

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900

Open access books available

186,000

International authors and editors

200M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Mexico City after September 2017: Are We Building the Right City?

Milton Montejano-Castillo and
Mildred Moreno-Villanueva

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/intechopen.72499>

Abstract

Due to its destructive effect, a disaster always raises questions about its causes. In the case of the earthquake that occurred in Mexico City on September 19, 2017, one of the most surprising and astonishing situations was buildings that were damaged or collapsed by the earthquake, but which had been recently constructed. These had been built 9 months up to 12 years before, and others were still not inhabited. On the other hand, as in 1985, public spaces have been playing a key role both in the emergency phase and in the reconstruction phase. However, the new public spaces that accompany the most recent housing projects have lost much of their quality. What factors have influenced these urban processes? What are the stakeholders that produce both the new urban forms and the new public spaces? Are there ways to measure the quality of these new public spaces? We depart from the hypothesis that the recomposition of territories of opportunity in Mexico City has been based on the adoption of trends supported by the economy, rather than in the needs of the population, resulting in exclusionary and uninhabitable public spaces in case of disaster.

Keywords: Mexico City, earthquake, public space, urban form, disaster risk

1. Introduction

On September 19, 2017, a 7.1-magnitude earthquake shook Mexico City, which was known to happen because of the determinants of its territory, but it was not known when or the size of the disaster. Due to its evacuation protocols and the coincidence of the day commemorating 32 years of one of the most devastating earthquakes in this city (September 19, 1985), the citizenship mobilized nimbly to attend the emergency stage.

The open city was immediately occupied: streets, squares, gardens and street lane dividers; first as safe places to safeguard life as a reaction during the earthquake and then became centers for the collection of tools for rescuers, food and medicine collection, healthcare centers, psychological assistance to citizens with information on missing persons, centers for the collection of food for pets, veterinary care for rescue dogs and pets found, digital attention, but they also became a life opportunity as temporary shelters.

On the other side, in the post-disaster phase, one of the most surprising and astonishing situations was buildings that were damaged or collapsed by the earthquake, but which had been recently constructed. These had been built 9 months up to 12 years before, and others were still not inhabited. These housing buildings have been the result of the so-called real estate boom that has been changing on the one hand the verticality of the city and, on the other, the occupation of the territory, which has been monopolized without leaving sufficient reserves of open spaces; so it seems that the risk conditions have been being built.

For this reason, some questions arise as: How are these new urban forms being created in Mexico City? That is, are the policies for the growth of the City not being respected or are these the ones that are allowing this verticality with little public space? Are we creating safe and habitable cities or are we exchanging safety for built space at high costs? And, in this sense, is our public space inclusive or exclusive, so that in case of disaster is useful to citizens? Is 32 years sufficient to dilute the memory of the disaster and the preventive aspects: density and role of public space in the event of disaster?

The objective of this chapter is to analyze the condition of the public space in Mexico City in quantitative and qualitative terms, understanding public space as parks, public squares and walks. Hence, some public spaces are compared, evaluating the instruments, actions and public interventions for the creation and improvement of them.

To undertake this analysis, we take as case study the neighborhoods Granada and Ampliación Granada, both located in the Municipality of Miguel Hidalgo in Mexico City, that since the end of the first decade of this century have had a reconfiguration in their use from industrial land to residential use. A contrasting case is Polanco, an adjoining neighborhood of success since its creation in the early twentieth century, which supports the new real estate image of the mentioned neighborhoods.

In the recent reconfigured areas, there was an opportunity to create habitable public spaces, but especially the opportunity to enhance public space as an eventual resource in the emergency and reconstruction phase of the city—given its seismic nature and propensity to flood—but this was not done.

We depart from the hypothesis that the recomposition of territories of opportunity in Mexico City has been based on the adoption of trends supported by the economy, rather than in the needs of the population, resulting in exclusionary and uninhabitable public spaces in case of disaster.

2. Urban form and seismic risk in Mexico City

In 1985, an 8.1-magnitude earthquake shook Mexico City leaving an official balance of more than 3000 fatalities and hundreds of buildings collapsed. As many factors came into play, we

limit here to underline the relationship between the natural hazard (seismic waves) and the physical vulnerability reflected in one of the most characteristic morphological features of the city, its verticality and the existence and/or absence of public spaces as a support resource in the emergency and recovery phase.

According to Meli [1], the statistical analysis of damages after 1985 revealed that the collapse of buildings was not at random. Regardless of age, materials and structure of buildings, there were certain types of buildings that particularly collapsed, having in common the number of floors (see **Table 1**): buildings between 7 and 12 floors had more collapses than low-rise buildings. Such a finding made sense when the natural conditions of the soil were revised.

The area of the largest number of collapsed buildings had been the area of the former lake. That is, the lacustrine nature of Mexico City (it was founded on a lake which was later artificially dried out) impregnated the soil with certain characteristics, resulting in an area with three types of soils: (a) the area of the lake (where the lake was formerly located); (b) a transition zone (with part of hard and soft ground) and (c) a zone of hills (with a high resistance capacity) (see **Figure 1**).

The seismic waves that affected Mexico City in 1985 were produced in the coast of the State of Michoacán and traveled 400 km, but upon arriving in Mexico City and coming into contact with the clay soil area, the oscillation period of the waves was amplified. After the earthquake of 1985, the studies carried out on the collapse of the buildings revealed that the causes of this collapse were not so much a function of the age of the construction and the type of structure, but of the height itself due to a natural phenomenon known as “resonance” [1, 2], which causes the seismic movement to be amplified due to the coincidence of the frequency of vibration of the ground with that of the building. By matching the periods of oscillation of ground and buildings, the waves were amplified (reinforced), resulting in inertial forces that ended up causing the collapse of buildings of certain heights.

As a consequence of this phenomenon, the construction regulations in Mexico City were modified, making sure that the buildings were calculated considering the oscillation periods depending on the type of soil. When deciding the number of levels of the buildings (with a more or less constant period of oscillation per floor), this number of floors and its corresponding period of oscillation should not coincide with the period of oscillation of the soil in that area to avoid the phenomenon of resonance.

Number of storeys	Cases of damage (percentage of that range of buildings)
1–2	0.9
3–5	1.3
6–8	8.4
9–12	13.6
7–12	10.5

Source: Meli [1], p. 135.

Table 1. Percentage of collapsed or severely damaged buildings according to number of storeys in Mexico City after the earthquake of 1985.

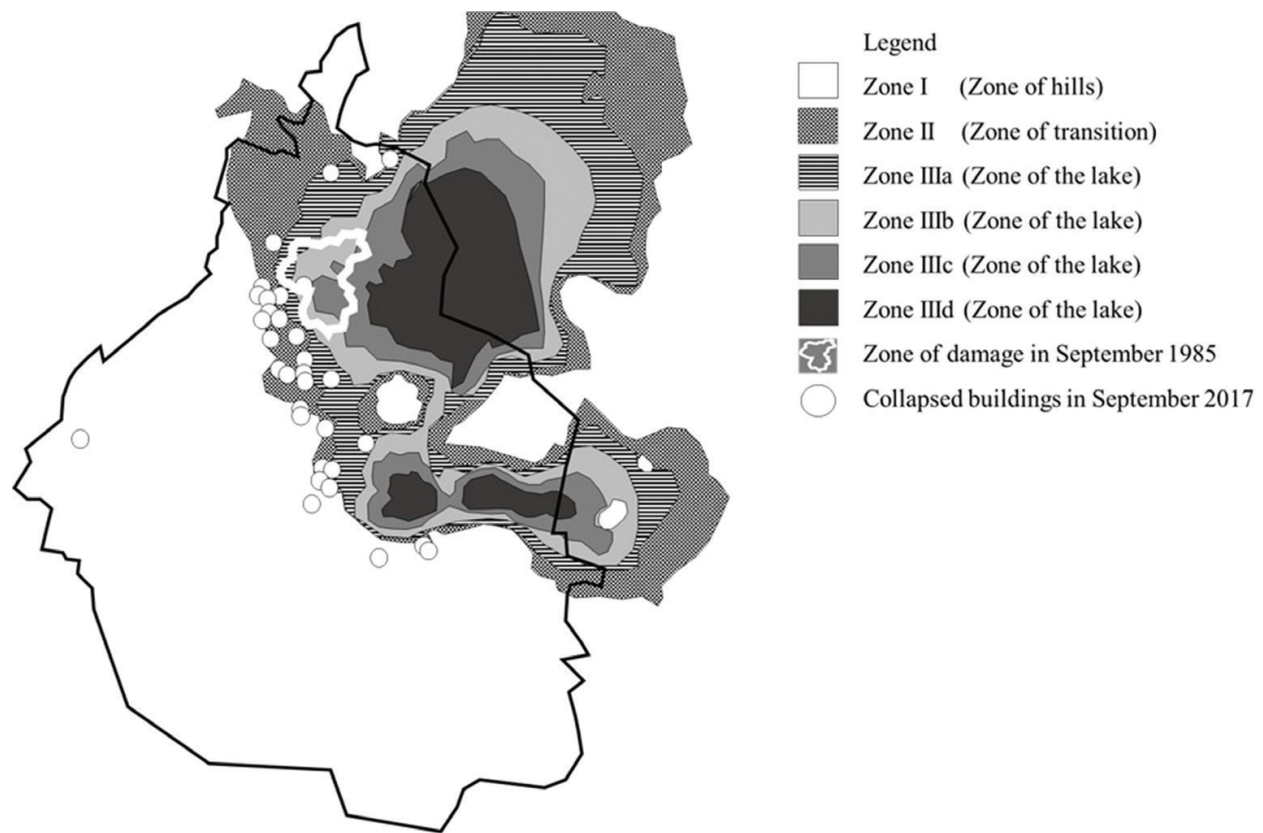


Figure 1. Seismic zoning of Mexico City published after the September 2017 earthquake showing the damaged zones in 1985 and 2017. Source: Own elaboration based on the official map of seismic zoning (http://www.atlas.cdmx.gob.mx/zonificacion_sismica.html).

On the other hand, the structure of the building should be sufficiently “flexible” and “ductile” enough to dissipate the seismic energy (thereby making the building less vulnerable). If high-rise buildings were built in a soft ground, engineering design should ensure that energy dissipates—with the help of seismic dampers for example—before the higher floors begin to oscillate, a fact that was achieved in the buildings that could afford this technology.

The earthquake on September 19, 2017 of 7.1 degrees, –which caused 228 fatalities and the collapse of 38 buildings¹, brought more elements and hypothesis to be added about the damage to occur. One of the points of discussion and analysis was that the most impacted area was not the one of the former lake as it was in 1985. On this time, although the earthquake was of lesser magnitude, the epicenter was located closer to Mexico City (120 km away), causing the amplification of the waves not in the area of the lake but in the area of transition, causing the collapse of buildings from four to seven levels, thus revealing “a complex pattern of movement and very variable in the space [3]. To the latter, it should be added the question about the correct application of land use zoning and dubious authorizations for the construction of buildings for residential use, since many of the collapsed and damaged buildings were just beginning their useful life (see **Table 2**).

On the other hand, public space played again a fundamental role both in the emergency phase and in the reconstruction stage. It is no coincidence that the spaces that were used in 1985 and 2017 correspond to projects where public space was, from the beginning, the most

¹Without taking into account 24 buildings that officially will have to be demolished due to the damage they suffered [4].

important component. An example of this balance between housing and public space is the Colonia Hipódromo Condesa, built in 1926 and designed by the architect José Luis Cuevas Pietrasanta (see **Figure 2**). The land was an old racecourse and the architect simply continued with its original shape giving a radial structure and at the center a large park and a green belt. Despite the densification that this area has been subject to, public space remains as an invaluable resource at the time of the emergency. In September 2017, this space was used to organize search and rescue activities, medical service, psychological care, pet care and collection of donations (food, tools, etc.). At the same time, other damaged areas of the city and recent real

Municipality/address	Number of storeys	Approximated time of being inhabited	Type of damage	Explicative hypothesis of the damage
Benito Juárez/General Emiliano Zapata 56	7	9 months	The back part of the building collapsed	Corruption in the process of land use permission and the number of storeys was higher than the authorized
Benito Juárez/Bretaña 90	7	4 months	One of the towers collapsed and the other was severely damaged	Two seven-storey towers were built above old existent buildings (one with more than 50 years old). The number of storeys was higher than the authorized
Benito Juárez/Calzada de Talpan 1234	10	11 months (departments still on sale)	Partial damages and cracks	It was built with low quality construction materials and the number of storeys was higher than the authorized
Benito Juárez/Benito Juárez 29	6	4 years	Partial damages, collapse of roofs and balconies, cracks in the walls	It was built with low quality construction materials and the number of storeys was higher than the authorized
Benito Juárez/Calzada de Talpan 550	17	5 years	Severe fractures in the building and cracks in the walls.	Failure to comply with the buildings regulations. The number of storeys was higher than the authorized
Benito Juárez/Eje Central 521	8	Departments were not sill inhabited.	Sever fractures in the building	Failure to comply with the buildings regulations. The number of storeys was higher than the authorized
Gustavo A. Madero/ Insurgentes 1260	12	2 years	Visible cracks	It was built with low quality construction materials and the number of storeys was higher than the authorized
Cuauhtémoc/San Antonio Abad 66	11	2 years	Severe fractures in the building and cracks in the walls	It was built with low quality construction materials and the number of storeys was higher than the authorized

Source: *Revista Obras* no. 538, Oct 2017 and Najara A. "Las razones por las que colapsaron tantos edificios en CDMX (y no todas son el sismo)", *Animal político* (internet). <http://www.animalpolitico.com/2017/10/las-razones-las-colapsaron-tantos-edificios-ciudad-mexico-no-todas-terremoto/>

Table 2. Residential use buildings damaged or collapsed during the earthquake of September 19, 2017 in Mexico City.

estate development projects lacked these spaces, making especially difficult the moment of evacuation (see **Figure 3**). The configuration of such new projects is the combination of several factors and conditions described below.

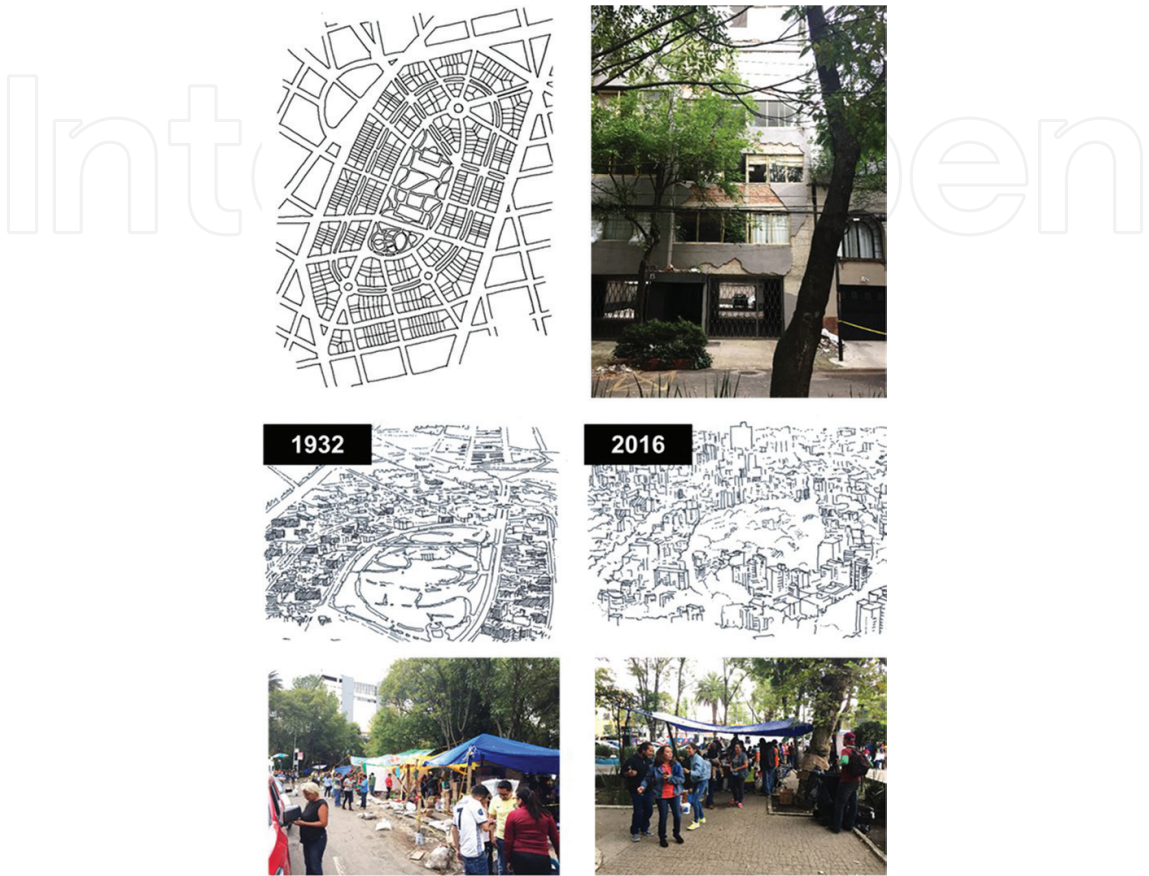


Figure 2. España Park plan (top left); process of verticalization 1932–2016 (at the center) and the use of the park during the earthquake of September 2017 (bottom). Image of damages (top right). Photos by the authors. Own drawings based on aerial photographs from Fondo Aerofotográfico Acervo Histórico Fundación ICA.



Figure 3. Collapsed buildings in Mexico City in the September 2017 earthquake. Despite the density of the buildings, the absence of public space in the surroundings is evident. Photo: Rosa Lilia Pedraza Vázquez.

3. Recent transformations in Mexico City: actors and factors

In the case of Mexico City, the last decades of the twentieth century brought a change in public policies and a depopulation of the central parts, especially due to the process of deindustrialization and the earthquake of 1985. This meant a reinvention of the city for this century, through standards that call for a redensification and the opportunity to occupy spaces that were attractive to the private sector during the first decade. This meant that the city exceeded its limits, gentrifying spaces and consequently producing poorly rehabilitated residual public spaces or the creation of reduced spaces.

3.1. New policies

The instrument for urban development policies called “Bando Dos,” proposed to redensify the city with the specific objective of ordering the urban growth of Mexico City, preventing the construction of more housing in the outskirts of the city. The instrument was presented on December 7, 2000 by the then head of government (Andrés Manuel López Obrador). It had different objectives for the ordering of Mexico City, such as: to stop disordered growth; to safeguard the preservation of soil of the then Federal District (now Mexico City DOF), preventing the growth of the urban areas and thus avoiding covering the recharge zones of aquifers. It was determined that the districts that had suffered considerable depopulation were mainly four: Cuauhtémoc, Benito Juárez, Miguel Hidalgo and Venustiano Carranza, all located in the central area of the city. It was also assessed which had been disorderly populated, predominating the south and east. It was determined that there is little infrastructure in the city for a strong real estate development [5].

Among the policies implemented was the promotion of population growth toward the districts of Benito Juárez, Cuauhtémoc, Miguel Hidalgo and Venustiano Carranza to take advantage of the infrastructure and services that are currently underutilized, and the construction of housing for the lower income classes [5]. However, in these central districts, such as Benito Juárez, the project did not work as expected. At first, there was a real estate boom, but if it was not successful it was because of the high cost of housing and the poor infrastructure. In different neighbors, there was a wild transformation of the city landscape by cutting down trees and constructing big buildings: where there had been houses for six to eight people, now there appeared buildings with eight to ten floors for many families. In these new buildings, however, not all apartments were sold.

As a part of the first consequences, in 2010, the government of the Federal District at the time, together with the Ministry of Social Development (SEDESOL), the National Council of State Housing Entities (CONOREVI), The Autonomous University of Mexico (UNAM), the Housing Fund of the Institute of Security and Social Services for State Workers (FOVISSSTE), the National Workers Housing Fund Institute (INFONAVIT) and the Federal Mortgage Society (SHF), published the Guide for residential redensification in the internal city [6], in which they present a methodology to identify redensification scenarios, as well as instruments to favor it so as to join the smart city growth system and position Mexico in the international environment in this respect, for which they are planned to address a series of issues, such as increase in the costs of displacements of the inhabitants of said areas; greater consumption

of fuels and greater production of emissions polluting the atmosphere; loss of preservation areas, aquifer recharge zones and agricultural production areas; higher costs of urbanization that represent a significant burden for local governments and social and economic segregation of urban space [6].

The approximate 10-year delay for this guide to be published—to take measures on matters of redensification policies—caused for constructions to be carried out during that time in different zones that lack integration with the social fabric, for it has been seen that elite zones are created, which keeps the population dissatisfied and afraid of being displaced. There was an unlimited number of claims derived from the implementation of the Bando 2, caused by the fear of the modification of the environment, decrease of the quality of life, of safety, of the value of real estate, feelings of dispossession or feelings of injustice, for decisions were made that affected the territory without the main interested parties being informed, taken into account or heard, a loss of confidence of the population in the authorities and experts that promoted the project, above all when there is a tradition of local organization and mobilization, risk perception and a feeling of uncertainty. The technical and scientific studies that validated the project were questioned [7].

3.2. Deindustrialization

With the economic opening abroad with the 1988 free trade agreement, there was a shift in the activities of the manufacturing industry that caused a process of deindustrialization. The industries were moved toward the outskirts of the city or even toward other territories [8]. This process is not yet finished. There are still areas of the city with disappearing industries. With this movement and the change toward a tertiary economy, the reconfiguration of the city was affected on one hand due to the opportunity of land within the city, seized by the real estate power, and on the other hand due to the change of policies that did not work as expected. In Mexico City, some of the areas that have passed through the process of deindustrialization at the end of the twentieth century were the municipalities (delegaciones) Benito Juárez, Cuauhtémoc, Miguel Hidalgo, Venustiano Carranza, as well as Azcapotzalco and Gustavo A. Madero [9]. In recent years, the mass production of housing has captured some of these areas, leading them to transformations that are a result of the inclusion-exclusion struggle that is reflected in the absent public space. An example of this is the case of the neighborhoods Granada and Ampliación Granada, in the Miguel Hidalgo delegation, which has been a categorical place throughout History. From an economic point of view, we could say that it has gone through three sectors: agricultural, industrial and tertiary.

In 1920, the lands of the Hacienda de los Morales were divided, playing a significant role in the urbanization of the city of Mexico due to the fact that part of the space was used for the colonia Polanco assigned to upper middle housing, in which the neighborhood project of the first half of the twentieth century was based on public space. This was a key as it grew until it was divided into five sections, sharply contrasting the neighborhoods Granada and Ampliación Granada, which began to be industrially established without public spaces. The following were some of the factories in the place: the General Motors Factory in 1923; the Mexico glass factory in that same year; the Modelo Brewery and the General Popo

in 1925; the Tabiques La Universal Factory, whose year of establishment is unknown; the Chrysler Factory in 1939 and thereafter until 1961; the Palmolive Factory; the Halaxtoc textile factory; Laminadora LMMSA; pharmaceutical industries; Factory in Lago Andr  maco Street; Bolt Factory; factories in lake Neuchatel; Furniture and Steel Factory and another Cotton factory [10].

3.3. Actors and programs in the production of public space

In Mexico, there are various governmental instances responsible for intervening in or making public space such as The Department of Urban Development and Housing (SEDUVI), the Public Space Authority (AEP) or the different municipalities (former Delegaciones). However, when public space shows specific characteristics and values for which it has been cataloged as equity, the instances for intervening in it change or they are accompanied by certain strict guidelines for their regeneration, such as the INAH (National Institute for Anthropology and History), the INBA (National Institute for Fine Arts), the Historical Center Authority or the UNESCO, according to the case. Each one of the aforementioned instances intervenes in public space from different perspectives and with various actors. The Department of urban Development and Housing, for example, is responsible for designing policies applicable to the city, attempting for them to integrate society when acting and interacting with it, so as to transform the city in an inclusive manner. It creates the Programs of Delegations, Partial Programs and the Urban Development Program for the purpose of ordering the city in all its aspects: mobility, public space, housing, urban infrastructure, basic services, always with the idea of improving and positioning it as a safe city.

On the other hand, there is the Public Space Authority (AEP), which is a decentralized entity of the SEDUVI. It not only designs policies to apply them to urban space but also directly intervenes through the design of the space and the contracting and subcontracting of construction and design companies. Some of its programs and projects are as follows: Ecopark, Bajo puentes (underbridges), Pasos seguros (safe steps), publicidad exterior (advertising), Parques de Bolsillo (pocket parks) and Parques lineales (linear parks), among others. The AEP was created in 2008. It works on the various projects with different companies, for example, CTS Embarq with the Model street, GABANA engineering and GCB Construcciones y Servicios for the refurbishment of the street Torcuato Tasso, Proyecsa e Ingenieros, ANACE Construcciones, Grupo Q and B and Servicios integrados RUBE for the regeneration of the Alameda Central, Grupo Velasco, JM Constructora, Kassar Construcciones, 128 Arquitectura and Dise  o Urbano para Espacios P  blicos de Bolsillo, to mention a few.

With respect to the organization of the Historic Center of Mexico City, there is another decentralized entity called the Historic Center Authority, created in 2007, which proposes public policies for integration and promotes the refurbishment of public spaces located in this square. However, there are various actors that participate in the intervention and construction of public space. Even when the aforementioned entities are present, the participation of the citizens is already contemplated in almost the majority. Participating in the modifications of the urban environment means a social commitment more than a political one, but the action surpasses that which is social, political and economic.

Concerning the programs for public space in Mexico City, since the first decade of the 21st century, a series of urban projects were implemented by the Department of Urban Development and Housing (SEDUVI) and the Public Space Authority (AEP) to create or intervene in spaces with characteristics of deterioration and abandonment in some cases, including economic activity, which addressed the demands of the inhabitants. On the one hand, among the newly created public space projects were those that had a renewed design, with the minimum characteristics necessary to be used and enjoyed, such as low bridge projects, public pocket parks or bonds of friendship. On the other hand, are the projects of improvement and refurbishment of public spaces, in which there are improvements of spaces with an inclusive design, refurbishment of heritage spaces, pedestrianization and semi-pedestrianization of streets, illuminate your city program and ecoparq and refurbishments of monuments (see **Table 3**).

Newly created public space programs		Public space refurbishment programs	
Public pocket parks	Design of social interaction, identity and economic activity, in remaining streets or spaces between buildings	Refurbishment of monuments	Its purpose is to rescue sculptural monuments, integrate them harmoniously into public space and recover them for interaction
Bonds of friendship	Project in the development of cultural and political relationships between the two countries, through the donation of a sculpture placed in a newly created public space	Improvement of spaces with inclusive design	Improve pedestrian accessibility and the vehicular flow of the avenue that was inadequately designed for the intense pedestrian and automobile capacity
Underbridges	This seeks to rescue abandoned or under-used public spaces, providing them infrastructure with high technical specifications to address the basic needs of the population, including spaces for commerce.	Illuminate your City Program	This unifies public lighting in primary and secondary roads to prevent the “zebra effect” from being produced, which is a phenomenon that creates variations in the intensity of the lighting of the streets
Pedestrianization and semi-pedestrianization	Consolidate the pedestrian section of Public space of the Historic Center, promote sustainable mobility, optimize vehicular and pedestrian travel times, provide universal accessibility and optimize the heritage value of the area	Ecoparq	Recovery of public spaces through the installation of parking meters. This improves the mobility of the city
Mobile park	Spaces assembled in trailer parks, equipped with game tables for children, a rest area, green areas, with natural vegetation and chairs called Parkes. These are placed in spaces that are generally used as parking lots	Refurbishment of heritage spaces	This complements the recovery of public spaces of the historic center, and additionally promotes the use of heritage spaces by optimizing their social function and spacing in benefit of the inhabitants

Source: SEDUVI.

Table 3. Public space programs activated in the twenty-first century in Mexico City.

3.4. Verticalization and public space in the new urban territories

By the start of the nineteenth century, the neighborhoods Granada and Ampliación Granada were changing their morphology, land use and population. The main change was the use of industrial land to residential land, which was attractive for real estate developers, who saw that its potential was supported by the urban image of the bordering sector Polanco. The two neighborhoods were given different informal names following the first interventions: Ampliación Polanco, Polanco Bis, Polanco II or the Nuevo Polanco; however, a series of contrasts have been seen between Polanco and the more recently built neighborhoods (Granada and Ampliación Granada). The most significant difference between said neighborhoods is the type of public space. In spite of the luxurious residential buildings that broke the specification

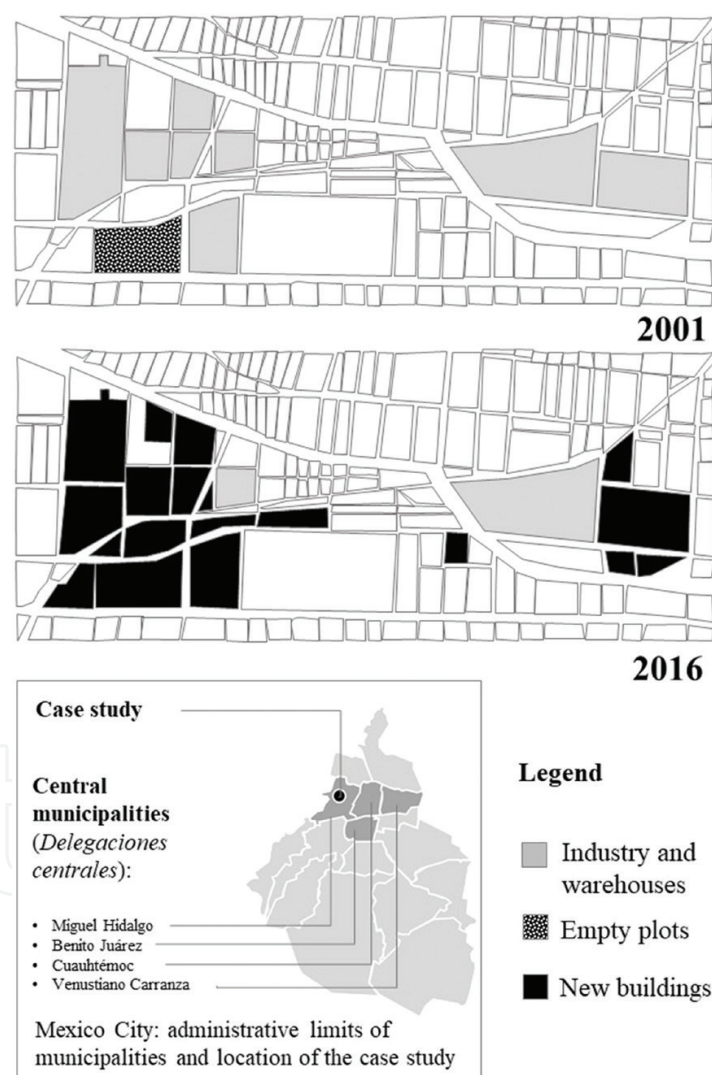


Figure 4. Urban transformations occurred in the twenty-first century in the territory of Ampliación Granada (expansion of Granada Neighborhood) and Granada Neighborhood in the period between 2001 and 2016. Source: Own elaboration based on Google Earth images from 2001 to 2007. Information from 2008 to 2016 is based on own field survey illustrated on Google Earth maps.

of the Bando Dos and the norm 26 to create housing construction of social and popular interest on urban land and thereby redensify the zones of Mexico City in which there is a certain lack of population, they lost the opportunity to create housing with high quality public spaces (see **Figure 4**).

Due to the rapid and disordered growth in some areas of Mexico City, in 2013, the implementation of the norm that proposed the redensification was detained due to the abuse of the land use and its changes in the type of housing that should be implemented. However, in that same year, the Action through Cooperation System (SAC) was created, which is an instrument to manage and create policies that include public action, the intervention of the State, as well as the private party, that is, the participation of land owner companies to interact with each other in the interest of improving the city for which the Department of Urban Development and Housing (SEDUVI) is responsible.

One of the main characteristics of the area is that, at its pace of development, it has not only been activated housing for the elites, but commercial and service activity has also been developed, creating large office buildings or shopping centers with foreign brand stores. It has become common in the area for small shopping centers with convenience stores, mini-supers, restaurants, cafes and bars to be built in the lower part of housing buildings. The main problem was that there were no public spaces. However, far from providing a solution, due to the new constructions, trees have also had to be cut down, and trees have been changed for ornamental plants that represent consequences for the environment and deterioration in life quality. Thus, the place only has what are now the public spaces of the twenty-first century, such as pocket parks (three on the Cuernavaca Railroad), linear parks (that of the Cuernavaca Railroad) and low bridges (that of San Joaquín Avenue at the intersection with Moliere Street). On the opposite case we find wide parks and walkways in the area of Polanco (see **Figure 5**).



Figure 5. Public spaces in the neighborhoods of Granada (left at the top) and Polanco (left at the bottom) and their location. Source: Own elaboration.

4. Bases for a context-sensitive assessment of public space in Mexico City

With the assumption that it is essential for urban studies to include different approaches and to pay attention to the processes that transform the city, three views are taken into account for the understanding and analysis of the public space: 1. The habitability of public space, i.e. the human condition of public space. 2. The vision of inclusion regarding physical and social aspects of public space. 3. A vision in the globalized sense of the trends reflected in the space. At the end of the section, we present the main variables that could be the basis of a model to analyze the quality of public space in this city. This model is applied then to the above-mentioned case with the intention to compare the qualities of different public spaces of neighbor areas but produced in different historical periods.

4.1. The habitability of public space

When we talk about desirable public spaces, it could be seen as something subjective. Each human being thinks differently and according to their cultural characteristics, and to that extent, needs could vary. But even in the same country, the geographical or economic situation of each family would imply different demands. Something is very certain, however, and that is that we all have the need to co-inhabit. Each species on this planet has its natural habitat, fishes in the water, monkeys in the jungles and forests and lions in the savannahs. Habitat is the space where species are born, grow, reproduce and die, that is, the space on earth where they meet all their needs. Even when human beings are governed by this general rule, there are two fundamental elements that make them different from other species: the first and most important is that their habitat is not natural, but artificial; and secondly, apart from the physiological needs they need to satisfy, they are also creative beings [11].

Habitability is defined here as the capacity of a place to meet human needs [12], and although several authors consider that habitability refers only to the material and structural conditions of built spaces [13–15], without taking into account the social aspect in the outside [16], habitability for man would be as much within the architectural element as outside of it. Habitability goes beyond the door of the house to the street, toward the public space, where the social function, the community, comes into play, because it is there where “the expression and social identification of the others is built,” based on the expression and symbolic construction of the space [17], we leave our house behind to find a huge machinery concentrating the totality of our culture, but which also encapsulates international movements and trends we must incorporate during our journey.

The habitable public space is one that maintains a balance between the material and immaterial elements that intervene in the places of free access for all human beings, regardless of gender, religion, race or social class in order to satisfy the collective needs. Elements of habitability in the public space can be measured and diminished, as appropriate, taking into account the global and local transformations, and the determinants of type of settlement, but ... How do we know if the public space is to a greater or lesser extent livable? For this, we consider three theories:

According to the theory of human need by Len Doyal and Ian Gough, cited by Reyes [18], needs are constructed socially and derived from the cultural environment. The authors take into account indices to measure the welfare between nations based on the needs of: appropriate health care, security, economic safety, clean water, adequate food, shelter as a mean of protection from the elements, relationships of recognition, safe working environments and relationships of recognition and belonging. The needs proposed by this theory are general and can be considered basic in different territories and different social groups. It should be taken into account, however, that the cultural and natural environment, the new technologies and even the policies for urban space make human requirements more complex and even different. This is the case of multicultural cities and the public space should regard it as a principle to meet the needs mentioned above.

Based on Max Neef's theory about human needs, Reyes [18] analyzes the habitability of public space and combines criteria from existential and axiological categories, where existential categories focus on needs of being referred to personal or collective attributes, having, which contains the mechanisms and laws required, doing, as personal or collective actions, and being, in those spaces of action and construction of needs, satisfactors and economic goods; while the axiological categories cover the requirements of subsistence, protection, affection, understanding, participation, creation, identity and freedom. This refers us, in terms of the existential category, to social action that allows us to build axiological relations that give meaning to space.

Schiller's theory, cited by Valladares et al. [19], is that of the qualities of the habitable public space where, from variables with a specific meaning and value, he measures the habitable public space, and the qualities space should cover for habitability are as follows: permeability to allow open connections in the urban fabric by measuring them according to the size of typical urban blocks and the elements that can limit them such as railroad tracks or other types of barriers; vitality as a characteristic of the spaces to be places of social interaction measured through the activity there; variety to encourage the complementary uses of the city, variation of typologies and uses; readability to facilitate social and spatial relations from the variable use and density of those who use the city; and robustness which allows an adequate combination and variety of uses at any time of the day with the ability to adapt the space.

According to the theories above, analysis of the habitable public space must be made taking into account physical elements and the design of the space and also considering the social elements of basis subsistence and even the more complex ones such as identity and legal duty. Therefore, we can examine the public space in two dimensions, where the different needs of humans can be encapsulated for the analysis of habitability in the public space, the first, the physical or material dimension, and the second, the intangible dimension, which goes from the social to the spiritual.

In the physical or material dimension, it is possible to concentrate the tangible and quantitative elements that are presented in the urban space, such as public water services, drainage and light, street furniture, transport infrastructure with subway systems, rapid transit busses, light rails, suburban trains, busses, collective transport, bicycle-taxis, bicycles, recreation areas, roads, streets, avenues, circuits, highways, communications infrastructure, public

telephones, internet, police officers, security modules and road safety. It is important to mention that the city also has infrastructure for housing, education and health, among others. Similarly, in the immaterial dimension, which goes from the social to the spiritual, it would be the one where we find intangible elements such as the urban social identity, symbolic interactionism, perception of security, culture and social exchange.

4.2. The vision of inclusion

The 'inclusive' public space is the place where activities and discussions are open to all. It is the place where authorities have the responsibility to guarantee the existence of a public space where people express their opinions, assert their claims and use it for their purposes [20]. However, if there is this concern about inclusion, it means that there are elements that make cities exclusionary so that inclusion-exclusion are studied in a dual way. To this end, two aspects of study are taken into account: 1. social inclusion by exclusion and 2. physical or design inclusion.

Social inclusion by exclusion. Public space historically has been valued as a factor of social inclusion and as an inescapable instrument for urban planning. However, the loss of protagonism due to the weakening of previous forms of sociability (resulting in social inequalities and fragmentation) and the emergence of alternative forms of relationship (of communications and encounters introduced by technology, the feeling of insecurity) have sharpened the barrier between recreational and leisure spaces that are used by different social groups. Not forgetting that people of higher income go to private places to recreate, using the street just to circulate, not caring about the state and the quality of public space, which often remains in the background and helps to generate what Bauman calls "ghettos of exclusion," cited by Acuña et al. [21].

Ramírez Kuri and Ziccardi identify discriminatory practices in the labor market, such as access to goods and services; the weakening of social cohesion; luxury consumption activities that can be dissolved by making effective economic, social, cultural and sustainable rights which encourage the integration of the society with the city; informal activities and social conflicts [22].

And on the other hand, we have *physical inclusion or inclusion by design*. In the search to determine the components that public space has for inclusion, we return to the studies that have been carried out to identify the components of exclusion that Ramírez Kuri and Ziccardi analyze, such as the location of the place to determine the quality of services and their infrastructure; the informal and established commerce that pervades the urban space and which fosters crime and the deterioration of the public space and its accessible design [22]. However, these elements are taken in reverse, that is, on the positive side of that which the public space must have to be considered inclusive, such as enough urban infrastructure.

In the design of inclusive public spaces, it is essential to take into account the physical components that foster social integration. From the perspective of Sergio Zermeño, the following are identified as components of exclusion: inaccessible primary and secondary roads; public spaces of richer classes appropriated by needy sectors; crossroads, roads, squares, parks,

sidewalks, etc. which operate as frontiers, excess of surveillance and corridors watched by guards, police officers and cameras, and he also identifies social components such as high risk of violence and virtual walls [23].

4.3. The question of globalization trends reflected in urban space

Public-owned spaces must be able to adapt and survive to global transformations, which by their very contrasting nature absorb these changes in different ways, depending on their environments and the impacts public places are constantly having. Globalization, one of the strongest influences on a city in every sense, whether to its society, space or culture, reinvents them as great scenarios with strong economic and political rather than cultural and social alterations which irreversibly impact on the city's inhabitants. In this sense, the overall composition of the public space is witnessed in two aspects: The public space as an alienable resource, in the sense of appropriation and privatization; and the public space affected by its constructions, in the sense of transformations.

Public space as an alienable resource through appropriation and privatization of the space in a non-legal way. This causes scarcity of public spaces, mainly because of the wide commercialization of everything, a reflection of the globalization, bad economy, excessive appropriation and high delinquency, as this is fundamentally brought about by street vendors or informal establishments that create pervaded scenarios. The transformation of Latin American cities and their spaces are a consequence of social, cultural and technological phenomena. These changes create a new form of social organization, a new cultural model, which can be called postmodernity, globalization or neoliberal culture. This regards the space as a resource, a product, with social, sensual and symbolic policies, which appropriate, use and transform the spaces of cities [24].

It is evident that the production of public space in current cities has changed, the measures for its construction and even its activities are different, but, what is the cause? Although the causes can be many, there is still an ongoing search for the logic that gives us elements to understand the urban transformations that have been tried to be defined with names that are sometimes even difficult to pronounce, composed or decomposed words or more than one to name what is happening: redensification, urbanization, consolidation, gentrification, multiculturalism, and people participation, among others.

In Latin America, the study of processes such as gentrification is recent. Although it is true that the bases defining this concept are not new, the term itself is relatively young, invented by the British sociologist Ruth Glass [25], who observed the differences in social structure from the establishment of higher cost housing in specific areas of Central London, thus examining the invasion of middle and upper classes on working class neighborhoods, displacing and changing the social fabric.

Later, the sociologists Bruce London and John Palen in 1984 tried to explain gentrification by means of five theories that involve different aspects of the life in the city: the ecological-demographic theory, which refers to population and generational statistical aspects (baby boomers); the sociocultural theory, seen from the values, feelings, attitudes, ideas and beliefs of society;

the political economic theory, which is based on two approaches: the traditional and the Marxist ones; the community network theory: the community lost and the community gained and finally the theory of social movements and the influence of counter movements [26].

On the other hand, in 1987, Neil Smith's view proposed two theories to explain gentrification by observing the phenomenon from the economic and social point of view with the "production-side theory" and the "consumption-side theory." These theories address the problem of the automobile, urban expansion, changes in lifestyles, depopulation of the city center, transport and pedestrian spaces, where human relations are diminished, but above all, he focuses his research on the results of increased employment in business districts. The interest of this geographer in these elements is an answer to the very elements that have caused the greatest problems in recent decades and have been part not only of gentrification but also of the processes of redensification, rehabilitation and the numberless patches made cities [27].

For gentrification to exist, it must be in a specific geographical space and it is considered to be happening when there is a process of investment and reinvestment of capital, when there are a series of transformations in the urban landscape due to the settlement of higher income social groups in these specific geographies and when there is a direct or indirect displacement of the existing social groups [28]. In the current debate, Michael Janoschka addresses gentrification with six points: 1. Neo-liberal policies of Gentrification, all types of public policies that establish an alliance with the capital that is invested in the city. 2. Supergeneration, when a place has been gentrified at two different historical moments. 3. Gentrification of new areas, industrial areas or ports where there is no gentrification by direct expulsion, but through all the indirect processes that occur around these neighborhoods. 4. New geographies of gentrification: spaces that have not previously been identified as spaces of gentrification, rural and suburban neighborhoods. 5. Symbolic gentrification: virtual sale and placement of new economies. 6. Resistance to gentrification: the congregation of the community to prevent the inflow of foreign capital [28]. Thus, the integration of different urban processes affects constructions and make up, renews and transforms the city and affects the dynamics, practices and design of urban spaces, which is a witness of the reinvention of the city in smaller scales.

4.4. Operationalization of variables

With the history of the importance of public space in the City and the influence that urban interventions for luxury housing have had in recent years, as well as the recent public space programs, a Model is created to evaluate the quality of public space in terms of inclusion or exclusion, measured using the following variables and instruments applied in the area of study of Granada, Ampliación Granada and Polanco (see **Table 4** and **5**).

For clear representation, the results are shown in a graph in a model of six concentric axes, forming two hexagons on the same axes. The perimeter of the hexagon is the coordinate zero, while the perimeter of the external hexagon is the coordinate +2 (a very inclusive space). The center of either of the two hexagons shall therefore represent a very high exclusion. In other words, the more covered the area of the hexagon is, the more inclusive that public space will be. The model was applied in all spaces of Polanco and Granadas (see **Table 5** and **Figure 6**).

Variable	Importance of the variable in case of disaster	Instrument to collect the information
Accessibility: The degree or measure in which all people can use a public space	Accessibility to public space is crucial in all phases of disaster: at the emergency phase (for evacuation purposes), search and rescue activities (for organization of activities) and reconstruction (for temporary shelter)	Plan or lines of public transportation (metro, bus, collective transport), plan for taxi sites, plan for bicycle sites, plan of virtual accessibility and crosstab plan
Balanced residential adjacency: The housing around public spaces must be balanced with the rest of the services	It has been observed that residential adjacency to public space permits people to be close to the collapsed buildings instead of going to official temporary shelters	Land use plan (diversity of uses), residential land use plan, adjacent housing plan with real heights (2 levels, 3 levels, 5 levels, etc.), closed neighborhoods plan and Aerial Photography
Lighting, temperature and humidity: The characteristic of lighting in public spaces can determine their stay in them and their daily hours of life	A good level of lighting, temperature and humidity are fundamental for the use of public spaces at all phases of disaster	Heights of buildings, luminaries, terrestrial photography, aerial photography, lux meter and thermometer
Urban furniture and infrastructure: The tangible and quantitative elements that are in the public space	Urban furniture may enable or impede the rapid installation of emergency facilities such as tents for the reception of food or medical attention. Infrastructure such as water or a flood safe public space may facilitate temporary shelters	Plans of the public spaces chosen with details of furniture, urban infrastructure plan of the space, adjacent urban infrastructure plan, terrestrial photography and aerial photography
Perception of the urban space: How the resident feels about the place. In other words, if it is safe, if they feel included or excluded	A positive perception of the urban space (temporary used in the different phases of disaster) may be helpful to the emotional wellbeing of victims	Photography, interviews, graphs and charts
Control: Physical elements of security that control the space, such as cameras, police, surveillance modules and neighborhood watch	Physical elements of control and private security (as physical barriers) may impede partial or total accessibility to the public space	Security camera record plan, security module record plan, photographic record of human elements of security and interviews

Source: Own elaboration.

Table 4. Variables and instruments for analyzing the quality of public space.

The main result was that in the neighborhood Granadas, although they had the determinants for their space to be recomposed through public spaces as the base of the project, this was done in an isolated manner, causing for the new pocket public spaces and linear parks determined by the economic tendencies to be places of exclusion, due to the fact that, for example:

- A lack of accessibility is seen as there are no free internet networks in the public space and there is no bicycle parking as opposed to Polanco, in which there are. Although there is public transportation near the place, it has become exclusive due to the saturation of its use.
- The residential adjacency is not balanced; although the land use is variable, the residential complexes in the area are very high and gated neighborhoods are dominant.

No.	Type / Name of public space	Variables to analyze the quality of public space (quantitative value from 0 to 2)					
		Accessibility	Balanced residential adjacency	Lighting, temperature and humidity	Urban furniture and infrastructure	Perception of urban space	Control
Neighborhood Polanco							
1	Lincoln Park	2	1	2	2	1.5	0.5
2	Las Américas Park	1.5	2	2	1.5	2	2
3	Uruguay Park	2	0.5	1	1.5	1	1
4	Antonio Machado Park	1.5	1.5	2	1.5	1.5	1
5	Lineal walking space Horacio	1.5	1.5	2	1.5	2	1.5
6	Lineal Park Ferrocarril de Cuernavaca	1.5	0.5	0.5	0	1	0.5
7	Pocket Park Juan Vázquez Mella	0	0.5	1	0.5	0	0
8	Pocket Park Masaryk and Mariano E.	1	1	1	0	1	0.5
9	Underbridge Masaryk and Periferico	0	0	0	0	0	0
Neighborhoods Granada and Ampliación Granada							
10	Pocket Park Ferrocarril de Cuernavaca	1	1.5	0	1.5	0.5	1
11	Pocket Park Moliere and Ferrocarril de C.	1	0	0	0	0.5	1
12	Lineal Park Ferrocarril de Cuernavaca	0	0	0	1	0.5	0.5
13	Pocket Park Ferrocarril (Rio San Joaquín)	1	0.5	0	1.5	0.5	1

Table 5. Analysis of the quality of public space in the Neighborhoods Polanco, Granada and Ampliación Granada. Source: Own elaboration.

- They show records of temperature, humidity and lighting that are not comfortable in shade, since in some cases they have little exposure to the sun, and the sun directly in others. All of them are highly humid and the records go from the lower to the upper limit, due to their low vegetation and the material of their environment.

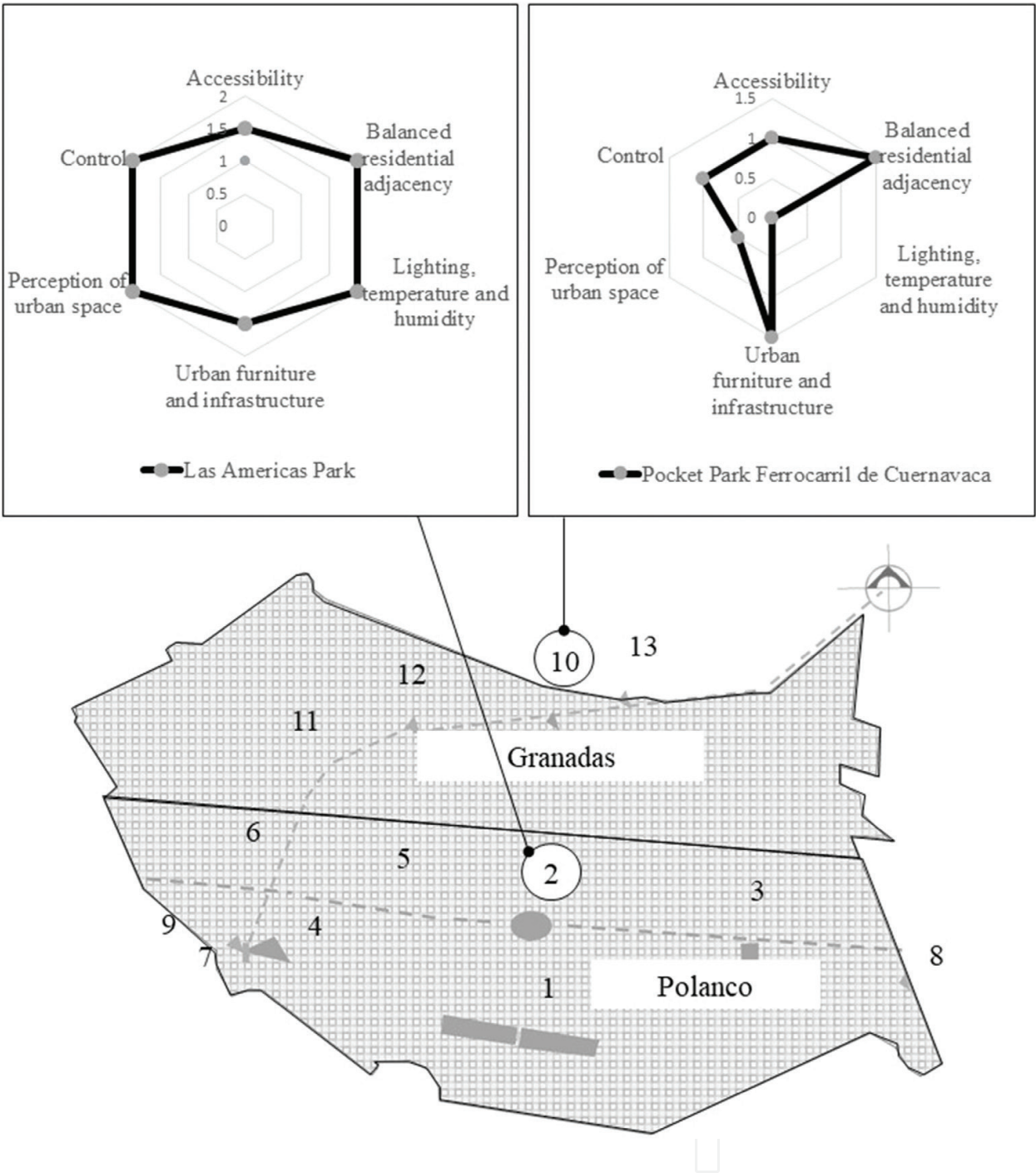


Figure 6. Comparative analysis of inclusion and exclusion characteristics of public spaces of the twentieth and twenty-first centuries in the Polanco and Granadas neighborhoods. Source: Own elaboration.

- In general, their urban furniture and infrastructure are normal, for they have benches. However, they do not have trash bins, much less fountains, sculptures or playgrounds. However, although they do not have their own luminaries, they have exercise machines.

- An urban space is perceived in low conditions for use and enjoyment due to the previous determinants. They feel that it is unsafe and feel excluded from some parts by the physical barriers that are in the place, such as the cyclone wire fencing that divides it.
- In general, personal control systems and surveillance cameras are excessive in some parts.

5. Conclusions and outlook

The implementation of urban phenomenon, such as redensification and gentrification, must be treated with more care and with plans of action for all. Failure to do so may cause:

A change of identity after a short time, the loss of neighborhood values, the displacement of neighbors, an abstract public space, a collective trademark image, insufficient urban equipment, vanishing of traditional trade, a lack of roads, scarce and exclusive public spaces, change of land use and excessive trash, among others.

The need to produce and intervene in the public space is going to be determined based on the type of urban growth of the city. In other words, if it is a disordered growth, the functioning of the public space will be directly affected and it will be socially weakened.

Interventions in the city in an unplanned manner can cause problems, for example, of communication in the social and spatial sense, of urban infrastructure and of insufficient public spaces.

The creation and intervention of public spaces in Mexico City of the twenty-first century have been governed by economic, political and social determinants immersed in a global world in search of publicly owned spaces that have inclusive characteristics.

On the other hand, the production of public spaces in this century has been resulting in residual or nook spaces that have undermined spaces that make them have a struggle between the inclusion-exclusion duality.

The results show that on the one hand, there is no quantitative similarity in the characteristics of public spaces, since they are dramatically reduced as a consequence of the lack of urban planning and the lack of political intention to create habitable public spaces for any case, but especially in case of disasters. That is to say, there is no urban design. On the other hand, qualitatively, we have not seen the concern that the spaces of new creation are inclusive and open to the general population with the intention of integration; urban projects predominate not to favor urban fabric, but to delimit territories.

In this sense, if we look at the role of public space in the earthquake of 1985 and the use in 2017, we can have the minimum indicators required to be taken into account in the adaptation of existing spaces or, where appropriate, in new spaces and that should be revalued in the institutional way of thinking and deciding on public space, mainly in the developing territories within Mexico City (see **Figure 7**).



Figure 7. Public spaces in Mexico City used to collect food and other emergency supplies right after the earthquake of September 19, 2017. Photos by the authors.

Acknowledgements

The authors would like to thank the reviewer for his valuable comments and suggestions of this manuscript. This article is a product of the research project IPN-SIP 20172147, funded by the Secretaría de Investigación y Posgrado del Instituto Politécnico Nacional, México.

Author details

Milton Montejano-Castillo* and Mildred Moreno-Villanueva

*Address all correspondence to: mmontejanoc@ipn.mx

Escuela Superior de Ingeniería y Arquitectura Unidad Tecamachalco del Instituto Politécnico Nacional, Estado de México, Mexico

References

- [1] Meli R. El sismo de 1985 en México. In: Lugo Hubp J, Inbar M, editors. *Desastres naturales en América Latina*. 1st ed. México, DF: Fondo de Cultura Económica; 2002. pp. 125-146
- [2] Guevara Pérez T. *Arquitectura moderna en zonas sísmicas*. 1st ed. Barcelona: Gustavo Gili; 2009. 207 p
- [3] Cruz Atienza VM, Krishna Singh S, Ordaz Schroeder M. Qué ocurrió el 19 de septiembre de 2017 en México. *Nexos* [Internet]. September 23, 2017. Available from: <https://www.nexos.com.mx/?p=33830> [Accessed: November 7, 2017]
- [4] Gobierno de la Ciudad de México. *Reconstrucción Ciudad de México* [Internet]. October 2017. Available from: <http://www.reconstruccion.cdmx.gob.mx/inmuebles-demoler> [Accessed: November 7, 2017]
- [5] Gobierno del Distrito Federal. Bando número 2. 2000. Available from: http://www.invi.df.gob.mx/portal/transparencia/pdf/LEYES/Bando_informativo_2.pdf

- [6] Comisión Nacional de Vivienda. Guía para la Redensificación Habitacional en la Ciudad Interior. 1st ed. México, DF: Gobierno Federal, SEDESOL, CONAVI; 2010. 74 p. Available from: https://www.gob.mx/cms/uploads/attachment/file/214894/Gui_a_para_la_Redensificacio_n.pdf
- [7] Alba González M. Representaciones y prácticas sociales entorno a políticas urbanas: La movilización Nimby frente a la Redensificación de las zonas centrales de la ciudad de México. *Cultura y representaciones sociales. Revista electrónica de ciencias sociales*. 2009;3(6):43-72. Available from: <http://www.culturayrs.org.mx/revista/num6/deAlba.pdf>
- [8] Asuad Sanén NE. La desindustrialización relativa de la ciudad de México de 1980-2003. In: XX Seminario de Economía urbana y regional; June 23. México, DF: Instituto de Investigaciones Económicas de la UNAM; 2010
- [9] Sobrino LJ. Desindustrialización y movilidad cotidiana en la Ciudad de México. In: de Demografía SM, editor. X Reunión Nacional de Investigación Demográfica en México. Escenarios Demográficos y Política de Población en el siglo XXI; November 3-6. México, DF: El Colegio de México, AC; 2010
- [10] Palacios Monzón E. Del paisaje urbano difuso, a la ciudad compacta, Nuevas Centralidades, nuevos paisajes... "nuevos ciudadanos". 1st ed. México, D.F: Instituto Politécnico Nacional; 2010. 223 p
- [11] Chain D. Espacio y Cultura. In: Ministerio de Desarrollo Urbano de la Ciudad de Buenos Aires, editor. La Humanización del espacio público. 1st ed. Buenos Aires, Argentina: Editorial Grafica Pinter S.A.; 2010. pp. 3-3. Available from: <http://cdn2.buenosaires.gov.ar/developourbano/publicaciones/la-humanizacion-del-espacio-publico-2010.pdf>
- [12] Mués Zepeda AM. Habitabilidad y Desarrollo Urbano Sostenible [thesis]. Estado de México: Instituto Tecnológico y de Estudios Superiores de Monterrey; 2011. 136 p. Available from: <http://infonavit.janium.com/janium/Documentos/035079.pdf>
- [13] Blachère G. Saber construir habitabilidad, durabilidad, economía de los edificios. 3rd ed. Barcelona: Editores Técnicos Asociados, S.A.; 1978. 312 p
- [14] Saldarriaga Roa A. Habitabilidad. Bogotá: Escala Fondo Editorial; 1981. 136 p
- [15] Juárez Neri VM. Condiciones de la vivienda en la zona metropolitana del Valle de México en el año 2000. *Scripta Nova: Revista electrónica de Geografía y Ciencias Sociales*. 2003;VII(146(040)):n.p. Available from: [http://www.ub.es/geocrit/sn/sn-146\(040\).htm](http://www.ub.es/geocrit/sn/sn-146(040).htm)
- [16] Velázquez Mejía O. Habitabilidad en el parque habitacional de la AGEB 010-9 del Fraccionamiento Ojo de Agua, Tecámac, Estado de México. *Revista Académica de Investigación Tlatemoani*. 2011;2(6):1-13. Available from: <http://www.eumed.net/rev/tlatemoani/06/ovm.pdf>
- [17] Carrión F. Espacio público: punto de partida para la alteridad. In: Segovia O, editor. Espacios públicos urbanos y construcción social. Hacia un ejercicio de ciudadanía. Santiago de Chile: Ediciones SUR; 2007. pp. 79-97. Available from: http://www.elagora.org.ar/site/documentos/Espacios_publicos_y_construccion_social.pdf

- [18] Reyes Pérez R. Habitabilidad y espacio público en Barrios históricos de Mérida, Yucatán al inicio del siglo XXI [dissertation]. Mexico City: Doctorado en Arquitectura, Facultad de Arquitectura de la UNAM; 2012. 486 p. Available from: <http://132.248.9.195/ptd2012/mayo/0679703/Index.html>
- [19] Valladares Anguiano R, Chávez Martha E, Moreno Olmos S. Elementos de la Habitabilidad Urbana. In: Seminario internacional de arquitectura y vivienda; 2008. Available from: <http://insumisos.com/LecturasGratis/elementos%20de%20la%20habitabilidad%20-%20valladares%20chavez%20y%20moreno.pdf>
- [20] Akkar M. Questioning 'inclusivity' of public spaces in post-industrial cities: The case of Haymarket Bus Station, Newcastle upon Tyne. METU Journal of Faculty of Architecture. 2005;22(2):1-24. Available from: http://jfa.arch.metu.edu.tr/archive/0258-5316/2005/cilt22/sayi_2/1-24.pdf
- [21] Acuña C, de Souza L, Leicht E, Musso C, Vainer D, Varela A. Aglomeración Maldonado – Punta del Este – San Carlos. Enfoques y propuestas. Hacia un modelo transformador. 1st ed. Montevideo: Facultad de Arquitectura/Instituto de Teoría de la Arquitectura y Urbanismo. Universidad de la República. Uruguay; 2013. 122 p. Available from: <http://www.fadu.edu.uy/itu/files/2014/12/ITU-AGLOMERACI%C3%93N-MALDONADO-PUNTA-DEL-ESTE-SAN-CARLOS.pdf>
- [22] Ramírez Kuri P, Ziccardi A. Pobreza urbana, desigualdad y exclusión social en la ciudad del siglo XXI. In: Cordera R, Ramírez Kuri P, Ziccardi A, editors. Pobreza, desigualdad y exclusión social en la ciudad del siglo XXI. 1st ed. México, DF: Siglo XXI Editores/UNAM Instituto de Investigaciones Sociales; 2008. pp. 23-50
- [23] Zermeño S. La centralidad de los excluidos. In: Cordera R, Ramírez Kuri P, Ziccardi A, editors. Pobreza desigualdad y exclusión social en la ciudad del siglo XXI. 1st ed. México, DF: Siglo XXI Editores/UNAM Instituto de Investigaciones Sociales; 2008. pp. 135-152
- [24] Remedi G. La ciudad Latinoamericana S.A. (o el asalto al espacio público). In: Subsecretaría de Planeamiento, editor. Las dimensiones del espacio público: problemas y proyectos. Buenos Aires: Gobierno de la Ciudad de Buenos Aires; 2004. pp. 15-25
- [25] Glass RL, Westergaard J. London's Housing Needs: Statement of Evidence to the Committee on Housing in Greater London. London: Centre for Urban Studies, University College; 1965. 97 p
- [26] London B, Palen J, editors. Gentrification, Displacement, and Neighborhood Revitalization. Albany: State University of New York Press; 1984. 271 p
- [27] Smith N, Taylor & Francis, Ltd. Gentrification and the rent gap. Annals of the Association of American Geographers. 1987;77(3):462-465
- [28] Janoschka M. Geografías urbanas en la era del Neoliberalismo. Una conceptualización de la resistencia local a través de la participación y la ciudadanía urbana. Investigaciones Geográficas, Boletín del Instituto de Geografía, UNAM. 2011;76:118-132. Available from: <http://www.investigacionesgeograficas.unam.mx/index.php/rig/article/view/29879/27778>