Challenges of public space management in Mexico

Sergio Alvarado Vazquez a,b, Mafalda Madureira a,b, Frank Osterman a,c, Karin Pfeffer a,b

a University of Twente
b Department of Urban and Regional Planning and Geo-Information Management
c Department of Geo-information Processing

Abstract

This paper discusses the opportunities and challenges of public space management (PSM) in the Latin American context by analysing the perspectives of different governance actors. Issues in the PSM literature include ineffective political decisions, prevalence of the private sector, lack of coordination between government institutions, and a need for more effective social participation. While most PSM studies focus on European cities, empirical PSM knowledge in the Latin American context is scarce. To address this gap, this research elucidates the Mexican context by investigating PSM in Mexico City and Puebla. The case study research is based on qualitative document research and interview analysis from four groups of governance actors: government officials, academics, NGOs, and architecture/urban planning firms. We found multiple PSM challenges: uncoordinated efforts in the maintenance of public space, lack of and polarisation of investment, and privatisation of public space. At the intra-governmental level, the research identified a lack of coordination between government institutions, increasing reliance on the private sector for PSM, and limited opportunities for residents to participate in PSM processes. The paper highlights the missing links between existing governance actors involved in PSM and wider residents, in the pursuit of the ambitious role of achieving public space quality.

Keywords: public space, public space management, governance actors, urban, Mexico
1. Introduction

Public space management (PSM) is an approach for the planning, design and maintenance of public spaces and concerns how planned and existing public spaces are regulated, how the facilities are provided, and their quality, design, and management (Carmona, de Magalhães, et al., 2008; Praliya & Garg, 2019). PSM aims to tackle the main challenges in public space development, namely the regulation, coordination, investment, and maintenance of efforts among involved actors and institutions. Policymakers and scholars highlight the importance of PSM as a key element for creating social, safe, and healthy public spaces. Well-planned, well-designed, and well-maintained public spaces provide social, economic, and environmental resources that enhance the livability of cities (Carmona, Magalhães, et al., 2008; Kher Kaw et al., 2020). However, some actors involved in the planning, design, and maintenance of public spaces (i.e., governance actors and local communities), perceive a decline in how they are managed. For example, many public spaces present adverse conditions, poor design, and are perceived as insecure by the communities where they are located (Bonilla, 2012; Carmona & De Magalhaes, 2006).

Recently, PSM has gained more attention across the world. Several organisations (e.g., the World Bank, the Inter-American Development Bank) have developed programmes and strategies explicitly targeting the improvement of public spaces, bringing into the spotlight the importance of public spaces and how to manage them effectively. Public spaces were integrated in the Sustainable Development Goals (SDG), specifically Target 11.7 on providing universal access to safe, inclusive, and accessible green public spaces to everyone by 2030 (United Nations, 2015).

However, the implementation of PSM in practice faces diverse challenges. The first challenge is that political decisions and institutional interests seem to favour the perspective of the private sector, due to expected economic contributions, despite local government ambitions to involve a more diverse group of governance actors in PSM (Auerbach, 2012; Delgadillo, 2018; Low, 2005). As a consequence, some urban projects are carried out because of political campaign promises or interest and not based on coherent urban plans (Koops & Galić, 2017; Zamanifard et al., 2018). Recent studies revealed that private sector actors develop sophisticated systems for privatised PSM through public–private partnerships with government institutions as it has been seen in Copenhagen (Carmona et al., 2019). In these arrangements, PSM favours the economic interests of these actors, at the expense of social or environmental concerns, neglecting the interests and needs of the users of the public space (Delgadillo, 2018).

The second challenge concerns the lack of organisation and coordination between government institutions involved in the planning, design, and maintenance of public spaces. According to De Magalhães and Carmona (2016), PSM should take into consideration different actors and government institutions in a coordinated and organised way throughout all project stages, from conceptual design to aftercare and maintenance. However, the lack of internal coordination between governmental institutions and external coordination with other stakeholders has generated under-management on the physical conditions of public spaces; external factors such as economic, political, and ideological differences have also affected decision-making on planned and existing public spaces (De Magalhães & Carmona, 2006; Zamanifard et al., 2018). The result is absence of leadership in assuming responsibilities and follow-up, with deteriorating public space conditions in less-favoured areas of the city (Alessandri Carlos, 2018).

The third challenge is the lack of opportunities for residents to participate in the planning, design, and maintenance of public spaces. Traditionally, this task was the sole responsibility of public institutions, with social actors usually only being informed, or at best consulted, about decisions (Arnstein, 1969). Social actors have succeeded in carving out more spaces for direct involvement through socially organised initiatives, such as tactical urbanism or placemaking (Gehl & Svarre, 2013; Lydon et al., 2012); however, exclusionary practices still dominate and stifle the opinions of the users of these public spaces (Zamanifard et al., 2018).

Current PSM studies have mainly focused on European cities. Carmona's work on London, Copenhagen, and Oslo showcases PSM's problems of over-management (e.g., public–private partnerships promoting the
commodification and homogenisation of the public space) and under-management (e.g., associated with poorly designed and insecure spaces) (Carmona & De Magalhaes, 2006). Latin American cities are marked by a lack of public spaces in marginalized areas and under-management of the existing ones (Vergara et al., 2015), and the need to raise awareness and promote social knowledge on how public spaces are managed or where they should be developed involving social actors (Borja & Muxi, 2003).

This research contributes to the empirical literature on PSM. It adapts an existing PSM framework adding the context of public spaces and the dimension of social participation. It discusses the opportunities and challenges in the Latin American context, generating new insights on PSM in a non-European country. We used an explorative qualitative approach to analyse PSM in the Mexican context via two case studies in the Mexico City Megalopolis: Mexico City and Puebla City, through the perspectives of different governance actors.

The cities were selected due to differences in size and their budget investments. They share challenges related to informality, and the authors' had prior knowledge of ongoing public spaces issues. The research employs a qualitative approach, drawing on document research and semi-structured interviews. It illustrates how the PSM framework can be applied to the case of Mexico; what the current challenges are according to four groups of governance actors in the two cities; and how public spaces are currently managed in those cities.

This paper is divided into five sections. Section 2 discusses the concept of public space, PSM, and the governance actors. Section 3 provides a brief outline of the case study context. Section 4 describes the methods used to collect and analyse the data in Mexico, followed by Section 5 discussing the key findings on PSM dimensions. Having extended the PSM framework that is brought from the European into the Latin-American context, the paper concludes with the scientific and social relevance of PSM.

2. Public space, public space management, and governance actors

Public spaces and their importance for cities

Urban designers and architects refer to public spaces as the open areas where city life unfolds and people interact, producing vibrant cities but also socio-political expressions (Gehl, 2004; Jakoubě, 2013). In this sense, public spaces are communally shared areas, traditionally managed by the government in urban or rural areas, with different functional or symbolic purposes for citizens (Gehl & Svarre, 2013; Madanipour, 1999). UN-Habitat defines them as "all the places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive" (Garau, 2015, p. 6). They are a vital part of the urban infrastructure, promoting the collective life of residents (Madanipour, 1999). How public spaces are planned, designed and managed has a crucial impact on supporting social interactions, stimulating the activity on the space, and attracting different users (Carmona et al., 2010; Madanipour, 1999). In line with these definitions, this research understands public spaces as physical areas in a city, where different social, cultural, artistic, recreational, political activities and functions unfold, and where social expressions and manifestations can be shared among citizens. We focus on public spaces located at the neighbourhood scale that support everyday activities within their immediate surroundings (Stanley et al., 2012), where its management is the responsibility of local government but which can be privately or publicly maintained, and that offer flexible functions and are appropriated by a community. Our definition was also inductively defined based on our interviewees' responses. For them, public spaces are parks, community gardens, urban remnants, streets, or the popular corner in the neighbourhood.
Importance of public space management

We adopt Carmona's (2007) PSM framework to analyse how public spaces are planned, designed and maintained in the Mexican context. PSM is defined as part of context-specific processes and practices that shape the quality and plurality of public spaces through the aspirations and demands of different governance actors in a way that is acceptable to its users. The governance of these spaces is organised around the interaction between central governing actors and social stakeholders (De Magalhães & Carmona, 2009). The PSM framework presented by Carmona and De Magalhães proposes four interconnected dimensions (Carmona, de Magalhães, et al., 2008, p. 68):

1. Regulations in public space policies;
2. Coordination of interventions;
3. Definition and deployment of maintenance routines;
4. Investment in public spaces and their services.

The model aims to tackle the decline of public spaces and spur on cleaner, safer, greener and healthier public spaces, by improving how they are planned, designed and maintained (Carmona, de Magalhães, et al., 2008). From the perspective of urban planning, the regulation dimension is the one focused on regulatory planning instruments, where public spaces can and need to be located, how they should be used and how they need to be adapted for future societal needs (De Magalhães & Carmona, 2009). The coordination dimension focus on actions of different actors whose actions will have an impact on public spaces such as the coordination of public sector services. The dimensions of maintenance and investment ensure the space can be used as intended, for example, by maintaining its functions, re-designing for future needs or its occasional replacement or removal. The dimensions will be explained in greater detail in the analytical framework in section 3.

Governance and governance actors of PSM

From the perspective of urban policy, governance is defined as the coordinated action and resource allocation by different stakeholders to pursue collective objectives through different processes and mechanisms (Pierre, 2005). These aims are similar to what PSM seeks to achieve, according to Carmona's definition (Carmona, de Magalhães, et al., 2008; Pierre, 2005). On the differences between government and governance, Mandeli (2010, 2019) explains that government is an instrument that applies control, power, and management, while governance refers to the processes of using regulations, laws, and codes to shape the quality of the built environment for the public interest, including public spaces, hence our focus on governance actors.

The literature commonly identifies five groups of actors that influence policies and decision-making processes in urban planning and design (Gehl & Svarre, 2013; Mandeli, 2010): Government; Non-governmental organizations; architecture/ urban planning firms; Academics; and Civil society. For the context of this research, we focused only on 4 groups of actors that were identified by interviewees as having a stronger presence in PSM, in the Mexican context:

- **Government**: Institutions and agencies at the federal, state, and municipal level that attend to specific aspects of public spaces. (Mandeli, 2010; United Cities and Local Governments, 2016).

- **Non-governmental organisations**: Mostly focused on the local context and usually formed by residents who share a common view on a specific problem (Borja, 2011; Madanipour, 1999). NGOs have been seen as representatives of local residents or defenders of the public interest in several theoretical research (Mohanty, 2002; Schoenefeld, 2021). For our research, we consider NGOs as representatives of residents and users, and hence representatives of a bottom-up view on participatory processes (Zamanifard et al., 2018)
• Architecture/Urban planning firms: They focus on planning and designing project proposals requested by the government, i.e., invitations to tender and win government contracts. Often, governments do not have the technical or operational capacity to develop project proposals and hire external consultancies (Cuenya, 2009). We do not consider real estate companies since their motivation is the financial investment on public properties for profit; for planning and design, they usually hire architecture/urban planning firms (Tiesdell & Adams, 2011).

• Academia: Local universities usually provide scientific knowledge about the local conditions and are invited to participate as consultants in decision-making process as experts (Gehl & Svarre, 2013; Ziccardi, 2012).

Current studies in PSM

Recent studies on PSM reflect the trend of local authorities actively involving different stakeholders in the production of long-term management of public spaces in developed countries such as the United Kingdom, Denmark or Norway. Cities such as London, Copenhagen, or Oslo adopted New Public Management approaches, where public and private actors work together to achieve the joint goals of improving public spaces (Carmona et al., 2019; Zamanifard et al., 2018). This new type of management also reached Latin American cities such as Brasília, Buenos Aires or Mexico City, influenced by North American cities and international institutions (Delamaza, 2011; Hernández-Bonilla, 2012).

Hence, countries with emerging economies are also putting emphasis on public space quality and its management in urban regeneration interventions, such as Mexico, India or Ghana. Nevertheless all these countries face challenges on PSM (De Magalhães & Carmona, 2006; Mandeli, 2019). Some researchers argue that current PSM challenges are related to weak urban governance at the neighbourhood level, the lack of regular maintenance, and the proliferation of gated neighbourhoods with private control on who can access and use public spaces in semi-public neighbourhoods (Carmona, de Magalhães, et al., 2008; Chitrakar, 2015). Involving different stakeholders in PSM seeks to change how public policies are developed.

Values such as equity, environmental improvement, social participation, and innovation are encouraging city planners and urban designers to work on new paradigms to design or re-design public spaces (Bonilla, 2012; Carmona et al., 2019; Zamanifard et al., 2018). However, PSM challenges show that society and its aspirations are not yet fully included in the ambition to improve public space quality, and that there is scope for raising awareness of the importance thereof (Carmona, de Magalhães, et al., 2008; Zamanifard et al., 2018).

Studies on PSM (Carmona & De Magalhaes, 2006; Duivenvoorden et al., 2021) have shown how the planning, design, and maintenance phases overlap under management services, and a more holistic and integrated approach is needed in collaboration with social actors. We argue that the four identified actor groups can (and do) contribute to the (re)design, planning and maintenance of new and existing public spaces.

Applying the PSM framework to the Mexican context allows us to explore how different governance actors perceive public spaces. Additionally, public spaces in Mexico face a growing informal sector in the public space, regulatory gaps, and conflicts of interest in their management. The PSM framework helps us to systematically analyse how public spaces are managed through the different dimensions of the framework in our case studies. Finally, the Mexican context contributes to PSM literature by exploring how this approach can help make sense of a context marked by informality, ambiguities in regulatory frameworks and limited opportunities for residents to participate in PSM processes.
3. Research methods

Case study approach

In order to address the main research question, the case study approach was selected to explore the complex issue of the planning, design and maintenance of public spaces in Mexico. We chose to look at this real-life context due to three main aspects. First, public spaces are perceived as an essential asset for public life in the Mexican society and form an important element of a city's identity.

Second, the planning, design and maintenance of public spaces in Mexico are currently promoted by government institutions at the federal, state, and municipal levels. However, programmes and projects promoted by former administrations have created problems such as discontinuity (projects that were initiated but never concluded) and lack of management on public spaces in marginal areas (Ziccardi, 2012).

Third, public spaces in Mexico are largely perceived as insecure and unequal. A recent public security study of the National Institute of Statistics and Geography found that more than 70% of Mexicans feel unsafe in streets and open spaces, and 56% feel insecure in public parks or recreational areas (Instituto Nacional de Estadística y Geografía, 2018). Groups or individuals engaged in criminal or antisocial activities appropriate public spaces, turning them into stigmatised or restricted places and contributing to the perception of insecurity or neglect. The general lack of attention and dedicated resources by local administrations further exasperates this impression (Kuri, 2015; Vargas et al., 2010). Particularly, green open public spaces need attention in marginalised neighbourhoods in the Mexican context, as unregulated urban growth often threatens their existence, leading to urban open voids or abandoned spaces; and where local governments are more reluctant to spend resources for their maintenance (Jasso-López, 2019; Portal, 2016).

We chose two case study cities in close geographic proximity and historical relation to analyse PSM. Mexico City and Puebla share borders and have been growing in unison. Puebla has been one of the gateways for goods and services for Mexico City since pre-Hispanic times (Garza, 2002). Since the early 1980s, both cities have belonged to the megalopolis of Central Mexico, an urban conglomerate formed by seven states in central Mexico (see Figure 1). The GDP per capita of Mexico City contributes 15.8% of the national GDP with 9.2 million of inhabitants and that of Puebla contributes with 3.2%, with 1.5 million inhabitants (Instituto Mexicano para la Competitividad, 2021; Instituto Nacional de Estadística y Geografía, 2020). This contribution affects the budget allocated for each city; Mexico City has a considerably higher budget than Puebla, since the allocation of resources is based on the amount of population to which it must provide infrastructure services for (Instituto Nacional de Estadística y Geografía, 2020; Rozas & Sánchez, 2004). There is also a difference in public space surface per inhabitant. Mexico City has 7.5 m² of public space per inhabitant and Puebla has 2.8m², in both cases insufficient when considering the minimum surface recommended by the world health organisation of 9m² per inhabitant (Instituto Municipal de Planeacion, 2021; Secretaría de Medio Ambiente de la Ciudad de Mexico, 2017). Political differences are also seen in both cities. With a consolidated left government party during more than twenty years, Mexico City has promoted more social and urban programs, including the development of better urban infrastructure, unlike Puebla, with a history of being more right-leaning (Llerenas, 2021), and where historically urban plans and programs initiated by one government are not carried on when a different government takes charge. The inexperience and lack of human and financial resources added to each change of administration has affected PSM in the city (Salgado Montes, 2017).
Analytical framework

The analytical framework is based on the PSM dimensions proposed by De Magalhães and Carmona (2009): regulations in public space policies; the limited opportunities for local residents to participate in processes involving coordination of interventions; the investment in public spaces and their services; and the definition and deployment of maintenance routines.

We expanded this framework by adding 'context' and 'social participation' (see Figure 2), and to obtain a rich picture of our case study, we included three elements regarding the context of the case study as part of our framework: 1) the definition of what is a public space for our actors; 2) what are their aspirations, demands or actions perceived to improve public spaces; and 3) how do they perceive the conditions and functions of public spaces, related to the physical aspects of public spaces.

For our case study, we consider the functions of green, open, publicly accessible spaces at a residential scale which can be multipurpose and adopted by local residents for social, cultural or recreational activities (Stanley et al., 2012). These functions can include residents' ability to assign new purposes according to their social reality, i.e. temporary food markets, community gardens, or improvised sports facilities (De Magalhães & Carmona, 2009; Madanipour, 1999).

We added the dimension of social participation understood as a democratic channel of consultation to collect the aspirations and actions that users require on planned and existing public spaces, with feedback to users and linkages to government institutions because several studies (De Magalhães & Carmona, 2009; Mandeli, 2010) highlighted the need for enhanced involvement of residents in PSM. We argue that it could address
some of the current Latin American PSM problems and could help in the European context. Adding social participation helps to explore to what extent it can be included in the process of planning, design and maintenance of public spaces, in order to understand the involvement and transfer of responsibilities to social agents.

We understand the regulation dimension as the relationships between public space service providers following urban public space policies, compliant with legislation at different government levels. These policies aim to keep public spaces in the best possible condition (De Magalhães & Carmona, 2009).

The dimension of coordination is defined by Carmona et al. (2008) as "coordinated actions of agents whose actions impact on public space implying the coordination of public-sector services, either horizontally within and among local authority departments, or vertically among agencies at different levels of government, from the neighbourhood scale upwards" (Carmona, de Magalhães, et al., 2008, p. 78). This dimension allows us to understand the coordination between various governance actors.

The investment dimension is understood as the availability of public or private sector budget for public spaces services and to obtain the necessary equipment to develop quality in public spaces. It can be the investment used for introducing new technologies in public space design or maintenance routines or to increase better human, technical resources on PSM (Carmona, de Magalhães, et al., 2008).

Following De Magalhães' and Carmona's definitions of maintenance, we define it as the routines and budget needed to maintain public spaces (Carmona, de Magalhães, et al., 2008; De Magalhães & Carmona, 2009). The maintenance dimension also refers to the management mechanism that secures involvement of governance actors and users in designing maintenance routines, while maintaining the separation between service delivery and use (De Magalhães & Carmona, 2009).
Data collection and analysis

We reviewed regulatory documents (see Table 2) to understand Mexico’s regulatory framework on public spaces, including federal and local legislation, laws, regulations or manuals. All regulatory documents were analysed using ATLAS.ti software, by assigning them one of the 17 codes from a first reading of the latest Mexican Federal Law of Human Settlements, Territorial Order, and Urban Development (FLHSTOUD), aggregated into 3 themes: public space, participation, and innovation (see Figure 9 in Appendix). The document analysis’ results are incorporated into section 4 in the regulation subsection.

The codes and the distilled themes guided the design of the interviews. The objective of the interviews was to acquire insights about the governance actors’ perspectives on what constitutes a public space, the aspirations for new and redesigned public spaces, and the conditions and functions of public spaces. The data collected was also used to understand how PSM works in urban Mexico, following the proposed analytical framework for the Latin-American context in the two case studies selected (see Figure 1).

For the selection of actors to interview, we use the previously analysed literature that identified five groups of governance actors (see Section 2). However, for the context of this research, we looked for actors with influencing power on PSM in Mexico. For this reason, we did not include residents. Although their participation is highly relevant, recent research made in Mexico stated their influence is usually not adequately considered in Latin-American cities (Cuena, 2009) and particularly in Mexico as they have a minor impact on decision making (Romero & Mesias, 2004; Ziccardi, 2012). We selected NGOs that represent the residents’ perspective in developing public space initiatives. The aim was to interview at least
one representative from each group in both cities. We developed a semi-structured interview guide based on the document analysis, and selected interviewees. We scheduled about one hour per interview. The interviews revealed additional (mostly digital) documents related to legislation and programmes, shared or pointed to by the interviewees (see Table 3 in Appendix). The interviewer recorded eighteen interviews (22 hours of audio recordings) and took extensive notes during one interview where the interviewee did not wish to be recorded (see Table 4 in Appendix).

All the documents and interviews collected are in Spanish. We developed a matrix based on the responses to the questions during the semi-structured interviews. Subsequently, a table of similarities of interviewee responses was elaborated (Appendix Table 5), in order to transcribe similar topics, framings and perspectives, and organise the findings. Parts of the interviews were translated into English to provide illustrative quotes.

4. Actors’ perspectives on PSM in Mexico

Aspirations and reality of public spaces in Central Mexico

In the case study areas, the governance actors consider public spaces as very important for residents, multifunctional, freely accessible, focused on social interactions and collective use, but also allowing manifestations or commerce. Interviewed NGOs interpret public spaces as places for protest and social action, sometimes used as a channel for accessing decision-making processes. Interviewed academics and government actors mentioned that public spaces could be used to measure the quality of life in open spaces by measuring the number of people who use them and help to regulate the urban environment in big cities through the insertion of endemic vegetation. All interviewed actors aspire for public spaces that are green, properly designed, and able to accommodate social interaction: "they must be comfortable to the eye, with green areas and resting spots, pleasant for pedestrians and cyclists and need to promote social interactions between other residents" (College of Urban planners and designers of the state of Puebla, translation).¹

However, NGOs and academics expressed concerns that criminal activities and insecurity impeded social functions. The perception of insecurity has led society to focus on the aspiration to get safe, secure, and illuminated public spaces, with day and night activities. Mexico City’s Tepito neighbourhood is such a case and points to how far the vision of the green and inclusive public space is removed from reality (see Figure 3). Only government institutions at the federal and local levels mentioned the importance of the management of public spaces and consider their fair distribution within cities as an essential element to achieve public space quality.

¹ Original quote in Spanish: “debes ser agradables a la vista del usuario, con áreas verdes y espacios de descanso, cómodos para el ciclista y el peatón. Necesitan promover la interacción social entre sus residentes.”
Conditions and functions of public space

We can summarise the interviewees' perception of current conditions of public spaces in four specific adjectives: neglected, forgotten, insecure, and dilapidated. This very negative perception is especially evident in marginal, rural, or peripheral areas of the Mexican cities, where there is a general feeling of being left behind, with lack of cultural, recreational, or social activities, and a severe lack of management and maintenance. In contrast, high-income neighbourhoods (often gated communities) have better maintenance due to internal investment of the residents living inside this gated communities (See Figure 4) (interviews with Federal and Local Government).

These inequalities are aggravated by the Federal Government, due to its focus on preserving and maintaining touristic, historical, and central public spaces (interviews with NGOs and government actors). Most interviewed architecture/urban planning firms actors point to an unfair distribution of public spaces across the city and weaker investment in less touristic areas. Based on our interviews with all governance actors, the most common explanations for the poor conditions in public spaces can be summarised as follows (See table 1):
Table 1 Main explanations of the poor conditions of public space in Mexico, Source: Based on conducted interviews made on fieldwork in Mexico.

<table>
<thead>
<tr>
<th>Explanation of poor conditions of public spaces</th>
<th>Actors mentioning them</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a lack of general technical and operative tools for the planning, management, and maintenance of public spaces at the public sector level.</td>
<td>Federal and local government, NGOs.</td>
</tr>
<tr>
<td>Real estate developers are converting public space into private development conforming to the lobbied Mexican legislation which is not totally clear and present gaps at local levels.</td>
<td>Local Government, Academics, NGOs.</td>
</tr>
<tr>
<td>Public-private partnerships design spaces with a consumer focus, instead of seeking to generate a social or environmental impact.</td>
<td>Architecture/urban planning firms, Academics and NGOs.</td>
</tr>
<tr>
<td>There is a lack of promotion and awareness of the importance of public spaces for the city.</td>
<td>NGOs, Academics, Local Government.</td>
</tr>
<tr>
<td>There is a lack of budget assigned by public institutions for the development and management of public spaces.</td>
<td>Local Government, NGOs, Academics.</td>
</tr>
<tr>
<td>Visions of how to plan and manage public spaces diverge.</td>
<td>All the actors</td>
</tr>
<tr>
<td>Public spaces are perceived as a luxury rather than a social need by investors and some decision-makers.</td>
<td>Architecture/urban planning firms, NGOs, Academics.</td>
</tr>
<tr>
<td>Coordination between the different government levels is inefficient.</td>
<td>Local Government, Academics, NGOs.</td>
</tr>
<tr>
<td>Social actors are not adequately involved in the development and management of public spaces.</td>
<td>All the actors</td>
</tr>
<tr>
<td>People feel insecure and organised crime is prevalent.</td>
<td>NGOs and Academics</td>
</tr>
<tr>
<td>People feel safer and are attracted to commercial areas such as shopping centres rather than open areas.</td>
<td>Federal and Local Government, Academics and NGOs.</td>
</tr>
<tr>
<td>New gated communities with private open spaces are appearing</td>
<td>Academics, NGOs.</td>
</tr>
</tbody>
</table>

Functions

Public space functions are related to informal commercial, recreational, cultural, social or religious uses. Their democratic and political functions are also part of the Mexican culture (interviews with local government, architecture/urban planning firms and academics). The four groups of governance actors mentioned the strong economic value of public spaces through the informal sector in Mexico. This comes from the pre-colonial tradition of street markets, as residents appropriate public spaces for informal commercial activities, such as flea markets. However, today's public spaces are not designed for this purpose: "Mexico has a tradition of over 500 years of using public spaces for commercial purposes (See Figure 5), but these traditional aspects were ignored by decision-makers of the city"² (interview with the NGO Barriopolis). This insight is supported by statistical data that shows that 72% of the population work in the informal sector in Puebla versus 47% in Mexico city, creating difficulties to manage informality on public spaces in the city of Puebla (Camberos Castro & Bracamontes Nevarez, 2021).

² Original quote in Spanish: “México tiene una tradición de mas de 500 años de utilizar los espacios públicos para fines comerciales, pero los tomadores de decisiones han ignorado los aspectos básicos de esta tradición en la ciudad.”
Officially, such economic functions are not foreseen, and public spaces are intended to be used for recreational purposes, sports and green areas for parks, garden, to integrate communities, and preserve the ecological equilibriums. The Federal Law of Human Settlements, Territorial Order, and Urban Development (LHSTOUDL) suggests that public spaces may not be used for other purposes that can create social discomfort (Diario Oficial de la Federacion, 2016). Such regulation stifles other uses and functions that emerge as per the needs of public space users, and limits the possibilities of spaces to be adapted and accommodated accordingly. However, NGOs and academics mentioned that there are more criminal or illegal activities in neglected public spaces due to the abandonment of government institutions to attend issues related to drugs, prostitution or thievery (See Figure 6).

Social participation

All groups of actors mentioned in their interviews that efforts are being made to involve residents in the processes of planning. However, it is not yet a common practice, and there is still a lack of involvement on topics related to public spaces or in the planning, design and maintenance of public spaces. Government practitioners at the federal and local level mentioned superficial social participation and are aware of the problem. Even the architecture/urban planning firms, academics, and NGOs felt that creating collaborative solutions between government and other governance actors can develop better, more inclusive solutions for public spaces.
The first contact of residents on issues related to the development and management of public spaces is with government institutions, which usually do not involve other actors in the process. Local government interviewees shared that residents usually petition government institutions to solve issues related to maintaining or renovating a specific public space. However, there are no proper channels of communication to solve deeper issues due to poor institutional coordination. The opposite is the case with academics and NGOs; their first contact on public space issues is with residents, and they sometimes even actively avoid government institutions. This is mostly due to conflict of interest between government plans or public-private partnerships and the interest of local residents. For the architecture/urban planning firms, participatory processes often have low relevance and no meaningful impact, as most of the time social request are not considered in the final project decisions (interview with Entorno Paisaje and Thorsten Architects).

We observed that government actors in Puebla City mentioned no involvement with residents on PSM issues or with other programmes related to public spaces (interview with government officials in Puebla). More social involvement and direct interaction was noted in Mexico City, through an institution called Authority of Public Space; however, this body was abolished in 2019 and the tasks and responsibilities were assigned to other two entities, the ministry of mobility and the ministry of public works in Mexico City (interview with local government official from Mexico City).

The federal government usually works in coordination with the state and municipal levels, and superficially interacts with other actors or delegating actions to local institutions as the scale of action is at the national level. Government officials often inform residents about the projects being developed. During interviews with government officials at the local and federal level, three common levels of social participation were mentioned: consultation, involvement, and collaboration or co-production. Nevertheless, there is no evidence of direct involvement of residents in larger projects. Efforts are limited to consulting public opinion on a project already prepared. As NGOs, academics, and local government highlighted, residents still do not have decision-making power and influence over most public space projects.

Regulation

The document review reveals that the Mexican regulatory framework follows a hierarchical setup, where every decision related to the urban space is based on the Political Constitution of the United States of Mexico of 1917 (Cámara de Diputados del H. Congreso de la Unión, 2018).

Programs, norms, and regulations at different government levels are also based on the Constitution. At the top of the hierarchy of these plans, norms and regulations is the national plan formulated by the president, who is the head of the state and the government (Figure 7). This national plan includes the proposed programmes to be carried out during the presidential period. The current plan (2021–2024) focuses on social policies, including sustainable development of cities, and the development of an urban and housing programme, which includes rehabilitation and improvement of public spaces (Gobierno de México, 2019).

At the state and municipal level, each governor and the Mayor have to present their development plans as well, which formulate their strategic targets, in accordance with the national plan (see Figure 7). The development plans of our two case study cities aim to improve the conditions of public spaces, and this goal is reflected in regulatory instruments such as the Law of Urban Development of Mexico City or the Municipal plan of development of Puebla 2018–2021 (Cámara de Diputados del H. Congreso de la Unión, 2018; Instituto Nacional para el Federalismo y el Desarrollo Municipal, 2019). The international policies adopted in the regulatory planning framework are commonly mentioned at the federal level, in regulations and official government press-releases (Diario Oficial de la Federacion, 2016; Secretaría de Desarrollo Agrario Territorial y Urbano, 2019). The country's participation in the international efforts to achieve the SDGs and the adoption of the New Urban Agenda, as a roadmap to promote sustainable cities in Mexico, are explicitly highlighted.

The translation of official names and information of regulatory and legal documents was made by the first author.
During the former president’s term of office (Enrique Peña Nieto, 2012-2018), a federal ministry called “Ministry of Agrarian, Territorial and Urban Development” (SEDATU) was created in 2013 (Subsecretaría de Desarrollo Urbano y Vivienda, 2014). In 2016, the SEDATU presented the Federal Law LHSTOUDL (Diario Oficial de la Federacion, 2016). This was the first federal legislation that operationalised and connected the terms of urban development, public space, management, and social participation. Specifically, it defines public spaces as: "open spaces or land that belong to human settlements intended for use, enjoyment or collective use, with generalised access and free transit"^4 (Diario Oficial de la Federacion, 2016).

While regulation did accentuate the importance of public spaces and social participation in the current national plan for the period 2018-2024 (Diario Oficial de la Federacion, 2016; Gobierno de México, 2019), our interviews also revealed that not every governance actor is aware of how the Mexican legislation works in relation to the management of public spaces, including the LHSTOUDL which also promotes the importance of social participation in the development of public spaces. Interviews with academics and NGOs in both cities foreground the lack of instruments or indices to evaluate current conditions of public spaces. According to them, sometimes legislations are used to justify projects without previous studies, ignoring the local urban development plans.

Existing public spaces do not have a clear definition of regulatory frameworks about their maintenance and which actors are responsible for them. According to the interviews with government institutions in Mexico City and Puebla, in the event of damage to a public space, several factors determine who will be responsible for the repair or maintenance. This varies depending on the government institution responsible for public spaces, the level of damage applied, and which institutions are required for repairing the damage. All this leads us to the first challenge of inter-institutional coordination (Delgadillo, 2018). No one wants to take

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^4 Original quote in Spanish: “áreas, espacios abiertos o predios de los asentamientos humanos destinados al uso, disfrute o aprovechamiento colectivo, de acceso generalizado y libre tránsito.”
responsibility due to factors such as institutional rivalries or lack of investment, hence promoting institutional disinterest and administrative mismanagement and giving priority to other projects.

Table 2 General National Urban Planning System in Mexico. Source: Based on an overview by Rivera Borrayo & Orozco Alvarado, (2009).

<table>
<thead>
<tr>
<th>Government Levels</th>
<th>Laws</th>
<th>Regulatory framework: plans and programs</th>
<th>Executor</th>
<th>Government levels of Coordination</th>
<th>Actions</th>
<th>Actors involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>State laws on human settlements</td>
<td>State Urban Development Plans and Programs</td>
<td>(Ministry of mobility, Urban development or public works)</td>
<td>State Metropolitan Municipal Regional</td>
<td>- Develop Plans - Approve Plans - Execute</td>
<td></td>
</tr>
<tr>
<td>Municipal/Local</td>
<td>Municipal urban development plans</td>
<td>Departments of Urban Planning Mobility, Infrastructure or Public Works</td>
<td>Federal State Municipal</td>
<td>- Approve local level plans - Execute at neighborhood scale</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coordination

The interviews revealed the involvement of diverse government institutions such as ministries of mobility, planning institutes, ministries of tourism or infrastructure work and ministries of parks and recreation. Policies and legislation obligate institutions to coordinate their actions with social agents (Diario Oficial de la Federacion, 2016; Gobierno Constitucional del Estado de Puebla, 2017); however, academics and government officials mentioned that social involvement is fragmented and when residents are involved, the decisions made have no relevance on topics related to public spaces.

Between external institutions such as NGOs, universities, or the private sector, coordination happens through public–private agreements or partnerships to participate in the development of specific projects, usually through consultancy or project development contracts. Social mobilisation is becoming more active to counter prevalent decision-making processes. NGOs for example, obtain funding from government institutions to develop social interventions in public spaces and coordinate actions with residents to promote and invite other social actors to participate in decision-making processes: "New partnerships with the private sector can cause that public spaces disappear through public–private investments, which usually come along with real state depredation. This is caused by failed public policies, the extinction of green areas and land speculation" (interview with academic from the Autonomous University of Puebla, faculty of architecture).

The private sector can be divided into two different groups. The first is comprised of architecture or urbanism firms hired to develop proposals for projects related to public spaces. Government tender contracts usually request a participatory element, but the feedback is not considered in the final result. The second group are private investors, most of the time real estate developers who want to invest in urban projects, or consultancy companies that developed a proposal and seek to create public-private partnerships or to

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5 Original quote in Spanish: “Es posible que desaparezcan los espacios públicos debido a las asociaciones publico privadas debido y a la inversión con el sector privado, parte de la degradación de las inmobiliarias. Esto es a causa de los resultados de políticas públicas fallidas, la extinción de áreas verdes y la especulación del suelo.”
manage some public spaces, and who have to comply to the project's request on social participation without any social impact on the final project (interviews with Entorno Paisaje and Thorsten Architects):

There are no state or municipal laws that promote the development of public spaces, the Authority of Public Space was the only institution linked with developing public spaces, that I am aware, but it disappeared overnight.⁶ (interview with academic from the Autonomous Metropolitan University)

The federal level has more resources and is, therefore, less reliant on private investors. There is some collaboration with state and municipal institutions; for example, the 2019-initiated federal "Program for Urban Improvement" aims to involve society in issues related to the renovation and improvement of public spaces (see Figure 7)⁷(Avalos, 2020). Nevertheless, the efforts made at the federal level to promote the development of public spaces are scarce and at odds with independent actions taken by local government; the lack of inter-institutional coordination, the lack of knowledge of federal legislation and political differences affect the decision making and the production of public spaces. For example, the Authority of Public Space of Mexico City – the only local institution in the country focused on the planning, development and management of public spaces – was abolished due to the poor administration of the agency; the Metropolitan Institute of Planning of the state of Puebla was also abolished with some projects related to the development and management of public spaces.

**Investment**

According to the federal government, a big problem is the lack of coordination between the different government levels and other external actors. Resulting adverse effects include inefficient or misallocated budgetary means, no political will to focus on public spaces, corruption and others:

We had a neoliberal model in the cities. Also, there are a lot of administrative issues in the municipalities that prevent improvement of the conditions of public spaces, like lack of budgetary resources, poor allocation of the budget or corruption are the main issues.⁷ (interview with Academic from the Institute of Social Sciences and Humanities)

NGOs and local governments mentioned that working as a social initiative is too costly; the lack of financial means prevents them from acquiring proper equipment or covering the high upfront costs for new innovative technologies or tools to improve public spaces. Lack of funding is, thus, an important barrier to implementing innovative solutions in the development and management of public spaces (interview with Barriopolis).

**Maintenance**

According to academics and government practitioners, provision of maintenance to public spaces in Mexico City faces different challenges. First, there is a need for management plans for public spaces. Second, a lack of cultural, social, or recreational activities leads to deserted public spaces. Third, there is a lack of awareness among non-governmental actors of the important role that they can play in the maintenance of public spaces. Also, it was mentioned that local actors, mostly neighbourhood associations in marginal areas, do not have the resources to support this maintenance of public spaces, if they exist (interview with

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⁶ Original quote in Spanish: “No hay leyes municipales o estatales que promuevan un desarrollo real de espacios públicos, la Autoridad del Espacio Público fue la única institución más relacionada al desarrollo de espacios público que yo conozco, pero desapareció de la noche a la mañana.”

⁷ Original quote in Spanish: “Teníamos un modelo neoliberal en las ciudades. También hay una gran cantidad de problemas administrativos en los municipios que no permiten mejorar las condiciones de los espacios públicos, como falta de presupuesto, la mala asignación del presupuesto o la corrupción”.


academic from the Autonomous Metropolitan University and Local and Federal government). "Mexico City has plenty of green areas but in bad shape and bad conditions…. Some public spaces have a proper urban design but are not well maintained" (interview with Thorsten Architects).

In Puebla City, the lack of maintenance is highly visible in some public spaces, creating a perception of abandonment and insecurity. For example, NGOs, academics, and the federal government respondents mentioned that maintenance efforts benefit from private investments and are prioritised in the city centre (see Figure 8) and high-income neighbourhoods, while peripheral areas of Mexico City and Puebla are neglected (see Figure 6) (interviews with the Autonomous University of Puebla, the College of Urban Planners and designers of Puebla and federal government actors). Government institutions at all levels are tasked with providing maintenance to public spaces, mostly through the cleaning service agencies (H. Ayuntamiento de Puebla 2018-2021, 2020). However, coordination between institutions and other actors needs to be substantially improved: "if public spaces are well lit and maintained, the proliferation of criminal activities can be avoided; the perception of these places could change, and its users would start taking better care of them" (Interview with former collaborator of the abolished Authority of Public Space).

Our research identified three major differences between the case study cities. First, differences in the institutional setup supporting the PSM. Mexico City has planning institutions with more resources, clearer responsibilities, and the legacy of promoting the country's first ministry of public spaces. In contrast, the government institutions in Puebla act less coordinated, with local institutions working individually on public space projects and collaborating only when necessary. Second, regarding regulatory frameworks, Mexico City has more specific laws promoting the planning, design, and maintenance of public spaces, including a new initiative of the law of public spaces that have not been clearly defined (Congreso de la Ciudad de Mexico, 2020). Puebla’s legislation instead has gaps concerning the responsibilities for the planning, design, and maintenance of public spaces and lacks dedicated legal and political instruments to manage them. Third, academics and local government representatives mentioned the proliferation of informal commerce in the central areas of both cities due to lack of job opportunities, making it more challenging to manage informal commerce in public spaces. However, Mexico City has made efforts to control and manage informality, such as the "Chambeando Ando" law initiative, which seeks to regulate informal commerce on public spaces in Mexico City (Ramirez, 2020).

8 Original quote in Spanish: “La ciudad de Mexico tiene varias áreas verdes que se ven mal y estan en malas condiciones…. Algunos espacios públicos tienen un buen diseño urbano, pero no están correctamente mantenidas”.

9 Original quote in Spanish: “si los espacios públicos presentan buena iluminación y se mantienen, se puede evitar la proliferación de actividades delictivas, la percepción de los lugares podría cambiar y comenzar a ser más cuidados por sus usuarios”.

Figure 8 Mexico City street in the city centre. Source: Own photography taken in January 2020.
5. Discussion

The urban context is crucial for the planning, design and maintenance of public spaces, and researchers have highlighted three key dimensions from the urban design perspective: the morphological, the functional and the socio-cultural (Carmona et al., 2003). In our research, we focus on the functional and the socio-cultural dimension and, therefore, expanded the analytical framework with a context section (see Figure 2), in order to understand how public spaces are defined and perceived in Latin America, specifically in the Mexican case. Our findings suggest that public space management in a Latin American case shares some challenges with the European context related to uncoordinated efforts to maintain public spaces, lack of investment due to competing political priorities, privatisation of public spaces, and a strong focus on aesthetic rather than functionalities.

Our empirical data points to a shared understanding of definitions of public space between all four groups of governance actors, the regulatory documents and our own definition (De Magalhães & Carmona, 2009; Diario Oficial de la Federacion, 2016; Madanipour, 1999). From a PSM perspective, a shared definition implies that there are no big gaps in the interpretation of fundamental aspects of public spaces. Qualities that can lead to achieving successful PSM, and can be done with a deeper focus on the spatial form of the cities and the immediate context where public spaces are located, promoting activities with interest to local residents, and improving the image and quality of a place that is perceived as neglected (Carmona, 2010b; Gehl, 2004; Portal, 2016).

Following the analytical framework proposed of PSM for the Latin American context (Figure 2), in this section we discuss the differences across the theory related to PSM observed during fieldwork and the different approaches of the PSM dimensions that we found in our case study.

In the Mexican context, the functionalities mentioned by scholars were also supported by the views shared during the interviews. The actors understood public spaces as places for collective use and free access, for social functions as well as for interaction, manifestation, commerce or leisure (Carmona, 2010a; Diario Oficial de la Federacion, 2016; Madanipour, 1999). Other similarities relate to the perception of public spaces as a social necessity instead of a luxury. Social participation is explicitly mentioned as needed to achieve consensus for decision-making processes for PSM. Local residents wants to become more active, and through their participation, it is possible to avoid conflicts of interest and give greater credibility to government actions related to public spaces.

However, for the second contextual aspect – actors’ aspirations of public spaces – we observed that the regulatory definitions and planning instruments in Mexico are not aligned with what is seen in practice and what government actors, NGOs, and academics aspire to achieve. All actors mentioned that many public spaces look neglected, forgotten, insecure, and in the process of decay. However, they aspire for safe and secure, healthy, accessible, and well-designed public spaces. Worthy to mention is that there does not seem to be an explicit need for new public spaces by the interviewees, which could be due to the inability of current governments institutions to maintain existing public spaces in good condition (Delgadillo, 2018; Secretaria de Desarrollo Social, 2010).

The third contextual aspect – current conditions and functions of public spaces – also shows a discrepancy between what is officially on paper and what is seen in practice. Our empirical data shows that the Mexican regulatory framework aims to improve public spaces’ current functions and to foster social interactions: however, these are yet to materialise in reality (Carmona, 2015; Diario Oficial de la Federacion, 2016; Kuri, 2015; Portal, 2016).

The review of the PSM dimension of regulation reveals that the country is attempting to improve public space conditions at all government levels through the current national plan (2019–2024), the first official definition of public spaces in federal law (LHSTOUDL), and various programmes at state and local level (Diario Oficial de la Federacion, 2016; Gobierno de México, 2019). Regulation is the foundation for the operability of the other four dimensions. In the Mexican context, the recent efforts to define the purpose and
importance of public spaces still need regulatory instruments to secure the compliance of public space policies; lacking clear instruments to measure, comply and achieve the development of public spaces, can lead to developing projects based on interpretations that do not seek to improve the quality of public spaces, nor how to manage them.

NGOs and the architecture/urban planning firms stated that some regulations are used to justify projects without following norms or manuals, leading consultancy firms to interpret in their own way how public spaces should be designed and developed. This contrasts with the regulatory dimension's purpose of compliance with public space policies. The lack of instruments to measure which public spaces need to be prioritised or how they are done creates a gap between inter-institutional agencies on the achievement of objectives and services; there are no master plans or planning instruments focusing on the development of public spaces.

The PSM dimension of coordination is the main concern expressed by government levels, largely due to the fragmented coordination between government institutions and other governance actors. In the Mexican context, the main complaint is the lack of tools to develop the tasks for the planning, design and maintenance of public spaces; this includes the lack of internet, software and sometimes even a computer, which makes it difficult to develop coordinated solutions. The telephone, social media such as WhatsApp or personal visits continue to be the main way to share and coordinate efforts between government institutions.

Due to the poor coordination, resident organisations shun contact with government institutions and take actions on their own initiative, developing public space interventions without official permission from local authorities. This "do-it-yourself" activism reverberates some of the trends towards tactical urbanism or guerrilla urbanism, observed in Canada, Mexico, and Colombia (Lydon et al., 2012).

The only actor that seems to benefit from having direct contact with the government is the architecture/urban planning firms. Due to political decision and institutional interest as well as successful lobbying, decision-makers and the private sectors started to have a close relationship, including some cases of corruption as it was found with the former secretary in charge of the federal agency SEDATU (Auerbach, 2012; Delgadillo, 2018; Low, 2005). The interviews with NGOs, academics and the architecture/urban planning firms revealed how private investors acquire contracts for the planning, design or maintenance of public spaces, with corruption playing a key role. With the transfer of management responsibilities to private actors, the government is becoming even more dependent on the private sector, further increasing its influence on how the city looks and how it is managed. The result is that corporate interests are coming to dominate public spaces (Carmona, 2019; De Magalhães & Carmona, 2006).

The investment dimension is a decisive aspect related to coordination in the Mexican case. Insufficient budget and its poor allocation are a crippling problem, with peripheral or marginal areas being neglected and investment flowing into high-class residential, touristic, or central areas. This finding is in line with other studies (Carmona, de Magalhães, et al., 2008; Zamanifard et al., 2018) that observed the same concentration of inequality. Government practitioners mentioned the need to strengthen governmental working groups with technical expertise and professional backgrounds regarding the development of public space.

The maintenance dimension aims to apply what has been developed in the previous dimensions. However, it gets affected as well in a domino effect caused by issues on the previous dimensions, such as lack of coordination or investment affects how the maintenance is giving to public spaces. According to Carmona et al. (2008), this dimension should follow the available regulation and policies to improve the physical conditions of public spaces, including all technical, budgetary aspects and public consultations to support actions on how to maintain them through other actors (Carmona, de Magalhães, et al., 2008). However, we identified several challenges that impede the desired progress: the lack of operability and coordination between government institutions and other actors on how to maintain or who will be responsible for the public spaces; the lack and frequent misallocation of resources; the constant social concern on the physical conditions of public spaces; the lack of effective social participation; and the need to create awareness
among residents about the important role it needs to play. Lack of capacities and resources was also found in other domains of urban management (e.g., investment and coordination).

The additional PSM dimension proposed by this paper, social participation stresses the need for and importance of involving residents in PSM as there are limited opportunities for participatory processes and the existing ones often have low relevance and no meaningful impact. The interviews confirmed the need for strong involvement of residents – exclusionary practices persist, and there is only superficial citizen participation in public space development. These findings reflect the results from other studies that emphasised how social and psychological needs of inhabitants are being ignored and the functions and social relations in the city are being disrupted (Asociación Nacional de Parques y Recreación A.C., 2018; Carmona, de Magalhães, et al., 2008).

6. Conclusion

This paper used the PSM analytical framework to elucidate the opportunities and challenges of PSM in the Latin American context. We analysed this issue via two case studies, Mexico City and Puebla City, in order to provide a clearer understanding of current PSM conditions in Central Mexico. At the conceptual level, Carmona’s PSM framework helped us to systematically analyse how public spaces are managed in the case studies. However, different interpretations of how public spaces are managed in the Mexican context – in contrast to the European – made us add a context section.

We learned from the two cases that the size of the population affects the federal public investment of public infrastructure received, but also how it is allocated at the local level, for example Puebla in 2020 allocated 72% less budget to urban infrastructure than in 2019 and Mexico City 32% less, directly affecting the development of public spaces (Guadarrama et al., 2021). This was confirmed by the federal and local governments interviewed, that confirmed that this is due to the current government pursuing an austerity policy that affects investment in public spaces. However, there are some attempts in Mexico City to improve PSM, creating institutions such as the authority of public spaces or the laboratory for Mexico City. However, Puebla does not have or is developing similar institutions. Also, the regulatory frameworks are distinct, and there have been more efforts on regulatory frameworks and planning instruments in Mexico City, while Puebla continues to fall behind. Furthermore, according to our government interviewers at the federal and local level, political and ideological differences affect how public spaces are being managed in both cities. Hence, the two selected cases enable insightful comparisons of geographic scales, budget investments, and how public spaces are potentially managed (Jasso-López, 2019).

Through document review and interviews, effectively complementing each other, we confirmed that the three challenges prevalent in PSM literature hamper PSM in Mexico: At the intra-governmental level, (1) there is a lack of coordination between government institutions. Regarding interactions with other actors, the government is (2) increasingly relying on the private sector for the development and management of public spaces, while (3) providing limited opportunities for local residents to participate in PSM processes.

It is important to mention conflicting points of view among our interviewed actors regarding the PSM. The first conflict perceived is the evident lack of trust in government institutions among the NGOs, academics and architecture/urban planning firms. Government institutions are perceived as making decisions out of personal interest due to their ongoing political agenda, conflicts of interest, corruption, or lack of will to keep on course public space projects. The second aspect is the difficulty in institutional coordination among federal and local government actors. The federal government is perceived as having a degree of institutional coordination at the federal level. However, at the local level, inconsistent or misinterpreted public policies, political or institutional differences due to personal interest, and the lack of resource allocation by the federal government result in the perception of lack of institutional coordination. A third situation perceived is the application of regulatory frameworks for PSM. The government’s position is to abide by what the regulatory framework says. However, NGOs, academics and the architecture/urban planning firms differ on what is mentioned in the current regulatory instruments, such as broad definitions of how public space should be...
planned, designed and maintained, allowing different interpretations of the law at personal convenience and without precise regulatory instruments for PSM, creating a conflict of understanding of what the law mentions and what has to be done in practice.

Despite some PSM successes, many vaguely shared ideas on how to improve and maintain public spaces - even among government actors - remain. Government agencies at all levels (municipal, state, and federal) tend to have more interconnected relationships, and usually focus on large-scale projects; smaller projects suffer from incoordination.

For that reason, the extended framework presented enabled us to explain several issues: the meaning of public spaces for and their physical perception by governance actors; the effects of coordination and transfer of PSM responsibilities on other governance actors; the level of social participation in PSM; and the effects of investment and maintenance on the physical conditions of public spaces.

Our research focused on opportunities and challenges of PSM but future research could explore the different typologies and functionalities of public spaces with more detail. Since our interviewees mixed different scales and typologies when giving their definition of public spaces, this limited the level of detail possible. Some functions might require a specific management regime according to the different scales (i.e. Metropolitan, city level, intermediate or residential level), and different types of public spaces (street, green open area, square, etc).

Our results foreground that the government institutions should focus on three main aspects. First, they should explore ways to enhance their interaction and coordination with governance actors and residents in the planning, design and maintenance of public spaces. Second, they need to seek meaningful feedback from local resident actors, to ensure that the local community has an effective voice in decision-making processes for the development of public spaces. Third, more efforts are needed to disseminate the importance of the development and maintenance of public spaces and raise awareness among actors.

Our research also showed a lack of transparency in publicly available data and information, with most of the interviewed actors not mentioning it at all, as a lot of information was not publicly available and needed to be requested during fieldwork to some government practitioners.

Our insights on how different governance actors can address the lack of coordination and mismanagement, and the lack of social participation and dissemination of information can inform the formulation of policies on PSM for Mexican cities. As stated in other studies, transparency of information in government institutions promotes efficiency and coordination, among other organisational values, and deepens the communication channels between government institutions and social actors (Brynskov et al., 2014; McCall & Dunn, 2012).

Given the lack of other PSM studies in non-European countries, this research makes an important empirical contribution to the scientific body of knowledge on PSM. We discuss the Mexican case studies in a conceptual framework that allows placing the discussion in a wider Latin American context. We confirm existing challenges and highlight context-specific issues such as the proliferation of the informal sector, the ambiguity of laws and regulations, the lack of social participation and financial means to maintain public spaces. Our findings will be particularly helpful in Latin American cities with similar conditions or arrangements, such as Bogota in Colombia or Lima in Peru, where further studies are needed to expand the notion of PSM in an international discourse (ONU Habitat & CAF, 2014). Our conceptual framework considers the context of public spaces, the definition of a public space, the aspirations perceived to improve public spaces, the conditions and the functions perceived in public spaces; and the inclusion of social participation as an independent but crucial dimension of the PSM framework.

Future research could explore the use of innovative methods to involve residents in the planning, design and maintenance of public spaces. For example, Information and Communication Technology (ICTs) tools could improve social participation on PSM and be used for collaborative planning, design and maintenance (Artopoulos et al., 2019; Brynskov et al., 2014). This is similar to what is happening in the emerging field of urban interaction design, where ICTs can be used for visualization of possible public space scenarios, for
communication among different stakeholders or for support the management of public spaces (Brynskov et al., 2014). For instance, the Management of Public Space Groningen (BORG)\textsuperscript{10} helped the city of Groningen in the Netherlands to visualise and record the conditions of public spaces and evaluate management policies (Carmona, de Magalhães, et al., 2008); or the notification public space system (MOR)\textsuperscript{11} in Amsterdam that allows residents to report issues with public spaces directly to the city.

One limitation of the research was the change of the Federal Government in Mexico in the period 2018-2024 which caused a change in the structure of some government agencies, complicating the search for the responsible authorities or actors for issues related to public space in Mexico. This may have caused the omission of certain perspectives in this research of which we are not aware.

\textsuperscript{10} The Dutch term is Beheer Openbare Ruimte Groningen.
\textsuperscript{11} The Dutch term is Melding Openbare Ruimte en Overlast.
Bibliography


Chitrakar, R. M. (2015). *Transformation of public space in contemporary urban neighbourhoods of Kathmandu valley, Nepal: an investigation of changing provision, use and meaning* [Queensland University of Technology].


Congreso de la Ciudad de Mexico. (2020). *Iniciativa con Proyecto de Decreto por el que se explide la Ley del Espacio Publico para la Ciudad de Mexico.*

https://www.congresocdmx.gob.mx/media/documentos/41d7fc09e0a559f4fef4889df15ad845c92c07c4.pdf


https://doi.org/10.1080/14649350600841461


https://doi.org/10.1080/09640560802504704


https://doi.org/http://dx.doi.org/10.4067/S0718-65682011000300003


http://www.senado.gob.mx/comisiones/desarrollo_social/docs/marco/Ley_GAH.pdf


https://doi.org/10.1016/j.cities.2020.103032


SERIE Recursos naturales e infraestructura.


## APPENDIX

### Table 3 Documents obtained prior and after the interviews

<table>
<thead>
<tr>
<th>Documents obtained prior to the interviews</th>
<th>Documents provided by the interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Constitution of Mexico of 1918</td>
<td>• The State Development Plan of Puebla</td>
</tr>
<tr>
<td>• National Plan of the Federal Administration 2019–2024</td>
<td>• Law of Urban Development of Mexico City (2017)</td>
</tr>
<tr>
<td></td>
<td>• Operability Rules of the Federal Program of the Urban Improvement Program (period 2019)</td>
</tr>
<tr>
<td></td>
<td>• Administrative manual of the Authority of Public Space of Mexico City (2017)</td>
</tr>
</tbody>
</table>

### Table 4 Actors interviewed during fieldwork in Mexico

<table>
<thead>
<tr>
<th>City</th>
<th>Institutions</th>
<th>Group of Actors</th>
<th>Date of the interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puebla City</td>
<td>Ministry of Mobility of Puebla</td>
<td>Local Government</td>
<td>13/11/2019</td>
</tr>
<tr>
<td></td>
<td>Municipal Planning Institute of Puebla</td>
<td>Local Government</td>
<td>14/11/2019</td>
</tr>
<tr>
<td></td>
<td>Mayor of the Romero Vargas district</td>
<td>Local Government</td>
<td>20/11/2019</td>
</tr>
<tr>
<td></td>
<td>Authority of the Historic Center of Puebla</td>
<td>Local Government</td>
<td>21/01/2020</td>
</tr>
<tr>
<td></td>
<td>Instituto de Ciencias Sociales Y Humaniades of the Autonomous University of Puebla (BUAP)</td>
<td>Academic</td>
<td>11/11/2019</td>
</tr>
<tr>
<td></td>
<td>Faculty of Architecture of the Autonomous University of Puebla (BUAP)</td>
<td>Academic</td>
<td>14/11/2019</td>
</tr>
<tr>
<td></td>
<td>College of planners and environmental designers of the state of Puebla.</td>
<td>NGO</td>
<td>14/11/2019</td>
</tr>
<tr>
<td></td>
<td>Re-Genera Espacio</td>
<td>NGO</td>
<td>15/11/2019</td>
</tr>
<tr>
<td></td>
<td>Entorno Paisaje</td>
<td>architecture/urban planning firms</td>
<td>21/11/2019</td>
</tr>
<tr>
<td>Mexico City</td>
<td>Ministry of Works and public services and former collaborators of the abolished Authority of Public Space</td>
<td>Local Government</td>
<td>30/11/2019</td>
</tr>
<tr>
<td></td>
<td>Ministry of Mobility of Mexico City and former collaborators of the abolished Authority of Public Space</td>
<td>Local Government</td>
<td>29/11/2019</td>
</tr>
<tr>
<td></td>
<td>Metropolitan Autonomous University, Landscape program</td>
<td>Academic</td>
<td>18/11/2019</td>
</tr>
<tr>
<td></td>
<td>The National University of Mexico,</td>
<td>Academic</td>
<td>26/11/2019</td>
</tr>
<tr>
<td></td>
<td>Taller de Inovacion Urbana</td>
<td>NGO</td>
<td>28/11/2019</td>
</tr>
<tr>
<td></td>
<td>Barriopolis</td>
<td>NGO</td>
<td>08/11/2019</td>
</tr>
<tr>
<td></td>
<td>Thorsten Architects</td>
<td>architecture/urban planning firms</td>
<td>09/11/2019</td>
</tr>
<tr>
<td></td>
<td>Ministry of Agrarian, Territorial and Urban Development (SEDATU)</td>
<td>Federal Government</td>
<td>19/11/2019</td>
</tr>
<tr>
<td></td>
<td>Ministry of Agrarian, Territorial and Urban Development (SEDATU)</td>
<td>Federal Government</td>
<td>22/01/2020</td>
</tr>
<tr>
<td></td>
<td>Ministry of Agrarian, Territorial and Urban Development (SEDATU)</td>
<td>Federal Government</td>
<td>23/01/2020</td>
</tr>
</tbody>
</table>
Figure 9 Codes obtained through the analysis of the regulatory documents prior the interviews using Atlas.ti software.
Table 5 Example of the table of similarities, the data collected was organised on topics and from there, the findings were chosen according to the responses of each government actor.

<table>
<thead>
<tr>
<th>General Perception of Public space</th>
<th>Importance for the city</th>
<th>Characteristics of an attractive PS</th>
<th>Common functions of PS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic element (NGO+Academics e.g.) Theme Representation</td>
<td>Highly important (ALL actors)</td>
<td>Colourful and comfortable</td>
<td>Multifunctional (NGOs+Academics+Local Government)</td>
</tr>
<tr>
<td>Social interaction</td>
<td>Absorb Urban expansion (NGOS)</td>
<td>Green spaces</td>
<td>Informal commerce</td>
</tr>
<tr>
<td>Open to everyone</td>
<td>Combat insecurity (NGOs+ Local Government)</td>
<td>promote social interactions</td>
<td>Recreational functions</td>
</tr>
<tr>
<td>Regulated by the government</td>
<td>Improve cities (Federal+Local government)</td>
<td>Offers environmental services (Academics+Federal Government)</td>
<td>Political (NGOs+Private Sector+Local Government)</td>
</tr>
<tr>
<td>Space that is not private</td>
<td>Creates social coexistence (NGOs+Private sector+Federal Gov.)</td>
<td>Quality in their design (All actors)</td>
<td>Cultural</td>
</tr>
<tr>
<td>Accessible</td>
<td>Influence quality of life</td>
<td>Good management</td>
<td>Externalities promote Economic (All actors)</td>
</tr>
<tr>
<td>Democratic space</td>
<td>Promote human interaction (Academics+Private sector)</td>
<td>Safe and secure</td>
<td>Illegal or criminal functions (NGOs+Academics)</td>
</tr>
<tr>
<td>Surrounded by a built environment</td>
<td>Creates quality of life (Academics+Federal and Local government)</td>
<td>Accessible and inclusive (Academics+Private sector+Federal+Local Government)</td>
<td>Cosmological or Religious</td>
</tr>
<tr>
<td>Multifunctional</td>
<td>Opposite of the private space (Private sector)</td>
<td>Prioritized in marginal areas</td>
<td>Mobility or transit (Local+Federal government)</td>
</tr>
</tbody>
</table>