

# Urban Densification Strategy and Land Value in Tijuana, Baja California - The Opinion of Specialists

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**Abstract:** Specialists can provide opinions regarding the city and land value based on their specialized field. Professionals in these fields are identified as urban planners and valuers, who play a crucial role in the current dynamics of cities. They have a qualified opinion on city issues based on their professional practice in various areas of expertise. This opinion was obtained through the formulation and application of a questionnaire to specialists. Subsequently, the results were analyzed and graphically represented. In the discussion, several findings were found related to the relationship between land value and the urban densification policy established in the urban planning that governs the city of Tijuana, Baja California. The study investigated the behavior of the real estate market in the region and the establishment of a solid strategy toward densification.

**Keywords:** Urban planning and development; Land value

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## 1. Introduction

In the context of urban planning, is it important to address urban densification strategy in terms of land value. Based on the theoretical aspects reviewed, although there are considerations that involve land value, perspectives that consider specific zones or areas have not been delved into. These zones or areas can be used for the analysis of different urban characteristics, phenomena, and behaviors, as well as to determine and assign different attributes and capacities, including temporal ones. The purpose of this is to establish urban policies for growth, improvement, and conservation in specific geographic areas.

Addressing the relationship between urban densification policy and knowing its performance based on the opinion of specialists can help us to understand its usefulness and relevance in the current context of the city and to ascertain aspects related to the contribution of land value. This is achieved through the analysis of the densification policy, which allows us to identify aspects of this policy that promote a better use of it. With this, elements that influence the behavior of the current real estate situation can be better understood to reduce imbalances in cities.

## 2. Methodology

The objective of this paper is to analyze the urban densification policy contained in the Urban Development Program of Tijuana, Baja California (PDUcpt) <sup>[1]</sup>. This policy is defined through a polygon which indicates that the properties within it have a greater possibility for more intense use compared to those that are not within the polygon.

The main objective of the study is to determine how the densification policy affects the determination of land value. A structured analysis was carried out to approach the different aspects to obtain an answer.

First of all, it is important to highlight that the population center of the city of Tijuana, Baja California is the territorial unit used for the analysis. This territorial unit is divided into 34 sectors and 166 subsectors as shown in **Figure 1**. Among the subsectors, the densification policy is applied in 34 subsectors represented by red polygons as shown in **Figure 2**.

In addition, a questionnaire was given to specialists to gather their opinion on the knowledge of this densification policy and its contribution to the urban development of the city, and how this affects land value. The specialists consulted belong to two important guilds in the city that are closely related to urban issues and land value. These guilds are the *Sociedad de Urbanistas de la Zona Metropolitana de Tijuana* and the *Colegio de Valuadores del Estado de Baja California*. Both groups identify themselves as collegiate and have extensive experience in the field, highlighting among their professional purposes that of being auxiliary to the authority and have done recognized work in their area of competence in the region. The analysis of the specialists' answers was graphically represented, contrasted, and commented on to obtain a complete analysis of this policy. As many years have passed since this policy was implemented in the city in 2010, it is necessary to consider new considerations based on the qualified opinions in the current context of the urban environment and the particular conditions prevailing in the region. These conditions include aspects related to infrastructure, land suitability, the real estate market, and other factors that influence the relationship between city density and land value.

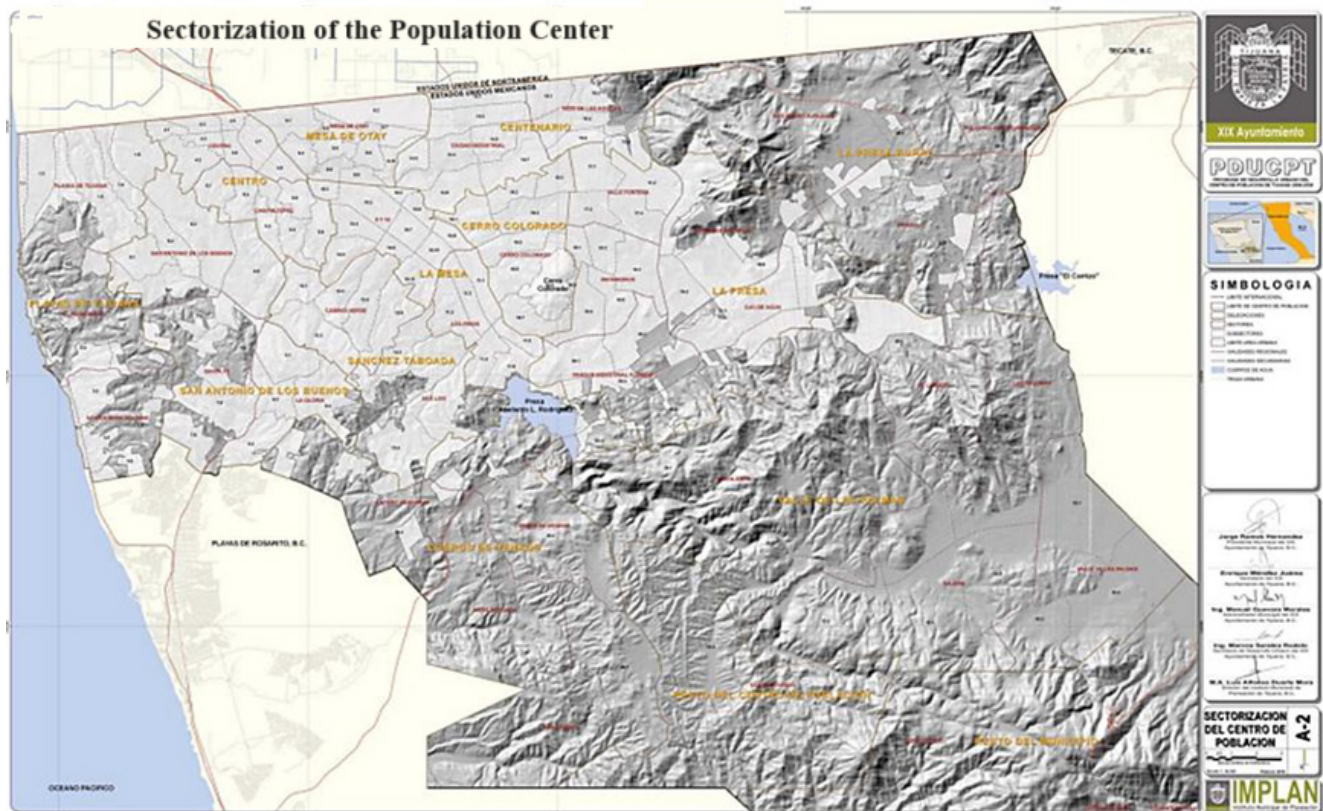


Figure 1. Sectorization of the population center from the Development Program 2010– 2030 <sup>[1]</sup>.

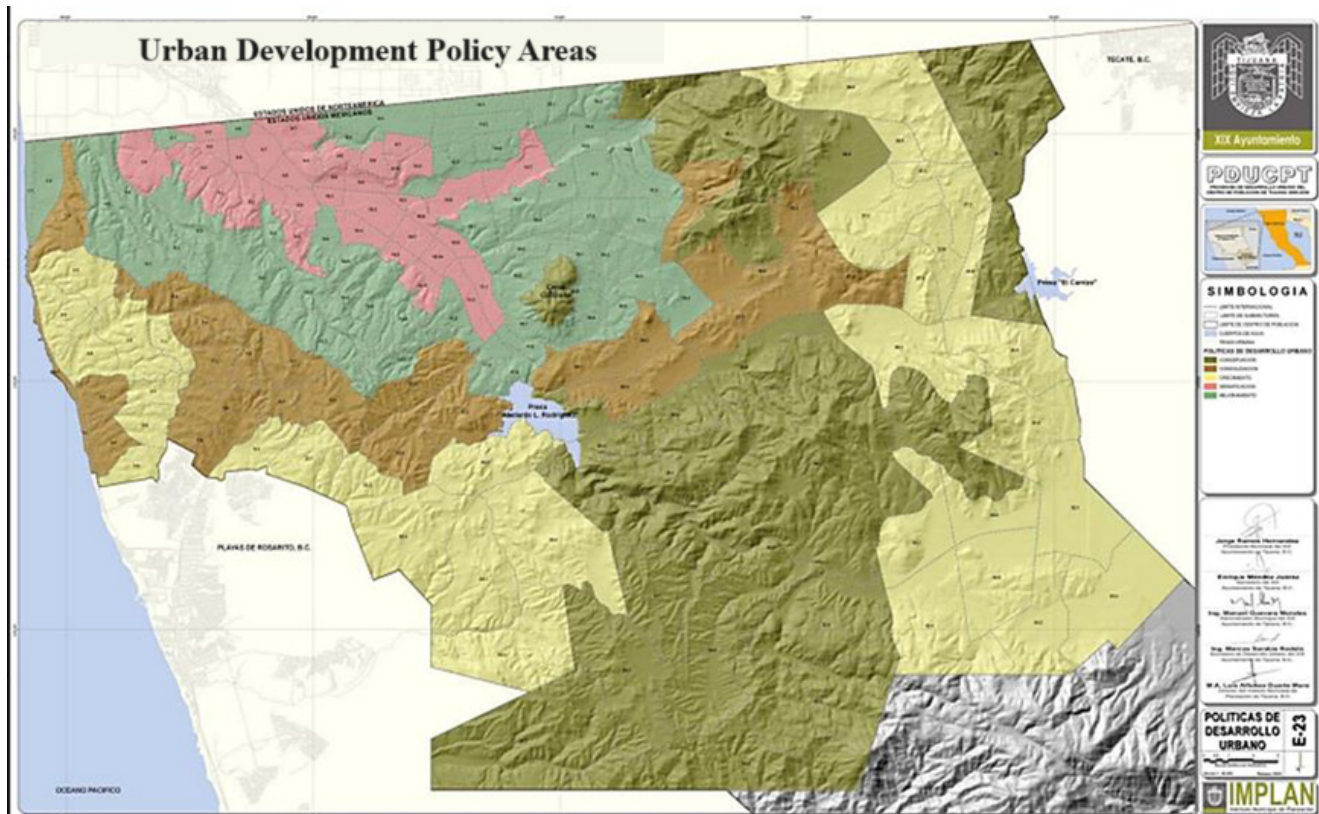


Figure 2. Urban development policies of the population center from the Development Program 2010– 2030 <sup>[1]</sup>.

### 3. Land value

Regarding the theoretical aspects reviewed on the value of land, there are two basic models of proposals to densify the city <sup>[2]</sup>. The two models are the incorporation of new land and the redensification of already built areas. In other words, there are two possibilities in terms of densification, which are redensification and its incorporation into a new land. This poses a challenge in terms of carrying out this densification, as long as the conditions of the installed infrastructure allow it, in addition to having to consider the phenomenon of gentrification that these processes entail. It is also important to recognize that densification is a process that does not only occur in different areas of the city. Zárte comments on housing densification in popular neighborhoods, where he analyzes the transformations of the city as a result of densification, mainly in housing use <sup>[3]</sup>. Likewise, Herrmann mentions that different typologies should be used for specific areas of the city, such as medium-rise and medium to high-density buildings are appropriate for densifying low-rise neighborhoods <sup>[4]</sup>. Specifically, in the case of areas with historic and heritage backgrounds, alternatives of lower height buildings compared to vertical buildings should be used, but with a higher density than the existing buildings in that neighborhood, so that they are adequately integrated with the location

In this sense, although considerations have been addressed to determine the value, specifically in aspects that respond in a relevant way to the valuation practice, there is a lack of a perspective that takes into account specific zones or areas comprehensively. These zones are used to analyze different urban characteristics, phenomena, and behaviors, as well as to determine and assign different attributes and capacities, including temporary ones. The objective is to establish urban policies for growth, improvement, and conservation in specific geographic areas.

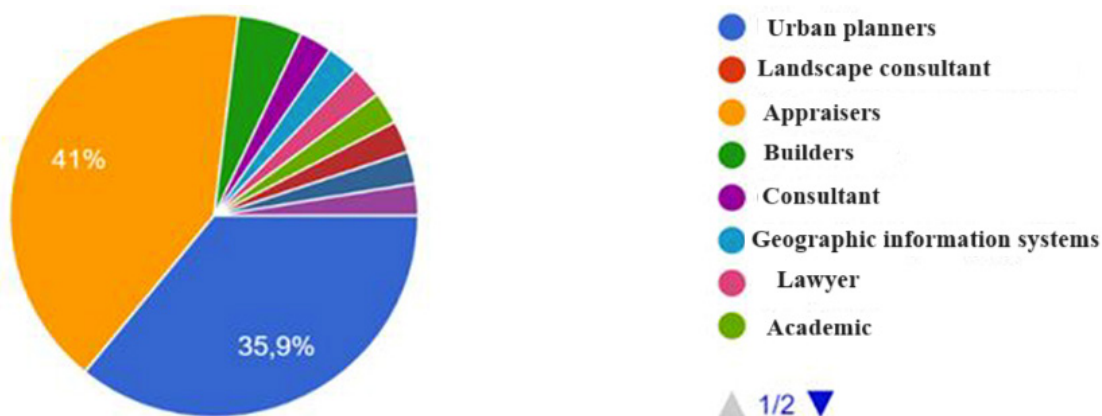
Jaramillo's mono-centric theory of urban land prices defines the city as a set of land price vectors indexed

by distance to the center <sup>[5]</sup>. Each use has its price vector and each price vector has an associated rent vector with the same characteristics as the prices.

However, by defining a zone or area of application in this case the densification policy, all properties within it would be subject to this policy. In other words, the policy applies to an area as a whole and not just to a specific property.

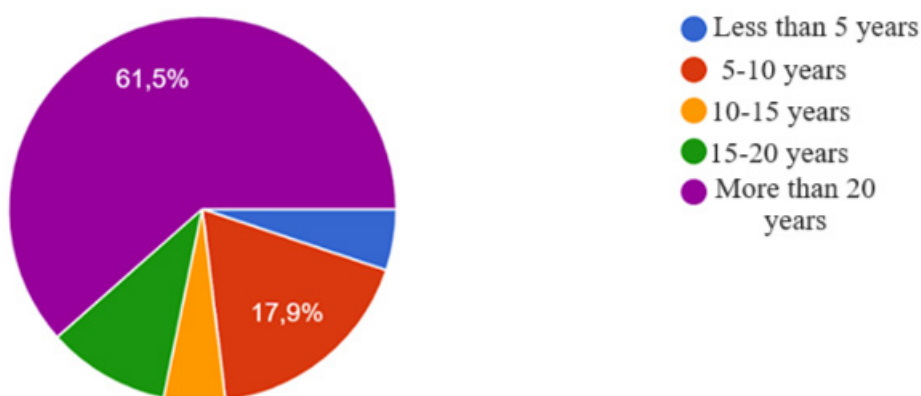
#### 4. Specialist questionnaire

The following are the questions and answers of the 39 specialists who responded to the questionnaire. Among the specialists, 41% identified themselves as appraisers, 35.9% as urban planners and 23.1% identified themselves with other professions as shown in **Figure 3**. These other professions included builder (5.1%), real estate developer, consultant, landscape consultant, geographic information systems, lawyer, and academic, each with 2.6% respectively.



**Figure 3.** Profession of specialist respondents

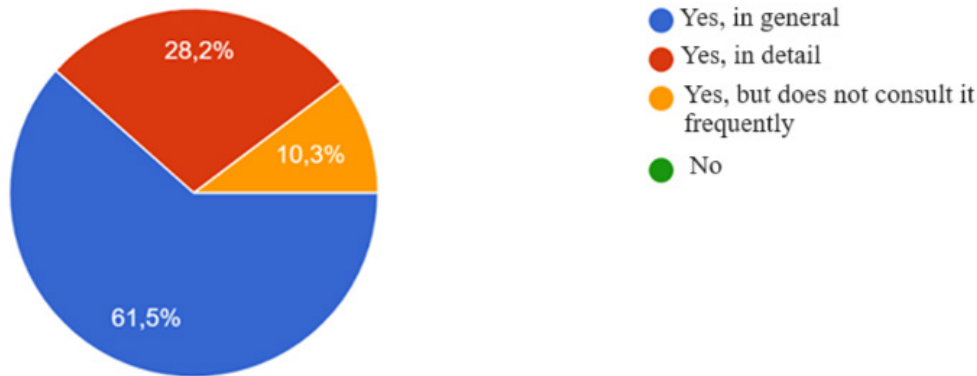
The extensive experience of the specialists in terms of their professional background is shown in **Figure 4**. Among these, 76.9% have more than 10 years of experience, and 61.6% have more than 20 years of experience. On the other hand, only 5.1% have less than 5 years of experience.



**Figure 4.** Years of experience in the professional field of specialists

In general, the level of knowledge of the specialists about the topic was identified by asking if they knew about the Urban Development Program for the Tijuana Population Center 2002–2030 as shown in **Figure 5**.

The vast majority of the specialists answered in the affirmative, with 61.5% responding they know the program in general, and 28.2% responding they know the program in detail, totaling 89.7%. On the other hand, only 10.3% responded that they were aware of its existence but did not consult it frequently, and no one stated that they were unaware of the program.

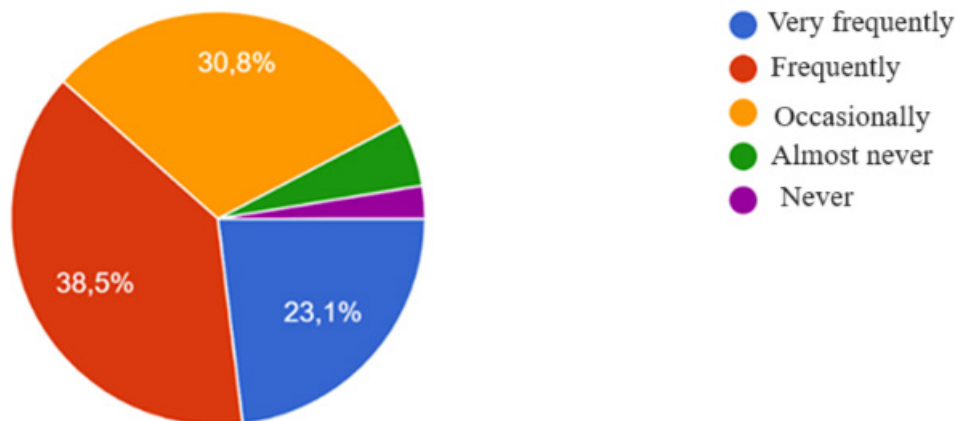


**Figure 5.** Response from the specialists when asked if they know about the Urban Development Program for the Tijuana Population Center 2002-2030

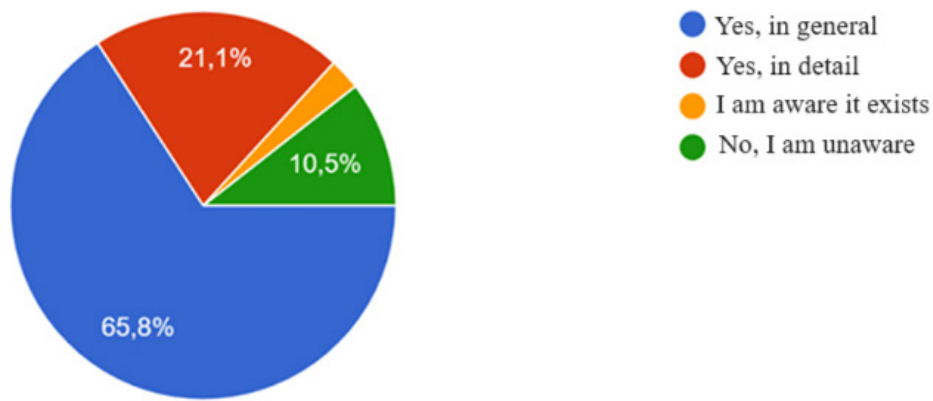
In addition, it is identified that the main area of professional development was local, in the metropolitan zone of Tijuana, which includes Tijuana, Tecate, and Rosarito, with 56.4%. However, 43.3% of the specialists have professional backgrounds in another territory, whether at the state, national, or even international level.

The elements that contribute the most to the valuation of land in the city identified by the specialists are as follows, location with 65%, infrastructure with 46%, public services with 65%, and security with 22%.

The responses of specialists on how often they review and consult the PDUCCPT to develop their profession are shown in **Figure 6**.

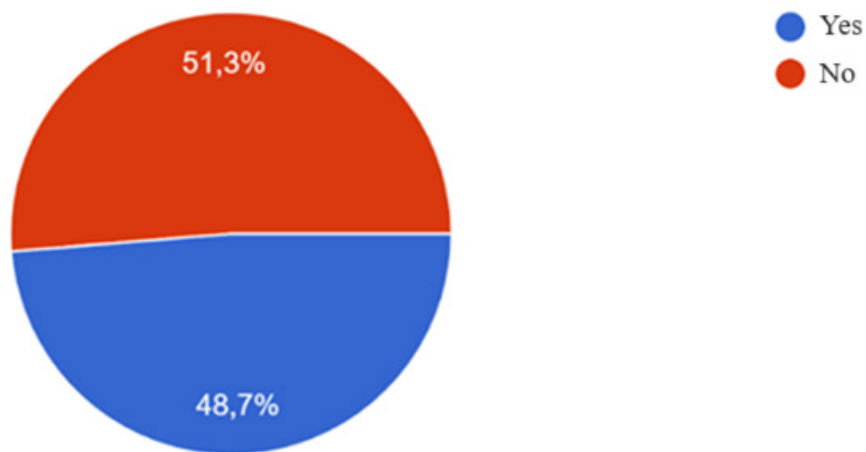


Based on the responses, the majority, 61.6%, consult PDUCCPT frequently, either very frequently (23.1%) or frequently (38.5%), while only 7.7% almost never or never consult it. As for knowledge of the strategy proposed by the PDUCCPT to densify the population center, 65.8% of the specialists are generally aware of it while 21.1% know it in detail, which totals 86.9% of specialists that understand it. Only 10.5% of the specialists are completely unaware of the strategy.



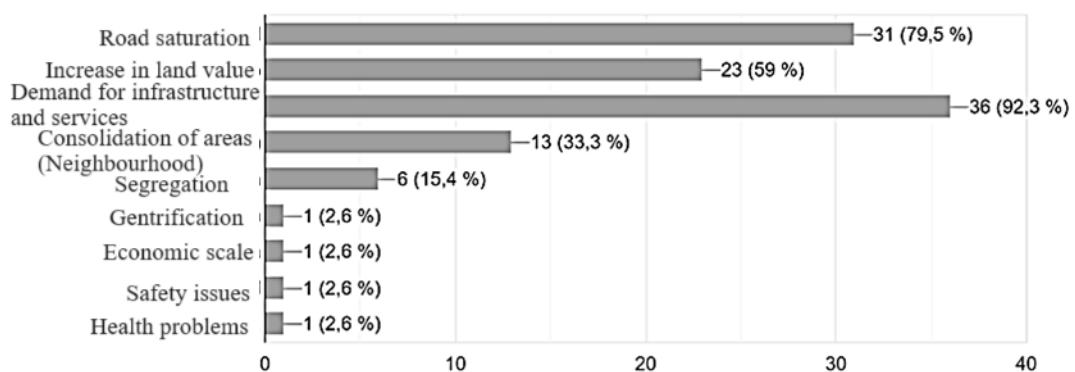
**Figure 7.** Response of specialists on the knowledge of strategy proposed by PDUcPT

As for the opinion on the strategy itself, the result is divided as shown in **Figure 8**, as 51.3% of specialists do not consider the densification strategy to be adequate for the city, while 48.7% do consider it to be adequate as shown in.



**Figure 8.** Response of specialists on whether the densification strategy is adequate for the city

**Figure 9** shows the answers of respondents on the impacts that could result from the application of a densification policy in the city. The main responses are demand for infrastructure and services with 92.3%, road saturation with 79.5%, and increase in land value with 59%.

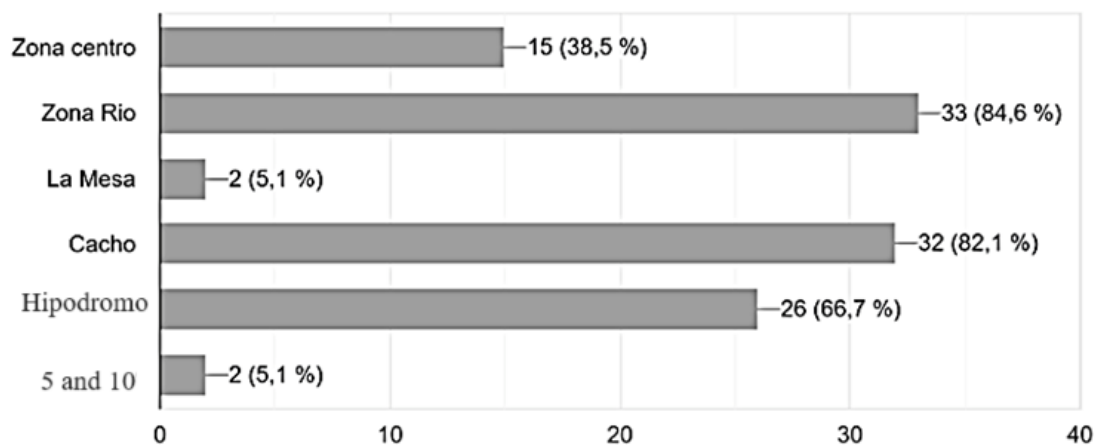


**Figure 9.** Responses of specialists on possible impacts of the densification policy in the city

Additionally, 81% of the respondents answered that densification does help to significantly increase the value of land in the areas where it is applied, and the most frequent justification was that the greater the densification, the greater the demand and, therefore, the better the services and infrastructure. On the other hand, 17.94% said no, that densification nevertheless helps to increase land value. The specialists commented on the following aspects.

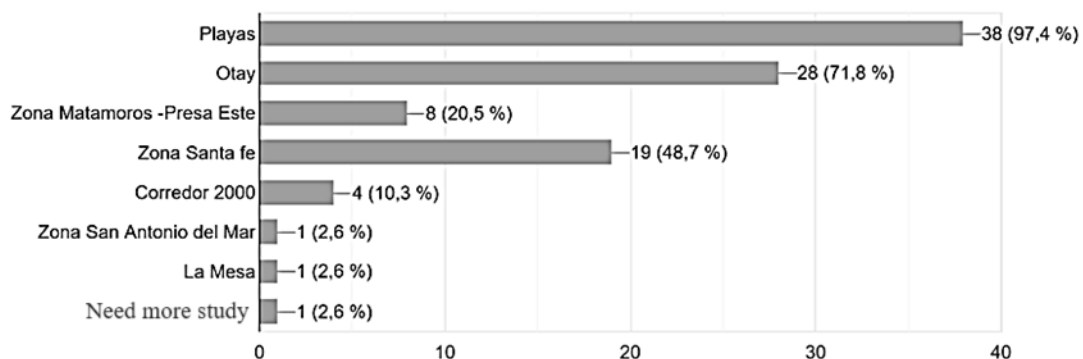
The value of land is related to various factors, and to increase the value of land, different aspects that promote its increase must be worked on. It depends on the urban equipment and infrastructure, the quality of the building of the land, the amenities, and the proximity to the work centers. There are still no comprehensive development solutions, as it requires a parallel demand for services and infrastructure that meet the needs of the area, otherwise, there may be a detriment. Given the high value of land in consolidated areas, investments in assets must be profitable. Land values and land uses in the selected areas must be analyzed to implement a densification policy. Most of the neighbors are not willing to sell land and do not benefit from densification.

**Figure 10** shows that the three areas most selected by respondents where land value is perceived to be higher are *Zona Rio* with 84.6%, *Cacho* with 82.1% and *Hipodromo* with 66.7%.



**Figure 10.** Response of specialists on the zone within the established densification polygon with the highest land value

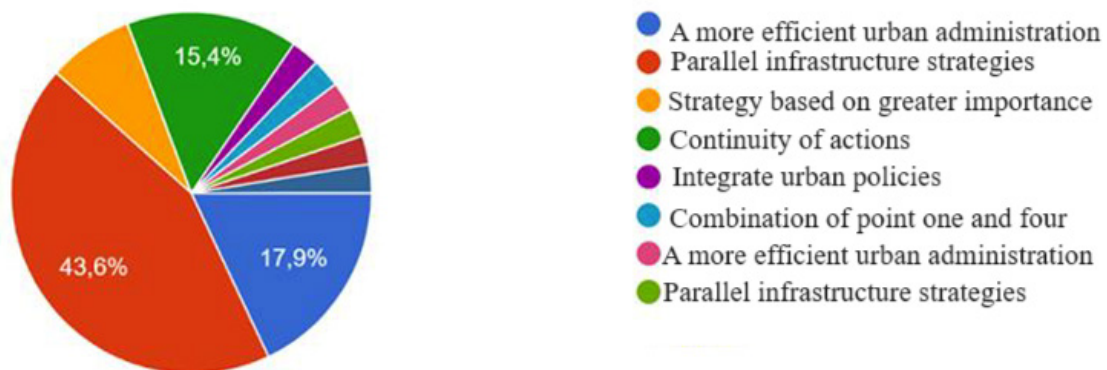
On the other hand, **Figure 11** shows that the top three areas outside the city that were selected by the majority of those surveyed to have the highest land value are Playas with 97.4%, Otay with 71.8% and *Zona Santa Fe* with 48.7%.



**Figure 11.** Response of specialists on the zone outside the established densification polygon with the highest land value

From the responses of those surveyed, it is considered that a densification strategy requires parallel strategies in infrastructure and urban mobility, as well as a more efficient urban administration and continuity

of actions as shown in **Figure 12**. Aspects such as more efficient urban administration and continuity of actions are notably recognized by the specialists but do not represent a very high percentage, with 17.9% and 15.4% respectively.



**Figure 12.** Response of specialists on how the densification strategy should be developed

## 5. Conclusion

In summary, 61.6% of the specialists very frequently or frequently consult the Urban Development Program of the Population Center 2010–2030 (PDUPT). In addition, 86.9% of them are aware of the densification strategy proposed by the PDUPT 2010–2030. It is identified that more than 60% of the specialists regularly consult the program for their professional activities, and most of them are also familiar with the densification strategy. It is noted that the opinion of experts regarding whether the densification strategy is adequate or not is divided, as 48.7% agree, but 51.3% do not consider it adequate. In other words, the majority opinion does not think this policy is adequate for the city. According to the information analyzed, the three main impacts of the densification policy are the demand for infrastructure and services with 92.3%, road saturation with 79.5% and the increase in land value with 59%. This land value increase is presented in a localized manner, especially in the downtown area and the first stage of the Rio area. Most of the specialists (81%) responded that densification does help to significantly increase land value in the areas where it is applied. The most frequent justification for land value increase is that the greater the densification, the greater the demand and, therefore, the better the services and infrastructure. The specialists commented on the following related to land value. Land value is related to various factors, and different aspects must be addressed for an increase to occur. It depends on the urban equipment and infrastructure, the construction of the land, its amenities, and its proximity to work centers. It requires a parallel demand for services and infrastructure, which can negatively affect the area if they do not meet the needs adequately. Given the high value of land in consolidated areas, investments in assets must be profitable. Land value, and land uses in the corresponding areas must be analyzed to implement a densification policy.

Specialists mention that the areas with the highest land value are *Zona Rio* with 84.6%, *Cacho* with 82.1%, *Hipodromo* with 66.7%, and *Zona Centro* with 38.5%, which coincides with the evidence of the analysis of cadastral values. The zones outside the densification polygon that the specialists identified to have high land value are *Playas* with 97.4%, *Otay* with 71.8%, and *Zona Santa Fe* with 48.7%. This information is consistent with the analysis of cadastral values since an increase is observed in two of these zones during the period analyzed, which are in *Playas de Tijuana* and *Santa Fe*. Although the *Otay* zone does not show this behavior, it can be seen that there is a more consistent trend in nearby areas. In addition, the specialists, based on their



experience, identify that a densification strategy requires parallel infrastructure and urban mobility strategies, as well as a more efficient urban administration and continuity of actions. In other words, the densification policy must be accompanied by urban strategies in different aspects. It is important to monitor the elements to determine the validity and relevance of the planning. This will make it possible to consult whether it is necessary to update or correct the course of their contents. In this sense, regulatory guidelines should be adjusted if definitive results cannot be obtained to have adequate and efficient urban strategies that are aligned with their purposes.

## Disclosure statement

The author declares no conflict of interest.

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