

# Structural problems of Latin American cities 450 years after Caracas' foundation

*Problemas estructurales de las ciudades latinoamericanas 450 años después de la fundación de Caracas*

*Problemas estruturais das cidades latino-americanas 450 anos após a fundação de Caracas*

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## Abstract

Latin American cities face many problems that compromise them from different angles such as infrastructure, governance and environment. At the same time, these cities seem to suffer from a series of certain conditions that make it difficult for them to deal effectively with these problems. From this perspective, the research starts from the hypothesis that the cities of Latin America share important similarities to set itself the objective of identifying the transversal conditions that are making it difficult for them to face their current problems. Understanding these difficulties could help planners and governments deal with the situation and cooperate in developing effective strategies. To achieve these objectives, the research was developed in two stages. First, Caracas was used as a case study in order to build an inductive process. This experimentation was developed within the framework of the "Concurso de Proyectos Participativos en el Espacio Público" organized in commemoration of the 450 years of Caracas' foundation. This space served as a platform for debate to collect different perspectives on the subject. Second, the research reviewed, analyzed, and categorized the diagnoses made by hundreds of Best Practices collected in the UN Habitat data bases. Finally, the research defined the common conditions that hinder the sustainable development of Latin American cities as: magnitude, discontinuity, opacity, fragmentation, urgency, and implementation. In addition, the enormous potential and opportunities that characterize these cities ended up being valued as a negative element, a kind of cliché that maintains an eternal hope in the future instead of motivating the actions that should be taken in the present.

**Keywords:** Natural disaster; Global South; Governance; Flood; Earthquake; Population growth; Infrastructure.

## Resumen

Las ciudades de América Latina se enfrentan a muchos problemas que las comprometen desde diferentes ángulos como infraestructura, gobernabilidad y medio ambiente. Al mismo tiempo, estas ciudades parecen sufrir de una serie de ciertas condiciones que les dificultan enfrentar efectivamente esos problemas. Desde esta perspectiva, la investigación parte de la hipótesis de que las ciudades de América Latina comparten similitudes importantes para plantearse como objetivo identificar las condiciones transversales que les están dificultando enfrentar sus problemas. Comprender estas dificultades podría ayudar a planificadores y gobiernos a enfrentar la situación y cooperar en el desarrollo de estrategias efectivas. Para alcanzar estos objetivos, la investigación se desarrolló en dos etapas. Primero, se utilizó Caracas como caso de estudio en función de construir un proceso inductivo. Esta experimentación se desarrolló en el marco del "Concurso de Proyectos Participativos en el Espacio Público" organizado en conmemoración de los 450 años de la fundación de Caracas. Dicho espacio sirvió como plataforma de debate para recoger diferentes perspectivas sobre el tema. Segundo, la investigación revisó, analizó y categorizó los diagnósticos realizados por cientos de propuestas de Buenas Prácticas recogidas en las bibliotecas de ONU Habitat. Finalmente, la investigación definió las condiciones comunes que dificultan el desarrollo sostenible de las ciudades de América Latina como: magnitud, discontinuidad, opacidad, fragmentación, urgencia e implementación. Además, el enorme potencial y las oportunidades que caracterizan a estas ciudades terminaron valorándose como un elemento negativo, una suerte de cliché que mantiene una eterna esperanza en el futuro en lugar de motivar las acciones que deberían tomarse en el presente.

**Palabras clave:** Desastre natural; Global South; Gobernabilidad; Inundación; Sismo; Crecimiento demográfico; Infraestructura.

## Resumo

As cidades latino-americanas enfrentam muitos problemas que as comprometem sob diversos ângulos, como infraestrutura, governança e meio ambiente. Ao mesmo tempo, essas cidades parecem sofrer de uma série de certas condições que dificultam o enfrentamento eficaz desses problemas. Nessa perspectiva, a pesquisa parte da hipótese de que as cidades da América Latina compartilham importantes semelhanças para estabelecer o objetivo de identificar as condições transversais que estão dificultando o enfrentamento de seus problemas. Compreender essas dificuldades pode ajudar os planejadores e governos a lidar com a situação e cooperar no desenvolvimento de estratégias eficazes. Para atingir esses objetivos, a pesquisa foi desenvolvida em duas etapas. Primeiramente, Caracas foi utilizada como estudo de caso para construir um processo indutivo. Esta experimentação foi desenvolvida no âmbito do "Concurso de Projetos Participativos em Espaço Público" organizado em comemoração aos 450 anos de Caracas. Este espaço serviu de plataforma de debate para recolher diferentes perspectivas sobre o tema. Em segundo lugar, a pesquisa revisou, analisou e categorizou os diagnósticos feitos por centenas de propostas de Boas Práticas coletadas nas bibliotecas da ONU Habitat. Por fim, a pesquisa definiu as condições comuns que dificultam o desenvolvimento sustentável das cidades latino-americanas como: magnitude, descontinuidade, opacidade, fragmentação, urgência e implementação. Além disso, o enorme potencial e oportunidades que caracterizam essas cidades acabaram sendo valorizados como um elemento negativo, uma espécie de cliché que mantém uma eterna esperança no futuro ao invés de motivar as ações que devem ser realizadas no presente.

**Palavras-chave:** Desastres naturais; GlobalSul; governança; Enchente; terremoto; Crescimento populacional; A infraestrutura.

## Introduction

*Latin America* is a complex concept that brings together a very diverse group of countries. Even so, within this diversity, it is common to find research, reflections, reports, and all kinds of analysis that try to approach and understand this concept. This research is aligned within that position and starts from the hypothesis that there are significant similarities between the cities of Latin America. Understanding these similarities would improve the possibilities of cooperation between these cities, allowing them to share information on the diagnosis of the situations they face, as well as the possible solutions they try to put into practice. In other words, the objective of this research is to contribute to the understanding of the similarities that exist between the transversal conditions that hinder the sustainable development of Latin American cities.

Some of the facts that support the hypothesis of similarities between cities in Latin America are associated with their history. In addition to a common origin, many of these cities underwent similar transformations, particularly in the last century. During the 20th century, the transition to a metropolitan model driven by unstoppable mobility, the outsourcing of the economy, and a growing formal and informal real estate market are some of the most significant phenomena (De Mattos, 2002). But all this process was framed in a vertiginous growth process. By 1930, what was once an overwhelmingly rural part of the world could boast metropolises like Buenos Aires, Rio de Janeiro, and Mexico City (Scobie, 1991, p. 229).

Nowadays it is widely understood that the disorganized and rapid population growth and migration from the countryside to the city resulted in a high social, economic, and environmental cost, where many of these cities underwent such rapid and significant transformations that they became traumatic and sometimes violent (Rodríguez Tejerina, 2015). Through this process, the region has become the protagonist of a dramatic process of segregation between social classes (De Mattos, 2010) that

has made it the most unequal region in the world (UN-Habitat, 2016).

At the same time, a situation this complicated has progressively degraded the social fabric through a process of fragmentation that feeds on the informal economy and organized crime (De Mattos, 2010). This fact keeps Latin American cities among the most dangerous, in particular, 41 of the 50 most dangerous cities in the world are part of this region (Consejo Ciudadano para la Seguridad Pública y Justicia Penal A.C., 2016). Even so [or perhaps for this same reason], Latin America has become a world reference in innovative urban policies (UN-Habitat, 2016) that have brought with it an enormous effort to diagnose and understand the problems faced in each case.

## Processes

This research was developed in two consecutive stages. Initially, a case study was approached with the intention of developing an inductive process, but this first stage was not enough to reach the required conclusions. For this

reason, a second stage of documentary exploration was subsequently added. Both stages are explained below.

Caracas (capital of Venezuela) was chosen as a case study due to the experience of the author and all the activities and discussions that were being organized around its 450th anniversary. Particularly, Caracas exploration was developed around an urban design contest. In relation to the 450th anniversary of the founding of Caracas, the Fundación Espacio (NGO in Venezuela) organized a series of activities. In 2017, the Foundation presented a public space contest titled “Concurso de Proyectos Participativos en el Espacio Público” (Contest of Participatory Projects in Public Space). The approach was a process of reflection on the conditions of public space in various sectors of the city based on its history, its current condition, and a projection of it into the near future (*CCScity450*, 2017). As possible places of intervention, ten key spaces were defined with different themes such as river city, garden city, sports city, among others.

Within the framework of this opportunity, a team composed by Erika Franco, Isabel Yacot, Alexandra Montes, Franco Tabacco, and Fabio Capra-Ribeiro, and organized under the name *Altero* (from the Latin *of the other side*),

prepared a proposal that would make visible a series of serious problems of this city starting from the knowledge and experience of the participants. Considering the guidelines of the contest, this proposal was done as a disruptive vision that was trying to motivate the discussion on complex, intense, and extensive problems. For the elaboration of this proposal, the team chose three of the most sensitive places offered in the contest as opportunities:

- Sector 06 | RIVER CITY. Las Mercedes, Chuao, Centro Comercial Las Mercedes, Hotel Tamanaco, Centro Banaven (Cubo Negro).
- Sector 07 | GARDEN CITY. Altamira, La Floresta, Hotel Monserrat, Ministerio del Poder Popular para el Turismo, Colegio Universitario de Caracas.
- Sector 09 | SPORTS CITY. La Rinconada, Las Mayas, Hipódromo La Rinconada.

Instead of designing the public spaces originally requested by the competition, the team developed a counter proposal that showed the most important problems of each one of these spaces. Each idea was reformulated from the titles proposed by the contest and presented through a map that shows the specific places that are under major

danger and an image that synthesizes the probable future towards which the chosen sectors is headed. Together, these became a new perspective of the city on its way to 500 years.

The results of this first stage contributed to the understanding of many of the problems suffered by Latin American cities. But, although the framework of the contest served to contrast these visions and nurture the debate after the contest, it was difficult to recognize patterns that would allow formulating structured generalizations. For this reason, and after studying the results of the contest, a second complementary stage was designed based on one important conclusion: one of the main spaces for exploration and discussion regarding the problems of cities are the probed experiences.

Thus, the second stage of the research was developed more as a review of the Best Practices that had been collected in the databases of UN Habitat (*Best Practices / UN-Habitat*, n.d.). This phase was developed as a literature review focused on identifying the similarities on the problems described by the different practices. It did not consider a specific timeframe but starting by checking the most recent examples. The search progressed until the observations seemed exhausted and no new conditions were found to include in the research. In this way, the literature review ceased after reviewing more than 200 initiatives, which was considered a representative sample.

The collected information was then analyzed using coding and categorization. Coding served to break down, conceptualize and put back together the information with a new structure from a specific point of view (Mayan, 2001, p. 24). From there, several categories were established organizing the data in groups that shared similar characteristics and a synthesis was needed to reduce the categories to a manageable group on which to work. This last process helped to merge several categories together to

have a broader understanding of the situation and present a coherent and manageable number of results.

Finally, the results of these two phases were contrasted to ascertain that the results obtained through the documentary review were consistent with the case studied.

## Results

### Three re-visions of Caracas

This experiment used Caracas as a case study through the recognition of latent and growing problems in three of the places that the contest proposed as possible spaces for intervention. These sought to materialize some of the problems that our experience as architects and inhabitants of this city showed us were important. At the same time, it became a scenario of discussion and collaboration.

### River –flooded– City

According to the IDB, the economic effects of natural disasters in Latin America are the highest in the world (close to 0.18% of GDP per event) (Mejía, 2016). In the middle of this situation, projections indicate that in much of the region the intensity and frequency of rainfall will increase, mainly affecting infrastructure in urban areas due to flooding (Dirección de Ambiente y Cambio Climático de CAF, 2015). Likewise, when looking at Caracas, a tropical valley with a river that crosses and divides it in two, the possibilities of floods or damages due to alterations in the precipitation cycles multiply. In a few words, Marisa Vannini explains this situation when she affirms that in a couple of minutes Caracas streets can become torrents, the streams, rivers, and the squares, lakes (Vannini, 2005).

The significant rise in water courses has not only been protagonists in the history of the metropolitan city of Caracas, but also, thanks to Climate Change, increasingly extreme climates await us (Capra Ribeiro, 2017). Surely the bitterest reference is the catastrophic event in Vargas State in 1999. A tragedy caused by the undue occupation of alluvial fans. The previous antecedents that warned that the Central Coast was a high-risk area subject to frequent floods, such as those of 1798, 1912, 1938, 1944, 1948, 1951, and 1954 were not enough to seriously consider the risk (López S., 2005)



**Image 1.** Map indicating the area most susceptible to flooding around one of the locations selected for the "Concurso de Proyectos Participativos en el Espacio Público" (Las Mercedes, Chuao, Centro Comercial Las Mercedes, Hotel Tamanaco, Centro Banaven). Darker colors show more susceptible areas and dashed lines underline the specific sites. Based on the sector's topography and previous events. Image by the authors of the contest's proposal, edited starting from: Google Earth, earth.google.com/web.

The city's rivers and streams have become a source of concern, not only as conveyor belts for garbage and sewage, but also as a constant threat of landslides and flooding. Looking at recent events, soil composition and topography, Las Mercedes and Chuao (partially shown in the map) areas can easily be identified as particularly vulnerable to flooding. A latent danger, but also growing thanks to the growth of the population that translates into new waterproofed areas in the basins of the region, the increase in the production of garbage that ends up being dumped on the waterways and hinders natural drainage, as well as the changes we have caused in the climate. Regarding this last point, it is important to bear in mind that Venezuela, although it does not have a winter season, is one of the countries that emits the highest amounts of carbon dioxide into the atmosphere in Latin America after Mexico, Brazil and Argentina (CEPAL, 2016).

### Garden –seismic– City

The 1967 earthquake took the population of Caracas by surprise, who were very unprepared to face a disaster of this nature, but the collective memory is short, since Caracas has a well-documented seismic history (Genatios et al., 2017). Sixty years after the last great earthquake in Caracas, the city remains unprepared. Unlike other natural phenomena such as intense wind caused by hurricanes, volcanic eruptions or severe storms, earthquakes arrive unnoticed (Tapia Hernández et al., 2017). Working to face earthquakes remains a long-term effort, preparing for a moment of crisis that can happen at any moment. Adding a huge latent and unpredictable risk, with a disorganized society focused on other problems, the consequences can be very serious.

Among the vulnerabilities that are generally discussed in relation to earthquakes, it is necessary to highlight that almost half of the population of the capital lives in slums

**Image 2.** Map indicating the area most susceptible to earthquakes around one of the locations selected for the "Concurso de Proyectos Participativos en el Espacio Público" (Altamira, La Floresta, Hotel Monserrat, Ministerio del Poder Popular para el Turismo, Colegio Universitario de Caracas). Darker colors show more susceptible areas and dashed lines underline the specific sites. Based on the sector's soil and previous events. Image by the authors of the contest's proposal, edited starting from: Google Earth, [earth.google.com/web](http://earth.google.com/web).



(El Nacional, 2017), areas characterized by self-built houses that hardly meet the regulatory structural conditions. But, on the other hand, it is widely known that there is a huge patrimonial capital that was built before the anti-seismic regulations in force.

The vulnerability to seismic movements is particularly severe in various sectors of the Chacao Municipality (partially shown in the map) since it's the area with the greatest depth of sediments in the valley basin, which usually amplify the seismic movement (Schimtz et al., 2017). Likewise, according to research on the matter, the Municipality of Chacao has high-density constructions that have not been authorized by Municipal Government, which transforms in both physical and human vulnerability (Jimenez Vallenilla, 2011).

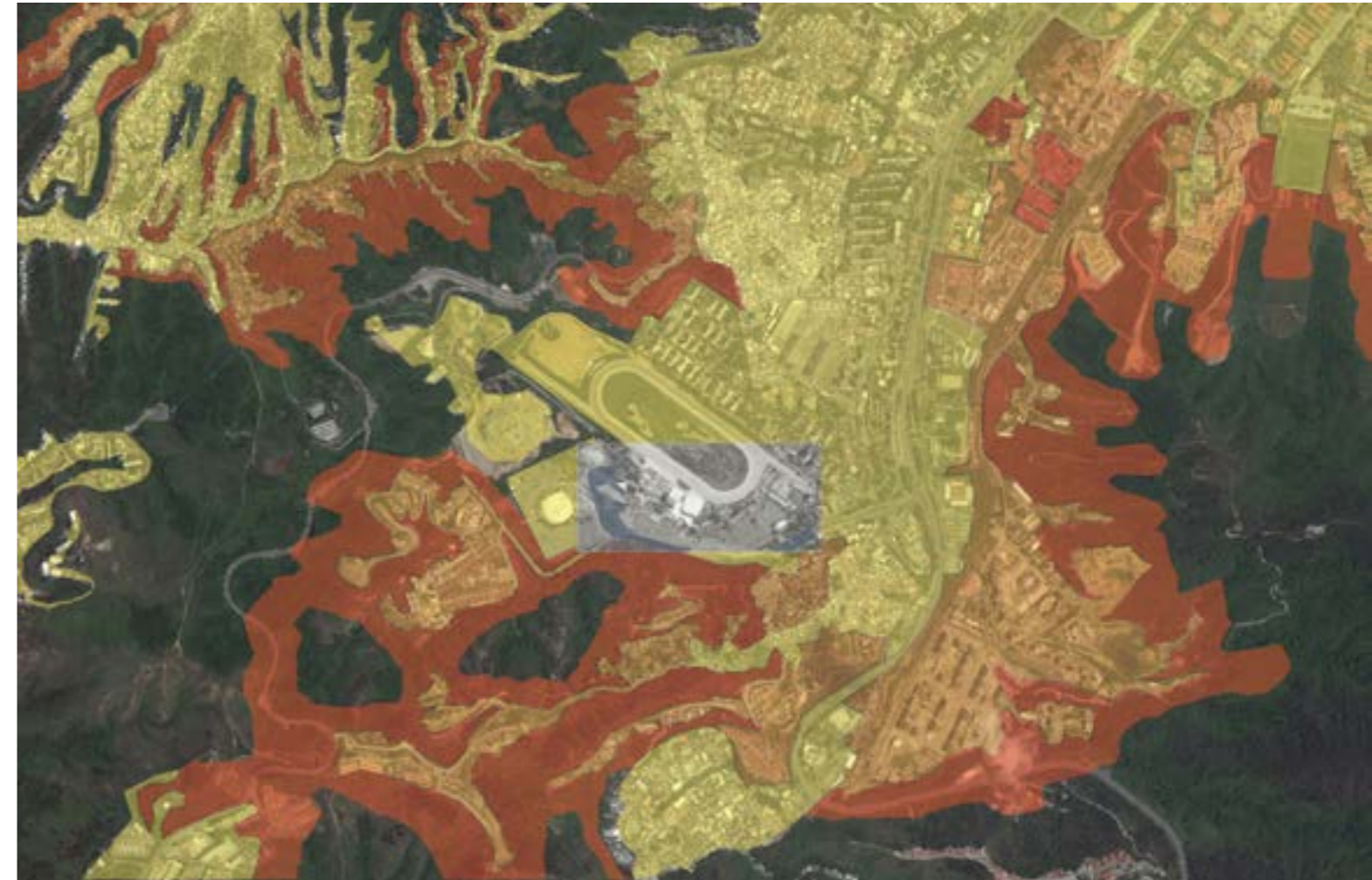
### Sports –suburban– City

In his doctoral thesis on the housing problem in Venezuela, Luis Eduardo González studies the problem between 1984 and 2012 to conclude that there is a tremendous unsatisfied housing need of about two million new homes and no less than one million to be rebuilt (González del Castillo Yanes, 2016) la presencia de la violencia en los conflictos cotidianos, desde tres perspectivas: la percepción de justicia, las relaciones interpersonales y la socialización de la violencia (capítulo segundo. Additionally, only in Caracas, 8.659 marriages are registered per year, which implies the formation of new households that demand a home (El Nacional, 2017). When governments cannot meet this demand, residents try to solve their problem through self-construction (Lafuente & Genatios, 2017), which usually results in an uncontrolled expansion of self-built areas, especially on the outskirts of the city.

Historically, the urbanization process generated needs and demands with a speed that clearly tended to exceed the

country's capacity to satisfy them with the same speed with which they appeared (Fossi Belloso, 2012). The most recent large-scale residential initiative, the Gran Misión Vivienda Venezuela, is not only far from meeting the housing needs of the population of the capital, but it also generated legal mechanisms to make the expropriation of land (Rey, 2017) that negatively affected any housing supply from the private sector. This project chose, above all, flat and unbuilt land as parking lots, the Generalísimo Francisco de Miranda Air Base, the Fort Tiuna Military Complex and the area previously dedicated to solid waste management between Las Mayas and Tazón (Ciudad Tiuna II) that ended up becoming one more cause of the uncontrolled growth of the city (partially shown in the map). Likewise, the new buildings provided housing opportunities for a small number of inhabitants (in relation to the existing demand), but without providing them with the necessary infrastructure.

The Fundación Espacio contest sought intervention on public space that could be financed and built. But, after reviewing the bases and understanding the circumstances of these places and the historical moment, our team decided to take advantage of this opportunity to explore some of the biggest problems that the capital of Venezuela faces and will face. Even so, the proposal was awarded an honorable mention that served to promote awareness on these issues. In short, the effort served to promote a discussion that we considered important, but the concerns we set out to highlight were quickly forgotten.



**Image 3.** Map indicating the urban footprint at the beginning of this century (yellow), areas that grew or became residential areas in the last fifteen years (orange), the projection of growth areas if the trend continues (red); around one of the locations selected for the "Concurso de Proyectos Participativos en el Espacio Público" (La Rinconada, Las Mayas, Hipódromo La Rinconada). Dashed lines underline the specific sites. Image by the authors of the contest's proposal, edited starting from: Google Earth, earth.google.com/web..

## From best practices to common problems

By reviewing hundreds of Best Practices and contrasting them with the exploration developed in Caracas, this research has found a series of recurring conditions that are common to many cities in Latin America. More importantly, these seems to be transversal to more common topics of discussion such as transportation, education, governance, etc. These conditions were defined as:

**Magnitude:** the magnitude of the difficulties faced in relation to the capacities of the different levels of government and other entities involved makes these difficulties a huge impediment to move forward. The number of houses that must be built, the jobs that must be generated, the hospitals that are needed, the distance and the extension of the sectors that must be served, are just some general examples.

**Discontinuity:** four, five, six years, how long are the terms of presidents, mayors, deputies, and how many years of continuous and articulated work are necessary to build meaningful solutions that achieve lasting and profound changes? On the one hand, it is common for political leaders to plan and execute actions to which they can see the fruits before the end of their term to obtain political profit. On the other hand, efforts that require more than one political cycle to be carried out are usually quickly canceled or at least modified when there is a change in the figures of the person who is exercising power in a gesture to deny the past or show themselves as a different alternative.

**Opacity:** The data and information in general is difficult to obtain. Governments and public and private organizations tend to appear as a closed box that prevents the population or opposition force from analyzing the facts, much less from presenting solid options. It is not even usually possible to know the origin and use of public funds, which has produced the high levels of corruption that characterize the region. Corruption that ends up negatively affecting

society that does not access the services, infrastructure, or any other objective towards which those funds were directed, and, at the same time, weakens trust in any of these institutions, destabilizing the system.

**Fragmentation:** Important divisions are recognized between countries, but also within them, at different levels of power, within regions, cities, etc. Also, fragmentation can be recognized between different sectors of society. Even important political forces have made division their flag. This fact hinders the key to any improvement process, cooperation. When the first item on the list (magnitude) is reconsidered, fragmentation is understood to be an added complication. The problems are getting bigger and bigger, international logistics are required for transportation, care and conservation of ecosystems that cover several regions and countries, fight criminal organizations that cross any border, etc.

**Urgency:** Generally, problems with more visible consequences in the short term tend to take up more attention and resources, leaving little room for planning and investment in the medium and long term. But in a region where there are so many problems that have been growing, accumulating, and intertwining for decades (or centuries) it is difficult to understand the importance of each of these. In this situation, the population suffering difficulties tends to normalize them. Thus, the problem of the moment, the most recent, usually gets the most attention, especially if they are problems that have the attention of the press or can be solved quickly. As a result, structural problems are left unattended in the background where they continue to advance, becoming larger and more complex.

**Implementation:** Adding up to all the previous points, the implementation of any project becomes a huge and complicated effort that not only has to face the problems that are being addressed but is also surrounded by all the

complications that have been pointed out. Ideas multiply, but a long race with obstacles separates them from reality.

At the same time, two conditions generally seen as favorable could end up playing against the achievement of the proposed objectives in the long run and in many cases, these are:

**Potential:** Latin America continues to be seen as a region with enormous potential to develop favorably. The rapid population growth that has resulted in a young population, and the amount and variety of natural resources are two examples of these so-called potentials. But, in general terms, these advantages have not been harvested to yield positive results and inertia continues to rule.

**Opportunities:** Small advances are commonly recognized, isolated initiatives that show that a different reality is possible. Many of the Best Practices are examples of this. But these initiatives are the exception to the rule. Meanwhile, problems and wrong actions overwhelm these small positive initiatives.

By associating potentials and opportunities, interesting solutions and proposals can be formulated, but the hope for improvement can also end up impacting against an intransigent reality; again, weakening confidence in the system. Surely Latin America can be understood as an extremely heterogeneous space, but it is also true that shared origin, internal relations, and migrations, have built important similarities that, if understood in this way, could facilitate the approach to common problems and even common solutions.

## Final comments

When Fundación Espacio organized the “Concurso de Proyectos Participativos en el Espacio Público,” among other objectives, it was surely set out to create room for reflection around the city of Caracas. That was precisely what it generated in the team that we organized under the pseudonym Altero. But inside the team the discussion escalated from the consideration of the public space to the cross-cutting problems that hinder the improvement of living conditions in Latin American cities. This exploration later connected with a year of analysis of Best Practices an ended up producing the list shown before. In other words, after adding a second phase to the process, the research met the objective originally proposed and the results aligned with the initial hypothesis.

The current situation is complicated, but it can get worse (Carvajal, 2017), that is what Marco Negrón, perhaps the most important urban planner who has worked on Caracas, said when he was questioned about the current situation of the city. Precisely, the room for worse is extremely wide. In general, the region and in particular Venezuela and the city of Caracas are involved in a network of complications that make it very difficult to build sustainable progress. This situation surely mirrors many other cities in the region. Likewise, it is true that there are many examples of interesting initiatives, but these are overshadowed by many bad decisions and inefficient or poorly prepared governments that led and lead the countries and cities of Latin America.

This list of cross-cutting conditions for Latin American cities may be somewhat abstract, but it has direct and concrete effects on them. Three examples of these effects can be seen on Caracas. Among other things, the magnitude of the problems, the fragmentation of the efforts, and the discontinuity of the plans prevent the city from being able to effectively organize its growth while considering historical vulnerabilities –such as earthquakes– and new vulnerabilities that are a consequence of Climate Change.

But the way in which these transversal conditions are confirmed or adapted to each case is precisely one of the missing pieces of this work. A first effort in this direction has been done in the book “Uncertain Regional Urbanism in Venezuela. Government, Infrastructure and Environment” (Capra Ribeiro, 2020), but much remains to be done. Therefore, it is recommended to propose research that tests these conditions. But instead of individual comparisons, it would be convenient to develop a systematized method that would allow serial comparisons to be made with a group of cases at a time. Which in turn would allow effective progress in refining these conditions. Having a solid and proven series of common conditions of the cities of Latin America would help the governments and planners of the region to understand the situation, learn from their neighbors and advance jointly towards solutions that they could also share more easily.

Finally, in that same line, it is important to consider that the second stage, more extensive and intense, was carried out individually. Therefore, it might suffer from some of the normal bias of extensive literature reviews done by one person. For this reason, the results must be taken with caution and compared with similar studies.

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