

## Chapter 7

# Cities Under Pressure: Internal Migration in Latin American Metropolitan Areas

### The case of Ciudad de México Metropolitan Area

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Traditionally, studies on migration have focused more on international migration than on internal migration, and, in turn, the analysis of internal migration has given more importance to rural-urban migration as an essential pattern of human movement. In relative terms, attention to internal migration between urban centers has not gathered special attention. However, 80% of Latin American population resides in urban areas, 36% resides in large metropolises of more than one million inhabitants and almost 13% in just 5 megacities with 10 million inhabitants or more.<sup>1</sup> These data illustrate that, to a large extent, the most relevant migration patterns in the medium and long term will be those that connect some cities with others.

The causes of urbanization and its effects on economic and social development have been the subject of study for decades.<sup>2</sup> The conclusions observed in this regard depend, for obvious reasons, on the socio-cultural, political, regional and historical context. In general terms, an “optimal” population concentration can be assumed, from which appears the concept of “excess concentration” which, if exceeded, generates a potential loss of efficiency associated with diseconomies of scale linked to high infrastructural investment costs.<sup>3</sup>

The link between urbanization dynamics and migration in general (and inter-urban migration in particular) is today, by far, much more interest-

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1. UN. *The World's Cities in 2016. Data Booklet*. 2016. (ST/ESA/ SER.A/392). United Nations, Department of Economic and Social Affairs, Population Division (2016).
  2. See Spence et al. 2008 for a comprehensive thematic paper series on Urbanization and Growth edited by The Commission on Growth and Development from the International Bank for Reconstruction and Development (World Bank).
  3. Atienza, M. & Aroca, P. “Concentración y crecimiento en Chile: una relación negativa ignorada”. In *Revista Latinoamericana de Estudios Urbano Regionales EURE*. Vol. 38, No. 114, 2012, 257-277.

ing than the understanding of pure demographical changes.<sup>4</sup> Nevertheless, the complexity of contemporary migratory movements at different scales makes the study of effects of migration composition into hosting cities much more challenging than in the past under the simple framework of a rural-urban internal migration pattern. Inter-urban migration forces analysts to consider both incoming and outgoing flows, unlike rural-urban patterns in which the unidirectional flow implied a gradual pressure on the receiving cities. Large cities such as Ciudad de México, São Paulo or Rio de Janeiro attract and expel inhabitants at the same time and these inter-urban flows are combined with rural influences, even notable in some cases, interior residential mobility in large cities and flows of international migration, generating, all together, an increasingly complex urban demographic dynamic. The urbanization process, traditionally linked in the past to classical phenomena of rural-urban migration, looks nowadays to a much multifaceted episode that frequently coexists with sub-urbanization, counter-urbanization or re-urbanization that are the cause and consequence of complex migratory movements.<sup>5</sup>

In this text we will briefly review in a first section the trends in urbanization and internal migration in the case of Latin American continent. We will then concentrate the focus in the specific case of Mexican Metropolitan Areas (“Zonas Metropolitanas” or ZM in Spanish) with special attention to the misalignment between policies and real needs.

## Trends in Urbanization and Internal Migration in Latin America

Heterogeneity is a remarkable feature of Latin America area but we observe that the region has reached high urbanization rates, with significant population concentration and territorial expansion of large cities. This urbanization can be explained by the particular pattern of industrialization adopted since the 1930s based on import substitution model<sup>6</sup> and by other important factors linked to demographic transition.<sup>7</sup>

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4. Rodríguez Vignoli, J. *Migración interna y asentamientos humanos en América Latina y el Caribe (1990-2010)*. Santiago: CEPAL, 2017.

5. Galindo, A. M. C. [et al.]. “Migración interna y cambios metropolitanos: ¿qué está pasando en las grandes ciudades de América Latina?”. In *Revista Latinoamericana de Población*. Vol. 10 No. 18, 2016, 7-41.

6. Cerrutti, M., & Bertoncello, R. “Urbanization and internal migration patterns in Latin America”. In *Centro de Estudios de Población*. 2003, 1-24.

7. Rodríguez Vignoli, J. *Distribución Territorial de la Población de América Latina y el Caribe: Tendencias, Interpretaciones y Desafíos para las Políticas Públicas*. Santiago:

In the last six decades, urbanization in the Latin American and Caribbean area has slowed down slightly<sup>8</sup> (UN, 2015), although consensus forecasts agree that the urbanization process will continue in the future, especially in countries with lower development levels. The greatest relative growth will occur in medium-sized cities, although some Latin American cities such as Bogotá and Lima will become mega-cities (more than 10 million inhabitants) before 2030, joining others from the continent such as Buenos Aires, Ciudad de México, Rio de Janeiro and São Paulo.<sup>9</sup>

The deceleration in the urbanization process is linked to several factors. On the one hand, having reached very high aggregate urbanization levels limits new progress but, additionally, other factors are relevant. Among them, the change in some demographic patterns, and especially the one related to migration, is key for the correct understanding of the process. There is a certain consensus in considering a change in the internal migration dynamics that would imply that cities are becoming centers that expel population after a long period of immigration.<sup>10</sup>

A recent study<sup>11</sup> offers a quantification of internal migration between cities in Latin America by approximating origin-destination matrices based on the census data of ten Latin American countries, considering a list of 20,000 cities. The most remarkable finding is to confirm the change of migration patterns: a tendency towards urban deconcentration and very small and reverse migration balances. Indeed, most cities already have net emigration, especially those under 100,000 inhabitants. It is true that the largest cities, with more than one million inhabitants, still show net immigration but in very meager values and apparently at much lower scale than previously observed with the 2000 census data. Megalopolises (10,000,000 inhabitants or more) also show net emigration balances.

According to this study, the high net urban immigration registered in the past is not so evident today, and this could lead to a consequent relief of the potentially negative effects linked to the collapse of basic services, infrastructure and governance and security. The causes of this tendency

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CEPAL/CELADE, 2002.

8. UN *World Urbanization Prospects: The 2014 Revision*. 2015. (ST/ESA/SER.A/366), New York, Department of Economic and Social Affairs, Population Division.
9. Ibid.
10. Galindo, A. M. C. [et al.]. “Migración interna y cambios metropolitanos: ¿qué está pasando en las grandes ciudades de América Latina?”. In *Revista Latinoamericana de Población*. Vol. 10 No. 18, 2016, 7-41.
11. Rodríguez Vignoli, J. *Migración interna y asentamientos humanos en América Latina y el Caribe (1990-2010)*. Santiago: CEPAL, 2017.

towards net emigration could be endogenously related to the accumulation of the negative effects of excessive concentration and, therefore, linked to loss of efficiency and attractiveness of large cities. This would have involved phenomena of voluntary de-concentration with different patterns and intensities. Together with these endogenous causes, it is also possible to assume the success of some political plans and decisions that, explicitly, have achieved a greater regional migratory balance or a turn in the most harmful dynamics of urban concentration.

A second trend of interest is the consolidated predominance of urban-urban migration in the context of internal migration, although rural-urban migration also remains. Urban-urban migration, a pattern that started and accelerated with intensity between the 1970s and the 1990s, continues today, and can be thought as the main category of internal movement: with data related to censuses of 2010, 3 out of 4 migrants moved between cities.

The loss of relative importance of rural-urban migration has diverse causes depending on the different regional or historical contexts. The saturation of some predominant destination cities in the past, which favors urban migration to other nearby metropolitan areas, less congested and more accessible; the greater regional convergence, sometimes linked to labor market or to the evolution of prices of land and/or housing, the changes in the productive system, the decentralization of administrative policy or the implementation of active policies of spatial planning. The concept of counter-urbanization was in fact coined in 1976<sup>12</sup> and frequently studied from late 1990's and empirically observed in various countries.

In any case, the phenomenon of net emigration from the cities must be redefined considering that the definition of city has been altered, making difficult a precise depiction of concepts such as concentration, migration or urban immigration. The traditional concept of "city" appears with other ideas of expanded concentration, diffuse city, metropolis-region,<sup>13</sup> multi-centered metropolis, archipelago of cities<sup>14</sup> or city-region, far away in any case from the classic idea of urbanization "center + suburb". The boundaries of large cities are now more blurred, including very large

12. Berry, B. "The Counter-urbanization Process: Urban America since 1970". In *Urban Affairs Annual Review*. Vol. 11, 1976, 17-30.

13. Sassen, S. "El reposicionamiento de las ciudades y regiones urbanas en una economía global: ampliando las opciones de políticas y gobernanza". In *Revista Latinoamericana de Estudios Urbano Regionales EURE*. Vol. 33, No.100, 2007, 9-34.

14. D Mattos, C.A., Fuentes, L. & LINK, F. "Tendencias recientes del crecimiento metropolitano en Santiago de Chile. ¿Hacia una nueva geografía urbana?". In *Revista INVI*. Vol. 29, No. 81, 2014.

peri-urban areas, entire population areas or even other cities that today appear to be integrated into a less compact definition of the city.

The apparent emigration observed from the cities would not imply, therefore, a clear de-concentration or de-urbanization but the result of the expansion of the limits of the previously compact city.<sup>15</sup> This conclusion is effectively illustrated by these authors for a study carried out in 18 cities in several Latin American countries, they find that “Without exception, the use of the bounded definition (of the city) offers an image of less attractive migratory or of more marked net emigration, which can certainly lead to mistaken or hasty conclusions about the loss of attractiveness of the big cities, since with the extended delimitation they still show their character of attraction.”<sup>16</sup>

In this context, the phenomenon of inter-urban migration, which generally adopts the center-periphery pattern, had already been initiated and clearly detected in studies of the early 2000s. This phenomenon of “de-compactation” implies, therefore, that the pressure on the provision of services, governance and security would not have been reduced so clearly but would have mutated, claiming equally extensive resources and intense planning. Indeed, the “periphery” of important cities in Latin America, sometimes combined with intense immigration, has required attention and active policies for a long time depending on different patterns of consolidation. Sometimes the peripheries have been occupied by migrants (both internal and external) or by relatively more disadvantaged citizens who were “expelled” from the center, demanding active segregation related policies. Sometimes, segregation has followed other patterns and disadvantaged population has concentrated precisely in the center or in some older and worse endowed peripheral areas. In many cases, the peripheries have been gaining density over time becoming new satellite urban centers, densely populated, demanding substantive attention and coordinated decentralization in terms of planning and provision of resources of all kinds. In any case, this expansion model also requires active policies of balanced decentralization that provide the new infrastructural endowments required to communicate the areas that must be interconnected and provide them with basic services.

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15. Galindo, A. M. C. [et al.]. “Migración interna y cambios metropolitanos: ¿qué está pasando en las grandes ciudades de América Latina?”. In *Revista Latinoamericana de Población*. Vol. 10 No. 18, 2016, 7-41.

16. *Ibid.*

## The Case of the Central Region and Ciudad de México Metropolitan Area

Migration is essentially a dynamic phenomenon that evolves by adjusting its volumes and shapes rapidly and adopting increasing complexity over time. The case of Mexico reproduces some of the patterns of change detected in general terms in Latin America and many other areas of the world. On the one hand, as is the case in other countries, international migration, mainly to the United States, captures most of the attention, debate and study. In addition, until relatively recently, rural-urban migration to Ciudad de México, and to a lesser extent to Guadalajara and Monterrey, had been predominant in terms of internal movements. More recently, however, we have also found contemporary phenomena common to other countries in the area. A greater role for internal migration as a factor of change, a progressive importance of urban-urban migration to the detriment of the classic rural-urban migration and a progressively more decentralized population with a greater role for medium-sized cities.<sup>17</sup>

In Mexico, four phases of development and specific migratory dynamics are usually identified. The period 1900-1940 would correspond to the early urbanization phase with very dynamic rural-urban flows that also continued to predominate between 1940-1980, a period of very intense industrialization. They are followed by a third period of 1980-2000 of economic openness and explosion of migration to the United States and the 2000-2016 period defined by political openness and moderate economic growth marked by the deceleration of interstate migration and the increase in close migration within the same entity.<sup>18</sup>

The amount of internal migration is, in any case, very significant. Between 2010 and 2015, around 3.2 million Mexicans changed their residence between states and a similar number changed municipality of residence within the same state; total internal migration between 2010 and 2015 therefore represents 6.4 million people.<sup>19</sup>

Together with these basic trends, and as we commented in previous paragraphs, the evolution of the concept of the classical city is confirmed, from mononuclear center-periphery design towards more contemporary

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17. Pérez Campuzano, E., Castillo, G., & Galindo, M. C. "Internal Migration in Mexico: Consolidation of Urban-Urban Mobility, 2000-2015". In *Growth and Change*. Vol. 49, No. 1, 2018, 223-240.

18. De Anda, G. G., & Plassot, T. "Migraciones internas: un análisis espacio-temporal del periodo 1970-2015". In *Economía UNAM*. Vol. 14, No. 40, 2017, 67-100.

19. ENADID *Encuesta Nacional de la Dinámica Demográfica*. INEGI, 2014.

configurations and somewhat more diffuse city, emerging essential patterns to understand the processes of territorial concentration.

We are especially interested in the concept of city-region because of what it implies in terms of the emergence of patterns of population movements of diverse nature. These movements of people are in line with the interactions of economic nature between the entities of the city-region (trade and capital flows) and demand significant adjustments in the services and urban infrastructures of the urban nuclei that make up the city-region as well as in the communication routes that connect them. The appearance of new zones of economic growth stimulates internal migration and labor flows,<sup>20</sup> to which migratory flows must be added due to reasons of insecurity and violence or related to environmental deterioration or climatic catastrophes. Some of these movements correspond to the category of “circulation” and not so much to migration in the strict sense; they are pendular movements, essentially corresponding to the commuting of thousands of people that move from their areas of residence to those of work or commercial and leisure activities. Others take the form of a permanent rearrangement of the population that, abandoning the traditional center, moves to new urban centers on the periphery, leaves the state or changes municipalities in the same federal state. The reordering of the population in turn drives the economic dynamism of the new areas, generating a complex dynamic of cause and effect that requires constant attention in terms of urban and regional planning. For a correct planning and an adequate location of the resources it is necessary to know what role the big cities play as nodes of population concentration at the same time as attractors of migratory flows, and the type of migratory exchanges that they maintain with the rest of urban centers of their own region.<sup>21</sup>

Within the framework of this new concept of city, the concept of city-region is of special interest in the case of Mexico and even more interesting is the concept of Metropolitan Area (MA) (“metropolitan zone” or ZM in Spanish) common in this country. The definition of a MA in Mexico exceeds the scope of a single city and its close conurbation and does not necessarily adjust to that of state or region so that, de facto, an MA is configured based on economic and social relations between different municipalities in a given large area. There are 59 metropolitan areas in Mexico,

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20. Aguilar, A. G., & Hernandez-Lozano, J. “La reorientación de flujos migratorios en la ciudad-región. El caso de la Ciudad de México en la Región Centro”. In *Revista EURE-Revista de Estudios Urbano Regionales*. Vol. 44, No. 133, 2018, 135-159.

21. *Ibid.*

comprising 367 municipalities that together represent around 60% of the country's total population.<sup>22</sup>

We will focus this analysis in the Mexican city region called Central Region (“Región Centro” or RC in Spanish), an entity integrated by seven states: Ciudad de México, and the states of Mexico, Hidalgo, Morelos, Puebla, Querétaro and Tlaxcala. This enormous City-Region contains a third of the population of the whole nation although, nevertheless, it only represents a 5% of the extension of the country which gives an idea of its huge population concentration. The two major centers on which the development of this city-region has orbited are the urban agglomeration around Ciudad de México (MCMA or ZMCM in Spanish) and the metropolitan area Puebla-Tlaxcal (PTMA or ZMPT in Spanish).

The metropolitan area of Ciudad de México (MCMA), also known as “Zona Metropolitana del Valle de México”, is made up of Ciudad de México and 76 agglomerated municipalities, all of them belonging to the State of Mexico (59) or Ciudad de Mexico (16) except for one of them in the state of Hidalgo. To the almost 9 million inhabitants of Ciudad de México would be added 14 million distributed in these 60 municipalities totaling a population of more than 22 million inhabitants (1 in 5 Mexicans). According to the United Nations,<sup>23</sup> this is one of the most populated urban agglomerations in the world and the second largest in Latin America, only below the Binational Metropolitan Area of San Diego-Tijuana. The metropolitan area Puebla-Tlaxcal (ZMPT) is a metropolitan area located in the center of the state of Puebla and the south of the state of Tlaxcala and agglutinates a total of 38 municipalities from Poblanos and Tlaxcaltecas located in the Valley of Puebla-Tlaxcala.

According to Aguilar and Hernandez-Lozano,<sup>24</sup> the process of urban de-concentration has been the predominant feature in the central region during the last thirty years with a gradual decrease in the participation of the MCMA in the urban growth of the region. The data of migratory net balances of the last twenty years between urban centers presented by these authors show that the MCMA has been expeller of migrating population

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22. 2010 Census Data from National Institute of Statistics and Geography (INEGI).

23. UN *The World's Cities in 2016. Data Booklet*. 2016. (ST/ESA/SER.A/392). United Nations, Department of Economic and Social Affairs, Population Division (2016).

24. Aguilar, A. G., & Hernandez-Lozano, J. “La reorientación de flujos migratorios en la ciudad-región. El caso de la Ciudad de México en la Región Centro”. In *Revista EURE-Revista de Estudios Urbano Regionales*. Vol. 44, No. 133, 2018, 135-159.

maintaining negative balances with the majority of metropolitan areas and smaller urban centers.

Ciudad de México, MA's main center of gravity, has evolved from a net receiver of population to an expeller of residents who move particularly towards neighboring agglomerations within the metropolitan area itself. Between 1970 and 1980 the number of arrivals began to decrease clearly and from 1980 the departures began to surpass the entrances. It would be in the 1985-1990 period that most departures from Ciudad de México to other states were recorded (more than 1 million departures in that period); migration to Ciudad de México went from representing 14% of total interstate flows between 1975 and 1980 to 10% between 2010 and 2015.<sup>25</sup> Despite its character as a net emitter of population, the rate of entries per thousand inhabitants is stable in comparison with the exit rate; that is, the negative net migratory balance of Ciudad de México is due to exits more than to entries.<sup>26</sup> This reveals difficulties in conserving its population as a consequence of a high cost of living (particularly in access to housing), competition for land use between commerce and housing, and the increase in tertiary activities.<sup>27</sup>

Despite this overall negative balance, Ciudad de México continues to receive migrants from other areas of the RC such as Puebla-Tlaxcala, the second most important metropolitan area in the region and with which it maintains a positive balance receiving a high number of migrants. In fact, although the resident population in Ciudad de México has decreased in absolute terms, its working population has increased, which means that a large part of the working population in Ciudad de México lives on the periphery.<sup>28</sup>

What is of interest in this phenomenon is not, however, the loss of relevance of Ciudad de México but the complex dynamics of change and interrelation between the different populations of the area. Aguilar and Hernandez-Lozano<sup>29</sup> have verified that together with the negative global balance

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25. Ibid.

26. De Anda, G. G., & Plassot, T. "Migraciones internas: un análisis espacio-temporal del periodo 1970-2015". In *Economía UNAM*. Vol. 14, No. 40, 2017, 67-100.

27. Delgadillo, V. "Territorio, vivienda, infraestructura y transporte, el caso de la Ciudad de México y su área metropolitana". In *5 temas selectos del hábitat latinoamericano*. Río de Janeiro: ONU-Hábitat, 2010.

28. De Anda, G. G., & Plassot, T. "Migraciones internas: un análisis espacio-temporal del periodo 1970-2015". In *Economía UNAM*. Vol. 14, No. 40, 2017, 67-100.

29. Aguilar, A. G., & Hernandez-Lozano, J. "La reorientación de flujos migratorios en la ciudad-región. El caso de la Ciudad de México en la Región Centro". In *Revista EU-*

of Ciudad de México, processes of urban concentration in other metropolitan areas coexist with other metropolises of the same region, implying a movement of urban redistribution from the “center” to the “periphery” and towards the lowest levels of the urban hierarchy. The authors point out that metropolitan-metropolitan migration is the one that involves the greatest number of migrants (51.3% of the total). The conclusion is that the city-region of Mexico has become a territory of very high level of urbanization with the consolidation of several metropolitan areas and cities of various sizes, which already form a polycentric structure where the main centers act as nodes of strong urbanization and migratory attraction.

The logic of the city-region and the metropolitan area as an integrated entity essential to understand population dynamics necessarily implies an integrated planning. Decisions about where to locate scarce resources in terms of infrastructure and service improvements must be made at this same metropolitan area level. City-regions show at the same time, for interconnected areas, complementary processes of re-urbanization and de-urbanization that require an increasingly complex urban planning scheme, coordinated and integrated in a very large area. Municipal administration, essentially local, is fragmentary, ineffective, and clearly inefficient in terms of resource optimization, and the absence of an integrated administration at the metropolitan area level generates essential malfunctioning and inadequate, incomplete, and lacking continuity in infrastructure development.

One of the causes that explain the lack of a homogeneous management framework at metropolitan area level is the lack of legal recognition of the Metropolitan Area, which does not have a clear legal framework that allows its centralized management. In fact, institutional fragmentation is expressly derived from article 115 of the Mexican Constitution, which unambiguously prohibits, on the one hand, the establishment of government bodies between the municipality and the states of the Republic; and, on the other, only allows intergovernmental coordination and/or intermunicipal associationism.<sup>30</sup> This author points out that, while in Latin America a process of metropolization is being intensely lived, its political-administrative structures, on the one hand, and the understanding of the metropolitan phenomenon, on the other hand, are not convergent.

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*RE-Revista de Estudios Urbano Regionales*. Vol. 44, No. 133, 2018, 135-159.

30. Arellano Ríos, A. “La coordinación metropolitana en el ámbito subnacional mexicano: un análisis institucional”. In *Documentos y aportes en administración pública y gestión estatal*. Vol. 14, No. 23, 2014, 33-70.

Given the impossibility of setting up metropolitan or regional governments and the existence of a free municipality, Metropolitan governance in Mexico is only possible within minimal schemes and only under the mechanism of intergovernmental coordination or intermunicipal associationism.<sup>31</sup> In this sense, the lack of a solid framework of homogeneous management at the Metropolitan Zone level has led several states to promote their own initiatives to create different instances of metropolitan coordination: Metropolitan Councils, Metropolitan Commissions, Metropolitan Coordination Boards, Metropolitan Institutes, Metropolitan Citizen Councils, Metropolitan Development Councils, Metropolitan Planning Institute, Councils for Citizen Participation, etc.

Most of these bodies are only opinion and/or consultation bodies with little executive capacity to carry out projects and less still to intervene in the daily operation of the different issues with which they deal. The fragmentation and weakness of these intermunicipal coordination entities frequently leads to governance problems in metropolitan areas with imprecise urban planning, excessively sectoral management channeled through specific bodies and a lack of coordination and planning.<sup>32</sup>

The Mexican Institute for Competitiveness (IMCO) pointed out in a recent analysis that in the MCMA there is no agency that has the power to plan, execute joint projects or operate in key areas such as transportation, water services or security. The main implication is that instead of an integrated city there is an extensive universe of localities that provide public services and plan exclusively for the inhabitants of their demarcation. On the one hand, this limits the ability to execute more ambitious strategies to solve the problems of the City and, on the other hand, generates deficient services and bankrupt organisms, as in the case of the Ciudad de México water supply network (SACM) and some of the 56 water organisms that exist in the State of Mexico.<sup>33</sup>

The deficiencies in terms of metropolitan management are accentuated in the framework of internal migrations between different areas of the same metropolitan area. On the one hand, despite the net emigration of many cities such as Ciudad de México, they continue to receive a significant influx of new residents from other areas of the region, from other parts of the

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31. Arellano Ríos, A. “La gobernabilidad metropolitana en México”. In *Revista Analítica*. Vol. 1, No. 1, 2018.

32. Valenzuela Van Treek, E. V. “Áreas metropolitanas, reflexión, evolución y casos de estudio (2ª Parte)”. In *Urbano*. Vol. 10, No. 15, 2007, 7-19.

33. IMCO “Distrito Federal y Estado de México: la ciudad dividida”. In *IMCO*. 2014.

country or from other countries. On the other hand, this process coexists with complex patterns of relocation of citizens between different areas of the metropolitan area itself, which requires an agile and flexible planning system that aligns with these patterns and, in a certain way, contributes to providing them with logic and viability. These dynamics generate, for example, important challenges in terms of transport infrastructure, especially in terms of public transport. The National Federation of Municipalities of Mexico itself recently pointed out a scarcity of resources for the construction and rehabilitation of infrastructures overexploited by the use of floating population as a consequence of a lack of coordination between the municipalities of the metropolitan areas themselves and with the state and federal governments, and the lack of a strategic metropolitan vision for the realization of long-term projects.

In line with IMCO's opinion, the public agenda must be adapted to the reality of the integrated city by developing metropolitan bodies capable of providing common services. This would imply that the authorities cede certain powers, such as the provision of water or public transport, to a metropolitan body in charge of providing them for all the inhabitants of the MCMA.

An essential starting point for proper planning is an accurate diagnosis of the situation based on real data and adapted to the geographical area of interest. In terms of mobility, this is precisely the objective of the last Origin-Destination Survey of the Metropolitan Area of the Valley of Mexico, referring to 2017 which, among its explicit objectives, serves as the basis for defining integral planning policies in the areas of transport and traffic, sustainable mobility and territorial ordering. The data from this survey confirms that, although there are approximately 4.4 million trips per day that cross the border between Mexico City and another political jurisdictions, the polycentric nature of the MCMA is clear: only one out of every eight trips that start in conurbated municipalities end in Mexico City and only one out of every seven trips that start in Mexico City ends in a conurbated municipality. Faced with this reality, IMCO experts<sup>34</sup> show the deficient design of the public transport system of the MCMA. While about 9 million people live in Mexico City, 14 million live in the metropolitan area, so the need for a peripheral-central connection is very evident. Approximately 20% of daily commuting involves municipalities other than Mexico City. However, the bulk of the stations are concentrated in Mexico City, leaving

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34. Ibid.

millions of inhabitants of the MA without the options of mass transportation to connect them with the rest of the City. The subway network is considerable but not extensive enough and does not reach the state of Mexico and where the subway ends, major bus congestion begins.

In many of the world's major cities there are metropolitan planning and project execution agencies,<sup>35</sup> while in the MCMA there is no metropolitan transportation agency that plans and executes projects integrally. The Metro Collective Transport System is operated by Ciudad de México so that most of the investments and expansions are centered within this demarcation. There is therefore a misalignment between the reality of the MA and the administrative organization.

Perhaps because of this, data from the Origin-Destination Survey of the Metropolitan Area of the Valley of Mexico shows that despite investments in transport infrastructure in recent years, the travel times of citizens have worsened. In the previous ten years, the suburban train, Line 12, more than 100 kilometers of Metrobus and Mexibus, dozens of kilometers of urban highways, and the Ecobici bicycle lane were built. Despite all this, the 2017 survey documented a 3-minute increase in travel times, compared to the average recorded in 2007. Today people take an average of 57 minutes to get to work (60 minutes if you don't live in Ciudad de México). One in three trips to work in the MCMA require more than one hour, and 7.2% of trips to work that begin in conurbated municipalities last more than two hours.

In this sense, the bet on road infrastructure, which has been preferred in recent years, does not seem the best option. In recent years the budget for mobility allocated more than 65% to road infrastructure and less than 35% to collective and cycling and pedestrian infrastructures. The commitment to road infrastructure for the private vehicle contributes to the disproportionate increase in the number of cars: each year 250,000 additional cars are added to the circulation in the MCMA, a growth of 15% per year, which is much higher in comparison with the increase in population and well above the growth of any existing means of collective transport<sup>36</sup>.

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35. For instance Metropolitan Planning Organizations (MPO's) for metropolitan areas in United States, Metropolitan Area of Lisbon in Portugal, Greater London Authority for UK, Communauté urbaine de Lyon in France or Metropolitan Area of Barcelona in Spain.

36. See <https://www.eleconomista.com.mx/politica/La-Ciudad-de-Mexico-duplico-el-parque-vehicular-en-10-anos-20170801-0114.html>

This inadequate planning and betting on the private vehicle generates not only inefficient transport but serious damage of various kinds. From an environmental point of view, Ciudad de México has been facing a serious pollution problem for some time. In 1992, Mexico City received the “prize” of the most polluted city in the world by the United Nations and although a period of awareness and implementation of corrective measures began, its effectiveness was gradually decreasing and today the city faces episodes of environmental crisis increasingly frequent and serious.

Additionally, there is a problem regarding the quantity and quality of water available in Ciudad de México alone. There are more than 1,300,000 people who do not have drinking water in their homes and 1,500,000 do not receive water on a regular basis. The overexploitation of aquifers, the need to import it from remote basins, the recycling of gigantic volumes of wastewater and the absence of rainwater harvesting systems are some of the most pressing problems.

Security problems are also notable. INEGI, which regularly prepares the National Public Safety Survey, estimated at the end of 2018 that in the country’s urban areas 74% of the adult population perceives that their city is unsafe to live in. In the case of Mexico City, the percentage even rises to 88% in the north or 86% in the west and west city areas.

## Conclusions

The concept of city-region or Metropolitan Area is fully consolidated in Mexico and the data support that these demarcations have their own migratory dynamics that tend to very complex polycentric realities in which superimposed patterns of mobility coexist.

The case of the Central Region and the Metropolitan Area of Ciudad de México illustrates the complexity of the migratory dynamics that occur over time. While Ciudad de México has lost its relative weight as a migratory attractor for the benefit of other populations in the same metropolitan area, the city continues to be a focus of essential activity, registering a constant flow of immigrants and a high volume of circulation of people from conurbated areas and other more distant areas.

However, the brief analysis carried out for the case of the MCMA reveals a misalignment between this pattern of complex mobility of the city-region and its management architecture. The lack of regional coordination mechanisms at the MA level with a greater scope than the current ones reduces

the effectiveness of infrastructure and service provision policies and seems to contribute to inefficient spatial planning.

On the one hand, the lack of coordination between the metropolitan area's own municipalities and with the state and federal governments impedes a strategic metropolitan vision that focuses on long-term projects that respond to the needs of the resident population, the new citizens arriving to each municipality and the immense floating population of the entire area. It therefore seems essential that the public agenda be adapted to the reality of this polycentric and integrated city, creating global metropolitan bodies capable of providing common services.

On the other hand, it seems evident that the paradigm of current urban planning is unsustainable in the medium and long term. Cities that have opted to increase road infrastructure have failed to achieve mobility objectives and have deteriorated environmental quality; it seems a *fait accompli* that the central axis of sustainable mobility is a commitment to collective transport.

Decisions on medium- and long-term environmental sustainability cannot wait and require coordinated action between the entities that make up the metropolitan area and in coordination with the state administration. The problems of circulatory collapse, pollution, lack of access to water and, in general, saturation of Ciudad de México threaten to collapse one of the greatest cities of the planet.

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