

Building Better Cities with Strategic Investments in Social Housing

A Set of Proposals to Promote Innovation in the Social Housing Sector by Strengthening the Urbanism-Housing Nexus through New Forms of Coordination

Volume I

Final Report
December 2016

Rethinking Social Housing in Mexico Project
<http://research.gsd.harvard.edu/socialhousingmexico>
Harvard Graduate School of Design

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Abbreviations

CANADEVI	Cámara Nacional de la Industria de Desarrollo y Promoción de Vivienda: National Chamber for the Development and Advancement of the Housing Industry.
CONAVI	Comisión Nacional de Vivienda, ENG: National Housing Commission.
DC	Desarrollos Certificados, ENG: Certified Developments.
FONHAPO	Fideicomiso Fondo Nacional de Habitaciones Populares, ENG: National Trust for Popular Housing.
FOVISSSTE	Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado, ENG: Housing Fund of the Institute of Security and Social Services for Workers of the State
IMEPLAN	Instituto Metropolitano de Planeación del Area Metropolitana de Guadalajara. Metropolitan Institute of Planning of the Metropolitan Area of Guadalajara.
INFONAVIT	Instituto del Fondo Nacional de la Vivienda para los Trabajadores, ENG: National Worker's Housing Fund Institute.
LOS	Level of Service.
OREVIS	Organismos Estatales de Vivienda, ENG: State Housing Organizations.
PCU	Perímetros de Contención Urbana, ENG: Urban Containment Boundaries.
PROCURHA	Programa de Consolidación Urbana y Habitacional, ENG: Urban and Housing Consolidation Program.
SEDATU	Secretaria de Desarrollo Agrario, Territorial y Urbano, ENG: Secretariat of Agrarian, Territorial, and Urban Planning.
SEDESOL	Secretaría de Desarrollo Social, ENG: Secretariat of Social Development.
SHF	Sociedad Hipotecaria Federal, ENG: Federal Fiduciary Fund.
TIF	Tax increment financing.
TOD	Transit-oriented development.
SNIIV	Sistema Nacional de Información e Indicadores de Vivienda, ENG: National System of Housing Indicators and Information.



EXECUTIVE SUMMARY



Photo Credit: Nélida Escobedo



Intraurban vertical housing development in Guadalajara, Jalisco.
Photo credit: Margaret Scott



Infill vertical housing in Aguascalientes, Aguascalientes.
Photo credit: Fernando Granados

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Volume I

Executive Summary

Building on fieldwork in seven Mexican cities, this report: 1) outlines the major barriers and enablers to densification, 2) identifies a series of challenges that must be overcome if mortgage credits for social housing are to be used to build more sustainable cities, 3) suggests a recalibration of policy goals to emphasize urban value creation and better urbanism rather than densification per se, and 4) proposes a new institutional platform that will help INFONAVIT achieve these goals. Called the *Urban Value Creation Platform*, its aim is to solicit and enable support for context-specific social housing projects that envision shelter not as an object conceived through a mass production mentality, but rather as a stimulus for assembling healthier neighborhoods and constructing more efficiently organized, environmentally and socially sustainable cities. As a proposed innovation, the Urban Value Creation (UVC) Platform builds its mission around INFONAVIT's founding principles as a financial institution intended to serve Mexican workers, employers, and the country as a whole, but it brings this mission more in line with recent challenges associated with rapid and sprawling urbanization by promoting the use of a wider range of metrics, incentives, and decision-making processes to ensure that urban value creation impacts are made central to its mortgage programs. In its essence, the UVC Platform challenges the one-size fits all mentality of prior program development, and works under the assumption that through more purposeful engagement with local stakeholders, mediated by INFONAVIT state delegates serving a key role in coordinating and convening conversations around strategic co-investments, workers' own money can be more productively spent and national urban goals can be more readily achieved. Through its coordinating activities, the Platform will increase the

likelihood that mortgage credit support for social housing will create assets for both the individual homeowner and the larger urban environment. If the Platform works as conceived, such investments can be leveraged in ways that also bring medium-term returns back to INFONAVIT, both ensuring financial solvency and making funds available for future projects.

The institutional redesign embodied in the proposal for this new Platform, discussed further in the upcoming pages of Volume I, finds its origins and rationale in the case study fieldwork undertaken by the Governance team. In a second summary document intended to complement this overview report (Volume II), we provide in-depth findings from fieldwork in seven different cities, presented in the form of research findings focused around the range of historical, political, social, economic, and spatial conditions that have affected the supply and demand for housing and its territorial distribution in each city. The research presented in this compendium volume utilizes data analysis, site visit observations, and materials drawn from dozens of interviews with local stakeholders to provide an assessment of the successes and challenges of densification efforts in each city. While each of the cities we examined has faced different degrees of success in advancing densification, as is clearly documented in the compendium volume, an overall story emerges from the comparison and serves as the basis for the more general findings and action proposals outlined in this summary report.

Because of the nature of the academic partnership established with INFONAVIT, the research in both the summary and compendium volumes focuses primarily on the social housing sector, defined in accordance to INFONAVIT's organizational mission, here understood as the state-sanctioned financing of housing for Mexico's formally employed workers,

particularly those with low incomes. This inevitably means that the report does not address the challenges of informal housing, despite the fact that both informal and formal housing production will together affect densification trajectories in any given city¹ In identifying the barriers and enablers to densification of the social housing sector, we found that because different cities operated under different dynamics, the same credit lines or subsidy programs did not produce the same results in all places. We show that variations in densification progress owed to a range of context-specific conditions including prior housing investments, differing definitions of densification, and the extent to which local authorities shared the same densification priorities as INFONAVIT, among other factors. These findings motivated our operational concern with moving beyond one-size-fits-all programs, and our search for new forms of coordination that could make the most of local specificities so as to overcome obstacles and incentive success. Insights about the latter have been culled from our study of the varying scales and modalities through which coordination around and advancements toward sustainable development have taken place in each of our seven cities.

Our research also reveals that, despite some minimal advances in densification, the ideal of coordination among key public and private sector stakeholders was rarely met, owing not just to the unwillingness of local governing authorities to think about the larger territorial context in which social housing investments should be located, but also because of an institutional and market logic disconnect between local actors and the more centralized federal agencies that offered the resources and programmatic guidelines to foster densification. The complex and at times competing relationships between centralized and decentralized decision-making institutions in the social housing sector – and in policymaking in Mexico more generally – is a key determinant of such failures.



Vertical housing in Tizayuca, State of Mexico
Photo credit: Nélida Escobedo

Our research in fact shows that opportunities for connecting authorities and resources at different scales of governance (local, metropolitan, state, and national) remained limited and depended on local specificities, particularly the number of municipalities operating in the metropolitan area and whether metropolitan coordinating agencies existed, among other factors. Even in those few cities able to rely on formally established territorial coordinating agencies, the capacities to bring stakeholders together behind densification aims were far from assured, owing in no small part to the absence of fiscal resources and incentives to do so, as well as the number of municipalities involved. Because of this, progress on coordination between social housing investments and a city's larger territorial planning aims owed primarily to ad hoc or informal negotiation among key actors, which was easier in cities with a small number of municipalities (both absolutely and relatively) as well as an actively involved state government.

Overall, the findings contained in this report suggest the importance of institutionalizing an entirely new means of structured and effective collaboration among a variety of governance stakeholders, building on existent informal practices yet making them more transparent and regularized, and doing so without having to resort to constitutional or juridical reforms that could disable or undermine existent authority structures. We have thus proposed that this new coordinating body, the UVC Platform, will actively operate at an intermediate scale of territorial decision-making, situated in-between the local and the federal. Its aim is to convene and coordinate conversations among stakeholders at all governance scales. To reiterate, in

proposing this form of cross-scalar coordination, we have paid particularly close attention to the legacies of centralization and decentralization in Mexico, and the ways they may have prevented effective leveraging of federal, state, and/or local programs joined together behind a common purpose. We further suggest that the UVC Platform offers a unique institutional opportunity to ensure coordination around social housing production in ways that will create value for individual homeowners and the larger collectivity, whether at the scale of the neighborhood, city, or region.

We conclude by suggesting that INFONAVIT put these recommendations into practice at least in pilot form, starting with a few key cities where a new way of making coordinated decisions about social housing could immediately make a difference in the larger terrain of livability, sustainability, and urbanism. Adopting these policies should be relatively simple. INFONAVIT already has state delegates who work at the intermediate scale straddling local and federal concerns; it has the fiscal resources to incentivize conversations and inspire creativity around new housing projects specifically geared to fit local urban conditions; and it has a larger financial interest in insuring that its mortgage credit programs will create urban value, because through such investments the basic fundamentals of the national economy are strengthened. What it is still missing, however, is a new conceptual framing for assessing the nature and location of social housing. In this report we thus recommend that INFONAVIT recast its mission and programmatic aims to accommodate the concept of “defensible urbanism.” We argue that this notion provides for more robust and productive metrics of generating individual and collective value than does the notion of densification.

With the proposed UVC Platform, which is structured less as a hierarchical decision-making body and

more as a convening assemblage informed by a set of principles, state-level INFONAVIT delegates can jumpstart discussions about what constitutes sustainable urbanism for any given city within their jurisdiction. By focusing on the specificity of place, INFONAVIT can move forward with support for tactical projects selected through state-level coordination because of their positive urbanism impacts. At the same time, by convening all the relevant stakeholders who have a vested interest in the future of any given city to discuss particular projects, it can overcome the typical challenges facing existing bodies who seek to lay out general principles of planning and coordination, such as those confronting a metropolitan planning institute or authority. The adoption of a project-based strategy with the UVC Platform will allow INFONAVIT to broker stakeholder coordination around concrete proposals through targeted incentives that create momentum for value-generative approaches to housing development that serve to benefit a broader constituency and can propel a more innovative and self-sustaining model for production into the future.

The report concludes by arguing that now is the right moment for such an institutional innovation. Debates over federalism in Mexico continue, and there are heated discussions about which decisions should be made locally (either at the municipality or the State) and nationally, how and why. Without having to enter the politically contentious territory of seeking to fundamentally alter municipal decision-making powers by changing the Constitution, the Platform moves beyond this “either-or” framing and allows for a new conversation across multiple governance levels in ways that complement the existent federal configuration of powers. Its establishment will echo if not strengthen the democratic ideals of bringing decision making closer to the ground while also keeping local decision-makers connected to the national scale by virtue of the mediating role played

by INFONAVIT state delegates and their oversight of housing decisions. Just as important, because the recent macroeconomic crisis find some of its roots in massive over-urbanization, using the UVC platform to pay attention to strategic investments in targeted locations at the city level will take Mexico a long way in reversing the economic, social, and environmental problems associated with overbuilding and sprawl. It will also provide a positive and productive response to critics who have raised questions over who gains and who loses from federal social housing programs and investments, offering opportunities for local stakeholders to be more actively involved in the production of social housing, thus taking more ownership of such decisions and assuming co-responsibility for crafting the future of Mexico's cities.

Notes

- 1 UN-Habitat (2011) estimates that in Mexico “...at least 40 percent of all homes have been constructed directly by the homeowners without public or private help” (UN-Habitat 2011, 14).

Construction of social housing in downtown Guadalajara, Jalisco.

Photo credit: Nélida Escobedo



The background image shows a residential development on a hillside. The houses are light-colored, multi-story buildings with flat roofs and small windows. They are arranged in a tiered fashion, following the slope of the hill. In the background, there are more hills and some construction cranes, suggesting an ongoing development project. The image is overlaid with large, dark, semi-transparent geometric shapes (triangles and polygons) that create a modern, architectural feel. The text is white and bold, standing out against the dark overlays.

SECTION 1

FRAMING THE RESEARCH OBJECTIVES



Photo Credit: Francisco Lara García

Construction of vertical housing in Cancún, Quintana Roo.
Photo credit: David Schoen Parente



SECTION 1 - FRAMING THE RESEARCH OBJECTIVES

1.1 Introduction

When INFONAVIT contracted Harvard University's Graduate School of Design in 2014 to conduct research on the housing situation in Mexico for the purposes of generating new policy recommendations to guide future INFONAVIT programs and investments, four challenges framed the task at hand, each of which molded the nature and direction of the fieldwork and subsequent analysis.

First and foremost was Mexico's **commitment to densification**, newly identified nationally as a policy priority in 2012 and thereafter adopted by INFONAVIT into their programmatic aims. As a tripartite federal agency working in tandem with private developers to help meet the country's social housing needs, a large portion of the new housing financed by INFONAVIT in the decade prior to this policy shift had been located on land in peripheral locations where developers could more readily purchase sufficiently large plots to make social housing production both profitable and affordable to consumers. This was made possible through the incentives and mortgage programs crafted by INFONAVIT. The distant location of many of these land reserves, and the preponderance of social housing built there, often meant that more recent consumers of INFONAVIT credits bore the brunt of environmental and urban service scarcities related to transport, electricity, and water access. In energy terms, the accelerating sprawl also contributed to Mexico's growing carbon footprint and thus contradicted a range of energy and environmental goals adopted by government agencies, national or otherwise. All these conditions have had detrimental economic impacts. In the Valle de Mexico, for example, where sprawl has reached unimaginable

heights, the OECD estimates that the costs of negative externalities associated with car usage are equivalent to approximately 4.6% of the metropolitan area's GDP. This has owed largely to the growing distances between residential developments and job centers, thus increasing transportation costs for lower income families, even as housing costs have remained low.

With sprawl a growing concern not just for residents in expanding metropolitan areas, but also for local and national authorities whose infrastructure costs were rising as pressures accumulated to service these new settlements, INFONAVIT began to explore ways of accommodating densification goals in the context of existing or potentially new programs. At the outset of our research, much of INFONAVIT's attention focused on aligning housing credit allocation with the *Perímetros de Contención Urbana (PCU)*, understood to be a broadly-cast instrument tying subsidies to location in ways that incentivized housing production in areas closer to existing population centers. This program had originally been proposed in 2013 by Mexico's National Housing Commission (CONAVI) to help channel federal housing funding for new housing development to consolidated urban areas with access to services, jobs, urban amenities, and transport. Though a remarkable and commendable first step toward creating more orderly urban growth, the areas have nonetheless come under significant criticism for being

Peripheral housing developments in
García, Nuevo León.
Photo credit: Nélida Escobedo



insufficient (and at times even erroneous) mechanisms through which to address local development.

The PCUs are defined as the following: “U1:

Consolidated urban zones with access to employment, infrastructure, and urban services. U2: Zones in process of consolidation, with infrastructure and levels of access to services (water and sewage) greater than 75%. U3: Zones contiguous to the urban area, representing a peripheral ring defined based on the size of the city, but functionally undeveloped.”³

A closer look at how PCUs worked in practice, based on initial research during the first phase of INFONAVIT-funded studio work in Celaya in spring of 2014, raised additional questions about the utility of this approach. Preliminary evidence suggested that tethering subsidy criteria to PCU locations was insufficient to guide new development towards more accessible intra-urban sites, owing partly to the nature of the metrics deployed. After documenting the flaws in the original criteria (with close attention to the politics and territoriality of how boundaries were drawn), our team began to consider alternative ways of linking subsidies to location. A first line of thinking involved an adjustment of metrics so as to reflect a more nuanced appreciation for urbanism and how to guarantee subsidies would be tied to accessibility and other urban experiential priorities rather than location *per se*. A specific proposal generated through studio work in Celaya, entitled “Housing Policies for a New Urbanity: *Esta es Tu Ciudad*” involved the creation of new metrics for allocating subsidies to address “misguided growth” and offset the development costs increases associated with centrally located infill sites or mid-rise buildings. The *Esta es tu Ciudad* subsidy aims to foster greater “urbanity” by moving beyond the metrics inherent to the *Perímetros de Contención Urbana* and instead using a more nuanced scoring criteria to promote development in close proximity to amenities such as public transport, bicycling and pedestrian infrastructure, critical retail, or social

and public services, as well as other important neighborhood resources.⁴

More generally, the initial findings generated through the studio work motivated the Harvard team to question the utility of the PCU program as the main instrument for advancing densification. This in turn prompted our research team to further examine the extent to which the PCUs – as opposed to other programs, policies, and metrics – were effective in achieving both expanded ownership and densification aims in cities across Mexico, and to consider why or why not. A closer examination of the effectiveness of the PCUs helped the research team to understand the need for greater “regionalization” of national policies, or policy mechanisms that allow local level actors to make adjustments to powerful policies (like the PCUs), such that the intended aims are more successfully met.

Second, in laying out a research agenda, the team also reflected on the economic implications of INFONAVIT’s commitment to densification. It bears noting that the national commitment to densification unfolded at the same time that INFONAVIT as an institution was facing its own financial and operational challenges, some of which held the potential to weaken its **fiscal sustainability**. The precarious state of INFONAVIT’s accounts owed partly to fallout from the 2008 housing crisis and the overall weakness of the hemispheric stock market and the global economy. Both these factors affected INFONAVIT’s own investment strategies and its capacity to grow capital sufficiently to continue to finance more social housing. At the same time, however, INFONAVIT’S precarious fiscal bottom line also owed to the increase in abandoned housing and underperforming or defaulted loans.

Although figures, definitions, and motivations for default remain a source of serious debate, recent

publications have posited that of the 5.5% of the Institute's portfolio that is classified as *cartera vencida*, or credits in default, nearly half are attributable to abandoned housing, approximately 125,000 units total.⁵ Other studies, including those produced in Mexico, have suggested that abandonment levels are in fact significantly higher, and that they vary depending on the region as well as the method of data collection. For example, the *Atlas de Abandono*, produced on the basis of research directed by INFONAVIT's *Área de Sustentabilidad y Técnica*, showed that the highest abandonment levels across the country were frequently attributable to distance from places of employment, making it difficult for workers to balance home life or save money while commuting exceedingly long distances, something which also had a bearing on homeowners' capacity to keep up with mortgage payments.⁶ Findings from other INFONAVIT studies⁷ also traced abandonment to substandard or faulty housing material and furnishings, in addition to faulty location, insecurity, and economic precarity.⁸

In this context, the main challenge for INFONAVIT was to advance densification by requiring higher quality, better located housing **while also** protecting – or even strengthening – its financial bottom line, which depended on robust mortgage banking operations. This meant that any new densification policies would have to simultaneously reduce the likelihood of mortgage or home abandonment, so as to keep current *derechohabientes* in the system, and at the same time bring in new home buyers in order to help make up for the revenue losses associated with abandonment and the ill-fated housing production patterns of the past. This clearly was easier said than done. Indeed, INFONAVIT's emphasis on higher quality construction and better located developments held the potential to alienate developers because accommodating both priorities simultaneously could directly affect housing producers' own bottom lines, thus discouraging them from producing new housing, and in turn making it difficult for INFONAVIT to meet both its social mandate and keep its mortgage banking operations on target.

Abandoned housing in Chulavista neighborhood, Tlajomulco de Zúñiga, Jalisco.
Photo credit: Margaret Scott



Abandoned housing in Tijuana, Baja California.
Photo credit: Francisco Lara García



All of this suggested that one of the most important lines of research for our team was to explore and understand what it would take to advance densification aims in ways that suited both INFONAVIT and housing developers themselves, so as to keep the volume of social housing production on an upward path. This in turn led us to begin identifying places that were making progress on these aims, and to start documenting the forces and conditions that made this possible.

Third, the research team also recognized that any discussion of the relationship between housing producers and INFONAVIT also needed to be understood in the context of **macroeconomic weakness**. After all, the crisis in the housing and mortgage lending sector that originally inspired INFONAVIT to rethink several of its housing programs was occurring at the same time that several key national economic indicators remained stagnant or dropping. As noted earlier, the 2008 global economic crisis which hit Mexico's housing sector hard had also contributed to a national economic slowdown, including a 25% drop in the value of the peso between 2012 and 2015, and a troubled jobs picture in which 1 in 2 Mexicans was living in poverty while national rates of worker productivity remained low.⁹

All these factors had a bearing on INFONAVIT's mandate to allocate pension assets to the production of social housing (rather than other purposes, for example). In particular, weak employment conditions and an unstable mortgage market placed potential limits on INFONAVIT's capacity to keep both supply and demand for social housing production high. This was so not only because of the precarious economic conditions surrounding the lives of Mexican workers, which would affect their capacity to keep current on mortgage payments. It also owed to the fact that high rates of abandonment and default held the potential to place downward pressure on housing values. Because such conditions contributed to oversupply, in turn limiting private developer enthusiasm for building more houses if they had to lower prices to accommodate a saturated market. In this fragile macro economy, INFONAVIT needed to find ways to accommodate the profitability requirements of private housing developers, many of who sustained significant losses in the mortgage crisis, while also working within the income constraints of its likely low-income housing consumers. Moreover, in combination with high rates of poverty that restricted the extent to which *derechohabientes* could consume INFONAVIT-subsidized private housing without additional government subsidies from CONAVI, relatively low rates of formal sector employment growth in the context of economic crisis also put a cap on overall demand for INFONAVIT mortgages. All this left many developers clamoring for more

flexibility in identifying locations and subsidy formulas which might optimize supply and demand, a posture that did not sit easily with the imposition of even more federal policy restrictions to advance densification aims.

Complicating matters, the threat of developer resistance to densification mandates held the potential to undermine the national government's calls for prioritizing the construction industry as an engine of national economic growth. This is emphasized even in INFONAVIT's annual planning reports.¹⁰ For example, in the *Plan de Labores y de Financiamientos 2015*, the institute acknowledges its linkages with the construction industry, and notes that the construction industry contributes 3.5% of the country's gross internal product, or *producto interno bruto* (PIB).¹¹

All these conditions raised questions about whether and how INFONAVIT would be able to balance densification priorities while keeping the social housing sector vibrant enough to meet consumer needs, and at the same time wisely spending worker and employer funds to do so. To begin to address this query, the research team turned its attention directly to the response of developers to the new densification mandates. We asked whether the relationship between developers and the banking or construction industry had any bearing on their willingness to comply with INFONAVIT'S new densification priorities. We also sought more information on the social, economic, and governance conditions that enabled or constrained the



Peripheral low-density development in Tijuana, Baja California.

Photo credit: Francisco Lara García

willingness of developers to keep housing production high while also accommodating new densification priorities.

Fourth and last, in assessing these conditions it became immediately apparent that INFONAVIT was burdened by a politico-institutional context in which different governmental agencies possessed decision-making authority over a range of elements that were central to the achievement of densification aims. Municipalities, for their part, played a key role in determining housing location via their control of land use permits and zoning decisions, conditions that impacted developers' willingness or capacities to build in locations or introduce typologies that advanced densification aims. States and federal agencies, for their part, had authority over or access to a range of funds and programs that could provide support for large-scale infrastructure, funds for low income workers, or planning expertise, much of which was absent at the level of the municipality. But these multiple levels rarely worked together. In this fragmented institutional context, greater attention to **inter-institutional and cross-agency coordination** thus emerged as a key objective, identified by both the Harvard team and INFONAVIT.

The research team's overriding concern with institutional coordination built on a recognition that mortgage credits alone were ill-suited to restructuring an entire metropolitan area along densification aims, and that other actors, agencies, and resources would need to be productively leveraged to help insure that INFONAVIT funds could be efficiently and strategically used to incentivize densification. The most important task for the team was to conduct research on the conditions that might facilitate coordination across a range of governing actors and institutions (from the municipality to the state to the federal government) as well as across multiple sectoral agencies around the issue of housing.¹²

This objective not only motivated the team to search for instances of horizontal coordination (at the city or metropolitan level) and/or vertical coordination (across scales of governance) around housing that might be operating informally or under INFONAVIT's radar screen. It also spurred the research to look for empirical evidence of possible ways that inter-institutional coordination could help structure the locational dynamics of housing, via subsidies and mortgage credit allocations, in ways that could contribute to the building of more compact and sustainable cities in Mexico.



Valle de los Molinos development in
Zapopan, Jalisco.

Photo credit: Margaret Scott

1.2 Initial Field Work and Problem Identification: Have Densification Goals Been Advanced or Achieved, How, and Why or Why Not?

Without losing sight of this larger historical, macroeconomic, institutional, and governance context, Harvard Graduate School of Design embarked on a two year study of the barriers and enablers to densification, focusing on seven different cities in Mexico. Our initial aim was to identify whether, how, and through which mechanisms INFONAVIT had made progress in incentivizing denser social housing. More specifically, we asked what programs, actors, or conditions outside or within INFONAVIT have already facilitated or impeded the achievement of densification aims, and what policy lessons could be drawn from further research into these dynamics? In asking these questions we sought a better understanding of which coordination mechanisms and/or governance arrangements best interfaced with or successfully enabled the deployment of mortgage credit financing towards the goals of densification.¹³ To the extent that the move towards more dense social housing production would need to involve multiple actors beyond the private housing developers primarily responsible for the housing construction to which pensioners could apply INFONAVIT credits, we also turned our attention

to governing authorities, both elected and appointed at the local, state, and federal level, as well as other engaged local actors deemed necessary to advance the densification agenda, organizations, and institutions representing private housing developers, citizens, and other key stakeholders in the production of social housing (See APPENDIX B: Research Methods, Interview Protocol, and Timeline of Fieldwork).

In the initial stage of research, the team documented the relationships within and between key public and private sector actors and institutions whose policy or activity domains affected not only social housing itself, but also land use, infrastructure, and planning, seeking to understand which coordinating mechanisms were working among this broad range of actors. Because we were also interested in the potential role of government agencies in coordination, we sought to determine whether the involvement of a metropolitan-level agencies or institutions were playing a role in facilitating progress on social housing densification. If so, how was this accomplished? Finally, we were interested in other mechanisms or institutional practices that had

Map 1.1 Location of selected Case Studies of the Governance Research

proven to be effective in advancing densification, whether associated with INFONAVIT or others. For example, did offering incentives or investments to facilitate densification link developers and municipalities to each other, allowing gains to accrue to both equally, and in turn creating a virtuous cycle of dedicated investments in compact, dense, and sustainable urban areas? Likewise, have planning exercises undertaken at the municipality, city, or state level help bring key stakeholders together around shared social housing goals, thus laying the groundwork for coordination?

With these and other questions in mind, our task was to explore, document, and assess the complex attitudes towards densification, including the extent of skepticism about the *perímetros*, and other factors that influenced the location of social housing, such as the balance of negotiating power between developers and municipalities, the number of municipalities, and other factors. We not only paid special attention to the extent to which the locational patterns of social housing production have changed in response to new incentive policies, but also whether the sheer volume of social housing

production continued at the same rate as before the policy environment shift towards densification.

We selected seven different cities for further analysis: Guadalajara, Mérida, Tijuana, Monterrey, Cancún, Aguascalientes, and Oaxaca. These seven cities were selected because of their diversity in size, economic character, governing arrangements, and overall housing picture. We proceeded under the assumption that our research team would have a better sense of what was working (or not) if we cast a wide net across a multiplicity of contexts, which would in turn allow us to understand common challenges as well as unique conditions that affected efforts to densify social housing production. Our aim was to use our research findings as the basis for policy recommendations to strengthen INFONAVIT's capacity to use its mortgage credits and programs to produce social housing that fulfills the wide range of urban priorities established by SEDATU, CONAVI, and a range of other national agencies.

Although INFONAVIT is not charged with urban planning functions to the same degree as SEDATU, nor does its mission match that of CONAVI with respect to establishing a national housing program, its role in financing housing development and location via credits gives it a privileged position from which to fundamentally alter the character and contour of Mexican cities, particularly with respect to densification, and in ways that hold the potential to achieve outcomes that may parallel or even be co-produced with urban planning institutions, authorities, and logics. Doing so would align with INFONAVIT's demonstrated capacity for change and innovation, as INFONAVIT has already served an important role as a vanguard of sustainability, setting high standards for energy efficiency with its *Hipoteca Verde* program, among others, and has proven itself readily capable of conceiving of new programs and pilots to respond to the myriad challenges in the housing sector in Mexico.

During preliminary scoping exercises undertaken between May 2014 and August 2014, short visits in January 2015 to several cities, and initial work produced for INFONAVIT-sponsored Option Studios at the Graduate School of Design (in Celaya and Tlalnepantla in Spring 2014, Oaxaca in Spring 2015, and Mérida in Spring 2016), we began to identify an array of forces and conditions that were slowing progress on the production of dense social housing. One revolved around the environment of policy uncertainty. Because of the relative newness in INFONAVIT's commitment to densification, many housing developers were hesitant to embrace or even work within the confines of the *perímetros*, which they found highly restrictive and difficult

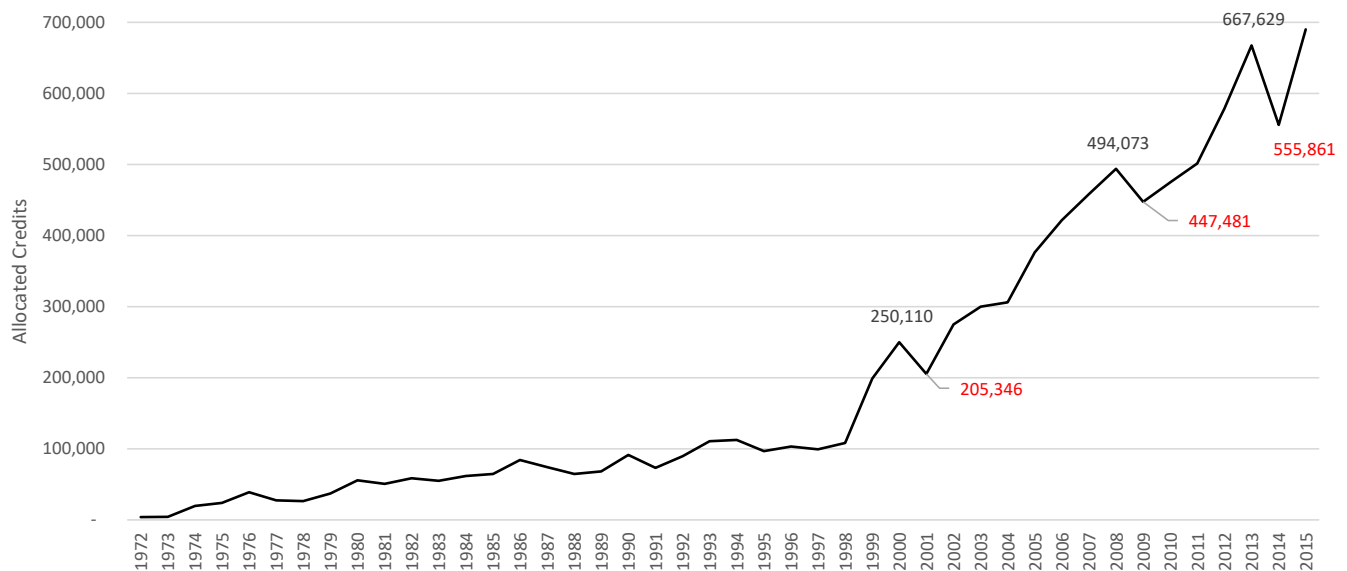
to accommodate. In preliminary discussions in Guadalajara, for example, we found evidence that private housing developers sought to “wait out” the policy environment, a strategy that was justified by the fact that INFONAVIT itself was shifting its own regulations (i.e. about minimum lot sizes, unit densities, or sustainable technologies) and adopting new programs so as to further incentive dense housing production in the face of slow response from developers. This type of response is also clearly seen in national credit allocation numbers, where we can observe decreases in production following major federal policy shifts (see Figure 1). In addition, the fact that municipal authorities work in three year cycles meant that independent of INFONAVIT’s own programs, political conditions on the ground with respect to land use approval were often in flux, thus reinforcing this environment of uncertainty.

A second issue that presented itself as requiring more attention was the *availability of land reserves*. In instances where private developers retained large

land reserves in peripheral locations, there was more reluctance to adopt densification goals, and more willingness to wait out the environment of policy uncertainty (See APPENDIX C: Data Analysis, with detailed information on territorial reserves). A third issue that demanded attention was *developer size*. Through interviews and an overall assessment of data on cities where denser social housing production seemed to have been proceeding (slowly but surely), small and medium-sized developers emerged as potential key enablers of densification, as smaller developers were typically more willing to pilot new programs, typologies, or invest in more central locations.

A fourth and final set of initial concerns revolved around the *utility, definition, and benefits of densification*. In preliminary visits to all of our cities, it became clear that there was significant variation in terms of their embrace of densification as a serious urban priority, independent of INFONAVIT’s own views on the matter. In many cities there

Figure 1. Historic INFONAVIT National Credit Allocation by Year, 1972-2015.



Source: INFONAVIT, *Indicadores operativos, histórico de créditos*, 2015.



Housing development in Tlacolula de Matamoros, Metropolitan Area of Oaxaca.

Photo credit: Nérida Escobedo

was surprisingly limited support for densification from a wide range of stakeholders – not just developers, whose concerns about higher land costs produced opposition, but also sometimes citizens and public authorities themselves, or in the form of contradictory legislation and regulations. Further complicating the picture, in some cities sprawl was not considered to be a serious problem to be solved, a situation which itself limited the extent to which housing producers were willing to comply with INFONAVIT’s densification goals. And most important perhaps, there was a lot of ambiguity about what actually constituted densification in the first place, and how best to measure and incentivize it. Would location (as outlined by the *perímetros* or other crude spatial metrics) be the most important priority? What about verticality, the balance of multi vs. single-family units, or even individual unit size? That there was not always clear consensus on these issues made it particularly difficult for INFONAVIT to strengthen, establish, or pilot new programs to achieve densification, or at least those that would be embraced or seen as having utility at the local level.

After this preliminary review of conditions, in January 2015 the research team turned to in-depth study of the seven different metropolitan areas selected for further exploration, looking for general patterns that might allow for a better understanding of these four elements, as well as other potential barriers and enablers to densification. Our objective was to systematically assess whether policy uncertainty, land and land reserve availability, developer size, and local views about densification were equally constraining in all cities, and

whether any advances in dense social housing production were being made despite these general barriers, how, and why or why not. We also questioned whether there might be co-variation between several of these factors that, in combination, also made the housing policy environment more or less difficult to penetrate and transform. Finally, we were interested in understanding whether attention to these factors would be sufficient to explain the slow progress toward densification, or whether other forces and conditions were equally relevant. The objective defining our final “deep dive” into the case study fieldwork, in short, was to identify which conditions were firm “deal breakers” and which might be more easily accommodated through better institutional coordination or with a reformulation of existent or new programs at INFONAVIT.

1.3 Rationale for the Case Study Method

The decision to more deeply probe the barriers and enablers to coordination around densification goals by undertaking case study research was based on a range of logics, ranging from the methodological to the theoretical and even the practical. Although compilation and assessment of quantitative indicators served as elements in the development of the case studies, fieldwork made it possible to incorporate qualitative indicators and other metrics that could paint a picture of the logic of social housing production as produced through the actions (or inactions) of key stakeholders in each city, enabling the team to more closely analyze the realities of urban conditions and governance at the local level. Given the reality of decentralized decision-making around urban development across Mexico, the team felt a need to more closely examine the challenges facing local actors, and to examine how and in what specific or unique ways federal policy was impacting local outcomes. Ultimately, the main advantage associated with interviewing local level actors standing on the front lines of Mexico’s social housing and urban development challenges was that it unveiled findings that would have been impossible to ascertain or understand otherwise, particularly relating to informal negotiations, political power, social and cultural expectations, and other hard-to-quantify dimensions of decision-making. The local knowledge gained through this qualitative data collection process not only served to enrich the case studies presented in the following section; they additionally served as the inspiration for and conceptual underpinnings of the policy proposals introduced later in the report.

1.3.1 Advantages of a More Qualitative Approach

In order to address the complexity of national housing policy in Mexico,

Table 1.1 Comparison of Key Urban Indicators across Seven Cases

Metropolitan Area	Population	Area (ha)	Number of Municipalities	Density (pop/ha)	Annual Growth Rate (%)	Home-ownership Rate (%)	Average Housing Cost (Pesos)	Workers Under 5 MW (%)	Abandoned Housing (Units) 2010	Allocation of INFONAVIT Credits (2015)
Guadalajara	4,434,878	272,754	8	124	1.8	65.4	310,400	44	15,376	54,348
Monterrey	4,106,054	679,396	13	109	1.9	79.6	304,900	72	16,949	80,769
Tijuana	1,751,430	442,270	3	85	2.5	70.9	181,400	48	9,987	40,411
Mérida	973,046	152,892	5	58	1.9	84.3	206,800	72	3,275	17,156
Aguascalientes	932,369	182,230	3	105	2.4	74.3	221,600	72	1,575	13,440
Cancún	677,379	305,365	2	103	4.5	67.4	315,900	84	3,541	16,830
Oaxaca	607,963	60,275	22	64	1.9	86.0	184,100	80	589	3,122

Source: INEGI 2010, INFONAVIT 2015

one must draw insights from both failures and successes in housing policy implementation at the local level. Unlike quantitative research, which shows only success and failure of policy through data analysis, qualitative research gives a better understanding of *how and why* such outcomes materialized in particular localities (rather than just merely *whether* this occurred). With a focus on a multiplicity of actors working in complex land markets where urban conditions vary, the case studies provide a source of actionable knowledge from which the discussions and proposals in the overall report are built. The realities of local conditions discussed here will help policymakers working at the national level to understand whether or not general policy strategies emanating from federal mandates have worked to effectively advance densification goals in the face of changing regulations and developer uncertainty at the local level. Such knowledge will help lay the foundation for the development of new programs or policies that can be undertaken by a range of actors – including at INFONAVIT – so as to facilitate the planning and coordination of successful densification strategies at the local level, as well as to explore new procedures, mechanisms for institutional coordination, and financing tools that can unite key stakeholders around shared densification goals in the future, using housing as a key strategy.

With this methodological imperative, our team worked in seven metropolitan areas (Guadalajara, Monterrey, Tijuana, Mérida, Aguascalientes, Cancún, and Oaxaca). Although as noted earlier these cities were chosen for their diversity with respect to size, employment profile, and a range of territorial factors related to the social housing market (see Table 1), other key differences revealed themselves during the course of fieldwork. [In-depth comparative data analysis of all seven cities is included in APPENDIX C: Data Analysis] Most significantly was that fact that, among these seven cities, the nature and politico-jurisdictional makeup of their metropolitan areas ranged from those with few municipalities (two in Cancún, three in both Aguascalientes and

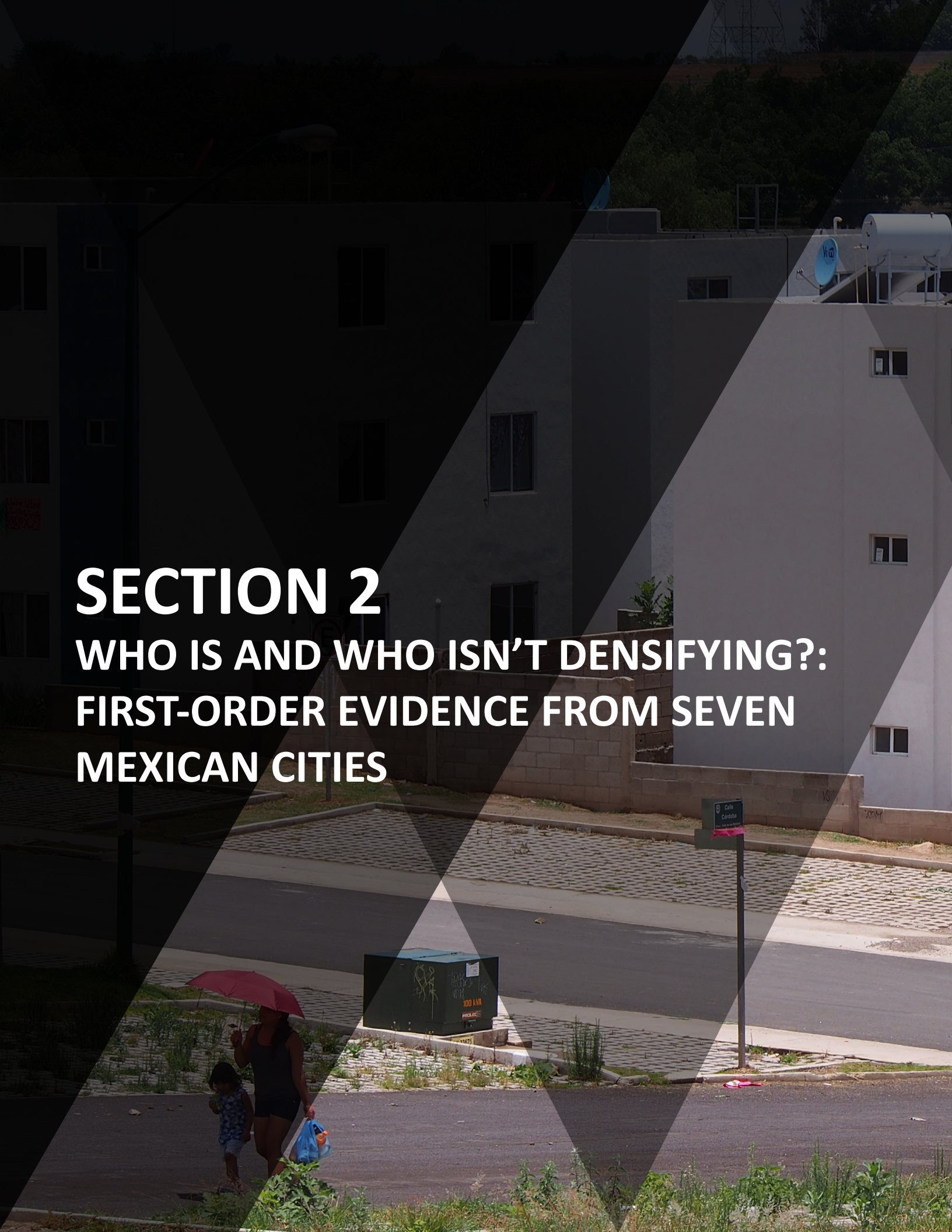
Tijuana) to those with numerous municipalities (thirteen in Monterrey, an astounding twenty two in Oaxaca).

This fact seemed to correlate with some of our impressions about progress with respect to densification. For example, during fieldwork interviews it became clear that very few cities (i.e. Aguascalientes and less-so Tijuana) were making substantively positive gains with respect to densification, while some were stalled in terms of progress and others continued on more or less the same path as before the 2012 mandate. We thus began to qualitatively and quantitatively assess these variations through the lens of housing supply, demand, location, and governance arrangements, to ascertain why some places were doing better than others. In particular, we sought to identify which local actors were already advancing housing aims, and the ways in which those actors and others potential partners were able to negotiate around the particularities of the metropolitan area and achieve consensus on sustainable housing and neighborhood development.

Grounded, qualitative fieldwork also allowed for a better understanding of the range of needs of individual *derechohabientes*, or credit holders, depending on their urban location, thus suggesting that while national-level support to effectively channel the pension funds of workers may be key, there may be individual and local challenges in particular cities, namely an over-dependence on housing subsidies, that prevent Mexico's workers from consistently accessing dignified housing or creating value with their housing investment. Among the questions that guided our efforts to uncover these dynamics, were the following: What strategies were used and by whom to better coordinate different levels of government around the densification of social housing? What levels of government were most likely to embrace densification strategies? What role did the private sector and civic organizations play in producing, promoting, and advocating for denser social housing?

Notes

- 2 OECD 2015, 78.
- 3 IMCO 2014, 53.
- 4 Excerpt from the Harvard University Graduate School of Design publication “Retrofitting the (Post) Industrial Metropolis.” The student work cited above is entitled “Housing Policies for a New Urbanity: Esta es Tu Ciudad” by David Ginsberg and Nupoor Monani. Spring 2014.
- 5 El Economista 2015.
- 6 INFONAVIT 2015.
- 7 INFONAVIT 2015.
- 8 It may be worth noting that the OECD identified a misalignment between the ways in which INFONAVIT and INEGI define housing vacancy, thus further complicating efforts to measure and confront the sources and problems of abandonment. INEGI, in the Censo de Población y Vivienda 2010, estimates through their housing survey that as of 2010, approximately 14% of the total housing stock was “uninhabited,” totaling of 4.9 million homes. Regardless of the accuracy or metric used for understanding the problem of abandonment, studies suggest that new houses in locations far from population centers and basic services are more likely to be left vacant than those in more accessible locations, and that a principal reason for abandonment is distance from the workplace, noted in a “Vivienda Deshabitada” survey conducted by INFONAVIT in 2012, with a total of 309 interviews.
- 9 The lowest of all OECD countries, Mexico’s productivity is has been stagnant in recent decades. Notably, weak GDP growth in Mexico is not attributed the productivity of individual workers overall, but rather to a growth in labor supply (OECD 2015).
- 10 INFONAVIT. Plan de Labores y de Financiamientos 2015.
- 11 For example, INEGI estimated that the construction industry contributed 7.3% of the country’s overall GDP in 2014. To give further evidence of the importance of the construction industry, consider that the primary housing and housing finance agencies (such as SHF, CONAVI, INFONAVIT, FOVISSSTE and other private financial institutions) invested \$309,957,000,000 pesos in housing finance in 2014 (INEGI 2014).
- 12 For additional background information on the institutional and policy context of the research, see APPENDIX A: A Brief Introduction to Social Housing in Mexico: Understanding the Challenges to Sustainable Urban Development through the Lens of Federal Policy.
- 13 A parallel Harvard team was charged with a global survey of best practices in densification to help local policymakers and stakeholders identify possible strategies for improving urban development and data management practices. The strategies focus on infill, retrofit, and greenfield development, and are published in an accompanying report entitled “Revitalizing Places: Improving Housing and Neighborhoods from Block to Metropolis/Revitalizando Ciudades: Mejorando Viviendas y Barrios desde la Metrópolis (Forsyth et al 2016).

The background image shows a modern, multi-story apartment building with a light-colored facade and numerous windows. In the foreground, a paved street is visible with a green utility box and a street sign that reads 'Calle Córdoba'. A woman holding a red umbrella and a small child are walking on the sidewalk. The image is overlaid with large, dark, semi-transparent geometric shapes (triangles and polygons) that create a layered effect.

SECTION 2

WHO IS AND WHO ISN'T DENSIFYING?: FIRST-ORDER EVIDENCE FROM SEVEN MEXICAN CITIES



Photo Credit: Margaret Scott



Vertical housing in Cancún, Quintana Roo.
Photo credit: David Schoen Parente

SECTION 2 - WHO IS AND WHO ISN'T DENSIFYING? : FIRST-ORDER EVIDENCE FROM SEVEN MEXICAN CITIES

Though the specific findings for each city are discussed in full in our companion volume (**Volume II. Case Study Compendium: Understanding the Barriers and Enablers to Densification at the Metropolitan Level**), a number of initial observations are worth highlighting here, primarily because they serve as a prelude to the more systematic discussion of the barriers and enablers in Section 3, as well as the policy recommendations provided in Section 4. In this section, however, we provide a brief overview city by city, establishing how and why some metropolitan areas have been more successful in advancing densification aims. We present these summaries starting with the largest metropolitan areas (Guadalajara followed by Monterrey and Tijuana) and ending with the smaller and mid-sized metropolitan areas (Cancún, Mérida, Aguascalientes, and Oaxaca). Though by no means exhaustive, these brief summaries offer an important foundation for the following discussion on the fundamental problems facing INFONAVIT, as well as our policy recommendations for how the institute can move forward by leveraging enablers and transcending the constraints outlined in the case study findings. They are followed by an overall assessment of the common barriers and enablers, presented in Section 2.2.

2.1 Urban Conditions and Densification Progress across the Case Studies

Progress on densification is mixed, as the summary material presented for each metropolitan area makes clear. In what follows we give a brief overview of progress in housing production and densification, city by city. Each summary both highlights the specific barriers and enablers to achieving densification goals; and each concludes with a discussion of potential opportunities to

advance densification aims, whether through social housing location or other measures that could be marshalled to promote better coordination around sustainable urbanism or to advance other “urban value creating” initiatives in each metropolitan area.



Vertical housing development in Guadalajara, Jalisco.

Photo credit: Margaret Scott

2.1.1 Guadalajara, Jalisco

Introduction to the Metropolitan Area

The *Zona Metropolitana de Guadalajara* (ZMG) is one of Mexico’s most important urban centers. Formally recognized in 1978, the ZMG has a total population of approximately 4.5 million residents across nine municipalities.¹⁴ The formally recognized *Zona Metropolitana* is comprised of: Guadalajara, Zapopan, San Pedro Tlaquepaque, *Cancún*, Tlajomulco de Zúñiga, El Salto, Ixtlahuacán de los Membrillos, Juanacatlán, and Zapotlanejo. The municipalities range greatly not only in population and size, but also in urban planning capacity, urban development regulations, and social housing processes. The ZMG has been a significant economic anchor in the state of Jalisco and Mexico for a number of decades,¹⁵ as the municipalities that constitute the ZMG have long been known as industrial centers that specialize in manufacturing, commerce, and services. Together, these municipalities concentrate 75% of the state’s overall industry.¹⁶

Particularly since 1970, the ZMG has seen the arrival of a number of new industrial, commercial, and financial businesses, attracting workers from within and beyond the state of Jalisco, in a process that has spurred by an active private sector. This industrial expansion has come hand in hand with demographic growth. The ZMG has been steadily expanding and growing over time, growing from 3 million residents in 1990 to the present day 4.5 million.¹⁷ Today, it is the second largest metropolitan area in the country, second only to the Valle de Mexico.¹⁸ At present, the metropolitan area contains 60% of the state of Jalisco's overall population. This steady economic growth and population concentration has made Guadalajara a major site of housing production, but given the sheer number and expanse of metropolitan municipalities, growth has been sprawling and uncontrolled, slowly undercutting the region's economic productivity and consistently affecting the quality of life of metropolitan residents, whether in social housing developments or the metropolitan area at large.

Progress in Housing Production and Densification

Metropolitan Guadalajara is a city of extremes. As one of the country's most important urban centers, the city has seen progress toward metropolitan coordination and advancement in the production of vertical social housing. In spite of this, the ZMG has nonetheless failed to advance the production of well-located, dense social housing across the entire metropolitan area, with only a select few successful examples of well-located vertical developments that also incorporate social housing, primarily in the central municipality of Guadalajara. When compared with other metropolitan areas, however, the ZMG has indeed managed to produce high levels of vertical housing. For example, as of 2013 when the densification policies were first published, the state of

Jalisco has reported a steady increase in the number of vertical housing registered in the RUV (*Registro Único de Vivienda*), growing from 34.9% of the total state production in 2013 to 54.9% in 2015.¹⁹ This growth is particularly significant when compared to progress toward densification in other states with high levels of housing production, such as Nuevo León. By comparison, Nuevo León, home to ZM Monterrey, had only 7.9% vertical units in 2013 and a mere 3.7% vertical housing units registered in 2015.²⁰ Nonetheless, although the ZMG has successfully incorporated higher levels of vertical housing, this production has largely been poorly located in peripheral areas, thus limiting the metropolitan area's progress toward well-located densification overall.

With nine municipalities comprising the metropolitan zone, political conflict and fragmentation has greatly limited progress in densification regulations, whether at the state or local level. Major attempts at coordination (such as the Institute for Metropolitan Planning, IMEPLAN) has not yet been successful in enabling coordination that goes beyond the production of land use and urban development plans. This has left actors in the housing sector to confront a stalled development process that threatens ongoing social housing production and does little to advance the much-needed promotion of well-located and dense social housing. Nonetheless, as a leading producer of social housing in Mexico, second only to Nuevo León for number of credits allocated at the state level, Jalisco has been among the states with the most progress toward vertical social housing, signaling that major policy shifts are indeed possible in a major housing market with an active construction sector. Though vertical housing has in its majority been in peripheral areas, metropolitan Guadalajara has nonetheless seen several excellent examples of well-located vertical social housing with 3 or 4 new housing developments featuring unique building layouts, urban design plans, and advantageous locations that foster greater connectivity

for households. These developments offer positive examples of how vertical housing can be integrated as urban infill and can effectively include social housing. However, these examples are limited to more central areas in the municipalities of Guadalajara and *Cancún* only, and demonstrate the difficulty of integrating social housing for the lowest-income households, as the list prices remains too high for most *derechohabientes*.

In spite of the highlighted examples of vertical urban infill, the majority of the vertical social housing in Jalisco and the metropolitan area has not been well-located nor well connected, thus illustrating the key distinction between general progress toward production goals, advances in vertical or higher density social housing specifically, or headway on the more definitionally-complicated notion of “urbanistically defensible” social housing, understood as housing that promotes quality of life through higher density typologies and with better connectivity. For the most part, vertical housing has been produced in areas embattled by high levels of housing abandonment such as the municipality of Tlajomulco, infamous for having some of the country’s highest abandonment rates. The production of vertical housing in these peripheral municipalities raises questions about the Federal government’s current methods for evaluating progress toward densification (through vertical units and locations in the *perímetros*). Clearly, these metrics are not adequately representing the disconnectedness of some of the *periímetros* and the potential negative implications of higher density housing located far from jobs and services.

As such, in spite of Guadalajara’s quantitative progress toward vertically dense housing, the ZMG has nonetheless not necessarily achieved the broader national policy goals of higher quality life for workers through better connected and serviced social housing. Though the current development patterns leave much room for improvement, this shift toward vertical housing does indeed point to an active and engaged development sector in Jalisco, with a proven willingness to adapt to policy changes, and a consumer base that is willing to accept higher density living. These two conditions are a marked difference from many of our other case studies, and underscore the great potential for Guadalajara to develop planning and coordination initiatives that advance the agenda for *urbanistically defensible* social housing.

Summary of Barriers and Enablers

Metropolitan growth in Guadalajara has largely been characterized as fragmented, both politically and physically. Though this is a common

characterization of metropolitan areas across Mexico, the extent of fragmentation has been particularly challenging in the advancement of dense, well-located social housing in metropolitan Guadalajara. Whereas fragmentation limits development of any kind in Oaxaca, for example, fragmentation in Metropolitan Guadalajara specifically constrains the production of well-located, higher-density social housing in metropolitan Guadalajara, even as typical, lower-density development continues apace.

Fieldwork has revealed a wide range of planning and urban development capacity in the municipalities, as interviewees in the public and private sector alike have commented on the varied nature of working with different governments on coordination efforts, policies, or in the permitting or licensing process for new developments. While local governments are typically cast as inept or ill-equipped, many municipalities in metropolitan Guadalajara do indeed have planning capacity, particularly in comparison to extremely resource-limited states like Oaxaca or Yucatán. In general, any progress toward densification in metropolitan Guadalajara has elicited significant political conflict and opposition. Technical planning capacity and planning advancement, where it exists, has faced stiff resistance either because of political apathy or outright opposition to the new densities proposed in changes to *planes parciales*.

Two particular examples typify this opposition. In the central municipality of Guadalajara, long-overdue land use updates and density increases in the municipality's *planes parciales* were formally opposed by local neighborhood groups concerned over higher densities and met a judicial “freeze,” in the state court (*Tribunal de lo Administrativo del Estado*), forcing the municipality to use older plans and effectively stalling new development. In the less affluent municipality of Tonalá, recent efforts to update the municipality's *planes* to accommodate

more density in central areas met no opposition during elaboration, but have had no real impact, as developers are still able to build in other low-density areas within the municipality and political leadership has not yet rallied to encourage more new higher density development along major corridors or in the municipality's urban center. Both of these examples demonstrate the extent to which plans for densification, even when well-grounded or suited to a municipality's needs, do little to advance densification without the proper public engagement or political support.

The metropolitan area's Institute of Metropolitan Planning (IMEPLAN) also exemplifies the metropolitan area's great potential for coordinated growth and development but has also been met by political opposition and conflict. The Institute is a state-level decentralized agency that promotes metropolitan coordination through urban research and policy recommendations. Enabled through state legislation and managed independently by an appointed director, the experience of IMEPLAN, especially as one of the first agencies of its kind in the country, serves as an excellent window to reflect on the prospects for metropolitan coordination in a highly fragmented urban area with a large number of municipalities. The Institute was born out of years of advocacy by state legislators and representatives (including Enrique Alfaro, current mayor of Guadalajara) for the creation of technical planning body at the metropolitan level that was capable of assisting all metropolitan municipalities with their land use planning and serving as a forum for communication and coordination around planning efforts. As of fieldwork in early 2016, high quality plans have emerged from the IMEPLAN, but have floundered because of administrative changes, the political replacement of the executive director, limited financial support from participating municipalities, and general uncertainty about the institution's future.

In addition to efforts at the municipal and metropolitan level, the state government in Jalisco has been proactive in a number of economic development initiatives but has failed to convene any sort of coordinated urban agenda. Rather, the overabundance of state-led initiatives has complicated rather than facilitated coordination. For example, recent amendments to the state's urban code (*Código Urbano*) were perceived as such dire threats to municipal sovereignty and the development sector's ability to build homes, that they garnered opposition from federal delegations (including INFONAVIT), the chamber of developers (CANADEVI), among many others. Another telling example is the recent light rail extension process in the metropolitan area (through three metropolitan municipalities) known as the Linea 3, a process that has been closed to the public and has made no effort to conduct land use planning along the new rail corridors. The Linea 3 is an example of a major public works initiative led by the state government that could have been a key opportunity to engage other sectors (such as municipal leadership, private developers, experts in academia, social housing sector stakeholders) to coordinate new land uses or align major projects with a major public transit development.

The challenges outlined here evidence the difficulty of coordinating urban development in a sprawling, fragmented urban environment. On the surface, the ZMG seems to be a story of success, with high levels of vertical housing production and the recent establishment of a metropolitan planning institute, the IMEPLAN, one of the first of its kind in the country. However, advancement toward vertical housing has not been aligned with better located growth, and the Institute has been significantly challenged by political fragmentation and missed opportunities for coordination across sectors and scales of government, a condition that symbolizes the challenges to

densification in the metropolitan area overall.

Broadly speaking, in spite of several promising examples of coordinated urban development and successful urban infill projects, the metropolitan area of Guadalajara is characterized by fewer successes than one might expect in a major urban area with new investments, progressive legislation, and dedicated local actors. Though vertical housing numbers are high, advancement toward well located social housing production has been limited to a few noteworthy examples. Numerous instances point to the fact that, in spite of institutional and political support for densification or coordination, most coordination and densification efforts have met overwhelming opposition or stalled development that has prevented more successful projects from materializing. Some of this appears to owe to the complexity of the metropolitan Guadalajara, where the sheer number of municipalities makes agreement on a territorial plan with networked infrastructure quite difficult. Moving forward, these examples provide useful lessons for comparing across the remaining case studies, and for helping to articulate a clearer role for INFONAVIT as a leader in the housing sector, particularly at the scale of the delegation or the delegate at the state level, a key intermediate level.

Possibilities and Opportunities for Advancing Densification and Other Forms of Sustainable Urbanism

Given the sheer number of failed or missed opportunities evidenced in the fieldwork in metropolitan Guadalajara, it's clear that a "platform" to bring together different stakeholders around project-based coordination could be an important way to better advance densification and urbanism in the ZMG. For one, a platform could be a powerful way to keep advancing the great urban infill already underway in the ZMG, such as the examples already seen. This would be one way to elevate the work of

innovative and drive small and mid-sized developers in the area, helping to reproduce their efforts through more strategic, urban infill projects throughout the metropolitan area. Additionally, platform-like efforts have already been attempted under IMEPLAN's metropolitan coordination framework, and in the CANADEVI's efforts to convene municipal authorities together to streamline development processes through “*mesas de trabajo*,” demonstrating the clear interest and capacity of stakeholders to build relationships across governments and sectors.

Numerous key stakeholders could come together around a platform in metropolitan Guadalajara. The ZMG's mid-sized developers (leaders in vertical housing and urban infill projects) could be key stakeholders and their business model should be studied further to better understand how to favor their housing production model (and limit the profits of other developers who may be operating at a larger scale, furthering sprawl or promoting disconnected). The IMEPLAN, although it has yet to be very effective, is strengthening its focus on metropolitan management of urban services, to bolster their argument for greater coordination (beyond just the technical planning process) as a means to better governance.

In the private sector, as implied above, CANADEVI would be critical to a platform, as well as the metropolitan area's very capable and urban-oriented universities, such as ITESO, Universidad de Guadalajara, or Tec de Monterrey



Infill housing development in Guadalajara, Jalisco.
Photo credit: Nélida Escobedo

(campus GDL). CANADEVI has already adopted some low-level innovations, such as appointing a technical director, preparing research, and organizing *mesas de trabajo* with municipal administrations. The platform could help elevate this ongoing work and also channel it specifically to densification efforts, rather than the typical compulsion for increasing credit allocation and higher levels of housing production as indicators of success in the development sector.

Additionally, it bears noting that INFONAVIT in Jalisco at the present moment is a very capable and well-managed delegation. The delegation could be a critical leader in a platform given the current delegate's interest in urban issues, his leadership of a well-prepared technical team (particularly in the Sustainability and Technical Assistance area), and the delegate's very solid political standing across sectors, whether it be with the labor sector (with experience as a CTM leader) or with other federal delegations (such as SEDATU). The ZMG has very active labor unions that are heavily involved in coordination with the *Comisión Consultiva Regional* (CCR) at the INFONAVIT delegation, and are thus already familiar with social housing issues. The CCR, through the delegation, would be another excellent partner in the formulation of strategies to locate housing and job sites together. A partnership like this, among employers and labor unions, is sure to be fruitful, especially in light of the metropolitan zone's concerning rates of housing abandonment.

Ultimately, as a major metropolitan area, Guadalajara brings forth a series of important lessons. Vertical housing has been produced in relatively high numbers yet largely limited to more peripheral locations, thus still not meeting goals for high quality of life for social housing homeowners. Fragmentation that is both political (across nine municipalities, in conflict with the state) and physical (large-scale informal

settlements and disconnected formal social housing development) greatly challenges coordinated urban development. Advances towards densification via regulatory changes (such as densification norms or land use plans) have been stalled because of political opposition or a lack of political capital or will needed to implement these regulations as projects. Successful urban infill (that incorporates social housing) has been limited to small-scale developments and made possible by willing, locally engaged developers working at the metropolitan level. Key negotiations and new initiatives that promote better serviced and located social housing have emerged from active stakeholders at the intermediate scale, such as the chamber of developers at the state level (CANADEVI) or the INFONAVIT Delegate and Delegation. Lack of leadership and coordination at the state level has stalled social housing development and created a number of "missed opportunities" for strategic urban development projects that could have integrated housing and value producing development mechanisms. Though metropolitan coordination has moved forward with the *Instituto Metropolitano de Planeación* (IMEPLAN), the effort has been contentious and still largely limited to the institute's technical planning capacities. Overall, as the nuances of these lessons demonstrate, the case of metropolitan Guadalajara, a city of extremes, is ripe with potential for catalytic urban growth. Through a platform managed by an intermediate actor with an important urban mission such as INFONAVIT, there is incredible potential to use housing not merely as a product, but rather as a catalyst for sustainable urban projects capable of producing value for homeowners, developers, and cities.



View of the Metropolitan Area of Monterrey from the Sierra Madre Oriental.

Photo credit: Oswaldo Zurita.

2.1.2 Monterrey, Nuevo León

Introduction to the Metropolitan Area

Recognized as an industrial powerhouse in Mexico, and one of the most competitive and dynamic cities in the country, the *Zona Metropolitana de Monterrey* (ZMM) is also a national leader in social housing production.²¹ Over time, supply and demand for social housing in the metropolitan area has been bolstered by the state's economy. High numbers of workers have been continuously attracted by the manufacturing and service sectors and a particularly active and well-organized construction industry has supported consistently high levels of social housing production.

In spite of the ZMM's success in achieving record levels of social housing, the sheer numbers of housing produced in metropolitan Monterrey have not transitioned to more sustainable and dense social housing and urban development. Instead, this mass housing production model in peripheral and disconnected areas has exacerbated the metropolitan area's severe urban challenges with traffic congestion, air pollution, insufficient infrastructure, and housing abandonment.

The sprawling and unsustainable growth pattern in the ZMM has been difficult to reverse in part due to the metropolitan area's significant fragmentation. Over the years, this has resulted in a metropolitan area encompassing thirteen formally recognized municipalities in addition to three other peripheral municipalities that form part of metropolitan dynamics. Horizontal urbanization in the ZMM has been forcefully shaped by waves of industrial

development and accompanying population growth. Historically, urbanization and worker housing has largely followed the establishment of industrial centers such as factories for manufacturing or construction materials, mainly located in peripheral areas.

In contrast to the economic pressures from industries to locate housing close to their facilities, planning strategies at the local, metropolitan, and state level have exerted minimal control on urban development, leaving decision making around housing location to the private market. To complicate matters, pervasive municipal fragmentation with a mosaic of visions and interests, and lack of effective metropolitan planning or state control, have further exacerbated the ZMM's horizontal growth, challenging urban accessibility and adequate provision of services for a growing metropolis, particularly for low-income neighborhoods.

Villas de Alkali neighborhood,
municipality of García, Nuevo León.
Photo credit: David Schoen Parente



Progress in Housing Production and Densification

A true embodiment of the *tren de la vivienda* or “housing train” model, a term coined by federal agencies to refer to the mass produced social housing model, the state of Nuevo León and metropolitan Monterrey are home to the highest levels of social housing production in the country. According to the *Sistema Nacional de Información e Indicadores de Vivienda* (SNIIV), as of February 2016, Nuevo León had an inventory of housing supply or *inventario de vivienda* ²² of roughly 70,565 housing units, accounting for 13% of the nationwide registration. ²³ Across the country, Nuevo León ranks first, followed by Jalisco. Together, these two states make up for 23.9% of the national's inventory. Nuevo León's high housing numbers are due in part to the state's high levels of formal employment, ²⁵ a fact not unrelated to the existence of a large scale industrial sector, with 1.44 million formal workers registered in the *Instituto Mexicano del Seguro Social* (IMSS) as of February 2016, accounting for 8% of the nation's total. ²⁶

Notably, even though the levels of social housing production have remained high, the results of the federal densification policies have not yet shown a shift toward more vertical or better located social housing developments. For example, as of March 2016, only 6% percent of the total housing units produced in ZMM were vertical. ²⁷ Similarly, social housing has not yet shifted to better locations as peripheral municipalities in metropolitan Monterrey continue to expand unevenly. 70% of this housing units is located in peripheral areas (U3 or FC) and only 7% in U1, with the latter being the preferred location according to federal standards. This peripheral development has been characterized as “ultra-growth,” or *ultra-crecimiento*, in which peripheral municipalities have grown rapidly with annual average growth rates of 14% in Pesquería,

14.38% in Ciénega de Flores, 26% in El Carmen, or 138% in Zuazua, a phenomenon that has been primarily driven by INFONAVIT housing developments.²⁸

Notably, the current state of affair reflects a slight shift from previous years. Vertical housing production registered in the RUV decreased from 9% of the total inventory in 2014 to just 6% in 2016, a trend that goes against national expectations and stands out when compared to other urban areas. Although verticalization is occurring slowly across the country, this decline is particularly notable in metropolitan Monterrey. Though many possible explanations exist, this decline may owe to the sheer volume of production in Nuevo León, where horizontal housing production continues to outpace vertical construction by such a margin that even a fair few instances of vertical development fail to register as progress toward densification.

Despite these numbers, national policies does seem to have produced some better located housing as measured by the *Perímetros de Contención Urbana* (PCU), embodying the ZMM's "partial progress" toward densification. For example, when comparing between 2014 (when the densification policies were first enacted) and 2015, the percentages of housing built within the three containment perimeters rather than outside the perimeters or *Fuera de Contorno* (FC) increased, demonstrating a gradual reduction in housing produced in exceedingly disconnected and peripheral areas. In terms of quantity of housing built outside the perimeters (FC), the percentages decreased from 34.5% in 2014 to 18.9% in 2016. However, the number of houses located in U3 (a perimeter defined as a buffer to more consolidated urban areas) increased, going from 37.5% to 50.6%, over the same period. This shift perfectly embodies Monterrey's "partial progress," in which densification based on location, rather than vertical construction, has indeed taken place. Clearly, one particular success is the reduction of housing built outside the perimeters. However, one challenge remains the sheer number of social housing units that continue to be produced in peripheral areas (U3), disconnected from the urban center and critical urban services.

Overall, the sheer numbers of social housing produced in Metropolitan Monterrey have created even larger problems. Although the ZMM shows similar slow progress on densification policies as in the case of Mérida, Monterrey's size and scale of production mean particularly high levels of air pollution, traffic congestion, and housing abandonment threaten the city's future development.

Summary of Barriers and Enablers

Planning Capacity. One of the first and fundamental barriers to densification in the ZMM has been institutional. A number of economic factors such as a well-organized industrial economy, thriving construction sector, and large private sector workforce have come together to fuel the “housing train” of social housing production in metropolitan Monterrey. This economic growth and accompanying urban development have consistently outpaced the role of planning mechanisms and institutions. Whether at the municipal, metropolitan, or state level, plans or planning efforts have typically fallen in line with this private sector driven development model and done little to advance more sustainable urban development. In order to better understand the challenges to implementing a densification agenda in the ZMM, it is useful to examine the role of planning at all scales, from the local and metropolitan to state and federal.

Municipal Governance. Formally encompassing thirteen municipalities, in addition to three adjacent municipalities, the ZMM’s pervasive municipal fragmentation manifests in wide ranging urban realities and agendas across the metropolitan area. While central municipalities such as Monterrey have started to promote densification as a remedy to depopulation and decaying central areas, their planning efforts have remained targeted to higher income markets and infeasible for dense social housing because of minimum parking requirements, for example. By contrast, peripheral municipalities eager to receive new development have continued to accept social housing developments, even at the risk of failing to provide adequate urban services. These municipalities are often labeled as “ultra-growth” by the local media and have experienced rapid growth in recent years, fueled mainly by INFONAVIT-financed housing. This “ultra-growth” development pattern is concerning for INFONAVIT, as these municipalities have seen high levels of housing abandonment. Nationally, the ZMM is second among metropolitan areas with the highest rates of INFONAVIT housing abandonment, second only to the Metropolitan Area of the Valley of Mexico.²⁹

Metropolitan Governance. Unlike Guadalajara, the *Zona Metropolitana de Monterrey* lacks the institutional framework of a metropolitan government. In Monterrey, even though state legislation establishes the basis for metropolitan governance, in reality this has not come to pass. Metropolitan planning remains in the hands of state government, which is unable to coordinate the multiplicity of interests and visions of the private sector and the municipal governments.

State Governance. Finally, the ZMM's is also characterized by the state government's limited effectiveness in regulating urban development, linked to the closely intertwined history of industrial and urban development in the ZMM. Namely, the state government has been unwilling to strictly regulate urban development for fear of disrupting economic development or falling out of favor with the powerful private sector. Historically, private sector groups have always worked closely with state government. As outlined previously, metropolitan Monterrey's expansive industrial development would never have been possible without continued partnerships with and critical support from the state government. As industries began to grow, the state government benefitted enormously from the economic and social development that industrial development brought to the ZMM and the state. Even as the ZMM now transitions to a service and commerce economy, the

reciprocal relationship between the state and the private sector prevails. Given the state government's unwillingness to control or guide urban development, disconnected developments have continued, further contributing to metropolitan expansion.

Production and Consumption Dynamics. In addition to limited institutional capacity and municipal fragmentation, another barrier to densification in the ZMM is the sheer quantity of land available for social housing construction. Although available reserves may seem to be advantageous for the production of much-needed social housing, the disconnected, inaccessible, and underserved nature of land reserves in the ZMM has ultimately greatly undermined the quality of housing development. Paradoxically, these poorly located reserves have challenged densification efforts while still meeting credit allocation goals and fueling the construction industry. According

View of the Macro Plaza area in downtown Monterrey.
Photo credit: Nélida Escobedo



to the *Registro Nacional de Reservas Territoriales* (RENARET), the national registry developed by the federal government to support housing policies, as of December 2015 developers in the ZMM³⁰ had registered 25,500 hectares to be developed for social housing.³¹ Notably, only 2.6% of the reserves were located in a U1 location, while 8.09% were in U2, 43.5% in U3, and 45.78% in FC (outside the boundaries). By comparison, the state of Jalisco, with a similar economy and population size, had only 9,800 hectares registered in the same year, suggesting a more contained growth pattern in spite of high levels of production. Overall, the location of territorial reserves in peripheral municipalities points to a concerning scenario in Nuevo León, where the sheer availability of land may signal that this type of peripheral and poorly connected development is likely to continue.

Finally, metropolitan Monterrey's densification has been deeply challenged by the limited purchasing power of the workforce. Although it is typically assumed that the ZMM is exempt from the burdens of a low-income workforce that challenges social housing production in areas such as Cancún, Mérida, or Oaxaca, a closer look at the labor income statistics in the metropolitan area reveals challenging conditions, due in part to the ZMM's sheer size. For reference, as of February 2016, 28.7% of workers registered at IMSS in Nuevo León had a salary level range of 1-2 times the minimum salary (vsm), followed by 42.9% of the IMSS affiliates receiving between 2-5 times the minimum salary (vsm).³³ To accommodate the limited purchasing capacity of hundreds of thousands of low-income workers, developers in the ZMM have adopted a mass housing production model predicated on single-family homes built on cheap, peripheral land, of which there is plenty available.

Possibilities for Advancing Densification and Other Forms of Sustainable Urbanism

Coordination Efforts: A Project-based Approach.

Despite the significant barriers to densification outlined above, the ZMM nonetheless offers important lessons regarding how to achieve “urbanistically-defensible” housing. Much of metropolitan Monterrey's successes in urban development has been driven by major projects. Emerging from Monterrey's industrial and entrepreneurial identity and the availability of financing resources, motivated and well-positioned stakeholders have utilized catalytic urban projects in various parts of the city to ignite new development and build consensus around an urban agenda. Diverse in nature, some of the catalytic projects in the metropolitan area have been led by the state government to attract investment and consolidate depopulating areas in the city center (*Macro Plaza*). Others have been led by the private sector, intended to jumpstart economic development through a business district (*Polígono Valle Oriente*). More recent approaches include projects organized by universities to spur economic and social development in the neighboring *colonias* (*Distrito Tec*). Of particular note is the widespread use of the *fideicomiso*, or real estate trust, to more easily facilitate the sale of land. Though the *fideicomiso* tends to benefit the developer and landowner rather than the occupant, this is a notable precedent because it shows how existing legal strategies can be utilized to enable the financing and construction of complex projects, particularly those involving housing. Given the flexibility of the *fideicomiso* to accommodate different partners in a real estate investment, the trust is a tool that could be potentially utilized with state governments or federal delegations, for example, to join with developers to provide much needed infrastructure and services for social housing developments in better located areas.

Regardless of their organization, these catalytic large-scale projects share an entrepreneurial and innovative spirit that encourages experimentation, demonstrating how major projects can bring actors together to innovate in the face of fragmentation and planning challenges. After all, the ZMM has a tradition of large-scale projects, all of which have leveraged the power and commitment of key anchor institutions. The metropolitan area's organized and engaged private sector, both industrial and educational, has been critical to advancing strategic and coordinated economic investments that properly integrate social housing into larger urban aims, whether by planning for housing to be appropriately connected to work, as in the case of industry, or appropriately connected to educational and centers, as in the case of *Distrito Tec*. Even as the metropolitan area struggles to address ongoing sprawl and housing abandonment, the project-based coordination exemplified in these large-scale urban projects hint at a way forward for densification through “urbanistically defensible” housing, one that might be achieved through the establishment of a platform capable of convening actors. These examples of project-based coordination show that successful projects in Monterrey include local stakeholders, such as universities, to serve as strategic mediators between the community and private investors. As a consistently entrepreneurial and constantly growing metropolitan area, Metropolitan Monterrey has immense potential to convert its “housing train” model into one where social housing can be the strategic lever of developments that ensure value creation, sustainable urban environments, and high quality of life for workers and cities alike.

Of course, a project-based approach alone will be insufficient, especially given the fragmented governance among the metropolitan and metropolitan-adjacent “ultra-growth” municipalities. However, this is another area in which a platform could produce beneficial outcomes. Given the emphasis on problem-definition, along with highlighting project development, the platform does not have to have a fixed actor base in the way that traditional institutions do. Rather working group composition can be flexible to suit the need of a particular project, ensuring that actors that have little understanding of the context – or simply have no stake in implementation – do not create unnecessary barriers that intentionally or unwittingly hamper success. In an environment as fragmented as Monterrey, getting the right teams together to tackle a project will be a crucial step for the successful production of urbanistically-defensible housing.



Vertical development and detached housing in Tijuana, Baja California.
Photo credit: Francisco Lara García.

2.1.3 Tijuana, Baja California

Introduction to the Metropolitan Area

Metropolitan Tijuana, formally recognized as the *Zona Metropolitana de Tijuana* (ZMT) is the northernmost of the case study sites, with its location on the US-Mexico border a significant determinant of the supply and demand for social housing. With a population of 1.75 million people, the metropolitan area encompasses the municipalities of Tijuana, Playas de Rosarito and Tecate, although Tijuana is the central *municipio* in terms of both population and economic importance, with 88.9% of the metropolitan population. Since the initiation of urban planning processes in Tijuana, in the late 1800s, plans have been deliberately oriented north toward the United States reflecting the outsized influence of Tijuana's proximity to the U.S on the city's population and urban form. The metropolitan area's urban and economic development has been and continues to be closely intertwined with that of Southern California and the United States.³⁴

There are signs of progress in densification in the metropolitan area. An emerging consensus on the need for density is particularly noteworthy, as are the myriad opportunities for alternative approaches to housing that are enabled by an active civil society, the availability of planning resources, and proximity to the United States. In spite of these enablers, 'urbanistically'-defensible housing remains an elusive goal for Tijuana, as densification efforts are saddled with the realities of municipal ineffectiveness and the city's legacy of

land irregularity.

Progress in Housing Production and Densification

In general terms, Tijuana's urban form is the result of explosive demographic growth and informal housing, primarily owing to high rates of migration and natality rates. Between 1930 and 1990, Tijuana's population grew by a factor of 66 - from 11,000 to nearly 750,000 inhabitants - with municipal growth rates that frequently exceeded 9%. By contrast, the national population only quintupled during that same period of time.³⁵ With no orderly mechanism in place to incorporate droves of arriving migrants, the history of urbanization in Tijuana is one of uncontrolled, informal settlement. Although there is no consensus on the exact number of irregular settlements in the city, most agree that at least half the city is irregular by some measure. One of the most exhaustive studies conducted on the issue, led by two researchers at *El Colegio de la Frontera Norte*, estimated that 42.8% of the total surface area of the city of Tijuana was irregular,³⁶ a number substantially higher than our other case studies. Several efforts have been undertaken by the government to regularize these property and land titles, but their operations have garnered mixed results. The number of agencies working the issue serves to underscore the ineffective and fragmented nature of regularization efforts in the metropolitan area.

Despite declining production, numbers paint a picture that is not all bad for Tijuana. Starting in 2012, the proportion of vertical housing that was built increased significantly. Instead of posting numbers that were in the low double-digits, the proportion of vertical housing started to approximate the number of horizontal units that were available. Out of the 22,908 units built from 2012 onwards, a full 42% of them had a vertical typology. It would only be

a slight exaggeration to say that all of this vertical construction occurred in the municipality of Tijuana. Since 2012, no vertical units have been built in Tecate and just 27 units have been registered in Rosarito.

In addition, location seems to have improved. Of social housing supply, the majority of it is sited inside the *perímetros*. Measured monthly, the proportion of available supply inside *contornos* averaged out to 72% from January 2014 to March of 2016. The majority of these gains occurred inside the U3 or U2 designations. In the same period, houses in U3 averaged a monthly proportion of 43% of total housing supply, while U2 had a monthly average of 30%. Nonetheless, perhaps most important has been the proportion of the housing supply that is located outside the PCUs. This percentage, with monthly averages of 31% of supply, has been remarkably stable in the last two years. The stability of this line suggests that this supply is not rapidly expanding, at least not in way that outpaces housing consumption in the city.

However, success can only be characterized as partial. In fact, social housing production in Tijuana closely resembles the production trends that we are observing in other cities, namely that there is a move towards verticality, but mostly bordering U3 areas that are still quite distant from major urban centers. A perfect example of this trend is the Natura development in San Antonio de los Buenos managed by the housing promoter Ruba. Located in a U3 zone at Tijuana's southern edge, new construction in this development will replace traditional horizontal models with the vertical typology incentivized by the federal government. While Ruba's development is better than most, its location leaves a lot to be desired; it's roughly 35 kilometers away from Tijuana's municipal palace.

Summary of Barriers and Enablers

Planning Capacity. Compared to other Mexican cities, Tijuana has a relatively long history of planning. The first attempt at urban planning regulation occurred in 1961 when the state governor instituted an urban growth boundary around the “urban district” of Tijuana. A complementary plan regulador was passed in 1962, which attempted to set a regulatory framework for subsequent planning initiatives and regulation. Although these initial attempts at municipal planning were completely ineffective at containing sprawl,³⁷ they set a precedent for urban regulation within municipal agencies. The elaboration of Tijuana’s first master plan in 1984 overlapped with the establishment of Tijuana’s IMPLAN. This incipient planning institution was bolstered significantly by substantial technical and human capital support that was provided by their sister organization in San Diego, SANDAG.

The trajectory of urban planning in Tijuana has produced an experienced cadre of planning professionals in the city that have been trained to handle the technical demands of regional development and master planning. Many of these individuals are well-educated, technical professionals that have received master’s degrees in Regional Development from local institutions like *El Colegio de la Frontera Norte*, or training in the United States. The existence of local technical capacity for engaging in planning activities could be an important asset in the implementation of densification initiatives across the city.

Another enabler of densification is the presence of active members of civil society that are advancing the agenda for defensible urbanism through alternative and locally-developed approaches to housing

and regional development. Although examples of innovative projects abound in the metropolitan region, the breadth of alternative approaches are best captured in the work of three organizations: *Fundación Esperanza de México* (FEM), PROVIVE and *El Consejo de Desarrollo Económico de Tijuana* (CDT).

- *Fundación Esperanza de México* (FEM) is an *Asociación Civil*, or non-profit, that has been operating out of Tijuana for the last 25 years. The organization relies on a community-managed savings account and CONAVI subsidies to finance the self-construction of cinder block homes. However, the success of their model lies in their social work and community engagement, which *Esperanza* uses to source labor and foster a sense of mutual responsibility among neighbors. Through this approach, *Esperanza* has built 900 homes in well-serviced areas and provided financial and leadership training to many participants, primarily women.

- On the private sector side, PROVIVE is a self-labeled “social impact housing start-up” with operations in Baja California and Chihuahua. Their business centers on adjudicated homes, which they purchase in “packages” to fix up, and then put on the open market. What sets them apart from a typical adjudicated housing company is that they implement an “urban and social regeneration” program which aims to strengthen community networks and promote neighborhood action. They argue that additional value is created through this program, which is eventually reflected in real estate prices and can be capitalized.

- In order to counteract the ineffectiveness of planning agencies a state-subsidized government/business round table called the *Consejo de Desarrollo Económico de Tijuana* (CDT) has been an active actor in the planning of strategic projects for the city. Receiving equal parts funding from the State government, the municipality and the private sector,

the CDT's most visible role has been to develop long-term strategic plans for city development, a mission which it continues to carry out to the present day. The organization was instrumental in the development of the *Plan Estratégico Metropolitano 2012-2034 (PEM 2024)*. They are also currently working on implementing 8 strategic metropolitan *ejes*, or lines of work, which include the revitalization of the pedestrian crossing at the San Ysidro port of entry and a solution to the masses of deportees that congregate on the canalized portion of the Tijuana River. Although the organization has its critics, the CDT is fairly unique in its status as a civil society organization which participates actively in the strategic planning of the city and wider metropolitan area, a level of participation which is practically unheard of in Mexico.

Interestingly, municipalities in Baja California hold an unusual level of autonomy in the administration of urban spaces. Unlike municipalities in other states where responsibilities for service provision, permitting or land administration are split with the state, Baja California has delegated almost all the administrative duties to the municipality. A director of the state urban development ministry described the degree of decentralization to Baja California's municipalities as follows: "Baja California is the most municipalist state in the country. The municipalities have their responsibilities



Urbanization in the hilly topography of Tijuana.

Photo credit: Francisco Lara García

outlined in the Constitution. Baja California gave them all of those responsibilities and more.” The autonomy of municipalities allows decision-making to be indisputably local, a necessity in a state with few and physically large municipalities. Unfortunately, it exposes planning decisions to the institutional vulnerabilities inherent in Mexican municipalities.

Therefore, a major cause for the dysfunction of planning institutions in the ZMT is owed to the structure of municipal governments in Mexico, a structure which is not unique to the ZMT’s *ayuntamientos*. Short administrations, the impossibility of re-election, complete personnel turnover and political ambitions produce a rise in “plazismo”³⁸ – the tendency to favor visible, politically-opportune projects like plazas and parks – in Mexican local government. Regrettably, as Herzog has noted in Tijuana, investment in these projects occur at the expense of more dire infrastructure needs, and tend to sideline conversations over long-term planning. In fact, “plazismo” was identified by government officials, academics and members of the private sector as one of the most significant barriers to planning for densification in the metropolitan area.

Finally, land irregularity continues to be a central challenge for densification in Tijuana’s urban core. Although there are a substantial number of vacant or underdeveloped parcels in central areas which could be developed,³⁹ the magnitude of irregular development in the municipality of Tijuana, where it is estimated that over half of all residential property is irregular,⁴⁰ is frequently an insurmountable barrier. In a city with a history of migration, land invasions,



Land in foreclosure, Tijuana, Baja California.

Photo credit: Francisco Lara García

and land redistribution, land tenancy and records of property titles are notoriously inconsistent. To date, there is no single institution at the municipal, state, or federal level with a reliable registry of all land, regularized or otherwise, in Tijuana. As of 2012, there were four land regularization agencies operating in Tijuana: CORETT (Federal), INDIVI (State), PRODUTSA (State) and FIMT (Municipal). These agencies operate separately and with little capacity to share their particular registries, such that it is common to find overlapping and even contradictory records for the same properties.

Unsurprisingly, this irregularity plays an important role in shaping urban development, in large part because it challenges efforts for densifying central city areas. One of the biggest challenges of operating in Tijuana has been uncertain land ownership, where any land purchases might face the risk of litigation by parties that could also claim ownership. This risk of litigation increases closer to urban centers, where land is more valuable and more is at stake. Interestingly, a recent study found that the areas with the highest land prices also tended to be those areas with the highest rates of informality.⁴¹

Political Relationships. As previously noted, the majority of the population, urban footprint and housing development is contained within the confines of a single municipality, Tijuana *municipio*. This concentration of authority is a double-edged sword for urban development. On the one hand having decision-making power with a single agent makes the need for coordination less dire than in other cities, where urban growth is more equally distributed among municipalities. As a result, in Tijuana there is seldom confusion over who to turn to when faced with a decision – usually the municipality has the final say. In short, as a result of having less municipalities, Tijuana sidesteps the “too many cooks in the kitchen” problem experienced in a number of other

metropolitan zones. On the other hand, given the legal autonomy of municipalities in Baja California, government agencies outside of the municipality have little recourse to challenge decisions that have been taken, even if the course of action runs contrary to metropolitan aims. For example, in contrast to Aguascalientes where the state might intervene by selling land or withholding funding for transportation, the state of Baja California has no land to give and no infrastructure to withhold. The one exception is water and sewage which remains a state responsibility. However, as the state has increasingly allowed the private sector to finance and provide these key services, it has also undercut its ability to direct urbanization through infrastructure.

Similarly, the municipality of Tijuana’s legal ability to influence the urban growth is amplified by the large size of Baja California’s municipalities, which are among the biggest in the country. Their size diminishes the potential for competing claims over jurisdiction since – for the most part – the majority of the urban footprint resides in a single municipality. Further, municipal size weakens developer’s ability to play municipalities against each other since relocation would represent a significant change in location and topography. More specifically, In Tijuana’s case developing in Rosarito or Tecate would mean moving even farther away from the metropolitan area’s major urban centers.

Finally, Tijuana’s proximity to the United States could be a vital asset in the promotion of densification efforts in Tijuana’s metropolitan area. The relationship with the United States has a proven record as a springboard for coordination not just in Tijuana, but in all cities along the U.S-Mexico border. Given the importance of commercial and social exchange for the economic health of the metropolitan region, the state of Baja California and the nation, bi-national projects such as the joint management of the Tijuana-San

Diego watershed have often provided incentives for long-term planning and horizontal and vertical coordination. Furthermore, the strategic importance of the border points of entry for the economy and national security, guarantees a consistent amount of federal expenditures from Mexico City and Washington for the maintenance of critical infrastructure and renovations. Although bi-national initiatives have not been used in service of densification aims in recent years, it is not an unprecedented source of funds for urban projects. In the past, federal dollars have been used to urbanize undeveloped parts of Tijuana and San Diego, usually in close proximity to the urban centers of the city that run close to border.⁴²

Consumption and Production Dynamics. In addition to its legal authority, the municipality of Tijuana also exerts significant influence on urban development due to its economic primacy and a shortage of developable land in surrounding municipalities. Tijuana's direct connection to California makes the municipality a magnet for industry and migration, and by extension the economic engine of the state. Moreover, Tijuana is a far more competitive physical location for housing construction than either Rosarito or Tecate because of housing demand and land availability. Rosarito, to the southwest, is a fairly young municipality with large swathes of *ejido* land that complicate the production of housing for promoters. In spite of its contiguous location along the border. Tijuana's other neighboring municipality, Tecate, is constrained by its location on a mountain range diminishing the stock of available land.

Housing abandonment has also played a critical role in shaping the market dynamics of the city. The abandonment crisis in the state has also led to an unlikely consensus over the need for a different model of urbanization in the ZMT. Almost all of the actors interviewed (whether housing developers, government officials, members of civil society, or academics) agreed that the previous model of sprawled-out peripheral housing was not working. The failure of the preceding model, beyond being evident in the steep decline in housing production in the state, is also apparent in the proliferation of distant, low quality and poorly serviced developments with some of highest abandonment rates in the country. Vacancy numbers from the 2010 Census estimate that there are around 124,665 unoccupied units in the metropolitan zone, amounting to a vacancy rate of a little bit over 20%, far and above the national average of 14.2%. By their own estimates, at least 12,260 of these units were financed by INFONAVIT, and today the municipality of Tijuana has the second highest rate of foreclosed INFONAVIT mortgages in the country.⁴³

While *derechohabientes* have been the hardest hit, the abandonment crisis has been bad for everyone in Tijuana. Consumers have become warier about homeownership, a market reality that has put the state's real estate industry in crisis. Government officials at all levels have lost legitimacy on housing issues and urban affairs in the state. This is perhaps best exemplified by the failure of the *Valle de las Palmas* development, a proposed satellite city in Tijuana's outskirts that was energetically promoted by both the state and federal government, and is now a constant source of deserved bad press for its low-quality of life and abandonment rates. Finally, high abandonment has been bad for quality of life, as vacant homes become preferred hideouts for criminal gangs and drug-traffickers, and reduce the property values of surrounding neighborhoods. Many if not all agreed, that any alternative model would necessitate a denser urban fabric; Tijuana's hilly terrain leaves few other viable options. Despite this consensus, disagreements persisted over the best means to achieve densification. Whether densification will take the form of apartment towers, in-fill development, less-peripheral housing, or adjudicated housing is a question that remains open to debate.

Ultimately, high land prices produced by concentrated land ownership, speculation and irregularity are a crucial barrier for denser housing in Tijuana. In addition to irregularity, which drives up prices by casting uncertainty over land purchases, concentrated land ownership and speculation are also challenges. Property ownership is notoriously concentrated in Northern states, with Baja California being no exception.⁴⁴ Few landowners leads to fewer sellers, which translates into higher land prices. Furthermore, a weak property tax system in Tijuana incentivizes these landowners to sit on their property. Although there is a differentiated property tax for vacant land, property tax penalties are insufficient to incentivize owners to develop their property, especially if there is an expectation that land prices may increase in the future. As such, municipalities only have recourse to intervene when there is a failure to pay the *predial*, or property tax, a proposition which is exceedingly difficult in a city where there is little clarity over the identity of landowners. Even in the case of municipal intervention, there is no guarantee that an expropriation will proceed successfully. Recently, authorities in the municipality of Tijuana have been more energetic in foreclosing property that fails to pay the *predial*, but the process and volume of claims is onerous for municipality and state. In a fieldwork interview, a planner at the *Secretaría de Infraestructura y Desarrollo Urbano del Estado* (SIDUE) explained that foreclosures could be challenged by property owners in court, and that a technicality, failure to attend all court sessions, or an unsympathetic judge could upend the process.

Opportunities for Advancing Densification and Other Forms of Sustainable Urbanism

Tactical. A platform in Tijuana could facilitate the participation of groups that have been previously excluded from full participation in housing and urban development in the city. Prestigious academic institutions like *El Colegio de la Frontera Norte* and *La Universidad Autónoma de Baja California* could serve as a repository of local expertise and the headquarters for concept formulation, which would be supported with the additional capacity available across the border at the University of California San Diego or Woodbury University. Moreover, the rapid rise of civil society, including private sector groups like the *Consejo de Desarrollo Económico de Tijuana* (CDT), non-profits like FEM among many other urbanistically-oriented action groups in the city would bring new representation to urban planning in the city. It would also mark a shift away from participatory schema in which civil society groups participate only nominally, with no real ability to affect or influence the agenda. This would be a welcome improvement over the current process which includes only select government agencies and housing developers.

Paradoxically, even with large quantities of vacant land in Tijuana's urban centers, there is a shortage of developable land. As in our other case studies, this is a product of the lack of differentiated taxes on underdeveloped parcels, but is also due to Tijuana's particularly high rates of land and residential irregularity. The UVC platform could devise small-scale, in-fill development projects to test the feasibility of housing initiatives, beginning with the identification of sites where land values or contradictory land titles would not be insurmountable barriers. This could occur in one of Tijuana's many urban "centers" including la Zona de Rio, el Cerro Colorado or Playas de Tijuana. The local INFONAVIT delegation, the *Instituto de Vivienda del Estado* (INDIVI), IMPLAN, and the *Dirección de Administración Urbana* at the mayor's office could be leading agents in this effort.

With over 120,000 vacant houses in the city,⁴⁵ another point for short-term, tactical intervention is in retrofit and rehabilitation of houses that have already been built. This is not a new idea, and there are already many private actors pursuing this market strategy. However, the scale at which these actors operate is still too small, with few treating *fraccionamientos* as whole neighborhoods, instead of bundles of discrete commodities. The UVC could facilitate retrofit programs that focus not only on houses, but entire neighborhoods, including the transformation of existing houses into viable commercial spaces or community centers, a desperate need in areas with high abandonment. The UVC platform could draw from the experience of locally-grown organizations

like FEM, an organization with ample experience in conducting community needs assessments, or PROVIVE, which has been exploring ways to make the creation of vibrant neighborhoods a profitable enterprise. Additionally, a program like this would require the close participation of municipal agencies in charge of permitting and zoning, namely IMPLAN and the DAU who approve land-use modifications and verify compliance with urban codes.

A final area of tactical intervention is the collection of data and preparation of technical reports on the state of urban infrastructure, land value and property ownership. Information like this is sorely needed if the metropolitan zone is to engage in any sort of evidence-based planning. To give just one example, there is practically no information on land values in the city. An expert in regional development at el COLEF said that the last high-quality survey on property values in Tijuana was last conducted in 2000. Additional work should be financed to compile the databases of the various government agencies

and identify where lapses and contradictions in information exist. This could result in a reliable cartographic database that could inform the work of the various actors working on urban issues in the city. Fortunately, the elaboration of this work would not need to be outsourced very far. Prestigious and reputable academic institutions like COLEF and the *Universidad Autónoma de Baja California* could serve as the headquarters for these technical initiatives, and could be supported by the extant capacity at the University of California San Diego and Woodbury University just across the border.

Strategic. More long-term, the compilation of a reputable and widely-accepted database could serve as the launching point for a universal state-wide registry in which records of land exchanges, land titles, and improvements to infrastructure would be kept and maintained by state agents. If it was made widely available to government officials and private actors, uncertainty over the location of infrastructure and ownership would cease to be such impediments

Announcement marketing purchase of foreclosure homes.

Photo credit: Francisco Lara García



to urban development. Moreover, if a certain standard was agreed upon statewide, the state could begin the slow and arduous process of aligning contradictory land titles and resolving property disputes, a crucial obstacle to effective and fair property tax collection in Tijuana.

Another project that could be enabled by the UVC platform is an exploratory study on how to incorporate densification aims within the large bi-national infrastructure expenditures recurrent in border areas. Transportation investments, usually on ports of entry or the roads that feed into them, are among the most predictable federal expenditures in Tijuana. In the long and medium term, effective planning could leverage these expenditures into urban catalyzers that consolidate the commercial, industrial and residential areas that run adjacent to these transnational routes. The INFONAVIT delegate could serve as a point person for housing development, essentially serving as bridge between the Ministry of Transportation (SCT) and the Federal Highway Administration (FHA), and the urban development ministries like IMPLAN and SIDUE that operate at the state and municipal level. The UVC could identify areas in the city where the highest gains in defensible urbanism and connectivity are to be had as a result of these expenditures, in addition to pinpointing where these developments are the most likely to succeed. Although this sort of project would be a difficult proposition, ultimately this kind of vertical coordination is indispensable to making the best of investments that are already slated to happen, helping them double as detonators of urban value creation, as well as crucial transnational commercial lifelines.



Housing and retail uses mix in the Historic Center of Mérida, Yucatán.
Photo credit: Nélida Escobedo

2.1.4 Mérida, Yucatán

Introduction to the Metropolitan Area

Metropolitan Mérida is a mid-sized city at an important crossroads. In spite of positive urban conditions that could incentivize denser and more sustainable development, such as a small metropolitan area with only five municipalities, developed around the central municipality of Mérida, and a manageable population growth rate, the ZMMID's urban development nonetheless tends towards urban sprawl. Unlike many cities across Mexico and particularly those analyzed in this report, Mérida has been spared the challenges associated with rapid growth, social housing overproduction, high rates of housing abandonment, dependence on a single economic activity, or the complications related to coordinating a large number of municipalities in the metropolitan area. Often recognized as one of the cities with highest quality of life in Mexico,⁴⁶ progress on densification policies in Mérida has been extremely slow and detached single-family housing construction continues in peripheral and disconnected areas, threatening its future urban development.

Given these contradictions, metropolitan Mérida finds itself at an important crossroads as local actors have started recognizing the urgency of confronting the ZMMID's unsustainable growth and the attendant negative consequences it will bring for mobility, equity, and quality of life. The case of metropolitan Mérida offers insights into the challenges for moving forward with densification efforts, particularly related to the socioeconomic conditions of the region and the spatial and topographic development of the metropolitan area. The case also offers lessons on how actors and stakeholders can leverage

local resources and advantages (such as a small and compact metropolitan area, stable growth, relative safety and security, etc.) to create opportunities for sustainable growth and development.

Progress in Housing Production and Densification

Even though metropolitan Mérida enjoys a privileged position as Yucatán's capital city and important economic and demographic hub in the region, it has nonetheless had limited progress toward the implementation of federal densification policies to contain the metropolitan area's sprawl. Single-family homes in peripheral locations are still the prevailing housing model, failing to achieve progress on urban containment (measured by the *Perímetros de Contención Urbana*, PCUs) or verticalization (measured by vertical construction of more than three floors).

In terms of the success of the PCUs, between February 2014 and December 2015, only 5% of the housing units produced were located in a U1, a federal designation indicative of a location that is more accessible to employment centers, health clinics, schools, and other urban amenities. Instead, the vast majority of the housing is detached single-family homes sited in peripheral municipalities such as Kanasín or Umán. Roughly 24% of the units were located in a U2 area. Finally, 71% of the total housing produced in the same period was located in U3 and FC (outside the PCUs), which are defined as buffers to a U2 area. In terms of verticality, the production of vertical housing has increased only slightly, from 4% to 5% between 2014 and 2015.⁴⁷

Three key factors explain metropolitan Mérida's slow progress on densification. For one, the city is surrounded by a complex land system in which the flat topography, abundant water resources, and the privatization of *ejidal* land in the wake of declining

Housing in former *ejido* land in the municipality of Kanasín.

Photo credit: Nélida Escobedo



henequen production have permitted extensive peripheral growth, driven mainly by social housing construction outside the central municipality of Mérida.^{48 49} Second, metropolitan Mérida's urban development is characterized by horizontal and low-density growth, rooted in the city's historical settlement and evident in the predominantly single-family housing and low-rise buildings. Notably, metropolitan Mérida's expansive growth has been segregated since colonial times, with areas designated for the elite and working classes. The legacy of social segregation continues to influence the location of lower-income settlements (including INFONAVIT-funded housing) and push development into the peripheries of the metropolitan area. Third, municipal and state planning institutions have played a limited role in regulating and guiding urban expansion. Failing any oversight from the state government, social housing developers take advantage of the absence of municipal monitoring and tend to build in peripheral municipalities that have cheaper land and lax urban planning regulations.

Summary of Barriers and Enablers

Planning Capacity. In spite of having only five municipalities in the metropolitan area, and concentrating 50% of the state's population,⁵⁰ 83% of the state's formal jobs,⁵¹ and 97% of its social housing production,⁵² the diversity in planning capacities and socio-economic conditions of the municipalities makes coordination efforts challenging. A closer look at the municipalities that comprise the ZMMID demonstrate an array of planning capacities and socioeconomic conditions that greatly challenge the development of a coordinated urban agenda, particularly around social housing. While the municipality of Mérida is relatively advanced in planning capacities and socio-economic development, peripheral municipalities are extremely deficient. Notably, these peripheral municipalities court new

social housing developments, offering their sites as an alternative to the higher land prices and more permitting regulations in the municipality of Mérida. Municipal socioeconomic conditions are particularly impactful on planning for development, as poorer municipalities (such as Kanasín and Umán), hungry for any source of municipal revenue and easily swayed by persistent developers, frequently permit construction they are ill-equipped to handle. This condition has unleashed a noteworthy pattern of small-scale "opportunistic" developers, allowing the proliferation of smaller developments far from the municipality's town center and disconnected from existing service networks, particularly for water and sewage. Though smaller developments are often seen in a positive light in other cases (such as examples of urban infill in Guadalajara), the reality in Kanasín is quite the opposite, as these new small developments offer an extremely diminished quality of life for residents, rife with poor quality construction materials, vacant areas, and abandoned housing.

In terms of planning capacity to regulate and guide urban growth in the metropolitan area, the role of the state of Yucatán has been very limited and ineffective. Even though the ZMMID is the major urban center in the state with only five municipalities, the state government has nonetheless not been able to leverage these conditions to create a common urban agenda across the municipalities in the metropolitan area. Instead, they have remained unwilling and unable to control or guide growth. As in other cases, municipalities have conducted much of the planning, and with the exception of the central municipality of Mérida, the metropolitan municipalities are limited in their role and effectiveness. Notably, even when compared to another state capital, Aguascalientes – a metropolitan area with a similar number of municipalities, urban growth and population – the state government has not been able to provide adequate legislation and regulations that promote



Desarrollo Certificado San Marcos,
Mérida, Yucatán.

Photo credit: Nérida Escobedo

sustainable and dense development in Mérida.

Yucatecan state regulations have remained outdated and inconsistently applied at the local level. For example, the 1985 *Ley de Fraccionamientos del Estado* de Yucatán governing minimum housing and lot sizes in housing developments or *fraccionamientos* requires a minimum lot size of 7 by 18 meters for single-family homes in a social housing development or *fraccionamiento social*. Developers often cite this law as a barrier to densification, as it is one of the largest minimum lot sizes in the country and challenges developers' ability to maximize building on a given piece of land. To bypass this requirement, developers in metropolitan Mérida have begun creating horizontal condominium arrangements, which have allowed them to utilize different rules regarding common spaces, giving them flexibility to build at higher densities than the 7 by 18 lot size. Though this higher density arrangement could potentially be a positive advancement toward densification, there is significant concern from academics in Yucatán that without the proper oversight and design, these developer-led arrangements are creating confusion about rights to public and private space. Additionally, critics shared concern about other negative consequences of poorly designed densification, which could result in overcrowding or inadequate ventilation, a poignant concern given the region's hot climate. The example of the *Ley de Fraccionamientos* emphasizes that the absence of state regulations (or appropriate municipal regulations) allows developers to use the system to their advantage, rather than promoting a higher quality of life for residents or the metropolitan area on the whole.

Given the absence of municipal or state leadership around urban development and sustainable housing production, developers have all but led the way in metropolitan Mérida. This reality points to a clear need for arrangements and investments that introduce new approaches to housing production and opportunities for coordinated urban development, particularly given the metropolitan area's compact size, stable economy, and appeal for investment.

Coordination efforts

Despite planning challenges that have greatly limited the production of dense social housing in metropolitan Mérida, interesting coordination efforts have emerged in the face of uncertainty around the availability of the subsidies necessary for social housing production in the state. Admittedly, a low-income workforce who is heavily reliant on subsidies to purchase homes is a widespread condition of the INFONAVIT housing markets across Mexico. To address these limitations in Yucatán, the Yucatecan INFONAVIT delegation has played a key role in adjusting financing schema to allow social housing production to continue in the state. Through the *Convenio de Colaboración de Acciones de Vivienda*, the INFONAVIT Delegate was able to mediate the negotiation of an agreement with the state government and local developers organized in the local CANADEVI to help insure the allocation of a state-financed pool of funding to be used to compensate for the lower amount of CONAVI subsidies received in Yucatán. In this way, the Yucatecan delegation was a key actor in mediating a multi scalar negotiation between important stakeholders for the *convenio*, including the state governor's administration through the IVEY (the state housing agency), the local developers represented in the CANADEVI Yucatán, and the federal agencies represented by CONAVI.

The negotiation that led to the *Convenio de Colaboración de Acciones de Vivienda* is compelling for several reasons. First, it demonstrates that the local INFONAVIT office can play a coordinating role by bringing different actors at multiple scales together in a project to address the particular needs of the local social housing market. Through the *convenio*, actors convened to ensure that housing construction was properly subsidized, thus meeting the needs of INFONAVIT, real estate developers, and the state government. Secondly, the emergence of a *convenio* is an important reminder of the limitations of federally established goals to meet the local conditions, particularly of the financial impacts of an inflexible assignation of INFONAVIT credit goals. The negotiation through the *convenio* was absolutely necessary in order to address the reality that the majority of Yucatán's low-income credit holders are structurally unable to qualify for home ownership under INFONAVIT's current national subsidy policy. Lastly, even in spite of the *convenio*'s successful coordination efforts to convene funds to continue the allocation of credits, it bears noting that the social housing produced in metropolitan Mérida continues to be peripheral, low-density, and disconnected, and therefore does not yet achieve federal aims for dense social housing or sustainable urban development. The coordination made possible through the *convenio* emphasizes the need to continue promoting negotiation and innovation around social housing delivery and financing, particularly in regions requiring adaptations to national policy like metropolitan Mérida.

The private sector has also been critical to moving forward the social housing production agenda in the ZMMID. Despite relatively slow progress on densification efforts, vertical social housing has indeed been built in Mérida in large-scale developments certified as Desarrollo Certificado (DC). In fact, Mérida has one certified development

(San Marcos) and another one in the process of receiving the certification (Piedra de Agua). The DC program is another example of a federal initiative intended to promote sustainable housing in denser developments with access to infrastructure and services, requiring participating developers to provide public spaces, schools, hospitals, eco-technologies, and access to transportation, among other urban design elements.

The fact that vertical housing in Mérida is only emerging in DCs demonstrates that developers are indeed willing to experiment with new, more sustainable models for housing production. More importantly, however, this also speaks to a clear need for sufficient incentives to engage developers in shifting away from a horizontal building model and creating a clearer framework for coordinating across sectors and scales of government. In spite of the successful inauguration of these projects, their long-term success remains to be seen, and the developments are nonetheless still located in the peripheral locations without the proper accessibility to the city center and job areas.

Possibilities for Advancing Densification and Other Forms of Sustainable Urbanism

Metropolitan Mérida would be an apt site to launch an urban value creation platform through INFONAVIT, where possible initiatives and interested stakeholders are numerous. A platform could capitalize on the knowledge of local NGOs (such as the *Patronato del Centro Histórico*) and the interest of the private sector to promote strategic projects articulated around social housing densification aims. The platform could serve to strengthen the role of existing metropolitan coordinating agencies (such as COMEY) to promote a coordinated urban agenda through the introduction of initiatives or projects that encourage collaboration and innovation. This could be in the form of spatial analysis systems that enable COMEY to channel metropolitan funds (*fondos metropolitanos*) toward more strategic projects (i.e. transport and public space) that have a positive impact on the metropolitan area as a whole.

Another critical opportunity for the UVC Platform would be to assess and identify vacant lots in the city. The only existing physical boundary to the expansion in Mérida is the ring road known as the *Anillo Periférico Licenciado Manuel Berzunza* built in the 1970s. Interestingly, even as new growth has continued in peripheral municipalities outside the *anillo periférico*, ultimately defeating the intention of the road as a growth boundary, a study conducted by the *Facultad de Arquitectura de la Universidad Autónoma de Yucatán* (FUADY) registered at least 2,600 hectares (over 6,400 acres) of



Abandoned building in the Historic Center.

Photo credit: Nélida Escobedo

intra-urban vacant lots, or *vacíos urbanos*, within the ring road.⁵³ Interviewees suggested that social housing could be connected to larger revitalization projects that could capitalize on these lots – and other like them – in the city center, strategizing development approaches that could overcome the barriers imposed by high land costs and construction in historic areas. In particular, these vacant lots could and should be used for social housing projects or other strategic projects that had a positive impact in the city as a whole.

As conceived, INFONAVIT would play an active role in the urban value creation platform and promoting projects. The delegation in Yucatán is already active in mediating and negotiation across levels of government around social housing advancement in the Yucatán, such as through the aforementioned *Convenio de Colaboración* between CONAVI, the state government, and the local CANADEVI. The delegation is also attuned to the particular needs of workers in Yucatán, and would therefore be well-equipped to help promote alternative housing tenure programs, such as rent-to-own or progressive housing arrangements, that might better suit the Yucatán's extremely low-income workforce. The shift would require a switch from sporadic intervener to formal convener of projects. This seems especially feasible given the energy for experimentation demonstrated by Mérida's private sector (with DCs), *Patronato's* efforts at urban revitalization in the historic center, and the *Comisión de Estudios del Sector Privado para el Desarrollo Sustentable* (CESPEDES) attempts to launch pilot programs improving city sustainability. The latter is particularly noteworthy because this organization has come close to successfully negotiating centrally-located housing in cooperation with

local agents. In 2013, the CESPEDDES's sustainable cities focus area developed a pilot project in alliance with municipal authorities in Mérida to identify key infrastructure improvement areas, including a proposed vertical social housing development with 136 housing units and mixed commercial and office uses.⁵⁴ Although the project stalled and eventually abandoned after the discovery of archeological structures on the site, the project proposal nonetheless demonstrates the feasibility of a catalytic urban project centered on housing, and offers an example of how national and international partners, including INFONAVIT, could help ignite urban innovations. This willingness to experiment, coupled with the relatively stable economy in the ZMMID, creates opportunities that the delegation could leverage to direct INFONAVIT pension funds into new investments in strategic urban projects, in service of the institute's bottom line, building the institute's ability to keep pace with innovations in social housing, and aiding the metropolitan area's future growth.



Villas Arroyo, multi-family housing in Aguascalientes.

Photo credit: Fernando Granados

2.1.5 Aguascalientes, Aguascalientes

Introduction to the Metropolitan Area

For more than a decade, Aguascalientes has been one of the most economically successful cities in Mexico.⁵⁵ It is located in the state of Aguascalientes, one of the smallest states in size, number of municipalities and population, with approximately 1.3 million inhabitants. Throughout the years, Aguascalientes has developed a strong institutional and planning capacity that has enabled the effective management of urban growth. The city has been relatively successful in preventing the proliferation of peripheral housing developments beyond the city limits and has kept the number of irregular settlements low. Although much work remains to be done in terms of densification and better urbanism, there are signs that progress is being made in promoting social housing development within central areas. A closer look at the case of Aguascalientes reveals that the size of the metropolitan area and the number of municipalities have been key determinants in creating the capacity to coordinate multiple agencies and a range of actors in the service of denser housing production.

Progress in Housing Production and Densification

Aguascalientes has been relatively successful in preventing peripheral social housing beyond the growth boundaries and has kept the number of irregular settlements low. The success of a land banking

program implemented until the late 1990s resulted in a relatively small number of irregular settlements both in the municipality of Aguascalientes and the state at large. By 1998, only 1.1% of the state's population lived in an irregular settlement, with a total of 119 irregular settlements being identified in the state. Together, these occupied only 4.5% of the state's surface.⁵⁶ By 2012, the number of irregular settlements had decreased to 99.⁵⁷ By 2010 there were only 42 irregular settlements in the metropolitan area, 29 of which were located in the municipality of Aguascalientes; in fact, only 0.9% of the population in the municipality of Aguascalientes resided in irregular settlements in 1998, occupying 3.9% of its surface.

Furthermore, according to data from the *Sistema Nacional de Información e Indicadores de Vivienda* (SNIIV), Aguascalientes seems to be making progress in the production of social housing located within the Perimeters of Urban Contention (PCUs). The percentage of available social housing in the municipality of Aguascalientes built beyond the PCUs has decreased from 10.4% to 3.3% between 2014 and 2016, which is notably lower than the national average of 19.3% for 2016. Similarly, the percentage of available social housing within the U1-PCU increased from 0.7% to 4.3% between 2014 to 2016 -from 30 units in 2014 to 355 in 2016. Although it appears that social housing built beyond the PCUs has decreased in recent years, and that the amount of social housing developed within the U1-PCU has increased, the production of social housing seems to be shifting from the inner U2-PCU to the outer U3-PCU. The share of social housing built within the U2-PCU decreased from 48.9% to 34.1% between 2014 and 2016, while the percentage of social housing built within the U3-PCU increased from 39.9% to 58.3% during the same period. Therefore, on the one hand it seems that densification policies in the municipality of Aguascalientes may be slowing down the production of housing in peripheral areas beyond the PCUs; on

the other hand, the vast majority of social housing produced seems to be moving from the second to the third PCU.

The PCUs provide insights on the location of social housing produced but do not necessarily allow an analysis of the quality of the built environment and the larger urban context. Although social housing is being built within the PCUs, it is far from being urbanistically defensible; its location does not necessarily translate into better urbanism. Although social housing developed beyond the PCU is minimal, and most of it is being produced in U2 and U3, the vast majority is located in the “Zona Oriente” of the municipality of Aguascalientes. This is where most social housing has been produced throughout the decades and is one of the most marginalized and segregated areas in the city, with little access to services and amenities. Therefore, although Aguascalientes may be making progress in slowing down the construction of social housing developments in peripheral areas, most is being developed in areas that have historically lacked access to services, amenities, economic opportunities, and that exacerbate socio-spatial isolation, which, according to an academic from *Tecnológico de Monterrey*, is one of the most pressing challenges in the city of Aguascalientes.

Summary of Barriers and Enablers

Planning Capacity. Aguascalientes has developed a strong institutional and planning capacity that has enabled managing urban growth more effectively. The state is often referred to as an ‘exceptional’ case in the implementation of innovative housing and urban development policies.⁵⁸ Three circumstances have allowed the creation of planning and institutional capacity at the city and state level: first, its size and social and economic stability have incentivized the central government to pilot policies and programs

in Aguascalientes; second, a three-decade mass housing production and land banking program implemented during the 1970-1990s; and third, a recent urban reform implemented by the state government. These are outlined in further detail below:

1. Aguascalientes has historically served as a place for the central government to pilot laws, plans, programs, and projects in a range of policy sectors. This has not only set a positive precedent in coordinating multiple agencies and levels of government, but has set the foundations for a strong and responsive institutional infrastructure, which has been instrumental in developing the planning capacity for effective public policy design and implementation. The decentralization policies implemented by the central government in the 1980s to consolidate medium-sized cities and slow down the accelerated growth of major metropolitan areas were key not only to enable economic growth but also to consolidate planning institutions. In fact, some of the initial proposals were piloted in Aguascalientes. Among the reasons for choosing Aguascalientes as a “pilot” state, are its relatively small size, its decided concentration of population in a single municipality, and its social stability and sustained economic growth.⁵⁹ Three experiences support this assessment: first, the process of decentralization of INEGI’s headquarters to the capital city of Aguascalientes was made possible by effective coordination among all levels of government. The decentralization of INEGI required planning and implementing a large-scale urban project with the involvement and collaboration from all three



Acurela development, built in a U2 location.

Photo credit: Fernando Granados

levels of government.⁶⁰ Second, in 1992 Aguascalientes was the first state to adopt the new decentralized education system, which also required coordination between different levels of government, especially the central and state government. Third, more recently the central government, through INFONAVIT, chose Aguascalientes as the location for piloting its new rental housing program, Arrendavit.

2. A three-decade policy of mass social housing production enabled by a land banking program not only allowed structuring growth more effectively but also building capacity to guide urban development and enhance coordination between the state and municipal governments. Smolka⁶¹ considers the land banking program of Aguascalientes as one of the only few in Latin America that has been applied effectively. Through this program the state and municipal governments managed “to prevent the establishment of informal settlements during the 1980s and 1990s” as “the administration acquired land through expropriation and other negotiations to provide an alternative to informal occupations while at the same time imposing sanctions on subdivisions offered by pirate developers.” This land and housing policy also speaks to the active role the state government has played in housing and urban development in Aguascalientes, and reveals that by offering affordable land to private developers, the state government, in coordination with municipalities, can gain greater influence over the siting of new developments.

3. More recently, the state government has taken the lead in formulating a new urban agenda and has implemented what has been called the “State Urban Reform”. A new state agency, the Secretaría de Gestión Urbanística y Ordenamiento Territorial (SEGUOT) was created as a key element of the reform, acting as a sector head in coordinating urban policy horizontally and vertically. SEGUOT has concentrated most of the responsibilities around housing and urban development at the state level. Moreover, the state government has actively mediated between the federal and municipal governments. For example, SEGUOT has been working with SEDATU and the state’s eleven municipalities to align the regulatory framework on housing and urban development across levels of government to strengthen multi-level coordination. They have also led efforts to revise federal, state and municipal laws and rules on urban development to identify inadequacies in existing legislation and unify all legal instruments into a general code for urban development, zoning and housing.

Political Relationships. The size of the metropolitan area and the number of municipalities has been a key determinant of the capacity to coordinate

multiple agencies and a range of actors in the service of denser housing production. It seems that Aguascalientes has been able to make progress in overcoming the traditional barriers to densification because of its unique “city-stateness,” which provides a clear comparative advantage in terms of coordination across various scales of governance, from the municipal to the state to the federal. In fact, the territorial overlap and institutional connections between city and state in Aguascalientes have historically incentivized the state government to become strongly involved in urban development, even though the municipality of Aguascalientes still retains most land permitting powers (e.g. land use changes, height and density restrictions, construction licenses, etc.). The state government has played a relevant role in reforming the legal and institutional frameworks on urban development and has made efforts to coordinate municipalities, the central government and private developers.

This is not to say, however, that the municipality of Aguascalientes does not have any power to influence housing and urban development. Given the fact that most of the state’s population and economic activity is concentrated in this predominantly urban municipality, the local government has relatively more resources and power to negotiate with the state government and developers over housing and urban development than other municipalities, especially the two adjacent municipalities that comprise the metropolitan area, which have significantly less resources and institutional capacity to influence urban processes. This circumstance, however, reduces the possibility for effective metropolitan coordination, which developers could seize as an opportunity to promote housing in adjacent municipalities with less power and technical capacity. For example, municipal officials and developers from CANADEVI recognized that the fact that property taxes and collection rates are higher in the municipality of Aguascalientes

incentivizes them to promote housing in the two other metropolitan municipalities where property taxes are lower. Similarly, some developers said that if the urban development program in the municipality of Aguascalientes is too restrictive in terms of housing development, they will be pushed to build in the two other municipalities where regulations are laxer, enforcement is weaker, and are easier to negotiate with.

Additionally and despite the presence of large private developers, mid-sized, local developers seem to have more commitment and flexibility in their capacity to experiment with new denser housing typologies in central city areas, and seem to be aware of the advantageous conditions in the production of housing that they had in recent years. Receptiveness to a denser and more compact model of housing and urban development was evidenced by a leading private developer who believes that, “the new densification policies are indeed a good way to reduce the advantageous conditions in which developers were operating”, and recognizes that, “developers were enjoying all the benefits to produce housing, so it was them who most of the times came out winning”. In fact, a number of vertical, denser social housing developments in central areas were identified, all of which were built by local, small and medium-sized developers.

Production and Consumption Dynamics. In spite of the relative success of past land and housing policies, the state government has recently lost influence in the production of social housing. In contrast to previous years when the state government owned sufficient land to influence the siting of housing developments, difficult access to developable land has become a major barrier to the production of denser housing in central areas. The majority of land in the city is now privately owned, meaning that, ultimately, private developers with purchasing

power have great influence on the siting of new developments. Governing authorities thus hold limited ability to influence where new social housing is built, and in order to meet the demand for housing, the state and municipalities rely on private developers to promote housing. This condition has also led to increasing land speculation; given the fact that there is no differentiated property tax for undeveloped land, landowners, in the expectation that prices will eventually increase, have little incentive to develop or sell their properties, thus creating a scarcity of developable land that further increases land prices. Recently, however, as it had done in the past, the state government has stepped in to remedy the lack of developable land by finding ways to provide state-owned land and regain influence over the siting of social housing developments. It has recently begun the project “*Territorio de Gigantes*” that aims to free up 41 hectares of state-owned land in the municipality of Aguascalientes by relocating 7 kilometers of power lines to accommodate between 2,800 and 4,000 new housing units.

In terms of consumption, private developers believe densification – building vertical housing – is not always commercially viable because the city still has large amounts of vacant land in central areas, which makes it difficult for the population to be willing to move into apartments when there is land available for single-family homes. As expressed by a private developer from CANADEVI, “densification in Aguascalientes is not only about verticality but about occupying idle land with mixed uses and also horizontal housing. A large percentage of the land in the city is idle, that is why there are so many empty plots. Aguascalientes does not have a market to support building only vertical housing in all empty plots; therefore, horizontal housing is also a favorable scheme for Aguascalientes, at least as long as underutilized land is not developed”. This, however, may be a missed opportunity to advance densification in Aguascalientes in comparison to other cities, as developing denser housing would not require retrofitting or demolishing existing structures.

Similar challenges exist for the production of denser, vertical housing. There is a real disagreement among actors involved in the social housing sector regarding the benefits of a denser model. There seems to be no common understanding on the level of density the city could handle nor where it should be promoted. While state government officials believe densification and vertical housing would in fact contribute to contain urban expansion and potentially improve quality of life, a number of academics believe it could also enhance social conflicts, especially between neighbors. Some municipal officials also believed that denser housing would push infrastructural and

service capacity to their limits in certain parts of the city, a sentiment which was also shared by academics.

Opportunities for Advancing Densification and Other Forms of Sustainable Urbanism

Tactical. Despite the existence of vast amounts of undeveloped land within central areas in the municipality of Aguascalientes, difficult access to developable land is one of the biggest challenges for the production of dense, social housing. As mentioned earlier, given the fact that there is no differentiated property tax for undeveloped land, landowners do not have the incentives to develop or sell their properties, thus creating a scarcity of developable land that further fuels increasing land prices, pushing social housing developments to the outer areas of the capital city with lower degrees of accessibility and opportunities. Therefore, the UVC Platform could promote a short-term, urban in-fill pilot project to test new housing models in central areas that may enhance access to existing economic opportunities, public services, and social networks within the capital city. This would require innovative strategies to overcome existing barriers to infill development such as incentivizing landowners to develop or sell their land by increasing the costs of holding to land, ensuring greater flexibility and reducing the costs of development permits, expediting permitting approvals to reduce the costs of infill projects, and making land assembly easier to make these projects commercially viable. INFONAVIT's delegate, the *Instituto de Vivienda Social y Ordenamiento de la Propiedad* (IVSOP), SEGUOT, the state's Cadastral Institute, IMPLAN and CANADEVI could play a key role in formulating an urban infill strategy in the capital city. Additionally, segregation and marginalization are some of the most pressing challenges in Aguascalientes. Although most of the social housing is located within the city boundaries, it has been

concentrated in an area with a lack of services, amenities and economic opportunities, away from the most consolidated areas of the city. Therefore, the UVC Platform could seek to reverse these patterns of socio-spatial exclusion, integrate socio-economic classes, grant equal access to services and social networks, and ultimately ensure greater equality among the population. Accordingly, the UVC Platform could promote a mixed-use social housing pilot project in the "Zona Oriente" of the capital city, where most of social housing has historically been built, to reinvigorate the area by diversifying uses and providing, among others, retail and commercial opportunities. Most importantly, considering that Aguascalientes has often been a "piloting" place for the central government to experiment with new policies and programs, it could again be a place to explore mixed-income housing projects promoted by the UVC Platform in the short or medium-term. A mixed-income housing pilot project would not only require greater flexibility from IVSOP and SEGUOT, but also the ability and creativity to experiment with new policies, programs and housing typologies. The Autonomous University of Aguascalientes (UAA), specially its Department of Urbanism, could be a valuable resource and partner for informing and formulating such a strategy.

Moreover, the UVC Platform could also support the state and municipal governments, namely SEGUOT and IMPLAN, in data collection and analysis on mobility, connectivity and accessibility in the capital city. This could inform where social housing should be promoted to ensure a better job-housing balance, better accessibility, and what areas would require improved access by introducing services and amenities. The UVC Platform could help finance a project to collect data on the location of activities and opportunities in terms of proximity to social housing developments, road access, transport service and walkability. Moreover, data could be collected in

regards to daily journeys, origins and destinations, mode of travel, distances and duration of trips, job opportunities and services within different minute travel distances from all homes and public transport stops, etc. This could inform housing policies in a more comprehensive manner, including elements that could improve the quality of life of *derechohabientes* beyond just the housing unit.

Strategic. In the medium and longer term, coordinating housing, land use and transportation planning will be key not only to ensuring a well-planned and managed urban growth in Aguascalientes, but to enhance access to opportunities for all the population. The UVC Platform could thus promote projects that demonstrate a closer connection between social housing, transportation, and a diverse land use system to give *derechohabientes* equal access to places, activities and services. The UVC Platform could support transport-oriented social housing developments. In January of 2016, the state government presented the *Programa Integral de Movilidad Urbana Sustentable*, a comprehensive transportation program that includes introducing a new Bus-Rapid Transit system in the capital city. Although the project is currently on hold in BANOBRAS, pending further resources and political commitment for further implementation, it represents a strategic opportunity to integrate housing production with a new , transportation system that could guide housing and urban development for the next decades. Assuming the project is implemented in the medium or long term, the UVC Platform could help finance projects that promote housing development around BRT stations and along corridors to ensure greater mobility, connectivity and accessibility. Effective coordination, facilitated by INFONAVIT's delegate, between SEGUOT – who plans and manages transport –, IVSOP, and IMPLAN – who coordinate land use planning –, and the UAA's Department of Urbanism would be crucial to better coordinate housing, land use and transportation planning.



Super Manzana 26. Early INFONAVIT Housing

Photo credit: David Schoen Parente

2.1.6 Cancún, Quintana Roo

Introduction to the Metropolitan Area

Cancún was built for tourism. The founding plan for the city, drawn up by federal authorities in 1970, outlined a spit of sand on the Caribbean for resorts and laid out a ‘support city’ on the mainland. The urbanization of Cancún has been the product of the relation between its position as a national pole for tourism development and the needs of its permanent residents. Metropolitan Cancún is comprised of the municipalities of Benito Juárez and Isla Mujeres, with some 98% of the city’s 763,121 residents concentrated in the former. The city’s growth, with average rates of 3.1%⁶² over the past decade, together with the expansion of tourism in northern Quintana Roo has multiplied the interdependencies of the city’s diverse interests, and extended their implications to the scale of the region.

Over the past decade, Cancún has seen a significant shift to more vertical social housing typologies. This change has been the product of three primary factors: municipal arrangements that have enabled authorities to change zoning to allow for density aligned with developers’ interests; the influence of the tourism industry on the character of both the demand for housing and the market dynamics of production; and the region’s lack of strong political culture or civil society. The adoption of denser models of social housing, however, has thus far failed to produce better urban outcomes. For one, this development has concentrated along the city’s periphery where land is cheap and large plots available. In Cancún, the challenges that typify peripheral development across the cases in this report are compounded by the increasingly regional nature of employment in the hospitality sector, which

has increased the distance between work and home, while placing attendant social and economic burdens on *derechohabientes*. Social housing in Cancún has failed to address both the changing spatial pattern of employment in the tourism industry and concurrent transformations in employment conditions, such as increased job instability. The experience of Cancún demonstrates that progress on vertical social housing that does not adequately address the role of local context on social, market, employment, mobility and governance issues fails to produce the intended urban outcomes of densification policies.

Progress in Housing Production and Densification

Over the past decade, developers in Metropolitan Cancún have been building social housing at an average rate of roughly 9,000 new units a year.⁶³ This growth has been propelled by a booming tourism economy. Cancún has also seen a significant shift towards more vertical typologies in new social housing construction. In 2015, 45% of new units were classified as vertical.⁶⁴ From an urbanistic perspective, however, much of this new social housing has been poorly sited. Last year, some 81% of all new units were concentrated in either PCU-U3 or outside the perimeters entirely.⁶⁵ Residents of these peripheral developments face a litany of familiar challenges: they are frequently

Vertical housing. Prado Norte.
Photo credit: David Schoen Parente



disconnected from public services, lack adequate public transportation and retail options, and face long commutes to places of employment. Whereas in other cities employment patterns might enable more urbanistically defensible peripheral urbanization, given adequate service and infrastructure provision, the expansion of tourism along the littoral south of Cancún has increased the challenges posed by the city's pattern peripheral social housing. The social housing produced in Cancún has also struggled to respond to regional context on issues from affordability to construction materials.

Building on large tracts of peripheral land has allowed for the rapid production of housing to fill INFONAVIT subsidy quotas and facilitated the shift to denser typologies. These “successes,” however, ignore the broader urbanistic implications of ‘dense’ social housing on the life of Cancún’s residents. The interplay between local conditions and national INFONAVIT incentive policies has produced a model of development that has left many *derechohabientes* with limited access to resources and employment, fueled the city’s sprawling growth, and delivered poorly constructed housing built by developers rarely held accountable for rapidly deteriorating homes or the failure to provide public infrastructure and amenities.

Summary of Barrier and Enablers

Political Relationships. The relationship between municipal government and developers of social housing active in Cancún has been a key enabler to the city’s shift to denser typologies. Municipal planning and development decisions in Benito Juárez are particularly influential given the metropolitan area’s demographic concentration, a dynamic that has forestalled the sort of beggar-thy-neighbor issues faced by cities with municipal fragmentation, such as Oaxaca and Guadalajara. The update

to Benito Juárez’s land use plan (*Programa de Desarrollo Urbano del Centro de Población de la Ciudad de Cancún 2014-2030*, or PDUCP) in 2014, demonstrated the municipal government’s willingness to modify zoning to align with developers’ interests. The new PDUCP increased density allowances, including in key peripheral areas where social housing development is today concentrated. CANADEVI Quintana Roo was active in lobbying Benito Juárez for these zoning changes, with some interviewees claiming that areas identified for increased density coincided with zones where several landowners held large-scale holdings. Planning, in other words, was not only in place in Cancún, it advanced progress on denser housing by increasing density limits in locations where developers could readily acquire land. Whether municipal authorities promoted densification in these areas because they believed it promoted a suitable pattern of development or simply lacked the political will and capacity to oppose developers’ interests is unclear, but the decision has proven critical to the shift in Cancún to more vertical typologies.

The dynamic between municipal authorities and developers, however, has also served as a barrier to more urbanistically defensible patterns of social housing production. The production of social housing in Cancún is dominated by a handful of regionally active firms. These developers build primarily multi-stage *fraccionamientos*, primarily along the city’s northern and western periphery. This model of mass social housing has enabled INFONAVIT to keep pace with the steady demand in Cancún. Since three and four story apartment blocks represented only a fraction of each *fraccionamiento*, building hundreds of units at a time also mitigated the financial risks for developers that accompany early experiments with vertical typologies, before demand for such units had become clear. Mass production of housing has been accompanied by a series of drawbacks: developments

are frequently sited in unsuitable locations where large tract of land are readily available; construction is of poor quality, and infrastructure (streets, public spaces, street lights, etc.) often decays quickly or is never provided. For residents and municipal authorities the mass production of social housing only compounds the challenges that have emerged from misguided planning efforts.

The municipality's updated zoning codes demonstrate the limitations of land use planning in isolation to produce defensible urban outcomes, especially when zoning documents fail to account for regional economic and urbanistic context. Faced with a normative framework that permits dense housing to be sited along the city's periphery, municipal authorities are left with little capacity to oppose developments that meet code, short of future changes to zoning. Developers in Cancún have also shown themselves willing to cooperate with competitors in the provision of shared infrastructure, which has facilitated the continued production of housing in otherwise untenable peripheral locations. Guided by market conditions that continue to reward developers for the mass production of housing, with little adverse financial consequences for poorly sited projects, production continues to follow this paradigm.

Production and Consumption Dynamics. The tourism industry in northern Quintana Roo has impacted social housing consumption and production in ways that have facilitated the shift towards denser models in recent years. These market dynamics, in turn, have both given developers confidence that a shift to vertical typologies of social housing in Cancún will be absorbed by the market and provided additional barriers to siting developments in more suitable locations.

There is strong demand for social housing in Cancún, fueled by the city's continued position as a migrant pole within Mexico. Last year, the state of Quintana Roo experienced the second highest rate of internal immigration (8.1% of all migrants, second only to Baja California).⁶⁶ Much of this influx has concentrated in Cancún. Interviews with developers in Cancún suggested robust demand for INFONAVIT housing and CONAVI statistics corroborate these claims (6,964 INFONAVIT subsidies were used in Benito Juárez in 2015). Demand is concentrated among *derechohabientes* in the lowest-income range: 53% of eligible workers in the Benito Juárez earn less than 2 VSM and more than 77% earn under 4 VSM.⁶⁸ Compared to other case study cities, this concentration of lower salary potential demand is marked. In Mérida, for example, some 42% of workers earn under 2VSM; while in Tijuana only 32% earn less than that value.⁶⁹ The character of demand for social

housing in Cancún suggests that there is a large set of *derechohabientes* in the market for more inexpensive units. For developers of social housing across Mexico, building more vertical typologies helps bring down the cost per unit, maximizing profits on the fixed costs of land. In Cancún, developers' interest in denser models coincides with a market where demand is concentrated in lower salary ranges. The dynamics of consumption in Cancún have allowed developers to shift to denser models knowing there's a significant market for low-cost units.

Two factors help further explain how the particularities of demand in Cancún have enabled the recent shift to denser typologies: first, home ownership holds added appeal in a touristic city for purposes aside from primary residences (i.e. as rentals for seasonal workers); and second, the youth of the city's civil society minimizes the sort of cultural resistance to vertical living arrangements found in other cities in this report. *Derechohabientes* who do not plan to use their property as a primary residency may be more willing to purchase units in denser developments. Interviewees spoke of a significant number of homes in Cancún that have been purchased primarily as "vacation" houses or for investment purposes. The influx of new migrants combined with the seasonal employment patterns in the hospitality industry suggest significant demand for rental or temporary housing in the city. Interviewees also identified a number of cultural factors as an explanation for the willingness of *derechohabientes* in Cancún to purchase units in denser housing typologies. Cancún lacks an entrenched traditional model of urban living, which has proven a cultural barrier to densification in Mérida where Mayan low-rise housing typologies have proven a barrier to densification. Anecdotal evidence also suggests that Cancún's position as a migrant pole, with residents hailing from across Mexico, may play a role in the lack of resistance to more vertical typologies on the

part of home purchases with many hailing from other urban centers.

Tourism both fuels substantial demand for housing in Cancún and contributes to market conditions under which *derechohabientes* are more willing to purchase dense social housing. The dominance of the industry in northern Quintana Roo has also had important implications for the production of social housing, most critically by increasing land prices. Investments, particularly those that lie outside the original *Zona Hotelera* (overseen by the federal agency FONATUR) in Cancún have driven up land prices in the city. Speculative pressures in the city's core have provided additional challenges to intra-urban developments. The city's construction industry, serving both social housing and resorts/hotels projects, has put further pressure on even peripheral lands, which are often used as sources for building materials.⁷⁰ The expansion of resorts and hotels along the coast to the south of Cancún, and the resulting pressures on land prices, have also served as a barrier to alternative models of social housing that might seek to site housing closer to places of work in the Riviera Maya. Together these factors have created a production dynamic with outsized costs in land acquisition. To address these challenges developers have, as in other cities, turned to peripheral locations where land is cheaper. The availability of large plots of land, many of which were sold from the state's territorial reserves in the early 2000s, has also encouraged developers to build at scale in order to recoup high land costs.

Tourism has had an important influence on the consumption and production dynamics of social housing in Cancún. Strong and flexible demand has enabled developers to shift towards more vertical typologies. Speculative pressures on land prices have provided added incentives for developers to mass-produced housing along the periphery. The high costs of land have also served as a barrier to the production

of more defensible models of social housing by developers active in Cancún. Together, production and consumption dynamics have helped maintained the viability of the current mass-produced peripherally sited paradigm of social housing for developers.

Planning Capacity. Cancún lacks an actor capable of strategically directing social housing in line with regional urban objectives, demonstrate alternative models of development or hold private developers accountable. As a result, development and planning decisions regarding social housing often reflect the interests of large developers. Several important urban actors, which have proven critical to success in other cases included in this report, are either ineffective or absent from the planning and production of social housing in Cancún. Today, for example, the state of Quintana Roo plays only a minimal role in urban social housing. INFONAVIT, for its part, has struggled to take action to strategically guide development, focusing instead on meeting subsidy quotas and implementing national-level policies such as Arrendavit. Metropolitan organs, whether through the Fondo Metropolitano or IMPLAN, do not directly engage the role of social housing in Cancún's urbanization. The absence of these intermediate scale-actors is reflective of the political challenges faced by these institutions, the strong hold of developers on municipal politics and a failure to consider the implication of planning across sectors (tourism, environmental, etc.) on social housing. The limitations of each of these institutions begin to suggest the dynamics that have rendered them inefficient in pushing offering alternative models of development or resisting the prevailing paradigm.

Until recently, state government in Quintana Roo played an active in social housing. In response to the explosive growth Cancún experiences in the 1980s and 90s the state's *lotes con servicios* program used territorial reserves to grant land and

basic infrastructure upon which beneficiaries could build homes. Although the program was subject to capture by political parties it offered an alternative to informal settlements, and demonstrates the ability for state government to operate within the city's social housing environment. Today, by contrast, the state and municipality lack significant territorial reserves that might be used for strategic urban initiatives.⁷¹ Several interviewees referenced a major sell off of state lands along what is now the city's northern and western periphery, areas in which developers are now concentrating the production of social housing. Some state planning efforts indirectly impact social housing, particularly the *Plan de Ordenamiento Ecológico* (POEL), which sets environmental regulations, and the state's plan for tourism development. These plans and normative frameworks, however, fail to directly address how tourism or environmental planning might affect social housing, or how social housing might strengthen these efforts. The state government of Quintana Roo lacks the territorial reserves, financial resources and political will to directly influence social housing in Cancún.

The state delegation of INFONAVIT in Quintana Roo has failed to go beyond existing federal policies to foment social housing development and guide production towards strategic urbanistic goals. Much of the delegation's efforts concentrate on the stimulation of development towards federally set subsidy quotas. Unlike a handful of other cases in this report, the delegation has not proactively pursued projects that address specific local needs or challenges. Instead, the delegation's has attempted to adapt INFONAVIT's model of production to Cancún through existing national policies and programs, with questionable results both for the quality of housing and the broader impact of social housing on the city. The delegation, for instance, sought to coordinate agreements (*convenios*) with several municipalities in Quintana Roo to implement the *Hipoteca con*

Servicios program. Advanced negotiations with several municipalities were eventually abandoned, and the program abandoned, because of political resistance to cooperating with INFONAVIT. A pilot of INFONAVIT's *Arrendavit* program demonstrated a similar attempt to enact national programs to address local market dynamics, with only minimal progress so far. Absent initiatives from the delegation that seek to guide social housing towards strategic goals, INFONAVIT's role has been restricted to ensuring that housing production meets quotas, with little influence on the resulting urban outcomes. Finally, metropolitan organs in Cancún lack the capacity and resources to consider how planning and investment decisions might impact social housing, and how social housing impacts planning efforts. Federal *Fondo Metropolitano* resources in Cancún have been applied towards infrastructure projects (perhaps the most relevant to this discussion was a shared sanitation plant in the municipality of Isla Mujeres), but without direct consideration of its ability to promote better-sited or better-serviced social housing. IMPLAN Cancún has prioritized the implementation of the 2014-2030 strategic plan (PDUCP), to which it was a contributing party. The agency is focused on long term planning objectives for Cancún: especially, the containment of urban sprawl, densification and improving urban mobility. Despite these objectives the agency does not actively engage in the sphere of social housing. They have no direct relationship with INFONAVIT or developers and instead view the implementation of their planning efforts as the primary tool for producing better urban outcomes. The priorities of both Cancún's *Fondo Metropolitano* and IMPLAN reveal a missed opportunity to consider how social housing might be incorporated into metropolitan planning and investment efforts. The work of metropolitan organs in Cancún also demonstrates their inability to operate at the scale demanded by the regional economic dynamics that today characterizes life for many residents. The

geographic expansion of tourism along the coast of northern Quintana Roo has exceeded the metropolitan bounds of existing organs, further complicating coordinated action across scales and sectors.

By way of conclusion, it is worth noting that the challenges facing Cancún are not altogether unique among Mexican cities. The dynamics that have enabled both Cancún's adoption of more vertical model of social housing and the shortcomings of the resulting pattern of urbanization are a production of the city's history, institutional arrangements and civil society, among other factors. In Cancún, tourism has had an outsized role in producing these conditions. The production of social housing has failed to adequately respond to the particularities of Cancún, especially the implications of the tourism economy in Northern Quintana Roo. INFONAVIT, for its part, has failed to appreciate and respond to the political relations, local culture and market conditions, and their impact on social housing production. The result has been the continued proliferation of denser mass produced housing in peripheral locations with profound consequences for *derechohabientes*, their families, municipal and state government, and INFONAVIT.

Opportunities for Advancing Densification and Other Forms of Sustainable Urbanism

The platform outlined in this report would allow INFONAVIT to promote an alternative model of social housing responsive to the particular needs of Cancún created by its spatial pattern of growth, employment conditions, climate and other factors. The primary objectives would be to improve the siting of social housing and move away from a system of mass production within which the breadth of developers' projects are heavily restricted by considerations of economies of scale and land costs/availability.

Towards this goal, INFONAVIT's state delegate in Quintana Roo could pursue projects that aimed to: demonstrate the feasibility of siting social housing in locations that responded to a range of urbanistic considerations; bring together new coalitions of urban actors towards addressing shared goals and barriers; and, promote the entry of new actors into the social housing market who are willing to move away from prevailing models. In seeking out and promoting projects that begin to build alternative models of social housing the delegate could target projects that tackled one of the following issues: minimizing the distance between housing, work, commerce and services; stimulating the social function of housing and shared public spaces; and, attenuating the impact (financial and social) of employment conditions in Cancún, which include long hours, precarious employment, seasonal migration, low-income salaries, and a dependence on tips to supplement wages.

Strategic. The INFONAVIT platform could be mobilized to reduce barriers for better-sited housing in Cancún. The acquisition of land or leveraging of government territorial reserves, for example, could be used to strategically guide the location of housing. INFONAVIT could pursue a variety of other tactics that, short of purchasing well-sited lots, reduce barriers that currently prevent developers from pursuing better-sited projects. The delegate, in their choice of projects, would also strategically guide housing towards strategic sites, not only demonstrating alternative development models but also exemplifying how these can advance urbanistic goals. Although promoting dense social housing in the city's existing core is a model of development that would address some of the challenges presented by the prevailing paradigm, it is far from the only model that could produce better urban outcomes. As such, promoting social housing in better locations should not limit the INFONAVIT platform to incentivizing intra-urban projects. Instead, the choice of projects

would seek to promote siting that demonstrate responsiveness to the spatial logic of the city's growth as well as places of employment, services and amenities. A variety of urban models, guided by social housing development, would suggest alternatives to the model which sees the pursuit of "densification" as a stand-in for better urbanism. For example, the spatial pattern of employment in Metropolitan Cancún could lead INFONAVIT to encourage developers to experiment with locating social housing closer to resorts and hotels. If developers provided necessary services and infrastructure, such a model could prove more urbanistically desirable than the prevailing paradigm. Initiatives under the platform could include working with municipal government to clear up ownership statuses, identifying ideal plots and landowners willing to sell to developers, and promoting partnerships between developers and local institutions (non-profits, universities, etc.).

Furthermore, in order to advance strategic social housing in Cancún a shift away from the current model of mass production is needed. Developers purchase large tracts of land on the periphery and build thousands of nearly identical units. Local land dynamics, federal incentive structures, steady demand, and the permitting/legal process all reinforce this system of production. Many of these factors also serve as barriers to entry for smaller developers. Long-term investments in large tracts of developable land and financially successful existing models mean that large firms are reluctant to adjust production models, especially when it comes to siting housing. Through the platform, INFONAVIT could begin to move social housing away from mass production by reducing barriers to entry for small and medium-sized firms and incentivizing more contextually specific housing models. A wealth of smaller firms would allow for greater experimentation with better-sited locations and adaption to local context (such as climate), ultimately moving social housing production

away from a one size fits all model. There already exist in Cancún a number of small architectural practices with an interest or experimenting with producing smaller-scale intraurban social housing, which could take off with the support of INFONAVIT. To encourage the shift away from mass production and the dominance of large developers, INFONAVIT could facilitate the permitting process for smaller firms, provide additional access to credit for urbanistically strategic projects, help identify well-suited sites, and join with municipal authorities to address infrastructure concerns in well located sites.

Finally, as described in the full case study, the decision-making process for social housing development in Cancún is dominated by the interest of municipal government and developers. The absence of a countervailing force has led to patterns of development that fail to adequately consider the interest of workers, employers and the long-term impact on the municipality's ability to provide infrastructure and services. Working through the platform, INFONAVIT could aim to involve other key actors in the development process. One example would be fostering partnerships directly between employers and developers.⁷² Bringing together diverse actors on projects that address shared goals could create a triangulation of interests to deliver improved outcomes for consumers, private firms and the city. Not only would this introduce another actor with “skin in the game” to the development process but close coordination might also open the potential for alternative models of social housing that respond directly to concerns of the key actors.



Macedonio Alcalá pedestrian street.

Historic Center of Oaxaca.

Photo credit: Nélida Escobedo

2.1.7 Oaxaca, Oaxaca

Introduction to the Metropolitan Area

Established formally in the 1970s, Oaxaca's metropolitan area is home to more than twenty municipalities, distinguishing it from many of the other cases, which are either significantly smaller or less fragmented. In contrast to the cases of Aguascalientes and Tijuana – which have only have three municipalities – fragmentation and limited coordination are practically convention in Oaxaca, with political and physical manifestations owing to the sheer number of *municipios* in the metropolitan area and the state. The municipality of Oaxaca de Juárez is not only the demographic center of gravity for the metropolitan area and region, but is also a dominant economic center, concentrating nearly 90% of the metropolitan area's GDP and total economic entities (*total de unidades económicas*). Notably, in spite of the economic and demographic concentration in the municipality of Oaxaca de Juárez, the city nonetheless remains exceedingly fragmented.

Metropolitan Oaxaca is characterized by a deep and pervasive socio-political fragmentation that has greatly affected its ability to advance densification. This socio-political fragmentation owes in part to the Zona Metropolitana de Oaxaca (ZMO)'s diversity and size, consisting of 23 municipalities with populations that range from as few as 2,700 residents to greater than 263,000 in the municipality of Oaxaca. The region's physical fragmentation manifests

in a fragmented land market, caused in no small part by incremental *ejido* privatization, a preponderance of protected historic monuments and artifacts, and challenging topography for development. The ZMO finds itself in Mexico's most divided state, with 570 total municipalities. The region's cultural diversity creates a unique set of conditions and challenges for coordinated urban development and social housing production. At the same time, the state of Oaxaca is one of the poorest in the country and among the 10 most populous, thus bringing with it a host of barriers that greatly complicate the aim of providing adequate housing (social or otherwise) for those who need it most.

Progress in Housing Production and Densification

The ZMO's slow progress toward densification can largely be explained by Oaxaca's low levels of social housing production overall, whether vertical (broadly considered as more dense, though that remains debated) or horizontal. For example, as of February 2016 the state's housing inventory was only 3,866 units. This small scale of production contrasts greatly with other case studies in Monterrey or Guadalajara, with 70,565 and 60,931 units, respectively, in the same time period.

Where vertical housing has indeed been produced, it has principally taken the form of higher-income and centrally-located residential housing. In some isolated instances, vertical social housing has been produced in more peripheral areas where land prices are sufficiently low to accommodate social housing. Given the sheer difficulty of building in Oaxaca, the metropolitan zone has seen fewer examples of the disconnected and underserved housing (housing that frequently becomes abandoned, uninhabited, or vandalized) that plague states and metropolitan areas with higher levels of production, such as Baja

California or Jalisco. Though these low levels of production run counter to the overall credit delivery aims of INFONAVIT, this condition of limited housing production may, in fact, be positive for a resource-limited state such as Oaxaca. Indeed, lower levels of production has helped avoid some of the negative consequences of mass scale production or overproduction that have been seen across the country, where municipalities and INFONAVIT delegations alike are struggling to address high rates of housing abandonment and underperforming loans. This is an important outcome to emphasize, as it allows us to consider how Oaxaca's failure to meet the standard institutional indicators of success (here understood as high levels of housing production) may in fact have helped protect the state and metropolitan area from facing even greater challenges than those already faced by the impoverished state.

Summary of Barriers and Enablers

As the primary metropolitan area and political capital in a resource-limited state, the ZMO operates as a center for commerce and political administration, a tourist attraction and service provider for the broader region, and by extension an employment center, thus making it a major draw for rural to urban internal migration. The municipality of Oaxaca de Juárez in particular is not only a demographic center of gravity for the metropolitan area and region, but is also a dominant economic center, concentrating nearly 90% of gross internal product (*Producto Interno Bruto*, PIB) as well as total economic entities (*total de unidades económicas*) of the metropolitan area overall. Notably, however, in spite of the economic and demographic concentration in the municipality of Oaxaca de Juárez that might reasonably be expected to help create more cohesion in the metropolitan area, the city nonetheless remains exceedingly fragmented. Though explanations for this fragmentation abound, Oaxaca's long history of struggle for and against

centralized government, as evidenced in community systems of governance and active social movements, such as the ongoing struggle with Oaxaca's teachers' unions, might be one partial explanation.

Unlike other case study cities such as Monterrey, and unlike the economic patterns seen across much of Mexico, metropolitan Oaxaca has minimal industrial activity and is instead characterized by a reliance on the region's service economy. The service economy is rooted in the state's strong agricultural and artisanal production for which metropolitan Oaxaca is a key commercial base. Given this relatively diffuse economy, Oaxaca is home to very few of the powerful stakeholders that emerge as leaders in urban development in other cities, such as industrialists in Monterrey, social housing developers in Jalisco, or even hotel developers in Cancún.

Ultimately, physical and political fragmentation in metropolitan Oaxaca come together to create fragmented access to social housing. Consistent with most cities across the country, lack of developable land in Oaxaca is a key barrier for the production of social housing, whether horizontal or vertical. These barriers may be historic or cultural, given restrictions in the city's historic colonial center or cultural protections on ancient archaeological sites. They also are political and social, evidenced by the antagonism of citizens against municipal authorities or in the form of limitations on land use changes deriving from restrictive *ejidal* land ownership. These barriers reduce the volume of developable land, making land not only difficult to find but also significantly more expensive to acquire. This greatly challenges the region's ability to accommodate social housing in appropriate and accessible areas, particularly given the region's low-income population.

Underlying this complexity is the state's informality and poverty, as only 11.7% of the economically active population (PEA) has a formal job registered through IMSS and many formal sector workers are low-income earners. This pattern of informality is consistent with the high levels of migration seen in the ZMO and the state overall, as individuals from rural areas, often from indigenous communities, move to and through the city in hopes of finding employment. The predominance of informality as well as low wage earnings in the formal sector greatly reduces not only the sheer number of eligible credit holders or *derechohabientes*, but also greatly limits the purchasing power of INFONAVIT-eligible households, thus requiring more federal subsidy in order to acquire a home. Much like the development patterns seen in other poor states such as Yucatán, this creates a dynamic in which new developments are more likely to be located on peripheral and less expensive land where building

is more feasible and more importantly, still profitable for developers.

Political Relationships. Evolutions in governance traditions have been manifest in Oaxaca since its very founding as the region's urban center, beginning with the establishment of the pre-Colombian city of *Monte Albán*, now a protected archaeological site located just south of the historic center, well within the metropolitan area. With a myriad of cultures and communities in the region, Oaxacans have generally resisted centralized government and instead have preferred to rely on traditional governing practices that sometimes find themselves at odds with the priorities of the state administration or municipal governments. These governance traditions include local governments that adhere to *usos y costumbres* practices and *ejidal* land ownership, both of which greatly complicate the ability of developers or government officials to appropriately manage land and direct land use planning towards housing production. These traditional practices are further complicated by the predominance of immigration and migration in the region, as newcomers or "settlers" arrive to urbanized areas, purchase land or settle illegally, and attempt to insert themselves in the local power structure, often upsetting an existing cultural or political balance and creating local conflicts.

Planning Capacity. Consistent with the ZMO's physical and political fragmentation, the municipalities comprising the ZMO have exceedingly limited planning capacity. With the exception of the municipality of Oaxaca de Juárez, which has a formal planning department and has made some progress in updating plans to reflect higher densities and mixed land uses, poorer municipalities across the metropolitan area tend to operate without municipal plans or updated *planes parciales*. Although the municipality of Oaxaca de Juárez has demonstrated more technical capacity, their public works focus on

smaller efforts that maintain the touristic appeal of the historic city, such as street or sidewalk renovations. Rapid growth in a physically fragmented metropolitan area has far outpaced the capacity of local or state government to institute adequate planning. Here enters the frequent paradox seen in urban development across Mexico, in which local governments may be eager to grant development permits in order to garner fees, but are unable to properly address the development that comes later down the line. This inadequacy is evidenced quite clearly in the region's water scarcity and water treatment system that is ill equipped to serve the region's urban population. As such, the ZMO has one of the highest water treatment deficits in the country, with only 11 of its 23 municipalities hosting an operational public treatment plant, and in many municipalities in the ZMO fewer than half of households have access to a piped water supply or a sewage system. This is a principle responsibility of municipal government in Mexico and one very tangible and concerning example of the significant fragmentation of governance and services seen across the metropolitan area and the state of Oaxaca. Similarly, the ZMO struggles mightily with waste management, producing nearly a third of the state's total waste and lacking the capacity to dedicate sufficient resources to address waste collection, with inadequate service planning and poorly managed routes. Notably, this is further exacerbated by large scale social housing developments with larger footprints that have a significant impact not only on the service for inhabitants, but also on nearby lands with contamination from sewage runoff without a proper water treatment plant, for example.

Despite limited leadership from the private sector, significant municipal fragmentation, and Oaxaca's role as a capital city notwithstanding, the state government has not assumed a coordinating role in the face of high levels of poverty and urban

marginalization. This stands in contrast to the central role played by the state government of Aguascalientes, for example, in which state policies have heavily shaped the well-controlled development of the capital city and metropolitan area. Nonetheless, even as coordination has been elusive, the state government has indeed attempted to advance planning through a new department focused on territorial planning, and the challenges faced are an important signal of the difficulty of advancing sustainable urban development at the local level in Mexico, as well as the positive steps that are indeed possible.

Coordination Challenges

Although the state government of Oaxaca has created an agency dedicated to territorial planning (*Secretaría de las Infraestructuras y el Ordenamiento Territorial Sostenible*) in the most recent administration under Gabino Cué Monteagudo (2010-2016), metropolitan plans have yet to be published, greatly limiting the perceived or realized effectiveness of the new department and embodying the challenges of introducing new plans without adequate political infrastructure in place to support them. Moreover, individuals working in the current administration express frustration that the state receives minimal appropriations from the federal government, and note that the metropolitan

Colonia Primero de Mayo.
Neighborhood Rehabilitation.
Photo credit: David Schoen Parente



area in particular received a small allocation of *Fondos Metropolitanos*, creating a major barrier to any large-scale investments in the metropolitan area. Instead, the state government's "coalition government" has focused on economic development initiatives that exclude housing proposals, and have also been ineffective at catalyzing new growth sparking collaborative efforts. Failures include a poorly located administrative and judicial center (of state offices) and a contentious process for building a new convention center (the slated location is over a sacred site).

In the face of absent planning, however, a variety of actors and stakeholders have emerged in Oaxaca to build coordination around urban development in the metropolitan area, several of which have utilized social housing as a key focal point. Consistent with the prior assessment of the relative lack of state or intermediate level leadership in planning in Oaxaca, coordination has largely emerged at the local level, spurred by active local professional groups, or with support from the federal level, coordinated through key federal programs or funding streams. Examples have included investment by major philanthropic groups, such as the urban reinvestment projects undertaken by Casa de la Ciudad (funded through the *Fundación Harp Helú*), the adoption of the *Manos a la Obra* credit program to expend homeownership access to new areas across the state, or the successful community organizing in the historic INFONAVIT development of *Primero de Mayo* (organized by Fundación Hogares).

Opportunities for Advancing Densification and Other Forms of Sustainable Urbanism

Given the pervasive fragmentation that challenges coordinated development in the metropolitan area, the ZMO could be a welcome site for a platform around

which stakeholders could come together to create an agenda for urban development in the metropolitan area. In particular, the platform could be helpful in bridging the state government and private sector's interest in strengthening economic development focused around tourism with other urbanistic aims, such as better planned public transportation or integrating social housing in well-located areas. The ZMO overall has a number of sites that would be appropriate for new development and could integrate social housing, such as along critical and well-traveled corridors between the municipality of Oaxaca and Xoxocotlán, or between the historic center and the state administrative offices in the Ciudad Judicial in San Bartolo Coyotepec.

Well-located and vertical social housing could also be logically integrated with economic development and investments in the tourism economy, such as the ongoing development of the convention center planned for the municipality of Oaxaca de Juárez. Generally speaking, the municipality of Oaxaca has a number of sites that would be apt for vertical urban infill in the urban center, but given historic restrictions and small lot sizes, such areas would likely require a significant coordination to acquire and finance. A value-oriented platform could be a critical way to engage diverse actors around to piloting urban infill strategies in the historic center, whether through dedicated subsidies, land acquired by specific stakeholders, or other unique public private agreements that might help lower land costs in order to make development feasible for social housing. A platform approach calls for collaboration and coordination, and potential partners in metropolitan Oaxaca are numerous. Partners could include the *University of Benito Juárez* (UABJO) with significant land holdings in the urban center, environmentally-focused NGOs in the area such as the *Instituto de la Naturaleza y la Sociedad de Oaxaca* (INSO) with technical capacity around critical water issues,

foundations such as *Fundación Harp Helú*, a philanthropy with significant political and financial capital in the city and demonstrated investments in urban regeneration, among many other motivated and well-equipped private partners.

On the public side, the state government's territorial planning department would theoretically be a great convening partner, given the way their work bridges the state government's economic priorities and a focused scale of metropolitan planning. Generally speaking, the Oaxaca INFONAVIT delegation is not particularly active, especially when compared to the other delegations described in this report. Nonetheless, the delegation has indeed mobilized resources when convened around major projects, such as the Primero de Mayo neighborhood rehabilitation project organized by the INFONAVIT central offices and the national NGO *Fundación Hogares*, evidencing the possibility for coordination around key projects that have assigned funding.

Additionally, the platform might also be an excellent opportunity for stakeholders to innovate for the particularities of the housing market in the state and metropolitan area of Oaxaca. Given the low levels of credit allocation in the state, INFONAVIT could play a key role in advancing new housing models for their low-income earners, as well as developing adequate typologies for the informal and low income-earning workforce at large. This is already underway with the *Manos a la Obra* pilot program. Given the rural-*ejidal*-agricultural-communal ownership traditions of the metropolitan area, projects might focus on innovative arrangements for land ownership, rental options, or credits for incremental housing.

2.2 Commonalities and Differences across the Cases

Although the aforementioned summaries makes clear that some cities advanced densification aims even when others did not, there were nonetheless several common takeaways across the cases, independent of their degrees of success. First and foremost, in all seven cities the concept of densification, in and of itself, tended to be a topic of great debate among many of the key stakeholders in both the public and private sectors. This is not to say that all stakeholders completely rejected the idea of densification out of hand, but rather, that there was little agreement over its prioritization and even when so, whether it would be best achieved through greater verticality, more centralized development, a combination of these two factors, or through other types of logics that might produce more compactness or connectivity. That is, despite the national policy focus on densification, at the level of individual cities there was a notable lack of consensus on what defined densification. This lack of consensus varied from what exactly densification was intended to achieve, to whether there could be other better ways to avoid the problems of sprawl, to make housing more environmentally sustainable, or to build more appealing urban environments in ways that preempt future problems of abandonment.

Second, and more significantly perhaps, there was considerable *skepticism about the utility of the perímetros* (PCUs) to serve as guides for achieving densification objectives, primarily because they were understood to be an extremely blunt instrument whose contours were thought to reflect prior patterns of urbanization or land acquisition (that themselves had already laid the foundation for sprawl) more than a serious reflection of serious land-use planning techniques. This finding was of great significance because the *perímetros* were really the main “stick” available to INFONAVIT as it sought “carrots” to incentivize developers to build houses. With questions about the utility and logic of the tool intended to ensure densification, it was harder for proponents to justify their efforts. Had authorities been able to use other criteria or concepts – like compactness, as proposed by UN Habitat – this might have allowed cities to move the needle on densification a bit more. UN Habitat refers to density and compactness as key strategies for conserving scarce urban land, and characterizes the “compact city” as one that is integrated with mixed land uses, home to minimum densities that ensure street connectivity and social diversity, and promotes a human scale.⁷³

Third, there was substantial evidence that it was difficult for promoters of denser social housing – whether within INFONAVIT and other government

agencies or among private developers – to break through the *financial and market-based logics* that governed decisions about housing production and location in ways that made densification likely. Despite the federal subsidies available to homebuyers to acquire homes in better located *perímetros*, given the crudeness of the boundary drawing and the large number of other financial calculations that go into making decisions about undertaking housing projects (time and cost of permitting, availability of large enough land swathes so as to effectively reduce per unit costs, etc.), it took tremendous effort for developers to change their routines for acquiring land and undertaking construction. Among many factors, their financial bottom lines usually worked against the “urban logic” set up by the *perímetros*, and in an effort to reduce costs to compensate for these constraints, the development itself often suffered in quality, size, and design character. In such a context, overall social housing production stalled, or resulted in vertical social housing located in peripheral areas.

The claim that *perímetros* were often seen as constraints on social housing production was particularly noteworthy in cities where large-scale developers were the main players in the local housing market. What was not entirely clear, however, was whether the slowdown had to do with the fact that these developers also were more likely to possess considerable land reserves in higher numbered *perímetros* (i.e. U3) or in *fuera de contorno* (FC) areas, or whether larger developers simply had more political and economic influence locally, and as such were not as willing to respond to programs and priorities imposed from a federal agency like INFONAVIT or SEDATU. Likewise, policy uncertainty and the hope that INFONAVIT would change its incentive structure also seemed to be a relevant factor, at least as policies were first introduced. Given the fact that a combination of constraints seemed to be at play, our team saw

preliminary evidence that progress on densification aims was highly contingent on the balance of negotiating power between developers and authorities. This led to a **fourth** finding: that the *balance of negotiating capacity and power between developers and municipalities seemed to vary* across our seven cities, and that this affected their capacity to reach agreement on approval of permits for denser social housing. In some cities, developers were highly influential, directly influencing outcomes, while in others cities and/or municipalities, local authorities had almost complete sway, and in still others state authorities intervened to reset balances of power so as to advance densification aims.

To be sure, despite informal balances of power between developers and municipalities, legal authority to grant land use permits rests in the hands of the “free and sovereign” municipality, thus giving these local authorities a juridical upper hand in negotiating permit approval, no matter the context. But evidence suggests that the negotiating power and capacity between private developers and municipalities, particularly with respect to finding agreement on densification aims, is neither self-evident nor set in stone. It thus requires a more nuanced assessment of real world bargaining strategies and how conversations between developers and municipalities begin or unfold in ways that take into account a wide range of constraints and opportunities identified by each set of actors.

Often the most important factors are quantifiable with data available to INFONAVIT, as with the amount of land reserves, and the availability of undeveloped land, particularly in public versus private hands, all of which impact a developer or municipality’s capacity to prioritize housing that advances densification aims. Yet there also appeared to be many other less quantifiable conditions that affect the negotiating relationships between developers and municipalities.

These conditions include the urban history of a given municipality, the balances of power between municipalities within the metropolitan area, the cultural and political influence of certain developers in a given historical context, the relationship of developers to local political leaders, the nature of citizen demands for or against certain housing typologies, and local market conditions – not just land costs, but available employment, income earning capacity of workers, and housing demand.

For example, preliminary evidence suggested that private housing developers who have massive land reserves seem to have been more willing to move forward on housing production, although perhaps not in ways that reduce sprawl. Likewise, developers who are operating in markets with many abandoned houses appear to have been less willing to undertake new projects without further incentives, because excess housing supply puts downward pressures on housing prices and thus reduces potential revenues, making the costs of new housing production potentially higher than the gains. As such, our preliminary evidence suggested that *large vs. small developers and local vs. nationally-known developers hold different degrees of economic, social, or political capacity* and “power” to negotiate the local permitting environment and/or comply with densification aims, though this does not hold universally true across all metropolitan areas, a comparison that becomes clear when comparing cases. For example, in Guadalajara, noteworthy examples of urban infill integrating social housing emerged from small to mid-sized developers with a clear commitment to strategically located housing development. In Mérida, by contrast, the smaller developers were among the least responsible, often failing to properly service developments in highly disconnected areas, while larger developers upheld the commitment to densification by trying to move forward with new models for vertical housing. Therefore, although it is easy to assume that large-scale developers are the only actors involved in problematic, peripheral, mass-produced social housing, each metropolitan area presents its own set of highly nuanced set of actors and accompanying challenges.

Findings across the case studies thus reveal a range of relationships brokered by developers of different sizes, whether smaller developers pushing successful smaller infill, mid-sized developers creating partnerships with other developers to mitigate risks, or large, national developers expressing concerns over their reliance on an unsustainable subsidy model. Even after the 2013 collapse of some of the nation’s major housing developers such as Homex, Urbi or Geo (many of the very same ones who initiated the mass production housing model), fieldwork nonetheless affirms that mass production of housing

is still a priority for many. Depending on the state, average permits granted to large developers may exceed the thousands in peripheral municipalities (such as Jalisco or Nuevo León), while the housing market in other states relies on smaller scale housing production, with average permits granted per municipality being fewer than 60 (such as in Mérida or Oaxaca).⁷⁴ Notably, in some states (such as Yucatán or Oaxaca) small-scale rather than large-scale developers are often those who operate most irresponsibly and evade the municipal or state regulations needed to ensure quality of life for social housing residents. In all of these situations, the position of the municipality varies, depending on its own political or fiscal priorities and constraints. Ultimately, the municipality has the final decision-making power to approve permits.

Fifth and last, our team found preliminary evidence that the overall balances of power between municipalities and developers, not to mention advances on densification, appear to have been greatly affected by the overall metropolitan governing regime, understood in terms of the *number of municipalities that comprise a given metropolitan area*. The number of municipalities underlying the metropolitan governing regime impacts not only the interrelationship horizontally with other metropolitan municipalities, but also has bearing on how municipalities interact with their state government. In cities with a large number of municipalities, degrees of inter-municipal competition, fragmentation, and limited involvement by the state government in coordinating urban development, appear to make it easier for housing developers to negotiate deals for land use permits that support their desired financial bottom lines, primarily because there exists a “free market” of municipalities who actively compete for the local revenue benefits accruing from housing production. Conversely, in metropolitan areas with a smaller number of municipalities, developers have fewer options for playing one municipality against the other, and thus need to engage in dialogue about shared interests. In metropolitan areas with fewer municipalities, demographic concentration may also make state government more likely to prioritize an urban development agenda (such as in Aguascalientes), in turn influencing the behavior of developers as they negotiate with municipal government.

For a detailed comparison of number and size of municipalities of the seven cases, see the Data Analysis section in **Volume II: Case Study Compendium. Understanding the Barriers and Enablers to Densification at the Metropolitan Level.**

To be sure, such constraints do not guarantee that a smaller number of

municipalities will join forces around densification, thereby reducing the power of private developers to make locational decisions about social housing development based only on the basis of the financial bottom line. In this regard, we have found that in addition to a reduced number of municipalities, when metropolitan or state-level agencies or actors reinforce the densification priorities of a given municipality, densification may be more likely. But when there are a large number of municipalities in any given urban area, even state, metropolitan, or inter-municipal coordination can be difficult. Indeed, the most consistently successful examples of horizontal or vertical coordination seen in the fieldwork took place in the smallest metropolitan areas.

The key here is that various levels of authority need to be operating simultaneously, or at least interactively with respect to the gains from densification, and this is more difficult the larger the number of municipalities in play. For example, any given municipality will have more power to negotiate with private developers about densification when it is faced with only minimal competition from other municipalities to secure the revenues from such investments, and/or when larger governing authorities weigh in on densification priorities through fiscal resources or political support. Likewise, a state or metropolitan agency is much more likely to become involved in pushing for urban densification when there are a smaller number of municipalities in which such goals could be realized, because the interests of the larger agency and that particular municipality are more likely to be directly aligned. Of course, whether any given municipality will work with a metropolitan or state agency around densification appears has a lot to do with the extent to which financial gains to a municipality or private developer can be recycled towards state coffers, to the developer, back again to the municipality, or shared by all.

Overall, the most salient findings that emerged from case study can be summarized as follows: The very same subsidy or incentive programs that were utilized to produce positive outcomes with respect to sustainable or dense social housing production in some cities did not produce the same positive gains in others, primarily because outcomes were affected by degree of governance (i.e. municipal) fragmentation, involvement of private developers or engaged stakeholders, and a range of other local conditions related to city size and land use patterns. All this not only suggests a spectrum of *varying degrees of advancement toward densification*, it also raises serious questions about the utility of *one-size-fits all programs* intended to be produce certain outcomes, without sufficient scope for local variation. Tables 3 and 4 summarize our case study findings, with an eye to the types of mediating local conditions that help explain the successes as well as failures in densification across seven different cities. Following these tables, Section 3 uses knowledge of these barriers and enablers as a point of departure for summarizing the main challenges that INFONAVIT must address and for proposing recommendations, which close our report in Section 4.

Table 3. Summary of Conditions that Hinder Densification in the Social Housing Sector

Key Barriers to Densification	Context
Land Constraints	<ul style="list-style-type: none"> • Limited state or municipal-owned territorial reserves forces a reliance on private landowners and developers to guide future development. • Fragmented governance structures and irregular land ownership complicate land acquisition for private and public ownership alike. The resulting scarcity of developable and regularized land drives up land costs overall, thus making social housing all the more difficult to produce and more reliant on federal subsidy.
Developer Constraints	<ul style="list-style-type: none"> • High levels of land speculation in central areas drive up land cost and push developers to the periphery. • Even with the integration of vertical housing, developers have continued with the mass-housing production model, producing the majority of housing in peripheral areas (U3) and have therefore not achieved national policy aims of greater density or urban accessibility.
Infrastructural Constraints	<ul style="list-style-type: none"> • Stakeholders express concerns over the inadequacy of existing urban infrastructure to accommodate higher densities. • In the case of the need for infrastructure investments in advance of densification, local governments express concern over the ability to finance the infrastructure investment, or manage the coordination implied between multiple levels of government.
Definitional Constraints	<ul style="list-style-type: none"> • Debates continue about whether the traditional horizontal living patterns of Mexicans will continue to bolster cultural or consumer opposition to vertical housing or high density living. • In spite of national policy advancements, there is minimal consensus about the efficacy of densification, how it should be measured, and who should decide and monitor such aims.
Programmatic Constraints	<ul style="list-style-type: none"> • National policies are largely unable to adapt to local contexts and specificities. • Imposing one-size-fits-all policies leads to unintended adaptations with negative consequences, such as vertical housing production in exceedingly peripheral areas, thus continuing to perpetuate urban sprawl.

Table 4. Conditions Advancing the Densification of Social Housing

Key Enablers of Densification	Context
Developer Opportunities	<p>Small and mid-size developers show more commitment to positive urban outcomes and willingness to experiment with urban infill projects that integrate social housing.</p> <p>Active and organized private sector developers have come together around projects and policies to promote densification, typically through the state delegation for the national chamber of developers, CANADEVI.</p>
Governance Opportunities	<p>State-level leadership can play an important role in advancing densification through specialized legislation (as in Guadalajara, Jalisco), by guiding coordination among different actors (as in Aguascalientes), and mobilizing resources to ensure successful completion of projects (as in Merida, Yucatan).</p> <p>The state's positive role in producing better local outcomes appears to be closely correlated with the size of the state and metropolitan region, the number of metropolitan municipalities, as well as the consolidation of population, urban growth, and political power in more central municipalities.</p> <p>Instances of metropolitan coordination efforts (such as the IMEPLAN in Jalisco) emphasize the importance of a forum for coordination and communication at an intermediate scale between federal, state, metropolitan, and municipal level actors.</p>
Programmatic Opportunities	<p>Recent pilot programs and projects offer alternative strategies for implementing regionally specific policies (such as the self-built housing pilot Manos a la Obra, in Oaxaca).</p> <p>As compared to efforts to coordinate around planning (such as the IMEPLAN in Guadalajara), project-based coordination appears to garner broader support from a diverse range of actors across levels of government and in the private sector.</p> <p>Effectively managed projects facilitate coordination with a greater diversity of actors such as universities or architects with a vested interest in housing and a commitment to innovation and experimentation.</p>
Unanticipated Opportunities	<p>Challenges to access have also inspired innovation in the private and public sector, whether through public-private partnerships for mixed-use development (Aguascalientes) or real estate trusts to mitigate investment risk (Cancún).</p> <p>At the state level, the INFONAVIT Delegate emerges as an actor with great potential to coordinate among all levels of government, private sector developers, as well as employers and workers.</p>

Notes

- 14 CONAPO 2012.
- 15 Formal recognition of metropolitan zones is authorized by CONAPO (Consejo Nacional de Población), the National Council on Population.
- 16 Gobierno del Estado de Jalisco 2015.
- 17 CONAPO 2012.
- 18 Gobierno del Estado de Jalisco 2015.
- 19 SNIIV, 2013 and 2015. Nuevo León. Acumulado Anual. 2013 and 2015.
- 20 Ibid.
- 21 IMCO 2014.
- 22 Inventario de vivienda or housing inventory is the term used by CONAVI to quantify the number of houses available for sale at the moment of query. This indicator is available through the SNIIV 2.0 (Sistema Nacional de Información e Indicadores de Vivienda) with information from RUV (Registro Único de Vivienda) and developed by CONAVI (Comisión Nacional de Vivienda).
- 23 SNIIV Feb 2016.
- 24 SNIIV Nuevo León, Feb 2016.
- 25 Monkkonen 2011.
- 26 SNIIV Trabajadores Afiliados al IMSS por sector económico, Feb 2016.
- 27 SNIIV Registro de Vivienda, Mar 2016.
- 28 Centro de Desarrollo Metropolitano y Territorial.
- 29 INFONAVIT 2014.
- 30 Including the municipalities outside the formally recognized metropolitan area but that nonetheless have received high numbers of housing production: Ciénega de Flores, General Zuazua, Pesquería.
- 31 SNIIV Reservas Territoriales en el estado de Nuevo León. Dec 2015.
- 32 Ibid.
- 33 SNIIV Nuevo León. Feb 2013 -2016.
- 34 Zenteno Quintero 1995.
- 35 Zenteno Quintero 1995.
- 36 Alegría Olazábal and Ordoñez Barba 2005.
- 37 Herzog 1990.
- 38 Fagen 1972.
- 39 The fieldwork research has not yet found any reliable estimates of the amount of vacant parcels in the city, as of yet. However, it is clear that they are all over the city, most obviously next to skyscrapers in La Zona del Río. Local experts noted that the only study that accurately represents property values in Tijuana was last carried out in 2000.
- 40 Alegría Olazábal & Ordoñez Barba 2005.
- 41 Rodriguez 2009.
- 42 Herzog 1990.
- 43 INFONAVIT 2014.
- 44 Perló Cohen and Zamorano Ruiz 2000, OECD 2015.

- 45 Censo de Población y Vivienda 2010.
- 46 Instituto Mexicano para la Competitividad AC 2014.
- 47 SNIIV 2014-2015.
- 48 Iracheta Cenecorta and Bolio Osés 2012.
- 49 Ramírez Carrillo 2014.
- 50 CONAPO 2012.
- 51 SNIIV Yucatán. August 2015.
- 52 SNIIV Yucatán. Acumulado Anual. 2014 and 2015.
- 53 Iracheta Cenecorta and Bolio Osés 2012.
- 54 CESPEDDES 2013.
- 55 Instituto Mexicano para la Competitividad A.C. 2014.
- 56 Jiménez Huerta 2000.
- 57 SEGUOT 2010.
- 58 Jiménez Huerta 2000.
- 59 Ibid.
- 60 INEGI 2009.
- 61 Smolka 2013.
- 62 CONAPO , Mentado 2014.
- 63 INFONAVIT 2015, 2016.
- 64 SNIIV.
- 65 SNIIV.
- 66 INEGI 2015.
- 67 ONAVI 2016.
- 68 SNIIV 2015.
- 69 Ibid.
- 70 Pech Vázquez 2002.
- 71 RUV 2009.
- 72 Hotels and resorts are the most obvious candidate for partnerships here, but other actors, from non-profits to state government, could equally be enlisted.
- 73 UN Habitat 2015.
- 74 INFONAVIT 2014.

The background of the slide features a photograph of a single-story building with a light-colored facade and dark window frames. The building has a sign that reads "BENITO JUAREZ" on its right side. In the background, there are mountains under a cloudy sky. The entire image is overlaid with large, dark, semi-transparent geometric shapes, primarily triangles, which create a modern, abstract design. The text is white and bold, positioned on the left side of the slide.

SECTION 3

**WHAT IS WORKING, WHAT ISN'T, AND
WHY: AN ANALYTICAL DIAGNOSTIC OF
HOW THE FUNDAMENTAL PROBLEMS
MIGHT BE ADDRESSED**



Photo Credit: Nélida Escobedo



Vacant lot with drainage problems adjacent to housing. Tlajomulco de Zúñiga, Jalisco.

Photo credit: Nélida Escobedo



Vertical housing in peripheral and disconnected areas in the Chulavista neighborhood. Tlajomulco de Zúñiga, Jalisco.

Photo credit: Margaret Scott

SECTION 3 - WHAT IS WORKING, WHAT ISN'T, AND WHY: AN ANALYTICAL DIAGNOSTIC OF HOW THE FUNDAMENTAL PROBLEMS MIGHT BE ADDRESSED

As highlighted in the aforementioned sections, INFONAVIT's overall successes in advancing densification through program incentives and subsidy policies remain limited if not under-realized, with only some cities moving forward significantly and each showing different patterns of compliance. That there is variation owes in no small part to a series of deep and formidable political, social, economic, and territorial barriers to coordination as well as to the mismatch between market logics, housing affordability, and densification. The source of these problems can be subdivided into four categories of conditions: a) the lack of institutional, social, and political **consensus** about densification at the local level; b) limitations on coordination emanating from the **scale** and **territorial complexity** in which housing subsidy policy decisions are being made; c) negative externalities associated with the **market logic** of social housing production, owing to the preference for mass production models as well as flaws in the calibration of supply and demand for **housing**; and d) failures to conceive of housing as more than a **commodity**. All these issues would need to be addressed by INFONAVIT if it is further advance densification policies in urban areas across Mexico. But more significantly, by recognizing and taking a more active role in reversing these conditions, INFONAVIT can constructively reconfigure the relationship between housing production and densification in ways that promote better urbanism and more value-creating investments in social housing.

3.1 Moving Beyond the Preoccupation with Densification May Enable Better Housing Decisions

During the fieldwork across the seven cases one of the first problems encountered was the lack of consensus on densification as a priority, both

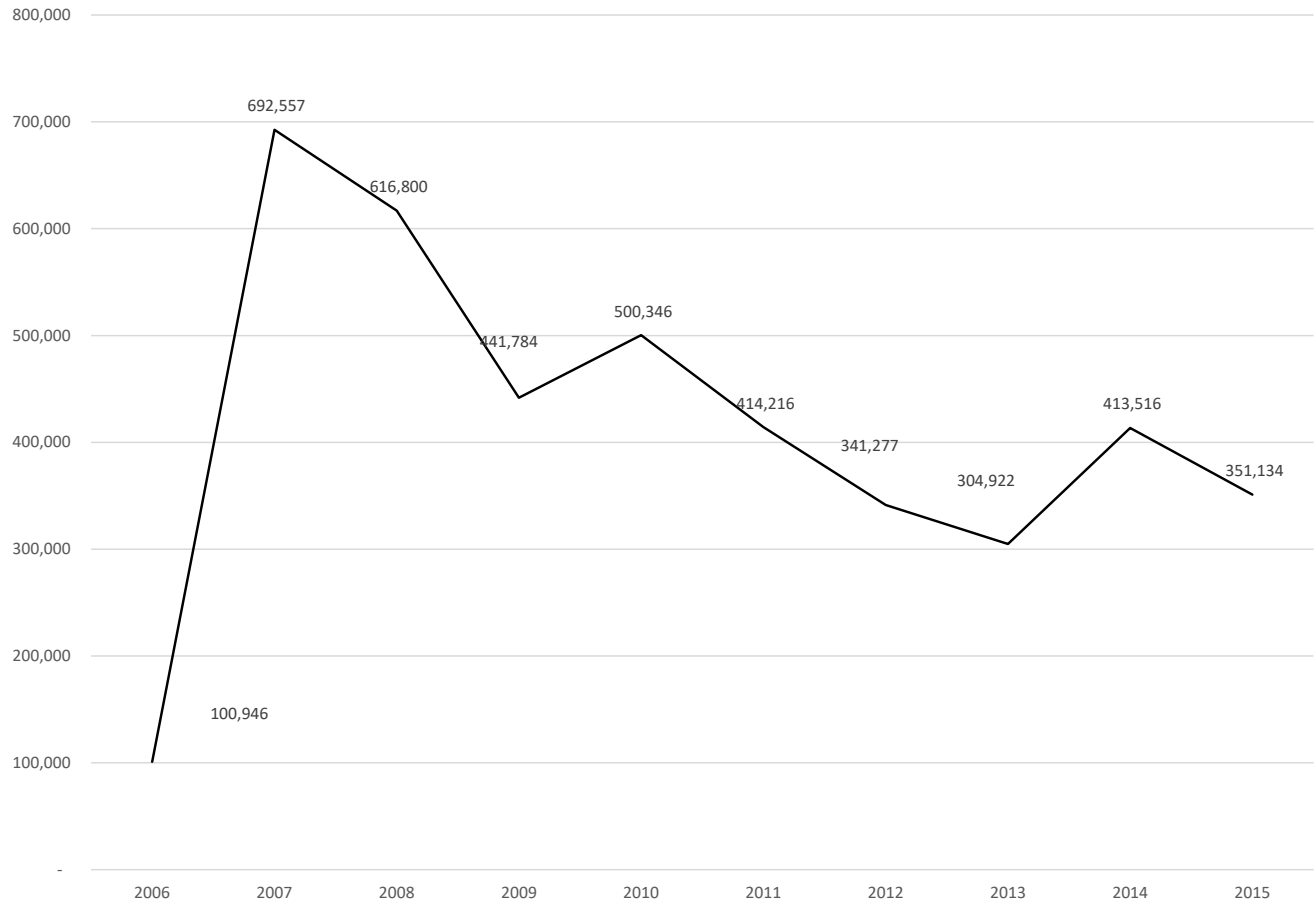
within and between different cities. The logic of INFONAVIT'S commitment to densification was a topic of great debate from which there emerged very little agreement, with questions over the utility, appropriateness, or definition of densification. Some of the problem emanates from the fact that INFONAVIT's densification aims revolved around very broadly cast locational parameters, with incentives tied to siting projects in certain *Perímetros de Contención Urbana*. As such, questions of vertical versus horizontal housing were not specifically addressed in this mandate. This is not to say that verticality was off the table. Many developers increased verticality in order to recoup the added costs of building on higher valued lands and take advantage of subsidies for vertical construction made available through SEDATU. But most also suggested that demand for vertical housing was limited, arguing that the majority of consumers prioritized single-family units or a close approximation. Likewise, our interviews suggest that many local authorities were themselves not very keen on densification of social housing, either because their constituencies feared the social consequences of bringing large numbers of lower-income residents in their neighborhood via vertical housing, or because high-rise housing, as a typology, was identified with more affluent populations. Indeed, it was rare to find residents, authorities, and other local stakeholders strongly supportive of greater densification via social housing as a goal in and of itself. And failing a clear consensus on this issue, developers themselves responded slowly.

Complicating matters, at present there is no existing definition or indicator for density being discussed in policy circles, nor is any single authority or agency tasked with measuring or managing densification in any meaningful way. Rather, depending on the municipality or metropolitan area in question, densification may mean more verticality, a more centralized location, siting on a main transport

corridor, or some combination of these. Our fieldwork also showed that, depending on the city, densification was spearheaded or resisted by developers, encouraged or blocked by municipal leaders, or alternatively incentivized or ignored by state authorities. In this complex terrain, we found that densification was most effectively ushered in through inter-institutional and cross-agency coordination, typically focused around a particular housing project or urban development, evidencing the fact that project-based coordination that builds from the voices and interests of many actors simultaneously at play, rather than just a few, may best convert the typically polarizing debate about densification into one with forward momentum.

For more information on the process of defining density or affordability, see **Box 1: Defining Affordability and Density in Appendix D.**

When the fieldwork research first began 2014, much of the opposition to densification we identified was rooted in resistance by private developers, whether small or large, to adapt to significant regulatory changes that greatly impacted their construction model and went against the grain of market logic. This shift was not only structural, in which developers were incentivized to build vertically, but also locational, in which developers were compelled to build in specific areas, based on the *perímetros de contención urbana*, or PCUs, designated by CONAVI. Additionally, this implied a major financial shift that was judged to be unsustainable, given the recent collapse of the country's largest housing developers (Geo, Urbi, Homex), many of whom retained large land reserves.⁷⁵ As such, many developers expressed hesitation or an unwillingness to move forward with any building projects in a period of such policy uncertainty, combined with a period of limited subsidy availability, and the slowdown of the construction industry over course of 2014 as seen in the following figure.

Figure 2. Annual RUV National Housing Registration, 2006-2015.

Source: SNIIV 2.0.

Over time, however, developers both large and small have come to adapt to the new regulations and integrated models for vertical housing, although not necessarily densification as advanced by location in more populated, spatially concentrated, or connected areas. Through negotiations with local municipalities as well as higher level federal agencies, in most of our seven cities development has continued largely in U3 perimeters, as well as in “*fuera de contorno*” or outer-perimeter areas. With social housing development slowly returning to more robust levels, delegations are routinely exceeding their expectations for credit allocations during 2015. Having said this, and despite the fact that developers have proceeded with the vertical housing, the cost of land continues to be the single biggest disincentive to developers, and explains in part the reality that we have yet to see any significant levels of social housing production in intra-urban or infill areas.

Yet even as developer uncertainty has diminished, a different form of resistance or opposition to densification has persisted and grown more complex across the case study cities. The reasons for this resistance can be loosely grouped into cultural, infrastructural, or financial concerns. For

instance, neighborhood groups, local authorities, and even state agencies have expressed concerns about the appropriateness of densification, despite INFONAVIT's prioritization of this outcome. Perhaps the most commonly discussed opposition to densification is that of cultural or consumer preference, in which many Mexicans do not have a tradition of living in higher density neighborhoods, or in vertical apartment buildings. The counter to this, of course, is that without successful examples that demonstrate the quality of life made possible through well connected and high density living, the prospect of living in higher density arrangements is unsurprisingly less appealing to consumers. However, given the reality that low income credit holders frequently have little other choice, vertical housing is often the cheapest that they can afford. This further suggests that there may be a lack of consensus about the true cultural or consumer appetite for verticality or density, as opposition is assumed because of cultural and historical building patterns, but is by no means fixed or universal.

For more information on facilitating densification through improved design and coordination, see **Box 2 on Appendix D.**

Even in areas that may not have any specific cultural or consumer aversion to densification, or in those areas with a more pressing need to maximize existing residential land in the face of land scarcity, such as in Tijuana, concerns persist about the adequacy of existing infrastructure to accommodate such density. Particularly in areas that may not have been planned to accommodate density originally, local leaders are skeptical of the capacity of infrastructure to be able to provide services (water, electricity) to higher density buildings, and neighbors share concerns about neighborhoods being able to accommodate more traffic or parking, particularly in car-oriented northern cities like Monterrey. In addition to the sheer logistics of infrastructural adequacy, stakeholders also express concern about the financial costs required to upgrade infrastructure and service new developments, adding on to the fact that municipalities are already burdened with the infrastructure costs of existing peripheral developments, even though densification purports to remedy the mistakes and cost burdens of these prior developments.

In general, most municipal authorities are unlikely



Residents of housing complex wait for the bus in the outskirts of Tijuana, Baja California.

Photo credit: Francisco Lara García

to be well equipped to handle densification, whether because of the legislative reforms required, the financial costs implied in ensuring that infrastructure is adequately prepared, or the clear need to effectively coordinate with a wide range of partners in order to sustain advancement toward well located and sustainably built housing, the foundations of effective densification. Additionally, in areas with high levels of vacancy or abandonment, many stakeholders opposed new vertical housing because of the obvious evidence that the existing housing stock was already not meeting consumer demand appropriately, indicating the existence of a highly saturated and oversupplied housing market in some areas of the country. The fact that many Mexican cities are now facing pressures to revitalize downtown areas and land uses through commercial activities, while also carefully preserving historic properties, also puts a constraint on acquiring such lands for social housing. Investment in revitalization and historic preservation significantly raises land values because of increased interest in investing, or the expectation of future interest, resulting in pervasive land speculation. If anything, those redevelopment plans – which hold more potential to generate revenues for local authorities – call for an expulsion of lower-income residents to outlying areas, reserving new development for higher end consumers. In this context, social housing densification as prioritized by INFONAVIT (or SEDATU) works against the priorities of the municipalities with the greatest infrastructure for hosting higher rise residential buildings.

With a lack of consensus and the aggressive “one-size-fits-all” subsidy program intended to guarantee compliance, in which the “*perímetros de contención urbana*” have been the exclusive guide for measuring dense housing production, the result has been that, at best, verticality has been substituted for density. In turn, new vertical development has been accelerating in the most peripheral perimeters of

urban containment, or even beyond these boundaries entirely. Without any local level strategy to adjust the adequacy of the perimeters, to decide how verticality should be integrated, or to restrict appropriate areas of growth, density and verticality have been unevenly applied, largely following the patterns of sprawl the country has already seen. As such, verticality in and of itself is not necessarily good, and potentially even harmful, for individual homeowners or the city at large.

Particularly in urban areas that still have significant amounts of developable land, and with municipal governments that are reluctant or unprepared to make major land use plans that restrict certain areas from residential use, peripheral housing production continues at high rates. This is particularly true for municipalities that rely heavily on taxation and tax income and are eager for new construction, regardless of the long-term impact. Notably, this tends to vary within a metropolitan area, in which there might be several different municipal responses, with certain municipalities effectively integrating density, while other municipalities in the same region are still encouraging peripheral growth that is now vertical as opposed to horizontal, yet certainly not dense in any sense of urban connectivity. Developer negotiation also varies greatly, as in some areas they are able to exert more negotiating power, but in others where political power is more concentrated, or land availability is limited to one municipality in a metropolitan area, negotiating power balances more in the favor of the municipality instead.

This lack of consensus, or abundance of opposition, does not serve to strengthen the argument against densification outright. Rather, this lack of consensus strengthens the argument for a more flexible understanding of housing priorities and the need for metropolitan areas or regions to set their own aims for densification to be appropriate to cultural norms,

consumer preferences, historic limitations, economic nodes, vulnerable conservation areas, and any other locally identified priorities. Ultimately, this brings up an important set of questions about how densification can be defined and achieved locally. Depending on the region or metropolitan area, densification may be constituted by a more centralized location, greater verticality, more compact unit sizes in well serviced areas, and so on. Ultimately, fieldwork suggests that by allowing local actors themselves to address the logics that impede or contribute to densification, whether through compactness or connectivity, densification might better serve to address and avoid the problems of sprawl, make housing more sustainable, or contribute much needed value to the urban environment, thus preempting further abandonment and advancing a new model for housing as a tool for urban transformation rather than a means to an end.

But even more important, rather than tying all subsidies to densification, the ambiguity and lack of consensus could be used as the basis for recasting policy priorities around a more robust concept, such as **“urbanistically defensible”** housing policies, understood as those policies that create better quality of life, serve consumer priorities, and help establish a better networked, compact, and sustainable city. By shifting the programmatic focus away from densification per se, and by understanding the specificities of a city, the debate over whether spatial compactness or verticality are better suited would be subsumed and reframed within the larger objective of creating higher quality of life and more robust urbanism through housing investments.

3.2 The Territorial and Scalar Context of Coordination: One Size Does Not Fit All

As just noted, different cities have different spatial patterns, histories, topographies, climates, and cultural expectations that may get in the way of embracing densification. This, however, is not merely a problem of local peculiarities and preferences, but the fact that any general policy for housing formulated at the federal level will always need to make sense to a given municipality if they are going to embrace those dictates wholeheartedly. After all, although federal policies carry important guiding restrictions and much needed resources, in the housing domain it is ultimately local municipal authorities that have the final decision-making power with respect to land use and housing permits.

To be sure, this power granted to municipalities is considered to be a major barrier to effective coordination around densification goals, not to mention one

of the reasons questionable decisions were made in prior years with respect housing location. Precisely because of the lack of trust in municipalities, INFONAVIT and other federal agencies have sought to impose policies that give them direct influence on local housing actions, including but not limited to the PCU subsidy program. But such federal mandates have done little to change the behavior of municipalities. Interviewees across levels of government as well as within the private sector all express frustration, distrust, or difficulty working with municipalities who are powerful decision-makers but relatively disempowered problem-solvers because of their lack of independent resources. Many also lack technical capacity or strong legacies of orderly land use planning. All this suggests a fundamental problem of institutional mismatch, in which *overly centralized federal policy mandates meet (or clash with) overly decentralized municipal decision-making*. It is in this context that we continue to see new social housing production in peripheral areas that already have high rates of abandonment, or in large-scale developments without proper municipalization or access to transit and employment opportunities. Alternatively, we see municipalities who are unable or unwilling to approve new social housing developments, regardless of the location. But rather than merely doubling down with more federal mandates, more attention must also be paid to fostering activities that institutionally link various governance institutions behind a common goal. This linkage is not accomplished by federal actors alone. Coordination around housing goals needs to be produced through relationships that privilege *neither* centralized *nor* decentralized agencies, but rather through the co-production of a new housing agenda in which intermediate actors able to straddle the local and the federal (or the centralized and decentralized agendas) are critical players.

The importance of moving beyond just the local (i.e. municipality) and the federal scale for action was clear from the fieldwork in our seven metropolitan case studies. We saw that the best outcomes with respect to densifying social housing production typically emerged in cities where there existed a *territorial and/or programmatic overlap in terms of shared institutional interests among actors at a range of different scales (municipal-state-federal), with state-level actors and institutions playing a key role in linking all three*. The case of Aguascalientes offers particular evidence of how this overlap occurs when a relatively small state, a small but predominant metropolitan area, and a capital city with a proactive state government all come together behind a shared housing and urban development agenda. Some of Aguascalientes' successes in this regard owed to the history of triangulation between the capital city, the state, and the federal government over major development projects, including the relocation of INEGI offices to Aguascalientes. By contrast, Oaxaca's



Multi-family housing in Aguascalientes.
Photo credit: Fernando Granados

politically fragmented, physically sprawling, and resource-limited metropolitan area has made a coordinated urban development agenda exceedingly difficult, particularly in the face of shifting national policy. It bears noting that historically and geographically, Oaxaca has long prided itself on its relative politico-cultural independence and autonomy from the central government in Mexico.

To a great degree, the importance of triangulating relevant actors beyond the municipality is exactly what is behind some of the recent attention paid to importance of mounting new metropolitan coordination institutions. In recent years, the need to monitor transport, housing, infrastructure, or other related services at the scale of a city, rather than merely the municipality, has captured the attention of urban planners and even elected officials, particularly in Mexico's largest cities, where such coordination is most needed. This was definitely true in the case of Guadalajara, and somewhat less so in Monterrey. Yet our fieldwork has suggested that for most cities it has been and will continue to be an uphill battle to introduce metropolitan governance, owing to entrenched interests in localism and, perhaps most important, the deployment of democratic ideals to sustain this posture. Challenging municipalities'

powers to make their own decisions, particularly by relocating decision-making capacity to metropolitan institutions, can readily produce charges of top-down managerialism and efforts to undermine democracy, such that recasting the institutional contours of policymaking to respond to new patterns of urbanization through metropolitan institutions is a long-term struggle that take years, and will inevitably have greater chance of success in some cities than others.

The problem for INFONAVIT, however, is not merely that of the constraints of democratic ideals, which could be addressed by identifying better housing services as an indicator of a vibrant democracy, but the fact that cities which *most* need metropolitan coordination to help establish housing densification and other related goals are often least capable of doing so because of the territorial configurations of municipal authority. Stated simply, large cities with the greatest need for metropolitan coordination tend to be comprised of multiple municipalities; and urban settlements with a larger number of municipalities are fragmented entities in which the desire to hold onto local (municipal) decision-making power may be even greater, particularly as a strategy of inter-municipal competition for scarce resources.

It is instructive to turn again to our fieldwork, which has suggested that by and large, only two of our seven cities (Aguascalientes and less so Tijuana) have made what could be considered notable progress on housing densification, and with the latter it is still more promise than actuality. The country's largest cities, particularly Monterrey and Guadalajara, where metropolitan challenges are most pressing, and where there are efforts afoot to introduce metropolitan coordinating institutions, still continue to build social housing in underserved peripheral areas. Of the remaining cities, there is some progress on densification through greater verticality in Cancún. However, as vertical units are built in peripheral areas, this only partially advances densification and may ultimately reinforce sprawl. The cities of Mérida and Oaxaca have seen varying progress, with minimal vertical production in Mérida where developable land is available, and slightly higher levels of vertical production in Oaxaca where topography is more challenging.

One could begin to explain these findings with a clear metric: the number of municipalities that comprise the metropolitan area. The three cities with the least progress on densification, Oaxaca, Monterrey, and Guadalajara, have 22, 13, and 9 municipalities, respectively. The cities with the greatest progress, Aguascalientes, Tijuana, and *Cancún*, have 3, 3, and 2 municipalities, respectively. And Mérida, with 5, lies somewhere in the middle.

For a detailed description on densification progress across cases, see the Data Analysis section in **Volume II: Case Study Compendium. Understanding the Barriers and Enablers to Densification at the Metropolitan Level.**

It is worth noting that the failure to advance

densification at the metropolitan scale does not necessarily mean there were no advances towards densification at the scale of the municipality. Some municipalities in Guadalajara, for example, did engender new infill projects with social housing. But paradoxically, municipalities that were geographically situated in the most central locations of large metropolitan areas were often the least likely to advance densification, because of land costs. Second, when advances at the municipal level were made, it was usually a function of the balance of power between housing developers and local authorities. In poorer municipalities, which also tended to be the more distant and underserved, more large-scale single-family housing developments were approved (in part because local authorities were desperate for revenues), thus driving sprawl and reinforcing metropolitan-level problems resulting from the lack of transportation infrastructure.

Third, if and when densification initiatives were proposed for wealthier municipalities, they did not necessarily materialize as rapidly as developers or INFONAVIT would have liked. This was because, paradoxically, there existed more planning capacity in these higher end neighborhoods, as well as more organized opposition from local residents, who did not want more dense housing to change the character of their communities. In a context where power to approve remains at the hands of the municipality, this motivated local authorities to move slowly in the permitting process. With local authorities playing tough, developers often abandoned their efforts to produce denser or more vertical housing in these areas, turning instead to peripheral sites where authorities readily accepted their projects (and where, in contrast, planning capacity was weak and citizens were less mobilized). In short, decisions about siting projects in the metro area were determined by *local* conditions having to do with the balance of political and economic power between authorities, developers,

planners, and citizens in a given municipality.

In assessing these obstacles, there originally seemed that having the same political parties in power at multiple scales was one way to insure coordination around stakeholders, vis-à-vis densification aims. And this was true in some cases but not in others. For example, in GDL a party-specific alignment of the governor and several of the municipalities in the metro region allowed the creation of a metropolitan coordinating body, but because not all municipalities were invited to participate, and because some came from opposition parties, the body did not function in any meaningful way as a source of policies intended to foster metropolitan coordination.

Primarily, then, our most important finding was *that progress on densification at the metropolitan scale ultimately had to do with how many municipalities existed in any given metropolitan area*. This was so not just because the degree of municipal fragmentation directly affected the likelihood that the same party would be in power across a single metro area and at other relevant scales (i.e. at the state and even the national level). The biggest reason that number of municipalities constituting a metropolitan area must be considered an obstacle to densification advances (and any sort of metropolitan coordination around urban issues) was because this number directly affected the balance of power between authorities and private developers. In particular, in the municipalities with more “available” land for developers to target for housing, local planning authorities were the least capable of driving a hard bargain with respect to requiring certain types of housing and their corollary infrastructure in ways



Diverse housing typologies in the Desarrollo Certificado San Marcos. Mérida, Yucatán.

Photo credit: Nélida Escobedo

that advanced the aims of densification.

For a detailed comparison of municipalities in the metropolitan areas, see the Data Analysis section at the beginning of **Volume II: Case Study Compendium. Understanding the Barriers and Enablers to Densification at the Metropolitan Level.**

All this suggests that *effective metropolitan coordination is a politico-institutional design problem*, not merely a matter of establishing the proper policy incentives at the national level. It has a lot to do with local territorial configurations and the size and nature of the political jurisdictions that comprise a metropolitan area. In a move that may have seemed logical to economists, when INFONAVIT introduced its new incentive structure to advance densification, (and in fact when the federal government laid out incentives for coordination through its program of *Fondos Metropolitanos*), national policymakers proposed a one-size-fits-all market incentive strategy intended to apply uniformly across all cities in Mexico, no matter their size and no matter the metropolitan configuration. Yet any geographer or urbanist with a spatial sensibility would be compelled to question that logic. And indeed, our findings have shown that older and larger cities are more likely to have a large number of municipalities, thus problematizing the unequal power relations and different resource capacities in ways that made metropolitan coordination more difficult and sustainable densification less likely.

For all these reasons, one cannot follow a one-size-fits-all subsidy program to facilitate densification, especially in a politico-institutional context where land use and decision-making authority remains either partly or wholly in municipal hands. Rather, INFONAVIT and other federal authorities interested in establishing bodies, programs, or policies for either

densification or metropolitan coordination (which can be a first step in advancing densification) must be able to take into account the existent governance landscape of a given metro area, or region, particularly the degree of fragmentation; imbalances of resources across these jurisdictions, and other demographic, topographical, and socio-economic characteristics of place.

Having said this, it bears noting that the tendency of federal level agencies to approach policy design with a “view from above,” or through the application of “one-size-fits-all” policies is not in itself inherently negative, as this is an inevitable manifestation of federal governments and institutions. However, any federal approach must be accompanied with more regionalized or localized adaptations or grounding, additional flexibility for intermediate level actors to make adjustments or take initiative to ensure successful and equitable outcomes at the local level, or even engagement with other municipal stakeholders to connect and leverage federal initiatives with additional local investments.

3.3 The Logic of the Housing Production System Frequently Works Against the Achievement of Coordinated Outcomes

As discussed in earlier sections, INFONAVIT’s mandate of relying on private developers to provide the country’s social housing stock, and its use of internally-generated programs and credit metrics to mandate unit size and incentivize typology and site selection, have established the densification *perímetros* of the social housing production system in Mexico. In theory, this combination of carrots and sticks was intended to produce a sufficient supply of affordable social housing, allowing developers to profit while eliminating any inefficiencies that might have been produced by direct state involvement in

housing production. In practice, however, our interviews suggest that there are several serious impediments to the smooth functioning of this system. These challenges are most evident when it comes to INFONAVIT's capacity to incentivize dense social housing production, and they derive from a series of negative externalities associated with the ways that market logics interact with the housing production system.

Indeed, from the perspective of the builder or private developer, both of whom work in a property market environment where access to land can be costly, being able to rely on subsidies from INFONAVIT only makes sense if restrictions on unit size, location, or other features (public space, verticality, green infrastructure, etc.) do not place added burdens on their financial bottom lines. For obvious reasons, most developers will only take on the responsibility of constructing social housing if they can generate a robust profit. Until recently, this has been relatively easy. Some of the developers interviewed suggested that profits rates from social housing often hovered between 20-25%, a rate far higher than in much of the rest of the world. In **Box 3**, we explore the precedents for “development controls” in affordable and social housing globally, such as profit caps on social housing developers. With the introduction of the *perímetros*, many developers have cut down on new building initiatives, owing to the added constraints that put downward pressure on profit rates. Some of this also has to do with the costs of holding land reserves that under the current densification regime are not as profitable to develop. Additionally, many developers during interviews expressed concern over the social housing construction industry's over-reliance or even over-dependence on the allotment of CONAVI housing subsidies to low-income *derechohabientes*, making the market increasingly vulnerable to subsidy uncertainty.

Box 3: Development Controls, See Appendix D.

Though this has not completely stalled social housing production, it has slowed it considerably. Of those who still continue to produce social housing with INFONAVIT credits, some are doing so while also constructing market-rate housing, diversifying their portfolio, and producing a larger revenue source to cover costs that accrue after land purchases while still waiting for housing permit approval. While leveraging revenues from market-rate operations provides more room for maneuver, it does nothing to guarantee that social housing production will align with density goals. Cost of land in more populated, better-serviced areas of the city is the single biggest disincentive

to developer compliance with densification priorities, and is particularly challenging to accommodate the sheer numbers of low-income homeowners with access to low credit amounts and reliance on subsidy in order to acquire social housing.

Preliminary evidence suggests that *developer size* is relevant to this logic, thus having a direct bearing on densification outcomes. The huge (and entirely unregulated) profits accruing from social housing construction over the years have frequently come from developer decisions to produce massive quantities of housing, or what could be labeled “mass production of housing.” Economies of scale in architectural design, materials acquisition, and the time needed to ensure permitting and other related regulatory approvals all tend to favor large-scale initiatives in which mass produced housing projects comprised of multiple units spread over large swathes of land are the most cost effective. This helps explain why so much social housing materialized on the periphery of urban areas, where land is cheap and large-scale housing projects are both possible and economically efficient. Large-scale housing projects have been less likely in previously urbanized or populated areas, or in central locations with good infrastructure, because of the limited availability of affordable, large swathes of land in those areas.

The point here is that there is a disconnect between the market logic adopted by many housing producers and INFONAVIT’s programs and priorities, at least with respect to densification, that must be bridged. Because much of the disconnect owes to the cost-benefit calculations motivating large-scale



Mass-produced housing by JAVIER Desarrollos, in García, Nuevo León.
Photo credit: Nélida Escobedo

housing developers, if INFONAVIT wants to continue to incentivize social housing production, it must be more open to encouraging responsible smaller-sized developers that rely on other logics besides economies of scale and adapt construction to local conditions, whether cultural, environmental, or financial. And all this suggests that to increase the likelihood of steady social housing production while also accommodating density goals, *a more “boutique” approach to housing production is preferable*. By boutique we mean non-mass produced developments built on smaller plots that are well connected to services and amenities and/or in targeted infill sites within already urbanized areas where added infrastructure costs are less onerous, thus balancing out higher land costs to keep profit rates similar. Such strategically planned, smaller-scale developments are more likely to contribute to density goals because they counteract the harmful locational logics associated with mass-produced housing and upend the tendency of the current model to pass on negative externalities and costs to the homeowner.

The tensions between market and densification logics generated by the “mass production” model are not

confined only to the housing industry. INFONAVIT as a mortgage bank also seems to be operating under similar mass production logic, in this case with respect to the distribution of credits. Partly because of its social and political commitments to meeting the ever-present social housing needs of a large population, and partly because of the desire to keep money moving through the mortgage banking and financial system, INFONAVIT also operates on the basis of a “more is better” logic. This manifests itself in the consistently large numbers of credits that INFONAVIT sets as targets for each state delegation’s social housing finance and production. That is, by using a metric that is primarily a function of the number of eligible *derechohabientes* per state, INFONAVIT shows very little flexibility in its approach, in ways that makes a “boutique” mindset for allocating credits almost impossible. Doing so would entail allowing a setting of target numbers based on local circumstances or priorities, and having a better understanding of which urban areas are more or less likely to easily accommodate more social housing production while also meeting densification aims.



Altos Oriente development in the municipality of Guadalajara. Developed by local developer Casillas + Casillas.

Photo credit: Margaret Scott

Among the mediating factors that would affect this calculation include robustness of the local economy in terms of longer-term trends of formal sector employment, land-use constraints (including those related to property rights or urbanization patterns), employer priorities, or even current patterns of overbuilding and housing abandonment. Yet INFONAVIT's mandate to keep its distribution of credits at high rates, calculated state by state on the basis of annual numbers of current payers into the system, can be a serious problem for private developers and, at times, for the activities of INFONAVIT's own Delegates at the state level. With respect to the private housing developers, many complained that INFONAVIT's expectations for keeping the volume of housing production high often worked against sound market logics. Many contended that intensified building often put downward pressure on profit rates, particularly in highly saturated or over-supplied housing markets, in which greater numbers of new housing would merely drive down the price of existent units, thus setting off a vicious cycle in which developers would need to reduce overall production costs by locating housing on cheaper lands in ways that worked against densification aims. Developer complaints about pressures to keep social housing production at rates equivalent to credit allocation targets were even more apparent in metro areas with high rates of abandoned housing.

To be sure, it is problematic to speak of a saturated or oversupplied housing market when it comes to Mexico, a nation where many citizens lack adequate shelter and where demands for better housing continue unabated. However, because INFONAVIT's mandate is to serve a particular market segment of that population – namely, those employed in the formal sector – there are some demand limits structurally built into the system. Complicating this picture, the nature of demand for social housing is not static, but dynamic and contingent on prior mortgage practices. For example, caps on current demand relative to supply reflect the income constraints of populations who now are eligible for credits to facilitate home ownership. In earlier years when mass production of housing first became a policy priority, there was pent-up demand for housing acquisition, with many of the initial consumers being middle income *derechohabientes* or longstanding employees with sufficient credits to purchase newly built suburban homes. Yet, because the most “credit-worthy” consumers (one developer identified this as an individual with more than 5 minimum salaries) saturated the market in the first stages of the program, over the years the demand for new housing has increasingly fallen to less credit-worthy *derechohabientes*, either those with lower incomes or those with fewer years on the job. Many thus need either additional subsidies (from CONAVI, for example) or cheaper units in order to be able to afford the new homes, and

this will continue in the future as more credit-worthy customers remove themselves from the market.

This dynamic emerges prominently in the case of Mérida, where INFONAVIT homeowners rely heavily on CONAVI subsidies in order to be able to acquire homes. Such constraints put further pressure on developers to cut corners on housing quality or to build on cheaper lands, with the latter undermining densification requirements and the former reducing the desirability of units, and with both laying the foundation for housing abandonment. As one large developer in Monterrey put it,⁷⁶ “The system itself cannot survive over the long-run (and there will be even more abandonment over the long term if all getting new credits do not stay employed.)”⁷⁷

So again, we see a market disconnect between the supply and demand for new housing, but in this case the gap is driven as much by pressures from INFONAVIT to massively extend credits, despite the changing fiscal profile of its mortgage recipients,

as it is by developer proclivity for mass production of housing. In this environment, we not only see an impasse in social housing production and pushback from developers, we also see that INFONAVIT’s own state Delegates find themselves in the difficult situation of mediating between stakeholders in their jurisdictions, trying to find other ways to meet the mismatch between developer housing costs, consumer mortgage capacity, and credit targets set by INFONAVIT central offices. Some of these problems have and continue to be addressed by the introduction of new programs and incentives. Indeed, in one of our interviews with a state level tripartite representative from the worker sector, it was noted that INFONAVIT is much admired for producing new programs that respond to barriers on the ground. “If there is a problem, INFONAVIT institutes a new program to fix it.”⁷⁸ But he and others have also noted that having a continual evolution of programs introduces uncertainty in the policy environment, which may limit progress on social housing production, and forces delegations to constantly adopt new programs



Vertical housing in Piedra de Agua development in Mérida, Yucatán.

Photo credit: Margaret Scott

and procedures.⁷⁹

The challenge, however, is not merely the uncertainty produced by a shifting policy environment.

The problem is that shifting programs do not always address the main drivers of disconnect: the unrelenting pressure to sell more credits, a pressure built around a demographic metric which does not take into account the peculiarity of the land and consumer markets operating in a given state or city. There of course may be good reasons for INFONAVIT, a federal level agency, to use the aggregated number of *derechohabientes* as a benchmark for credit allocation, including the fact that such a calculation seems transparent and even democratic, thus avoiding complaints of bias or influence peddling in the allocation of credits. Moreover, as an institute operating at the federal level, it is important to have standardized programs and procedures that govern the actions of a mortgage bank seeking to facilitate the production of social housing. Too much variation or flexibility in program design makes it difficult for INFONAVIT to track how well its money is being spent on a national scale, and could raise questions of transparency or corruption.

Even so, it is appropriate to ask whether some of this insistence might owe to overly generalized assumptions about market behavior that may in fact not be true, namely the assumption that if credits are made available locally, they will produce good outcomes if the proper federal programs, policies, and incentives are in place. Evidence from our case studies, however, suggests that such an assumption may not be sufficiently robust to compensate for the lack of local knowledge about consumer and producer dynamics of land and housing markets at the level of the state or even the city. Thus, the dilemma becomes about the scale of decision-making around credit allocation. As a federal level authority, INFONAVIT seeks to treat all Mexican workers equally in terms

of their access to credit. In its role as a highly centralized agency structured to efficiently and comprehensively allocate credits using “one-size-fits-all” criteria, INFONAVIT has neither the institutional nor structural capacity to think about each and every land market in which it operates when it establishes federal-level criterion for housing promotion. But despite the worthiness of these goals, the failure to assess conditions on the ground can actually undermine INFONAVIT’s aims to provide large numbers of credits to a broader swatch of the formal working population, with the latter being part of what is distorting the housing market in the first place.

3.4 Housing as More than a Commodity: Capturing Untapped Potential to Enhance Value Creation

Overall, through our case study research we have documented a variety of disconnects, ambiguities, and contradictions that frequently disrupt the pareto optimality of the housing production system, seen both from the developer perspective and from the vantage point of how INFONAVIT operates as a mortgage bank. As discussed earlier, much of this owes to the fact that both suppliers of the housing stock and suppliers of mortgage credits to purchase those houses are calibrating decisions based on market models in which rates of financial return and a preference for keeping volume high are used as the reference point for establishing programs, structuring incentives, and allocating subsidies to housing production. Additionally, INFONAVIT is challenged by its very mission, aiming to facilitate homeownership for low-income workers, which under the current model, proves exceedingly difficult without heavy subsidization to offset high land prices as well as developer profit margins.

With respect to densification in particular, the complications of the market model have been

amplified by the lack of consensus on what could or should constitute densification, thus introducing considerable tension about how best to achieve such policy goals while also appealing to consumers and local authorities. *But most important, perhaps, the failures in both domains speak to the parallel inability of INFONAVIT and private developers to situate their housing priorities in the context of urbanism, and to link them to building better cities.* More or higher quality houses, including those more skillfully configured to include social amenities or those that respond better to the income constraints of the local population, do not make cities better on their own. Granted, there are pressures to keep housing quantity high to drive growth of the construction industry, which is a source of employment and can help strengthen the national economy. But there can be both acute and diffuse economic losses associated with overproduction of housing, thus calling into question the logic of this argument.

The failure to conceptualize the production of housing in the context of a more purposeful appreciation of urbanism may be a consequence of INFONAVIT's profile and role as a banking institution whose mandate is set by actors and financial logics that prioritize macroeconomic solvency. But as a financial entity and lending agency, its management hierarchy is certainly cognizant of the importance of using money wisely to produce value and generate financial gains rather than losses. And in fact, INFONAVIT is largely bound to this prioritization, given the institution's responsibility to the contributions of workers, and by extension, employers, across the country. The evidence drawn from the case study research suggests that by pursuing overly general market logics and using blunt instruments to incentivize densification, INFONAVIT's lending policies have not contributed to value creation as directly as they could have. Some of our interviewees have even gone so far as to suggest that earlier

housing subsidy programs have inadvertently greased the wheels of value destruction more than value creation, seen in terms of the numbers of abandoned and defaulted homes which themselves contribute to material losses in individual and institutional investments while driving down housing values. But more important, these dynamics have produced an array of negative externalities associated with transformations in land use generated by the mass production of housing, from inadequate infrastructure to environmental degradation to unchecked sprawl. The challenge at hand is to depart from the habit of viewing housing as merely a commodity, and to discover new ways to *utilize housing investments to produce better cities*, thus laying the foundation for more productive forms of urbanization that themselves can feed back on housing investments to generate aggregate value creation.

One way to begin thinking about housing as a key mechanism for value creation is to frame housing location decisions through the lens of infrastructural logics and with attention to the public and private costs of a well-networked urbanism. A commitment to locating housing near existent infrastructure and services, adhering to models such as “transit oriented development” or TOD, will go a long way in alleviating the severe financial strain on municipalities caused by rapid and disorderly urbanization, even as it lays the groundwork for supplanting land values. A number of related strategies are outlined in the partner report, **Revitalizing Places: Improving Housing and Neighborhoods from Block to Metropolis/ *Revitalizando Ciudades: Mejorando Viviendas y Barrios desde la Cuadra a la Metrópolis***. The report addresses the potential for Mexican municipalities to adopt strategic approaches to new development through transportation-oriented development (TOD) or a number of other approaches such as smart growth, new urbanism, green building, or conservation subdivisions.⁸⁰ In the absence of such

measures, one is likely to see urbanization patterns that consume significant amounts of land per capita, and which will generate larger infrastructure installation and maintenance costs in order to extend water, sewage, and electricity networks over long distances so as to reach peripheral and less dense developments. Such patterns are costly, require major public investments, and are as likely to absorb as create new revenue streams, whether emanating from the municipality, state, or federal government. In contrast, planned, compact and well-located housing will reinforce efficient spatial arrangements that, in turn, can reduce initial capital investments in infrastructure as well as operating and maintenance costs. It is in this type of scenario where one can imagine the implementation of a land value capture arrangement, in order to leverage strategic investments to continue to generate revenue and create feasibility for public and private partners alike, including feeding revenue back into INFONAVIT's own operations. For more information on how a land value capture arrangement might work, see **Box 4**.

Box 4: Land Value Capture on Appendix D.

Adopting a focus on territorial efficiency of financial investments can serve as the first step in laying the economic groundwork for wise housing credit allocations, which can be defined as *investments that enhance urban value, not merely housing value*. Urban value is generated when the economic, social, and lifestyle gains associated with investment in housing accrue to the larger neighborhood and even city as a whole, and not merely to the individual buyer or seller of the house. Producing such value requires a willingness and capacity for INFONAVIT to be able to assess the context and location of housing construction in a nuanced way, not merely via overall construction and mortgage costs. It also, however, may require an entirely new way of thinking: not just about urban planning and the relationship between housing and infrastructure, but also about the meaning and role of housing itself, particularly among housing stakeholders in the public and private sector.

With respect to the first issue, those overseeing and managing the financing of housing – whether developers in the private sector, municipalities, or in INFONAVIT itself – must be willing to undertake the necessary steps to reverse the ordering of investment priorities. Rather than giving the green light to more housing and then letting other agencies struggle to ensure investments in transportation and social infrastructure to create livability, stakeholders at all levels, including INFONAVIT, must prioritize housing that connects to infrastructural investments, thus using housing production and supply

to reinforce socially vibrant and well-connected environments that will generate value for all their residents. One way to achieve this is to fundamentally change the way developers, housing construction industry professionals, and INFONAVIT itself thinks about housing. Most housing professionals been trained to consider housing as an *object* – shelter that protects against the elements; a dwelling typology that minimizes construction costs and maximizes user friendliness; or a built form whose materiality embodies a confluence of resource availabilities, design ingenuity, consumer desires, and market dynamics.

Yet it is time to think about the house as a more than just an object. That is, it must be seen for its potential to affect or trigger other valuable aspects of urban life: generating new social arrangements, producing new uses of space, bringing people together, and streamlining access to culture, services, and leisure so as to transform city landscapes in ways that fashion a more vibrant urbanism – thus laying the foundation for the creation of new possibilities for urban value creation. A particularly productive way to achieve this is to evaluate a given housing project in light of its social and economic value activation potential. For good or bad, any housing development will structure the daily lives of its inhabitants, while also establishing the socio-spatial context in which they are isolated or integrated with other city dwellers. By assembling new social configurations through various housing typologies and their particular location, houses do much more than offer shelter. They also affect the social relations that occur in everyday exchanges within a household, a neighborhood, or a city. As INFONAVIT recognizes in their vision and mission statement, housing contributes to national prosperity, supports a worker's family and community, and ultimately serves to ensure quality of life.⁸¹

Improvements to public spaces in the Colonia Polígono 108, developed through the Pintemos México Program.

Photo Credit: Nélida Escobedo



3.5 Taking the Lead in Rethinking Institutions and Sites of Coordination: A New Role for INFONAVIT

By thinking beyond the house as mere object, and by identifying its relationship to and impacts on the exterior worlds around it, INFONAVIT can find new ways to incentivize innovations in housing form and function. Armed with the realization that housing serves as a foundational structuring element in the production of better urbanism and a more vibrant social and economic environment, the task for INFONAVIT is to find new ways to link credits to housing's activation potential. But just as important, it must do so within an action and policy framework that recognizes and acknowledges specificity of place. One-size-fits-all programs will, by their very nature, prevent the close reading of local conditions that are needed in order to activate urban quality of life through investments in social housing.

To date, INFONAVIT has operated under the juridical assumption that the capacities to intervene in local conditions rests in the hands of the municipality, the final arbiter for land use permits. However, because many municipalities lack the skilled professional planning staff to connect permitting decisions about housing to the larger goals of urbanism, many in Mexico have been hoping that other sets of actors will be key in leading the call for both intervening in localities and coordinating such interventions. At present, this is ostensibly the mandate of SEDATU, whose efforts are being reinforced by an array of new agencies with access to federal metropolitan coordinating funds. Our research suggests, however, *that INFONAVIT itself could and should be a more active protagonist in coordinating its own funds to produce better cities and build urban value creation through its credit practices*. Rather than looking elsewhere for coordinating leadership, INFONAVIT can turn inward and build on its own resources in these and other regards. Indeed, there are highly skilled professionals within INFONAVIT in the fields of urban design, architecture, public policy, and planning, who are well aware of the importance of moving beyond housing as shelter, and who are thinking about the goals of using housing to build better cities. For all these reasons, particularly because of the importance of the housing component in activating better urbanism, INFONAVIT is in a privileged position to take the lead in coordinating efforts to build better cities, starting with a focus on housing and its activation potential.

Through fieldwork, the research team became familiar with the work of many INFONAVIT offices, among them the *Dirección General de Sustentabilidad y Técnica*, encompassing other offices such as *Desarrollo Urbano and Calidad de Vivienda*. We saw and heard from many skilled INFONAVIT professionals,

a number of whom sought to advance a broader urban agenda through housing, and many of whom were working to better adapt federal policy to the local level by working closely with state delegations and local stakeholders at the scale of the municipality. Having said this, our research has made clear that this is not the mandate as understood on the ground – whether by the developers or municipalities or even by actors within INFONAVIT. Part of this owed to the fact that many of the innovators of new programs and the leading voices for change still remained in the central Mexico City offices of INFONAVIT.

From the perspective of the city and state level, INFONAVIT is seen to be a highly centralized if not “distant” agency adopting programs and policies with an eye to the volume of housing production in the aggregate and the achievement of housing goals at the national level. Some of this owes to the fact that at the state level, employers, workers, and private developers are understood to be the key stakeholders, and they too see producing more houses (i.e. houses as commodities for consumption) as their main priority. Yet some of this also has to do with failures within INFONAVIT itself to coordinate the volume of its credits in alignment with a better understanding of the differences among the many Mexican cities, a failure which got in the way of using housing to build better urbanism as it is defined by local conditions. This may have as much to do with intra-institutional dynamics, hierarchies, and limitations, than with a failure to understand the importance of such local aims.

Another barrier is the intra-institutional tensions within the agency. Despite the great work by a range of divisions within INFONAVIT central headquarters to deal with urbanism through housing design and investment, their message is not always embraced by the finance and accounting divisions. Complicating matters, at the state level, Delegates are given very little autonomy to introduce alternative urban logics into the conversation that might help them connect credit allocations to building better urbanism. However, this has not stopped all INFONAVIT actors with grounded knowledge of cities to sit by quietly. Our case study research revealed a wide range of practices among Delegates oriented towards carving out room for targeted responses, with some attempting to introduce new initiatives or actively engage with local stakeholders. Although some of the Delegates we interviewed remained in a much more restrained role, it was not entirely clear whether this posture owed to personal proclivities as opposed to the lack of local clamoring for more active involvement, or even to the mandates imposed by the Mexico City offices.

Indeed, many local Delegates themselves expressed a concern with being limited by centralized mandates, owing to the fact that credit and incentive programs as well as housing volume goals are all set centrally at the federal level, where facilitating the consumption of houses as objects remains the principal rationale for lending policy. While delegations are also evaluated on an annual basis regarding their performance across a series of indicators, nearly all of these “areas” or evaluation are directly related to credit allocation or portfolio management, with little room for deviation or prioritization of other projects, for example. Thus the centralized organizational and decision-making structure of INFONAVIT makes it difficult to advocate for building better urbanism through housing at the level of the state.

Again, INFONAVIT’s centralized offices are replete with key personnel who have been charged with thinking more critically about housing design and character so as to create more socially and environmentally appropriate housing typologies,



Community meeting for rehabilitation project in Colonia Primero de Mayo.

Photo credit: David Schoen Parente

and have developed a series of new programs aimed at addressing energy efficiency (such as *Hipoteca Verde*), housing abandonment (such as *Arrendavit*) or public space recuperation (such as *Pintémos Mexico*). INFONAVIT has also been a key partner in coordinating a number of major projects, such as the Primero de Mayo revitalization project in Oaxaca in coordination with *Fundación Hogares* (see **Oaxaca case study in Volume II**), or a pilot high density single family development project in Hermosillo, Sonora in conjunction with TAX Architects and Derex Developers in **Box 2**. Nonetheless, much of the current work in this regard is reactive rather than proactive, focused on retrofit and rehabilitation of the large volume of abandoned housing that threatens to undermine the market value of the housing assets already built by INFONAVIT.

As these important problems are being addressed, INFONAVIT should also be focusing on future investments with the same attention. This is not happening yet because the urban planning and design professionals within INFONAVIT tend to have little interaction with the financing division in terms of negotiating programs and subsidies, or at least this is the impression generated through interviews. At best, the planners and designers are sent in to “clean up” the problems produced by prior investment decisions, and their work is often seen as supplementary, social, or “soft,” rather than financial and bottom-line oriented. Observers within and without INFONAVIT noted that those charged with rethinking the design aspects of housing production continue to be isolated from divisions focused on future financing and revenue streaming, and that among those charged with latter, there was limited understanding about the ways that better design can enable value creation and address the bottom line. Part of this is because the “better urbanism” mandate has been narrowly confined to the house or the block itself, thus limiting the potential to think about larger locational issues,

which are as central as the typology itself to any longer-term success in creating urban value and a more efficient city form.

All this leads back to issue of coordination, and the fact that there are *missed opportunities even within INFONAVIT* as an organization – both internal to its main divisions in the central offices, and between central operations and local INFONAVIT Delegates – to advance the aims of urban value creation by coordinating housing investments with other local priorities for the larger purpose of better city-building. Within the agency’s central offices, this would require building more dialogue about the relations between urban design and value creation of houses, neighborhoods, and cities as whole. The former should not be seen as merely “social work,” but rather as justified by conventional macroeconomic wisdom in an age of globalization, in which strategically employed investments in housing are connected to infrastructure in ways that enhance urban land values and thus generate revenues for municipalities and homeowners. In this scenario, INFONAVIT’s lending activities can be better targeted to create public and private assets.

To achieve these objectives, INFONAVIT could of course focus on a new line of credit or other such generalized programs, such as those focused on incentives for creating public space and organizing neighborhood associations, either with the assistance of *Fundación Hogares* or through other housing programs emanating from INFONAVIT central offices, such as *Hipoteca Verde*, all in ways that hold the potential to increase housing value and produce better housing conditions for *derechohabientes*. But our research has suggested that a principal barrier is the disconnection between programs emanating from central offices and local conditions on the ground. With our case studies, we saw that each of our seven metropolitan areas had very different

market, employment, and housing conditions, and that one-size-fits-all measures undertaken to prioritize building in certain physical locations, i.e. the *perímetros*, do not transfer easily to the ground. As such, more attention should be paid to a modified institutional design for INFONAVIT operations, one which allows the state Delegation to take a more active role in the promotion and development of context-specific programs and coordinated initiatives that are more directly tailored to particular cities and their unique opportunities and constraints. This design suggests that INFONAVIT state Delegates be given a larger role as intermediaries in a networked system in which multiple actors at different scales can be brought together in a common conversation about how to build better, more compact, and more productive cities through strategic housing investments.

Rather than despair at the overwhelming prospect of constitutional reform or other more drastic measures that would change governance dynamics at the local level, we might consider that by more actively involving INFONAVIT state level delegates in coordination, programs emanating from INFONAVIT or other federal agencies can be more carefully aligned with the goals of municipalities, so as to collectively guide local development and achieve desired outcomes in ways that also address federal priorities. Moreover, given the skepticism about the PCUs, the lack of consensus about the value of densification, and the mismatch between market logics and credit subsidies, INFONAVIT can use this new mode of triangulation to introduce an entirely different conceptual framing: that of “urbanistically defensible” social housing. As implied earlier, by urbanistically defensible we mean housing that contributes to quality of life, connectivity, and urban sustainability while also meeting the basic needs of shelter. Such a concept is much broader and more malleable than that of densification *per se*, and thus it could be more readily applied to a wide range of urban contexts to insure that social housing production in a given locality could be used to advance a wide range of important urban planning aims, related but not limited to densification or verticalization.

Federal-level program guidance from INFONAVIT’S central offices in changing this conversation is critical not only because of the value it serves in ensuring equitable outcomes and adequate monitoring across all cities in Mexico, but also because that is where financial resources are aggregated and distributed. But one-size-fits-all credit policies made in central offices cannot be a replacement for local decision-making, if only because all localities are different, and without deep familiarity of a place it is impossible to know in advance what is or is not urbanistically defensible for that specific context.

Moreover, our fieldwork suggests that this flexibility could be well integrated into the intermediate scale through the INFONAVIT delegation itself, with leadership from the Delegate in coordination with other professional staff in planning, finance, sustainable, and technical assistance. Institutionally speaking, the state Delegation is particularly well equipped for this task because these intermediate-level offices have the institutional capacity to channel INFONAVIT's large social mission (which itself is unparalleled in Mexico in its capacity to represent a tripartite structure of voices, to financially lead the housing sector, and to do so in ways consistent with national priorities), but at the same time do so while operating at a level much closer to the ground. Though not always the case, the Delegations often maintain key partnerships not only with the labor and employer sector, but also developers, political leaders, chambers of commerce, and so on. This allows a better understanding of the peculiar market dynamics that problematize housing supply and demand in different cities and regions, and also has the potential to facilitate much more effective, intermediate-level coordination by nature of these partnerships.

More critically, state-level Delegates and their staff have already shown themselves to be well-positioned to serve as institutional intermediaries between municipalities and INFONAVIT's central offices in Mexico City, given the role they play in meeting with and coordinating between employers in the private sector, workers or credit holders, municipal governments, and the government itself, thus serving as an important bridge back up to the federal level. *Activating and reinforcing an intermediate scale of decision-making is critical because it assures that the federal level policy making can be better suited to local level conditions and can better adjust national policies to assure that local housing needs and priorities for sustainable urbanism are addressed and accommodated.* This is especially important when considering whether and how housing investments can better align with local economic development priorities and thus bolster labor productivity. Particularly in metropolitan areas where an “overlap” of priorities is not taking place organically, an actor with flexibility and funding at the intermediate scale, such as the INFONAVIT state delegate, could play a crucial role in balancing the centralized and decentralized power tensions separating federal and municipal authorities.

Notes

75 Ugarte 2013.

76 Note: For this version of the report and per Harvard IRB regulations, the names of interviewees are not identified but instead referenced by title.

77 Fieldwork Interview, Monterrey, Mexico. July 2015.

78 Fieldwork Interview, Monterrey, México, 2015.

79 Ibid.

80 Forsyth et al 2016.

81 INFONAVIT 2016.



SECTION 4

**YOU ARE THE CHANGE YOU WANT:
TOWARDS AN URBAN VALUE CREATION
PLATFORM**



Photo Credit: Nélida Escobedo



Altos Cortijo development in
downtown Guadalajara.
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SECTION 4 - YOU ARE THE CHANGE YOU WANT: TOWARDS AN URBAN VALUE CREATION PLATFORM

In this final section, we build on our prior discussion to propose a new institutional design for INFONAVIT, one that places state-level Delegates in the center of a new “platform” intended to change the way credits are allocated to housing projects. Several examples already emerged during fieldwork that demonstrate the extent to which the state-level INFONAVIT Delegate could be better leveraged as an intermediate level actor, coordinating and negotiating with actors across scales of decision-making. In Mérida, for example, the Yucatecan State Delegate effectively negotiated with the private and public sector, including the state government, to mitigate the obstacles presented by subsidy unavailability for low-income credit holders in Yucatán. In Guadalajara, Jalisco, the delegation’s technical capacity, particularly through their Sustainability Office, has made it possible to coordinate with a diversity of different actors, exemplified in their recent collaboration with IMSS to construct new clinics in underserved large-scale social housing developments. Building on this and other insights, we suggest that a reconfigured role for the INFONAVIT delegation will help insure that federal policies align within the operating cultural logics of local markets and territories, thus addressing the uncertainty and opposition to densification that often commands and disrupts the urban development agenda oriented around sustainable and well-located housing production.

Because any major institutional change could be organizationally disruptive if adopted wholesale, we suggest beginning with a pilot project, built around a new decision-making structure tied to a pot of undesignated mortgage funds intended to foster experimentation in using housing to create urban value.⁸² We use the concept of a platform because we envision a program whose value rests in its capacity to work across sectors and the various scales of INFONAVIT as well as to function as a site for deliberation and discussion.

But we also want to evoke the basic organizing structure of the computer, for which the platform is both the hardware that comprises a principal operating system and a metaphor for determining a range of software, or targeted programs, that can be layered into its hardware operations in to address new, emergent, or specialized needs.

In offering this proposal, we take a cue from emerging institutional models for bringing actors together around urban development. One such example is the Rockefeller Foundation’s 100 Resilient Cities initiative, through which the foundation supports cities in their efforts to develop a “resilience roadmap.” In order to be selected, cities have to demonstrate innovative leadership, “a recent catalyst for change, a history of building partnerships, and an ability to work with a wide range of stakeholders,” underscoring the importance of leadership and partnerships as part of the resilience framework.⁸³ This is particularly relevant now, as the initiative is working with four Mexican cities (Colima, Juárez, Guadalajara, and Mexico City) among its “100 resilient cities.”⁸⁴ Another even more local example is the recent work of the León, Guanajuato “Housing Cluster” or *cluster de vivienda*, which brings together diverse stakeholders to generate new and better housing solutions in the state. As of August 2016, it was announced that the cluster will receive support from ONU-Habitat in its efforts toward operating as a development agency or *agencia de desarrollo*.⁸⁵ As these efforts gain traction and recognition, it is only logical that a federal agency such as INFONAVIT could take the lead in institutionalizing this type of efforts in their work across the country, not just creating more visibility for INFONAVIT’s mission but also to continue strengthening vertical lines of communication between the institute and local stakeholders, even as horizontal relationships continue to strengthen through partnerships, clusters, and platforms. These efforts all represent excellent precedent examples of the application of pilot projects

and new approaches to urban development, covered in greater detail in **Box 5**.

Box 5: Pilot Projects in Urban Development, in Appendix D.

Called the *Urban Value Creation Platform*, or UVC Platform, we envision this new undertaking as providing a format, funds, policy guidelines, and leadership for a limited number of strategically placed local initiatives intended to produce “urbanistically defensible” social housing projects that can contribute to the building of more livable, sustainable, and well-structured cities in Mexico. The Platform can be understood as an organizational structure for convening actors (building on the definition of a platform as a “place, means, or opportunity for public expression of opinion”) or more conceptually, as a reflection of the need to engage actors at multiple scales and with wide-ranging interest in the formulation of a common social housing agenda (with platform here defined as “a formal declaration of the principles on which a group makes its appeal to the public”).⁸⁶ It is through this type of cross-sector, inter-disciplinary convening that innovative approaches can emerge.

With this platform, the aims of creating urban value, rather than an overly generalized and rote commitment to densification, will be a guiding principle. Because the Platform would be programmatically integrated within INFONAVIT so as to connect local Delegates to each other and to sectorial representatives in headquarters, it would enable and indeed embody a new mode of coordination. Its overarching goal would be to encourage and support local innovation in connecting social housing production to urban value creation, and do so by making funding available for innovative projects approved by state INFONAVIT delegations and supported by city-level partnerships with the

private sector, local and state authorities, and civil society. Our proposal for an Urban Value Creation Platform is rooted in a belief that the knowledge held by local INFONAVIT delegations and their network of stakeholders at the level of the city can be more nuanced than that of bureaucrats who work with highly aggregated data and general theories about how land markets, subsidies, and fiscal incentives work. As illustrated in the case studies outlined in the accompanying Volume II, the social housing and urban development challenges facing municipalities and regions across Mexico are diverse and complex, consistent mainly in their dependence on a specific local context. Given this complexity, our research suggests that these challenges can best be confronted not only by a powerful policy response, as we have already seen with federal initiatives during the current administration, but also through a more deliberate employment of local knowledge and strategic coordination guided from the intermediate scale, at the level of the state delegation.

To strengthen the housing market and develop viable urbanism across the country, purposeful actions with a deep knowledge of market conditions and a commitment to sustained positive urban outcomes are necessary. So too is the capacity to make decisions at scales larger than the municipality but smaller than the federal government. Given the social mission of INFONAVIT, the sheer volume of housing produced through housing credits, and the operation of INFONAVIT delegations at the state level, INFONAVIT is uniquely poised to use its institutional capacities at the level of the state to work productively to spearhead transformative urban projects through strategic partnerships with local actors who are equally committed to a long term vision for urban development. It will generate and implement these projects through the operations of the Urban Value Creation Platform.

More specifically, the proposed platform will enable INFONAVIT delegations to engage more directly with stakeholders and work collaboratively on local or regional housing projects to better fulfill INFONAVIT's mission of improved quality of life for Mexican workers while also aligning with the national policy goals for sustainable and dense urban growth. Though fieldwork has revealed some examples of successful coordination and well-located social housing, these instances are infrequent and inconsistent, thereby underscoring the difficulty of achieving such coordination without outside assistance. In response to such constraints, the platform seeks to create incentives, facilitated through funding from INFONAVIT, which can bring a wider range of actors together to invest time, resources, and political will into the selection and implementation of transformative projects. The rationale for these projects will be their long-term impacts on urban value creation, justified through each project's capacity to envision social housing as a proactive investment in city

building rather than a byproduct.

In doing so, we believe that urban assets will multiply, not only with respect to the gains accruing to the individual homeowner or to the private developer, but also for the neighborhood, municipality, region, and society as a whole – not to mention for INFONAVIT itself, which would be well advised to structure its investment in projects that could serve as sources of medium to long-term revenue generation that can feed back as expendable platform funds capable of supporting future projects, and possibly even as a source of financial return to private developers who may have undertaken financial risk to participate in the Urban Value Creation Platform, much along the logic of the “social bonds” being piloted in Brazilian urban development circles. For more information on impact investing, including social impact bonds, see **Box 6**. The UVC Platform, as it heretofore will be called, envisions housing not as an object or end in and of itself, but rather as a subject and a collaborative effort between civil society and the public and private sector, capable of transforming urban areas in positive ways from the level of household up to the territory.

Box 6: Impact Investing, Social Bonds, and Innovative Financing to Addressing the Housing Deficit, in Appendix D.

The UVC Platform outlined here is not intended to be a complete “shovel-ready” program as much as a proposal between the Harvard research team and INFONAVIT to advance new forms of coordination. To institutionalize such a proposal will require further conversation, first within INFONAVIT, and then further at potential participating INFONAVIT delegations or in possible sites of intervention. It is our belief that the idea of mounting the UVC Platform, even as a pilot, would complement and help advance current research on new planning strategies for densification (outlined in the accompanying

report on planning guidelines, “Revitalizing Cities: Improving Housing and Neighborhoods from Block to Metropolis”). In its design, the UVC Platform responds to the challenges and opportunities our team has witnessed and documented through the fieldwork and studio work, and provides an alternative way of addressing some of the most serious obstacles to the production of dense social housing and more livable cities.

4.1 Urban Value Creation and Innovations in Urban Governance

Over the last three years of research and studio work, we have sought input from local actors in the public and private sector in our case study cities, as well as within INFONAVIT and other federal agencies, in order to address the possibilities and pitfalls associated with moving this proposal forward to the stage of action. In all these discussions, the rationale for the UVC Platform owes not just to its capacities to convene groups of stakeholders with knowledge of specific urban conditions, but also to move beyond the rigid, one-size-fits-all approach to social housing. In recent decades, researchers and policymakers alike have emphasized the need for greater flexibility in institutions, particularly in governments, in order to facilitate creativity and create better outcomes at the community level. Indeed, flexibility to tailor policies that work at the local level has been argued to be one clear benefit of decentralization, enabling more diversified participation and effective governance.⁸⁷ Experts also emphasize the need to establish the ability to experiment in order to encourage breakthrough innovation, not only through adaptations of technology but also in types of service or business models.⁸⁸ For urban development, these adaptations might crop up in the form of pilot projects (See **Box 5: Pilot Projects in Urban Development**), or in innovative approaches, such as social impact bonds (See **Box 6: Impact Investing, Social Bonds,**

and Innovative Financing to Addressing the Housing Deficit) or even land value capture (See **Box 4: Land Value Capture**). This type of flexibility and experimentation is facilitated in part by a more focused emphasis on inter-organizational collaboration or collaborative governance, in which more actors across the public and private sector are involved in order to address complex challenges more effectively, particularly those whose complexity requires more input and ingenuity in problem solving.⁸⁹

Box 4: Land Value Capture on Appendix D.

A particularly useful model is the Problem Driven Iterative Approach (PDIA) developed by Andrews, Pritchett & Woolcock, which promotes a governance approach that, as the name suggests, identifies and defines problems first, rather than immediately reacting with generalized solutions. This is facilitated through “broad engagement” with local actors to ensure that problems are “locally-defined,” rather than determined externally or through a top-down approach.⁹⁰ Through this process, the approach broadens the field to a wider range of local actors. By engaging with more stakeholders, the approach ultimately strengthens organizational capacity and institutional capability, and represents a more effective way of bringing about needed change.⁹¹

In this context, the UVC Platform represents an opportunity to experiment with extending the scalar flexibility of a federal agency so as to strategically circumscribe its reach and have greater impact at the local level. The creation of the UVC Platform offers a chance to experiment with programs and pilot



Housing developments in
Aguascalientes.
Photo credit: Fernando Granados

them in the confines of targeted interventions. With such actions, INFONAVIT delegates and delegations can lead a convening process that produces catalytic housing projects designed for particular cities, in partnership with public and private actors. A key element of this approach, then, is to emphasize *projects* as much as policies – or even planning – as the means by which a city can be built better, step by step. It is our hope that the embrace of flexibility and a focus on urban value creation through strategic social housing projects that are identified by multiple stakeholders with a strong grasp of conditions on the ground will encourage citizens and professionals to reconsider their assessment of the Institute as a limited, standalone federal level agency, and instead approach the Institute in the future with ideas for integrating more social and financial innovation into the process of housing production and transformative urban development, thus helping to institutionalize this type of catalytic investment.

In the last several years, agencies across the Mexican federal government have worked to create a broad range of policies and programs to promote densification, namely with the enactment of the *perímetros* PCU and verticalization policies. The UVC Platform looks to build on and from the contributions of these programs by responding to one of their principal criticisms: a lack of engagement with local level conditions. As previously addressed with regard to the urban containment perimeters (PCUs), federal policies frequently require revision or reformulation in order to properly respond to local challenges or constraints. As such, the UVCP proposes to reconfigure the policymaking environment through an approach that begins by convening actors at the local level, whether municipal, metropolitan, or state, with a transformative project proposal, and works closely with the federal government to access resources, offer support, and monitor and evaluate success. This type of approach helps to avoid the “planning trap” observed across the fieldwork case studies, in which even the most progressive or innovative plans, in this case for densification, often face significant political opposition or fragmented governance and remain as plans rather than implemented projects or developments.

As the title indicates, the UVC Platform privileges urbanism, and focuses on housing as a means, rather than simply an ends, for producing the kinds of sustainable and dense urbanism that can create value for homeowners and metropolitan areas alike. It has two key advantages in this regard. **One**, it has its own fiscal resources, an issue which gives it authority and capacity to follow through on its coordinating aims, as well as a direct mandate to serve the interests of the workers who contribute those very funds. **Second**, by

virtue of its engagement with the housing question as a main institutional objective, INFONAVIT holds a privileged role in the building and strengthening of urbanism. While infrastructure, jobs, and services may be key to establishing efficient and utilitarian cities, few would deny that the home (or household) is the location from which most social relations emanate. Ultimately, housing is key to urbanism and urbanization as well as local and national economic prosperity. Having said this, it is incumbent on INFONAVIT to acknowledge that housing is a subject, rather than merely an object. Transcending this divide will help producers, financiers, and even consumers of housing recognize that housing is more than a commodity. Through the UVC Platform, INFONAVIT can take the lead in articulating the role that housing plays in producing a more vibrant social and economic environment.

The UVC Platform also builds on several existing housing models in which INFONAVIT already participates. One example is the *Desarrollos Certificados* (DC), or Certified Developments program, in which INFONAVIT is one of several partnering federal agencies. The DCs are operated through the *Sociedad Hipotecaria Federal* (SHF) and aim to promote compact urban development, orderly urban planning, and intra-urban redensification through the financing of housing projects that incorporate social housing (minimum of 40% social housing required in every development).⁹² The DC program is directed primarily at developers, and offers a set of incentives, such as revolving bridge loans, to help finance the housing production process.⁹³ Though laudable in the aim to promote compact, mixed-income developments through coordination across levels of government and between the public and private sector, the DCs have fallen short of their goals for several reasons, whether because of the frequently cited difficulty of the application process, their location in peri-urban rather than intra-urban

areas, the expectation that DCs are expected to be led by qualified developers and may ultimately be exclusive to new developers or investors who are interested in entering the social housing market, or in the inconsistent review of eligible projects and limited federal funding availability. The shortcomings of the DC program are also documented in **Box 7: Desarrollos Certificados**, as well as in the case study of both Mérida and Tijuana, both sites that have seen the implementation of DC designated developments with mixed success. Nonetheless, the DC is an immensely useful model from which to build and mold the proposed UVC Platform, and demonstrates an important precedent for federal level collaboration for local level transformation. With this legacy already in place, the UVC Platform can bring a new set of expectations to federal competitions and initiatives that address housing and development. The UVC platform will do so by focusing not only on a single dimension, such as sustainable technology, or innovative architecture, but rather on the achievement of better urbanism through housing projects in which multiple elements that contribute to urban value creation are considered, and in which an even greater diversity of stakeholders participate, lead, and invest.

Box 7: Desarrollos Certificados

Another precedent example is the *Premio Vivienda Sustentable* (PVS), or Sustainable Housing Award, an annual competition previously organized by INFONAVIT through the *Foro Internacional de Vivienda Sustentable* (Sustainable Housing Forum). The PVS encourages architectural designs for housing developments that offer a “better quality of life and value” for residents.⁹⁴ The objectives set out by the PVS are an excellent precedent for the type of vision that a federal competition can advance, such as “expansion of value for families,” “integrated housing solutions that consider infrastructure,” or to “disseminate creative practices for density and

location.”⁹⁵ Logistically, we see that the UVCP could align well with the FIVS and PVS, and could potentially be presented and awarded along the same timeline in order to create more publicity and awareness around the project platform, and build on the focus of the PVS on architecture, by introducing a competition that also privileges urbanism and urban value as a key objective. Notably, in both of these competitions outlined briefly above, there is an emphasis on “qualitative evaluation” of housing, acknowledging the extent to which housing production has been evaluated in terms of quantity, or levels of production, across the country. Building on these frameworks and objectives, the UVCP would introduce a competition that combines these aims with a clear focus on institutional capacity building and collaborative governance, aiming to use project proposals as a stepping point to greater coordination around housing and urban development for years to come.

More than current programs at INFONAVIT, the UVC Platform is inspired by our own understanding of how INFONAVIT delegations function and what they can and cannot do at present. With fieldwork

conducted in seven case studies across the country, we have come to know and interact closely with several INFONAVIT Delegates and delegations. Their willingness to support our research team and to openly discuss the local challenges that they have encountered has been an enormous contribution to the project. We value the commitments and insights of the Delegates and their supporting staff, and work under the assumption that their taking a deep interest in our research, coupled with their support for data requests and assistance in numerous other ways, shows their capacity to see that things could be better. It also suggests that they have cultivated a grounded understanding of what is working and what is not, perhaps even in ways that the Institute’s central offices are not. As such, beyond logistical support, the Delegates and their staff also offered deep insight into the workings of a relatively centralized federal level agency that is seeking to be relevant at a much more decentralized, local level. In this regard, some have suggested that there may be considerable room for improvement. As we indicated in the case study descriptions, interviewees within state-level INFONAVIT offices have often suggested that they sensed a lack of political will emanating from the



Municipal services office in the Piedra de Agua development. Mérida, Yucatán.

Photo credit: Nélida Escobedo

center, particularly with respect to working with state or municipal leaders; or that they were overwhelmed by the number of programs and policies put into place by the central offices; or that they felt consistently burdened by the pressures to ensure that the number of credits allocated are meeting or exceeding institutional goals. Interviews with individuals outside of INFONAVIT similarly expressed disappointment that the Institute was all too rarely involved in urban infill projects, or very infrequently collaborates with other private or public leaders to align credit allocation with other large scale urban development projects.

In spite of these challenges, our research team also has seen promise in the vision and social and political capital of the INFONAVIT Delegates and delegation offices as key actors in the housing production process, particularly in Monterrey and Guadalajara but also in other cities. Above and beyond the key administrative functions that INFONAVIT delegations fulfill through credit allocation to workers across the state, we believe strongly that the delegation can be a critical arbitrator and convener of multiple stakeholders in the housing field beyond merely private developers and mortgage holders, and could assemble an important and potentially much more expansive set of stakeholders who operate at the intermediate scale between the federal government and any given municipality. The UVC Platform would strengthen the delegation's capacities in this regard. The aim of such convening functions would be to open up the social housing field to stakeholders beyond housing consumers or producers (homeowners or developers) but additionally to nonprofit organizations working on housing rehabilitation, community groups with neighborhood plans, universities conducting research on urban design and mobility issues in social housing developments, architects and urban designers with design proposals, transportation policymakers, private investors with an interest in social investment or innovative financing mechanisms, and so on. The research has been critical in identifying possible additional stakeholders, and many are identified in the summary briefs included for each for the seven cases (**See Section 2.1: Densification Progress across Case Studies**).

4.2 A Project-Based Framework for Urban Value Creation: An Outline for Future Development

In building a Platform that redistributes significant capacities and coordinating functions to state-level delegates, who will play a major role in leveraging context-specific knowledge of local stakeholders to help to ensure that mortgage credits are applied to the production of dense, sustainable, and value-creating social housing production, several short and long-term commitments must guide the design of its operations and long-term objectives. They are articulated below in the form of generalized ethics and principles that will guide the activities and establish the administrative and investment goals of the platform.

The **Mission** of the UVC Platform is to produce a series of housing-related investment projects that will multiply assets and create urban value on a variety of stakeholder scales, from individual homeowners and private developers to residents of the neighborhood and the city as a whole. To be funded or approved, projects would be expected to generate advances in one or more of the following metrics, so as to ensure that each project generated “urbanistically defensible” housing that contributed to a more networked, vibrant, sustainable, and economically dynamic urban environment:

1. **Access:** Projects funded through the platform should enhance access to existing economic opportunities, public services, and social networks within the larger urban context. Because these important resources help improve quality of life, social housing investments should take into account the ways that adequate siting and existing mobility can ease access.
2. **Integration:** Projects funded through the platform should seek to reverse patterns of socio-spatial exclusion that stigmatize consumers of social housing and that frequently isolate the socioeconomic classes within these developments from the basic services, networks, and social relations that enhance quality of life and create urban value. This would include recognition of the importance of including retail and commercial uses within residential communities, as well as the value of juxtaposing various household types (single, elderly, nuclear) within the same community.
3. **Activation:** Projects funded through the platform should treat the home as more than a shelter or sellable commodity, and seek new ways to use housing to enhance urban quality of life for individual residents and the larger community. In addition to the base line services already required for all

mortgage credits (sewage, water, electricity), projects should acknowledge the important role that neighbors, schools, hospitals, shopping centers, community activities, and recreation spaces play in providing social capital, and site or design housing projects that enable or address these priorities.

4. Collective Goods: Projects funded through the platform should seek to benefit the urban population at large, and not merely its residents. Although this goal can be achieved by the three prior metrics, any given housing project holds the potential to enable or constrain a city's overall sustainability, particularly in terms of its form and function. Social housing should seek to maximize the creation of urban value for everyone in the city.

As implied by the metrics above, the defining ethos of the UVC Platform is to place urban value creation and individual as well as community asset building at the centerpiece of future social housing credit allocations. A driving principle behind the platform is that everyone involved in the housing landscape should be committed to enhancing urban value, whether understood in terms of individual property values, overall land values, or non-market assets that produce livability and create value in cities. In our view, this is an objective that fully aligns with the larger institutional goals of INFONAVIT, which strives to optimize “the generation of value for workers, their families and their communities.”⁹⁶ In recent years, INFONAVIT has frequently evaluated its success in terms measurable by standard financial instruments (credits placed, returns on mortgages, etc.). The UVC Platform would expand that definition of value creation, seeking to support housing projects that not only enhance investment and real estate value, but that also create social, political, environmental and cultural capital in ways that add assets and enhance value, thus feeding back on property and land values originally leveraged through initial housing

investments. While social, cultural, and environmental value creation is not as easily measurable by traditional financial means, it nonetheless has real implications for quality of life, livability and finally, economic prosperity.

Our fieldwork has demonstrated that if a wide range of urban assets is not produced through a given housing investment, a host of negative economic consequences follow. For instance, compare the economic potential of a peripheral neighborhood that is empty all day, or that hosts high rates of abandonment, to that with a socially vibrant neighborhood with services, connectivity, and social activities. Independent of its mortgage returns, properties in the latter will always have higher economic value because of the numerous positive externalities associated with living in a healthy, vibrant urban space. Building on such insights, our platform would diversify INFONAVIT's portfolio to include innovative, locally crafted projects that maximize value-creation in a wide range of ways, avoiding the “group think” informed by a single mortgage repayment metric. Instead, projects would be designed and supported with a view to their potential to incorporate diverse conceptions of value in project formulation. We believe these types of projects are the most likely to be successfully implemented and eventually create the highest value for the city.

With respect to implementation, the operational and administrative principles of the UVC Platform are also central to positive outcomes. Our fieldwork has made it abundantly clear that the most successful examples of inter- or intra-institutional coordination in the service of denser and more sustainable social housing have been more likely to materialize when a specific, tangible, and collectively discussed project is at stake. Projects, not abstract plans, hold the best potential to bring actors together behind a set

of concrete principles. Projects are also more likely than comprehensive plans or general policies to be productively adapted to the local context in ways that advance sustainability and densification goals while also accommodating market specificities of place, and may be able to embody in tangible form the aims of an overall plan, helping to create forward momentum for its adoption. And projects, as a rule, are capable of generating more excitement and can motivate more design, implementation, and financing creativity than one-size-fits-all mandates, whether seen in the form of urban plans (*planes parciales*), zoning codes, general policy rubrics, credit metrics, or financing strategies emanating from the central offices of INFONAVIT. One of the reasons to involve local INFONAVIT delegates in the operation of the UVC Platform is to enable a more “boutique” or innovative approach to urban value creation through social housing, something that can only be done through partnerships focused around individual projects, not a mass housing production mentality.

Building on these observations, we propose the following guiding principles as the bedrock of an operational, administrative, and implementation process through which projects are formulated:

1. Selection of projects and appropriate sites must involve the participation of multiple actors in both the public and private sector, in ways that *build trust, conversation, and networks across diverse sectors*.
2. Local stakeholders, facilitated by INFONAVIT delegations, must be given the *opportunity to articulate their own views of what social housing should provide*, in ways that help direct the project elaboration process and define the priority outcomes of the project.
3. Discussion and debate over social housing goals must follow a process that contributes to *citizen and professional knowledge creation* about urbanism and

most particularly, with respect to the relationship between housing, mobility, urban form, environmental degradation, energy consumption, the trade-offs between quantity and quality, the responsibility of the consumer to protect individual and collective assets, and other pressing concerns that have emerged in the context of rapid urbanization. By sharing, examining, and critiquing a wide range of proposals and projects, actors in the housing field across the country and in a given locale will benefit from exposure to new ideas, strategies, and examples.

4. Projects must be developed under the premise that there is a *shared responsibility* among all protagonists with respect to the city. Successful projects will seek to maximize the co-benefits for urban inhabitants, not just individual sectors or actors, with decisions made under conditions of transparency.

Ultimately, this multi-faceted operational process can be seen as an end itself, as well as a means for the development of projects that produce urbanistically dynamic housing. It is designed to move past a singular preoccupation with the production of housing as a tangible object and towards the production of a series of related “intangibles” that will have long-lasting impact on future city-building processes.

With a buildable social housing project as its centerpiece, the UVC Platform will make possible a common conversation in which public, private, and civil society actors can share their divergent experiences, define a collective problem, and foster a sense of shared responsibility. In the longer view, such conversations are essential for ensuring that project proposals satisfy real urban needs, that they can encourage a culture of innovation and experimentation in social housing development in the long term, and that they guarantee local buy-in for project implementation. Such projects might include innovative financing mechanisms, such as social innovation bonds, urban district incentives, public

private partnerships, new forms of land tenure (like community land trusts), cadaster upgrading initiatives (for more information on the possibilities of cadaster upgrading, see **Box 8**), and mixed income or mixed use projects that are attractive for a wider range of investors (retail/light industrial).

Box 8: Cadaster Upgrading, in Appendix D.

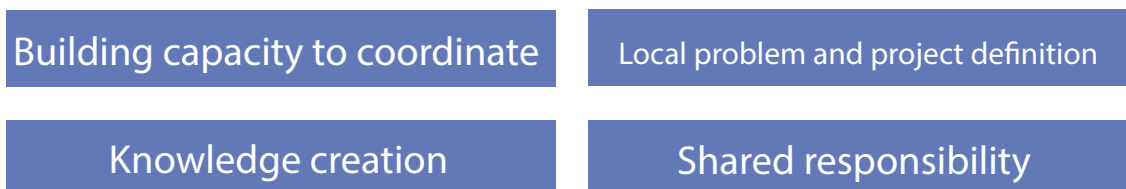
Such possibilities would only be placed on the table for discussion if considerations beyond per unit cost were the motivating metric for housing construction and credit allocation. Such a broadening of the mandate to include a variety of forms of urban value creation through social housing also holds the potential to incentivize NGOs and other non-profit or low-profit actors and institutions who might be able to undertake co-responsibility for certain projects, thus reducing overall costs while attending to the needs of some of the most marginalized populations in a particular city.

4.3 Beyond Urban Value Creation and Towards Capacity Building

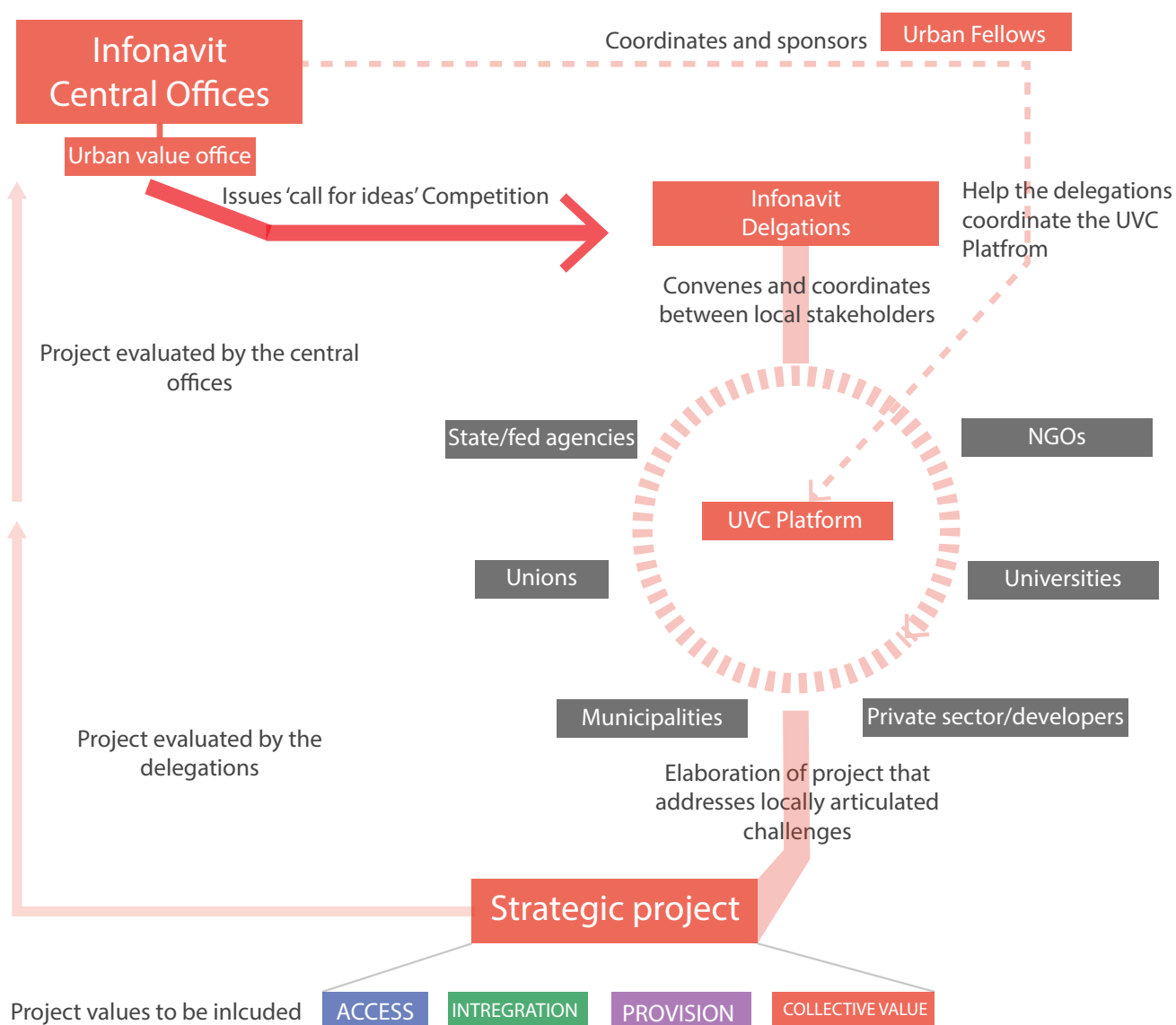
In order to carry forward this pilot project, we recommend a steering committee within INFONAVIT whose purpose will be to integrate the aforementioned elements in a single UVC Platform. Membership should involve representatives from the different divisions within central headquarters, but all with the operational capacity to discuss, approve, and advance projects at the local level must be distributed downward and equally shared with state delegates. To begin its activities, funding would need to come from the operational funds from within INFONAVIT. In the medium and long-term, however, the idea would be that financial support for Platform projects could eventually become a revolving fund, in which revenues generated from successful projects, calculated on the basis of value capture or other ways of tapping into value creation, could be channeled back to the fund, and then used for financing new projects later on. In addition to mounting the UVC Platform operations, we propose the mounting of a UVC Fellowship Program, drawing interns or recently graduated housing, planning, design, and finance professionals into the activities of the Platform spread across the state delegate offices (**See Box 9: Fellowship Programs for precedents for this program**). They could serve as evaluators on projects, advisors to stakeholders, and/or mediators of Platform-sponsored conversations around problem definition and project implementation. As a cadre of young professionals, the UVC Fellows would serve as a repository of site-specific knowledge created from

Figure 4.1 UVC Platform Operational Metrics for Assessing State Conditions.

Platform principles



UVC Platform Process



the experience of developing projects in the “*Muchos Méxicos*” across the nation.

Box 9: Fellowship Programs, in Appendix D.

The UVC Fellows program could be modeled after numerous schemes across the world in which young, talented professionals are invited to advance innovative programmatic initiatives in government offices (See **Box 9** for examples of federal and state level fellowship programs in other countries). After a competitive and rigorous selection process, fellows would be trained and hired to work alongside state delegations to formulate projects aligned with the mission and processes of the UVC Platform. Their contributions to the delegations would be twofold: the placement of a full time facilitator whose role would be to incubate the participation of all stakeholders in the housing landscape in the development of inclusive and locally-relevant projects; and the appointment of a highly trained professional capable of assisting local actors in project implementation once a concept has been finalized. Moreover, the fellowship could be seen as a training ground for the next generation of urban professionals working in Mexico and thus an additional contribution that INFONAVIT would make to fortifying institutional capacity at the local level.

Although seed funding should ideally be made available to delegations across every state to initiate stakeholder engagement, project development, and the naming of UVC Fellows in their respective cities, not every project proposal would be accepted for funding. Only those projects that are truly exemplary, both in terms of stated urban value creation and an inclusive process would be granted the resources to move forward to implementation. Following the example of FIVS, we imagine that projects would be eliminated or selected on the basis of a rigorous regional or national competition that would serve to

bring prestige to INFONAVIT and the UVC Platform, with the larger aim to increase the quality of the proposals. All projects would go through a “Platform review process,” vetted by the steering committee and other invited professionals. In order to guarantee a fair and equitable selection process, as well as enable the selection of projects that are likely to be both implementable and maximize value-creation, we believe the following principles should drive project selection.

Projects should be selected on the basis of:

- Mixed-criteria, avoiding predetermined formulas that are likely to lead to projects that look successful to judges but that are unlikely to have the desired results.⁹⁷ This means that quantifiable value should be supplemented with qualitative evaluations of value. This will increase the final robustness of the selection process.
- The relative value they are likely to create, not merely the absolute value created. This will help distribute projects equitably across the country and not privilege larger urban areas.
- Significant contributions to process as much as stated outcomes. Focusing on process in project development and selection of winning proposals is important to ensure that the outcomes reflect the diverse needs of urban communities.
- A diverse pool of judges that would integrate government officials, regional experts, private sector actors, local stakeholders, and professionals in planning, design, finance, and the law. This composition will assure that varied definitions of “value” and local knowledge drive project selection, and that projects are legally sound.

In the end, the competition is an important gatekeeping mechanism allowing the approval of only those projects that are likely to create urban value, and that benefit a wide range of stakeholders. But it also affords an opportunity to connect project evaluation, selection, and monitoring projects to a larger discussion of federal priorities and how they can be realized at the local level through targeted interventions. The following diagrams explain conceptually and visually, the principles and process of the UVC Platform.

Once projects are approved, there will need to be periodic monitoring and evaluation in order to track the progress of selected projects. The protocol for the evaluation of projects will need to be rigorous and flexible, able to measure the differentiated impact trajectories that site-specific projects are sure to have. To sidestep the potential for isomorphic mimicry, evaluation and monitoring should make mixed-methods the standard when designing metrics to assess project success.⁹⁸ This will protect project design from being tailored to speak to the implicit assumptions of a particular methodology, and instead incentivize the conception of projects that have real impact. It will also work to make sure that important questions about barriers to implementation and enablers of progress enter the evaluation process, which can then provide important lessons for future projects. In short, a driving principle of evaluation and monitoring protocols should be as Woolcock et al so powerfully articulate, that “the policy problem must generate the methodological response, not the other way around, just as the available policy/project “solutions” should not determine which projects are addressed.”⁹⁹



Infill housing development in Guadalajara.

Photo credit: Margaret Scott

Just as with the selection process, the specifics of monitoring systems will need to be designed with the advice of INFONAVIT functionaries to ensure their feasibility and the existent organizational structure of operations. Nonetheless, when this occurs, care should be taken to avoid the common pitfalls of making evaluation an end unto itself, instead making assessments a means to the production of defensible and relevant generators of urban value.

4.4 How to Get the Change You Want

In this final section, we move beyond the mere idea of the UVC Platform and begin thinking proactively about implementation. To do so will require addressing foreseeable political obstacles and proactively incorporating a response to them. It also will require a deeper understanding of the logistical challenges associated with establishing such a platform. This means paying attention to the procedural dynamics through which Platform activities unfold, being clearer about the institutional array of actors at the state-level that must be involved in order to legitimize the Platform's operations, and working to develop metrics for use in the formulation and evaluation of target projects. Together, these accommodations can help bridge the gap between the Platform's aspirations and its day-to-day functions.

Although prior discussion of the benefits of the UVC Platform built on the assumption that state-level INFONAVIT delegates needed to become more directly involved in guiding credits towards urbanistically defensible social housing, this section begins by recognizing the hypothetical problems or range of objections that could emerge if state delegates were in fact given this new responsibility. To the extent that state level delegates play a more active role in insuring that credits are allocated according to priorities established in the Platform, programmatic guidelines that until now have emanated from the federal level will gradually be devolved down to subnational governing bodies and local stakeholders, thus giving more power and responsibility to an array of subnational actors and institutions. The complications of doing so are three-fold.

First, empowering INFONAVIT's state-level delegates could potentially put already-disadvantaged regions at greater risk, due to their lack of capacity to leverage local knowledge and resources. Second, while proponents of decentralization argue that proximity to local actors will increase accountability, transparency, and participation, devolution of decision-making power from central government offices to state delegados could encourage

rent-seeking behaviors and ultimately exacerbate corruption, either on the part of the delegate or other local actors with undue influence. It might also cause tensions between state delegados and the INFONAVIT headquarters in Mexico City, particularly but not primarily as reflected in conflicts between the operations and the finance divisions. Lastly, if the UVC platform is indeed successful in facilitating coordination at the scale of the city, its activities may end up working in parallel or at cross-purposes with existing or longstanding institutions and programs crafted at higher rungs of government, either the state or federal level. In addition to producing turf-battles and organizational tensions, the need to coordinate with so many other agencies might potentially increase the administrative burdens of state delegados as they seek to advance the Platform mandates.

But all these concerns can be managed. With respect to regional inequality and disadvantage, let us not forget that such conditions are likely to be the consequence of the ways the housing credit allocation system currently operates. As it stands, Mexico's federal housing policies and guidelines are implemented through a one-size-fits all scheme that fails to address the unique circumstances facing states and local municipalities, serving some cities better than other. Strengthening the delegado's position and establishing a set of longer-term priorities and well-articulated guidelines will help address the short-term negative externalities (as experienced by particular states) that a one-size-fits all model fails to address. With respect to the question of corruption or influence-peddling that could be associated with devolving power to the state delegado, there are several ways to push back -- despite the fact that it is difficult to guarantee complete transparency in any situation where substantial revenues are involved, as is the case with subsidies to developers and residents through the credit allocation system. First and foremost, we should not forget that there already exists a system of checks and balances associated with the tripartite structure of representation within INFONAVIT, and the involvement of employer, labor, and government representatives at the state level will help insure accountability and transparency of the Platform's activities. Yet there also are several other ways to minimize undue influence resulting from a delegado's enhanced capacities to direct credit allocations towards certain projects. One is embodied in the proposal to link Platform operation to deliberations over a few high profile pilot projects, meaning that only a fraction of total credits allocated at the state level would be reserved to fund Platform-led projects. Another is reflected in our recommendation to mount a national juried competition to determine to which projects would be funded. A juried competition will also help eliminate tensions between central headquarters and local branches of INFONAVIT,

since representatives from both would be involved in juried project approval alongside spokespersons from industry, academia, and other high-profile professional organizations. Just as important, however, will be the necessity of establishing clear rules for participation, deliberation, and accountability within the operations of the Platform, including the use of metrics to justify support for any proposed new housing investments, whether pilot projects, juried projects, or otherwise. This latter issue is discussed shortly.

Finally, with respect to increased administrative burdens, it should be noted that one of the main objectives of the Platform is precisely to convene and engage actors and institutions both horizontally (from the municipality to the city to the metro area) and vertically (from the city to state to federal levels), precisely because lack of coordination among different agencies and actors has been identified by INFONAVIT as a problem. As such, if the Platform is indeed successful in bringing these different parties together, there may inevitably be some administrative messiness. Even so, if Platform operations are embedded in a system of checks and balances for project selection, this should help guarantee that the Platform will advance value-creating housing decisions that reflect local conditions and also respond to the articulated needs of residents. Such benefits should outweigh any added costs from bureaucratic overlap and administrative complexity produced by bringing multiple local and national stakeholders to the Platform to deliberate.

All this further suggests that to insure positive outcomes, the operations of the UVC Platform must be spelled out in greater detail, particularly with respect to its functioning as a site for the development and dissemination of research as well as a venue for deliberation among stakeholders. Staff involved with Platform activities must be prepared to analyze and synthesize information on how local, state, and federal

policies and guidelines have affected urbanization, infrastructural investments, and housing production across the various localities in a given state. In turn, UVC Platform members will use this documentation to help focus their deliberations on potential sites and locations to be prioritized.

4.4.1 Institutional Design and Operational Dynamics of the UVC Platform

The operational effectiveness of the Platform relies on the establishment of reciprocities between the *delegado* and a wide variety of actors. With the direct involvement personnel assigned to the state *delegado*'s office through the “Urban Fellows” program, the *delegado* must develop relationships that: 1) bring the needs of various towns, cities, and regions to the decision-making process as a way of understanding what is missing from housing developments in those areas; 2) grasp the complexities of the housing market and how developers wish to allocate their financial resources; and 3) create a conversation around “urbanism” and not merely housing, using this discussion as a basis for prioritizing the distribution of mortgage credits in particular cities and across regions of the state. To achieve the latter aim, the *delegado* must be prepared to work closely with Universities and other non-governmental organizations that help civil society express their views. The *delegado* will also insure that private sector actors committed to the ideals of value creation in the built and social environment are organizationally represented in the Platform. Most obviously, the *delegado* will also need to work closely with CANADEVI (National Chamber of the Industry of Development and Promotion of Housing) or other organizations of real estate developers that work at the state level, as well as with SHF, so as to keep open the lines of communication about the availability of credits from financing institutions (such

as SOFOLES).

Finally, the state *delegado* will involve representatives from various municipal and state agencies to the discussion, particularly those involved in infrastructure, public works, social development, and urban planning (including IMPLAN or other metropolitan coordination agencies where they exist). Being able to navigate across the various territories of the state, and to prioritize certain areas for housing investment, is particularly critical to the success of the UVC platform. It should not be assumed that all social housing priorities or opportunities are located in the largest urban areas of a state. Rather, the *delegado* and Platform members must be willing and able to understand both state-wide and city-specific housing conditions, and to involve stakeholders who have knowledge of the entire state territory. Although there is a tendency to rely on actors who represent the housing industry because many have already conducted market assessments of available properties and the excess of land reserves, it is important to balance their views of housing opportunities the needs of civil society. There exist few opportunities for civil society advocates to become involved in discussions around housing needs in a setting where developers and local authorities are also present. The Platform can remedy this problem.

To insure the achievement of these goals, we recommend that each state delegate follow a four-step process to initiate and guide the activities of the UVC Platform.

1. Pre-convening Data Collection Phase: During this stage, the state delegate's office will identify the condition of housing, urban infrastructure, population growth, and employment so as to project local trends on future land use and land values. In addition to documenting the current housing supply and demand trends, vacancy rates, and the housing deficit, incorporating data on demographic and social development indices as well as marginalization rates is essential. During this phase, it is important that the state *delegado* will have developed sufficient information so that members of the Platform will be able to identify and discuss areas of potential interest for future credit allocation by INFONAVIT, based on the criteria of need, affordability, and contribution to urban value creation – with the definition of the latter to be debated within the Platform. Moreover, this pre-analysis will serve as the basis for inviting members to the Platform, as it will help establish which are the priority cities and regions within the state. Lists of Platform members will be distributed and vetted at INFONAVIT central offices.

2. Discussion Phase: This phase begins with open discussion among invited Platform members, with the initial meetings focused on new strategies for allocating INFONAVIT credits on both city and state levels. Once convened, deliberation will revolve around establishing priorities for typologies that are most logical for particular areas (and vice-versa), as well as a discussion of the importance of locational attributes of housing investment so as to synergize investment with value creation. The objective is to generate a consensus on how to maximize the value-added to the city of more strategic investment in housing in particular projects or areas. In the process of identifying these priority areas, different stakeholders will share their preferences and discuss how they can focus available resources on areas that represent potentially better housing development. With the mediation of the state *delegado*, representatives from government, private enterprise and civil society will produce on a general strategy for future housing investments that will benefit everyone. Independent of which projects are selected, this mere commitment to open discussion about value-creation, trade-offs, and the relationship between housing location and better urbanism will build capacity among citizens and governing authorities, provide new knowledge for strategic urban planning, and open lines of communication among the producers and consumers of social housing.

3. Strategic Planning Phase: Once general housing investment priorities are established, Platform members must identify a list of 10-20 potential sites or projects that merit support. Criterion should include their contributions to the state's overall social housing deficit, their capacities to enhance better urbanism and create urban value, their strategic location with respect to infrastructure, and/or their identification as tactical "opportunities" -- such as the possibility that there may be a particular infill site available or a location in which other agencies have already invested

or targeted a particular population for servicing or community support. The selection process should also prioritize sites for social housing based on the capacity of INFONAVIT and actors of the Platform to actively support or invest in them, as well in accordance with the principles of Access, Integration, Activation and Collective Goods production noted in the previous section

To accomplish these goals during deliberations within the Platform, the following questions will be helpful:

- a. What areas in the cities or towns (across the state) have the greatest needs in housing? While this question may be very general, its aim is to push Platform members to identify locations within particular cities, in certain metropolitan area, or in certain regions where the need for social housing is important, either because of a deficit or potential new demand (as with the location of a new factory or other main source of employment).
- b. What local opportunities, conditions, or priorities would be most likely to unite different stakeholders around new social housing investments? Might certain urban locations or neighborhoods be more likely to a larger number of supporters behind a social housing project? This two-fold question requires a prioritization of sites as well as project typologies; and once any such priority is identified, the conversation should shift to whether and why different actors within the UVC platform might be willing to coordinate and cooperate to achieve better housing investments in the region.
- c. What are the tangible short and long-term benefits for citizens and cities of better cooperation at state or regional level? Once consensus on areas and projects for prioritization is established, the benefits of consensus should be openly stated. That discussion should revolve around the challenges of

urbanization and the trade-offs between building better cities and building more housing, as well as the understanding of how and why cooperation benefits the public good.

d. Where are the sites where investments in social housing will generate most value for individual homeowners as opposed to a larger community or even the city as a whole? It is important that the UVC platform prepare a ranking of sites based on these and other questions about value creation, and that there is open discussion about what constitutes value and for whom. To do so, a standardized system of assessment criterion can be helpful. For example, projects can be assessed in a point system that captures such issues as: a site's location near public transport systems; accessibility to major sources of employment; nearness to economic and commercial centers or schools, health centers, and parks. [A list of potential metrics for use in this assessment process is provided in Tables 1 and 2].

4. Post-Deliberation Phase: Upon completing the prior checklists and producing a list of finalized projects for consideration, the state *delegado* will provide a roster of recommendations to INFONAVIT headquarters. If indeed the above described suggestion of holding an Open Competition to pilot projects is under way, the roster of recommended projects will be assessed by a national jury, with the articulated projects and their potential contributions to urban value creation discussed in comparison to those submitted by other states. A process of dialogue between the state delegate and other divisions at INFONAVIT headquarters may help facilitate the allocation of housing loans in areas that have been identified as priorities, even if the projects are not selected for pilot funding.

4.4.2 Strategic Accountability Measures

The success of the UVC platform will depend on several things. First and foremost is the credibility of the *delegado* and how well the process of deliberation and Platform operations were managed at the state level. To guarantee legitimacy, the *delegado* must be seen as having adequately addressed the institutional and political dynamics within and across the state and its localities, and as having involved a sufficiently wide array of stakeholders in selection of projects. The state delegate must show a concerted effort to integrate multiple actors in a realistic way. In areas with multiple municipalities, either statewide or within metropolitan areas, initial discussions could take place in several regional subcommittees so as to be more representative of all participants. Second, the degree of reciprocity and

trust between the state *delegado* and INFONAVIT headquarters also matters. Local stakeholders in the UVC Platform must feel that their activities are not in vain, and that the *delegado* will be an effective advocate for their projects among higher authorities. Likewise, the *delegado* must feel that INFONAVIT central offices are truly committed to the idea of devolving some decision-making powers to the Platform, at least for a limited number of pilot projects. Third, the entire process must have accountability measures strategically deployed at every step, and this where metrics play an absolutely crucial role.

Metrics that are generated for discussion within the UVC platform will allow the *delegado* to understand where and why the one-size-fits-all model is not working, and where housing needs remain unmet, information which will keep the *delegado* accountable to citizens and developers within his state. Furthermore, metrics can help bring objectivity to the decision-making process within the UVC Platform, particularly if they can help inform discussions of trade-offs that will help Platform members decide among projects for prioritization. When made public, quantitative measures, geospatial representations, or compiled indices of such factors as accessibility, infrastructural access, rates of abandonment, employment, and other related factors associated with certain locations in the city will also help keep discussions of the housing question neutral and transparent, rather than dominated by certain interest groups who may be advocating for a certain site. Given the size of Mexico and the variation in conditions across its cities and regions, INFONAVIT headquarters may not have the capacity to develop or engage in such detailed analysis on a state-by-state level. But the local *delegado*, in conjunction with the Platform, can more easily do so. The use of metrics at the state level also provides a basis for transparency and accountability between state and federal offices of

INFONAVIT, because using quantitative measure to justify project selection allow a ready understanding of why those projects are being advanced.

Last but not least, the use of metrics in project identification will help establish a tangible basis around which INFONAVIT can actively forge cooperative relationships with federal financing agencies such as FONHAPO and CORETT, and with federal social and planning agencies such as CONAVI and SEDATU. To the extent that as part of its procedural operations the UVC Platform will have already collected and utilized a wide range of data and metrics to target locations and populations most at need for social housing in each state and its urban regions, it can then use this information to solicit supplementary federal resources from the above agencies, allowing them to build on work done by the Platform that aligns with their own institutional goals. In this sense, the Platform will itself embody the coordination aims that all federal agencies have identified as necessary, but it does so by using bottom-up deliberations emanating from local stakeholders as a basis for proposing projects that federal authorities can sign onto, rather than vice-versa, as has normally been the case. This is the best way to counter-act the limitations of one-size fits all strategies, and the best way to actually achieve the coordination ambitions that everyone wants.

Table 4.2 UVC Platform Operational Metrics for Assessing State Conditions.

Metropolitan Level	
Metric	Purpose
Accessibility to Public Transit	Identifies whether proposed housing development projects will be physically isolated or inaccessible to public transit.
Pedestrian Accessibility	Identifies existing pedestrian sidewalks and bike lanes surrounding a proposed development project
Access to Metropolitan Economic Centers	Identifies how well connected the proposed development project is to urban amenities and services
Access to Local Economic Centers	Identifies whether proposed housing development projects are walkable to local economic centers
Access to Basic Educational Services	Identifies whether a proposed housing development project has educational services, the total amount of services it does have, and addresses the amount of services it would have to provide if built.
Health Care and Social Assistance Services	Identifies whether a proposed housing development project is able to provide health care and social assistance services in a given area
Cultural and Sporting recreation services and other recreational services	Identifies whether a proposed housing development project has cultural and recreation services
Degree of informal housing settlements	Measures how the proposed housing development project is able to help decrease the housing deficit within the proposed community by providing new units for different economic strata
Access to Potential areas with jobs	Measures the degree of accessibility of the neighborhood to urban centers that offer jobs
Neighborhood Density	Measures the population density of the neighborhood of a proposed housing development project
Neighborhood Diversity Index	Measures the diversity in land uses within the neighborhood and how the proposed housing development project would impact the community
Neighborhood Population Distribution	Measures the lack of affordable, senior, family or single-person family homes within the community of a proposed site
Access to Open and Public Spaces	Measures public and green spaces within the neighborhood of a proposed site
Neighborhood Marginalization Index	Identifies the amount of services a proposed housing development project would create in a given community

Table 4.1 UVC Platform Operational Metrics for Assessing Conditions at the Metropolitan Level. [N.B. Data should be collected for all municipalities that comprise a metropolitan area, so as to help target opportunistic sites with the larger urban area.]

State Level	
Metric	Purpose
Historical Housing Deficit and Tendencies	Identifies regional and metropolitan areas that have historically suffered from housing deficits, so as to put equity of service provision issues on the table for discussion
Housing Abandonment Rate	Identifies areas with high rates of abandonment so as to jumpstart a conversation about whether credits should be used to recuperate losses from previous investments or target new areas for value creation
Historical Distribution of Budget of Social and Public infrastructure	Identifies areas that have sufficient social and public infrastructure to benefit from further urban development
Historical Distribution of INFON-AVIT credit allocations and Tendencies	Helps identify inequalities in previous housing credit allocations so as to put previous decision-making biases on the table
Percentage of Total population in metropolitan, urban or rural agglomerations and Population Growth Rate	Measures the population concentration within a state and its growth rate, so as to project future areas of growing demand
Index of Migration and Tendencies	Identifies migration dynamics at the regional, state, and intra-state level to better allocate housing credits
Index of Marginalization and Tendencies	Identifies areas of historical social and economic marginalization that potentially need further investment
Historical Birth Rate	To avoid housing deficit and "hacinamiento", housing allocation should consider where population is constantly growing; thus, measuring where population is growing the fastest
Index of Social Progress	Measures education levels, life quality and income of specific areas for the purposes of identifying areas of social capital formation
Historic annual Ratio of Affordable Housing units built inside PC1, PC2 and PC3 over the total number of Affordable Housing units in the city	Identifies the policy dynamics of housing construction within a city, to establish geographic biases of prior housing decisions

Notes

- 82 The value of pilot projects is widely recognized across public policy research, including those focused on urban development. In the recently emerging research from the Transforming Urban Transport (TUT) project at the Harvard Graduate School of Design, through the Volvo Research and Education Fund (VREF), the value of pilot projects is proven paramount across a series of case studies, with research directed by PI Prof. Diane Davis (TUT-POL 2016).
- 83 100 Resilient Cities 2016.
- 84 Ibid.
- 85 CINU 2016.
- 86 Definitions of a platform include: “horizontal surface raised about the level of an adjacent area,” or a “stage for public speaking,” or a “place, means, or opportunity for public expression of opinion,” or even a formal declaration of the principles on which a group makes its appeal to the public.” For further definitions, see <http://www.thefreedictionary.com/platform>.
- 87 Research from the Brookings Institute, for example, argues that partnerships are a key component of decentralization, noting that “partnerships among government, the private sector, and civil society organizations are becoming an increasingly popular form of decentralization.” See Shabbir Cheema and Rondinelli 2007, 14.
- 88 Sahni et al 2013.
- 89 Borins 2014, 9.
- 90 Andrews et al 2012, 9.
- 91 Andrews et al 2012, 16.
- 92 SHF 2015.
- 93 SHF 2013.
- 94 INFONAVIT 2014.
- 95 INFONAVIT 2015.
- 96 INFONAVIT 2015.
- 97 Andrews et al, 2012 refer to this as “isomorphic mimicry.”
- 98 Bamberger et al 2010.
- 99 Woolcock et al 2009.



SECTION 5

Conclusion



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SECTION 5 – CONCLUSION

It is our hope that the UVC Platform will provide a unique opportunity for INFONAVIT to rethink how to use its considerable resources, influence, and privileged institutional role in social housing production to better serve *derechohabientes*, their cities, and the agency's financial bottom line. By soliciting and enabling support for context-specific social housing projects that envision shelter not as an object conceived through a mass production mentality, but rather as a stimulus for assembling healthier neighborhoods and constructing more efficiently organized cities, INFONAVIT's financial resources can change urban landscapes for the better. The UVC Platform builds its mission around INFONAVIT's founding principles as a financial institution intended to serve Mexican workers, employers, and the country as a whole. But the platform elevates this aim by bringing the mission more in line with recent challenges associated with rapid and sprawling urbanization by promoting the use of a wider range of metrics to ensure that urban value creation impacts become central to its mortgage programs.

Just as importantly, the UVC Platform allows a means to challenge the one-size-fits-all mentality of prior program development without undermining the role of INFONAVIT as a guiding institution. It does so by enabling more purposeful engagement with a variety of local stakeholders, mediated by INFONAVIT state delegates who will serve a key role in coordinating and convening conversations about how and where subsidies and credit for social housing can be more productively invested. Through its coordinating activities, the Platform will increase the likelihood that mortgage credit support for social housing will be spent to create assets for both the individual homeowner and the larger urban environment. If the Platform works as conceived, such investments can be leveraged in ways that also bring medium-term returns back to INFONAVIT, both ensuring financial solvency and even

making funds available for future projects.

The institutional redesign embodied in this proposal finds its origins and rationale in the case study fieldwork undertaken by the Governance team. In first identifying the larger political and economic conditions in Mexico, detailed in Section 1, and then highlighting the barriers and enablers to densification, as detailed in Sections 2 and 3, it became clear that different cities operated under different dynamics, and that the same subsidy programs did not produce the same results in all cities, owing to a range of context-specific conditions including local governance traditions, prior housing investments, differing definitions of densification, and the extent to which local authorities shared the same densification priorities as INFONAVIT. This first motivated the concern with moving beyond one-size-fits-all programs. Our research team also discovered that the ideal of coordination among key stakeholders was rarely met, owing not just to the unwillingness of local governing authorities to think about the larger territorial context in which social housing investments should be located, but also because of the institutional disconnect between local actors and the more centralized federal agencies that offered the resources and programmatic guidelines to foster densification.

Just as significantly, we found that opportunities for connecting authorities and resources at different scales of governance (local, metropolitan, state, and national) behind densification aims were differentially distributed across various cities, depending on the number of municipalities operating in the metropolitan area and whether metropolitan coordinating agencies even existed, among other factors. And even in those few cities able to rely on formally established territorial coordinating agencies, the capacities to bring stakeholders together behind densification aims were limited, owing in no small part to the absence of fiscal resources

and incentives to do so, as well as the number of municipalities involved. Because of this, progress on coordination between social housing investments and larger territorial planning aims owed primarily to ad hoc or informal negotiation among key actors, which was easier in cities with a small number of municipalities (both absolutely and relatively). Such findings not only strengthened our resolve to find ways to better incentivize a more structured coordination process, without having to turn to constitutional or juridical reform, it also convinced us that such coordinating capacity should be actively operating at an intermediate scale of territorial decision-making, situated somewhere in-between the local and the federal. In turn, this intermediate-level coordination should be able to convene and coordinate conversations among stakeholders at all governance scales, in ways that allow a leveraging of federal, state, and local initiatives and resources that can address specific forces and conditions operating in each metropolitan environment to strengthen urban assets and create individual and collective value.

In light of this, the UVC Platform offers a unique institutional opportunity to make such coordination aims real, and to put them into practice at least in pilot form. INFONAVIT already has state delegates who work at the intermediate scale straddling local and federal concerns; it has the resources to incentivize conversations and inspire creativity around new housing projects specifically geared to fit local urban conditions; and it has a larger financial interest in insuring that its mortgage credit programs will create urban value, because through such investments the basic fundamentals of the national economy are strengthened. With the Platform, which is structured less as a hierarchical decision-making body and more as a convening assemblage informed by a set of principles, INFONAVIT can overcome the typical challenges facing broader coordination efforts intended to bring all actors and sectors together across

a vast territory, such as those confronting a metropolitan planning institute, and move forward with support for tactical projects that broker coordination through targeted incentives and strategic collaboration. This project-based strategy aims to create momentum for value-generative approaches to housing development that serve to benefit a broader constituency and can propel a more innovative and self-sustaining model for production into the future.

Above and beyond the heretofore discussed benefits of the UVC Platform, now is the right moment for such an institutional innovation. For one thing, in recent years debates over federalism in Mexico have been heating up, such that there are heated discussions about which decisions should be made locally (either at the municipality or the state) and nationally. Without having to enter the treacherous territory of changing the Constitution, the Platform allows a new conversation across all these levels, strengthening the democratic calls for bringing decision-making closer to the ground while also keeping connection to and mediated oversight from the national scale. For another, because the recent macroeconomic crisis finds some of its roots in massive over-urbanization, paying attention to strategic investments in targeted locations at the level of the city – something that will be possible through the UVC Platform activities – will take Mexico a long way in reversing the economic, social, and environmental problems associated with overbuilding and sprawl. It will also provide a positive and productive response to critics who have raised questions over who gains and who loses from federal social housing programs and investments, offering opportunities for local stakeholders to be involved in such decisions more actively, thus taking more ownership of such



Infill housing development in Guadalajara.

Photo credit: Margaret Scott

decisions.

Internal to INFONAVIT, the time is also right for considering a change in operations. Important steps have already been taken to shift the focus from building housing to building better housing environments, primarily through the work focused on renovating or recovering abandoned housing. Many current programs also are adopting an expanded notion of housing by offering special credits to social housing projects that incorporate green spaces, are close to public amenities, and incorporate some of the elements discussed above. But INFONAVIT needs to take the next step in scale, and begin to shift its attention from houses to microenvironments, cities, and the connections between. Bolstered by the UVC Platform, INFONAVIT can and must be bolder in tying support for mortgage credits to housing projects that advance other urban development aims. And this will require bringing more voices into the production and location of social housing, so that financing decisions respond to an array of value-creating priorities. No longer should conversations about social housing take place only with input from builders, architects, and financiers. To move beyond the house itself, multiple others with an interest in urban conditions can be part of the conversation. And the Platform will bring those voices together in the proposal, evaluation, and implementation of targeted projects for strategically identified sites.

The idea of producing a Platform that leverages different urban voices towards the achievement of common aims is already becoming standard practice in a range of cities around the world. The Rockefeller Foundation's 100 Resilient Cities initiative, introduced earlier, in which selected cities are supported through technical assistance including a Chief Resilience Officer (CRO), has already made this a best practice in institutional design. The job of the CRO is to bring agencies together that have been

bureaucratically separated, and that frequently do not speak to each other despite working in the same territorial domain and despite share a common interest in making cities function better and more sustainably. The UVC Platform brings a similar an objective into a single agency, INFONAVIT, but with the added advantage of the backing of a federal level agency with independent resources, something that a CRO lacks. With mortgage credits as tangible incentives, INFONAVIT will be even better placed to take a leading role in breaking down the silos within and between the large number of horizontal and vertically-organized agencies already tasked with city building. By placing housing at the center of such discussions, INFONAVIT can both meet and transform its historical mandate, continuing to serve the nation and its peoples in ways that are much more appropriate and effective for contemporary times.

APPENDICES





CENTRO SOCIAL
ESTERNO VAL CULLEN

Photo Credit: Ann Forsyth

APPENDIX A

A BRIEF INTRODUCTION TO SOCIAL HOUSING IN MEXICO: UNDERSTANDING THE CHALLENGES TO SUSTAINABLE URBAN DEVELOPMENT

Given the importance of INFONAVIT as a major housing entity at the national level in Mexico, it is difficult to discuss the institute's work without also addressing the policy changes and political shifts that have affected INFONAVIT over the years, as well as the broader context of the housing sector in Mexico. Addressing housing affordability and building public and social housing is a human rights issue and national policy concern globally, and Mexico has been no exception to this rule. Middle-income nations like Mexico particular struggle mightily with this task, often grappling with the scales of governance and policy approaches through which this challenge is most appropriately addressed. Through the 20th and into the 21st century, Mexico has been a globally recognized leader in addressing social housing; yet it also has seen its policy approaches change dramatically over the years. Mexico has been faced with a range of complex conditions, ranging from high rates of informality, a long history of over-urbanization, or high land costs that present grave barriers to achieving stable housing or homeownership for low-income families.¹⁰⁰ At the same time, rapid urbanization has exacerbated Mexico's housing deficit, poverty conditions, and general lack of basic services, all creating incredible pressures for leaders at all levels of government. This challenge is well summarized in research by UN-Habitat: "This rapid growth situation simultaneously creates a weak infrastructure for providing services and an overall lack of resources. Difficulties to be dealt with include: providing acceptable living conditions, shortages of physical space for continued urban development, and an inability for governmental institutions to properly maintain sustainable living conditions."¹⁰¹

While the national government introduced direct state production of housing in the 1960s and 1970s, including multi-family developments financed by INFONAVIT, the model was ultimately replaced by a neoliberal paradigm in the 1990s and onward in which private developers built housing with state subsidy. This shift away from state production of housing toward public financing of private development for social housing is a common pattern seen globally, and in Mexico this mirrored the processes of decentralization experienced during the 1990s with the passage of the Article 115 (*Artículo*

115) constitutional amendment, granting significantly greater governing decision-making power to municipalities at the local level. The reality of decentralized decision-making power is one that has had a significant impact on urban development across Mexico. It is no coincidence that as social housing production was relegated to publically financed private development, and as decision-making around urbanization plans and land use approvals fell formally to local policymakers rather than state or federal oversight, urbanization in Mexico's metropolitan areas grew exponentially, often in the form of sprawling, low-density social housing developments.

Challenges of governability are key to understanding the housing market in Mexico, as municipalities are the ultimate authority in land use and urban development decisions. With high levels of informality, rapid urbanization, and few sources of municipal revenue, municipal governments are greatly challenged in their ability to fulfill their obligations for service provision, creating a cycle in which homeowners continue to evade taxes, and municipalities continue to operate without the resources necessary to improve living conditions for residents. As the emergence of the Article 115 suggests, governing in Mexico has moved along a spectrum between centralization and decentralization. As governance in Mexico in the last several decades has given powers to lower scales, empowering the municipality to make land use decisions, and the state to make regional plans, this has ultimately led to a fragmentation of authority in which states and municipalities rarely align urban development priorities.

Research by the Mexican Institute for Competitiveness (IMCO) notes that for many years there existed an “implicit decentralization” in territorial planning, even before SEDATU, the

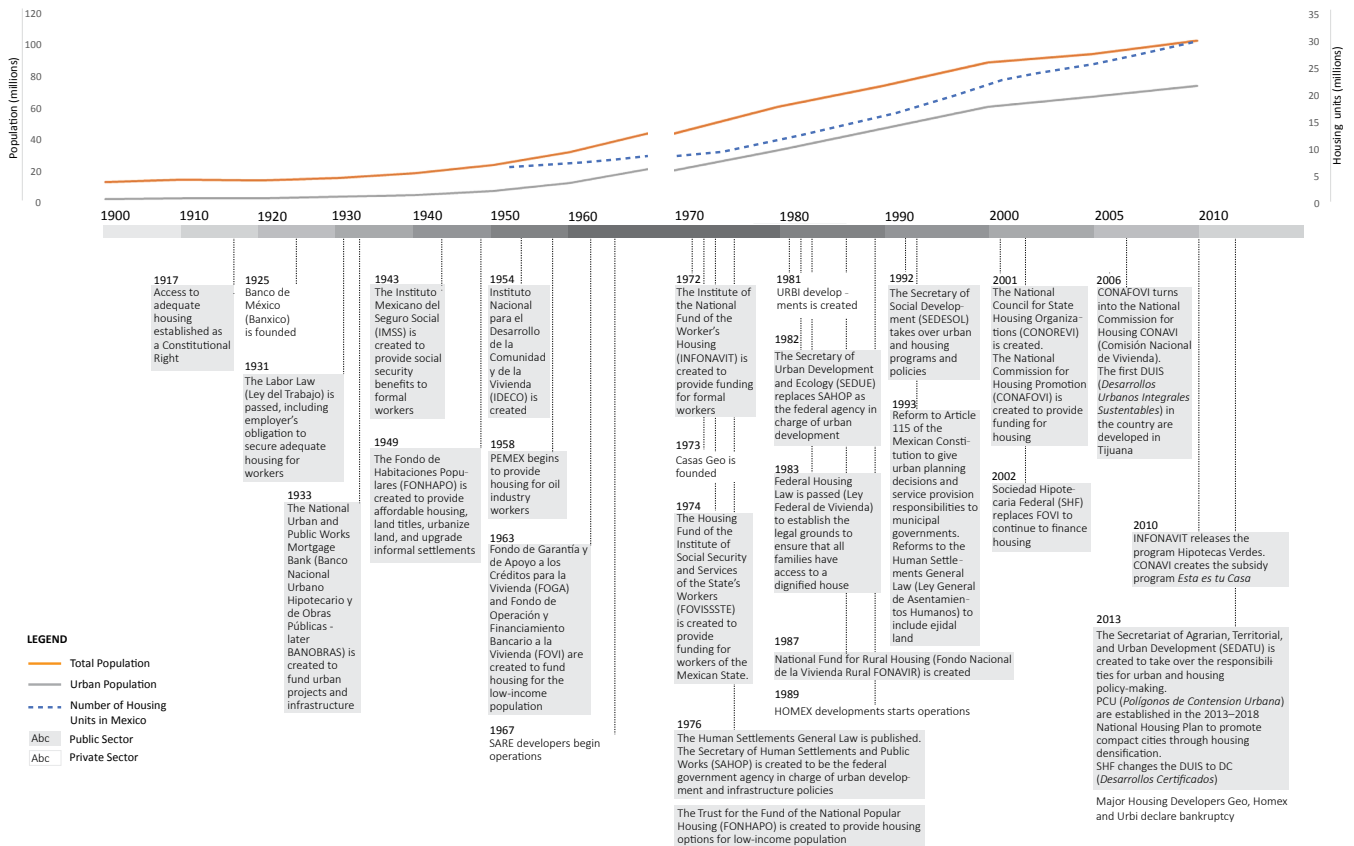
federal secretary for rural, territorial, and urban planning, was created as a federal entity, in which the states most commonly took on the responsibility for regional land use planning.¹⁰² The clear transition to decentralization in Mexico took place following the 1983 reform of Article 115 of the Constitution (*Artículo 115 Constitucional*) in which the federal government's role reverted to an “assistentialist,” rather than strategic approach.¹⁰³ At which point, particularly following the 1992 reform of Article 27 (*Artículo 27 Constitucional*) we see the increasing tendency of communal or ecological lands converted to buildable land for development. This transition aligned with the country's most rapid period of urbanization, thus exacerbating the challenges facing municipalities, in which they had significant greater control and responsibility (via land use planning, construction permitting, and long range planning), but very few resources with which to invest in their cities.¹⁰⁴ Although Mexican states and municipalities now control nearly half of all public expenditures, a great contrast from years prior to the reform, they are nonetheless still heavily dependent on “discretionary transfers,” thus greatly limiting their ability to be independent in their long-term policymaking and planning efforts.¹⁰⁵ Analysts of federalism in Mexico more generally note that “subnational autonomy” is greatly weakened by earmarked federal funds, and a general dependence on federal funds.¹⁰⁶ This so-called “weakness” is often what drives municipalities to accept new developments, frequently in the form of low-density, peripheral social housing developments, eager for the licensing and construction fees collected from developers.

Against this backdrop of decentralized municipal governance, Mexico has seen some efforts toward metropolitan coordination, in an attempt to strengthen decision-making across municipalities and better control rapid urban growth. Though instances of metropolitan governance and planning do indeed

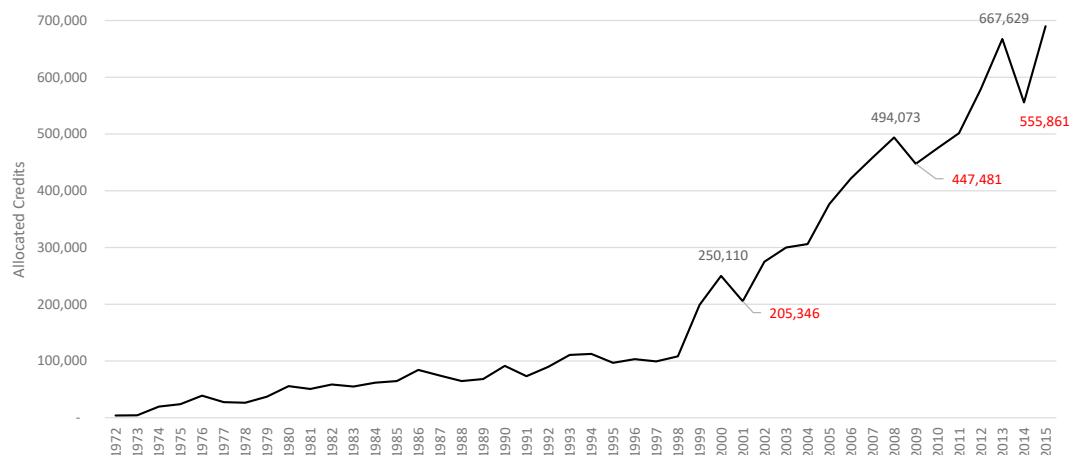
exist through metropolitan planning institutes or the *Fondo Metropolitano*, federal funding stream, these efforts are sparse and generally underfunded. Metropolitan institutes have tended to be unstable in their sustainability over time, and the *Fondo Metropolitano*, though administered by law, is ultimately wrought by low levels of funding, high levels of discretion, unclear priorities in the decision making process, minimal consideration for territorial planning, and has instead been utilized for automobile-oriented infrastructure projects that may in turn impel more peripheral growth.¹⁰⁷ Despite salient examples such as the recently established Metropolitan Planning Institute (IMEPLAN) in Guadalajara, Jalisco, there is very little precedent, whether in governing bodies or legislation, to guide this type of institutional framework. In their analysis on metropolitan governance across Mexico, Spink et al. emphasize that there are few mentions of metropolitan areas or cities in the constitution, thus complicating the process of defining or understanding metropolitan governance at the national level. Furthermore, Spink et al. argue that the “strength of metro governance is greatly linked to the political will of the participating states and municipalities,” reiterating the reality that the effectiveness of decentralization and local urban governance has a great deal to do with the local conditions that foster necessary “political will.”¹⁰⁸ The challenge of any discussion on governance, of course, is the difficulty of measuring the success of certain measures, with little quantitative evidence to align with claims of successes or failures. IMCO echoes this argument, noting that “unfortunately, at present, there is little evidence that can be utilized to evaluate the question of if a city has an IMPLAN helps to assure better territorial governance, or not.”¹⁰⁹

Nonetheless, major institutes such as INFONAVIT, as a “public sector intermediary in the housing credit market,” ultimately serve an important role in coordinating between the public and private sector in

the housing sector, even without formal coordinating bodies dedicated to territorial governance.¹¹⁰ With varying degrees of involvement, the private sector also has been a key cornerstone of the housing industry in Mexico, and a critical partner to making homeownership accessible for low-income families. Before INFONAVIT transitioned to a financial institution in the 1990s, private banks were responsible for much of the financing, for example. Today, however, institutions like INFONAVIT play a much more important role in the housing finance sector, with a relatively low commercial bank market share.¹¹¹ In addition, federal housing institutions have a long legacy of being promoted and bolstered by unions, the most significant among them being: the Mexican Workers Confederation (CTM), the Regional Confederation of Laborers and Farmers (CROC), and the Federation of State Workers Syndicates (FSTSE).¹¹² To underscore these relationships, figure 1.2.1 below shows major policy, institutional, and legislative changes over the course of the last century in Mexico. The timeline also tracks the country’s growth over time, noting a steady increase in urban population and housing production.

Figure A.1 Timeline showing major housing policies, programs, and private developers in Mexico since 1900

It bears noting that INFONAVIT's operations have been subject not only to impacts from the private real estate market, but also from federal policy shifts, in which we see significant impacts on the credit allocations totals over the year, likely attributable to the federal policy shifts over the years, seen in the table below.

Figure A.2 Historic INFONAVIT National Credit Allocation, Accumulated by Year, 1972-2015

Another lens through which to examine national housing production in Mexico is through the annual allocation of INFONAVIT housing credits. Beginning with the institute's founding in 1972, INFONAVIT has seen a steady increase of credit allocation over time, with a notable increase of 85.15% from 1998 to 1999. Since that time, credit allocation has increased annually, with some fluctuations observed after new housing policies came into place. For example, credit allocation fell 17.90% between 2000 and 2001 (highlighted in red), after Fox's *Programa Nacional de Vivienda 2001 – 2007* was published and a new subsidy program designated to lower income workers began. Although the *Programa Nacional* under Fox introduced a subsidy that was intended to increase housing production, the decrease in credits allocated may be a reflection of the industry's uncertainty about adapting to new housing regulations. Likewise, in 2009, after the next *Programa Nacional de Vivienda 2007 – 2012* under the Calderon administration increased the subsidy program and expanded financing mechanisms for lower income populations, credit allocation again saw a decrease of 9.43% (highlighted in red). Finally, credit allocation again decreased by 16.74% between 2013 and 2014 (highlighted in red) after the *Programa Nacional de Vivienda 2014 – 2018* introduced growth containment and densification policies, recovering again in 2015. Interestingly, with each administration change and policy shifts in the *Programa Nacional de Vivienda*, INFONAVIT housing credit allocations see a decrease followed by a regain in allocation numbers. Particularly with the significant expansion of credit availability to lower income workers during the Fox and Calderon administrations, each rebound following policy uncertainty has brought with it new and problematic developments patterns and contributed to a housing construction sector that is overly reliant on homebuyers requiring significant subsidy in order to acquire a new home. After more than 15 years of housing policies that have favored significant subsidization of home buying for lower income workers, cities have experienced unprecedented levels of urban sprawl, disconnected growth, underserviced development, housing vacancies and abandonment, and low quality of life for residents. This clear correlation between subsidy expansion, credit allocation, and unsustainable development forms the basis for one of the central arguments advanced in this report, that the federal housing credit and subsidy model must be rethought to better advance urbanistic aims.

Policy shifts have continued in recent years, and with the creation of the *Secretaria de Desarrollo Agrario, Territorial, y Urbano* (SEDATU) in 2013, responsible for rural, territorial, and urban development planning, the federal government took an important step towards recognizing the importance of the need for national leadership in territorial planning, which many see as a

clear shift towards a “re-centralization” and a small step toward the many needed changes in urban development policy in the country.¹¹³ IMCO, in their report on governance challenges, argues that even beyond the legislative or juridical changes needed to support urban planning, is the need to disrupt the decision-making “inertia” that predominates, in which policymakers and leaders fail to consider the spatial and territorial when making decisions about major investments or capital budgets.¹¹⁴ Prior to the establishment of SEDATU, de facto planning was performed by the institutions most heavily involved in housing financing, whether SEDESOL or CORETT, as well as the financial institutions such as CONAVI, INFONAVIT, FONHAPO, and SHF. The overarching aims from which the most recent federal policy shifts have emerged are logical, and ones behind which most political administrations can support, including “compact, orderly, connected, and sustainable cities.”¹¹⁵ More and more studies reveal that when managed properly, compactness creates higher quality of life for residents as compared with lower density, sprawling areas.¹¹⁶ Since occupying this role at the federal level, SEDATU has also been responsible for advancing a legislative agenda with regard to housing and urban development. Most recently, they have advocated for reform to the human settlements law, or *Ley de Asentamientos Humanos*, to better secure human rights related to urban development, such as the right to housing or to public space.¹¹⁷ In spite of these recent advancements, there is a great deal more progress needed to better address sprawling urban development and promote compact cities across Mexico. IMCO is adamant that even amidst the changes at the federal level, there nonetheless persists a need for greater participation by the federal government in urban regeneration projects, including major investments or new programs or institutional arrangements.¹¹⁸ This implies, therefore, an opportunity to reconsider how this federal role can be strengthened, but also to consider how to bring

local level officials (whether municipal, metropolitan, or state level) in closer alignment with these aims as well. Although SEDATU, for example, is greatly limited in this regard and currently works only a voluntary basis with state and municipal governments, INFONAVIT occupies a unique role by nature of its role as a finance agency, and may be able to occupy a more central role by having greater negotiation power.

¹¹⁹

APPENDIX B

RESEARCH METHODS, INTERVIEW PROTOCOLS, AND FIELDWORK TIMETABLE

The Harvard team conducted semi-structured in-depth interviews in a total of seven metropolitan areas, encompassing well over 50 municipalities. Before conducting interviews, research assistants assigned to each city assembled and examined external governmental reports, news articles, and academic research relevant to housing in each city, including data on progress toward densification through vertical housing and location in the PCUs, as well as levels of abandonment and other quantitative metrics. Data analysis included in **APPENDIX C: Data Analysis** and the Data Analysis section in **Volume II: Case Study Compendium. Understanding the Barriers and Enablers to Densification at the Metropolitan Level**, includes a detailed overview of progress on densification, verticalization, and housing production based on a number of indicators. In each city, 1 to 2 co-investigators worked together to conduct 30+ interviews with local experts and stakeholders in the housing and urban development sectors, discussing their experiences and opinions on current practices and dynamics in the city, state, and region. The semi-structured interviews followed a basic interview guide (**APPENDIX B: Sample Interview Questionnaire**), leaving room for the interviewee to expand on specific areas of expertise or interest. To ensure the participants' comfort and protection, each interview was conducted in Spanish, and began with the reading of an oral consent form, accompanied by a written version for the interviewee, along with contact information of the investigator and the. Unless the participant indicated otherwise, all interview material is considered confidential. To ensure a consistent population sample in each metropolitan area, initial interviews were organized via formal email invitation during desk research preparation in Cambridge, MA, reaching out to the key participants listed in Table 2. Once in the field, however, investigators also utilized a

“snowball sample methodology” to add key participants to the list based on relevant experience in the metropolitan area.

Table B.1 Interview Participants

Sector	Participants
Finance	<ul style="list-style-type: none"> • INFONAVIT officials and staff • Other public/private financing institutions
Government	<ul style="list-style-type: none"> • Federal government officials and State representatives (National Housing Institute, Secretary of Environment, Secretary of Urban Development, Secretary of Land and Tenure) • Local and municipal planning officials and staff <ul style="list-style-type: none"> o Municipal government officials o Environment agencies • Representatives of Metro planning agencies
Non-profit	<ul style="list-style-type: none"> • Nonprofits working in housing issues (advocacy, retrofit, social engagement, new housing development) • Members of community assemblies, civil associations, or neighborhood groups
Developers	<ul style="list-style-type: none"> • Housing developers • Construction companies
Users/Citizens	<ul style="list-style-type: none"> • INFONAVIT credit holders and residents
Academics/Experts	<ul style="list-style-type: none"> • Members of academia and policy experts • Professional associations (architects, planners, civil engineers)
Service providers	<ul style="list-style-type: none"> • Water and sewage officials and other infrastructure providers
Unions and associations	<ul style="list-style-type: none"> • Chambers of commerce (industry, construction, housing, services) • Workers unions

Throughout desk research and during the interview process, the overall research team’s effort focused on identifying a broad swath of institutions and entities involved in social housing, paying special attention to secondary materials that could enrich the body of literature for the development of the case studies and report conclusions (see Table 3).

Table B.2 Interviews and Secondary Materials Gathered during Fieldwork

Secondary Materials	State and municipal urban development plans (Planes de Desarrollo Urbano)
	State and municipal maps on topography, land use, urban footprint, natural resources, conservation areas, etc.
	Housing marketing and architectural specification materials
	Published studies on urban growth, expansion, and development
	Databases from data sources such as: RUV, INEGI, SNIIV, RENARET, SHF, etc.

Quantitative Data Analysis

As part of the analysis, the research team also collected data on housing, demographics, and urban areas using the definitions outlined by the National Urban System (*Sistema Urbano Nacional, SUN*), defined by the National Council on Population (*Consejo Nacional de Población, CONAPO*), in partnership with the Secretary of Social Development (*Secretaría de Desarrollo Social, SEDESOL*) and the National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía, INEGI*). Data analysis regarding housing statistics also covers information from federal agencies including RUV (Registro Único de Vivienda), SNIIV (Sistema Nacional de Información e Indicadores de Vivienda), RENARET (Registro Nacional de Reservas Territoriales), SHF (Sociedad Hipotecaria Federal), and INFONAVIT. It is important to mention that the analysis utilizes the classifications of metropolitan zones in Mexico from 2010. These designations are used not only because of their utility for metropolitan level analysis, but also out of the recognition that these territorial designations are the same ones upon which national public policies are based. For detailed analysis, see **APPENDIX C: Data Analysis** and the Data Analysis section in **Volume II: XXXX**. Ultimately, the case studies provided a heretofore unexplored foundation upon which the findings, discussion, and proposals of this report have emerged. Combined with ongoing data analysis, and policy recommendations, the case studies provide useful examples and proposals that illustrate how densification has and can be achieved through better coordination between the institute’s financial responsibilities and its social

mission and strategic linkages with local actors and stakeholders.

Sample Research Questions

1. Which political actors or conditions seem to be driving the development of social housing in [name of the city]?
2. Are the main actors involved in promoting social housing also concerned with densification, or even with questions of environmental sustainability? Why or why not?
3. Do municipalities or other agents (developers, universities, NGOs, state or metro agencies, etc.) work together to promote densification or infrastructure projects? When and why are they most likely to work together, as opposed to follow different agendas,?
4. Which actors are the most important for promoting cross-scale communication on housing and infrastructure development?
5. Who are the actors that resist/promote densification? Can you identify the primary reasoning for resistance to densification? How well do these actors interact amongst themselves?
6. Do municipalities have specific social housing programs? Do they negotiate or do trade-off with developers in exchange of building social housing, like density bonus, etc.? Do they have a land market that allows such negotiations?
7. Can you help us identify particular examples of success (or failure) that can help illustrate the dynamics in each case? Are there projects or developments that you think are working well? Are there any missed or successful synergies?
8. Is there a particular type of housing development ongoing currently that is commanding attention in the political or public sphere?
9. How do you understand the role of developers in the production of social housing? Is there a particular typology of developer that seems to be more active now in the metro or in specific municipalities?
10. How do you understand the role of the municipality (elected leaders; local planning officials, etc.) in the production of social housing? Do certain types of municipalities have a stronger commitment to social housing, and why?
11. Do you think federal agencies (i.e. INFONAVIT, SEDATU, or others) can collaborate with pilot programs or infrastructure projects? Do any of these actors have any new partnerships or programs ongoing in the area?

APPENDIX C

DATA ANALYSIS

What is working in terms of densification?

As a foundation for and complement to the extensive qualitative case study research, the research team also undertook data analysis to help understand the barriers and enablers to densification efforts across the country. National level data provides an important context for understanding the impact of policy changes at the national, state, and local level. The following data analysis provides an overview of the progress toward densification in terms of three key variables: housing production numbers generally, location within the urban containment perimeters (PCUs), and production of vertical housing.

Variables:

a) Housing production

b) Location of housing registry in the PCUs

c) Verticalization

The data analysis covers information from various data sources and federal agencies including RUV (Registro Único de Vivienda), SNIIV (Sistema Nacional de Información e Indicadores de Vivienda), RENARET (Registro Nacional de Reservas Territoriales), SHF (Sociedad Hipotecaria Federal), INEGI (Instituto Nacional de Estadística, Geografía, e Informática), and INFONAVIT. In brief, the main source of information has been the SNIIV, which is an online data base developed by CONAVI that offers information compiled from different data bases administered by CONAVI, such as the RUV and RENARET, as well as from other federal agencies involved in

housing and urban development. Information offered in the SNIIV, includes periodic housing market reports, analysis of the supply, demand, land reserves, allocation of federal subsidies by financing institution, advancement of the containment boundaries, and vertical housing construction, as well as indicators and relevant links to other data bases.

It is important to underscore that the information offered by the SNIIV platform comes from the RUV, which is a data base developed by CONAVI in 2006. Since its creation, the RUV has been a notable reference for housing statistics at the federal level given that the registration of the supply by the developers, is a condition to receive subsidies by any federal government agency (SEDATU, CONAVI, SHF, INFONAVIT, FOVISSTE, etc.). Similarly, the RUV has been the main tool to monitor the progress on densification in terms of location in the PCUs and vertical housing construction as developers need to detail the location and typology of their units to get access to funding. The information about housing located in the RUV is complemented by the RENARET, which is another database developed and managed by CONAVI where developers register their land reserves as a condition to determine the amount of subsidy based on location.

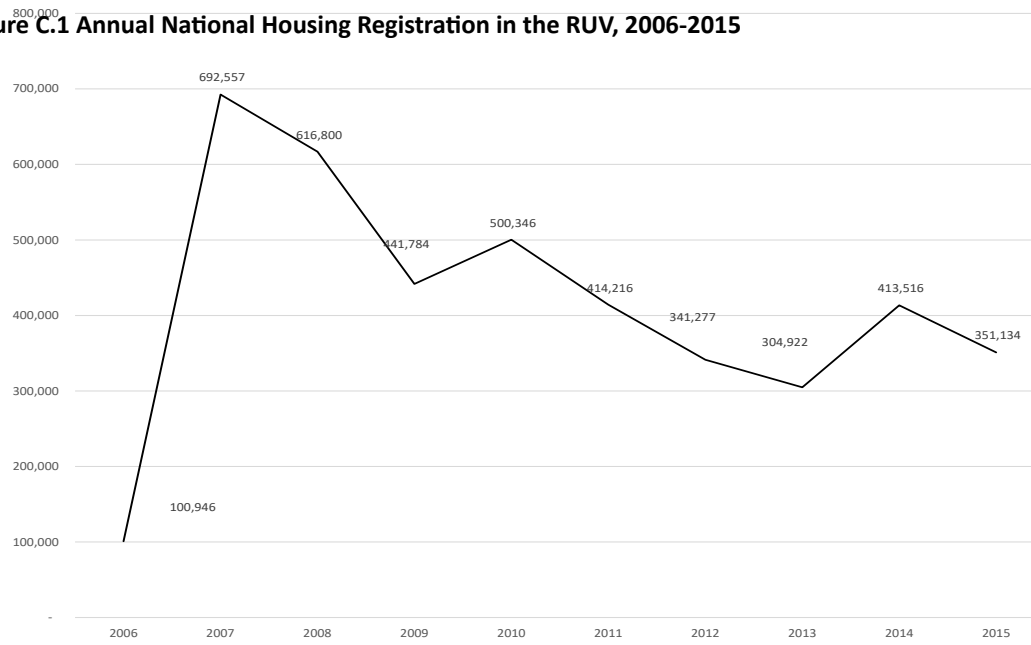
INFONAVIT, was another important reference to the quantitative analysis. Their website offers to the public extensive information about their financing and operative indicators, including number and types of credits since the creation of the institute in 1972, non-performing loans (*cartera vencida*), credit collection records, supply and demand statistics, and institutional goals and performance of their internal offices. Other important sources that complemented this analysis are demographic and economic data from INEGI, formal worker information from IMSS (*Instituto Mexicano del Seguro Social*), and federally recognized metropolitan area boundaries and statistics

by CONAPO (*Consejo Nacional de Población*).

Overall, the objective of this analysis is to understand first the general patterns of housing production, and INFONAVIT credit allocation in the national level. Later, the analysis focuses on the advancement of densification policies in terms of the location in the PCUs and the progress on vertical housing construction in the national context and comparatively across the selected case studies. Finally, the analysis present statistics in relevant topics that have the analytical framework of the overall research to try to reveal what are the determinant factors in each city that prevent or enable densification efforts in each case study. These final hypothesis also lay the ground for the qualitative fieldwork expanded in the individual case studies.

Housing Production: How many housing units have been produced?

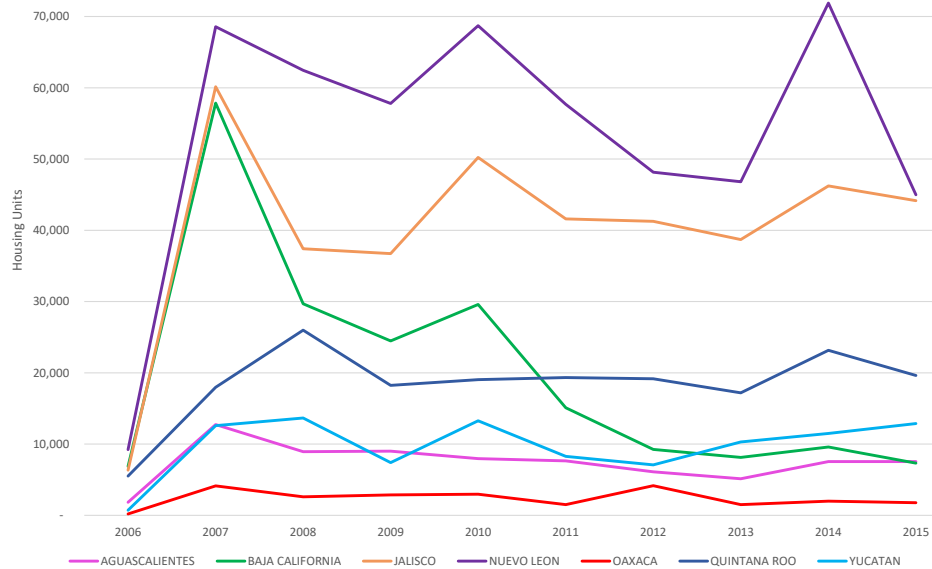
A first variable to understanding what is working in terms of densification is to look at housing production numbers, measured in terms of the total registration of new units in the national housing registry (*Registro Único de Vivienda – RUV*), as well as the total housing credits allocated by INFONAVIT. Generally speaking, housing production has long been used as the barometer for success of national housing policy by federal lawmakers and even national housing sector stakeholders, such as major developers. Though this indicator is insufficient for understanding the nuances of policy challenges and successes at the local level, particularly with regard to progress toward densification, both national production totals as well as those at the state level nonetheless tell a story of the impact of policy changes on the housing sector.

Figure C.1 Annual National Housing Registration in the RUV, 2006-2015

Source: SNIIV 2.0.

A closer look at the housing production registered in the national housing registry (*Registro Único de Vivienda, RUV*) reveals several the evolving policy approaches of different federal administrations in the previous decade. It bears noting that the RUV does not measure credits allocated either by INFONAVIT or other federal agencies, nor the number of homes sold to homebuyers. Rather, the RUV is a registry of the housing produced by developers who want to make their homes eligible for sale to federal or state housing creditholders (*derechohabientes*), such as INFONAVIT or FOVISSSTE.

Overall, national housing production has decreased between 2007 and 2015. After a notable spike in production in 2007, jumping from 100,000 units produced annually to nearly 700,000, production has now decreased to an average of approximately 350,000 units produced annually since 2011. The production spike in 2007 coincides with the *Programa Nacional de Vivienda 2007 – 2012* established under the Calderon administration that increased the subsidy program and expanded financing mechanisms to lower-income workers. Years later, the numbers reveal a decrease in production following the Peña Nieto administration’s shift toward densification policies established in the *Programa Nacional de Vivienda 2014 – 2018*, with registered housing falling to its lowest point since 2007 in 2013. Production in 2014, when the case study fieldwork began, shows a slight regain of 35.61% between 2013 and 2014. Nonetheless, between 2014 and 2015 housing production declined again by 15.08%.

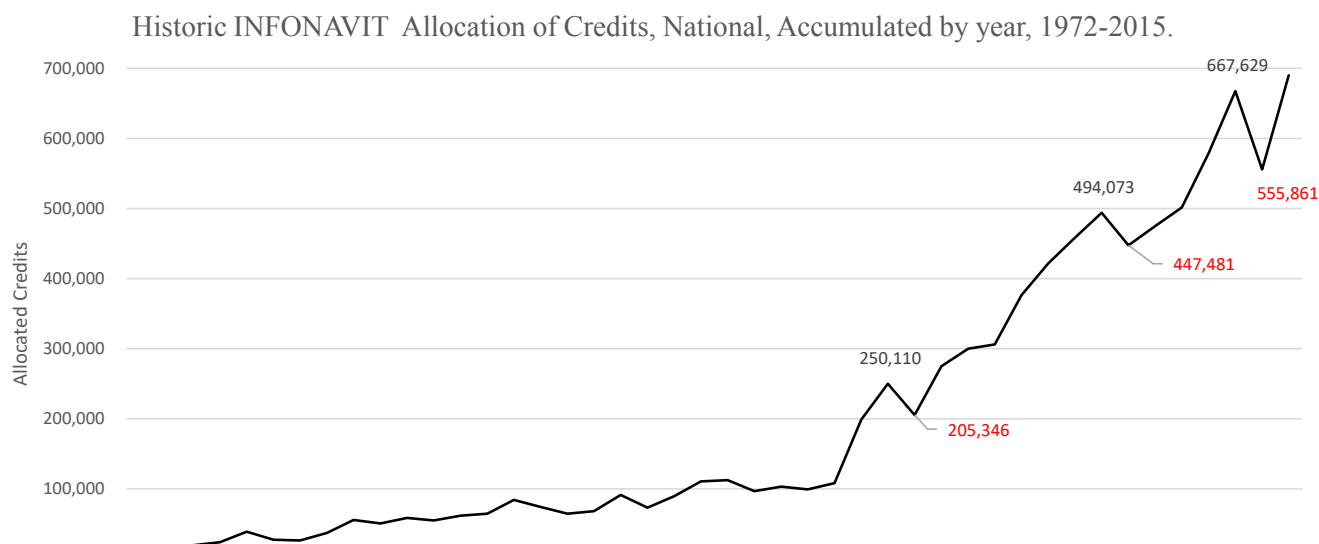
Figure C.2 Annual RUV Housing Registration in Selected Case Studies, 2006-2015

Source: SNIIV 2.0.

A closer look at the states in which case study fieldwork took place, the registered housing production follows many of the same patterns of the national trends observed above. Nuevo León (home to ZM Monterrey) continues to lead in housing production since as early as 2006, maintaining an average of approximately 60,000 units registered on an annual basis. Nuevo León slowed production by 37.41% between 2014 and 2015, nearly matching registration numbers in Jalisco (home to ZM Guadalajara) at the time. Jalisco, another major housing producer, has seen fluctuations in production since registration spiked in 2007, with increases between 2008 and 2010, decreases between 2010 and 2013, and a slight increase in registration again in 2014. Baja California (home to ZM Tijuana), by contrast, has seen a consistent and at times dramatic slowdown in housing production since an uptick in production in 2007. Once known for high levels of production, Baja California has now registered fewer units than much smaller states such as Quintana Roo (home to ZM Cancún), Yucatán (home to ZM Mérida), or Aguascalientes (home to ZM Aguascalientes) in 2015. Quintana Roo has maintained steady registration levels following an increase between 2007 and 2008 and a return to an average of approximately 20,000 units per year since 2009, with a slight increase in registration between 2013 and 2014, and a decrease of 15.20% from 2014 to 2015. Yucatán, Aguascalientes, and

Oaxaca (home to ZM Oaxaca) saw slight increases between 2006 and 2007 and have maintained steady levels under 15,000 registered units per year since that time.

Figure C.3 Annual INFONAVIT National Credit Allocation, 1972-2015



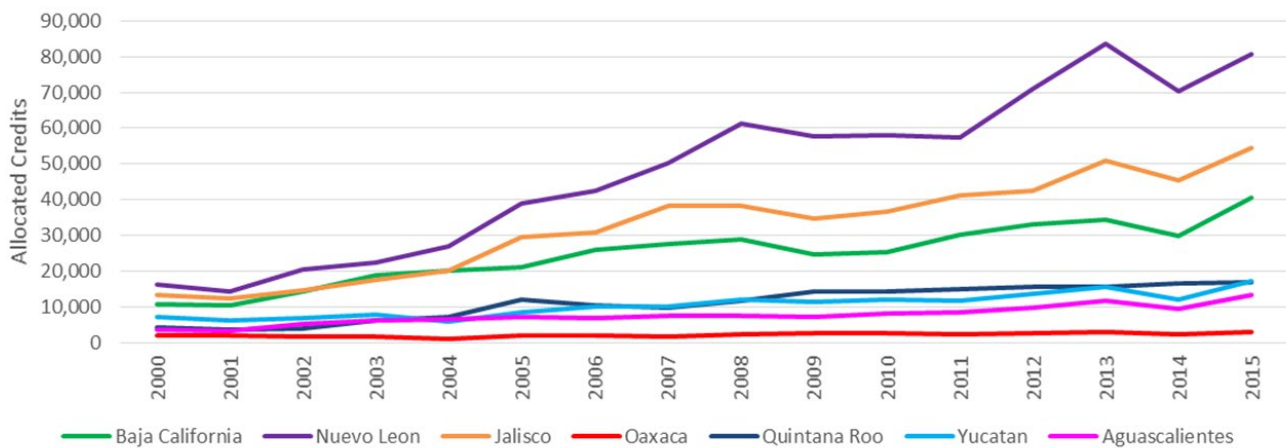
Another lens through which to examine national housing production in Mexico is through the annual allocation of INFONAVIT housing credits. Beginning with the institute's founding in 1972, INFONAVIT has seen a steady increase of credit allocation over time, with a notable increase of 85.15% from 1998 to 1999. Since that time, credit allocation has increased annually, with some fluctuations observed after new housing policies came into place. For example, credit allocation fell 17.90% between 2000 and 2001 (highlighted in red), after Fox's *Programa Nacional de Vivienda 2001 – 2007* was published and a new subsidy program designated to lower income workers began. Although the *Programa Nacional* under Fox introduced a subsidy that was intended to increase housing production, the decrease in credits allocated may be a reflection of the industry's uncertainty about adapting to new housing regulations. Likewise, in 2009, after the next *Programa Nacional de Vivienda 2007 – 2012* under the Calderon administration increased the subsidy program and expanded financing mechanisms for lower income populations, credit allocation again saw a decrease of 9.43% (highlighted in red). Finally, credit allocation again decreased by 16.74% between 2013 and 2014 (highlighted in red) after the *Programa Nacional de Vivienda 2014 – 2018* introduced growth containment and densification policies, recovering again in 2015. Interestingly, with each administration change and policy shifts in the *Programa Nacional de Vivienda*, INFONAVIT housing credit allocations see a decrease followed by a regain in allocation numbers. Particularly with the significant expansion

of credit availability to lower income workers during the Fox and Calderon administrations, each rebound following policy uncertainty has brought with it new and problematic developments patterns and contributed to a housing construction sector that is overly reliant on homebuyers requiring significant subsidy in order to acquire a new home. After more than 15 years of housing policies that have favored significant subsidization of home buying for lower income workers, cities have experienced unprecedented levels of urban sprawl, disconnected growth, underserved development, housing vacancies and abandonment, and low quality of life for residents. This clear correlation between subsidy expansion, credit allocation, and unsustainable development forms the basis for one of the central arguments advanced in this report, that the federal housing credit and subsidy model must be rethought to better advance urbanistic aims.

Table C.1 Top ten delegations with highest INFONAVIT credit allocation numbers and percentage of total national credits. Case Study States are highlighted in blue. Accumulated by year 2013-2015

Position	2013		2014		2015	
1	NUEVO LEON	12.5%	NUEVO LEON	12.7%	NUEVO LEON	11.7%
2	MEXICO	7.8%	JALISCO	8.2%	JALISCO	7.9%
3	CHIHUAHUA	7.8%	MEXICO	6.4%	CHIHUAHUA	7.0%
4	JALISCO	7.6%	TAMAULIPAS	5.5%	MEXICO	6.6%
5	BAJA CALIFORNIA	5.2%	CHIHUAHUA	5.4%	COAHUILA	6.3%
6	TAMAULIPAS	5.1%	BAJA CALIFORNIA	5.4%	BAJA CALIFORNIA	5.9%
7	MEXICO CITY	4.8%	COAHUILA	5.1%	TAMAULIPAS	5.7%
8	COAHUILA	4.7%	GUANAJUATO	4.8%	SONORA	4.2%
9	SONORA	4.4%	SONORA	4.5%	GUANAJUATO	4.1%
10	GUANAJUATO	4.0%	MEXICO CITY	4.2%	MEXICO CITY	4.1%

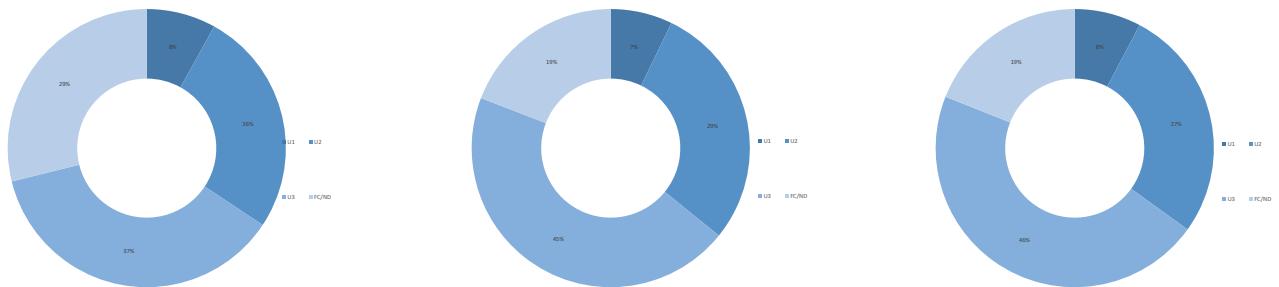
Of the state delegations with INFONAVIT credit allocation in the top ten across the country in the past three years, three are states in which case study research took place for this research. Nuevo León (home to ZM Monterrey) consistently leads with between 11.7 and 12.7% of the nation's allocation. Jalisco (home to ZM Guadalajara) has been second in allocation to Nuevo León in the last two years, with around 8% of the national totals. Baja California (home to ZM Tijuana) has hovered around 5% of the national total credit allocation in the last several years, placing it in 5th or 6th place nationally.

Figure C.4 INFONAVIT Credit Allocation, Selected Case Studies, 2000-2015

The above figure looks exclusively at credit allocation totals (including the five credit lines that INFONAVIT uses) in the states in which case study research was conducted, with totals for the years between 2000 and 2015. Largely consistent with the patterns of housing production as registered in the RUV, the credit allocation totals also show Nuevo León (home to ZM Monterrey) as a leader in allocation, followed by Jalisco (home to ZM Guadalajara) and Baja California (home to ZM Tijuana). Both Nuevo León and Jalisco have seen increases in production, with steady growth in numbers beginning in 2004 and 2005, with allocation totals higher than 50,000 for Nuevo León and higher than 30,000 for Jalisco. Though still a national leader, the Baja California delegation has seen more modest growth, with allocation totals between 25,000 and 30,000 until a recent uptick (following a decline) in 2015. The remaining four state delegations of Quintana Roo (home to ZM Cancún), Yucatán (home to ZM Mérida), Aguascalientes (home to ZM Aguascalientes), and Oaxaca (home to ZM Oaxaca) all hover below 20,000 credits allocated annually.

Location: Where is housing being built?

The second critical variable to understanding progress toward densification and the impacts of national housing policy shifts is housing location, as measured by location in the urban contention perimeters, or Perímetros de Contención Urbana (PCUs). Perhaps even more indicative than the following variable of verticalization or vertical housing production, housing location helps to understand how well housing production has been contained under the current Programa Nacional de Vivienda 2014-2018 (PNV) and Programa Sectorial de Desarrollo Agrario Territorial y Urbano 2013-2018 (PDATU). The PNV under the Peña Nieto administration introduced a shift away from the previous model of unfettered, uncontained urban sprawl (led by social housing development) through the implementation of the PCUs. While the methodology for determining the PCUs has met with significant criticism for being an insufficient measure of densification, using a limited number and overly simplistic set of characteristics to designate the perimeters, the PCUs nonetheless help to understand how and where housing has been “contained” in the last several years through changing distributions of housing location in the perimeters.

Figure C.5 National Registration of Housing Inventory by PCUs, January 2014, January 2015, January 2016

In order to understand how housing location has shifted, it is useful to consider how percentages of production in each of the four designations have changed between 2014 and 2016. The four designations are known as U1, U2, U3, and FC. Initially proposed in 2013 by Mexico's National Housing Commission (CONAVI) to help channel federal housing funding for new housing development to consolidated urban areas with access to services, jobs, urban amenities, and transport, each perimeter is defined by measures of proximity to services. U1 and U2 are each defined by a measure of proximity to employment, and water and sewage coverage, respectively. U3 is defined as a buffer area surrounding U2. FC or *Fuera de Contorno* is defined as outside the boundaries entirely.

U1: Production in U1 has remained consistent in the past three years, with 8% in 2014, 7% in 2015, and a regain to 8% in 2016. Consistent with its designation as U1, fieldwork across the country revealed that housing in U1 is of the highest quality seen across any new housing production, with a significantly better connection to services and transportation, and higher quality urban form, with urban design strategies and architectural typologies that fit well into existing urban neighborhoods and foster positive community interaction with well-

designed public spaces. **U2:** Housing located in the U2 perimeter has also remained consistent over the past several years, increasingly slightly from 26% in 2014 to 29% in 2015, then back to 27% in 2016. **U3:** Unlike production in either U1 or U2, housing produced in the U3 perimeter has increased since 2014, with a significant jump from 37% in 2014 to 45% in 2015, and a slight increase to 46% in 2016. Though technically one of the three perimeters, U3 is still defined as a “buffer” to the U2 perimeter, meaning that areas in U3 are not directly connected to employment centers or service coverage areas, and are thus still perpetuating disconnected residential growth. This suggests that developers have likely been shifting development to areas designated as U3 where they already had peripheral land reserves. Notably, this shift into the U3 perimeter from areas considered as FC has also been accompanied by higher levels of vertical housing production, seen in the following section. This has meant that densification progress has largely been concentrated in disconnected areas, albeit still designated as U3. **FC:** Though the increase in production in U3 (while U1 and U2 remain consistent) is a disheartening sign, indicating minimal progress toward densification, the above distributions of national housing registration by PCUs do indeed demonstrate a hopeful decrease in the number of housing units produced in areas designated

as beyond the boundaries, or *Fuera de Contorno* (FC). While 29% of housing inventory was located in FC in 2014, this dropped to 19% in both 2015 and remained consistent at 19% in 2016, going from nearly a third of production to just under a fifth. This indicates a shift of production into the U3 perimeter, rather than outside, and is consistent with the market logics of the changing policies, in which developers are only able to access preferential loan terms and sell to homeowners with access to federal credits and federal subsidy within the perimeters.

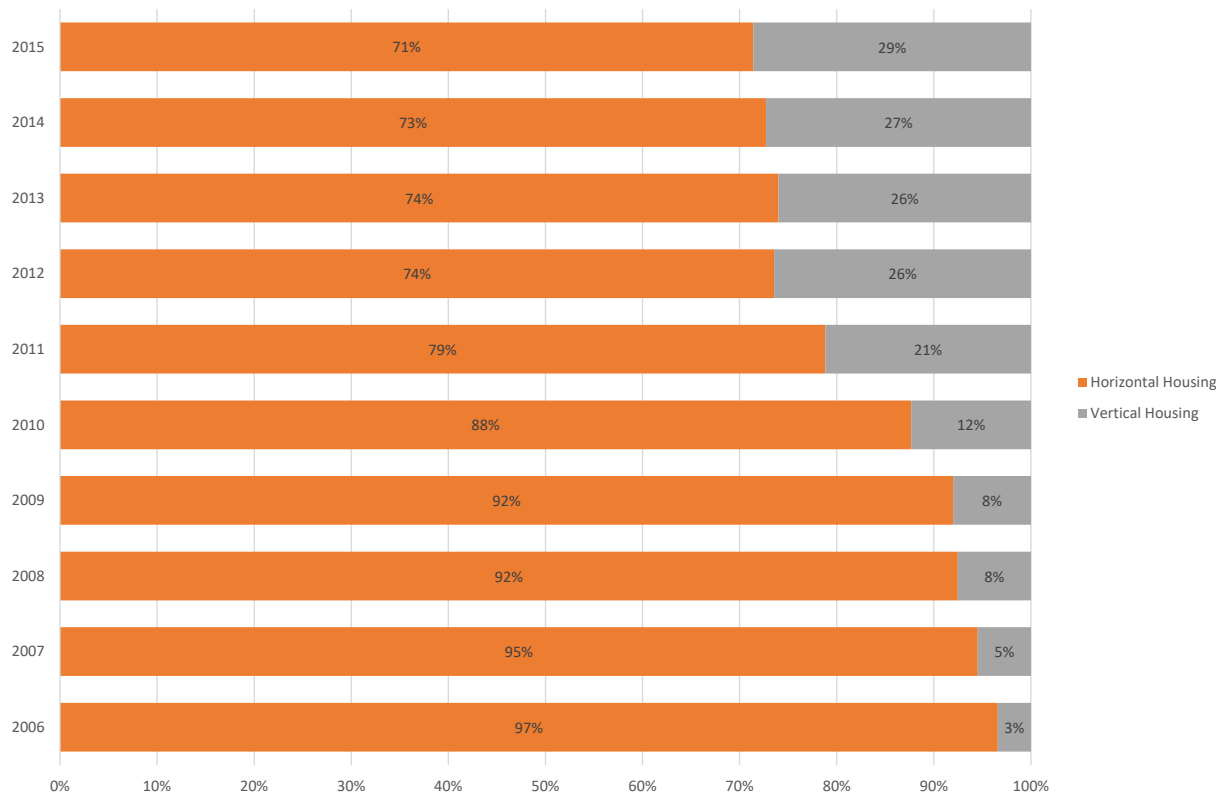
Figure C.6 National RUV Vertical Housing Registration, 2006-2015



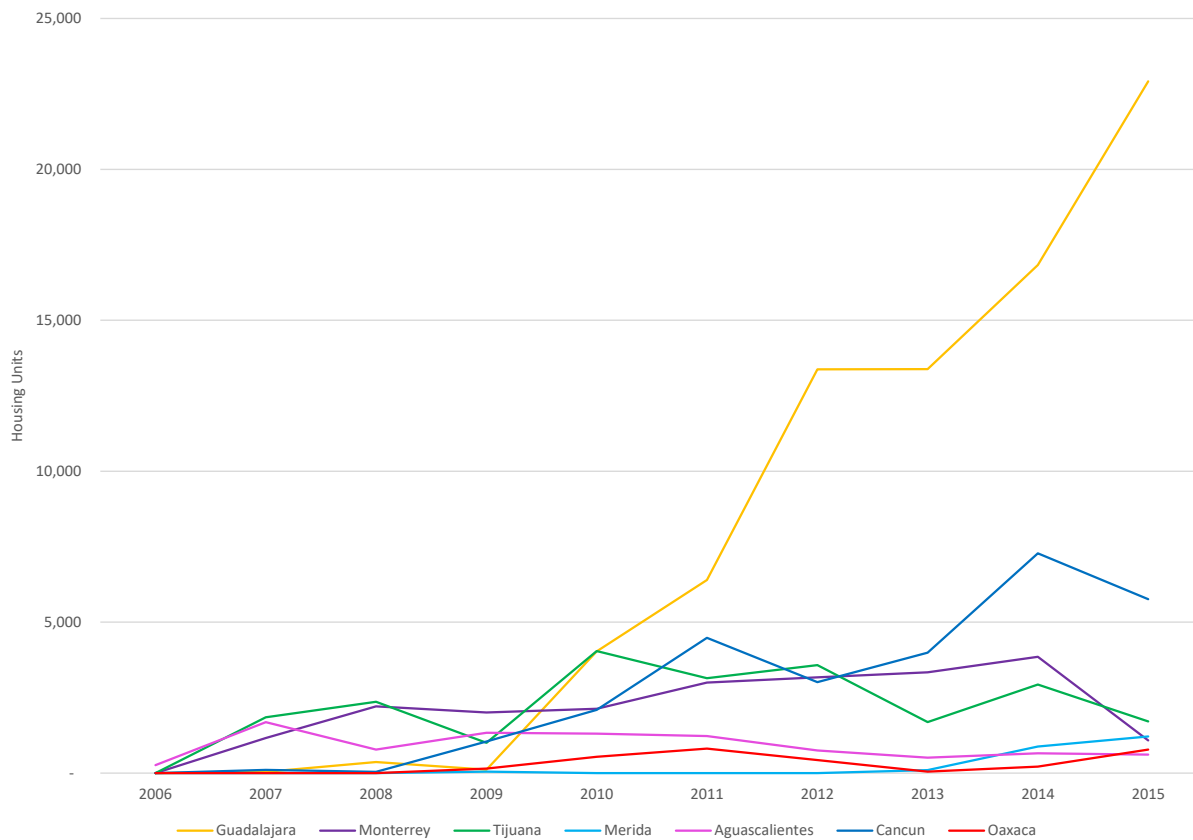
Verticalization: How much vertical housing has been built?

A final variable that proves crucial to understanding progress toward densification is “verticalization,” or the levels of vertical housing built. Vertical units are registered in the national housing registry (RUV) on an annual basis.

In the national housing registry (RUV), we can see a clear increase in the sheer quantity of vertical housing built over time, with a mere 3,450 in 2006,

Figure C.7 National RUV Registration Percentage of Horizontal vs Vertical Housing, 2006-2015

jumping up to 100,403 vertical housing units by 2015. Though the graph shows an overall increase, there are clear decreases of greater than 10% over the course of the last decade (between '08 and '09, or between '12 and '13, or again between '14 and '15), perhaps indicating the “boom and bust” nature of introducing vertical housing into a market unaccustomed to vertical typologies or adapting to newly instituted housing policies. Overall, this graph shows the progress toward vertical housing construction since 2006. Compared with only 3% in 2006, as of 2015, 29% of the housing units registered in the RUV were vertical housing, meaning that nearly 1 in every 3 homes produced by 2015 were vertical units. The biggest jump in percentages of vertical housing constructed took place between 2010 and 2011 (up to 21% from 12%) and then again between 2011 and 2012 (up to 26% from 21%). Though these numbers demonstrate clear progress toward vertical construction, the previous data points on housing location have shown that housing production has shifted into U3, considered a buffer area that is not fully urbanized or serviced. Though these growth patterns may vary depending on metropolitan area, this nonetheless suggests that even with higher numbers of vertical housing, densification progress may only be partial because of poorly located development.

Figure C.8 State RUV Registration in Selected Cases, 2006-2015

A comparison of progress toward vertical construction across the states in which case study fieldwork was conducted reveals unsteady progress toward densification. Jalisco (home to ZM Guadalajara) clearly leads in vertical production, reaching nearly 25,000 units in 2015. While Jalisco has seen steady growth in vertical production, other states have been much less consistent, with increases and decreases depending on the year. With the exception of Quintana Roo (home to ZM *Cancún*), the remaining states have seen vertical housing production levels remains at or below 5,000 units per year. Production numbers have varied over the past decade but an increase in vertical housing production can be seen between 2013 and 2014, indicating a shift in response to federal policy changes. Though Jalisco's high numbers of vertical housing production may owe in part to high levels of housing production generally, this pattern has not held true for other states with significant production, such as Nuevo León (home to ZM Monterrey) or Baja

California (home to ZM Tijuana). On the contrary, Nuevo León has seen a marked decrease in vertical housing production numbers, with some of the state's lowest numbers in the past years coming in 2015. Explored in greater detail in the case study report (See Guadalajara Case Study in **Volume II: Case Study Compendium. Understanding the Barriers and Enablers to Densification at the Metropolitan Level**), Jalisco's success may be explained in part by a particularly active and engaged chamber of social housing developers (CANADEVI Jalisco) who have readily embraced densification efforts and vertical housing policies since their adoption in 2013.

APPENDIX D

RELEVANT PRECEDENTS

Box 1: Defining Affordability

Defining affordability is a key area of contention in any discussion on housing, whether public, affordable, social, residential or otherwise. Mexico is not immune to this challenge, and debates over how to define “affordable housing” become all the more complicated against a background of high levels of informality across the country. That is to say, in Mexico, formal “affordable housing” is typically known as “social housing” or *vivienda de interés social* and is realized through low-income homeownership, with mortgages available to formal workers in the public and private sector, such as the INFONAVIT financing model. Generally speaking, affordability refers to a household’s ability to acquire daily necessities, such as goods and services.¹²⁰ Typically, housing affordability in Mexico is defined by levels of housing value and price, with categories, such as *vivienda económica, popular, social, medio, residencial, and residencial plus*.¹²¹ Though there is no set formal institutional definition, stakeholders in the housing sector tend to utilize a similar set of classifications, sometimes overlapping, ordered here from most to least affordable.¹²²

By the very nature of their function as a financial institute, INFONAVIT attends only a particular segment of the market, typically referred as social interest housing or social housing, “*vivienda de interés social*” or “*vivienda social*.” Typically, social interest housing falls within the range of “*económica*” or “*popular*,” often with a maximum cost of less than 350,000 pesos.¹²³ Given high levels of informality in Mexico, it is important to

distinguish social or social interest housing from the social production of housing, or “*la producción social de la vivienda*.” Social production is common, and refers to the process of self-produced or self-constructed housing, built without formal financing or architectural oversight.¹²⁴ Though there are a number of formal actors that participate in formal housing construction and financing (INFONAVIT, FOVISSSTE, FONHAPO, SOFOLES, SHF, State housing agencies, etc), it is important to remember that housing production in Mexico is nonetheless characterized by high levels of informality, and much of the country’s housing supply is produced by individuals and families, driven by need and greatly limited by scarcity of resources.¹²⁵

In addition to the affordability of home acquisition, a short term consideration, it is important to consider housing affordability in the long term, in which households must be able to continue making mortgage payments over the life of the loan. Todd Litman, writing for *Planetizen*, summarizes succinctly that “affordability analysis should be comprehensive, taking into account total housing costs (including utilities, taxes and maintenance) and transportation costs, considering both short- and long-run impacts.”

¹²⁶ Litman goes so far as to introduce the idea of “affordable-accessible housing,” referring to housing that is not only lower priced, but also located in proximity to access services and activities, thus minimizing household costs for families who need it most.¹²⁷ Per Litman’s description, “affordable-accessible housing typically consists of small-lot single-family homes, townhouses, and apartments located in compact, walkable, mixed-use urban neighborhoods with nearby stores and good public transit services.”¹²⁸ This designation of accessible affordability is particularly applicable in Mexico, where INFONAVIT has been relatively successful in ensuring affordability for low-income homeownership in terms of the mortgage product itself, but has rarely

achieved this in conjunction with accessibility in “mixed-use urban neighborhoods” with adequate public transit, thus putting the long-term affordability of these units in jeopardy, which we have seen with high rates of housing abandonment in areas across Mexico. It is also important to note that the accessibility of these homes comes hand in hand with compact, walkable, and well-serviced neighborhoods, emphasizing the importance not only of the home itself, but the character and connectivity of the area in which it is situated.

This is a concept of affordability that necessarily integrates a number of other considerations, primarily having to do with the connectedness of the home with urban services. In particular, it is critical that homes be well connected to the transportation networks needed to efficiently access jobs, schools, and hospitals, among other sites. Without such connectivity, households often end up spending beyond their means on transportation expenses (whether in terms of costs or sheer time spent), thus resulting in housing that is not in fact affordable, in spite of an affordable purchase price or relatively low monthly mortgage payment. In Mexico, this has resulted in a critical loss of economic productivity in major metropolitan regions across the country. Research suggests that a principle reason for which households abandon INFONAVIT homes is due to inaccessibility to jobs or employment centers, rather than insecurity or natural disasters, as is often assumed.¹²⁹ Though this in part has a great deal to do with insufficient public transportation networks, this is also very much tied to the predominantly peripheral location of much of this new social housing.

As such, it is all the more critical for affordable housing to be sufficiently flexible to adapt to changing needs.¹³⁰ Litman argues that in order to ensure this type of flexibility in the housing market, affordable housing must be achieved through a range

of strategies, including: maintaining older housing, promoting government subsidized housing, developing in the urban fringe (but with care to ensure connectivity), creating affordable housing mandates such as inclusionary zoning for private developers, and reducing infill development costs.¹³¹ This final strategy is a critical one, and by far the most applicable in terms of what can reasonably fall under INFONAVIT's toolkit.¹³² Though many of these strategies refer to a housing market with greater representation of rental housing, this in depth discussion of affordability is nonetheless applicable in Mexico, as it emphasizes the importance of a better understanding of housing demand in a given area, particularly for a low income sector that can at times be difficult to assess and appropriately serve. As has been seen with the introduction of the *Arrendavit* program and high levels of demand from potential renters, a greater diversity in INFONAVIT products is a welcome shift. The shift of affordability beyond the limits of the home or homeownership and towards the scale of the neighborhood is an important movement that is slowly gaining ground globally. Though ensuring or increasing affordability is often about the housing supply itself, it is equally about creating and recreating these characteristics of multi-modal, urban, accessible neighborhoods that can support this much needed diversity of affordable housing.¹³³ Strategies to facilitate accessible affordable housing are numerous, many of which are well within the power of local governments or stakeholders to promote across Mexico, including expediting the development approval and permitting process, providing low cost land, allowing for smaller lots or urban parcel subdivision, identifying parcels suitable for infill development, or reducing parking requirements, among many others.¹³⁴ These are incredibly important tools to emphasize, as it has been shown that broadly speaking, land-use regulations have a disproportionate impact on low-income households. Thus, by reducing some of these barriers and strongholds, more accessible and affordable housing can be achieved for a broader segment of the population, through a wider variety of means, and with a more diverse set of developers and stakeholders.¹³⁵

Defining Density

Although density has been actively promoted under the new national housing and urban development policies, fieldwork has revealed that advancing dense housing, whether social housing or otherwise, is a challenging process. Many of these challenges arise from the difficulties of appropriately defining density. In the following excerpt, the companion report, *Revitalizing Cities: Improving Housing and Neighborhoods from Block to Metropolis* addresses densification concepts directly.¹³⁶

Density, at its most basic, is a measure of the number of units in a given area.¹³⁸ Typically, density measures take into account three things: what unit is to be measured (housing, jobs, population, built floor areas, etc.); over what area the units are measured (parcel/lot, neighborhood, city, metropolitan area); and what land will be included or excluded in that area (residential uses, streets and public infrastructure, local/neighborhood uses, all land). Gross measures put a simple boundary around an area and measure all the land inside it; net measures exclude certain kinds of land. These considerations create an almost endless variety in density measures. While it is perhaps one of the most widely used measures in the fields of urban planning and design, it does not do a very good job of measuring the physical or social quality and design of a building, neighborhood, or city.¹³⁸ Furthermore, density can be measured in a variety of ways, meaning the same area can have a number of different densities.¹³⁹ For example a parcel of 10 units per hectare may be adjacent to a park in the same block giving a block density of perhaps 5 units per hectare if the park takes up half the block. Such variation means it is necessary for policy makers, planners and designers to be specific about what they mean when they discuss density. This is especially important when discussing densification and compact city policies. Since there are no exact definitions for what constitutes low, medium, and high densities, governments, again, need to be specific about the types and forms of density they are promoting. To complicate matters, it might be desirable to use different measures of density for different purposes. For example, planners and designers might be interested in measuring the density of dwelling (or housing) units in a given neighborhood, as this measure gives some sense of the physical character of the area. On the other hand, an engineer or policy maker might be interested in measuring the density of population in that same area, as this number reflects the intensity of usage or demand for certain municipal infrastructure and services.”¹⁴⁰

We have also seen the difficulty of defining density in attempting to measure recent advancements toward densification, as policy makers at the federal level have not always been “specific about what they mean when they discuss density.” Under the new national housing policies, this has ultimately resulted in incentivizing higher density building in areas that may not actually be appropriate, thus exacerbating some urban sprawl. For example, while many metropolitan areas have seen increases in the production of vertical housing, this is only one narrow indicator of densification. When broadening an understanding of density to location within the *perímetros de contención urbana* (PCUs), for example, we see much slower advancement toward densification with continually high numbers of housing produced in peripheral

U3 and FC perimeters. In addition, fieldwork revealed that local opposition to densification appears as a result of strong cultural opposition, frequently in areas that have not seen much high-density development in the past, and particularly in areas with few positive examples of high-density developments. This is generally born out of a lack of understanding of what locally appropriate density can mean. Rather than outsized vertical towers or tiny apartments that are inadequate for families, density can instead still refer to single family homes, made possible through alternative designs, subdivided lots, reduced parking minimums to accommodate better urban design, and connectivity to multimodal transit options. It bears noting that typical strategies or conditions necessary for the adoption of densification or densification practices include: analyzing the infrastructure capacity of urban areas to support density, maintaining an accessible and updated information system, coordinated among levels of government, promoting public participation in the urban development process, addressing informality and informal settlements, or strengthening urban leadership towards a long term vision for sustainable development.¹⁴¹

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Box 2: BOSCO Sustainable Community. Regional Single-family Housing “Vivienda Unifamiliar Regional” (INFONAVIT). Hermosillo, Mexico

Overview

The BOSCO project shows an innovative design for low-rise, high-density housing in Mexico. The idea of the project started in 2014 after the International Forum for Sustainable Housing (Foro Internacional de Vivienda Sustentable, FIVS) organized by INFONAVIT, where a group of architects presented proposals for single-family housing developments adapted to the regional conditions of each state in the country. The exhibition titled “Regional single-family housing: 32 states, 32 architects, 32 proposals” (“Vivienda Unifamiliar Regional: 32 entidades, 32 arquitectos, 32 propuestas”) reflecting reflected on the challenges and opportunities of adapting social housing to the social, cultural, and environmental contexts of the different regions in Mexico (Arquine 2015).

One of these proposals, developed by the Mexican architecture firm TAX, led by the architect Alberto

Kalach, caught the attention of a regional social housing developer based in the state of Sonora. The developer, Desarrollos Derex, enthusiastic about the idea of developing innovative projects, was interested in determining if these new models would be financially feasible and if they would be accepted by the local consumers.

After an intense design process and revisions with the architects, the developer, and INFONAVIT, the BOSCO development was materialized as an intra-urban project with a density that exceeds the typical parameters in these type of developments. In addition, through close attention to design and constant cost efficiency revisions, the price of the units resulted more affordable than the neighboring competition.



Front view of the housing by TAX and developed by Derex Developments. Photo Credit: Derex SA de CV.

Context

Since the early 2000s the Mexican housing sector experienced accelerated growth, especially in the social housing segment. Even though this growth has become an important motor of the national economy, it has also prompted a mass production system that often ignores the specificities of the local context such as topography, climate, materials, culture, and lifestyle.

Recognizing that the greatest challenge is not only to provide mortgages for workers but also to provide quality of life, INFONAVIT has been developing strategies to ensure that houses are adapted to local characteristics. To achieve these aims, the Sustainability Department (Subdirección General de Sustentabilidad) at INFONAVIT has been responsible for coordinating with developers, architects, and local authorities to materialize innovative projects such as BOSCO.

At the same time, in the case of BOSCO, the developer has played a crucial part in the process. For instance, Derex participated in 2009 in the NAMA program, a research collaboration between the Mexican and German governments, to analyze materials and construction systems to reduce CO₂ emissions and energy consumption in the homebuilding process.



Green roofs used in the BOSCO development to mitigate radiation and energy consumption. Photo credit: Derex SA de CV.

Project History and Current Issues

The main challenge was to ensure that affordable social housing could be built in a well located area, despite higher land costs. To address this issue, the developer knew that changes in the local permits to allow more density and design strategies would be key to keep prices low without compromising quality.

The prototype proposed by TAX was able to accommodate 120 units per

hectare, a density greater than the typical density in these types of developments, roughly 100 units per hectare, and more than what the developer had already achieved in a neighboring site (80 units per hectare).



Aerial view of the BOSCO development in Hermosillo. The map to the left shows the location of the project in the CONAVI boundaries. Photo Credit: Derex SA de CV.

Another objective of the project was to maximize the interior space and offer a parking spot with each house. The developer advocated these requirements based on their experience in the city and certainty that the project would not be commercially attractive without these characteristics.

In terms of the size of the unit, the new prototype achieved 73 square meters. This exceeds the size of other similar products by the developer, averaging 49 square meters. A remarkable 48% increase in the interior size was achieved with a minimal price difference. The use of local materials and innovative construction systems kept prices down.

The image above shows the houses that the developer used to build. The image below offers a comparison with the sections of the BOSCO prototype. The BOSCO units have 48% more interior space than the previous models and are located in a better area, closer to urban amenities. Photo credit: Derex SA de CV. As of February 2016, the developer reported that sales have been very positive, and they expect to replicate

this project in other cities. Even though the project involved a strong commitment from multiple actors, an intense review period, and trial and error process, the example demonstrates that it is nonetheless possible to build affordable social housing that is well located, dense, well serviced, adapted to local contexts, and still financially feasible for the developer.



Key Questions Raised

- What strategies can be used to incentivize other developers to develop projects like BOSCO?
- How can other institutions and actors collaborate on these type of developments?
- How can neighboring communities and users participate in the design process?
- How can these developments be reproduced in other areas of Mexico?



Community activities promoted by the developer in all their projects. Photo Credit: Derex SA de CV

Implications for Other Communities

- Projects like BOSCO are important because they provide an example that it is indeed possible to do sustainable projects, in good locations, and be financially successful.
- As Mexico is a very diverse country, it is essential that housing design and production be based in the realities of the local context. Adapting to these particularities will ensure the long term quality of life for the residents.
- During the design process, flexibility can be built in to determine the density adequate for the local context.

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Box 3: Development and Developer Controls

Development or developer controls refer to practices that place limitations on the types of development and practices of developers that are eligible for government subsidy or other preferential treatment for affordable or social housing. One common example of development controls is to limit profit margins for developers who participate in affordable or social housing production. Though the application of profit limitations varies greatly, it is not without precedent in the affordable housing sector, where expectations are established based on the application of subsidies or tax credits to a project. Depending on the level of government from which the subsidy or credit is issued, limits on profits may be stated at the outset, or negotiated throughout the development process.¹⁴² One strategy to address developer profits is to require developers to enter into a bond agreement at the outset of a social housing development project (this could operate similarly to the bond or fianza applied by the municipality for unforeseen conditions or vicios ocultos during development in Mexico). Typically, this bond would then not be returned until the project is analyzed for “excess profits” on the part of the developer.¹⁴³

One such example is in China, where subsidized homeownership is tightly regulated by government and includes guidelines on profit limitations for developers. Writing in an assessment of affordable housing in China, Joyce Yanyun Man explains: “local governments are required to provide free land, reduce government charges and fees, and control developers’ profits to lower the housing price for those who are qualified.”¹⁴⁴ Notably, even in this environment of heavy oversight of housing provision, the analysis nonetheless makes recommendations that parallel many of those assessed to the Mexican government. Yanyun Man emphasizes the need to

increase the supply of land reserves dedicated to affordable housing and to support a more efficient property tax system, issues that frequently come up in discussions regarding social housing in Mexico, writing: “The government needs to redouble efforts to curb speculative housing activities, increase land supplies for affordable housing construction, and use fiscal policies and tax incentives to encourage private developers to participate in the provision and management of affordable housing. Moreover, China should establish an efficient and effective local public finance system and a modern property tax to diversify local government revenue sources.”¹⁴⁵ This is an important reminder that to be effective, development controls typically must fit within a broader system of “efficient and effective finance” that may not be in place at the local level.

In the United States, there are numerous precedents for development and developer controls. Under Massachusetts (U.S.) state statute, for example, real estate developers who participate in the state’s affordable development program (known as the Comprehensive Permit Law or Chapter 40B) must agree to restrict their profit to a maximum of 20% for for-sale developments.¹⁴⁶ Interestingly enough, this is a restriction that comes as part of statute that intends to create more flexibility in the zoning process, “reducing unnecessary barriers” to encourage greater production of affordable housing. Nonetheless, participating developers, whether for- or non-profit, must comply with “extensive audit and cost-certification guidelines regarding the profit limitations imposed on 40B developments.”¹⁴⁷ Criticisms of placing profit maximums on developers are numerous, including the potential political disadvantages, as it requires significant negotiation with participating developers and may restrict much needed development. Urban development and housing experts also argue that this type of “profit cap” can be ineffective because it encourages developers

to overstate costs in their financial records in order to make profits appear smaller.¹⁴⁸ Nonetheless, as affordable housing and social housing become increasingly recognized as fundamental rights, the general public may be more open and increasingly critical of irresponsible private sector behavior, such as that of developers taking advantage of excessive subsidies and low lending costs, making these type of overhauls more politically palatable because of the potential for public support. The political appetite for development controls is an important topic of discussion across the housing sector, and one that is summarized powerfully in a question posed in an article in 2015 in CityLab: “Do leaders dare to challenge developers on their profit margins?”¹⁴⁹ Though speaking from the U.S. perspective, in which affordable housing production is often achieved through negotiations with market-rate developers who agree to contribute a certain percentage of units or funds toward affordable housing production, the core question is nonetheless the same, in which political leaders must be willing to confront developers with regard to the profits achieved on projects in which they access subsidies or favorable lending conditions.

Additionally, it is a generally held wisdom in the real estate field globally that investing or developing a variety of assets is a useful strategy for diversifying assets and minimizing risk. In affordable or social housing, this would mean that for-profit developers should not rely solely on profits earned from affordable developments, as this puts a greater financial pressure on developments that are already facing significant limitations. Rather, diversifying assets can create a healthier market, as it enables developers to rely on higher profit margins from higher end developments, and thus accept lower rates of profit from their developments that are targeted to middle- or low-income households.¹⁵⁰ By accepting lower rates of profit, developers can thus lower their sale prices for affordable (social) housing units, potentially reducing their reliance on federal subsidies to consumers. In Mexico, a reduced application of subsidies could have a significant impact on the social housing market overall, where a number of developers specialize only on social housing production and rely heavily on subsidy application for their developments. This over reliance on subsidy is concerning for the development sector and for federal policies in the future. Given the already remarkable precedent of limiting development via the *perímetros de contención urbana*, it is therefore all the more important to consider how the federal government, aligned with INFONAVIT as a key federal partner, could exert greater control or guidance over other aspects of the development process and continue to encourage more sustainable building and financing practices.

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Box 4: (Urban) Land Value Capture

Land value capture is a key strategy to enable development by addressing the challenge of high urban land prices. As described by Martim Smolka, one of the leading experts on land value capture in Latin America, “The notion of value capture is to mobilize for the benefit of the community at large some or all of the land value increments (unearned income or *plusvalías*) generated by actions other than the landowner’s.”¹⁵¹ These other “actions” typically refer to public promotion of or investment in urbanization, resulting in land value increases for private landowners, or “unearned income to a privileged few.”¹⁵² This is intended specifically to be a virtuous cycle, in which funds “captured” from land value increases are then reinvested into land use management and urban infrastructure and service provision into the future.¹⁵³ In this way, value capture can also potentially be an enabling strategy for the production of social interest housing, or *vivienda de interés social*.¹⁵⁴ Generally speaking, land value capture operates under the assumption that urban investment and development will accrue value because of the added benefits it brings, including more orderly growth, more efficient city services, and a higher quality of urban life.¹⁵⁵

It is important to emphasize the significant role that well executed urban design and planning can play in value creation through real estate. Writing on urban design in real estate development, Tiesdell and Adams argue that “there is a long history to the idea that well designed development projects can deliver public amenities while enhancing the economic value of privately held lands.”¹⁵⁶ A key component of this effective design is the integration of mixed uses into the urban development process, creating projects that co-generate demand by including both housing and retail, for example, and in doing so building a stronger sense of community within a new development or

redeveloped area.¹⁵⁷ They also emphasize that in the strategic arrangements or public-private partnerships that support redevelopment projects, it is important to remember that “each public project needs to create its own logic for using public goods to stimulate private actions and for tapping the private revenues to achieve them.”¹⁵⁸ Smolka nonetheless recognizes the challenges inherent to the application of this type of strategy, noting that the shift from typical property development paradigms toward one in which “private benefits are balanced with social costs involves a painstaking cultural shift.” Given the expected long time frame of a “cultural shift,” value capture is also well suited to gain momentum on a project-by-project basis.¹⁵⁹ This could be achieved through a pilot project approach, outlined in **Box 5: Pilot Projects in Urban Development**.

In a so-called “land value capture” arrangement, value can accrue to a range of participating actors, requiring coordination among a diversity of actors, whether in the private, public, or civic sector at the municipal, state or national level.¹⁶⁰ This is a particularly powerful strategy for municipalities in Mexico, where resource scarcity is a critical concern and municipalities often find themselves unable to provide adequate services to residents nor plan for the future because of ongoing lack of revenue or even debt. In the face of this reality, value capture offers a mechanism through which municipalities can “expand their own statutory sources of revenue.”¹⁶¹ Additionally, value capture offers an important strategy for empowering local officials to work on a specific project or site, rather than a citywide scale that can prove too challenging for logistical or political reasons. In order to be effective, however, value capture requires management skills to address the complexity of accompanying political and technical challenges, as well as the need to create a “fluid dialogue among fiscal, planning, and judicial entities, and the political resolve of local government

leaders.”¹⁶² The application of value capture strategies is also an important reminder of the reality that supportive legislation is ultimately insufficient, and legal strategies must be effectively implemented and rigorously upheld in order to have the desired impact. This is apparent even in Mexico, where legislation such as the *Ley de Impuestos Sobre Plusvalía* is a legal statute but rarely applied. Smolka argues that “national legislation has been found to be neither necessary nor sufficient” to allow jurisdictions to apply value capture mechanisms.¹⁶⁴ Nonetheless, the logic behind land value capture could still be applied in the context of social housing investments in Mexico, in order to counter the typical model of peripheral urban development. While this would imply that governments and housing investors must make major investments in more central locations, where investment costs are higher, they could potentially be assured a greater “windfall” of profits through mechanisms such as value capture. This could be a potentially powerful strategy for INFONAVIT to encourage their many local level partners, whether developers, state governments, or investors, to pilot a land value capture strategy focused around social housing.

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Box 5: Pilot Projects and Programs

In urban development, innovative approaches often come in the form of “pilot projects” or programs. Pilots allow a municipality, state agency, or organization to test out different programs (such as housing densification) before they are broadly adopted.¹⁶⁵ At the local level, much of the reluctance to link housing production to major urban development projects may be born out of a fear of the risk of project failure.¹⁶⁶ In this context, pilot projects can be key strategies to gain political support and buy-in, as pilot projects can be more realistic to achieve within a single political term. Additionally, given the smaller scale of the project, often represent a lower financial, organizational, or political risk to participating actors. Piloting is particularly practical for new and innovative financing mechanisms, as they create an opportunity for new programs to draw more attention and potentially attract additional or non-traditional funding sources. For example, recently popular Social Impact Bonds (SIBs) or Pay for Success (PFS) projects and contracts are often designed and marketed as “pilot projects,” emphasizing that they are intended as a means to test out the applicability of a method, rather than roll out an entirely new government program or policy (though this may be the eventual aim if the pilot is indeed successful).

By carefully analyzing the results of short term investments in order to understand what approaches work best, pilot programs tend to utilize an “evidence-based approach” and advocate for the most efficient use of government funds.¹⁶⁷ Pilots come in many forms, and may originate at the local level, be led by philanthropic organizations, or additionally be promoted by federal government through grants or programs. Pilot projects and programs have been widely utilized in the current administration, and pilot programs have been put into place across

INFONAVIT’s portfolio of credit options. Examples include *Arrendavit*, for credit holders to opt to rent INFONAVIT homes, *Manos a la Obra*, to enable credit access on *ejidal* or communal lands, or *Hogar a tu Medida*, for credit holders with disabilities to access accessible homes. Although some of these programs have been conceived with regional differences in mind, pilot programs may be even more effective when delegated from the federal to the local scale, thus allowing municipal or state governments to be more involved in piloting new initiatives based on their specific experiences, planning objectives, or housing needs.¹⁶⁸ Though intended to induce flexibility, pilot programs that are initiated from the federal level may nonetheless create greater confusion with more regulations to which developers must comply and local delegates must uphold. A next step might be to integrate these alternative credit options with other ongoing infrastructure or development projects at the local level, particularly in areas in need of infill or higher density housing to fulfill housing demand more sustainably and enable local actors to participate more directly in the pilot program process.¹⁶⁹

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Box 6: Impact Investing

Impact investing typically refers to investments that explicitly attempt to address a social issue. The Global Impact Investing Network (GIIN) succinctly summarizes impact investing as “investments made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return.”¹⁷⁰ Therefore, while impact investing entails an implicit interest in social welfare, it also incorporates measurable goals for expected social impact, tied directly to goals for financial returns.¹⁷¹ As urbanization increases, innovative financing mechanisms such as impact investing can play an important role in addressing key financing challenges. Harvard Business School Professor John D. Macomber labels these financing challenges the “bankable projects gap,” in which governments face significant difficulty when investing in critical needs such as infrastructure. Because of the uncertainty and perceived risk involved, such critical investments are often unattractive projects for investors.¹⁷² This is particularly true when faced with broad, multi-sector challenges such as urban sprawl, in which the challenges that need to be addressed appear in disparate sectors (water scarcity, housing unaffordability, inadequate zoning), and the economic benefits that accrue when resolved can be equally diffuse (greater efficiency, improved mobility, economic growth). Typically, for impact investing to be effective, a “measurement ecosystem” must be put into place in order to ensure that the intended impacts are indeed achieved, that government efficiency is improved, and that supporting partners are properly compensated for their initial investments. According to the Social Impact Investment Taskforce established by the UK’s presidency of the G8, when properly executed and implemented, impact investing can: “Generate intrinsic value for all stakeholders in the impact investing ecosystem; mobilize greater capital to increase the amount of aggregate impact delivered

by impact investing; and increase transparency and accountability for delivering on intended impact.”¹⁷³ Therefore, by bringing in private sector capital in support of public sector aims, impact investing initiates a process of strengthening government systems such as data collection, management, and monitoring.

Social Impact Bonds

Social Impact Bonds, or SIBs, are one important example of impact investing. SIBs have been increasingly utilized across the globe as a means to address “intractable social problems.” The Center for American Progress defines SIBs as “an arrangement between one or more government agencies and an external organization where the government specifies an outcome (or outcomes) and promises to pay the external organization a pre-agreed sum (or sums) if it is able to accomplish the outcome(s).”¹⁷⁴ These bonds are a type of “impact investing” and by their very nature, bring together a number of interested partners from the public and private sector, leveraging mutual interests in finding solutions to social problems. Rather than relying solely on government agencies for critical investments, SIBs enable a new arrangement where private or “impact” investors provide capital to launch new initiatives or programming, intended to spur innovation in service delivery, improve quality of life for vulnerable populations, and induce cost savings for government, thus enabling the successful repayment of the “bond.” Because of their problem-oriented nature, experts argue that bonds are useful tools for finding solutions that are adequate for the particularities of regional or local challenges, and can thus “incentivize the discovery and scale of locally appropriate, adaptable solutions to meet the needs of the very poor.”¹⁷⁵

Anne Field, writing for Forbes, emphasizes that in order for SIBs to be implemented, countries must

be properly prepared from both a political and technical standpoint, and as such must “have experience with public-private partnerships (PPPs) and a solid regulatory framework around PPPs, along with well developed financial markets, capable service providers, and availability of historic data on social sector issues.”¹⁷⁶ Public private partnerships are a critical coordination tactic that many cities and metropolitan areas already rely on, and could well be strengthened in the context of impact investing or social impact bonds. Macomber (2015) argues that social impact bonds could help to address the “bankable projects gap” by bringing together a diversity of actors willing to collaborate in the face of uncertainty. He writes: “The vibrant, sustainable cities of the future will be funded and delivered by creative financing arrangements that encourage collaboration. Social impact bonds could be one of the most innovative and effective.” As support for innovative financing and social impact bonds grows, there is increasing recognition that social impact bonds have relevance and applicability in so-called “emerging markets” and developing countries. In Brazil, for example, federal actors have coordinated around a national taskforce for impact investing, demonstrating the relevance of social bonds as a national policy effort, in spite of a very local impact when implemented. The “investment landscape” in Brazil is one of the strongest among developing countries, with significant interest from the private sector, whether multilateral banks or philanthropies, and growing support from the government.¹⁷⁷

Innovative Financing to Address the Housing Deficit

Although literature and research on impact investing frequently identifies the theme of housing as an area worthy of targeting for innovation, there are very few examples of impact investments or social impact bonds that address housing delivery directly. Generally speaking, impact investing can lead the way for important policy shifts that favor the production, improvement, and preservation of affordable housing. Analysis by InSight at Pacific Community Ventures (IPCV) and the Initiative for Responsible Investment at Harvard University (IRPI) argue that impact investing policies can encourage the creation of affordable in various ways, such as through the mandating of private investors to supply capital to low-income markets, incentivizing affordable housing through density bonuses, or providing technical assistance to community organizations.¹⁷⁸ The report warns, however, that even in the process of collaborating with the private sector and seeking to spur economic activity or financial returns, “fundamental considerations of equity and other national priorities should remain paramount in policy design.”¹⁷⁹

In the United States, one innovative approach to improving service delivery and reducing costs in affordable housing has been to focus on appropriate programming for affordable housing residents, introducing a “service-enriched housing model” to better serve low-income residents. This has been shown to have significant benefits at the household level as well as that of the development, supporting more stability for residents and a more viable financial asset for the developer.¹⁸⁰ Though innovations such as impact investing or social impact bonds have relatively few precedents in housing finance specifically, there nonetheless exists a strong tradition of “responsible investments in real estate” from which critical strategies can be learned. Such strategies focus on engaging directly with developers and developing “investment instruments” that yield acceptable (if not better) returns while also creating positive spillover effects for neighborhoods and cities.¹⁸¹ This is a well-developed field in the United States, where tax credits for low income housing construction and public-private partnerships have long bolstered the supply of affordable housing across the country.

Nonetheless, there do indeed exist several examples of innovative approaches to housing finance and delivery for social housing and urban development, such as community infrastructure. In Nicaragua, for example, the Inter-American Development Bank (IDB) has worked closely with PRODEL, Nicaragua’s Foundation for the Promotion of Local Development, to introduce innovative lending for housing and urban development. The collaboration promotes a “market-based, sustainable business model,” the backdrop of a robust lending program not only targeted for incremental housing improvements, but also for community infrastructure projects, thus steadily building quality of life at the household and urban level for low-income families.¹⁸² The combined commitment to housing improvements as well as vital infrastructure is a key characteristic of note, emphasizing the need to think creatively about addressing the housing gap beyond the home itself, and instead looking into community infrastructure as a key component of a healthy region.

Another innovative approach, also supported by the Inter-American Development Bank, is a partnership with COMFAMA in Colombia, the *Caja de Compensación Familiar Antioquia*. COMFAMA operates in the vein of a pension or social security fund, using payroll contributions to manage social benefits for affiliated employees such as healthcare or education.¹⁸³ Another such social benefit is housing, giving COMFAMA a structure and mission that resembles that of INFONAVIT, albeit at a much smaller scale. Through the partnership, COMFAMA is piloting a program intended to promote “Lease-

to-Own” (LTO) social housing, in which COMFAMA purchases units that it will then lease to low-income affiliated employees, intended to enable them to improve their living conditions while also saving over time to be able to eventually purchase a home.¹⁸⁴

A similarly modeled program has also been promoted by the IDB Opportunity for the Majority (OMJ) program in Mexico through the FOMEPADE, a Mexican financial institution that uses payroll deductions to perform lending with state and municipal servants, targeted to lower-income workers at the Base of the Pyramid (BOP).¹⁸⁵ Through support from the IDB, the FOMEPADE is now able to offer three instruments targeted to housing acquisition, including mortgages, financing for home improvements, and lease-to-own programs. Though these are workers who are by their very nature not eligible for INFONAVIT credits, this is an important example to note because it attempts to create alternate mortgage products (such as Lease-to-Own) that are better suited to the participating workers.¹⁸⁶

These examples, all in the Latin American context, are important reminders of the growing number of innovative approaches to housing finance and delivery that can help to address the housing gap for low-income workers and households, and also, hopefully help to reduce the federal government’s reliance on direct subsidy. Notably, these are alternative models that move away from direct developer or consumer subsidies and instead work to strengthen the purchasing power of participating employees or homeowners, thus strengthening the economy overall.

Impact Investing in Mexico

Even closer to home, Mexico has also already seen significant attention around social bonds, with increased interest in impact investing generally, and even pilot programs underway at the state

level. Bloomgarden and Levey (2015) note that Mexico’s wealth of nonprofit organizations and “social enterprises” make it an excellent environment in which to initiate social impact bonds. Notably, the Inter-American Development Bank (IDB) has also been a major promoter of “impact investing” in Latin America, promoting projects that seek to “provide high-quality goods and services for the low-income population,” among them education, health, or housing. In Mexico, the IDB Group has already demonstrated interest in impact investing, with a US\$25 million loan and a US\$5 million equity investment in the IGNIA Fund, an impact investing venture capital fund in Mexico.¹⁸⁷ This fund has then gone on to support companies working on innovations in social service delivery, including several organizations such as PROVIVE or MEXVI that directly address the recuperation of abandoned housing and housing inadequacy, respectively. IDB’s involvement in these type of efforts is important to highlight, as it emphasizes not only the importance of the need to address pressing social issues with innovative strategies, but also indicates the expectation that these efforts will ultimately be feasible in financial terms.

New Ventures is another example of an organization already active in impact investing in Mexico, providing loans to enterprises and businesses working on “social and environmental impact.”¹⁸⁸ New Ventures operates as a “social and environmental business accelerator” targeting lending and technical assistance to small-scale entrepreneurs. Though organizations are already active in promoting impact investing in Latin America and Mexico, it is generally agreed that in order to broaden the scope of impact investing and social impact bonds in Latin America, it will be necessary to strengthen partnerships between national and regional actors, and social partners, and assuring that social impact “deals” are properly designed.¹⁹⁰ Given the current

Peña Nieto Administration's willingness to undertake an important set of reforms, particularly in the area of urban development, with a new set of national plans for development and housing, CONAVI's unprecedented set of *perímetros de contención urbana*, as well as the creation of SEDATU, there is clear momentum for more innovative approaches to government operation, service delivery, and interaction with the market.

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Box 7: Desarrollos Certificados

The Desarrollos Certificados program or DCs, formerly known as DUIS are important to highlight as they represent a notable precedent for government coordination around urban development projects. The DC projects aim to promote orderly, just, and sustainable urban development through coordination between developers and all levels of government from local to federal. DCs are conceived of us as “mixed projects,” in which municipal, state, and federal governments participate, as well as developers and landowners, broadening the range of participating actors.¹⁹¹ The DCs are social housing developments, often with mixed typologies and a range of urban design features. In addition to the planning of the site itself, the DC is envisioned as a driver of regional development, where the integration of housing, infrastructure, services, commerce, education, health, industry, and other components can contribute to economic development. The DCs are articulated as a shift from a quantitative to a qualitative model for housing in Mexico, a significant change from the predominant model of the “housing train” and heavy reliance on low-density horizontal growth. Rather, the DCs emphasize the need for higher quality of life for residents of social housing.¹⁹²

By its very nature, the DC program brings federal actors together in order to offer a basket of incentives or *canasta de incentivos*, including technical assistance, preferential subsidies, financing, or assigned mortgage credits. However, with administration changes and federal funding challenges, the assignation of these benefits to developers has been slow (if at all), greatly challenging the long term sustainability of the program, as future developers are unlikely to be willing to participate. Given this instability, there are important lessons to take away from the implementation of the DC and DUIS program, most notably that in order for such initiatives to be most effective, they must guarantee funding against the uncertainty of administrative changes. As a program rooted in the importance of coordination across levels of government, this vision is greatly undermined by the pervasive uncertainty of funding for the *canasta de incentivos*. Nonetheless, the DC program does indeed demonstrate the interest on the part of the private and public sector to come together around urban development projects that use housing as a centerpiece, and also indicates their willingness to work through particular requirements and standards.

Box 8: Cadastral Upgrading

Many innovative strategies and alternative approaches to housing finance and production often require robust property data management and taxation systems, often referred to as cadasters. The OECD, writing on best practices in cadastral management in Mexico, emphasize: “Property rights are essential elements for economic growth and social development.”¹⁹³ In order for property rights and land management to be an effective means to empower local government and create greater coordination among local actors in the public and private sector, better information, valuation, and regulatory systems must be put into place, particularly in interurban areas. Though the technical details of how cadastral upgrading takes places will not be covered in this report, the cadaster is nonetheless important to consider because it represents an important step towards greater transparency in government, establishment of formal tenure for vulnerable populations, empowerment of local governments to build independent sources of revenue, and also creates pathways toward investment (and reinvestment) in underutilized urban areas. Additionally, by better facilitating investment, cadastral upgrading can also be a critical basis for economic development, increased productivity, as well as supporting the eventual development of innovations.¹⁹⁴

As such, cadasters can also be a huge help towards addressing vacant parcels, by creating mechanisms through which to better fine or tax landowners. Frequently, the cadaster is a first step in more complex urban revitalization strategies like land value capture, also addressed in brief in this report in **Box 4: Land Value Capture**. By definition, upgrading is an ongoing process that requires continued attention and adaptation, a reality that has challenged the process in Mexico in spite of its overwhelming need. Typically, the limitations to modernization including changes

in state administrations that disrupt continuity, scarcity of resources available to be dedicated to modernization efforts, as well as unforeseen economic contingencies that may arise and pull resources away from modernization efforts.¹⁹⁵

Attempts have indeed been made, including a national modernization program, or “Programa de Modernización de los Registros Públicos de la Propiedad y Catastros” as recently as 2006. The program states two principle aims: to provide juridical certainty of property ownership through the standardization of municipal and rural public registries, as well as to achieve institutional modernization in order to guarantee the inheritance of property without conflict and to access formal sources of financing.¹⁹⁶ In Mexico, public and private sector actors alike often cite the need for more robust and updated cadastral systems, which may fall under the responsibility of state or municipal governments.¹⁹⁷ In their report on the institutional approach to an Integrated Property Registry Model or “Modelo Integral del Registro Público de la Propiedad,” CONAFOVI and SHF emphasize that for the proper functioning of a property registry, certain fundamentals are required, including: institutional commitment, organization changes, active community participation, a long term vision, improving the registry system, and updating the juridical framework for the registry.¹⁹⁸

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Box 9: Fellowship Program Precedents

Fellowship programs offer the opportunity to engage professionals in training programs in government, intended at bringing up a new generation of educated, trained, and committed professionals with experience in and an understanding of the unique challenges of the public sector, whether or not they remain working in that field for their career. In the United States government, for example, fellowship opportunities are common across disciplines and departments, and typically encourage recent college or master's level graduates to bring their academic training into service in the public sector. Though many programs are targeted to research in specific departments and areas, another fair few are dedicated to strengthening public service and leadership in government, such as the White House Fellows or Presidential Management Fellows, both of which operate at the federal level. Both fellowships create a certain amount of prestige around public service, attempting to elevate the importance of public sector work as a competitive field.¹⁹⁹ The fellowships bill themselves as an “excellent leadership training ground,” serving not only to bring new talent into government, but offering compelling and unique experiences and training for participating fellows.²⁰⁰ Numerous cities (Philadelphia, Chicago) or state governments (California, New York) in the United States also have their own fellowship programs, intended to train educated individuals in the particularities of leadership and policymaking at the state or local level. In Mexico, a fellowship program could serve to elevate the status of public service and attract high level, talented young leaders to the fields of urban development and housing, areas they might not have otherwise considered.

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