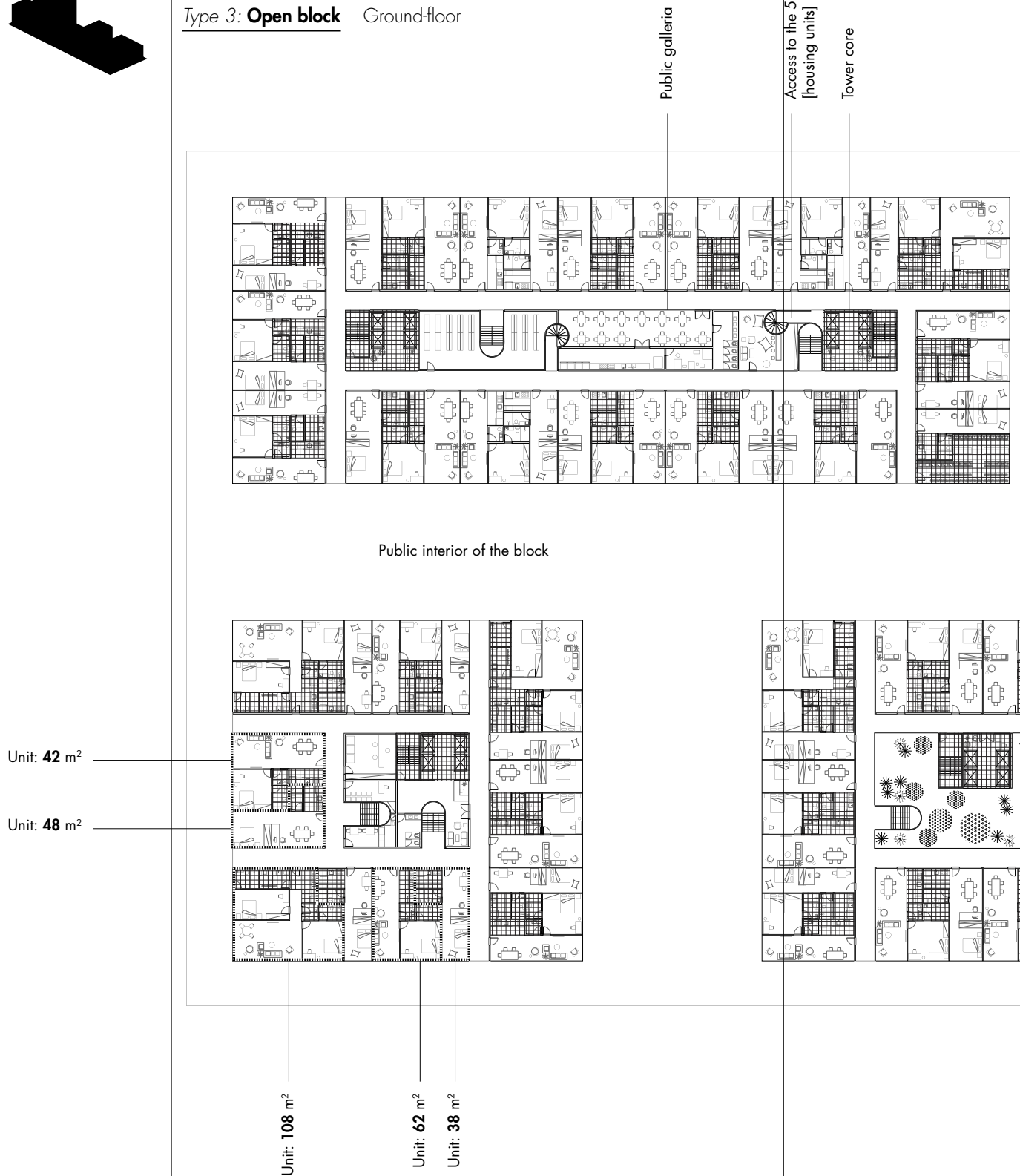
Unit: 120 m<sup>2</sup>

Unit: 78 m<sup>2</sup>

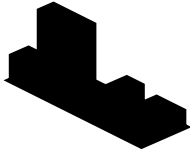
Unit: 95 m<sup>2</sup>



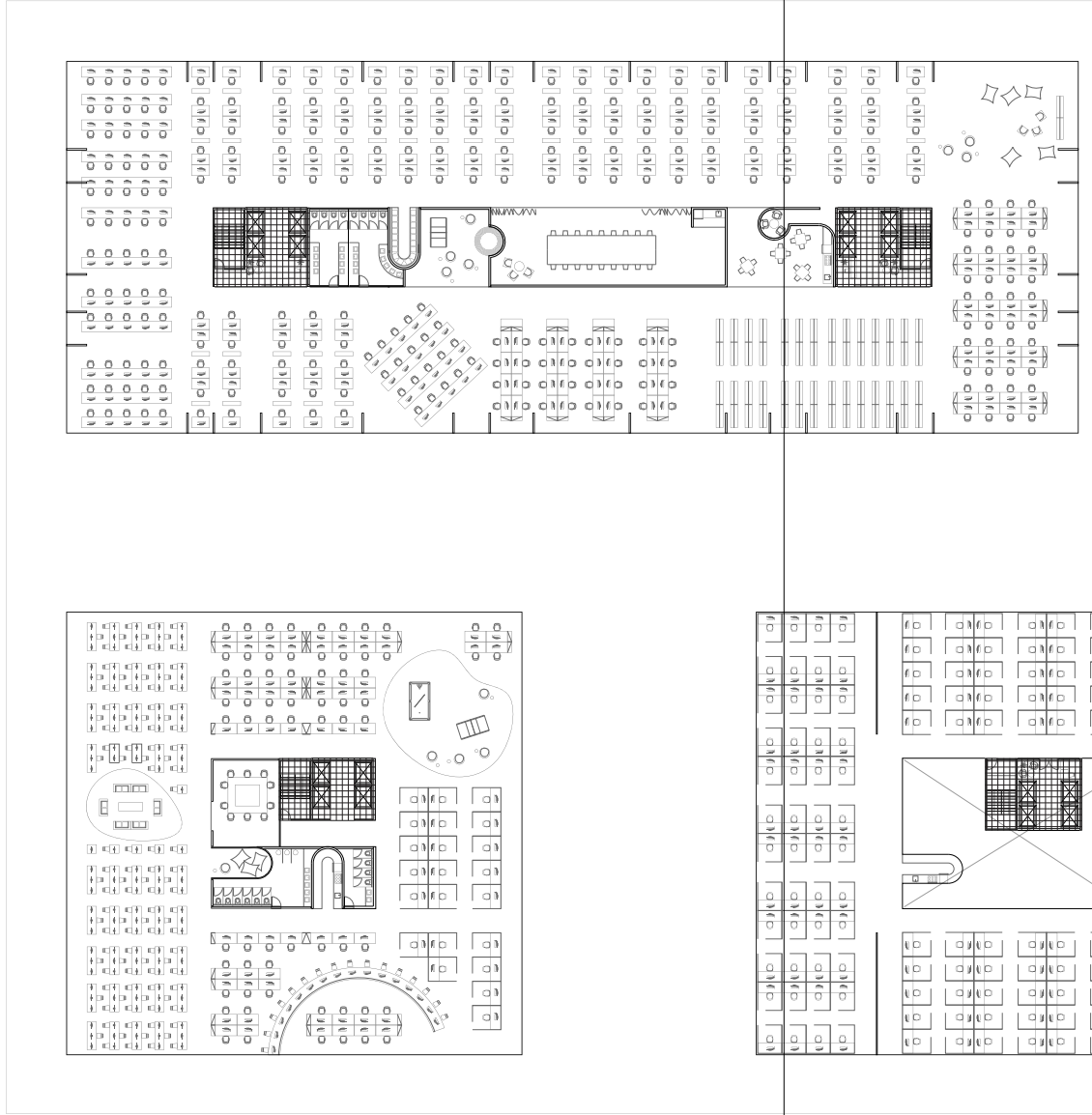
Type 3: **Open block** Ground-floor



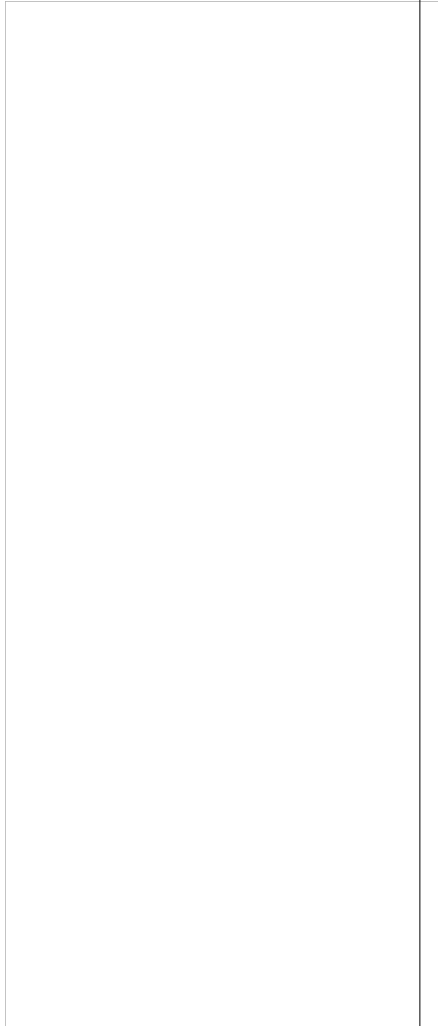
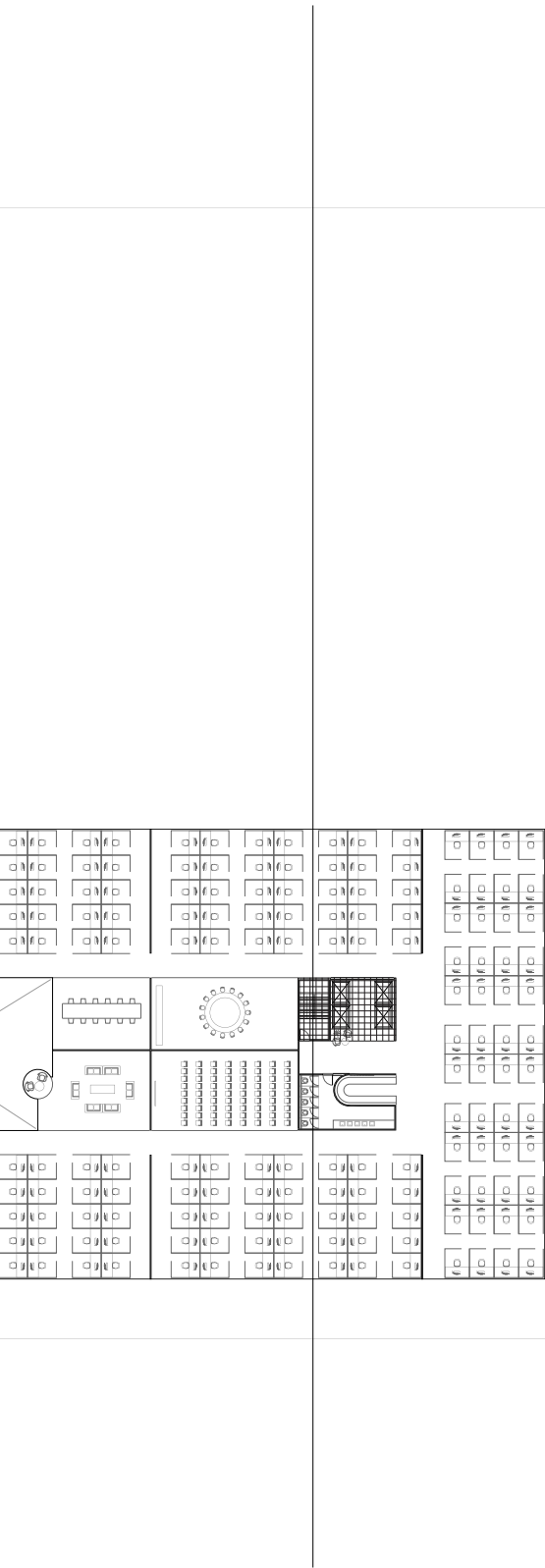




Type 3: **Open block** Tower floor plan





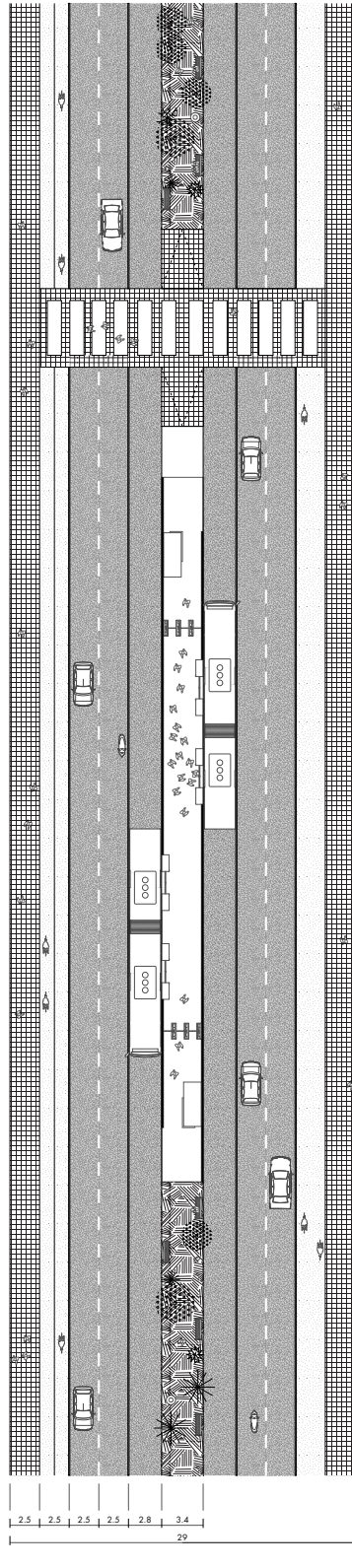
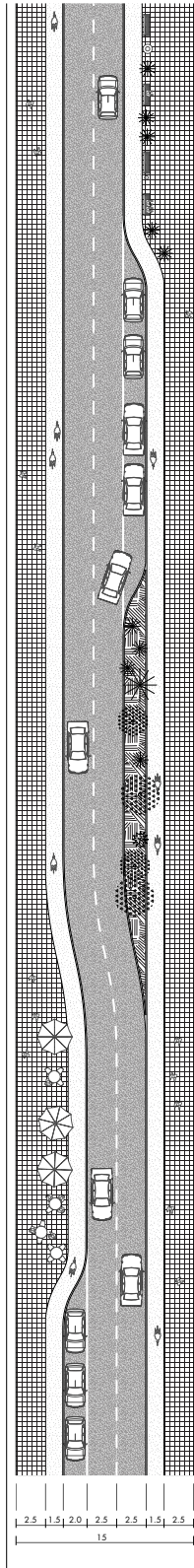


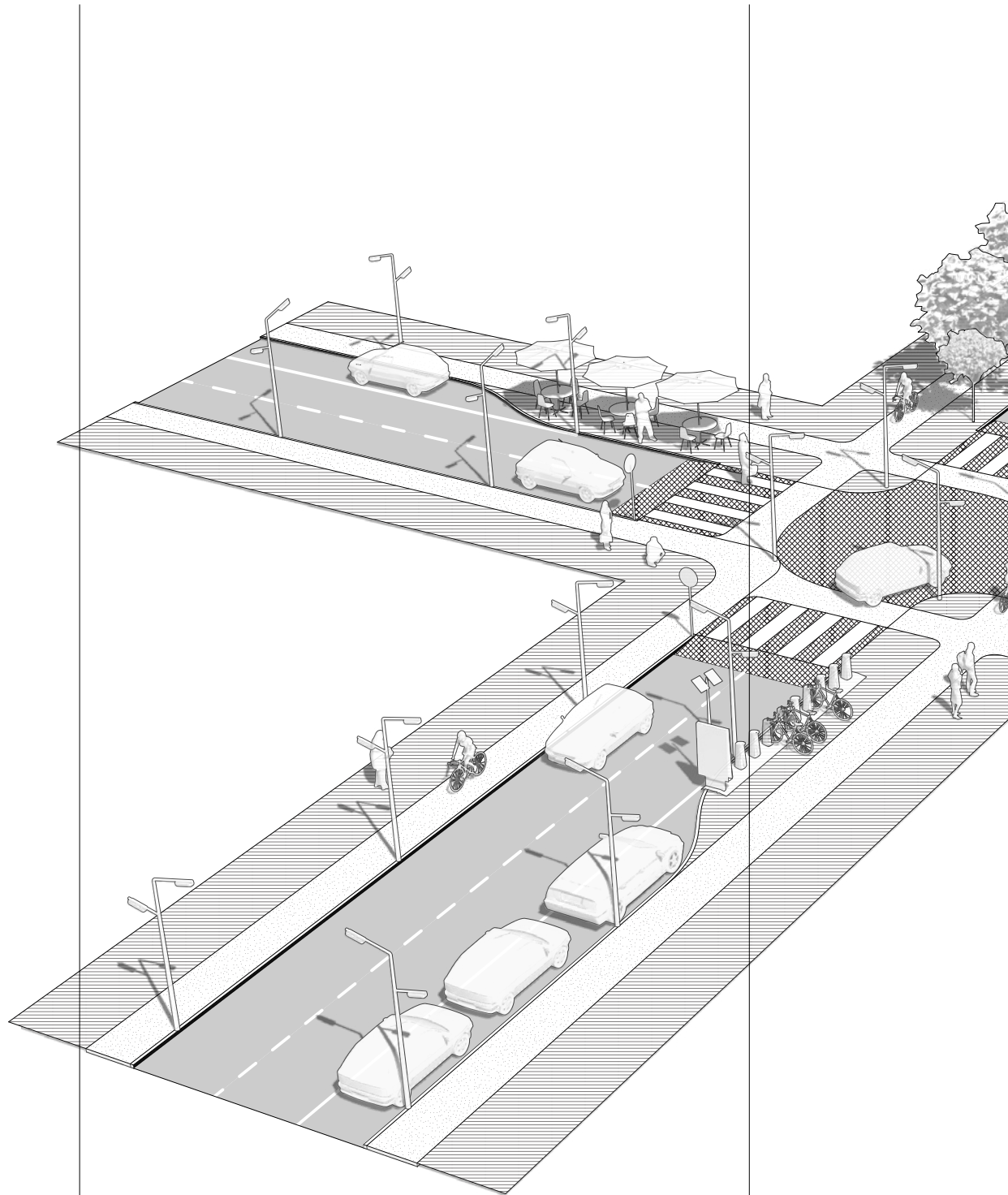
### 6.3

#### Street Typologies

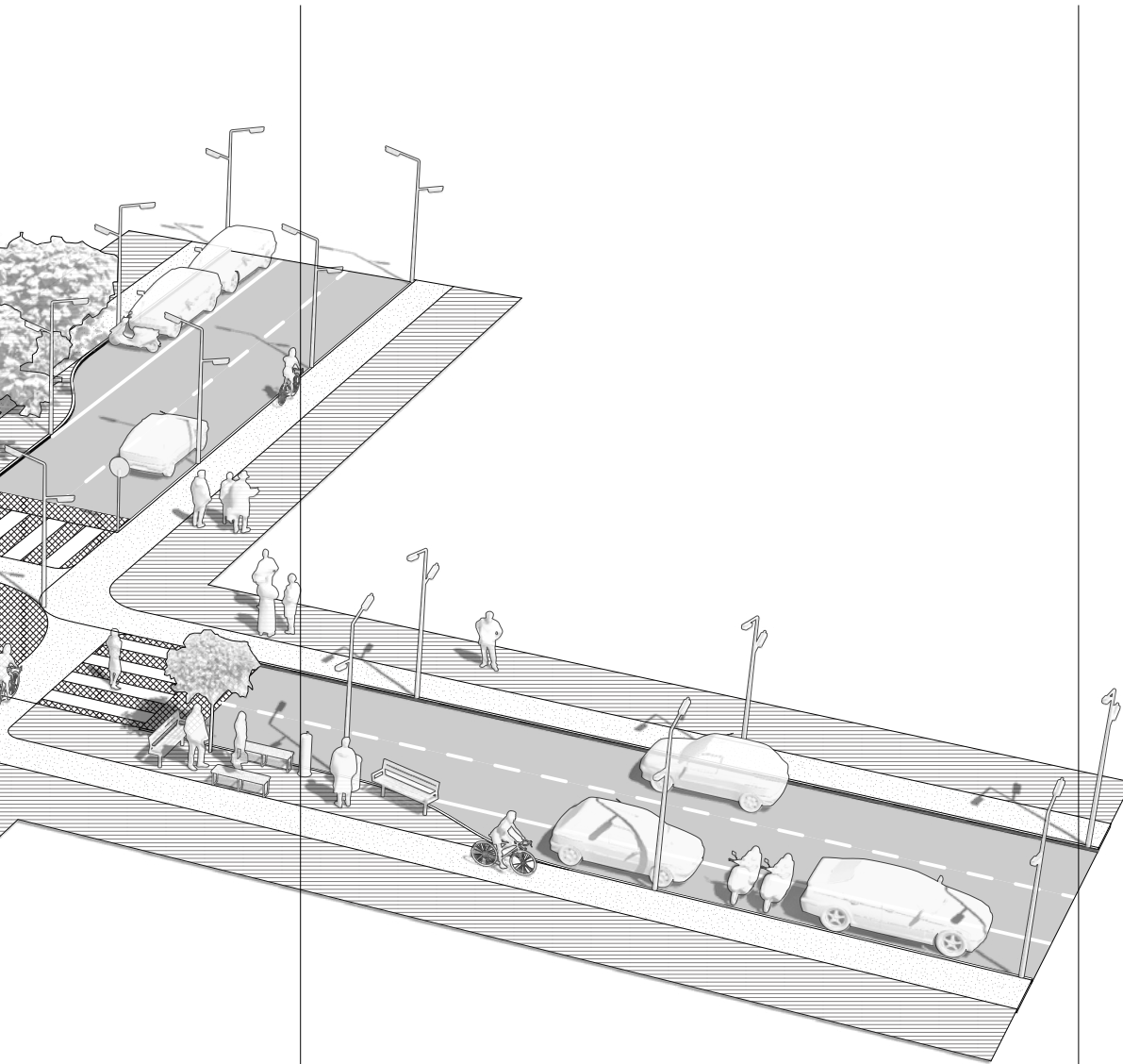
Street typology is a crucial part for any urban design; it sets the tone of the way the neighborhoods will be used. This project understands that streets, when not of major size for large transportation flow, should prioritize the pedestrian and, on top of that, should not be mono-functional infrastructures, with the purpose of connecting places only. Based on the first argument, the streets were designed accompanied with large sidewalks, bike lanes and central yards; and based on the second, the streets receive spaces to be used for diverse purposes, such as gardens, pocket parks, places to meet, cafes and restaurants, bike sharing stations, among others. Since streets play such an important role in the Mexican culture, where many of the formal and informal activities and exchange occurs, these designed places can be a way of incentivizing and enhancing this cultural aspect.

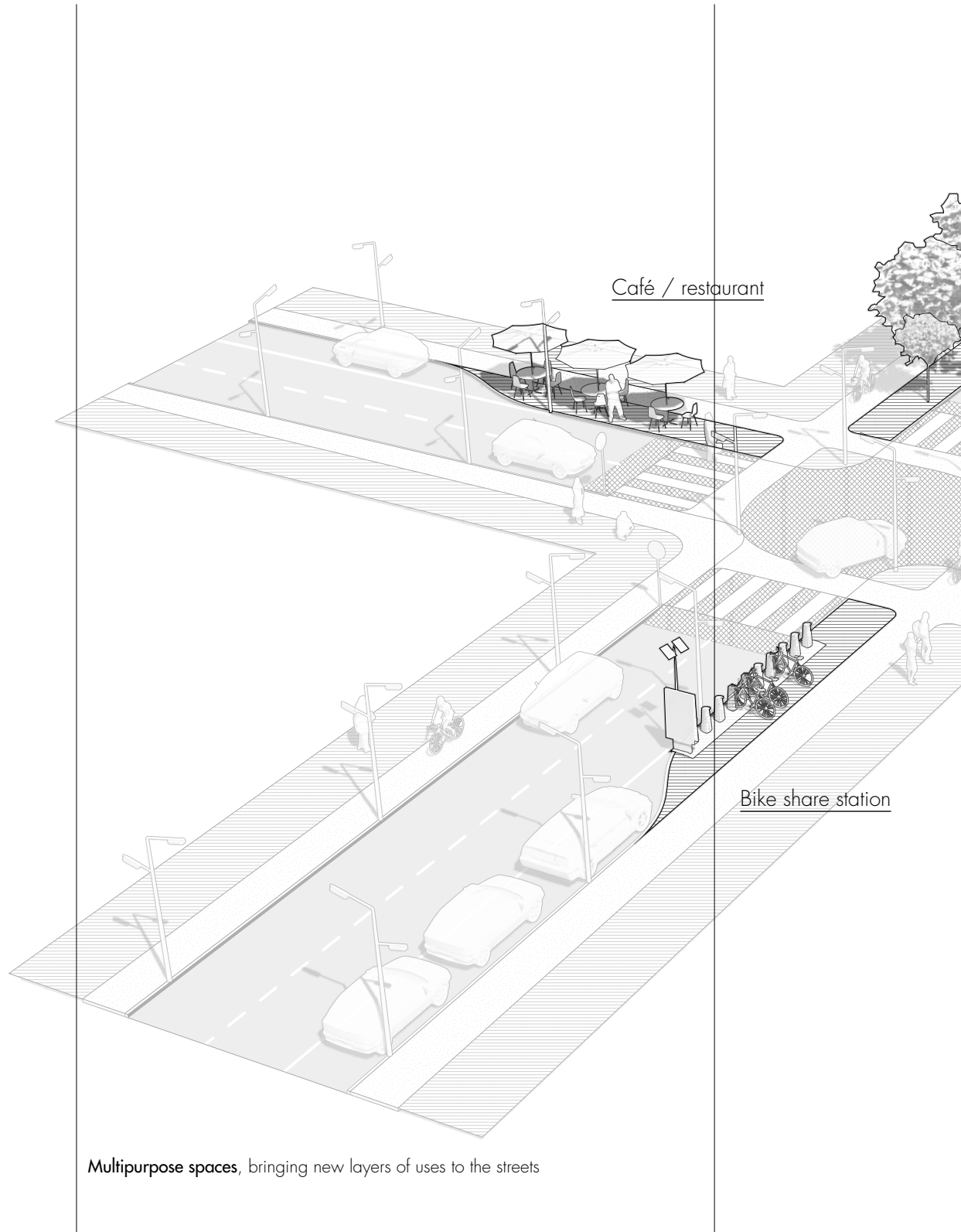
There are two main street typologies in this project: the 15m-wide and the 29m-wide. The former is the basic / generic street type, and ubiquitously applied throughout the project, while the later corresponds to the *large-scale road infrastructure* that establishes the necessary links among the intervention sites. The 29m-wide street network is used to both structure the grid of the 15m-wide streets as well as to provide mass transportation corridors to be used as BRT lines.



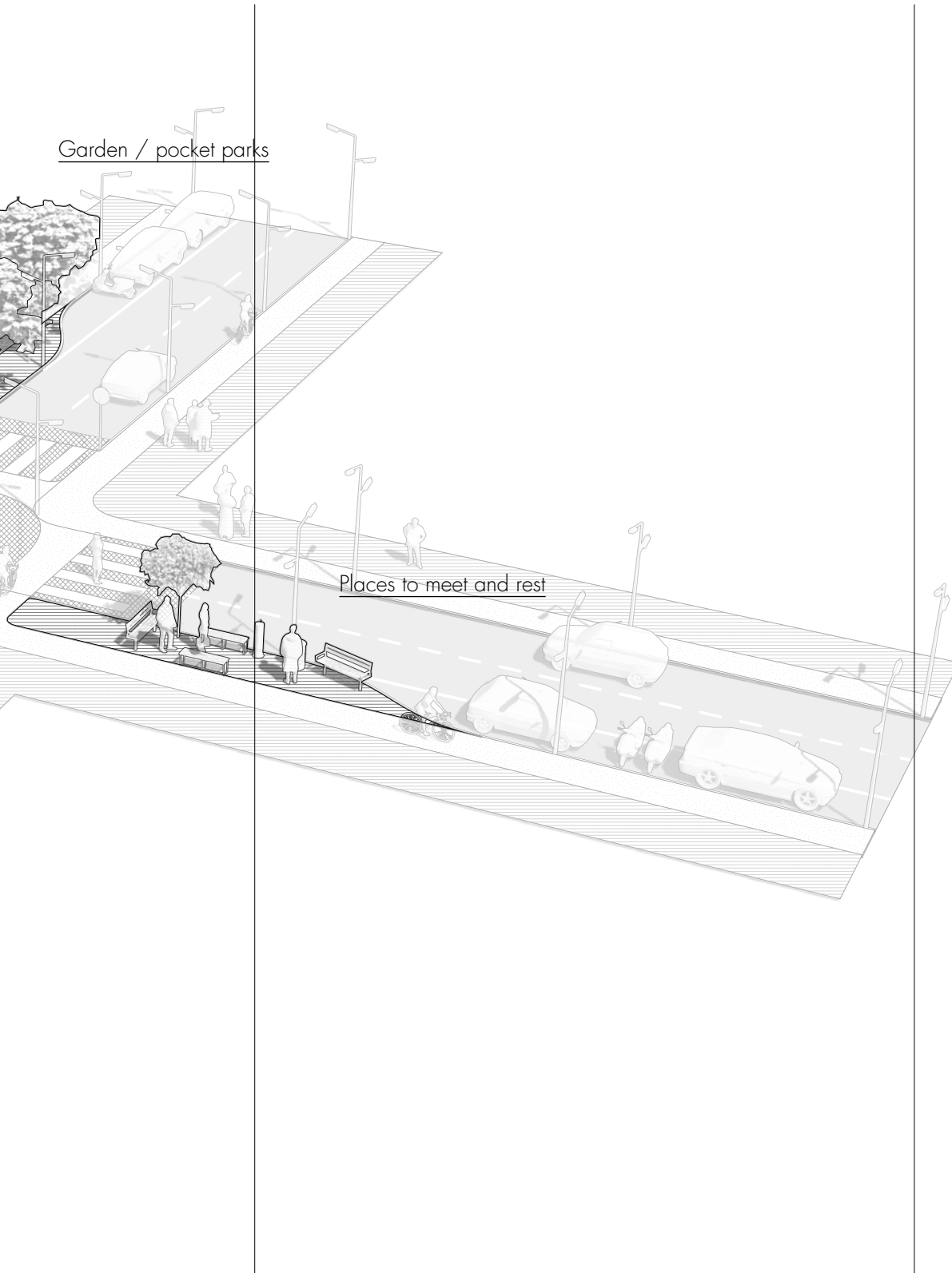


Detail of the 15m-street intersection





Multipurpose spaces, bringing new layers of uses to the streets



## 6.4

Border Typologies

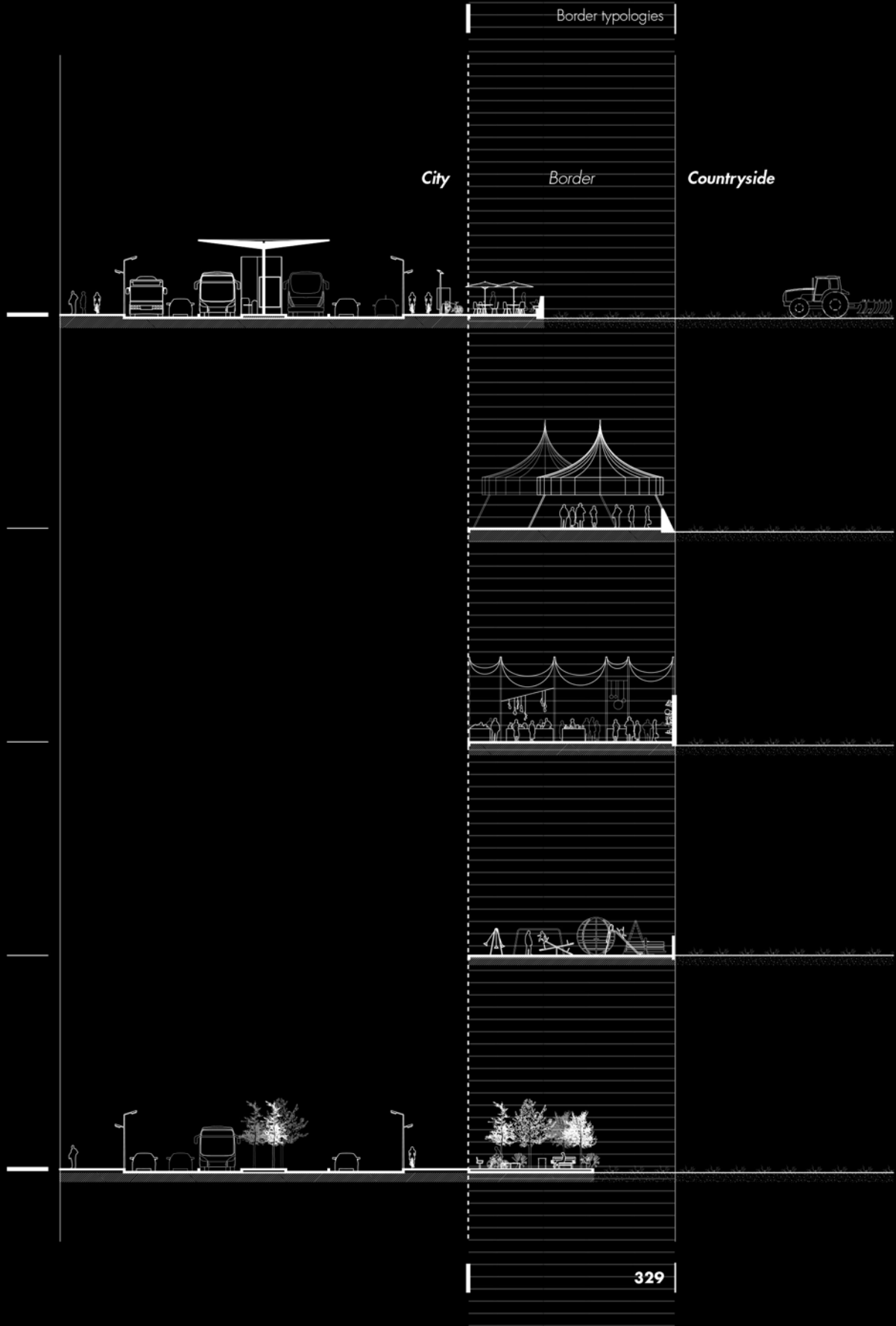
The *border typology* is the third and last typology set with which the intervention plan is formulated. The borders materialize the new designed city limit, separating city from countryside, or in other words, the urban area from the productive landscape. Instead of creating the separation with a wall, or a fence, the dividing element takes different forms in order to generate a new urban space, one in-between two conditions; thus, opening up many possibilities of uses. Equivalent to a shore, this border space gives an ending to the city while providing a moment for the citizens to contemplate the sea of agriculture fields. The border types are organized in five categories, within which different options are created. The types are as follows: *program* – the border as a place of intensity of uses; *nature* – vegetation, parks, and green spaces; *buffer zone* – logistical space to serve both the city and the countryside; *folding plane* – the street is folded to create urban spaces for leisure, and/or storage for the agriculture fields; *no width* – when space is limited and the border is established by the end of the highway.



Border  
Type:

program

nature



*Border Type:*

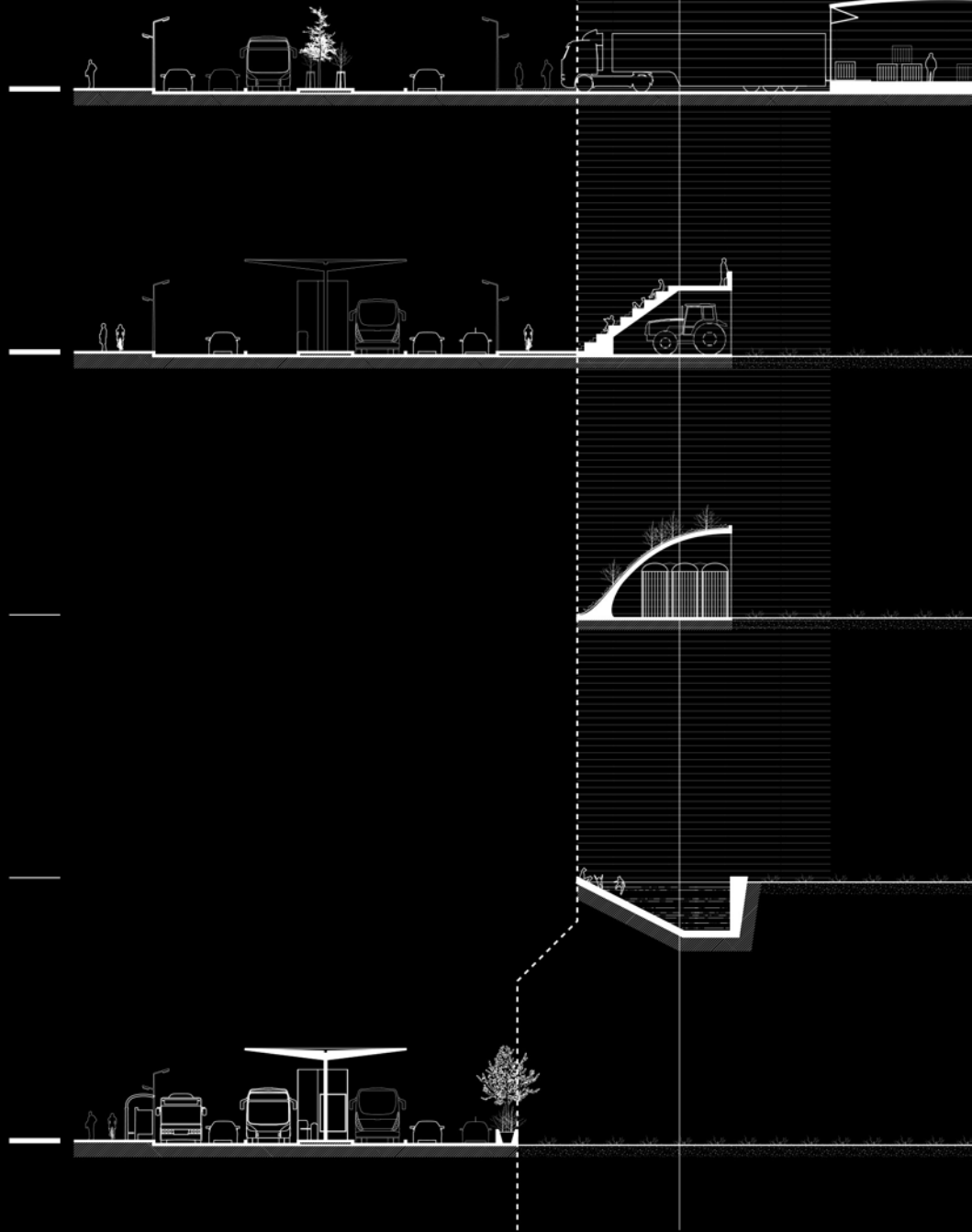
*City*

*Border*

*buffer zone*

*folding plane*

*no width*



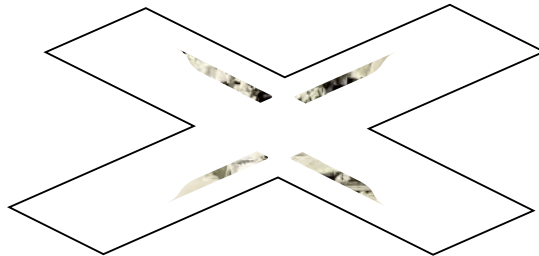
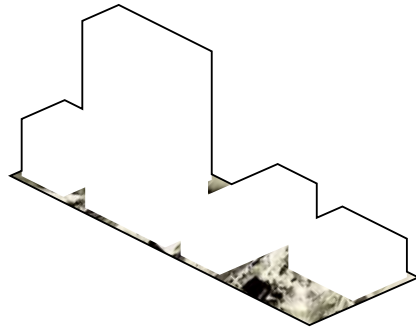
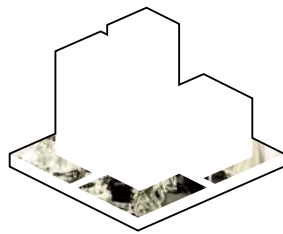
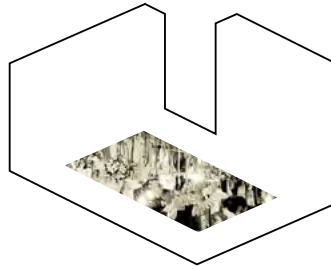
Countryside



6.5

Open framework:  
*Places of informality*

One of the problems with Mexico City's current urban design and planning attempts is that it tends to explicitly separate the formal, controlled uses from the informal ones, leaving little room for exchange. With that in mind, and understanding that informal activities are already embedded into the Mexican culture, this project proposes that a new urban intervention cannot disregard informality, considering it unimportant or unwanted; rather, it has to be acknowledge its inevitability and in so doing design the spaces taking that in consideration. Each of the three group of typologies detailed before, and that together constitutes the bulk of the intervention, is designed to not just create formalized and structured spaces but also to act as a framework where informal activities can take place. The planned/designed parts provide an overall structure, and order, from where informal activities can occur, however without dismantling the system.



6. Urban Design

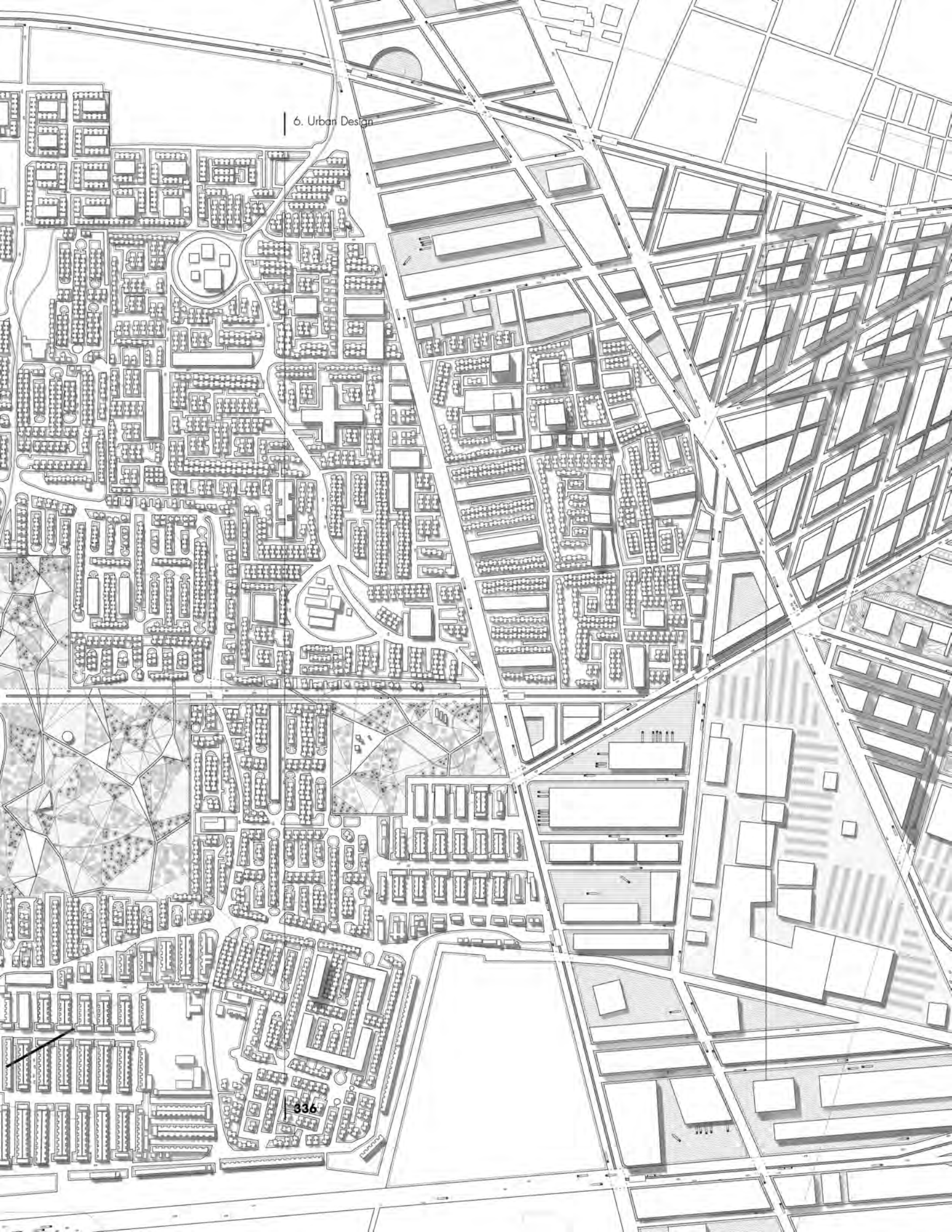




6.6

General Plan

- ① Existing housing neighborhood 1
- ② Existing housing neighborhood 2
- ③ Existing housing neighborhood 3
- ④ Development Area 1: Typology courtyard
- ⑤ Development Area 2: Tower with plinth
- ⑥ Development Area 3: Open block
- ⑦ Industrial Strip
- ⑧ Park North
- ⑨ Park West
- ⑩ Park East
- ⑪ Core Building
- ⑫ Medical Cluster
- ⑬ Shopping malls
- ⑭ Institutional Strip
- ⑮ Seed programs (among others)
- ⑯ Urban gradient
- ⑰ Spaces of informality: Interior of the courtyards; amidst the open blocks; over the building plinth
- ⑱ Agriculture fields
- ⑲ Area of incipient urbanization
- ⑳ City border









Urban Design

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General Plan

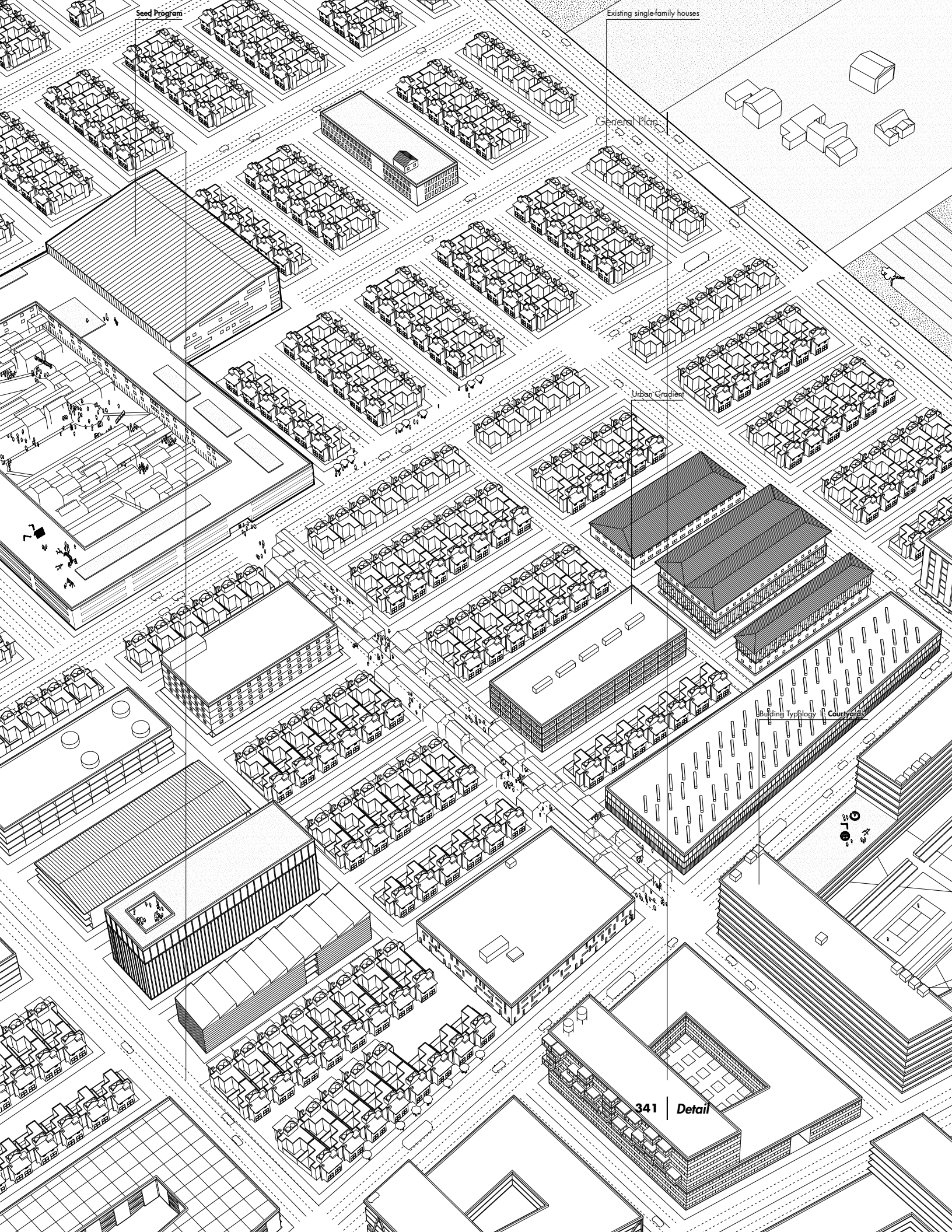


339 Detail



Urban Design

340



Seed Program

Existing single-family houses

General Plan

Urban Gradient

Building Typology | Courtyards

341 Detail





1

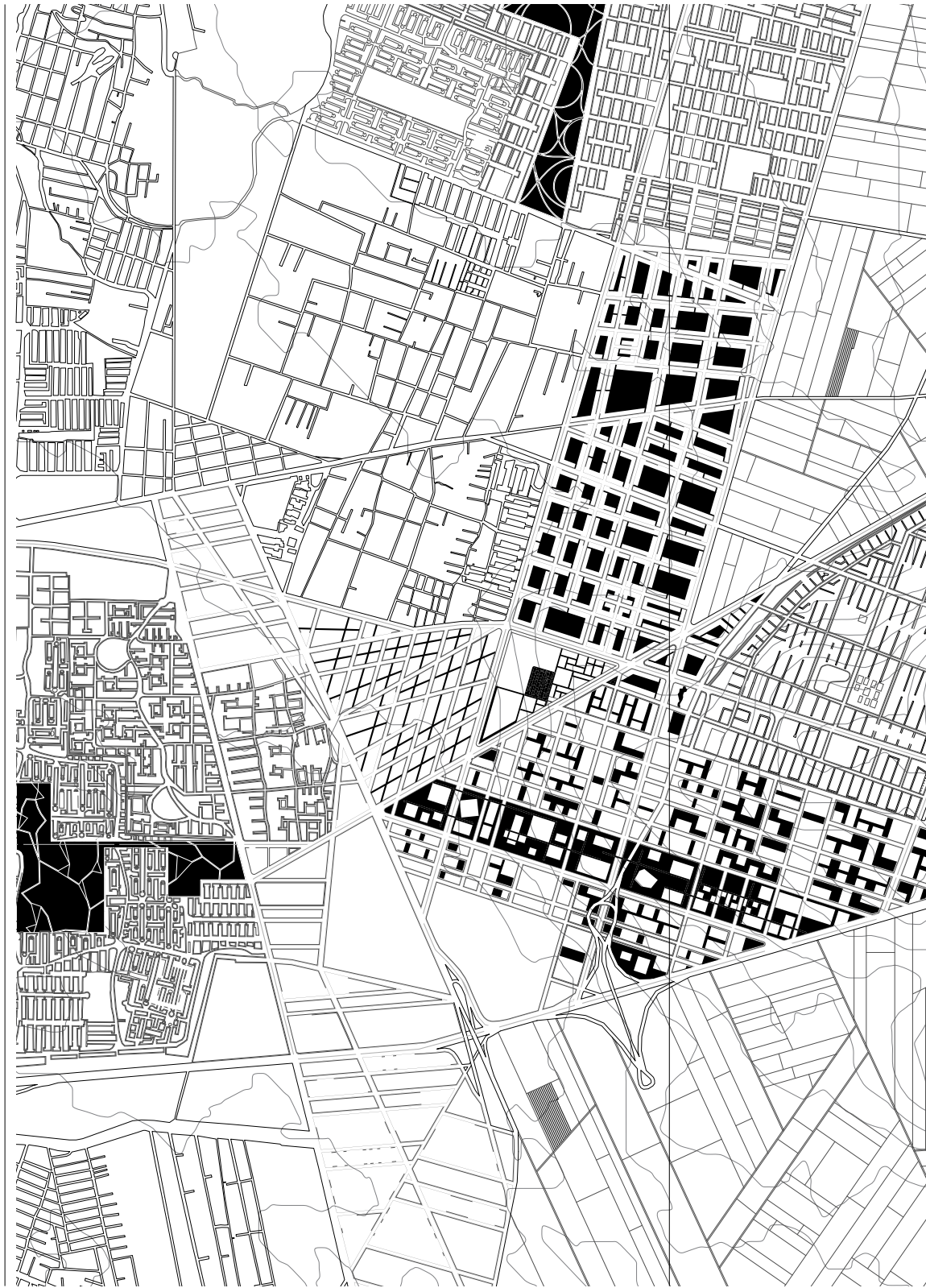
[New] **Block structure**





2  
**Buildings**





3

**Pedestrian spaces**

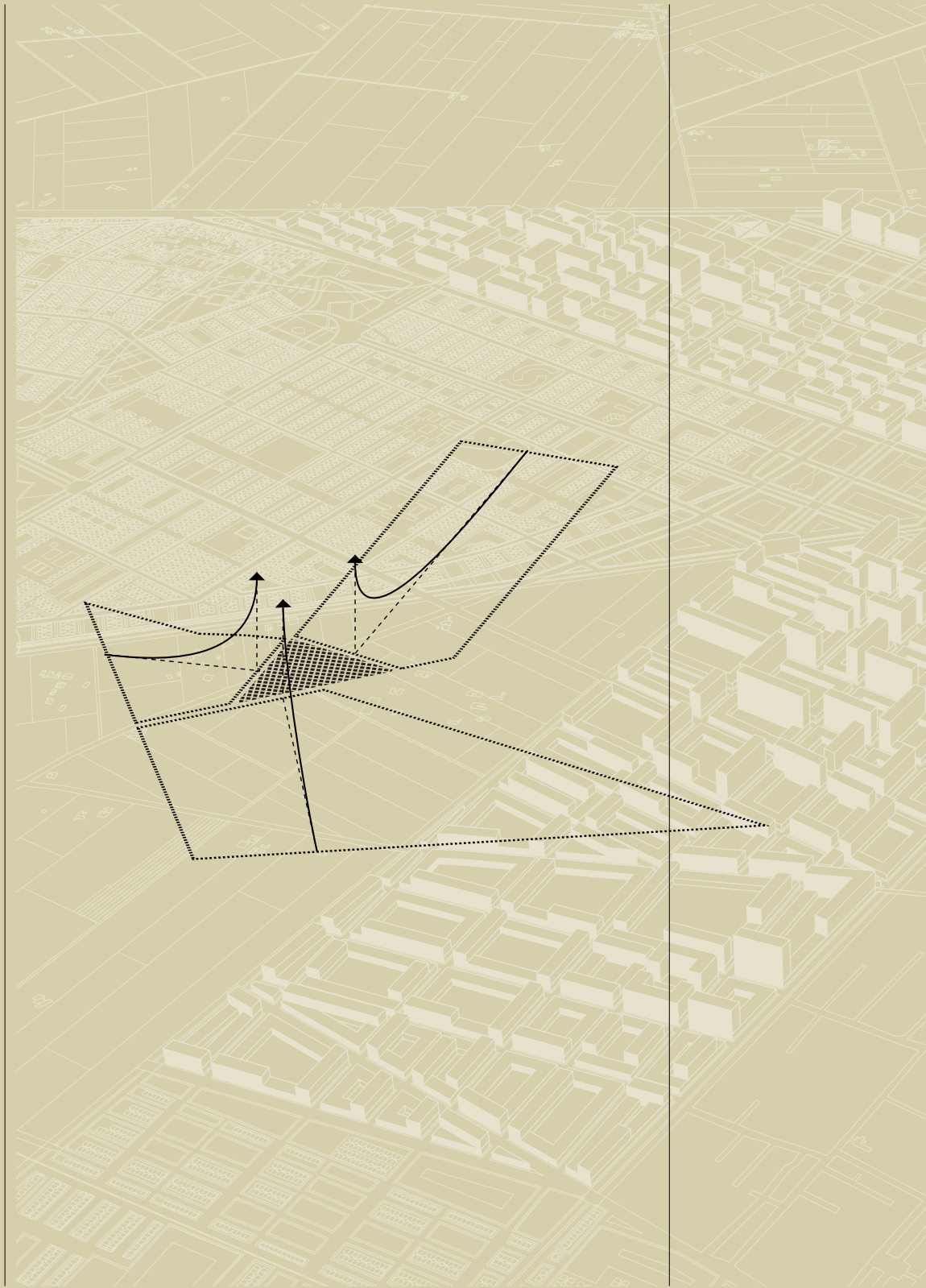
*(no sidewalks or parking)*

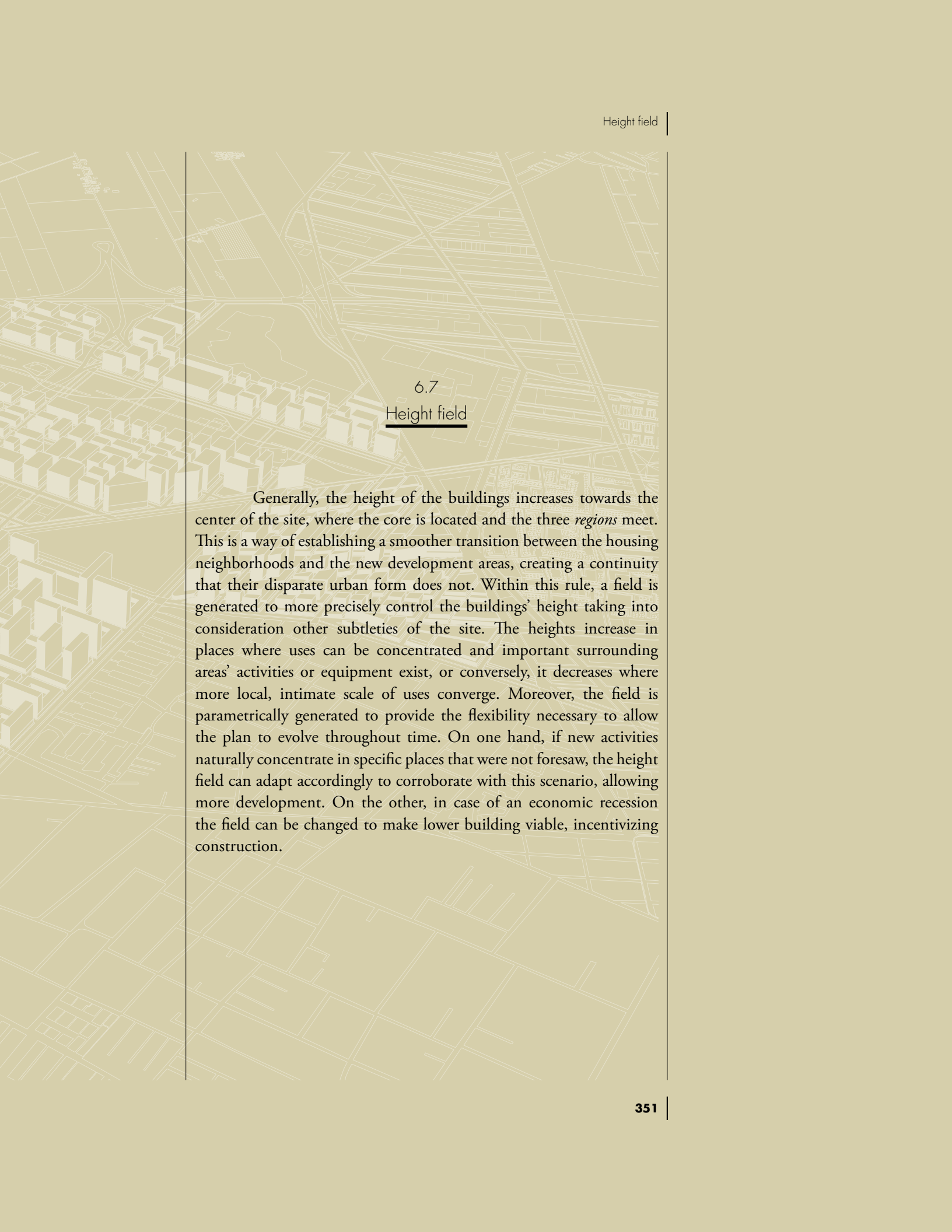




4  
**Park Circuit**

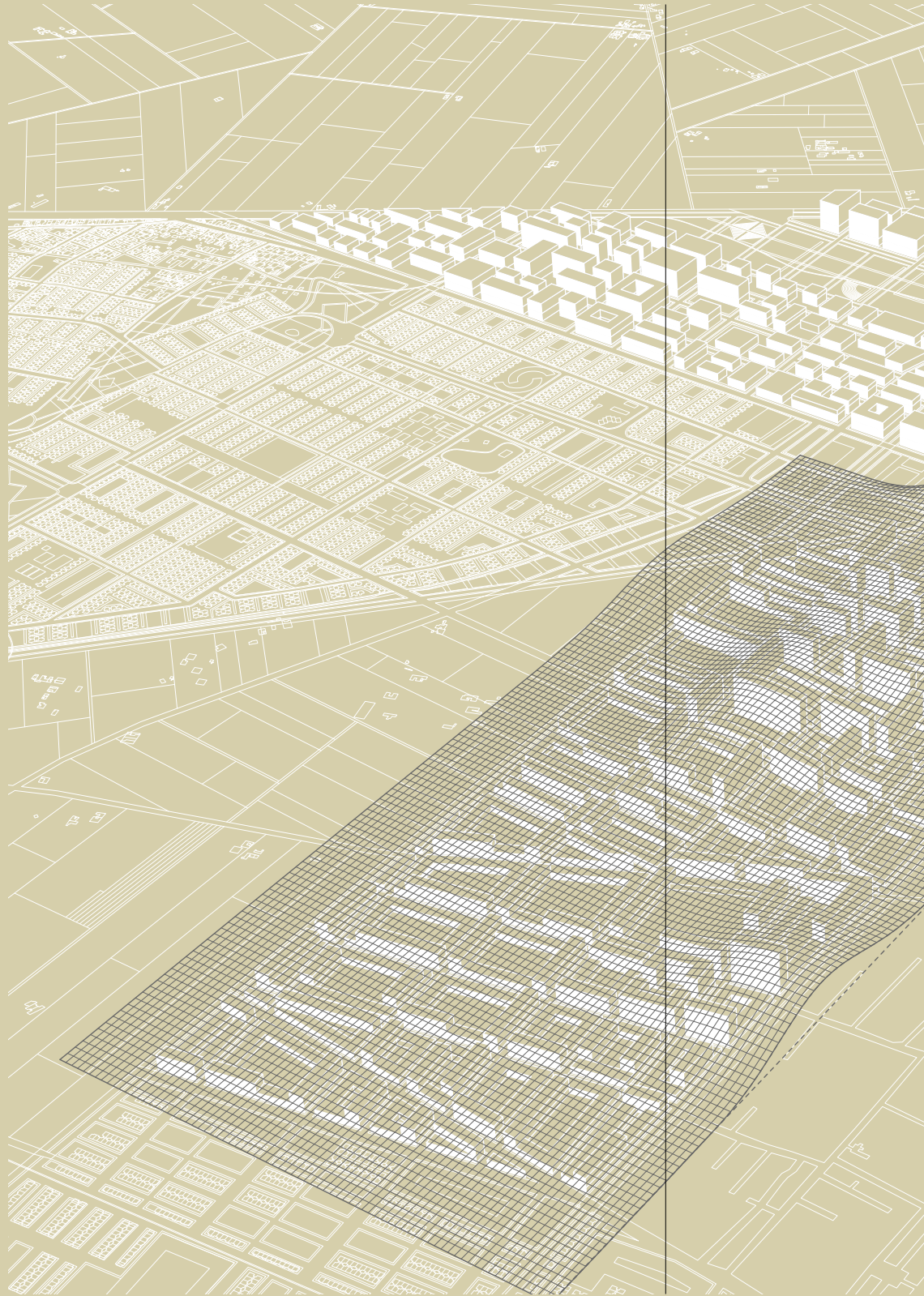




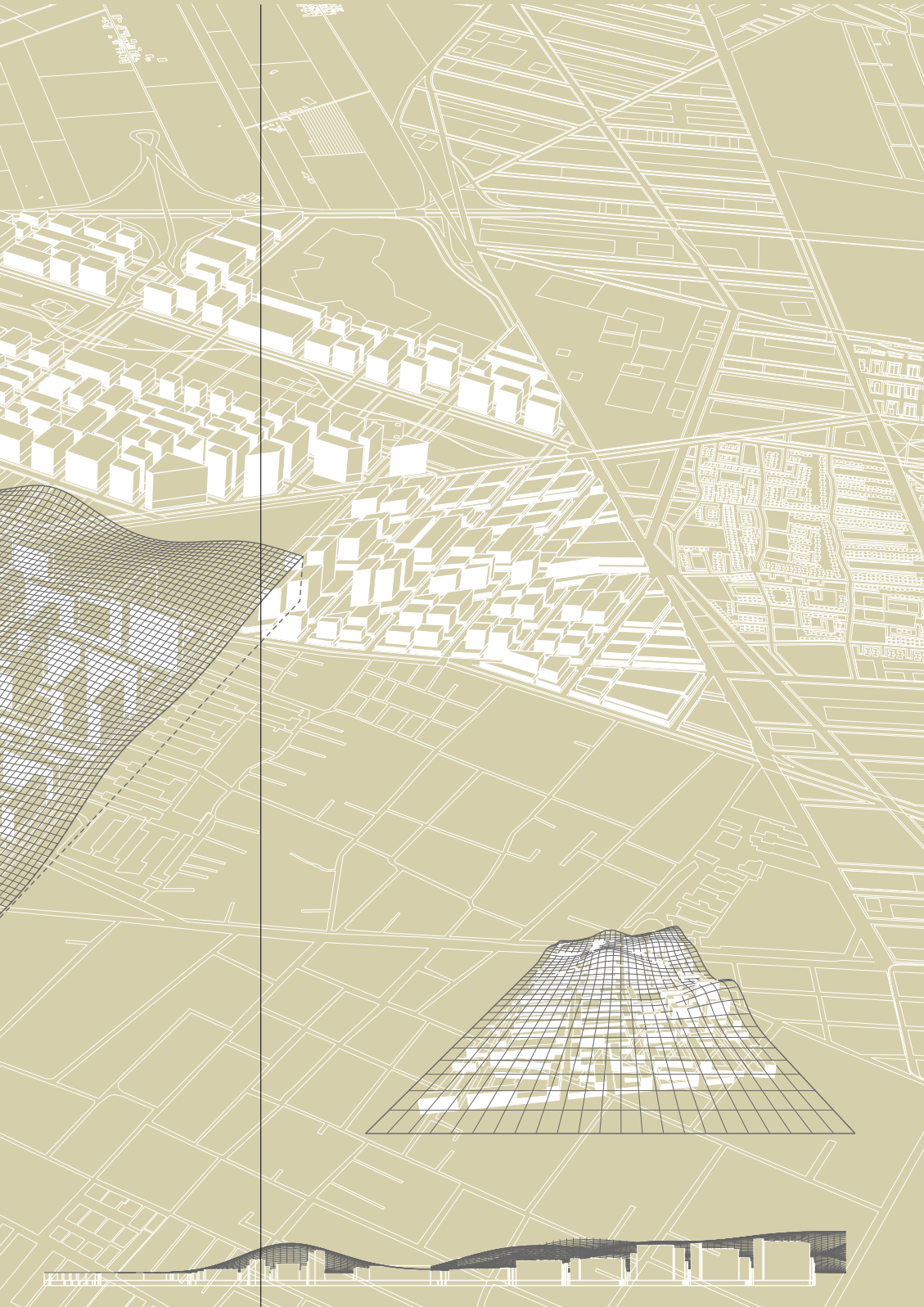


6.7  
Height field

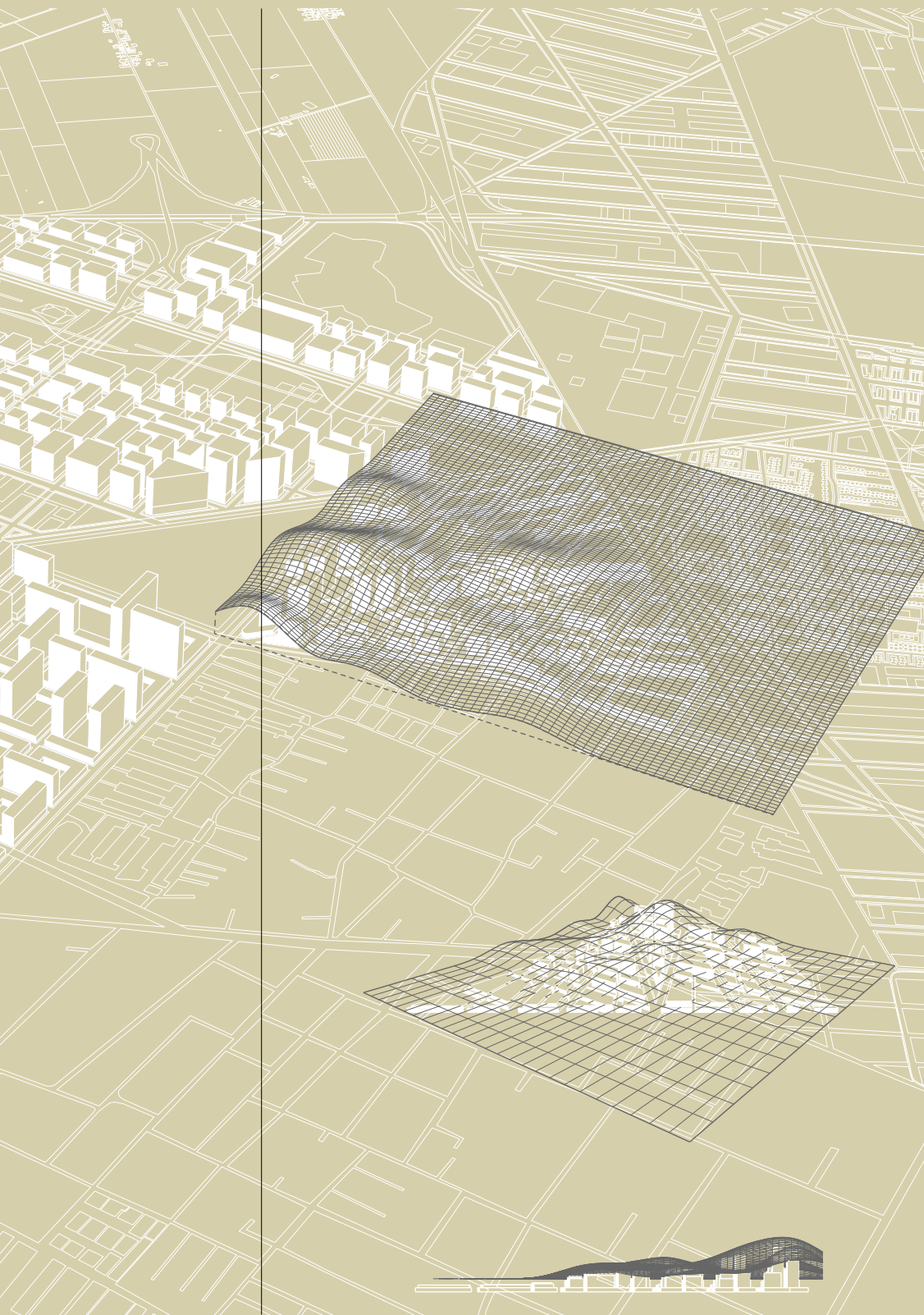
Generally, the height of the buildings increases towards the center of the site, where the core is located and the three *regions* meet. This is a way of establishing a smoother transition between the housing neighborhoods and the new development areas, creating a continuity that their disparate urban form does not. Within this rule, a field is generated to more precisely control the buildings' height taking into consideration other subtleties of the site. The heights increase in places where uses can be concentrated and important surrounding areas' activities or equipment exist, or conversely, it decreases where more local, intimate scale of uses converge. Moreover, the field is parametrically generated to provide the flexibility necessary to allow the plan to evolve throughout time. On one hand, if new activities naturally concentrate in specific places that were not foresaw, the height field can adapt accordingly to corroborate with this scenario, allowing more development. On the other, in case of an economic recession the field can be changed to make lower building viable, incentivizing construction.

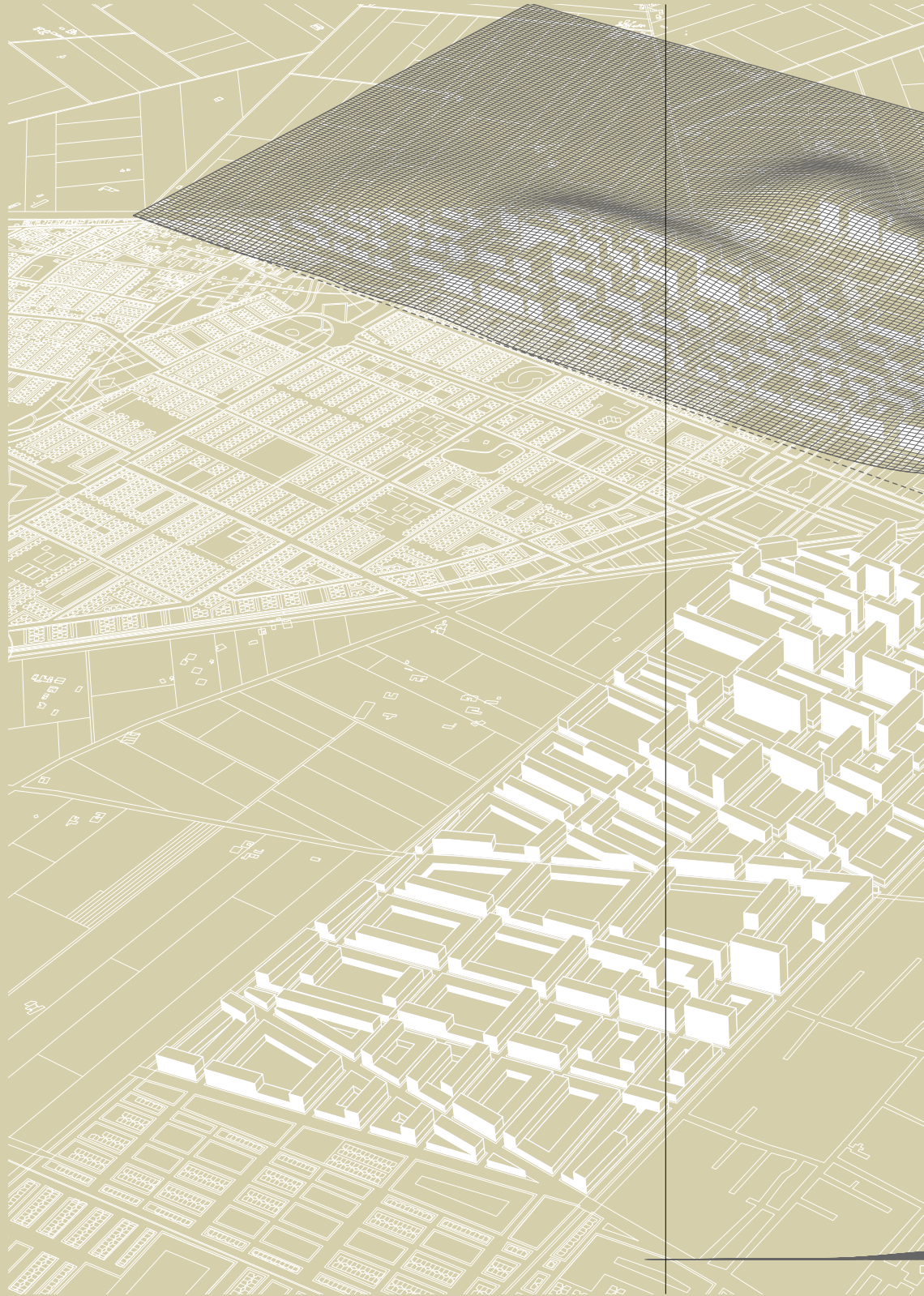


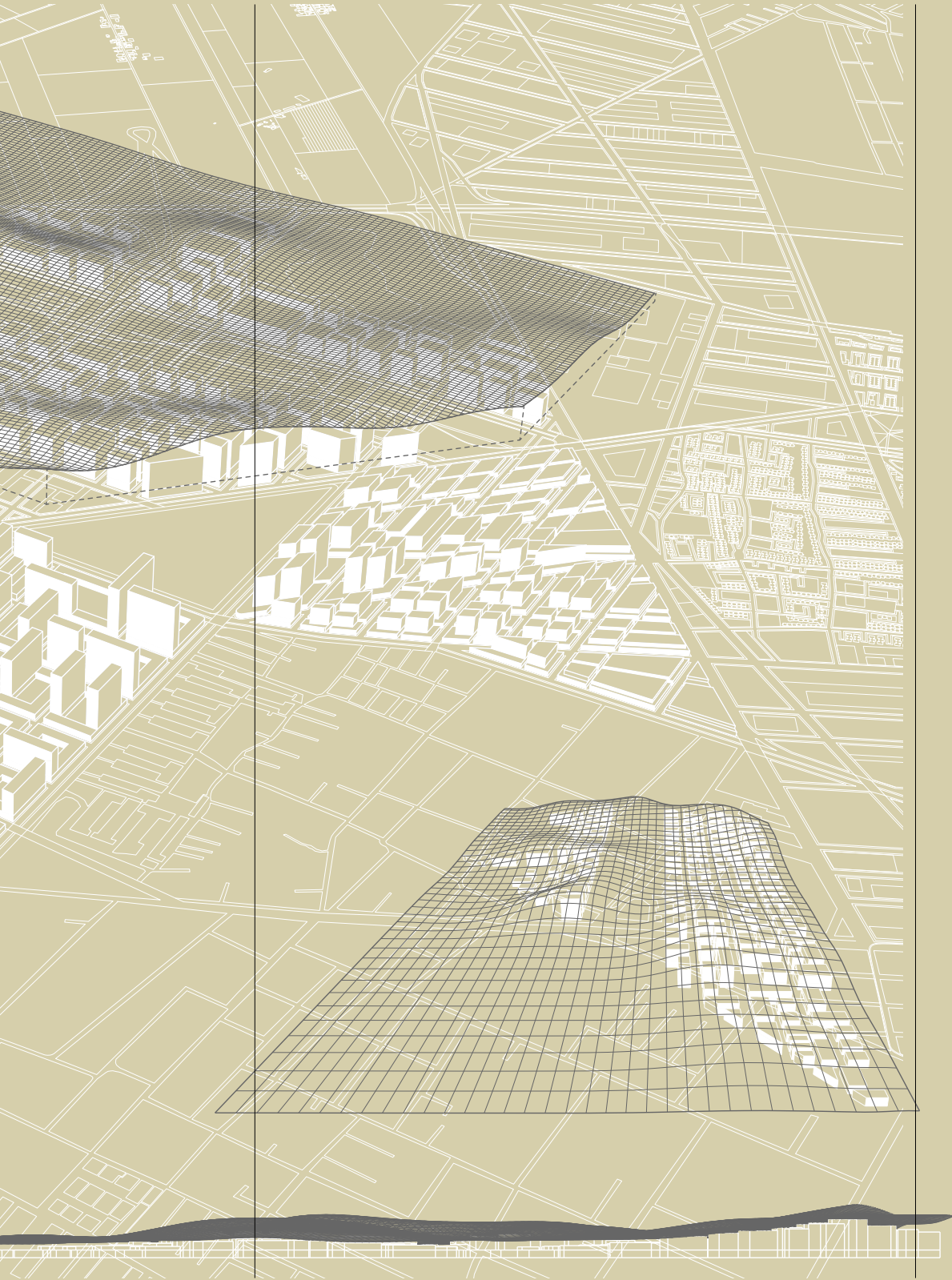


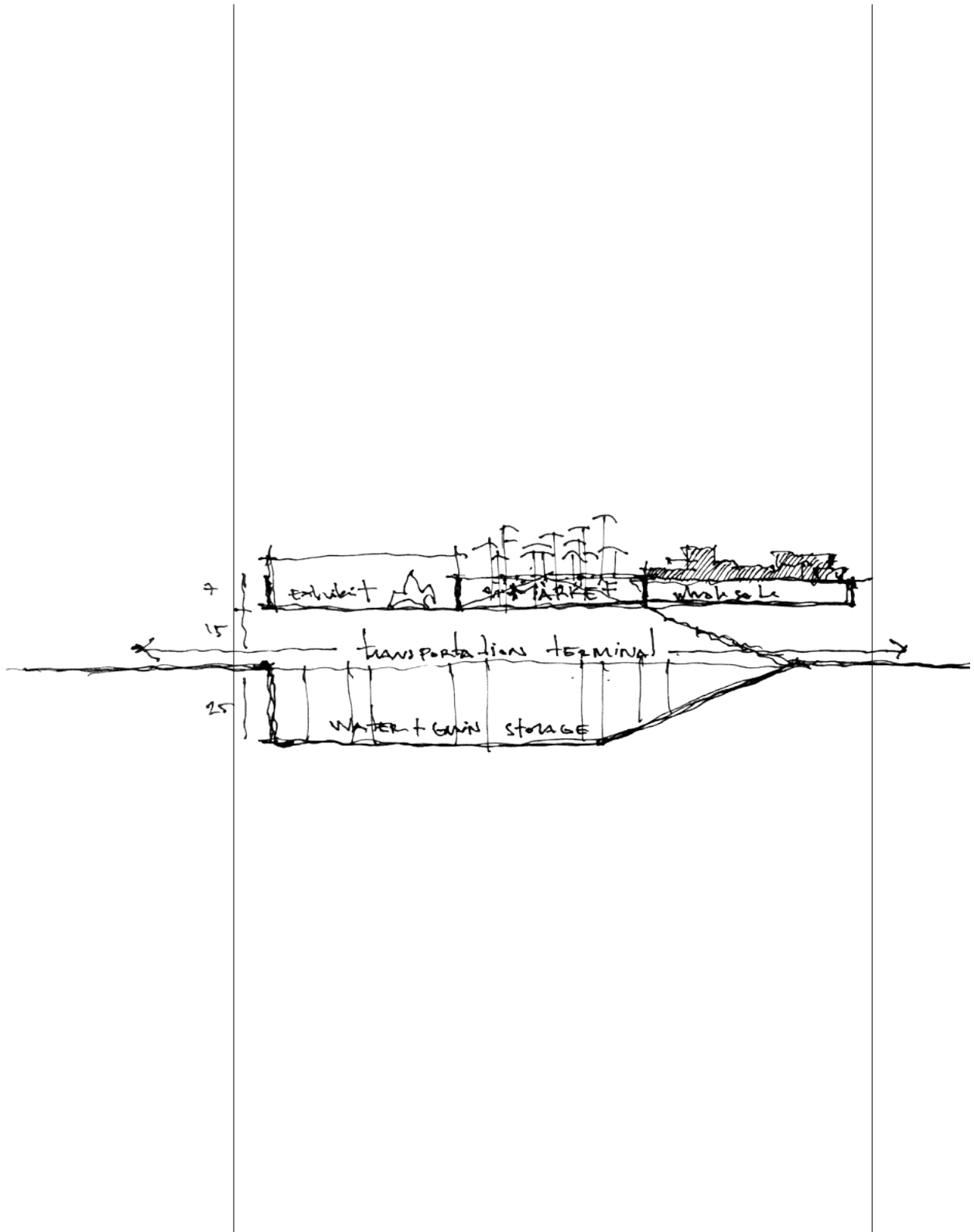












## 6.8

Core building

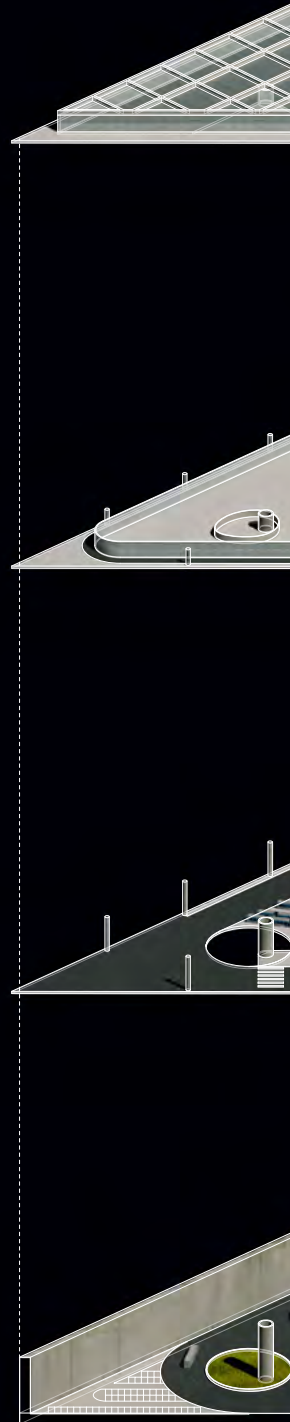
The core building is a massive infrastructure building. It is both geographically as well as symbolically the center of the intervention area, where the main activities intersect. The core building congregates the programs around which the intervention is structured. The basement level hosts grain storage for the surrounding agricultural fields, which are as fundamental as the urban center this intervention consolidates in establishing a border for the city: without the symbiosis between the urban and the rural, the proposal would not hold ground. Also in the basement a massive water tank is located to address the problem of water shortage, in general, and the lack of water infrastructure for the surrounding neighborhoods, in particular. The street level is used as a public transportation terminal. Transportation is the element that binds the city with this new urban center and each of its parts among themselves; it weaves the disparate urban fabrics together. The terminal is a two partite system: it organizes and houses the buses' and the BRTs' operations and vehicles. From this level, the street plane is tilted up to create a ramp and stairs access to the upper level where an exhibition area and food activities, such as wholesale markets, large-scale grocery store, and an food trucks, reside. Additionally, a street market, Mexico City's most symbolic activity, occupies the center of this floor, which is also the center of the whole urban intervention. This market stands on a sloped plane that connects this level with the last one, where commercial and office buildings are located. Finally, the rooftop of these building is used as a public lawn and plaza.

Terrace +23.00m

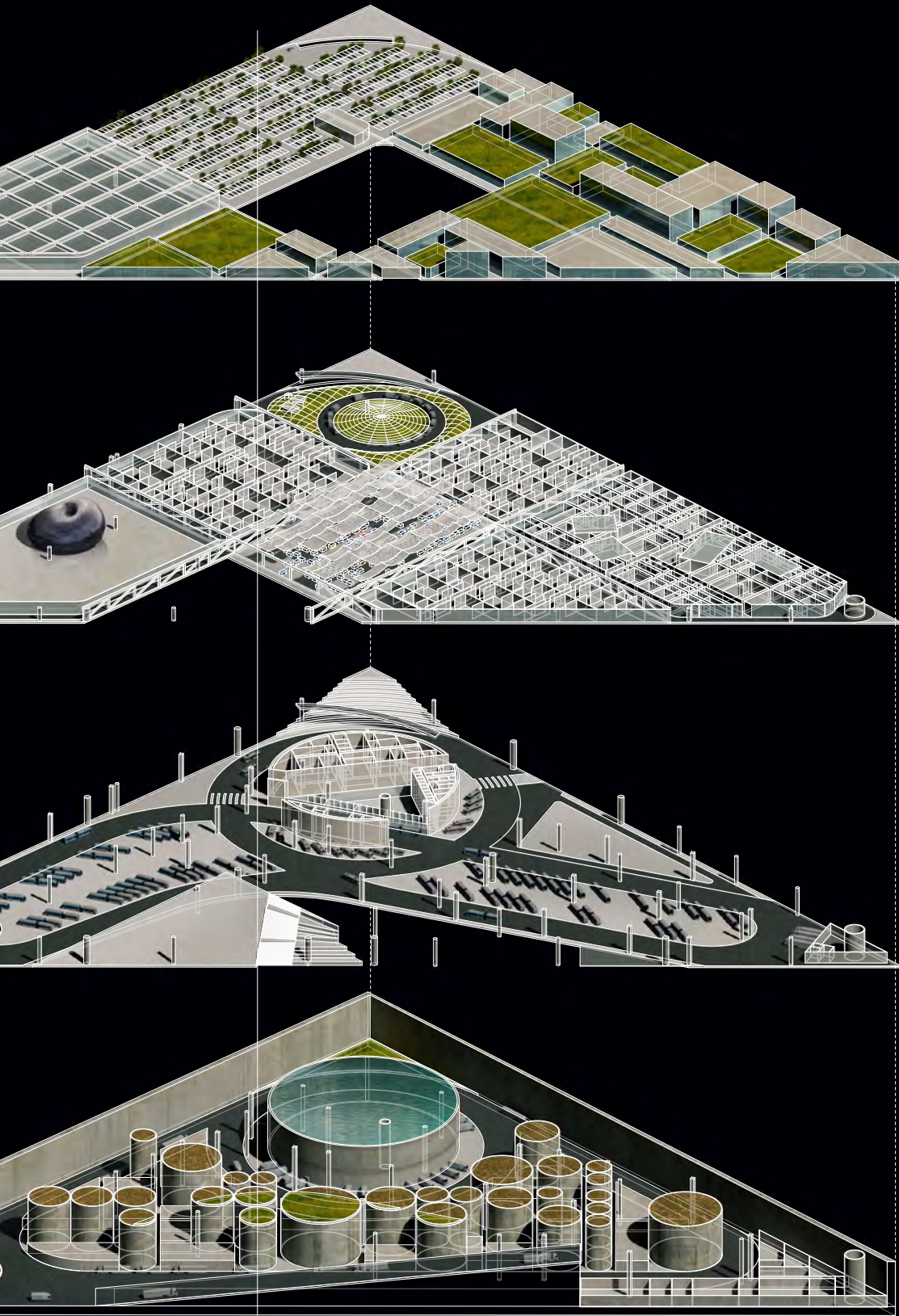
First floor +15.00m

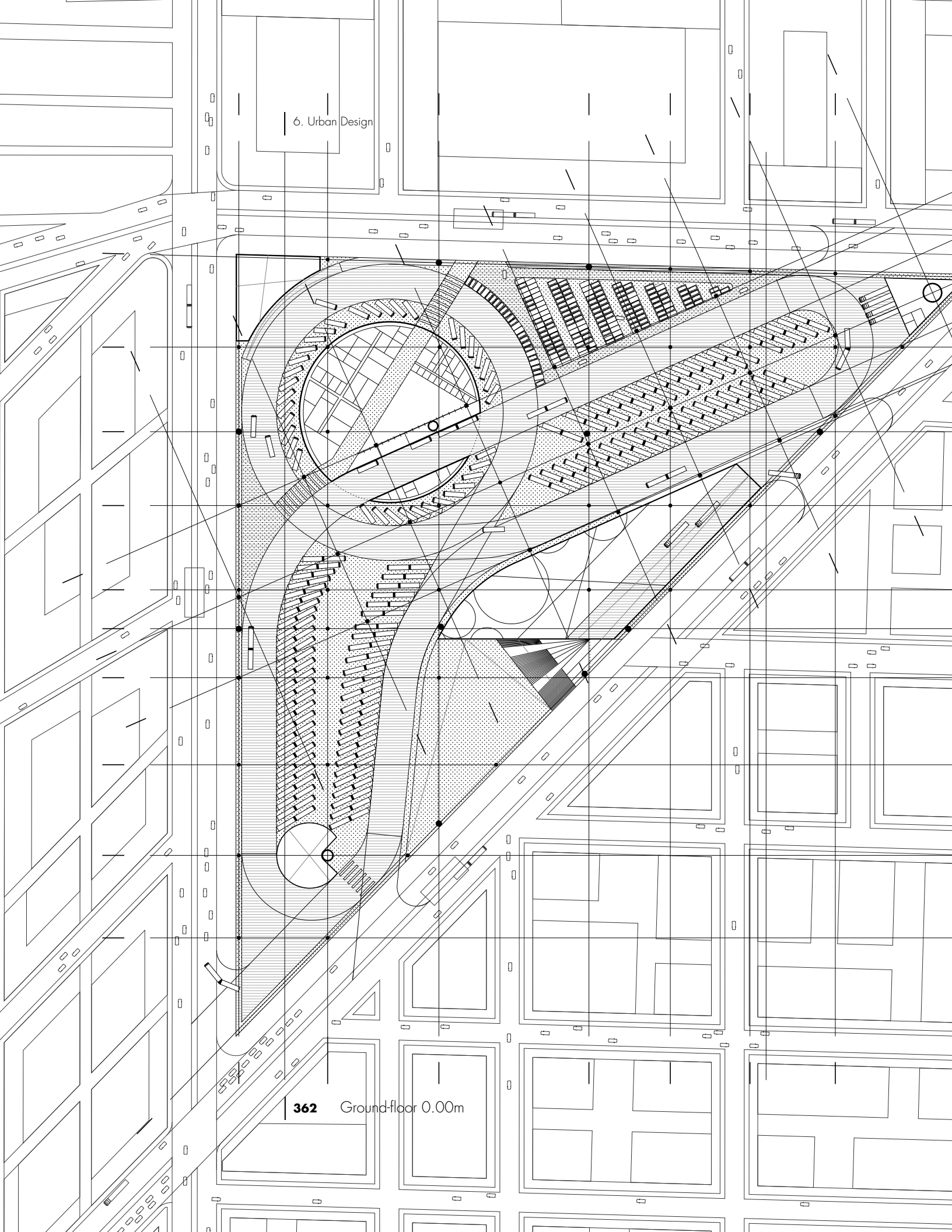
Ground-floor 0.00m

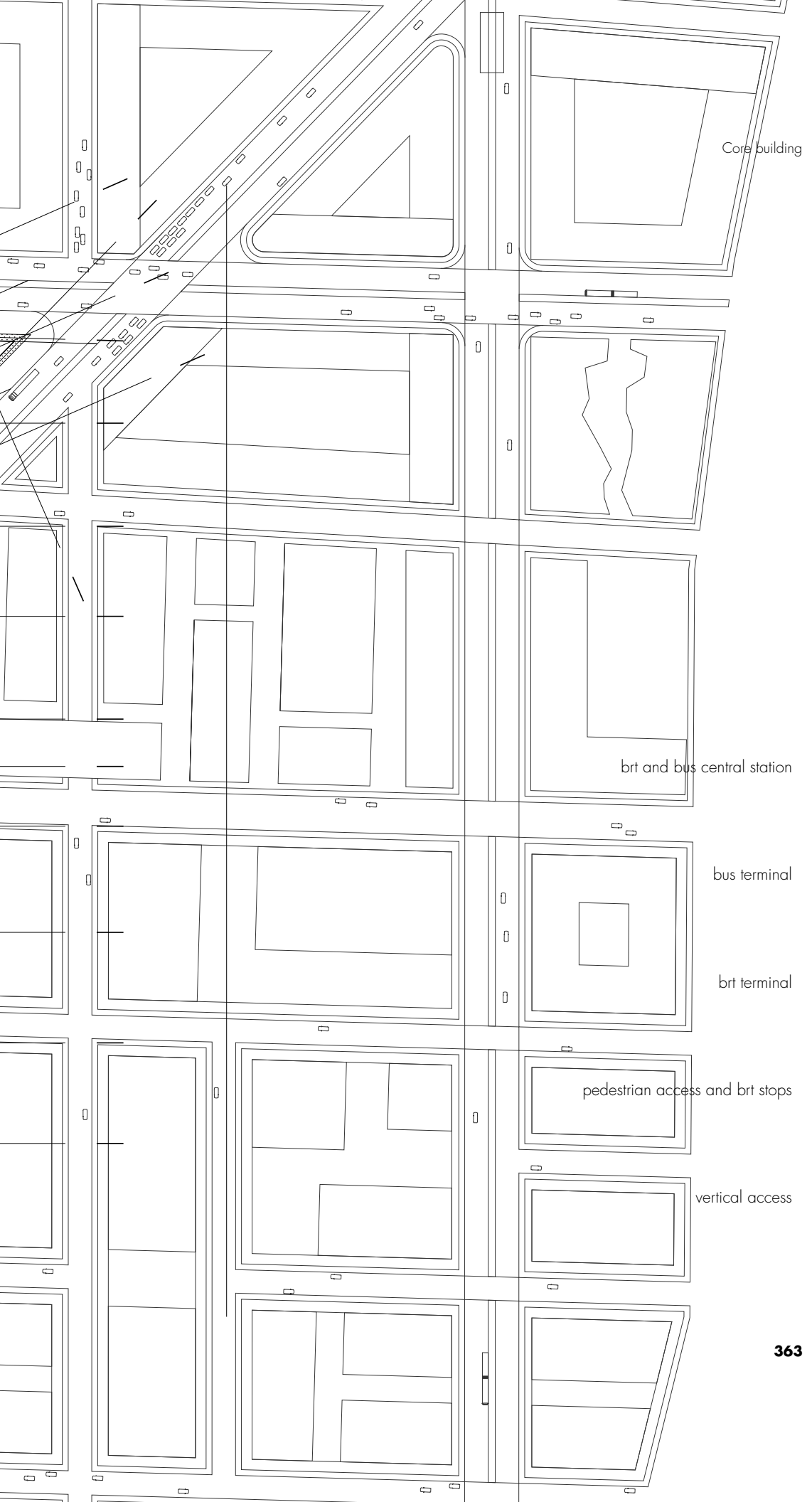
Basement -25.00m











Core building

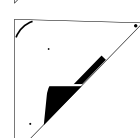
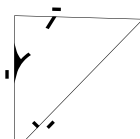
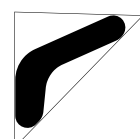
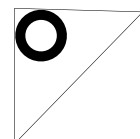
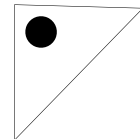
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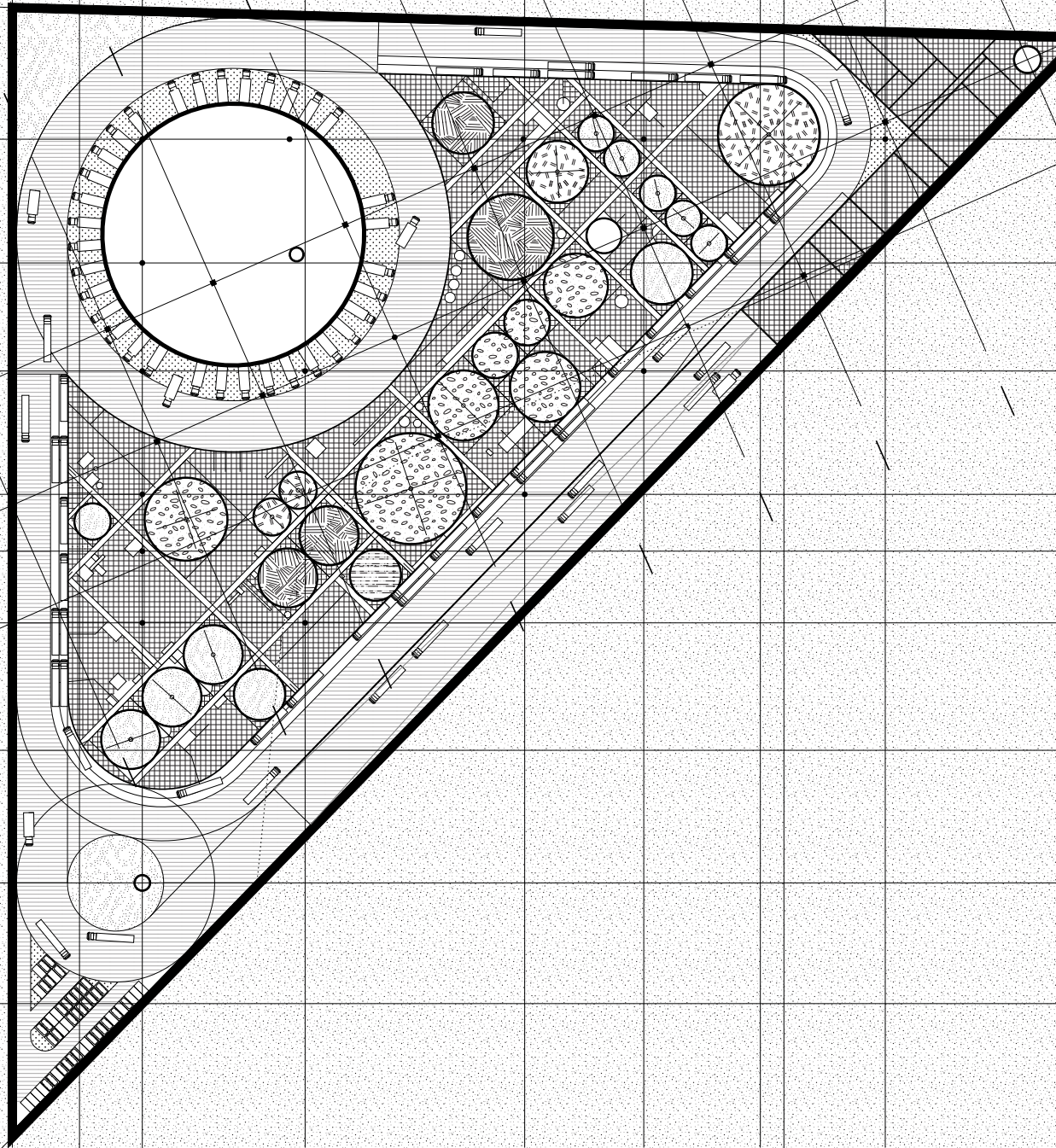
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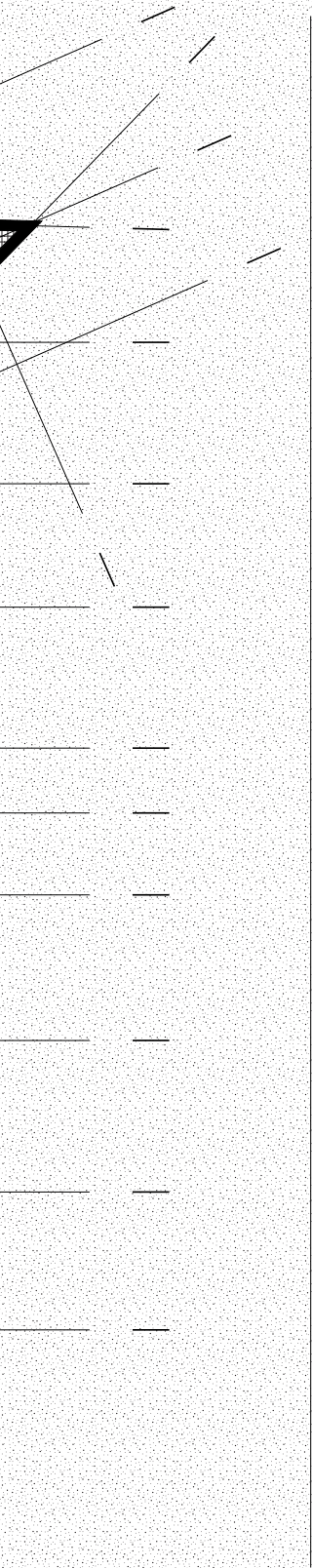
brt terminal

pedestrian access and brt stops

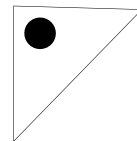
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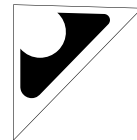




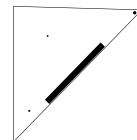
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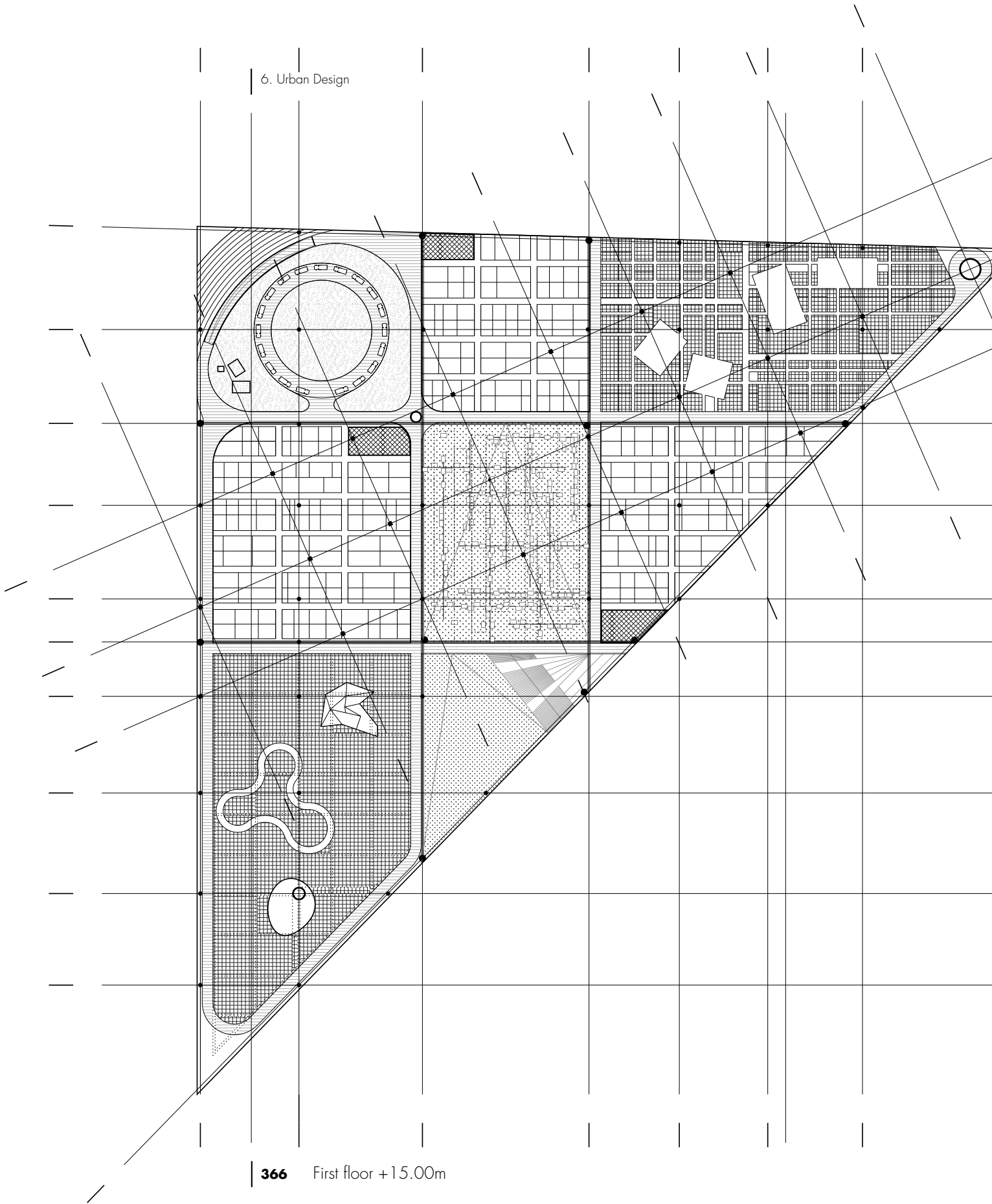


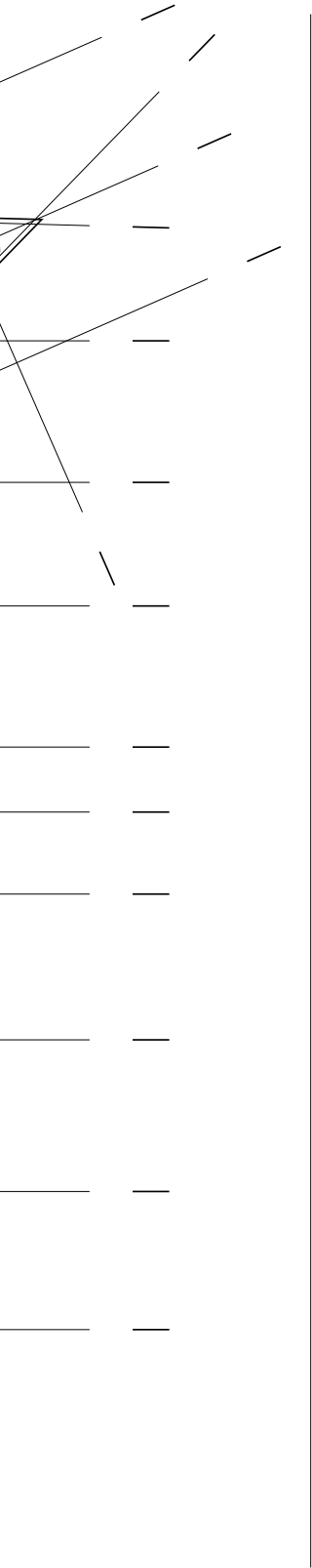
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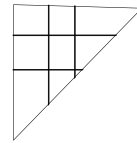
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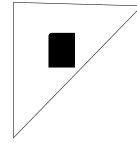




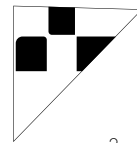
main structural trusses



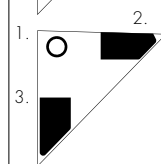
street market



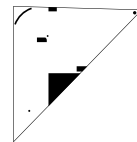
wholesale market

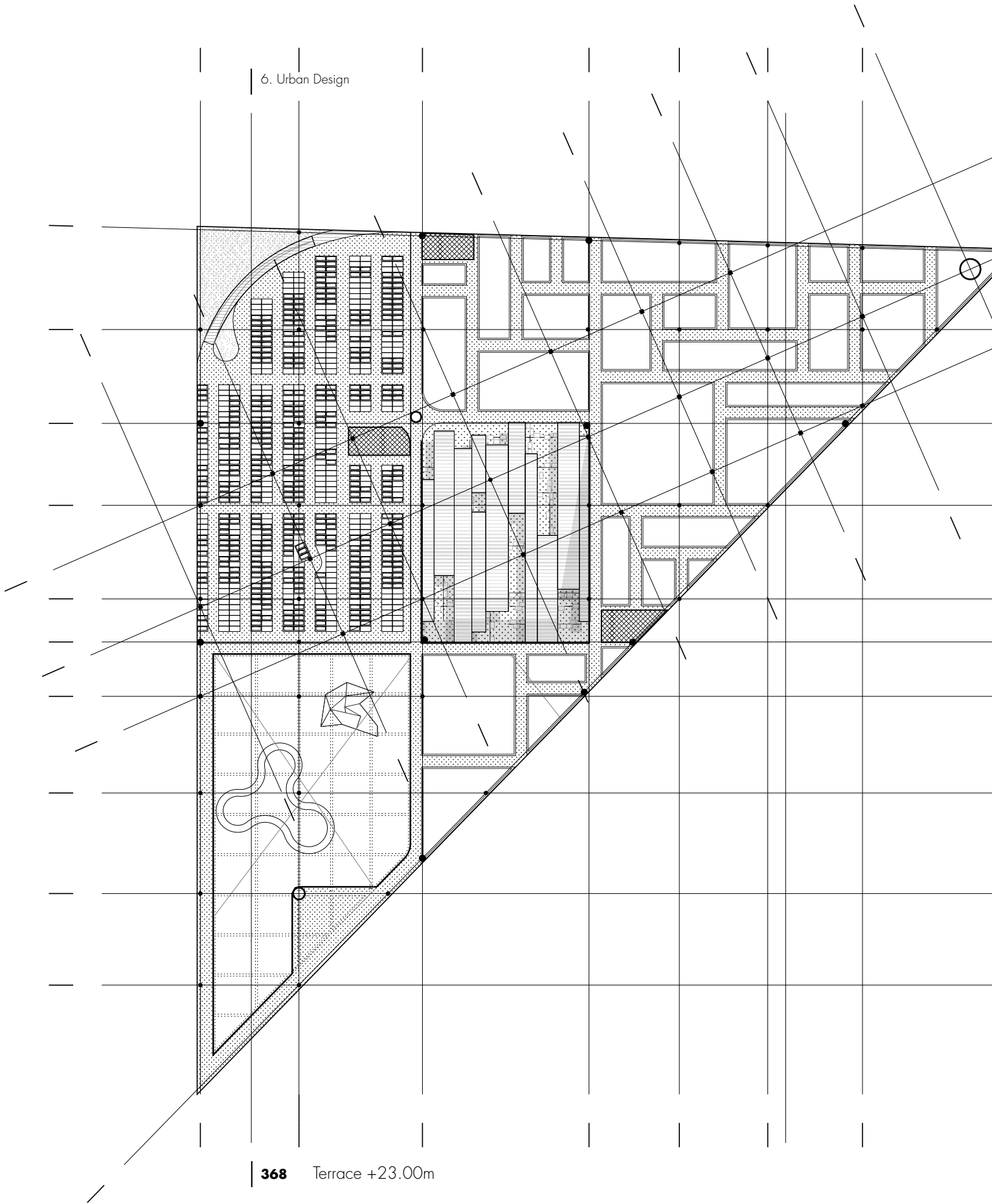


1. food truck zone  
2. grocery store, communal kitchens,  
food school  
3. exhibition space

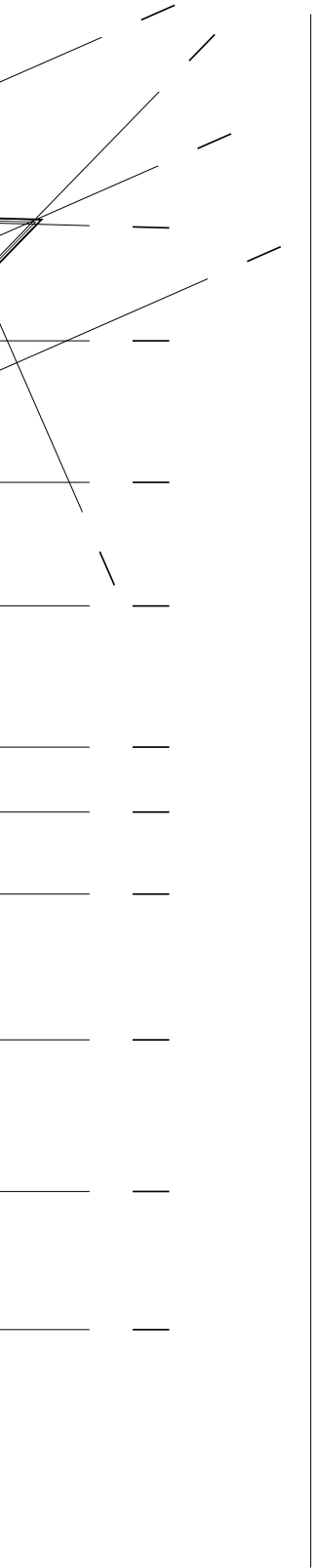


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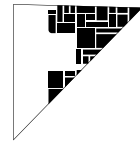




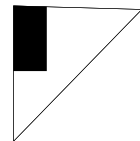




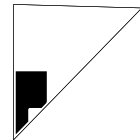
commerce, service and office  
buildings



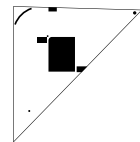
parking



void

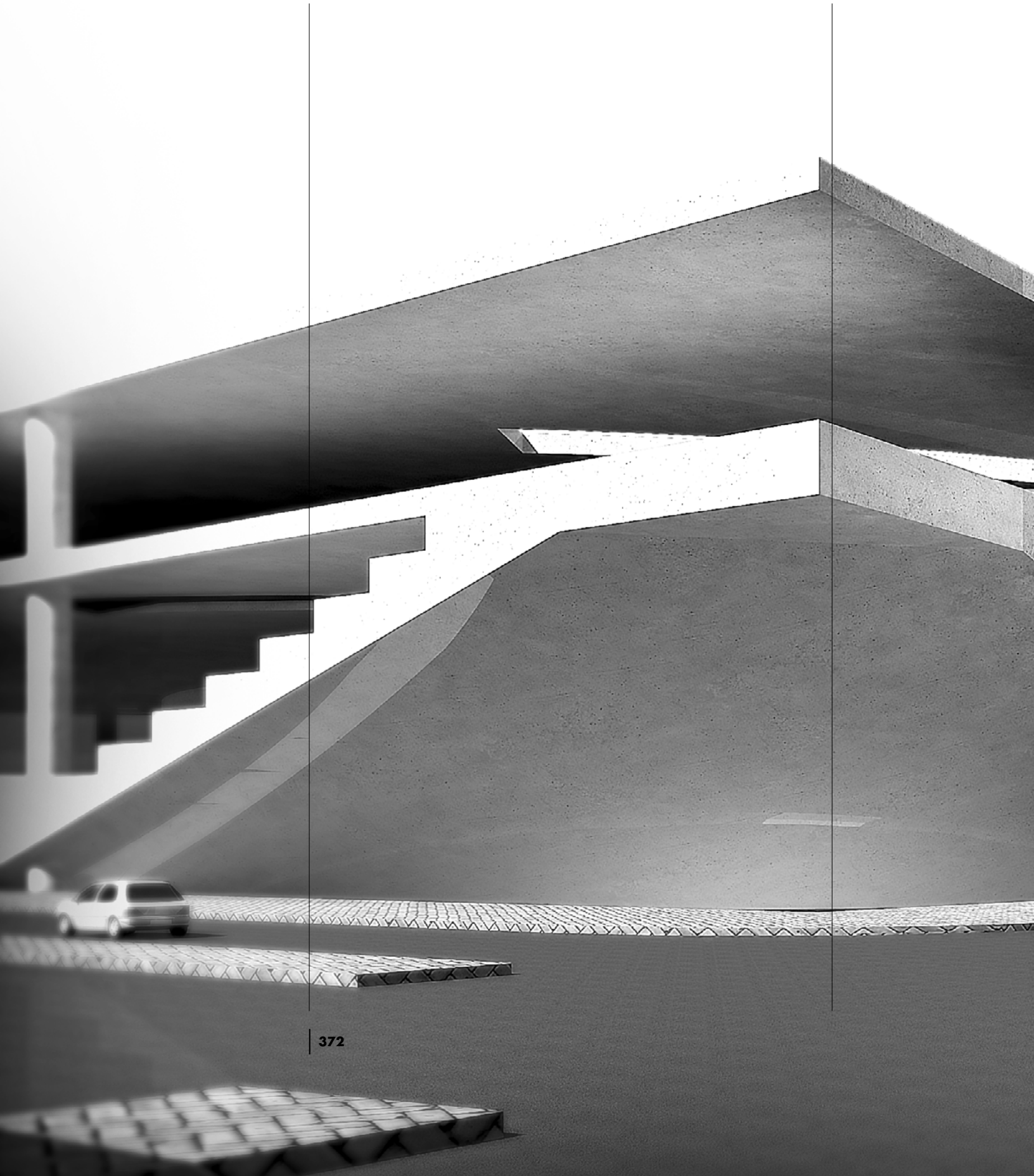


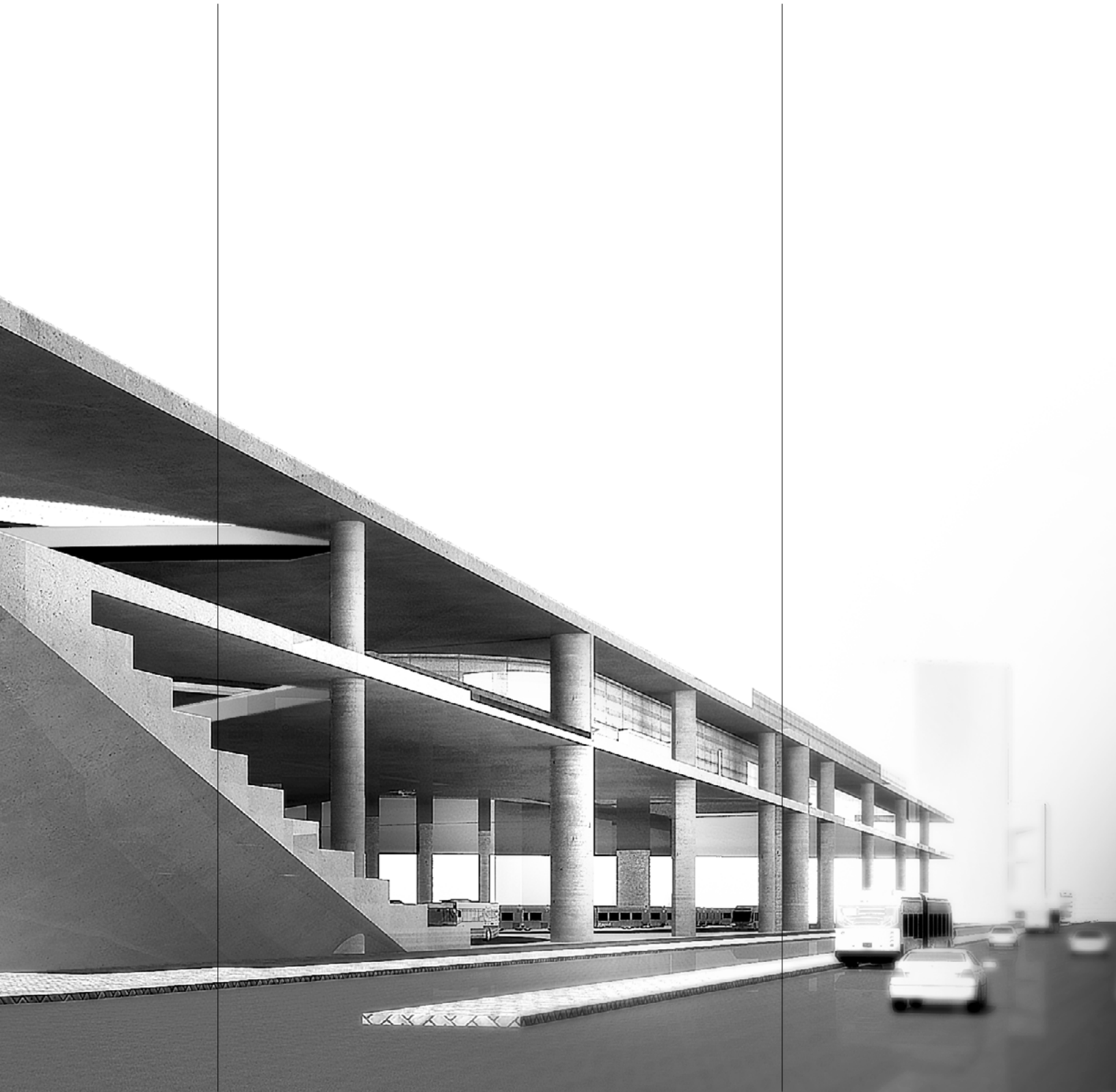
vertical access

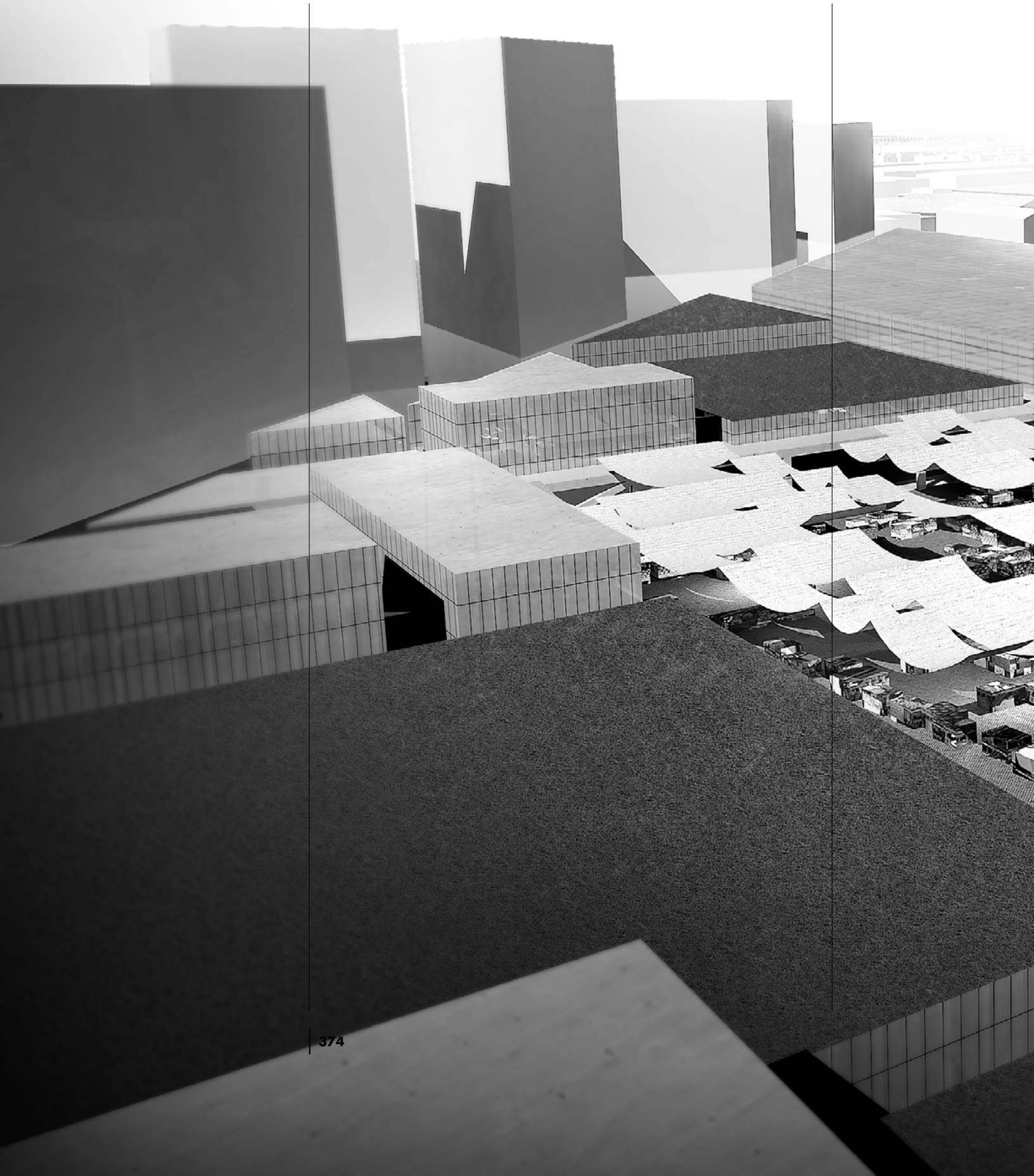








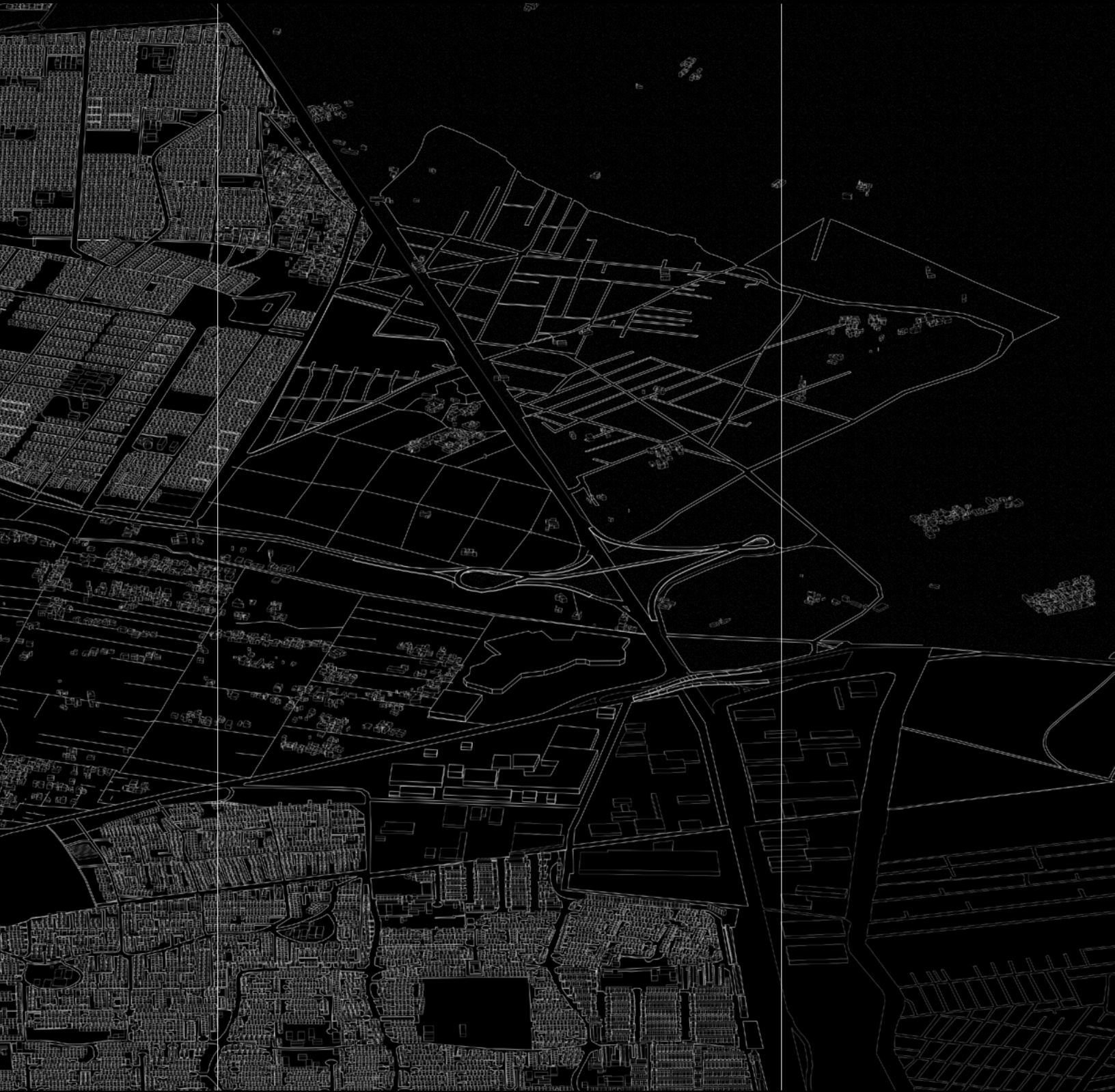


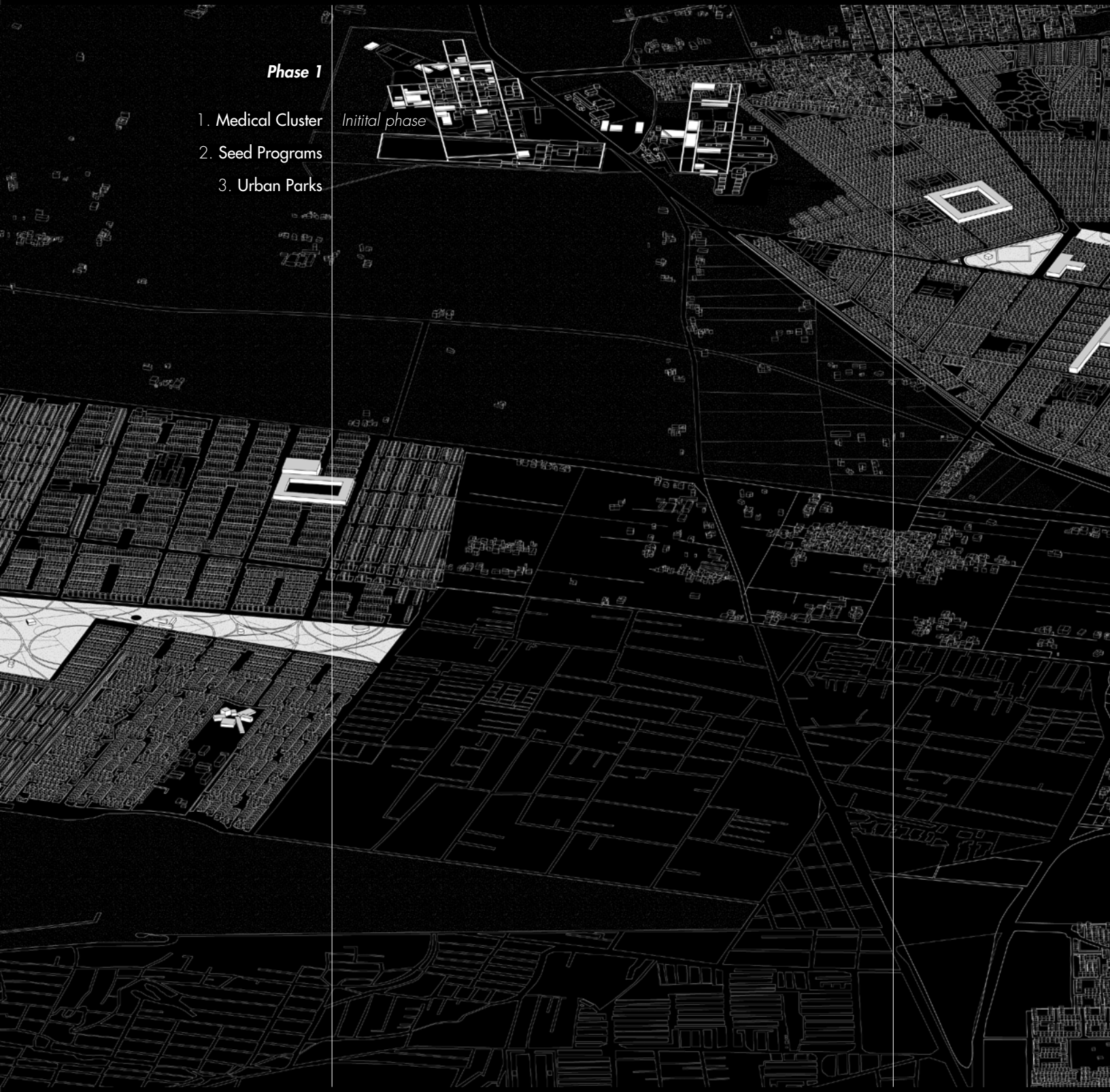










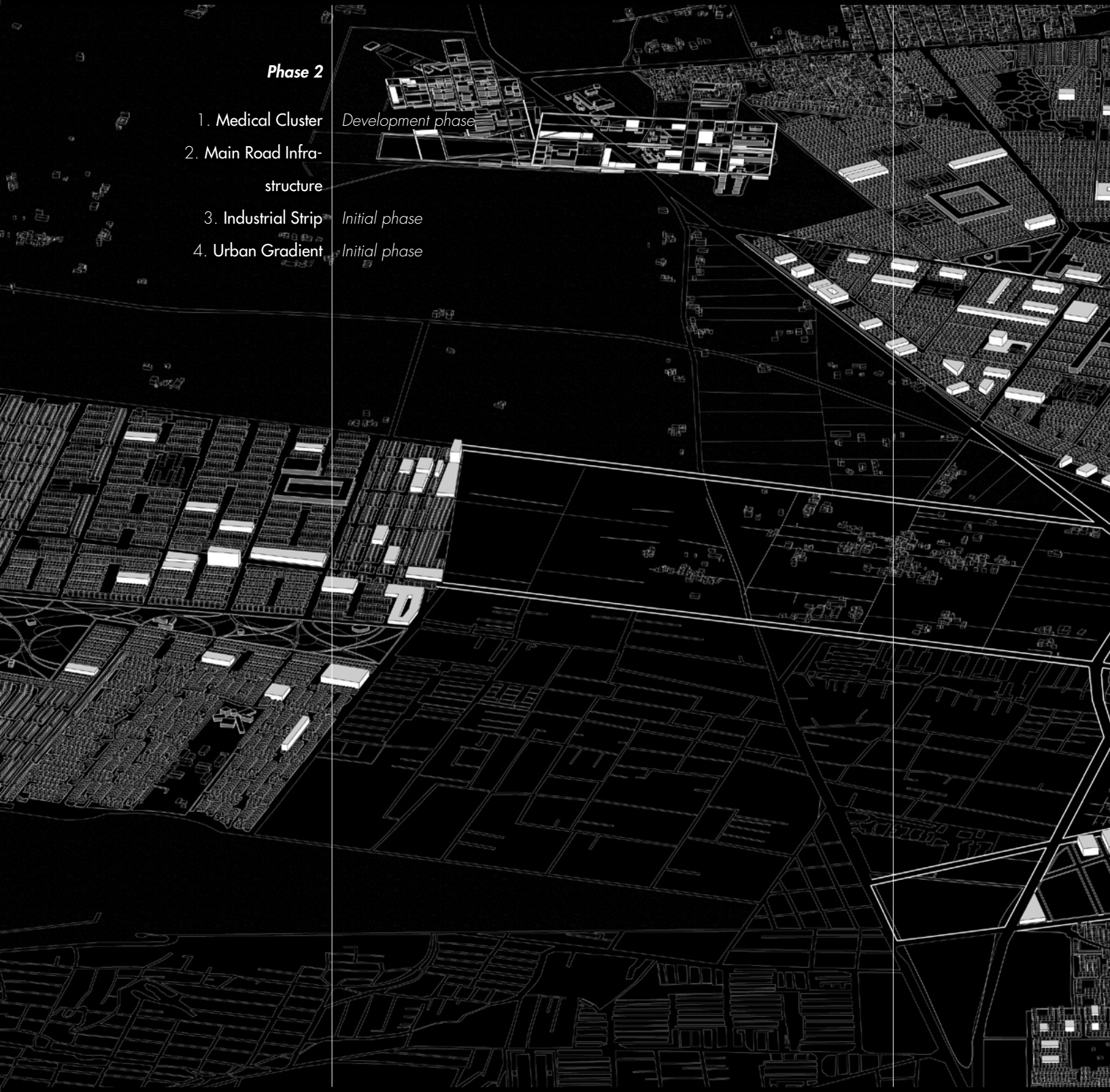


**Phase I**

- 1. Medical Cluster
- 2. Seed Programs
- 3. Urban Parks

*Initial phase*

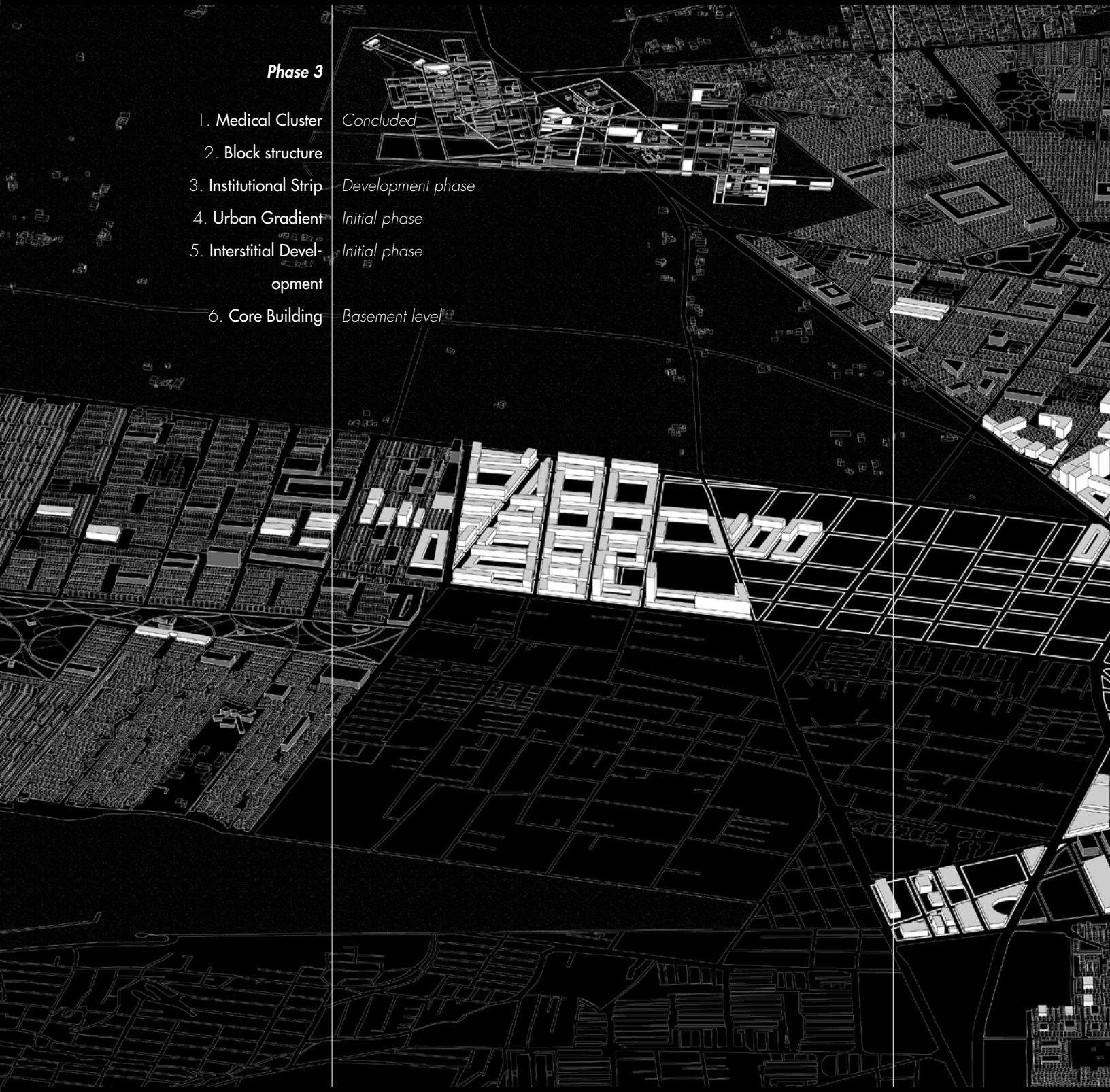




**Phase 2**

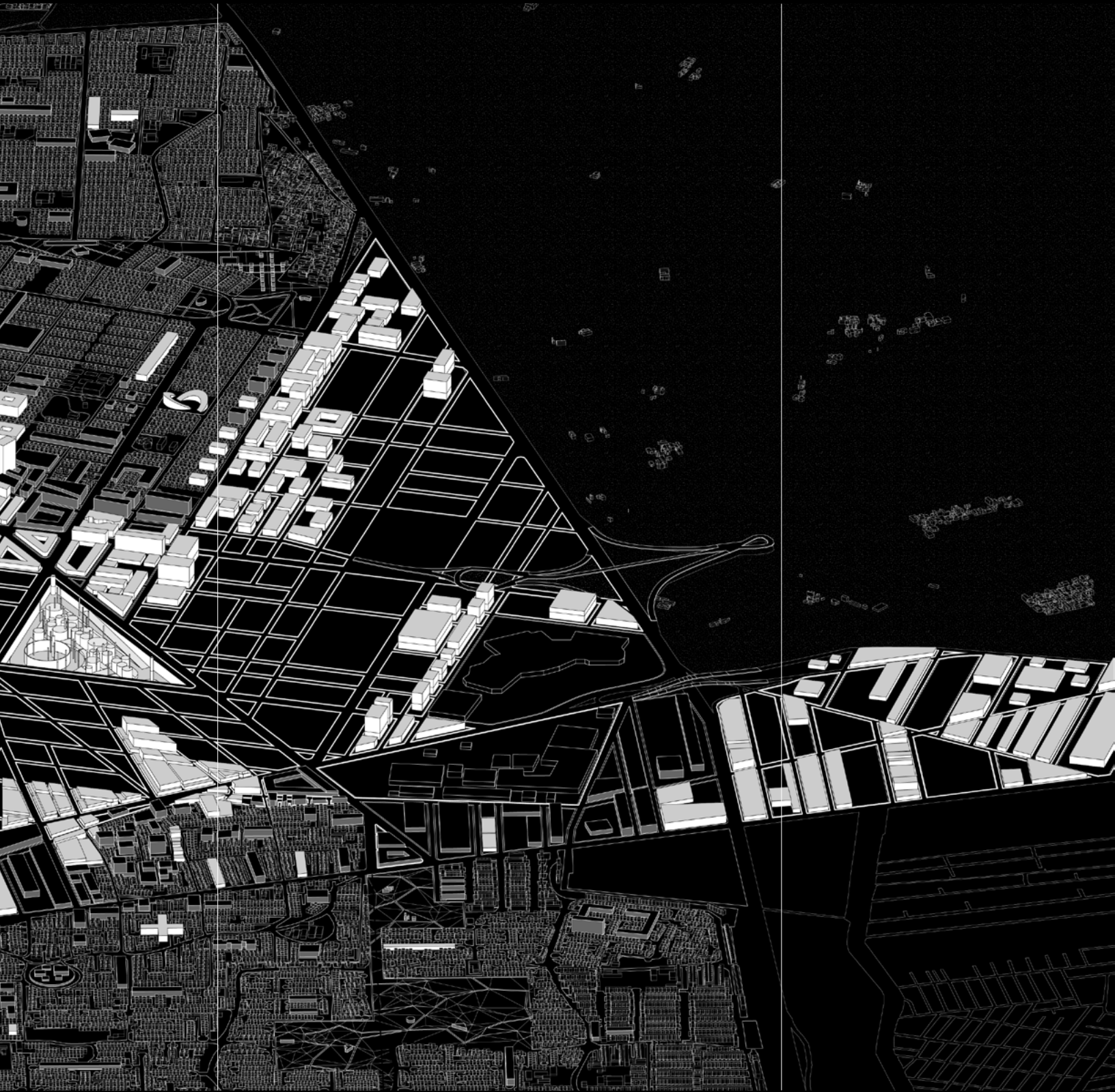
- 1. Medical Cluster *Development phase*
- 2. Main Road Infrastructure
- 3. Industrial Strip *Initial phase*
- 4. Urban Gradient *Initial phase*

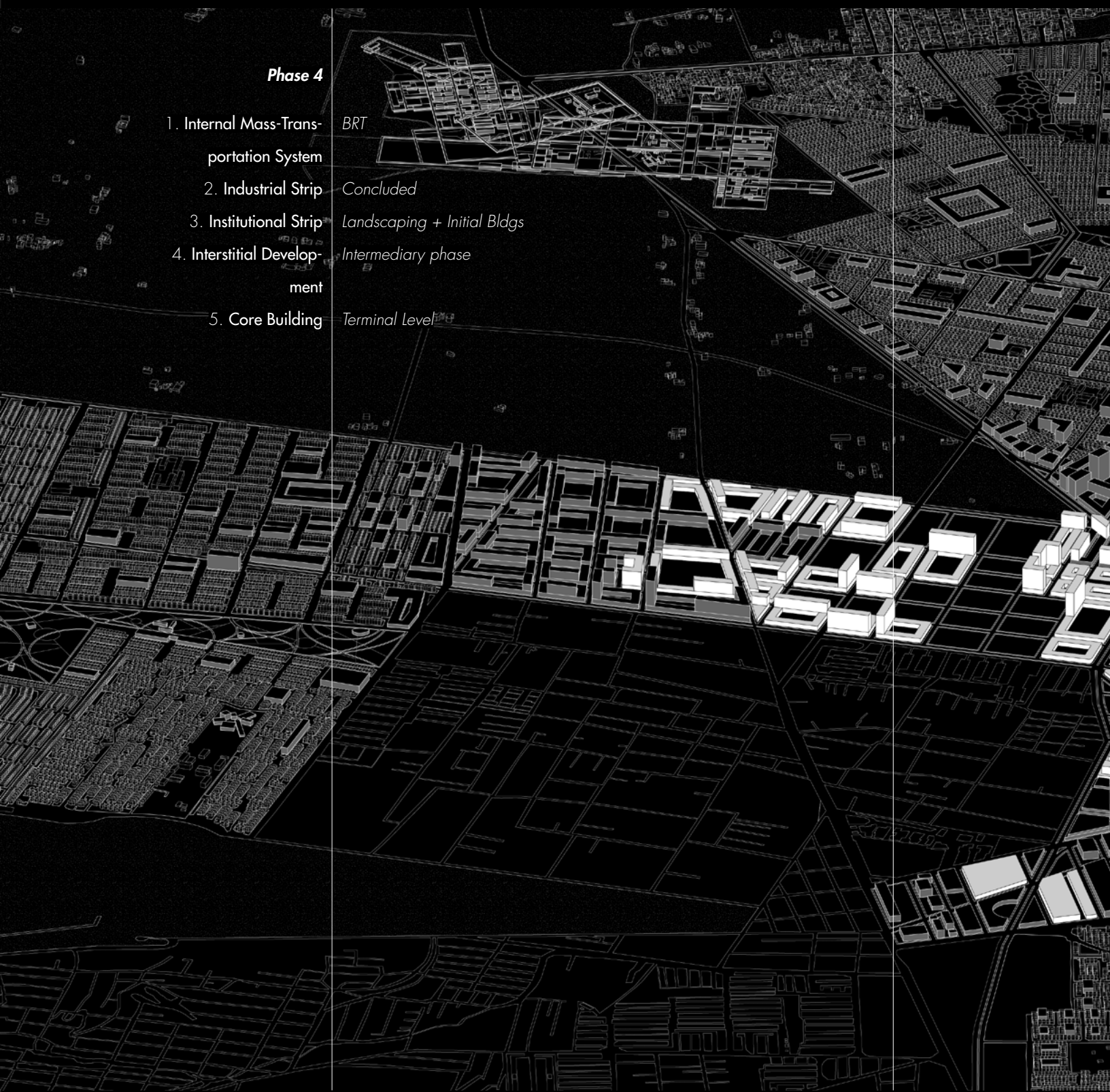




**Phase 3**

- 1. Medical Cluster *Concluded*
- 2. Block structure
- 3. Institutional Strip *Development phase*
- 4. Urban Gradient *Initial phase*
- 5. Interstitial Development *Initial phase*
- 6. Core Building *Basement level*





**Phase 4**

- 1. Internal Mass-Transportation System
- 2. Industrial Strip
- 3. Institutional Strip
- 4. Interstitial Development
- 5. Core Building

*BRT*

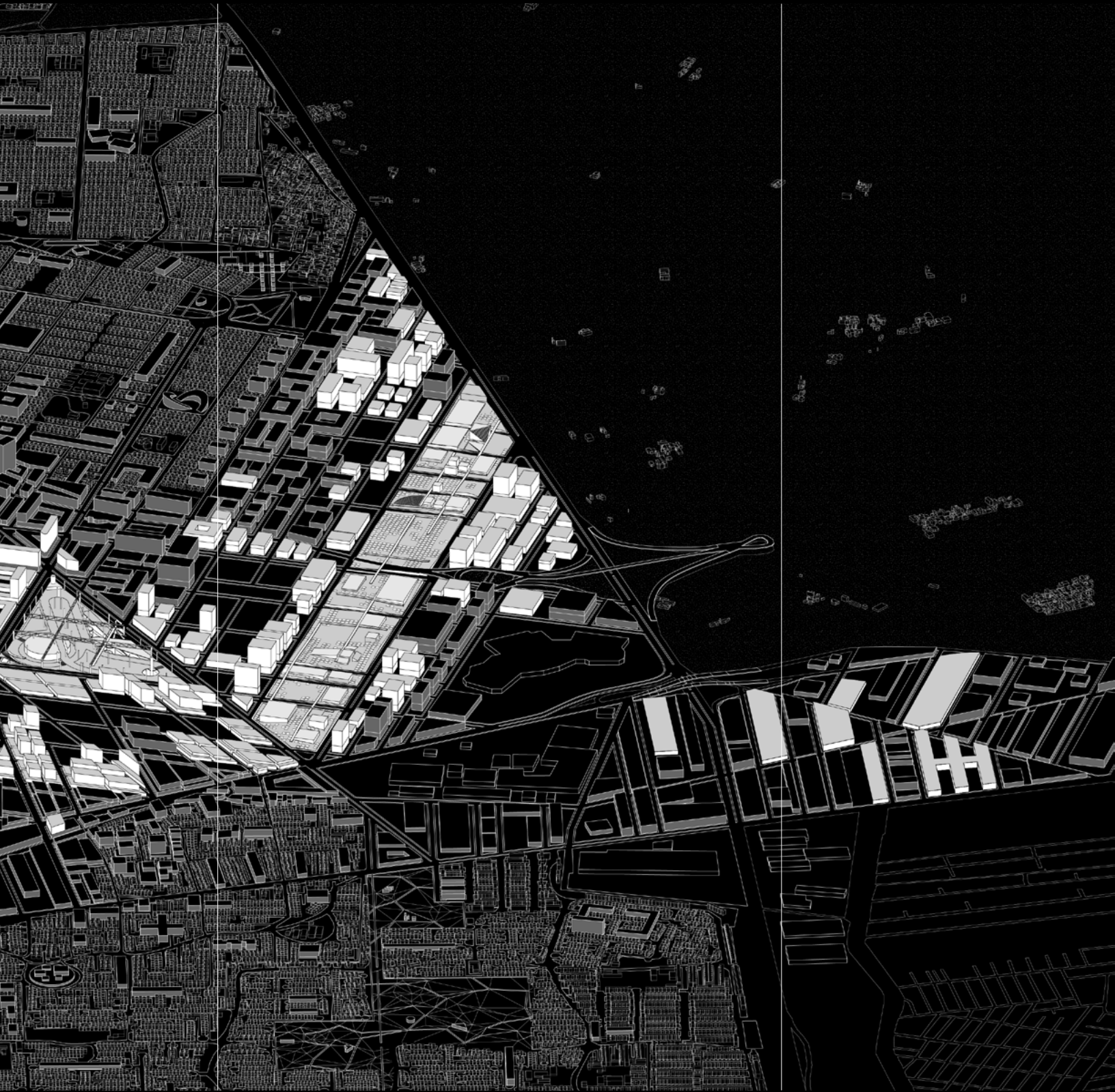
*Concluded*

*Landscaping + Initial Bldgs*

*Intermediary phase*

*Terminal Level*







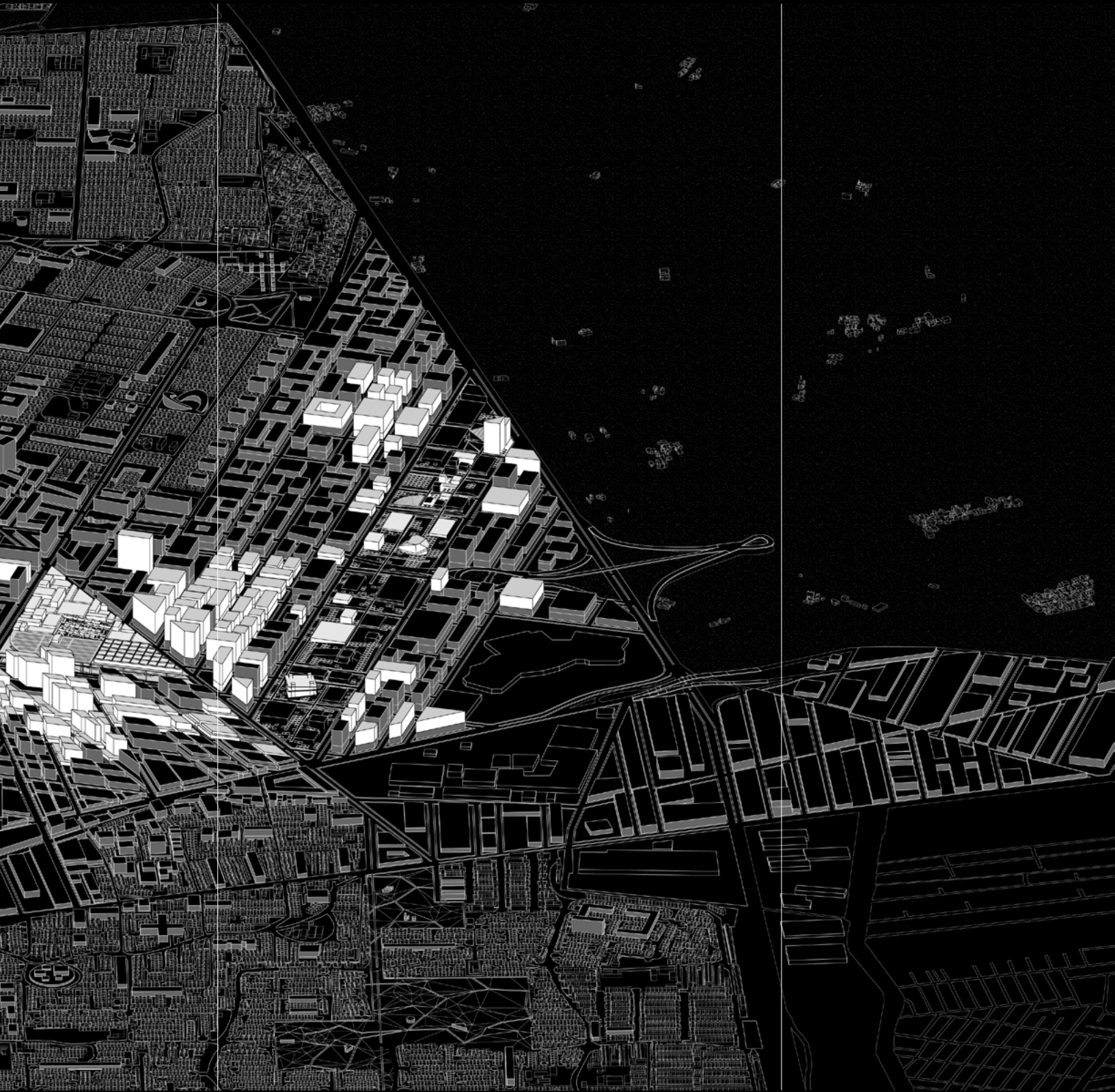
**Phase 5**

- 1. Interstitial Development *Concluded*
- 2. Institutional Strip *Main buildings / concluded*
- 3. Core Building *Market level / concluded*

*Concluded*

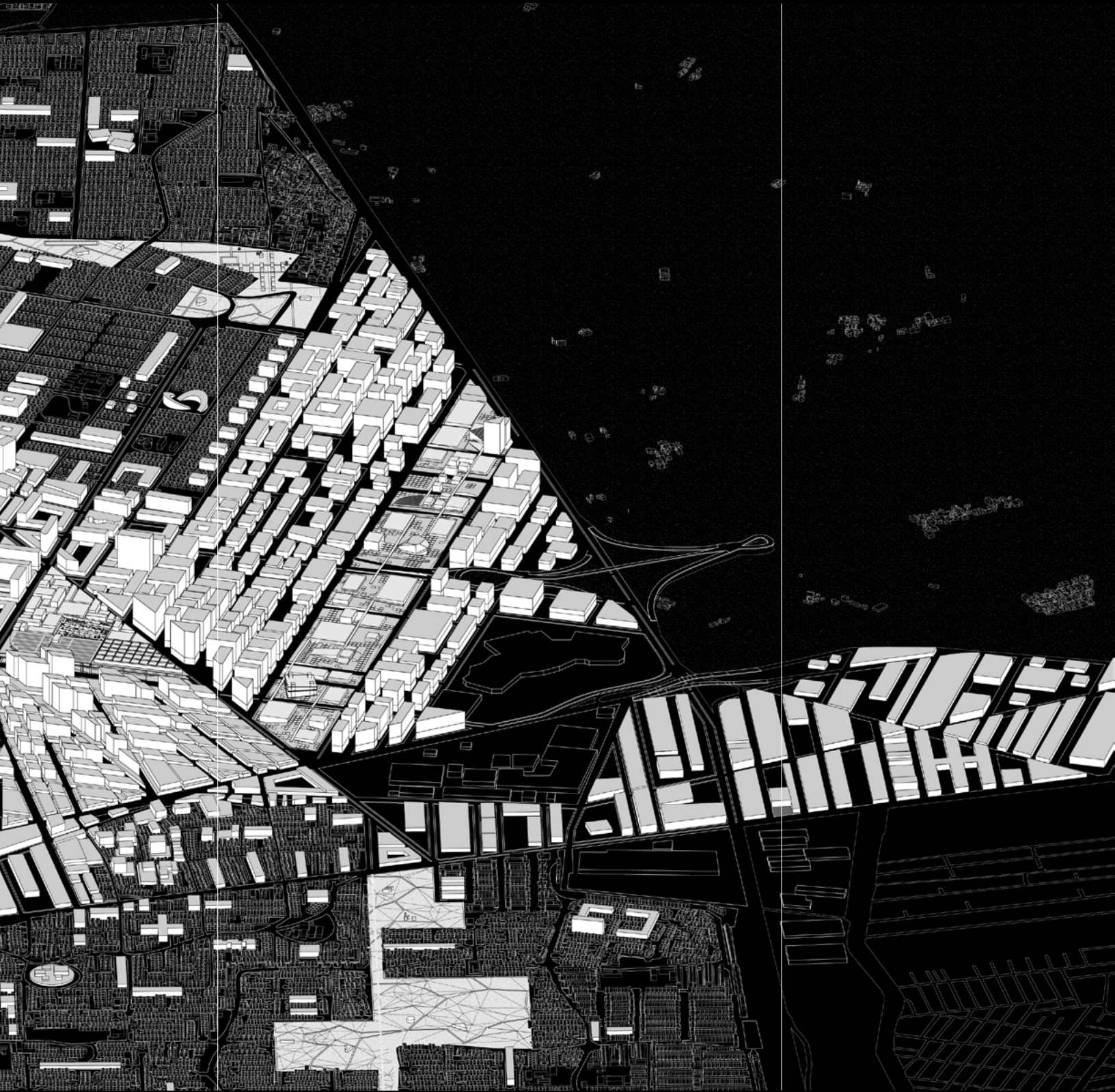
*Main buildings / concluded*

*Market level / concluded*



*Full Intervention*



















### Concluding Statement

More often than not, and although usually structured by real facts and grounded on reality, an architectural thesis is not meant to generate scientific, objective results; rather, it is highly subjective and speculative in its essence. One should not search for definitive solutions but for moments where alternative realities are offered and the status quo challenged. Likewise, this thesis intends to generate, more than anything, a discussion, opening a debate about the contemporary conditions of city growth and ways urban design thinking, as well as an urban design projects, can be used to address the problems related to this.

Formulating *Framing Dispersal* was a process of moving away from a comfort zone to try to defy some accepted notions related to city sprawl, such as that dispersal is a process that cannot be reverted, or that cities can no longer have control over their growth. On that sense, the ideas offered here came in form of statements that were then pushed to their extreme consequences in order to prove their validity. More specifically, once the notion of framing the city was formulated, this thesis exposed all the argument that led to this decision, explored a plethora of consequences that this act would generate, and then, carried the proposal through four scales to investigate how design can respond to this consequences in all levels. By working in multiple scales it was possible to build a coherent argument because each layer added a level of depth and complexity to the initial idea, thus making it graspable and more sophisticated. Similarly to the way I used the word “thickening” to describe an urban strategy during this thesis, I could say that working in four scales was in itself a conceptual process of thickening; it provided the possibility of maturing an idea.

Looking back, it is not clear what came first: my general interest in the condition of urban dispersal or my astonishment with the scale and urban patterns of Mexico City’s growth. Nevertheless, Mexico City proved to be the perfect ground to explore this notion of dispersal, especially because the city has expanded horizontally

following very specific urban patterns, each applied simultaneously to immense and distinct areas. In this sense, it was possible to clearly focus in one of these patterns, the subsidized housing developments, while having many examples of its occurrences to really understand the problem and the nuances of how it was adapted to different situations. On the other hand, the scale of the city and the complexity of its urban problems made unthinkable the thought of exploring more than one of these patterns at once, and because of that another work could be done on the patterns left outside the scope of this thesis, such as the informal settlements of *colonia populares*.

Lastly, it is important to add that once the body of the research was concluded and the first two design scales were defined – the project for the city and the new paradigm for the subsidized housing developments – the urban design and the new building typologies associated with it can be seen together as a project in itself. The project fits, or better, was created out of the general idea formulated in the first scales but intends also to have a conceptual autonomy from them. This autonomy would allow the project to be discussed purely in terms of architecture and urban design, generating a conversation about design from within the discipline. What means creating a plan constituted of regions of exacerbated difference? How can we use the word typology in new terms, and what can its role be for a new urban plan? Until which extent can transportation be used to weave neighborhoods of disparate urban forms together? These are a few of many questions that could be discussed when analyzing the urban plan proposed here. Regardless the point of entry, with this project I hope to contribute for a broader discussion on how urban design can be used to physically intervene on large areas of the city.

## Glossary of Urban Elements

### *30-year future perspective*

**Strategies of Containment** - Urban strategies on extreme ways city growth can take place inward the city's boundaries.

**Thickening** - First *strategy of containment*: As if baking a cake, the city could thicken its built environment by allowing the construction of two more floors to any existing structure.

**Nodes of Densification** - Second *strategy of containment*: 4 sites are selected to become large-scale, programmatically-intense cluster of specialized activities.

**Linear City** - Third *strategy of containment*: four selected transportation corridors are used to stitch the three peripheral zones – North, East, and South – to the Downtown. Along the corridors, unlimited F.A.R. is allowed.

**Outer Ring** - Fourth *strategy of containment*: the city can develop along its outer road ring, consolidating a loop for the flow of people, information, capital, energy, water, and waste, while establishing a network with the existing urban parks and green spaces.

**Framing Urbanization** - A *project for the city* to limit physical growth by defining a clear demarcation between the areas to urbanize from the areas to de-urbanize, the urban from the rural, without the intermediate state of peri-urbanization.

**Inner Ring** - The current road ring that defines the city core.

**Peri-Urban** - Poorly urbanized, underserved villages between the urban area and the countryside. Those sites are neither urban nor rural, but in a condition of indeterminacy regarding their role in the city.

**De-Urbanize** - Process of gradually erasing existing infrastructure and

buildings in order to reverse the inefficiency of peri-urban sites, making them becoming rural once more.

**Erasure** - The physical act of demolishing underused infrastructures and buildings.

**Wall** - The dividing element that conforms a border. It can be either material - buildings, water channel, nature or landscape, industrial strip, etc - or immaterial - codes, laws, agreements, zoning, among other.

**Archipelago** - Each subsidized housing neighborhood specialize in one industry to build a network of complimentary production, thus exchanging labor, products and users.

**Transportation Corridors** - The road corridors along witch unlimited F.A.R. are allowed to foster the densification of the city, while connecting peripheral areas to more central ones.

**Exacerbated Difference** - Term coined by Rem Koolhaas to express the degree of maximum separation and heterogeneity between the parts of the city. It is used here as an urban design strategy.

### *Design Strategies / Urban Design*

**Framework for the Intervention** - A set of parameters that constitute the fundamental domains of the intervention. They vary from concrete entities such as site elements and strategic areas, to abstract notions of scale and concept.

**Set of Parts** - The main site components to be taken in consideration during designing the intervention.

**Local Potentialities** - The existing programs on site that can help drive and initialize the intervention. In this thesis' case, they are: the

incipient medical cluster, the existing industrial uses, and the two large shopping malls

**Dormitory-city Logic** - The current condition of subsidized housing neighborhoods where only 14% of its inhabitants also work there.

**Neighborhoods** - For the design proposal, *neighborhoods* are used as short for *subsidized housing neighborhoods*.

**Interstitial Space** - The central area between the three housing neighborhoods to be the focus of the main intervention effort.

**Land Pooling** - The act of relocating inhabitants from one house to another inside the same housing neighborhood with the purpose of controlling the condition of population shrinkage before the implementation of the urban intervention. This allows to demolish groups of adjacent houses to open larger areas to be used as parks or for new developments.

**Spaces of Separation** - Urban parks as means to break the continuum of houses in smaller, independently managed, parts.

**Smaller Neighborhood Units** - Result of the strategy *spaces of separation*, Each of these units can follow and experiment with different urban evolutions.

**Seed Program** - Acting as ready-made urban kits, they are the first built step to change the reality of the housing neighborhoods by introducing and concentrating many different uses other than residential.

**Urban Gradient** - The strategy to densify the housing neighborhoods towards the interstitial space; the farther from the center, the least modified these neighborhoods would be.

**Large-scale Road Infrastructure** - The main road connections necessary to link the 3 neighborhoods, creating a framework to structure the occupation of the interstitial space.



**Regions** - The three clearly demarcated areas to be urbanized with unique urban typologies (blocks and buildings). The maximum urban differentiation among the regions explores the concept of *exacerbated difference*.

**External Mass-Transportation Loop** - The Bus Rapid System line that connects the city with the intervention area, inserting the previously isolated neighborhoods into the dynamics of the metropolis. It allows the direct immigration of people to populate the new urban center that the site will become.

**Internal Mass-Transportation Loop** - The internal mass-transportation network is the element that traverses every zone and weaves the existing neighborhoods with the new development areas; ; it provides the possibility of uninterrupted movement between environments of disparate built forms.

**Full core** - Is the geographic center of the intervention area: the place of maximum congestion, hosting large scale programs common to each part. The full core is a big building.

**North, West, and East Parks** - They are the proposed urban parks, generated by the strategy *spaces of separation*, for each of the housing neighborhoods. They are bucolic areas to scape the city as well as areas for leisure activities and recreational program.

**Spaces of informality** - Each new designed block, building or street typology devotes spaces to be used by informal activity. The typologies provide a framework to guarantee the quality of the urban environment while allowing the unplanned, spontaneous, and less formalized activities, which are integral to the Mexican culture, to take place.

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## Short Biography

Graduated as Architect and Urban Designer at PUC-Rio, in Rio de Janeiro, Brazil, Gabriel Kozlowski is founder of the group ENTRE, a collective of Brazilian architecture students. With this group, in 2012 Gabriel published the book “*Entre – Entrevistas com arquitetos por estudantes de arquitetura*” (ENTRE – Interviews with architects by architecture students), by Viana&Mosley.

Gabriel worked as an intern in CAMPOaud, in Brazil, and Mecanoo Architecten, in The Netherlands, and taught as teaching assistant in four disciplines, being two core studios. Additionally, he took part in fourteen architectural competitions and five commissions, two of them built. Among achievements, he received a Scientific Initiation Grant to study non-conventional materials and technologies, by CNPq (2008); the 3rd place as a student on the “Holcim Awards for Sustainable Construction”(2011); was shortlisted along ten teams in the international competition for “Rio 2016 Olympic Park”(2011); his BArch thesis was selected as the best graduation project of PUC-Rio and joined the ArchiPrix Moscow 2013 (2013); and received honorable mention in the competition for “Brazil Antarctic Station” (2013).

Gabriel has currently received a Department of Architecture Graduate Fellowship to pursue a Master of Science in Architecture and Urbanism at M.I.T., which culminated in this book.

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This thesis is the result of intense two-semester long production, where I sat every day and every night next to the same people; peer pressure was definitely one of the forces that pushed up the quality of this work. The group we formed became a family that could together comfortably share our strengths and weaknesses to survive this thesis process. Although I have great fondness for all 10 who joined the program with me, I would like to specially thank Agustina, Chaewon, David and George.

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Room 7-450A, Massachusetts Institute of Technology.  
*critics:* Adrian Blackwell, Pratap Talwar,  
Georgen Theodore, Els Verbakel