



Photo: Irene Figueroa Ortiz



Part 1

Densifying Existing Areas



Part 1: Densifying Existing Areas

According to the United Nations, by 2007 the number of people worldwide living in urban areas exceeded the number living in rural areas. The trend toward urbanization began in the developed world in the nineteenth century with the Industrial Revolution. This trend accelerated globally starting around 1950, when only 30% of people lived in urban areas (United Nations 2014, 7).

However, despite such large increases in the number of people living in urban areas (or cities), the density of urban areas all over the world is on the decline (Angel et al. 2010, 60). This is due to a range of factors that tend to spread people out within urban areas. These include increasing use of motor vehicles for transportation, growing incomes leading some people to want more space, low incomes forcing others to move further from the core city to find cheaper housing, and decentralizing employment encouraging similar movements for workers wishing to live close to jobs. In a few areas decreasing densities are due to declining populations, but these cases are still relatively rare. In a study of city density using aerial imagery and national census information, Angel et al. found that the average built-up population densities of 120 global cities (population of 100,000 or greater) decreased at an annual rate of approximately 2 percent between 1990 and 2000 (Angel et al. 2010, 60).

Urban expansion is thus the main mechanism for this seemingly paradoxical trend of increasing urban populations and decreasing urban densities. Some of this expansion is well-designed, uses land efficiently even if at slightly lower densities than the core cities, and creates pleasant places to live and work. However, other development often referred to as sprawl has more problems. In Mexico such development occurs both through informal strategies and via formal developments. In the recent decade it has been the latter that has grabbed public attention as an earlier government policy increased low cost housing development, often on the urban periphery.

Sprawl has no agreed-upon definition. However some of the characteristics of urban areas labeled as sprawl are listed in Table 1.1, including low-density development, auto-dependency, land

Table 1.1 Commonly cited characteristics of urban sprawl.

Characteristics of Urban Sprawl
<ul style="list-style-type: none"> • Low residential density • Unlimited outward extension of new development • Spatial segregation of different types of land uses through regulations • Leapfrog development (or development that leaps out onto new land, not connected to existing urban areas) • No centralized ownership of land or planning of land development • All transportation dominated by privately owned motor vehicles • Fragmentation of governance authority over land uses among many local governments • Great variation in fiscal capacity of local governments • Widespread commercial strip development along major roadways • Major reliance on filtering process to provide housing for low-income households. Filtering occurs when wealthier people move into new homes and low-income people move into the older and lower-quality houses left behind.

Adapted from Neuman (2005, 15), citing Burchell et al. (1998).

use division, and “leapfrogging” development over open land. In some contexts, such as the smog-choked industrial cities of North America and Europe during the 19th century or the overcrowded informal settlements of the contemporary global south, this trend is a welcome relief. However, in general, urban expansion and sprawl create a disproportionate amount of costs for residents and local governments. For example, in a multivariate regression analysis of the expenditures of 3,179 Spanish municipalities in 2005, Benito et al. discovered that municipalities with higher population densities had lower per capita spending on services, presumably because they were more efficient (Benito et al. 2010, 261). Other costs commonly attributed to sprawl include disadvantaged communities in the urban core or the urban fringe, traffic congestion, environmental problems, and loss of farmland (Boyle and Mohamed 2007, 679).

One of the key issues Mexico needs to deal with is to move from a sprawling development pattern to a more efficient one, which will involve both densifying the existing built-up areas and creating better developments nearby.

The causes of sprawl are uncertain and complex. Policies and subsidies at all levels of government certainly play a large role (Knaap et al. 2000, 10). Through a literature review of the effects of federal, state, and local policies on urban sprawl in the United States, Knaap et al. found that policies that influence transportation costs, housing prices on the urban fringe, the financial structure of local governments, and cost of extending infrastructure have the greatest impact. They also acknowledged that economic forces outside the direct control of government play a large role in promoting urban sprawl, such as rising incomes or falling transportation costs (Knaap et al. 2000, 10).

In Mexico, mortgages from the two government

sponsored mortgage agencies INFONAVIT and FOVISSSTE (the public sector worker equivalent of INFONAVIT) certainly have contributed to sprawl by building a substantial amount of units in under-serviced locations, with long commutes to work. While there are many good housing developments in Mexico, policies since the early 2000s emphasized quantity of mortgages over the quality of the unit and location. According to the OECD, in the period between 2006 and 2013 “in 46 out of Mexico’s 59 metropolitan zones, more than 70% of homes registered in the new National Housing Registry (RUV) were built either at the outskirts or the periphery” (2015, 19). What is more, the OECD report elaborates: “roughly 90% of the housing stock consists of individual homes (rather than denser, multi-family residences)” (OECD 2015, 19).

However, government can also play a role in preventing urban sprawl. Globally, strategies that promote densification in urban areas have emerged since the mid-twentieth century with the goal of constraining the outward growth of cities and metropolitan areas and focusing new growth into existing urban areas.

This chapter gives an overview of four types of programs that help consolidate, intensify, or densify existing areas:

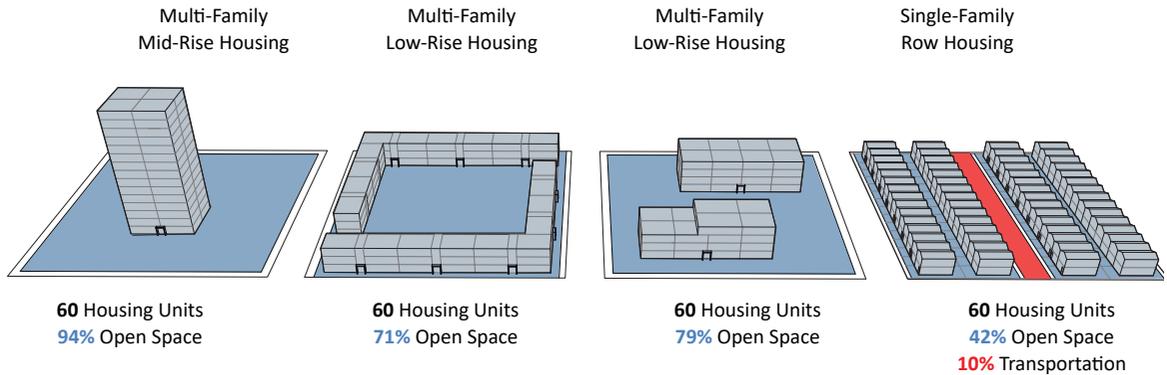
- **Programs and policies that promote densification.**
- **Approaches to simplifying redevelopment processes.**
- **Methods for encouraging acceptance of higher density development projects among city and metropolitan area residents.**
- **Approaches to promoting alternative tenures.**

What is densification?

At its base density refers to the number of residents, jobs, or housing units in a particular area. To increase it, typically more units are built in the same area—for example in taller developments, or splitting large units into smaller ones. It does not mean high rise development—some of the highest density cities have fairly low buildings (central Paris, for example). Thus, increasing density is as much about design and planning—how it is done—as it is about the quantity of units or people (See Appendix B).

Density is often confused with related topics including crowding (people per room) and building lot coverage and bulk (which relate

to design rather than density). Many people fear higher density dwellings will be cramped, lack open space and parking, and even be of lower structural quality. These are all important issues but are not directly related to density. For example, attached units can be spacious with gardens or balconies and ample parking (or alternative transportation). It is important to be very clear about these differences.



The same density of housing can be arranged very differently on the site, creating contrasting environments in terms of open space and building height.

Diagram by Irene Figueroa Ortiz

1.1 Programs of Overall Metropolitan Densification



Programs of Overall Metropolitan Densification

What It Is

- **Densification shifts growth to already developed areas through infill or redevelopment and seeks to slow, constrain, or completely prevent the outward growth of cities.**
- **The sustainable “compact city” is characterized by higher densities, mixed uses, public transit, social and economic diversity, and environmental protection.**
- **Tools such as greenbelts, urban growth boundaries, and urban service areas limit outward expansion of urban areas.**
- **Strategies like density requirements/targets, metropolitan planning, taxation reforms, and reforms of other government policies encourage infill and redevelopment.**

Broadly speaking, **densification strategies, sometimes called urban consolidation**, are planning and policy tools deployed at multiple levels of government that slow, constrain, or prevent the outward growth

Portland, Oregon, uses a growth boundary to limit development to areas with infrastructure.

Mexico has a national policy that is quite similar as it limits growth to clearly defined polygons based on the existing urban area and a buffer around it.

Photo: Cacophony, Wikipedia Commons

of cities and urban development into peripheral areas. Densification strategies also redirect growth towards already developed urban areas within the city, either by redeveloping unused or underused parcels or by increasing densities in existing areas. Redevelopment, and increased densities specifically, promote containment of the urban area and can help ensure that housing is located centrally near employment and services like schools and shops. On the other hand, these strategies can increase the value of centrally located land, pushing up housing costs and limiting supply. To address this phenomenon, densification must be accompanied by steps to increase production (through infill and higher density expansion) to ensure housing affordability (Boyle and Mohamed 2007, 638).

The **compact city** is a related urban planning and design model that claims to be the ideal form for sustainable cities. Generally, efforts by cities and metropolitan areas to promote densification are made in the hopes of creating this type of city form. Like urban sprawl, the compact city can be defined many ways. Table 1.2 lists some of the most common characteristics attributed to the compact city, which can include well-designed urban expansion as well as redeveloping existing urban areas.

Urban containment and growth management are terms used to describe any policy that seeks to influence the expansion of urban areas through containment or management. In general, these policies make use of “push” and “pull” factors to ensure that a city or metropolitan area will take a particular form (Pendall et al. 2002, 4). Push factors refer to strategies such as greenbelts and urban growth boundaries, which restrict where new development can occur on the fringe of a metropolitan area. Pull factors refer to policies that direct the construction of public infrastructure (such as roads, water, sewerage, etc.) and services to areas that have been identified

Table 1.2 Characteristics of the compact city model

Characteristics of the Compact City
<ul style="list-style-type: none"> • High residential and employment densities • Mixture of land uses • Fine grain of land uses (proximity of varied uses and small relative size of land parcels) • Increased social and economic interaction • Contiguous development • Contained urban development, demarcated by legible limits • Efficient urban infrastructure, especially sewerage and water mains • Multimodal transportation • High degree of local/ regional accessibility • Substantial street connectivity, including sidewalks and bicycle lanes • Significant impervious surface coverage • Low open-space ratio • Unitary control of planning and land development, or closely coordinated control

Adapted from Neuman (2005); citing Burton 2000; Galster et al. 2001; Song and Knaap 2004.

as appropriate for development (Pendall et al. 2002, 5).

In all these strategies government and developers must also address the concerns of local residents, whose objections to higher density projects often have the effect of extending the time it takes a project to work its way through regulatory review processes, greatly affecting the costs to private developers (Forsyth et al. 2010, 270). Experiences from other metropolitan areas, such as Sydney, Australia, suggest that this process is often quite difficult (**For more detail about the Sydney example see the case study in Appendix D**).

The following sections describe each of the containment and densification strategies mentioned above in more detail, providing examples of their application in Mexico and internationally.

- **Greenbelts**
- **Urban growth boundaries and urban service areas**
- **Density requirements**
- **Strong metropolitan planning agencies**
- **Changes in property taxation**
- **Transfer of development rights**
- **Alignment of government policies and programs**

1.1.1 Greenbelts

What it is: A greenbelt consists of a band of protected open space surrounding a city or larger metropolitan area in which new development is prohibited or severely restricted.

How it works: Governments prevent new growth in the greenbelt through legal or regulatory barriers, effectively prohibiting urban development (although continued use of farmland may be allowed, for example) (Pendall et al. 2002, 18). Greenbelts tend to be static barriers to outward growth, and thus, very effective. However, they can be difficult and expensive to implement, requiring government to purchase land or development rights (Pendall et al. 2002, 18). In addition, unless there is a concerted effort to increase density within, the greenbelt will not stop development, but displace it to areas outside of the greenbelt, a phenomenon known as leapfrog development.

Example: Since the late 1950s, a number of voter approved policies and tax increases have enabled the city government in Boulder, Colorado to purchase open space surrounding the city in order to prevent the growing municipality from sprawling, thus preserving valuable recreation and

environmentally sensitive areas. However, at the same time, the municipality began implementing policies to limit new development within the city, creating a dramatic imbalance between the supply and demand for new housing. As a result, new growth occurred in jurisdictions outside of the greenbelt, in areas with few or no anti-sprawl regulations. So while the city was successful in creating a greenbelt and reserving lands in its periphery, it resulted in new, unsustainable growth in areas outside of the greenbelt. In addition, many of the residents of these new suburbs commute into Boulder for work, promoting automobile use and creating traffic congestion issues (Pendall et al. 2002, 19-20).

See Appendix D for an example from Seoul, South Korea.

Greenbelts: Implications for Mexico.

Through the urban containment boundaries or “PCUs” (technically growth boundaries), the Mexican government has created de facto greenbelts around all metropolitan areas. This has implications for housing affordability, as the restrictions on development in designated areas may drive up housing prices significantly or propel sprawl elsewhere. Implementing greenbelts may prove particularly challenging in Mexico because coordinating local and state governments in both assembling and acquiring land to be protected or reserved as part of a greenbelt strategy may prove too costly without federal funding or support.

Takeaways:

- Greenbelts are a viable strategy for growth control but must be combined with adequate policies, primarily by providing land for development within the area surrounded by the greenbelt and restricting leapfrog development or channeling it into well-serviced growth centers.
- Without proper policy alignment, greenbelts



England widely adopted the use of green belts to contain urban development. The distinction between green area and development is clear.

Photo: The Telegraph

will only exacerbate sprawl and increases in housing prices.

- Greenbelt strategies typically require regional or state-level government to coordinate multiple municipalities.

1.1.2 Urban Growth Boundaries and Urban Service Areas

What it is: Urban growth boundaries (or UGBs) create a regulatory barrier to development outside of a designated area. Urban service areas seek to encourage development in a city or metropolitan area in certain locations over others through the provision of municipal infrastructure and services.

How it works: Within urban growth boundaries, urban land uses are allowed to occur, while outside of the boundaries, land is restricted to rural and other non-urban uses. Because this boundary is not a physical one, it can be adjusted or expanded based on certain metrics, thresholds, or a community's preferences. Unlike greenbelts or urban growth boundaries, urban service areas do not necessarily seek to prevent development from occurring (Pendall et al. 2002, 20-25). Instead, they are more concerned with providing public infrastructure and services in a planned and orderly manner and focusing development in serviced areas.

Example: State laws in the U.S. State of Oregon require all cities and the metropolitan government of Portland to create urban growth boundaries. These boundaries must contain enough buildable land to last for 20 years—typically calculated with estimates of growth rates and development densities. Once the supply of land dips below this threshold, the city or metropolitan area must expand the growth

boundary until it again contains a supply of buildable land for at least the next 20 years (Metro 2015).

Example: Mexico's equivalent of a UGBs strategy is the program of **Urban Containment Boundaries**. In 2013, the National Housing Commission (CONAVI) developed the Urban Containment Boundaries or *Perímetros de Contención Urbana* (PCU) to help channel federal housing funding to consolidated urban areas with access to services, jobs, urban amenities, and transport. These boundaries were designed with geospatial information from the National Institute for Statistics, Geography, and Information (INEGI). The boundaries are broken down into three types according to their location in respect to urban centers, population, and coverage of basic services (CONAVI 2015):

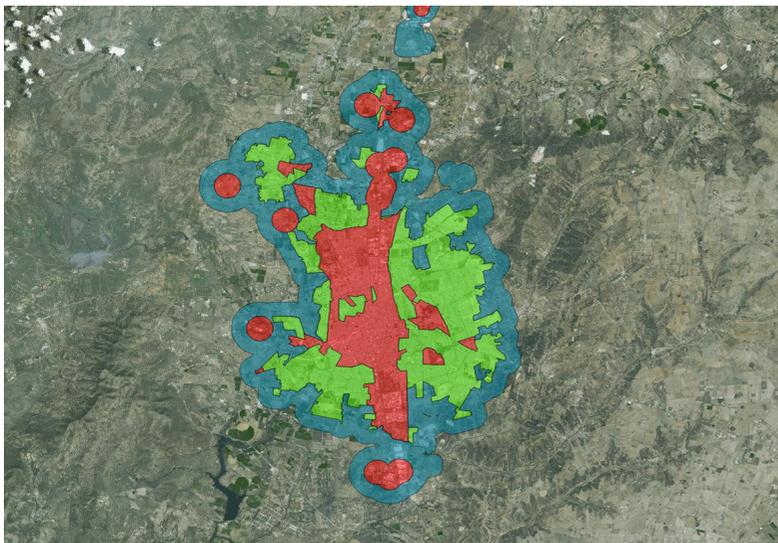
- **U1- Intraurban:** Defined with the variable of proximity to employment, defined as the physical distance to jobs in a given geographic unit.
- **U2 - First boundary or areas in the process of consolidation:** Areas with water and sewage service coverage greater than or equal to 75%.
- **U3 - Second boundary or contiguous urban areas:** Areas located next to U2s in a buffer defined according to the size of the city.

Urban growth boundaries and urban service areas: Implications for Mexico.

As noted above, the Mexican urban containment boundaries (PCUs) act as growth boundaries, in this case specifically for housing developments that receive federal mortgage subsidies or are eligible for purchase with mortgage credits. Though the PCUs developed by CONAVI are an important first step toward providing better serviced housing, it is critical to ensure that adequate land and well equipped infrastructure match these designated boundaries, and that lands designated in the most central or accessible areas (designated as U1 in the PCUs, for example) are accompanied with sufficient subsidies or incentives to support infill and densification on those lots or sites.

Takeaways:

- UGBs and urban service areas allow a city or metropolitan area more flexibility in guiding development than greenbelts, as well as preventing the creation of satellite towns or cities outside of the boundary.

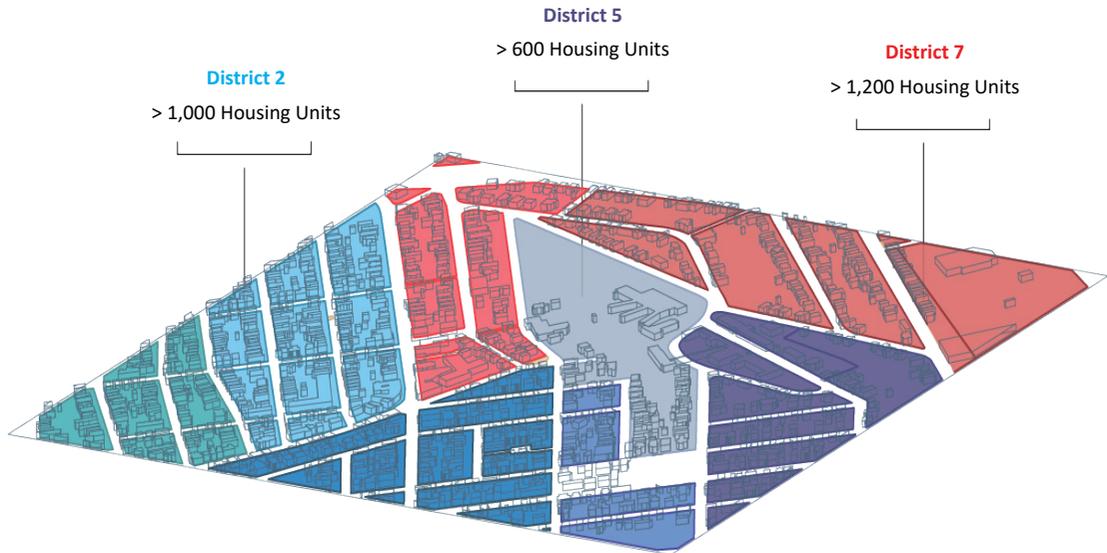


Top: Aguascalientes was planned within 3 beltway loops in order to contain the development of the city.

Diagram by Irene Figueroa Ortiz

Left: Urban containment boundaries (PCUs) in the city of Aguascalientes. U1-intraurban (red), U2-First boundary (green), U3-Second boundary (blue).

Photo: CONAVI 2015



- While some housing development inside an urban growth boundary can be lower density, some areas typically must be developed at higher densities (though not necessarily high rise) to keep housing costs down. Housing configurations within UGBs might include small detached houses, row or townhouses, or low-rise apartments.

Example of how an area could be divided in sub-districts in order to establish new density requirements.

Diagram by Irene Figueroa-Ortiz and Nomin Jagdagdorj

By linking development with the provision of infrastructure, urban service areas ensure that providing infrastructure and services (which can be very costly) happens at a pace the responsible government can sustain financially, instead of obliging government to provide infrastructure at the rate development occurs (Pendall et al. 2002, 25).

1.1.3 Density Requirements

What it is: These requirements specify a density for infill and redevelopment projects in order to encourage greater density in targeted locations.

How it works: Density requirements are implemented in a variety of ways. Some have **minimum** densities for new development. Others use up-zoning (changing zoning to allow higher **maximum** densities), other legally imposed development standards, or simply recommended guidelines (SPUDD Cape Town 2012, 10). An example of a zoning change to promote density would be allowing

the construction of accessory dwelling units or allowing subdivision of larger parcels into smaller ones to allow for more units (even additional single-family housing). Another approach is to create minimum targets for the amount of new housing that will be built in certain areas of a city or metropolitan area (NSW Government 2013).

Example: In its draft *Metropolitan Strategy for Sydney to 2031*, the government of the Australian state of New South Wales seeks to encourage densification through the use of what it calls “housing targets”. The plan divides the Sydney metropolitan area into six different sub-regions, assigning each one a different target representing the number of new housing units that will be built in each sub-region. In addition, the plan assigns minimum density requirements for new residential developments based on how close they are to major centers and nodes. The centers with the best transport connections and the most jobs, shops, and services have higher minimum requirements than smaller nodes with fewer connections (NSW Government 2013, 12).

See also the Sydney case study in Appendix D.

Example: In 2015 the municipality of Guadalajara updated its zoning regulations (*planes parciales*) to create higher density areas, reduce parking requirements, and identify vacant sites for social housing. Minimum densities were established in areas next to urban corridors already well-connected with transport and services. When published in early 2015, these regulations were expected to be a positive turning point for the city, which had not updated its zoning regulations since 1993. In spite of this, the approval of the plans met resistance from a group of neighbors (*colonos de vecinos*) whose opposition resulted in a “freezing” of the plans’ approval in the state court system. Major concerns included a loss of the city’s character and increased traffic congestion. Until the state courts make a final decision, private and

public sectors alike are waiting to see how urban development in Guadalajara unfolds. The details of this case are expanded on in the Governance report, but it is important to highlight here the drawbacks of promoting density requirements without necessary community engagement (Davis 2015).

Metropolitan or state density requirements: Implications for Mexico.

Across Mexico, zoning controls are key to successfully implementing infill development and enabling an increased housing supply through densification. This responsibility falls specifically to local governments, and municipalities must be empowered to make informed technical decisions about how to better accommodate densification through appropriate density requirements.

As metropolitan planning agencies are implemented more fully, they can also play a critical role in using coordinated data to help municipalities plan to accommodate growth and density in appropriate neighborhoods or corridors. They can help align other infrastructure projects that may be public (such as public transportation initiatives) or private (major university campus expansions and master planning). Lastly, efforts for increasing density requirements or “up-zoning” in Mexico must also be sensitive to the relative lack of precedents for high density residential development in the country (outside of Mexico City) and could potentially use public participation and other engagement campaigns to ensure greater public support and acceptance (to be explained in greater detail in 1.3 Promoting Acceptance of Urban Infill).

Takeaways:

- Both maximum and minimum densities can be used to structure urban space.
- Density requirements are greatly

strengthened when coordinated with infrastructure plans, especially those dealing with transportation in order to ensure that new development is adequately serviced (Dodson 2010, 488).

- Increasing density around current or future public transit stations (known as transit-oriented development) or activity/town centers are common strategies to channel density.

1.1.4 Strong Metropolitan Planning Agencies

What it is: Planning policies and frameworks supporting densification can be formulated at a number of levels of government. A growing body of research suggests that metropolitan planning allows for more equitable distribution of resources between cities, suburbs, and rural areas, allows for a comprehensive planning of transport systems, and forces coordination between local governments, allowing for more effective containment policies (Boyle and Mohamed 2007, 685).



New mid-rise housing in a new town center in outer suburban Sydney (Rouse Hill) shows higher density housing in an area with more services.

Photo: Collection of Ann Forsyth

How it works: A metropolitan plan needs some kind of regional agency which may be created by higher levels of government (e.g. state, national) or as a cooperative agreement among municipalities. It is also necessary for government to decide the amount of detail or specificity metropolitan plans will include. Plans at this level can range in specificity from being conceptual to being like blueprints for future development.

Example: In Australia, the national constitution gives state governments the power to make planning decisions. These governments do not need the approval of either the national government or the local governments to implement their decisions regarding the spatial development of metropolitan areas (Searle and Bunker 2010, 164). A past plan for Sydney’s metropolitan strategy “specifies the future size, location and role of all sizeable centres, the location of future rail and regional bus routes, inter-modal centres for freight transport, and sub-regional housing and employment targets to be adopted in local planning” (Searle and Bunker 2010, 167). Local plans need to conform to these wider state-initiated policies. The current draft *Metropolitan Strategy for Sydney to 2031* is similar in its level of prescription (NSW Government 2013)(See the Sydney case study in Appendix D). This is a pattern in many locations around the world including Bogotá in Colombia (Irázabal 2009).

Strong metropolitan planning agencies: Implications for Mexico.

Creating strong metropolitan agencies is an opportunity for Mexico, where a lack of coordination and communication creates numerous challenges for urban planning and development at the metropolitan level. In locations where one municipality covers most of the metropolitan planning area—for example, Aguascalientes—planning and development

is generally more orderly. In locations with numerous municipalities forming part of the metropolitan planning area—Oaxaca, for example—planning and development is challenging and efforts are frequently piecemeal.

As is documented in the Governance report, negotiating and mediating metropolitan coordination initiatives is complicated given the lack of an urban regulatory framework in Mexico that sets the ground for implementing metropolitan planning. Unlike the case of Australia, metropolitan agencies frequently lack the legal framework or adequate financial support to lead any type of initiative, leaving all projects to be negotiated with municipal governments.

Takeaways:

- Although challenging to manage, metropolitan planning can allow for greater coordination and equity in planning processes and outcomes.
- Metropolitan planning agencies can offer much-needed resources for smaller cities or municipalities who do not have the technical or financial capacity to conduct urban planning independently.
- The frameworks for metropolitan planning agencies can be complicated to put in place legally, but financial incentives from higher levels of government can help to encourage their creation. For example, to receive federal transportation funding, U.S. metropolitan areas need to form a metropolitan planning organization (MPO) that conducts regional transportation planning.

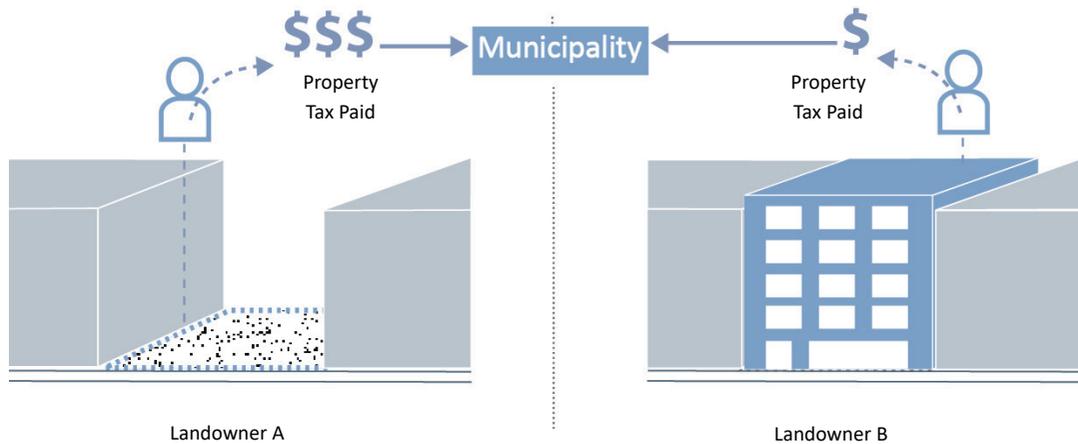
1.1.5 Changes in Property Taxation

What it is: Through its power of taxation, governments at the local and/or state level are able to encourage densification. This is commonly done through a surcharge on vacant or under-

used properties, which sets property taxes at a higher value or rate, encouraging property owners to develop or redevelop their property.

How it works: There are a number of ways changes to property taxes can encourage densification. One method is to require the property owner to pay taxes not on the value of the property in its current undeveloped or underdeveloped state, but on the value of the land if it were developed to its full potential as allowed for under zoning and development regulations. Another method is to tax the property at a set, but higher rate than properties that take advantage of the full potential of the land. The rate could increase gradually over time, placing more pressure on properties that have been underutilized longer (CONAVI 2010, 39-40). It is also possible to tax all land at the undeveloped rate so there are no disincentives to develop.

Example: Most municipalities in the United States tax property based on the assessed value of the land and any improvements such as buildings on it. This value is taxed at a certain rate, and typically is the primary revenue source for local governments. According to economists, this system of taxation discourages site improvements, since such improvements result in higher tax values and, thus, tax payments (Cho et al. 2008, 4). If this is true, then government policy has created incentives for developers *not* to develop on vacant properties. Economists suggest an alternative tax scheme, known as a land value tax, which taxes property based only on the value of the land, not the buildings or improvements upon it. The result of a land value tax, according to Brueckner and Kim (2003; cited by Dye and England 2010, 11) is to encourage “more structures to be built on a given land area” meaning that landowners are more likely to build at higher densities (Brueckner and Kim 2003, cited by Dye and England 2010, 11).



Example: Bogotá, Colombia is one city that has made use of such policies by taxing vacant lands at higher rates. The average property tax rate for all properties in the city is 0.69%. However, vacant sites under 100 m² are taxed at a rate of 1.2%, and for vacant land over 100 m² the rate is 3.3%. Overall, vacant lands are taxed at an average rate of 2.25%, much higher than the average for all property. In addition, the city taxes suburban lands at a rate 1.6%, further discouraging urban sprawl (CONAVI 2010, 40).

Policies to charge higher taxes on undeveloped land can encourage owners to develop housing. In this example, Landowner A pays more property taxes than Landowner B because the parcel of Landowner A hasn't been developed.

Diagram by Irene Figueroa Ortiz and Nomin Jagdagdorj

Changes in property taxation: Implications for Mexico.

Though frequently discussed, changes in property taxation strategies are very difficult to implement in Mexico given limited capacity of municipal land registration systems and low property tax collection. This may be the case for a variety of reasons, a lack of technical capacity at the local level, a lack of a culture of payment by property owners, or registered land or property values that are well below market value (El Financiero 2014). On the technical side, many municipalities rely on non-spatialized or non-mapped property records in the planning process, greatly challenging their ability to keep records updated and to assess property taxes accordingly.

According to the OECD, in Mexico property taxes represent only 0.22% of the total GDP of the country, compared to 3.02% in the U.S. and 3.72% in France (El Financiero 2014). Given sovereign municipal authority in Mexico, and a widespread need for greater municipal revenue, this is a significant missed opportunity. Updating the cadaster system—the registry of property location, value, and ownership—is a critical strategy for municipalities to capture more revenue via property taxation and to be able to apply fines to promote densification.

Takeaways:

- Differentiation in the level of property tax for underused or vacant properties is a mechanism that can help governments to encourage development in targeted locations.
- As with many density strategies, differential property taxes rely heavily on a robust property taxation and cadaster or property registration system.

1.1.6 Transfer of Development Rights

What it is: Transfer of development rights (TDR) policies allow developers or property owners to transfer their right to develop an amount of units or at a certain density from one property to another. This is useful in the case of areas where redevelopment to the full allowable density is difficult (e.g. due to the cost of demolition or construction) or undesirable (e.g. to preserve historic buildings or farmland).

How it works: TDR programs usually require the establishment of “sending” zones and “receiving” zones. Sending zones are areas of a city or metropolitan area in which development is to be discouraged, because the area holds special historic or environmental value, while receiving zones are areas identified as suitable for more intensive development, normally in existing urban areas. TDR allows owners of properties in the sending zones to sell their right to develop their properties to land owners or developers of properties in the receiving zones, thereby preventing development in sensitive areas, while at the same time promoting higher density development in appropriate areas. It is possible to have a TDR program without specified sending zones, instead providing all property owners in a city or metropolitan area with the opportunity to transfer their development rights to receiving zones (CONAVI 2010, 56-57).

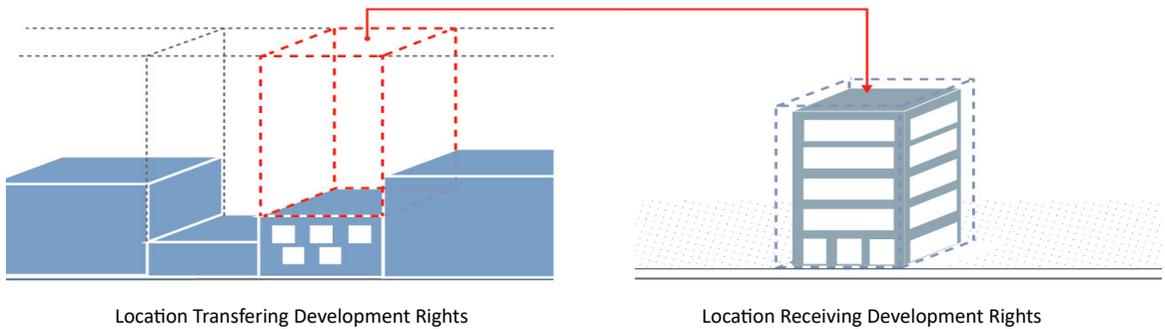
Example: In 1985 the City of San Francisco in the U.S. implemented a TDR program where historic properties in the downtown area could sell their development rights to non-historic buildings. The objective of the TDR program was to protect the downtown from the loss of character caused by an increased number of new offices, retail centers, and housing developments. The tool used for supporting the projects was FAR (floor area ratio). FAR is the ratio of the gross building area to that of the parcel. In this way, contributing buildings could sell their unused FAR to other buildings to allow them complement their own, while respecting building height and bulk limits (San Francisco Planning Department 2013).

Transfer of development rights: Implications for Mexico.

Because of the preservation of Mexico’s historic urban centers (regulated in part by the National Institute for Anthropology and History, INAH) and environmentally sensitive areas, land supply is greatly reduced in certain regions. Transfer of development rights (TDR) programs could help increase development opportunities in well-served locations nearby, maintaining cultural and environmental protections. It bears noting, however, that TDR programs rely heavily on well-implemented density regulations through strict zoning that takes into account maximum allowable heights and densities. Such regulations would need to be implemented in Mexican municipalities in order to enable developers to transfer development rights to other zones.

Takeaways:

- TDR policies allow an overall level of development (number of units or area of building) to be achieved within a designated area.
- The main problem is ensuring that the “receiving areas” have capacity to take the additional development, e.g. adequate



infrastructure and neighbors amenable to such development.

- Good design that is sensitive to the context can help solve some of these issues.

1.1.7 Alignment of Government Policies and Programs

What it is: Alignment of government policies and programs involves bringing together multiple levels of government around shared goals, such as the spatial development of cities and metropolitan areas (Knaap et al. 2000).

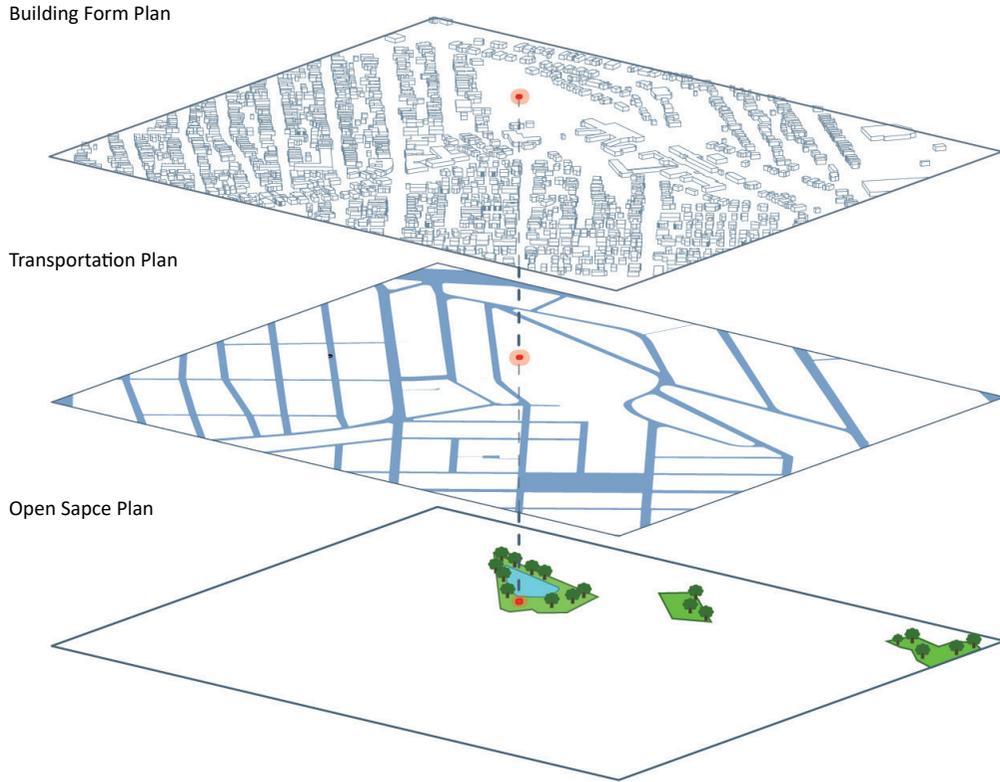
How it works: If all levels of government, and the programs and policies promoted by each, are not aligned towards encouraging densification and discouraging urban sprawl, densification policies will be less effective. There are many ways in which government can influence different behaviors among its citizens. To the greatest extent possible, these policies should be coordinated to discourage problematic growth such as sprawl. Such policies include those that influence transportation costs, housing prices on the urban fringe, the financial structure of local governments, and cost of extending infrastructure (Knaap et al. 2000, 10).

Example: Many locations are trying to align policies and programs to promote sustainability, coordinating land use, transportation, natural resource preservation, economic development, and social programs. These often involve multiple levels of government. There are numerous cases around the world.

One case in a highly decentralized country is the Sustainable Communities Initiative in the United States. This is a collaboration

Transfer of development rights programs allow owners in the “sending” zone to sell their development rights to owners in the “receiving zone.” This is useful in places where there are overall development targets but some locations have high historical, ecological, or agricultural value.

Diagram by Irene Figueroa Ortiz



of the U.S. Departments of Housing and Urban Development, Transportation, and the Environmental Protection Agency. The initiative provides grants to metropolitan areas to work on regional and local cooperation while also advancing policy alignment among federal agencies (HUD 2015). This is a process of providing resources for cooperation in strategic areas for the federal government such as: providing transportation choices, promoting equitable and affordable housing, enhancing economic competitiveness, supporting existing communities, coordinating and leveraging federal policies and investment, and enhancing communities and neighborhoods (Partnership for Sustainable Communities 2015).

Effective and successful implementation can be achieved through coordinating of different plans in areas such as buildings, transport, open space.
Diagram by Irene Figueroa Ortiz and Nomin Jagdagdorj

Alignment of government policies and programs: Implications for Mexico.

Alignment of policies and programs is challenging in Mexico and greater coordination could be beneficial for all levels of government. Federal government could play a particularly useful role in providing greater incentives, channeling funding, and ensuring evaluation for

metropolitan coordination at the local level.

While SEDATU, INFONAVIT, CONAVI, and related housing and urban development agencies are increasingly integrated, reaching out to other agencies and departments would make this far stronger, for example the Secretary of the Treasury and Public Credit (SHCP), the Secretary of Economy (SE), and the Secretary of Communications and Transport (SCT).

Takeaways:

- Aligning policies can help to reduce unintended consequences and allow for more coordinated and effective leveraging of government resources.
- This alignment presents political challenges, as different policies often reflect the needs of different constituencies and the priorities of various government entities. National governments can foster alignment by making it a condition of funding.

Benefits and Challenges of Overall Programs of Metropolitan Densification

Densification policies have the potential to reduce municipal costs, improve transportation times and costs, increase energy efficiency and reduce greenhouse gas emissions, preserve land and protect the environment, increase the diversity of housing types available, and create environments that encourage good human health. These benefits can be difficult to realize for a number of reasons, whether due to challenges of coordination between governments, community opposition, overloaded infrastructure and congestion, the lack of developable land, housing and land price increases, consumer preferences, or market forces.

Additionally, density as a measurement is vague and varies greatly depending on how it is defined. For this reason, there is a general lack of academic consensus about the specific benefits and costs

of densification policies. The table included here is a summary of the literature on densification and represents a variety of viewpoints. **It should be noted that not all the potential benefits and challenges have been proven, although we have tried to minimize the least substantiated claims in Table 1.3. In addition, many problems can be mitigated with better design.**

As Table 1.3 demonstrates, densification and the compact city model have the ability to provide real benefits to a city or metropolitan area. These benefits range from decreased municipal costs to increased usage of public transportation. Nonetheless, a number of urban planners and policymakers have identified costs or challenges to the implementation of such policies. These include the potential for increased congestion in central city areas, rising land or housing prices, or community opposition.

The following section takes a more in-depth look at some of the benefits featured in Table 1.3. While it primarily discusses the benefits of implementing densification policies, it is important to keep in mind that increasing density is not a panacea for all urban problems. As the table illustrates, there are potentially some real costs to densification that should be considered carefully. Furthermore, densification policies are often challenging to implement, especially across systems of governments that place land use planning powers at the local level (as in Mexico) or distributed across varying levels of government. In such contexts, coordination becomes a key part of any densification strategy.

Table 1.3 Potential benefits and challenges of higher density development from various viewpoints

Subject/Topic	Benefits of Higher Density	Challenges of Higher Density
Transportation¹	<ul style="list-style-type: none"> • Reduces greenhouse gas emission/carbon footprint • Increases accessibility of housing to jobs, services, shops, and recreation • Creates conditions for viable public transit service • Promotes healthy activities like walking and biking; increases opportunities for such activities • Decreases air pollution • Reduces the number and distance of vehicle trips, particularly of single-occupancy vehicles • Reduces the demand for parking 	<ul style="list-style-type: none"> • Exacerbates traffic congestion, parking issues and increases traffic accidents • May be difficult to maintain a private automobile • Creates pedestrian congestion and congestion in public transport facilities • Causes congestion and disruption at the street level where the construction of high-density buildings is taking place
Land/Resource Use²	<ul style="list-style-type: none"> • More efficient use of resources and infrastructure • Reduces development pressure on agricultural and industrial land and open space • Intensifies uses in urban areas creating vibrant locations • Encourages a greater mix of land uses 	<ul style="list-style-type: none"> • Reduces an area's capacity to absorb rainfall; increases in impermeable surface cover • Provides less choice as to the placement of buildings in spaces when net densities increase • Exacerbates pollution through proximity of uses and density of transportation; reduces space for trees and shrubs that can purify air and cool an area • Reduces the availability of public open space and limits recreational opportunities
Social Equity/Diversity³	<ul style="list-style-type: none"> • Improves housing choice and affordability for all residents • Reduces social segregation and exclusion • Adds diversity, safety, vitality and opportunities for social interactions • Provides better access to facilities and services independent of the ability to afford or own a private vehicle • Revitalizes neighborhoods • Encourages a sufficient supply of housing • Reduces crime by increasing pedestrian activity and supporting a 24 hour community; more 'eyes on the street' 	<ul style="list-style-type: none"> • Loss of privacy and increases in noise, nuisances, etc. • Obstructs views, causing overshadowing • Causes psychological stress, cognitive overload, loss of control, anxiety, social withdrawal, physiological overstimulation, and violation of personal space • Leads to constraints on individual behavior and freedom of choice • Leads to competition between groups for space and other social conflict

Table 1.3 Potential benefits and challenges of higher density development from various viewpoints (continued)

Subject/Topic	Benefits of Higher Density	Challenges of Higher Density
Economics ⁴	<ul style="list-style-type: none"> Enables investment in new and better community amenities and more attractive building materials Promotes critical mass necessary to support local retail and services Attracts businesses, hotels, shopping, and upscale residential development to urban areas as well as high-quality health, education, culture, recreation, and municipal services Enables the use and extension of urban services and infrastructure in an efficient and economical manner Improves a city's economic efficiency and employment opportunities Increases productivity Enables the construction of low-cost, middle-density housing, infrastructure, and land in appropriate neighborhoods Helps to keep the local economy healthy and vibrant Increases the overall value of nearby detached dwellings over the long-term 	<ul style="list-style-type: none"> Increases cost to build and maintain high-density projects than medium- or low-density projects as well as urban infrastructure Increases relative prices for dwellings, goods and services, and land Restricts access to more local areas of undeveloped land, which tend to be more highly valued Negatively impacts the economic development of surrounding rural areas
Open Space/ Greenspace ⁵	<ul style="list-style-type: none"> Increases the value to residents of open spaces within the city Preserves greenspace, clean air and water, and fauna and flora systems within a plan's boundaries 	<ul style="list-style-type: none"> Urban open spaces tend to be smaller, designed for certain activities only In higher density areas where land values are higher, public spaces may tend to be privatized by housing developments or office buildings, thus restricting their public benefit
Climate Change/ Environment ⁶	<ul style="list-style-type: none"> Facilitates innovative, green designs and district energy; reduces consumption of water and energy Allows for technological and economic viability of certain energy technologies and transportation systems 	<ul style="list-style-type: none"> Uses more energy during construction of high-density buildings Limits some forms of ambient energy systems, such as passive solar Reduces the capacity to cope with domestic waste and recycling

Adapted from Boyko and Cooper 2011, 10-15.

Benefits of Metropolitan Densification

Cost savings: Programs that promote metropolitan densification tend to result in cost savings related to new infrastructure and the provision of services. Instead of building new infrastructure to keep up with an expanding urban footprint, densification through infill development and redevelopment takes advantage of the urban infrastructure and services that are already in place, often with underutilized capacity. This is not only true for infrastructure like roads and sewers, but also public services such as education, health, public transport, police, fire, and other emergency services usually provided by municipal governments. Based on cost assessments of infill versus greenfield development in the Sydney metropolitan area, Biddle et al. write that “greenfield development requires substantial infrastructure costs...by contrast, these services and infrastructure generally already exist and may have spare capacity in infill areas” (Biddle et al. 2006, 5).

In another study of 3,179 local governments in Spain in 2005, Benito et al. conclude that municipalities with higher population densities had lower per capita spending, including total expenditures, current operating expenditures, and investment expenditures (Benito et al. 2010, 261). Notably, cost savings are only possible where infrastructure and services are not already used to their full potential. When population increases to the point where government needs to expand service, costs will then begin to rise. Other studies (Shapiro, 1963; Schmandt and Stephens, 1963) have also found that the cost savings attributed to higher population densities had limits, although they do not agree on the point at which costs begin to increase along with population. This suggests the need for government to first assess where spare capacity exists in infrastructure and services, and target new development to those areas accordingly.

Improved transportation and ridership:

Locating more and higher density housing that is closer to urban cores and employment opportunities greatly reduces households’ transportation times and expenses. Higher density living better enables households to take advantage of existing public transportation options, or may even make public transportation possible where it previously could not exist. Gilat and Sussman, discussing transit-oriented development in Mexico City, note the numerous benefits that accrue, as people are able to access the Metro more easily, have increased job opportunities, lower transportation expenses, and save time reaching destinations (Gilat and Sussman 2003, 106).

As with the costs savings benefits described previously, the amount of spare capacity in a transit system plays an important role. If there is not additional capacity available, then densification may potentially increase congestion on these systems, increasing transportation costs or reducing efficiency. However, increasing access to public transit systems also has the benefit of encouraging more sustainable transportation options than the private automobile.

Increased energy efficiency: Higher density cities have the potential to increase energy efficiency for several reasons: buildings consume less energy per resident due to insulation provided by adjacent dwellings; attached units within buildings creating fewer external walls; trips made by residents are shorter and less frequent, and can be made by public transit; and more efficient energy systems can be deployed, among other explanations (Boyko and Cooper 2011, 23). In their 1989 study of the relationship between urban form and energy consumption, Newman and Kenworthy identified a negative correlation between higher densities and per capita consumption of energy for transportation (Newman and Kenworthy, 1989). Supporting this finding, Golob and Brownstone

(2005), in another study from 2001 in California, concluded that “compared to households in higher density areas, households in lower density areas: drove larger and less fuel efficient vehicles, often sports utility vehicles (SUVs); owned more vehicles per household; had more drivers per household; drove the larger vehicles more often than smaller vehicles in the household; and drove more kilometers” (Biddle et al. 2006, 10).

Furthermore, Ewing and Cervero (2010) corroborate this notion, finding that metropolitan centralization and land-use mix are two important factors influencing travel mode choices (Dodson 2010, 493; Ewing and Cervero 2010). These findings suggest that people living in dense cities will be more likely to use public transit, leaving their cars at home.

However, other characteristics of transportation networks, such as the quality of and access to public transport, have been suggested to be more important factors in mass transit usage than population density (Dodson 2010, 493). In addition, there seems to be a limit to the energy-saving capacity of higher-density buildings, as the amount of energy needed to build and operate taller buildings outweighs the amount of energy saved through efficiencies. Research suggests that medium-density dwellings of three to six stories have the greatest potential for reducing per capita household emissions. This density is also adequate to support public transit options, further reinforcing the energy efficiency potential of the compact city (Dodson 2010, 499).

Land preservation: Encouraging development and densification in already-urbanized areas preserves open space, farmland, and environmentally vulnerable areas, as development pressures are directed elsewhere. Douglas and Lepping (2005), writing on the importance of land preservation strategies for Smart Growth, argue that there is a growing interest in using land

preservation strategies as a more efficient way of protecting natural areas, aquifers, public space, and farmland than with the use of traditional planning techniques (Douglas and Lepping 2005). One of the main characteristics of these strategies is that they can be promoted in different partnerships and associations.

For example, The Nature Conservancy, a nonprofit, has alone preserved more than 12 million acres in the United States (Douglas and Lepping 2005, 2). Other associations led by planning agencies such as the Tahoe Regional Planning Agency have established TDR (transfer development rights) to finance their preservation strategies. Although land preservation has proven a very useful instrument for protecting natural resources, it must still be better aligned with other planning and development tools (Douglas and Lepping 2005).

As mentioned above, strategies such as greenbelts and urban growth boundaries can preserve land outside of a city or metropolitan area that would otherwise be developed. Likewise, urban growth boundaries or urban service areas allow cities or metropolitan areas to control the location and timing of new development. If important sites cannot be protected immediately, these approaches can delay new development until such time that the land can be preserved.

Range of housing alternatives: Core cities generally contain a variety of housing types, ranging from detached units to high-rise apartments. Providing such diversity of housing options means that cities are attractive places for many different socioeconomic groups and family or household types. By introducing higher-density housing to suburbs and other low-density areas, densification seeks to make these communities more welcoming and attractive to people from many different backgrounds. In general, high density housing tends to cluster in the central



Sprawling patterns of urban development are common in Mexico. Pictured here: Oaxaca de Juarez, Mexico.
Photo: Collection of Ann Forsyth

and inner parts of urban areas, as these are the locations where land prices are high enough to cover the risk and expense of building larger multi-unit housing (Dodson 2010, 495).

Care needs to be taken so that densification policies do not only encourage luxury high-rise apartments or land speculation. Housing created through infill and redevelopment does not need to be of the high-rise variety found in the central city. As Dodson points out, “Intra-metropolitan building heights in European cities tend to be much more uniform with five to six story medium-rise housing spread more evenly across the city than is the case in Australian cities” (Dodson 2010, 498). This pattern of density throughout the metropolitan area would provide opportunities to accommodate both higher density and lower density buildings into the built fabric of the city in a way that does not seem abrupt or out of place.

Challenges of Metropolitan Densification

Costly coordination: It is often time-consuming, politically challenging, and expensive to coordinate across agencies, programs, and policies and between levels of government, as is necessary for the successful implementation of a densification strategy. When local governments must modify existing plans and regulations to be consistent with those of a higher level of government, this imposes costs in staff time or contracting with consultants. **See also the companion Building Better Cities report.** In their analysis of urban containment policies in Michigan (U.S.), Boyle and Mohamed write that coordination of initiatives is unlikely to succeed, as “the primary problem appears to be the lack of state legislation that *mandates* regional planning and other attendant policies such as comprehensive planning and plan consistency” (Boyle and Mohamed 2007, 692).

Similarly, in his discussion regarding the

experience of the government of New South Wales in Australia, Searle states that “a major reason for the limited success of the urban consolidation policies was resistance by older suburban communities, through their local council,” attributable in part to the councils’ own resistance to making necessary changes to the local zoning codes (Searle 2007, 2). Coordinating government programs as well as agencies is politically challenging and generates both time costs and monetary costs. It can take a very long time to implement higher-level policies if local governments must expend resources to make changes in their plans and regulations. To incentivize and support coordination, funding for such changes should be part of a larger federal policy agenda.

Constrained infrastructure, increased congestion, and pollution: The capacity of infrastructure to handle additional users and demand should be evaluated prior to allowing new, higher density development, in order to ensure that the levels of service provided by these systems can be maintained at a satisfactory level. Without proper planning, higher density development can be expected to bring with it the constraints of more users, whether with more congestion in transit use or greater energy emissions. As Searle notes in his review of consolidation policies in the Sydney, Australia metropolitan area: “Assumptions about spare infrastructure capacity need to be closely examined, as evidence indicates that road and rail infrastructure, for example, has no spare capacity to meet population increases in many areas” (Searle 2007, 11). Many residents are unwelcoming of higher density development due to its potential impacts on traffic, parking, and the environment (Ruming 2014, 255).

Also of particular concern are the impacts of concentrating people and certain incompatible land uses close together, particularly industrial

uses that have the risk of negatively affecting human health (Neuman 2005, 16). Overall, it is important to identify locations where there is capacity for more development and increased density, as failure to do so may result in substantial negative impacts on the environment, infrastructure and services, as well as general quality of life. Given an overall trend in reduced household sizes and a movement to suburban areas in many metropolitan regions, there may well be excess capacity in existing residential areas that can be leveraged for urban infill or densification.

Decreased access to adequate open spaces:

Creating denser residential areas in urban areas typically results in less available space for parks and other public open spaces. It is assumed that without the outdoor space provided by single-family backyards, the demands for open space will increase (Byrne and Sipe 2010, 4). However, the relationship between density and open space is much more complex. Byrne and Sipe, in a review of literature on this topic, found that the open space needs of city-dwellers has more to do with their demographic, cultural, and socio-economic backgrounds than the simple fact of living in denser neighborhoods. Children, for instance, require much greater access to open space than older people (Byrne and Sipe 2010, 4-5).

Complicating things further is the fact that open spaces and public parks vary greatly in size and location, and can be used in a variety of different ways depending on their design. Design greatly affects the ability of a space to meet the needs of different populations (Byrne and Sipe 2010, 6). Open space is a key variable in determining the quality of life in urban areas. As space is at a premium, it is often difficult to make such spaces available. Given the evidence that demographic groups desire and use public open spaces in different ways, cities and metropolitan areas need

to consider not only their current population but also the makeup of future populations when deciding where to site open spaces, as well as their design and function. At the same time, making open spaces accessible through improved sidewalks, trails and paths, transit, and other means is essential, as it is likely residents will have to travel to different areas of a city to fulfill all of their open space needs. However, because densification uses land efficiently, intensifies development, and potentially increases property taxes, it also provides resources for developing well-designed and appropriately programmed open spaces.

Increased housing and land prices: An unintended consequence of containment policies such as greenbelts and urban growth boundaries is that they often constrain the supply of land, thus increasing land and housing prices. This greatly affects the production of new housing in the city or metropolitan area, particularly the supply of affordable housing. In a review of research regarding the price effects of urban containment policies, Dawkins and Nelson find urban containment increases housing prices. Furthermore, Dawkins and Nelson note: “affordable housing production becomes even more unlikely if the supply of developable land is concentrated in the hands of a small oligopoly of landowners” (Dawkins and Nelson 2002, 2).

Such effects place an onus on government to ensure that the production of affordable housing units, particularly when a greenbelt or growth boundary is put in place, keeps pace with demand so that poorer residents are not priced out of living in a city or metropolitan area, where jobs and services are most plentiful (Pendall et al. 2002, 36). Creating flexible containment barriers is a way to ameliorate the price effects of containment policies, by allowing greater control over the supply of land that is available for development. In



Mexico has a range higher density housing types including row houses and low-rise apartments. In large cities high-rise developments are also available.

Photos: Collection of Ann Forsyth; Nelida Escobedo; Ann Forsyth

addition, allowing increased densities can help increase housing supply to meet demand on less land. However, such policies require that government be active in monitoring and forecasting the supply and future needs of the city and metropolitan area.

Programs for Metropolitan Densification: Conclusions

The Mexican government has created urban containment boundaries around all metropolitan areas in Mexico and is focusing urban housing subsidies and mortgage origination in those areas. This is a positive first step towards controlling urban growth in Mexican metropolitan areas. This system, effectively an urban growth boundary, creates regulatory barriers to encourage urban growth in infill locations and in areas directly contiguous to already urbanized areas. However, such a policy by itself may not be able to continue to provide an adequate supply of new housing to match demand, especially if the sites on which to build infill projects are limited or complex to develop, or if the municipal zoning and land use regulations prohibit higher density development. As exemplified in the case of Guadalajara—where the municipality has their density instruments “frozen”—densification strategies at the state and municipal levels, and coordination between agencies at these various levels, will be needed in order to adjust zoning and land use regulations and identify areas for higher density growth and redevelopment.

As discussed in subsequent sections of this chapter, successful densification policies need to contain elements that effectively facilitate infill development and address the concerns of residents. One cross-cutting takeaway is the importance of identifying areas with excess infrastructure capacity as ideal sites for infill development. Promoting density in areas with adequate infrastructure will help to reduce costs for the government and improve quality of life for residents. Differentiated property taxation, with higher taxes for underutilized or vacant properties, is one mechanism that can help to target specific areas for development. Careful framing of densification policies and incentives can help to optimize benefits of densification, while mitigating the costs. The following section looks more closely at the ways in which the urban infill development process can be simplified, benefitting developers, municipalities, and communities alike.

1.2 Simplifying the Urban Infill Process



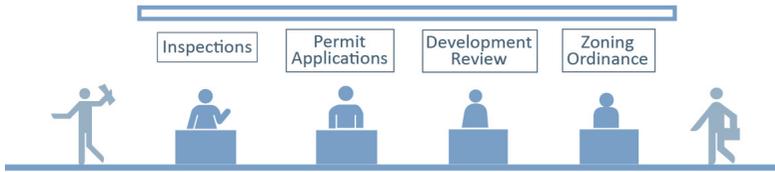
Simplifying the Urban Infill Process

What It Is

- **Strategies for simplifying urban infill focus on streamlining the development process, making it quicker and more efficient.**
- **Clarifying the rules and regulations governing infill development, eliminating any overlapping and contradictory rules, adds a level of certainty and predictability to outcomes.**
- **Planning policies, like land readjustment, can make assembling land and planning infill projects much easier.**

Increasing urban infill development is often cited as a goal of governments and planners, especially those seeking to present it as a better alternative to urban sprawl. However, numerous barriers make it an unattractive venture for real estate developers and investors. In particular, compared to development on greenfield sites, urban infill is often associated with uncertainties over the outcomes of complicated review and permission processes, as well as the potential for long delays in receiving permissions due to contradictory regulations

New infill development in central Guadalajara is an example of contemporary infill, with apartments available for INFONAVIT financing.
Photo: Margaret Scott



In a One-Stop Shop constituents can complete all the necessary steps to get a project approved.

Diagram by Irene Figueroa Ortiz

and bureaucratic red tape. To address these issues, governments work to make their review processes clear and concise, as well as to provide developers and property owners with procedural and urban planning tools that make it easier for them to engage in infill or urban redevelopment projects.

The following are strategies governments can implement in order to facilitate the process of infill development:

- **One-Stop Shops**
- **Clear rules and regulations**
- **Project facilitators**
- **Educational programs and materials**
- **Land readjustment**
- **Redevelopment agencies**

1.2.1 One-Stop Shops

What it is: A one-stop shop brings together in one central location officials and civil servants who participate in development review and approval processes. This way, developers or residents only have to visit one location to apply for permissions or to submit plans for approval, increasing the ease and efficiency of the review process.

How it works: Limiting the number of locations a developer needs to visit in order to obtain permission or approval for a project makes the development process much quicker, not to mention easier, especially for first time developers who may be unaware of how the development process in a particular jurisdiction works (Beane et al. 2005, 20). In addition, one-stop shops allow for all of the government agencies involved in the development process to meet with one another and discuss proposals together, instead of in a piecemeal and uncoordinated fashion. One-stop shops may also contain reference centers, or

repositories (either digital or analog) of tax maps, development regulations, zoning and other development codes, building permits, and other public information, allowing the public to obtain information regarding a specific property or project in a single location (Schmidt et al. 2001).

In a quantitative analysis of development activities in 469 American municipalities between 1987 and 1992, Feiock and Jeong (2002) determined that not only did regulatory reforms like one-stop shops make development easier, they also encouraged greater levels of development and investment. Their analysis found that “cities that implemented consolidated permit processes [like one-stop shops] were estimated to have new capital investments of \$10.6 million more than cities lacking similar regulatory reform efforts” (Feiock and Jeong 2002, 157). The authors of the study attribute this result to the fact that “by reducing uncertainty and delays, local governments may promote both regulatory goals and economic growth” (Feiock and Jeong 2002, 158).

Example: The City of Austin in the U.S. state of Texas is one of many cities throughout the world to have seen improvements in the development process by implementing a one-stop shop. Previously, the process required developers to visit multiple locations in order to obtain the proper permits and permissions necessary for a project. Since there was no coordination among the agencies involved, an approval by one agency could create problems down the line, as the agencies were unaware of the requirements of another (Wilkinson 2005). However, with one-stop shops, such problems were no longer an issue, and the city was able to shorten the amount of time it took for a project to go through the permitting process (Beane et al. 2005, 20).

One-Stop Shops: Implications for Mexico.

Developers in Mexico frequently cite the frustrations of working with municipalities in the construction and permitting process. In spite of available land or housing demand in other areas, developers may choose to work in specific municipalities where the process is more streamlined. In response, many states and local authorities are implementing one-stop shops (often known as *ventanillas únicas*) to expedite the permitting process, clarify regulations for developers, and thus incentivize construction. Though results are mixed, these efforts to align policies and to streamline permitting are key to any effort to simplify the infill development process.

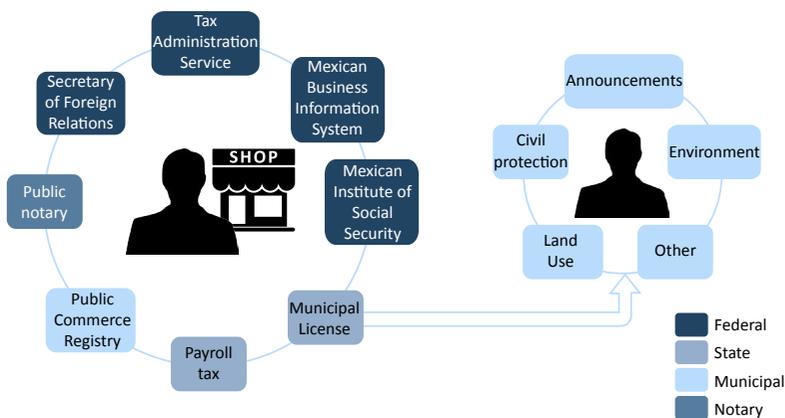
Takeaways:

- By shortening approval processes, one-stop shops can save time and costs for developers and governments alike.
- In doing so, one-stop shops can reduce development risk, thereby increasing the attractiveness of infill development, which tend to be more complex from a regulatory perspective.
- One-stop shops must be carefully regulated to ensure that they create a more equitable process for all developers, rather than continuing to favor certain influential actors.

1.2.2 Clear Rules and Regulations

What it is: Creating clear and understandable rules and regulations regarding infill development and other development processes greatly cuts down on the level of uncertainty faced by developers, as well as uncertainty among government agencies that might be operating under overlapping and contradictory rules.

How it works: Uncertainty about how regulations will be applied or interpreted, especially when they are contradictory, is of much greater concern to developers and real estate investors than is the mere presence of regulations regarding development (Feiock and Jeong 2002, 158). By making the rules and outcomes regarding project approval transparent, understandable, and clear, governments can dispel much of this uncertainty. In addition, such actions will greatly improve the speed with which proposals can obtain the necessary permits and permissions, by clearly outlining clearly each agency's responsibilities. This requires governments to thoroughly review the laws and regulations that govern development review processes and either eliminate overlapping and contradictory rules, or create a method



The diagram is part of an report from the Organization for Economic Cooperation and Development, “Guide to improve regulatory quality of state and municipal procedures and boost competitiveness of Mexico” - *Guía para mejorar la calidad regulatoria de trámites estatales y municipales e impulsar la competitividad de México* - that aims to clarify service in Mexican municipalities. Adapted from OECD 2012, 17
Diagram by Jorge Silva

by which these contradictions can be resolved between agencies in a timely manner.

Example: In 2015, the state of Aguascalientes in Mexico developed the System for Planned Developments and Condominiums in Aguascalientes (*Sistema de Fraccionamientos y Condominios de Aguascalientes*, SIFRAGS) as an online database with up-to-date information about building codes, zoning, and property information to improve the transparency and efficiency of the construction and permitting process (OECD 2013, 124). The system has proved to be useful both for the public to access timely information as well as for public servants in charge of revising and approving construction permitting (OECD 2013).

Clear rules and regulations: Implications for Mexico.

Clarity of rules and regulations is key to ensuring transparency of processes and providing a sufficiently stable environment to encourage investment. This is particularly relevant in the housing sector with changes to the urban containment boundaries or subsidy regulations, all of which greatly affect development and construction. Through the “Strengthening Economic Competence and Regulatory Practices for Competitiveness in Mexico” initiative, the federal government has attempted to improve the regulatory framework at different levels of public administration. The research project developed a guidebook with short-term and high-impact implementation actions to streamline the permitting process of opening a new business, construction permits, property registry, access to information, and public works bidding (OECD 2012).

Takeaways:

- Clear rules and regulations reduce uncertainty for developers and investors and thus increase the attractiveness of

development opportunities, including infill and densification opportunities.

- Other active stakeholders, like community groups, may also benefit from having a clearer sense of likely development outcomes to help guide priorities and community goals.

1.2.3 Project Facilitators

What it is: Project facilitators are government employees or freelance permit facilitators who act as an intermediary between the developer and other government employees involved in project approvals.

How it works: Project facilitators are individuals who are knowledgeable about the development review and permitting process in a city or local government, and help to guide developers and other applicants through the process. Such a strategy provides the developer with a single contact person with whom he or she can consult regarding questions or project updates. In addition, facilitators work with the agencies responsible for reviewing the proposal, ensuring each one completes its review in an efficient and timely manner. If issues arise in the review process, the facilitator can then work with the developer and government agencies to resolve the problem (Beane et al. 2005, 28).

Example: In Mexico, given the often bureaucratic and lengthy licensing and permitting process with government entities, many companies and individuals hire private project facilitators that help them navigate the system and expedite approvals and reviews. There is a wide variety of project facilitators from formal consulting firms to middlemen. For instance, in the construction sector, facilitators often help developers to obtain land use certificates, construction permits, home assessment, safety certificates, environment approvals, etc.



Informal educational meetings to update developers on new regulations and processes can help facilitate infill.

Photo: Collection of Ann Forsyth

Project facilitators: Implications for Mexico.

In Mexico, project facilitators (often known as *gestores*) are frequently hired by developers or construction companies to speed up the permitting and licensing process at the municipal level. In line with the model outlined in the text, this role could instead be held by a designated government employee, and monitored carefully to minimize corruption and to ensure equal treatment of all developers or investors.

Takeaways:

- Employing project facilitators provides a flexible approach to expediting development and encourages a strengthened relationship between the public and private sector.
- Governments need to deploy strategies to mitigate corruption while providing improved and more efficient interaction with users.
- A public project facilitator should be able to give all developers equal access, potentially opening up opportunities for smaller, local developers.

1.2.4 Educational Programs and Materials

What it is: Both the infill development approval process and the requirements developers and other applicants must meet tend to be complex and difficult to understand. Creating programs and campaigns that seek to explain and outline the process can be an effective way to make the process clearer and less daunting, especially to first time developers or community members.

How it works: While information is needed for all development processes, it is particularly critical in this area because infill tends to be more complex.

There are many ways governments can create educational programs and campaigns. One common method is to create informational documents or guides with clear descriptions of the steps and processes that a proposal must go through for approval. The government could also hold information sessions or meetings with local developers and interested citizens to explain the development process and answer questions. The more simple and straightforward the process is, the easier it is for government to explain it and educate developers and citizens.

Example: The municipal government of Portland, Oregon, U.S. holds bi-monthly meetings with local developers, known as “Lunch and Learn.” The meetings are organized as training sessions and include members of the different agencies involved in the development review process. Since these meetings are held regularly, they allow the city government to update developers on any changes to requirements or processes (Beane et al. 2005, 32).

Educational programs and materials: Implications for Mexico.

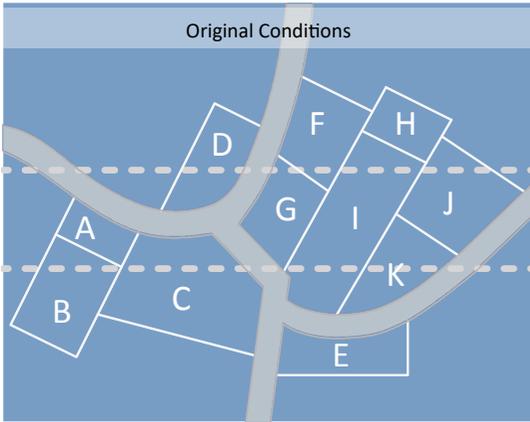
Educational programs and materials regarding the development process could be great resources for developers seeking to navigate the complicated investment and construction system in Mexico. Though simple in concept, and saving time in the long run, developing educational materials and placing them in an accessible location such as a website requires significant staff time and interest. Developing educational programs and materials in support of the urban infill process could, however, be part of a larger effort to better coordinate the municipal development process and has significant potential in Mexico.

Takeaways:

- One barrier to infill development is the availability of educational resources and technical information. Providing clear and structured information to developers can help reduce development time lags. Even developers who are familiar with local development processes may benefit from regular updates concerning any changes in regulations.
- Educational programs and materials can be combined or aligned with other efforts, such as the initiation of a one-stop shop, changes to zoning regulations, or creating a municipal website to share data.

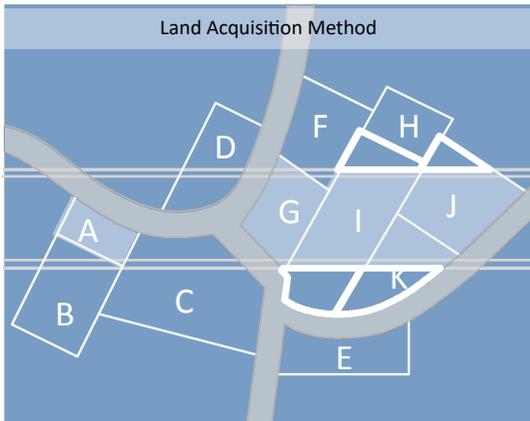
Step 1

Identify issue: insufficient street system



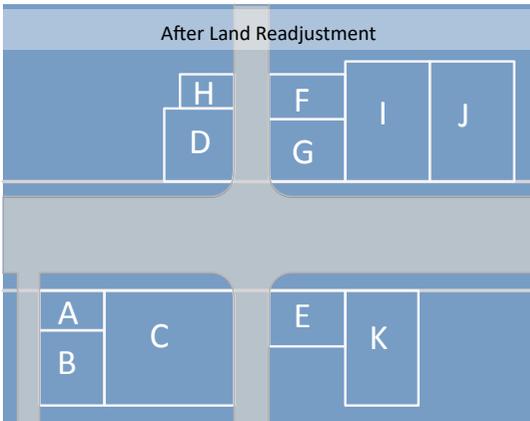
Step 2

Acquire land



Step 3

Reassign lots while maintaining original land area



Japan's Land Readjustment model has facilitated urban infill development and redevelopment. Letters represent property owners whose land is combined so that infrastructure and larger projects can be built and then reallocated proportionally. While the parcels will probably be smaller due to development the value is typically larger.

Adapted from Vergel 2012, 2

Diagram by Jorge Silva

1.2.5 Land Readjustment

What it is: Land readjustment programs are used to readjust parcel boundaries among many different landowners in a specific area while allowing the owners to maintain ownership of the land. It is used when land is difficult or impossible to acquire due to fragmented ownership.

How it works: Land readjustment is commonly used in redevelopment projects or with infrastructure and service provision by governments. Countries that have employed land readjustment as a planning tool include Japan, Germany, Sweden, Taiwan, and Korea (Sorensen 1999, 2333). There are many different ways in which countries have chosen to design the rules for using this strategy. However, most programs entail different property owners (or occupants in the case of renters or informal settlements) joining together into a legally recognized organization or association allowing development projects to occur across all of their parcels. Title to the land is never surrendered, so once the project is complete, the owners receive a new parcel of proportional size or value to the one they owned before. While the parcels will probably be smaller, due to infrastructure and other services built in the project, the value of the parcel is almost always greater due to these new improvements (Hong and Brain 2012, 4).

Some countries require that all the property owners in the area agree to enter into the readjustment process, while rules in other countries require only a 2/3 or super majority of owners. Those owners who are not willing to participate in the readjustment process are given the opportunity to sell their land to the association (Larsson, 1997, 143). Overall, land readjustment makes it easier to do infill development, as projects can be more flexible and have more space to provide infrastructure and services. It also allows multiple landowners to redevelop properties in coordination with one another,

instead of requiring a single developer to assemble multiple parcels, which can be costly and time-consuming.

Example: Japan is a country that has extensive experience with land readjustment, having used the policy to aid in the rebuilding of cities destroyed during World War II. In that country, readjustment is used in both infill projects and greenfield development. According to Larsson (1997), in 1997, land readjustment was responsible for roughly 50% of all new development in Japan (Larsson 1997, 145). Both the public and the private sector are allowed to initiate the readjustment process, which requires 2/3 of owners and leaseholders to consent in order to become an established and recognized association.

Before being recognized, a preliminary process “where goals, preconditions, planned results and construction, estimated costs and gains are clarified” must occur (Larsson 1997, 146). Then, the project must go through a more thorough planning process where ownership and land values are established and the final plan and ownership are determined. The process has been the subject of criticism in Japan, as projects are not required to have a formal urban plan, sometimes resulting in buildings of very different heights or appearance being built in the same block. However, overall it is considered an essential tool for urban development (Larsson 1997, 147).

See Japan’s Land Readjustment case study in Appendix D.

A more participatory and community oriented approach to land readjustment is a pilot project promoted in Colombia by UN-Habitat. The Participatory and Inclusive Land Readjustment, called PILaR, is a pilot aimed at overcoming some of the structural barriers that impede land readjustment in developing countries such as inadequate legal and land systems (UN-Habitat n.a).

The pilot, implemented in Medellín, will exemplify the ways in which sustainable urban development can be achieved through close work with the community, neighbors, local authorities, and businesses with input early on in the process. (UN-Habitat 2015).

Land readjustment: Implications for Mexico.

Although land readjustment practices in Mexico are not formally implemented, new institutional arrangements through the National Institute of Sustainable Land (INSUS) will take steps towards a more sustainable management of land. With a more accurate inventory of land in place, land readjustment strategies could help incentivize development in historic centers and consolidated urban areas. The main barriers to readjustment in Mexico include land fragmentation, inadequate land registration or cadasters, as well as the challenges of *ejidal* and communal landownership in certain regions.

Takeaways:

- Land readjustment can provide a mechanism for overcoming the barriers of land fragmentation in order to coordinate the development of additional infrastructure and buildings.
- It is important to pair the preparation of formal urban plans with land readjustment in order to achieve desirable planning outcomes.
- Because of the number of landowners and actors involved, readjustment can be a highly challenging process to coordinate.
- Land readjustment relies on a strong land registration system.

1.2.6 Redevelopment Agencies

What it is: Redevelopment agencies streamline revitalization projects by providing the private

sector with subsidies, financing, and relief from local codes.

How it works: Redevelopment agencies are used in many countries. They arose in the U.S. during the 1940s as quasi-governmental authorities for urban renewal. In keeping with financing opportunities introduced by the National Housing Act, many states passed urban redevelopment laws enabling the creation of corporations to redevelop “blighted” areas, through mechanisms such as eminent domain (Gordon 2003, 311). Subsequent backlash against brutal urban renewal projects, like the demolition of the West End in Boston, led to policy reforms and changes to the urban planning profession. Most recently, urban redevelopment agencies in the U.S. have increasingly emphasized entrepreneurial forms of governance and project development, seeking to leverage scarce municipal resources through public-private partnerships (Jonas and McCarthy 2009, 302).

Tools employed by redevelopment agencies include special districts, general obligation bonds, and tax increment financing (TIF). Certain planning mechanisms like special districts can allow redevelopment agencies to bypass state-imposed restrictions, such as debt limitations and public engagement requirements, in facilitating public-private partnerships (Jonas and McCarthy 2009, 306). While redevelopment agencies can enable and expedite urban regeneration initiatives, critics argue that top-down control by such agencies may undermine the public good (Jonas and McCarthy 2009, 305-6). Furthermore, the public sector may incur greater financial risk through public-private partnerships (Jonas and McCarthy 2009, 305).

Example: The ongoing Atlantic Yards development in Brooklyn, New York, U.S., presents an example of a large-scale, controversial public-private partnership facilitated by an

urban redevelopment agency. Atlantic Yards is a mixed-use project located on a 22-acre site adjacent to Brooklyn's largest transit hub and in close proximity to several historic districts and residential neighborhoods (Lavine and Oder, 2010, 291-2). Forest City Ratner (FCR) is developing the project in conjunction with the Empire State Development Corporation (ESDC), a statewide redevelopment agency. ESDC has streamlined the development process by exercising eminent domain, overriding city zoning regulations, and removing the project from the New York City Urban Land Use Review Procedure, which involves review by elected officials (Lavine and Oder, 2010, 306 and 323). The City and State have also provided direct capital contributions and tax exemptions (Lavine and Oder 2010, 322-3).

Criticisms of Atlantic Yards concern the limited degree of bidding competition and public engagement in the development process as well as the high favorability of terms for FCR (Lavin and Oder 2010, 300-1). Recent adaptations to development plans have included tightening the required timeframe for affordable housing completion from 2035 to 2025 and renaming the project Pacific Park Brooklyn (Filler 2014).

Example: A Latin American example of a redevelopment agency or authority is the Institute of Urban Development (*Instituto de Desarrollo Urbano, IDU*) in Bogota, Colombia. The IDU is a decentralized public entity of the city government, designed to work on physical infrastructure projects. The Institute focuses on the construction and conservation of transportation systems as well as sustainable public spaces (IDO 2015). IDU is responsible for both the planning as well as execution of “plans, programs, and projects related to road, transport, and public space systems,” all with the aim of making Bogota a more competitive and higher quality place to live for residents (Irazábal 2009, 64). Construction

projects include a range of responsibilities, from the construction of Bogota's cable car transit system, renovation of pedestrian walkways, or ongoing improvements to TransMilenio stations.

Redevelopment agencies: Implications for Mexico.

At present, there is no formal redevelopment agency system for housing and urban development in Mexico. Some infrastructure redevelopment agencies may take this form, but are typically more focused on revitalizing aging large-scale infrastructure such as dams, highways, or railways. Such redevelopment projects are forged between the federal and state governments, as well as private investors, and often in arrangements known as *Asociaciones Público Privadas (APPs)*, or public-private partnerships. Housing institutes at the municipal level or metropolitan planning institutes across Mexico have the potential to play a larger role in redevelopment if properly funded and equipped to coordinate and partner with the private sector. *Fideicomisos* (trusts) are one potential option with precedents across Mexico that could bring together private investment and the public sector.

Takeaways:

- Redevelopment agencies offer a flexible model for bridging between local government agendas and private sector investment through public private partnerships.
- Because of this flexible model, the approaches of redevelopment agencies and their dedication to community engagement vary substantially (Jones and McCarthy 2009, 303).
- Across the United States, local redevelopment agencies function in vastly different circumstances and with varying missions and levels of power. Recent federal

programs (through the Neighborhood Revitalization Initiative) have attempted to support and guide the work of local redevelopment agencies (Jones and McCarthy 2009, 312; White House Office of Urban Affairs, n.d.).

Benefits and Challenges of Simplifying the Urban Infill Development Process

Governments can reap significant benefits by implementing the strategies outlined in the preceding section. By improving the transparency of regulations and encouraging greater coordination among and within government agencies, these mechanisms can reduce the time and money developers must spend undergoing the review and permission process. By promoting compact cities and other densification policies governments can often save infrastructure costs and capture economic activity.

While strategies to improve the development review and permission process for infill projects are easy to identify, they are often harder to effectively implement. This may be attributed to the need to train government workers and implement new processes and technologies as well as the challenge of coordinating among different agencies involved in development review and resolving contradictions in existing rules and regulations.

Benefits of Simplifying the Urban Infill Development Process

Bolstered development due to regulation clarity:

Simplifying development processes, especially for infill development, is important because it encourages governments to clarify and coordinate their urban plans, guidelines, regulations, and laws. This allows developers to plan and design projects that are in line with community visions and planning guidelines set forth in planning documents.

Challenges of Simplifying the Urban Infill Development Process

Costs of training and keeping knowledgeable

civil servants: Many of the proposed strategies listed above require that government agency staffs and civil servants not only be able to work collaboratively with one another, but that they be knowledgeable about the entire development process, and that they be able to provide a quality customer service experience to developers and other citizens who visit their office.

One challenge is that these strategies usually mean that governments must invest money into training their employees, especially if streamlining efforts incorporate new processes or information technology systems. Another challenge is that reforms might require significant changes in the way the agency operates, or how it cooperates with other agencies.

An example illustrates this point. In order to provide its citizens with more efficient government services, the Brazilian state of Bahia implemented a one-stop shop system in the mid-1990s. While not a system oriented towards planning, it highlights some of the problems such a system might face. One such challenge was that in the state, underperforming civil servants were customarily placed in positions where they interacted most with the public, such as at the front desk of offices (Scharff 2013, 3). In response to this, when the one-stop shops were opened, customer service and satisfaction was made the top priority to great success. Nonetheless, efforts to improve service were still hampered by tenure rules for civil servants and political patronage (Scharff 2013, 12).

The success of many strategies to simplify infill development depends on competent and knowledgeable government employees, especially if improvements in efficiency and customer service are expected. Government services may

need to be reoriented towards serving the public.

Costly information technologies: Many governments that have implemented the strategies listed above in order to improve and simplify development processes were helped by implementing new information technology systems, which aided with tasks like tracking permits, providing information to developers and citizens, and increasing transparency in the process. A simple website with contact information, downloadable documents, or information about planning processes, can be inexpensive but also very helpful in demystifying the process.

However, the more elaborate of such systems can be costly to implement and maintain, requiring funding to train employees and hire technicians or information technology (IT) professionals to manage the system. In a review and analysis of the permit approval process in Madison, Wisconsin (U.S.), Beane et al. (2005) citing Bain (1999), noted that the price of a permit tracking system ranged from \$50,000 to \$250,000, not including the price of maintenance, software and hardware upgrades, IT staff, or training for current employees (Beane et al. 2005, 28).

Additional costs include the time and money it takes transferring data, documents, and other information from analog systems to digital ones. While the expense of IT tools and software are high, it does not mean that this strategy should be discounted entirely. For example, this may be an area where a metropolitan planning institute can help municipalities coordinate. In addition, grant programs from the national or state government might be necessary in order for wider adoption of these systems across a variety of municipalities, and could potentially be implemented as a shared system among municipalities or a metropolitan area.

Costly cooperation or coordination:

Cooperation among government agencies is not always easy. Removing any overlapping and contradictory rules and regulations can also be a challenge, especially if a fair and effective framework for doing so is not established. Issues can also arise in the creation of one-stop shops, especially when it comes to which agency should house, fund, or coordinate the activities that occur therein.

In Bahia, Brazil, issues regarding funding and authority were a real challenge for the agency seeking to establish one-stop shops in the state. Many agencies were reluctant to send workers to staff the shops, as they were already strained under their normal workloads. In addition, authority over these workers was contested, with many federal and state agencies involved not wanting the state Secretariat of Administration to give their employees direction (Scharff 2013, 5). Furthermore, due to political party difference between the state's governor and the mayor of the state's largest city, Salvador, municipal agencies chose not to participate in the one-stop shops (Scharff 2013, 5).

While encouraging cooperation and coordination may be seen as a challenge, simplifying infill and other development processes may in fact be a good place to start. Other strategies for densification certainly will require different agencies within the same level of government to cooperate with one another. Programs like one-stop shops could serve as a starting point for further collaboration between agencies involved in the planning and development of the city or metropolitan area.

Simplifying the Urban Infill Development Process: Conclusions

A clear and coordinated approach to urban development can help communities to attract

urban infill and redevelopment in a timely way by reducing expenses and risks for developers. Minimizing regulation is not necessarily needed to promote development; rather, clarifying regulatory processes is key. Furthermore, framing straightforward, formal approval processes increases the likelihood that development will reflect the agreed-upon regulations, plans, and community priorities, rather than ad hoc adjustments to avoid development roadblocks. Simplifying urban infill development processes is not an easy task, however, and can require new systems of cooperation and new regulations (e.g. for land readjustment), which may impose additional financial burdens on local governments.

1.3 Promoting Acceptance of Urban Infill



Promoting Acceptance of Urban Infill

What It Is

- Strategies that promote densification seek to increase public participation in developing densification policies so that community members can learn about these policies and their impacts before specific developments are proposed.
- Urban infill and densification have not been widely accepted as appropriate strategies among members of the public.
- Opponents of densification include community members, cities, and metropolitan agencies.
- Educating the public on the planning process and on the benefits of infill development and densification are essential elements to any strategy promoting infill.
- Ensuring that higher density development is well-designed and managed is also key to its acceptance by neighbors and potential residents.

Infill development can be created in areas well-served with parks and other green space.

Photo: Collection of Ann Forsyth

While densification policies, motives, and goals are widely accepted in the urban planning and design fields, there is considerable evidence that the public at large is not convinced they are a good idea due to concerns about negative effects such as traffic congestion and pollution. Where such policies have been implemented in North America, Australia, and New Zealand, they have often met with considerable resistance from local communities. The causes of this resistance are varied. However, if planners and policy makers are to make the compact city a reality, persuading reluctant residents to support densification policies is essential.

Broadly, opposition to densification may be classified into two distinct scales: opposition that occurs at the local level and opposition that occurs on the city- or metropolitan-wide level.

- **Local:** Local opposition occurs mainly in low-density neighborhoods in response to new, usually higher density, developments nearby (Ruming 2014, 258). Often characterized as NIMBY (or not-in-my-backyard), the opposition is mainly concerned with the effects a new development will have on the quality of life or character of their neighborhood including stresses on public services, housing affordability, and worries about social change. In relation to densification policies, local groups “seek to resist increased density on the basis that new development will increase traffic and reduce car parking, potentially reduce housing prices, introduce new groups into established communities (often renters), negatively impact upon local environment, and change the reputation of an area” (Ruming 2014, 255).
- **City/Metropolitan:** City or metropolitan opposition to densification, beyond the

neighbors immediately affected, is due mainly to residents’ preferences to live in low density housing over higher density housing as well as municipal fears about increased service needs and changing demographics (Lewis and Baldassare 2010, 221). Such sentiments are often based on perceptions (or misperceptions) about density, as well as historical and cultural experiences in places like North America, Australia and New Zealand, where low density living is seen as playing an important role in defining the “way of life” in such places (Vallance et al. 2005, 729).

Because acceptability of infill is such a complex issue, it is necessary that a good strategy include multiple programs.

The following sections describe ways in which governments can promote acceptance of infill development and densification:

- **Proactive participation and public education**
- **Pilot programs**
- **Design standards**
- **Redevelopment of historic centers**

1.3.1 Proactive Participation and Public Education

What it is: Proactive participation can describe any number of strategies that involve residents and decision makers in formulating or developing planning policies or development frameworks. There are two broad goals of proactive participation programs: to inform the public of planning processes and to receive feedback.

How it works: As opposed to reactive participation, where residents and neighbors react to developments as they are proposed, proactive participation seeks to resolve issues with policies before they involve specific development projects,



A workshop where community members devise development scenarios at the corridor development initiative in the Twin Cities.

Photo: Collection of Ann Forsyth

which avoids costly delays and uncertainty for developers (Forsyth et al. 2010; Hurley et al. 2013, 10). It also reaches out to many groups in the population, not only those likely to protest new development.

Strategies generally involve planners and policy makers meeting with stakeholder groups to explain a specific policy and allowing these groups to discuss their concerns. Ideally, residents come to understand that their concerns may be misplaced and/or the policy is altered or changed to address the concerns of residents. They can also include less interactive approaches such as highlighting successful infill projects in local media, sharing data about the specific benefits higher density housing creates in the city or metropolitan area, providing information on different housing types or mixed-use options, or reframing arguments for higher density in ways other than in support of environmental sustainability.

Examples: The Corridor Development Initiative had worked with volunteer neighborhood groups and citizen committees in transit corridors in the Twin Cities metro area (Minneapolis and Saint Paul, MN) to explore siting higher density and affordable housing along transit corridors. The aim was to bring “communities, governments, and developers together to share information, build relationships, and create shared guidelines for how future development can both add value to the neighborhood and expand housing choices in the context of what is financially viable” (Forsyth et al. 2010, 269).

Typically, the process involved multiple meetings including highly interactive and visual exercises, some held at existing community events to maximize participation from those who did not normally go to special meetings (Forsyth et al. 2010, 272). Residents then worked to create a

one-page set of guidelines for developers about what is acceptable in their neighborhood, making the ground rules clear. **This example is explained in more detail in Appendix D.**

Example: There are a number of examples of tools that help understand the variety of higher density development types and their benefits. In the United States the Lincoln Institute of Land Policy has created tools to visualize density: <http://www.lincolninst.edu/subcenters/visualizing-density/>.

Proactive participation: Implications for Mexico.

Proactive participation is useful for promoting acceptance of urban infill, particularly against the backdrop of opposition to density and verticality observed across Mexico (outside of Mexico City). *Fundación Hogares*, an NGO partnering with INFONAVIT, is currently helping bridge the distance between developers and neighbors through community engagement projects and neighborhood revitalization efforts. In addition to community engagement in existing INFONAVIT developments, *Fundación Hogares* also documents the needs of current residents in order to offer feedback for developers building new homes in the area, demonstrating one way in which residents and decision makers can be brought more closely together in the urban development process.

Another way to promote acceptance of urban infill in Mexico is to require developers to show the real costs of purchasing a house far away from jobs and urban centers. Education programs can also be helpful in educating credit holders and new homeowners on the expectations, regulations, and strategies for living together in condominium arrangements that may be unfamiliar to many households. Many social housing developers in Mexico are beginning to partner with supervision and management organizations (Grupo MIA is

one particularly well known company) to address the need for better condominium management services.

Takeaways:

- At a minimum, highly interactive and visual community exercises can help to clarify complex development ideas in order to facilitate meaningful engagement. This proactive participation approach can raise awareness among residents about why development is taking a particular form and the expected benefits and risks.
- Proactive participation can also provide developers with a clearer understanding of local expectations and enable them to provide acceptable solutions.
- Current marketing techniques promoted by developers do very little to adequately address the true advantages and disadvantages of new developments in peripheral areas.
- Blogs, magazines, and other media that feature apartment, city, or high-density lifestyles can be an effective and informal way to market densification. Awareness can also be raised through conferences or major events organized by universities, research organizations, or major housing agencies about the benefits of and strategies for sustainable urban infill and densification.

1.3.2 Pilot Programs

What it is: Pilot programs allow a municipality or metropolitan area to test out different densification programs before they become official policy and are adopted everywhere in the jurisdiction. They are particularly useful in urban infill in Mexico because so much development has taken other forms and experience needs to be built up.

How it works: Pilot programs work best when planners carefully select a site or project that is representative of the types of projects they intend to encourage under the new policy. They offer the opportunity to test many aspects of a program (its implementation, its financing, its costs, its performance over an extended period of time, etc.). Monitoring and evaluating the program is essential, and will allow changes to be made. In addition, pilot programs allow the public to see both the processes and results associated with a policy. Soliciting public feedback and comments are an important component. Having a physical example of the outcomes that the program will produce is helpful in these discussions as the public tends to have difficulty visualizing and comprehending the physical implications of planning policies (Hurley 2013, 10).

Example: INFONAVIT is conducting a series of pilot projects through the country to diversify their credit portfolio and adapt to their credit holder's needs. One of most recent and vastly publicized pilot programs is *Arrendavit*. This program is a pilot project to bring back to the market unused or rehabilitated abandoned housing as a rental option for credit holders who demand a housing solution but do not yet meet the credit requirements to purchase a new home.

Pilot programs: Implications for Mexico.

Pilot programs have been put into place across INFONAVIT's portfolio of credit options. Examples include *Arrendavit*, described previously, 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 acquire 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.

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.

Takeaways:

- Pilot programs can allow government agencies and organizations to “kick the tires” before launching a large-scale program, thus reducing unnecessary spending or risk.
- Pilots can increase the likelihood of overall acceptance, as there is opportunity to assuage the fears of skeptical community members and to make improvements to performance and adjust policies to reflect community concerns.

1.3.3 Design Standards

What it is: Design standards regulate the look of new developments and renovations. They can be used to promote certain predominant urban design features in order to achieve consistency with the “character” of an area, or to encourage design features in an area where such features are lacking.

How it works: Design standards work best when created for specific areas or neighborhoods. In the case of infill development, design standards can be used to ensure that new, higher density

The design characteristics of Atlantic Station portray a sense of regional architecture.

Photo: PEDS, Flickr.



developments are designed in such a way that they do not significantly alter the feel of a neighborhood, and where they do they improve it. Standards range from general, e.g. creating a consistent street wall around a development, to very specific, e.g. requiring certain architectural elements, sidewalk widths, building materials, or building types/styles. Including residents in the creation of the design standards for their neighborhood or area could be an important way to proactively address their concerns about new development, especially infill development.

Design standards: Implications for Mexico.

Design standards may be useful to help promote infill in Mexico, particularly in larger cities and more historic areas. Thoughtful consideration of design standards for new infill projects may help their integration into the existing neighborhood fabric, adherence with historic regulations, and acceptance by existing neighbors. Currently, some developers in Mexico are trying to promote design standards within their developments, out of a recognition that these types of requirements may help to preserve the value of the properties. Design standards include: paint color, restricting housing additions, windows sizes, and ornamental restrictions.

Takeaways:

- Design standards can help to promote new developments that are in keeping with existing community character. Since such standards lead to more predictable design, they can help to reduce resident resistance and encourage greater integration of new developments.
- Care should be taken that the imposition of design standards does not excessively increase costs and is not used as an excuse to stifle infill development through unnecessarily strict regulation.

1.3.4 Redevelopment of Historic Centers

What it is: Redevelopment of historic city centers can provide much-needed, centrally located housing and transit-oriented development (TOD) because existing bus and train systems are typically concentrated in such areas.

How it works: Affordable residential development in downtown historic centers can help to mitigate this problem. Many low income people in developing countries live on the city outskirts and must expend a relatively large percentage of their time and money for transportation (Gilat and Sussman 2003, 103). In the U.S. and Europe, policies to draw middle class households to the city center have served as an urban economic redevelopment strategy in declining industrial cities, capitalizing on industrial heritage as an attraction (Rousseau 2009, 771 and 776).

On the other hand, efforts to redevelop historic centers may pave the way for gentrification or increased prices. Jones and Varley (1999, 1564) point out that gentrification as a redefinition of an area's identity can occur when the middle class makes use of an area for recreation or education; the gentrifiers do not need to occupy the space in order to exert political and cultural influence. Public policy needs to ensure a balance between useful redevelopment and problematic displacement.

Example: In one example of historic development, the government of Kingston, Jamaica has sought to revitalize the city's deteriorating inner communities and downtown business district (Osei 2009, 316). Most urban regeneration initiatives have focused on the downtown, the oldest part of the city (Osei 2009, 217). Downtown Kingston faced: "congestion, disruption of vehicular and pedestrian traffic flow, unsanitary conditions, inconvenience and lack of visual appeal," underpinned by a lack of police presence

and limited government financial resources (Osei 2009, 318). According to Osei (2009, 333), a critical challenge for the government is creating multi-sector development policies and partnerships; at present, the redevelopment framework is weak, and the private sector shows limited interest (2009, 333).

Example: Federal rehabilitation tax credits (RTCs) in the U.S. are one incentive that encourages the redevelopment of historic buildings, providing "a 20% income tax credit for rehabilitating historic buildings listed on the National Register of Historic Places" (Ryberg-Webster 2013, 267). In particular, conversion of underutilized commercial buildings for residential purposes has occurred (Ryberg-Webster 2013, 274-6).

Redevelopment of historic centers: Implications for Mexico.

Historic centers are notoriously difficult to develop in Mexico, and developers often cite overregulation and bureaucracy as significant barriers to investment and development. Renovation or new development must comply with local zoning and construction codes, state ordinances, and national level requirements to preserve the physical character of historic areas or sites, often impeded greatly by the strict limitations maintained by Mexico's National Institute for Anthropology and History (INAH). When development does indeed take place, it is often for retail, commercial, or hotel uses that can afford to pay for these costs, excluding less profitable land uses such as housing. Taking lessons from successful redevelopment projects elsewhere, Mexico's historic centers could benefit from strategic densification that clusters new and higher density buildings along busier corridors, while preserving historic development in other designated areas.

Takeaways:

- Historic downtown revitalization is challenged by limited government resources, as well as coordination, corruption, and lack of code enforcement (Gilat and Sussman 2003, 103).
- Emphasizing code enforcement and creating a clear framework that explicitly considers which target groups will be served through residential development can help to guide the redevelopment of historic downtowns.
- Partnerships and alliances with local institutions are key to successfully integrating housing projects within historic centers. These partnerships, with knowledge and expertise from local actors, can help facilitate integration during the rehabilitation process, which ranges from undertaking property inventories and social integration strategies, to financing for participatory design.

Benefits and Challenges of Promoting Acceptance of Urban Infill

Resident opposition can slow the development process; however, community engagement can also help to improve the quality of a development and its position within the neighborhood.

Methods to promote acceptance of urban infill, at their best, help residents focus on important issues in voicing their opinions and concerns. These methods can also help community members to understand that good design and planning can minimize some of the problems they fear.

Benefits of Promoting Acceptance of Urban Infill

Reduces development time and costs: For developers, time is money, and decisions are made based on current market costs and conditions. Anything that delays a project will most likely

increase the cost of the project as well as increase the risk the project will fail, as the market could change dramatically in the time it takes a development project to work its way through the regulatory review process. By consulting the community on the types of housing projects they would like to see, on the designs standards the development should follow, and the amenities it should provide, developers can plan and design projects that fit the vision of the community and thus avoid unforeseen local objections to their project. In Minneapolis, Minnesota, Forsyth et al. (2010) observed, “too often developers came to Minneapolis’ strong, city-supported neighborhood groups with fully designed proposals that met fast rejection or years of delays. This drove up costs for development, meaning that neighborhoods that might like new housing options were not getting them” (Forsyth et al. 2010, 270-1). Because of this local objection, developers were not even bothering to propose projects in areas with strong opposition movements, to the detriment of the residents.

Infill development can already be a daunting prospect for developers, especially if they have only had experience working in greenfield development. While development in infill areas has been shown to save government costs due to existing infrastructure, the potential delays from unclear regulations or community opposition can quickly drive up costs for developers and thus developers may still find it easier to continue to propose greenfield projects. By working with communities to understand their fears and desires for new development, as well as sharing the financial constraints under which developers work, programs that proactively seek to promote densification can make the development process much easier and less contentious.

Promotes equality and social justice: People should have both the potential to influence

development and the potential to have more choices in where they live. When government promotes urban infill in a way that engages all residents, it gives a voice and power to populations that are traditionally marginalized and left out of such discussion—both current local residents, and potential residents who would move into new housing. Furthermore, proactive participatory planning can help to ensure that one particular group, which may not represent the interests and concerns of the community as a whole, does not stop projects. Where government plays a minimal role, only populations that have the knowledge, resources, or political connections are able to influence the way planning policies play out in their neighborhoods.

In their review of “third party objection and appeal rights” (TPOAR), a form of reactive participation in which residents of a neighborhood are able to contest local government decisions granting planning permission, in the Melbourne Metropolitan Area, Hurley et al. (2013) concluded that only certain groups used TPOAR to contest higher density developments (Hurley et al. 2013, 11). In their words, “It would appear...that TPOAR are being used in an attempt to protect established lower-density neighbourhoods from HDH [high-density housing], an action that reinforces existing socio-spatial inequalities.” Therefore, it would seem that when government relies solely on reactive participation, the poor and minorities are not able to voice their opinions as effectively as those who are wealthier, better educated and/or members of a racial majority.

Often advantaged populations are able to shift unwanted development or land uses away from their neighborhoods, possibly to the more disadvantaged neighborhoods. In a case study review of different medium density social housing projects in South Africa, Tonkin (2008) concluded

that “a community will only take ownership of a community project if they are consulted regularly and are able to participate in decision making... Participation has to be a golden thread running through the entire delivery project cycle to ensure ongoing legitimacy within the community” (Tonkin 2008, 97-8). Failing to proactively engage with the community runs the risk that these developments will only be built in areas where residents lack the resources, social capital, and knowledge to fight proposed developments. In addition, evidence suggests that not consulting with residents results in feelings of resentment or distrust towards government. Instead, governments should facilitate and encourage the broadest possible participation in planning processes.

Challenges of Promoting Acceptance of Urban Infill

Requires time and resources: Community outreach and education are common strategies to prevent opposition, but most efforts fall short. They require government to have a strong commitment to such programs, and to have trained personnel and resources available. Proper outreach is also time-consuming and, depending on when it occurs in the planning process, can take weeks if not months. It is far too easy for governments to see outreach and participation as an unnecessary expense, not worth the time and resources. Others believe they do an adequate job already, when in fact their efforts are only reaching the most educated or advantaged populations.

In New South Wales, in Australia, the state government believed it had invested the proper amount of time and effort into public outreach regarding its *Metropolitan Plan for Sydney*. However, in a 2011 survey of 721 residents of the Sydney metropolitan area, Ruming (2014) found that less than half of respondents were aware of

the policy frameworks for planning in New South Wales, and even fewer (less than a quarter) were aware of the state's plan for the Sydney metropolitan area (Ruming 2014, 257-8). Even after making reforms to their planning system, the state government was still not reaching a large number of residents.

These results led Ruming to conclude that: "Adequate engagement with the planning system by the public must be preceded by significant promotional and educational work associated with informing the public of the value of: (1) strategic planning, (2) community involvement, and (3) higher density housing. The consultation process must be attractive to residents and be seen to have a chance of implementation in order to overcome constant critique of the strategic planning process centered on accusations of over-consultation and limited on-the-ground outcomes" (Ruming 2014, 264).

Even in locations with robust planning systems, such as the one in Sydney, it is still challenging to reach a large number of the population. This suggests that even when cities believe they are doing an adequate job, there is always room for improvement. Even though it is difficult, reaching people and educating them on planning policies, especially those regarding densification and infill development, is key to shifting preferences away from single-family housing and encourage acceptance of more compact forms of living.

Does not stop opposition entirely: Even if proactive participation efforts by government are successful, opposition to specific projects might still occur. This can sometimes be a result of policy changes between the time residents were consulted and the time the project is proposed, or due to changes in the people who live in the area. It can also be attributed to residents not being able to fully comprehend or visualize the possible consequences or outcomes of policies, or to irreconcilable personal preferences that will never align with the goals of infill development.

In a case study of the Manningham local government area in metropolitan Melbourne, Australia, Hurley et al. (2013) found that even though there had been an upfront engagement process regarding infill development, years later, infill projects attracted numerous objections from local residents. Hurley et al. (2013) suggest that this is due to a number of factors, including issues regarding the initial engagement process, changes to local regulations after the initial engagement without consultation with residents, and difficulty with using this strategy over a period of years (Hurley et al. 2013, 10).

Opposite Page:
Examples of new development
used in educational materials
for the Minneapolis Corridor
Initiative described in the
appendix.

Photo: Collection of Ann Forsyth



Another problem identified in the case was that “the majority of residents are not aware of the implications of planning policy, or at least struggle to conceptualise the implications, even when they have been party to its development” (Hurley et al. 2013, 10). In a review of the Corridor Development Initiative in the Twin Cities, Minnesota, Forsyth et al. (2010) note that “over time as people move out of neighborhoods some of their local knowledge is lost; as the process is so forward-looking some key people can hold much of this knowledge. The half-life of such a process is probably years, not some decades” (Forsyth et al. 2010, 282).

The examples above illustrate that even with robust processes of engagement to encourage infill development, opposition may still exist and community memory or knowledge of previous public engagement efforts can fade. To a certain extent, it will be impossible to completely neutralize all objections residents have to development. In fact, such objections are probably a good thing, as they show residents are engaged in the planning process. However, some of the issues point to the need to conduct proactive participation activities on a frequent basis, not once every 5 or 10 years. Neighborhoods are constantly changing, and the needs and desires of residents do not conform to most timescales set out in planning processes, making constant monitoring and check-ins with the community necessary.

Predominant consumer preferences and market forces: Even if residents agree with and support the notion that compact development is better than urban sprawl, they might still maintain a preference for low-density housing, or developers might perceive that residents prefer low-density housing, whether or not this is correct. Dependence on the free market alone to deliver new housing options is another barrier, as the slow pace of housing cycles means it will take a long time for densification policies to have a great effect, especially if the market is not particularly strong in a metropolitan area (Dodson 2010, 496). The free market tends to deliver a narrow range of higher density housing options.

In his study of the socio-economic characteristics of people living in high-density dwellings in the Australian cities of Sydney, Brisbane, and Melbourne, Randolph found that most such dwellings were overwhelmingly rental properties of one or two bedrooms in 2001. Forty six percent of households contained just one person and such units housed almost twice the proportion of people between the ages of 25 and 34 as single-family houses (Randolph 2006, 478-9). Randolph argues that the profile for those living in apartments hardly changed

between 1991 and 2001 in spite of small renter households being only part of the larger housing market (Randolph 2006, 481). Randolph pointed out that the market is often conservative about new types of dwellings such as increasing higher density ownership units. In the context of creating more sustainable cities, Dodson claims, “private development processes appear to be very poor and uneven mechanisms by which to increase suburban densities, especially within the short timeframes imposed by the climate and energy crisis” (Dodson 2010, 496).

The findings discussed above suggest that planners and designers will need to do more to make high-density urban living more attractive and affordable. In addition, the greater influence of residential investors and developers in creating new higher density housing could represent a considerable barrier in creating housing that is attractive to a wide segment of society. Their practices will need to change, and may require government incentives or subsidies to achieve.

Promoting Acceptance of Urban Infill: Conclusions

In locations with vibrant democracies, some community activism may well be directed to urban development and planning issues. Involving people in planning, as well as helping them understand the real benefits and costs of higher density development, can focus potential opposition on important issues. Proactive participation efforts can also help to ensure that the voices of more marginalized groups are taken into account, not just the opinions of advantaged residents. Furthermore, broad engagement can reduce the likelihood that one group with differing views will be able to put a stop to infill development policies. It is important that residents are engaged over time, so that they are informed of changes in policies or projects and so that the community retains memory of the infill policies. For infill development, design and planning can make a big difference in terms of the effects on neighbors and neighborhoods, so community engagement is of particular importance.

In addition to proactive planning exercises and educational campaigns, promoting acceptance of infill development can take very tangible forms, such as completing pilot projects that allow community members to get a better sense of urban infill by seeing a sample project. Design standards can provide long-term voluntary and mandatory guidelines for developers in creating infill projects but should be carefully crafted to reflect community needs without stifling development.

1.4 Promoting Alternative Tenures



Promoting Alternative Tenures

What it is

- **Alternative tenure includes options for home occupancy outside of homeownership, such as multifamily rental housing, rent of individual rooms or attached units owned by a private homeowner, or incremental expansion of existing homes to accommodate more occupants.**
- **Promoting alternative tenure offers an important strategy for promoting densification at the household, neighborhood, and metropolitan level.**
- **The housing needs of a wider range of individuals can be met by providing a wider range of housing types (both in terms of tenure and physical design).**
- **Non-homeownership tenure is a powerful tool for bridging between the housing needs of informal workers and the formal housing market.**

Accessory apartments are often difficult to identify because they blend into the environment e.g. they are part of a larger house or in the back yard. There are many such examples in Latin America. This image shows an accessory apartment over a garage in Poundbury, England.

Photo: Collection of Ann Forsyth

Tenure options beyond homeownership of completed units are critical to reaching a broader swath of the housing market. These options not only help to meet housing demand, but also offer strategies that assist in efforts for infill and densification, create more flexibility for the labor market, support municipal budgets, and form part of a broader push toward coordinated urban planning and development. Support for alternative housing policies may face a challenging regulatory environment, in which ownership of detached homes has long been seen as the singular strategy for bolstering the real estate market and providing housing for low-income families (Baird-Zars et al. n.d.). Promoting alternative tenures requires governments and municipalities to take a closer look at the zoning regulations in their communities and establish enabling legislation.

Addressed here are interrelated forms of alternative tenure for housing. Though not comprehensive, these strategies represent the range of options available to diversify the housing market and provide opportunities for households, developers, and governments alike:

- **Rental housing**
- **Accessory apartments**
- **Progressive housing**

1.4.1 Rental Housing

What it is: Rental housing can offer an important alternative to homeownership for any household, but particularly those who are younger or lower-income. Rental housing fits logically into broader efforts for densification, as it often implies higher density, verticality, and cost effective construction on accessible urban sites.

How it Works: Rental housing policies and programs can be implemented at the local level to encourage greater investment in and development of public, social, or private rental housing. Such strategies might include tax incentives or grants

for developers of affordable rental housing, subsidies for households to access the private rental market, investment in infrastructure (spearheaded or implemented by government) to ensure serviced land is available for multifamily rental housing, or the construction of public housing by government (Bouillon 2012).

As becomes clear through the list of possible strategies, rental housing, particularly for lower-income households in need of subsidy, is often facilitated through public-private partnerships. Governments frequently provide low cost loans, tax deductions, construction subsidies, or even serviced land. These help facilitate the process for private sector construction of rental housing (UN-Habitat 2005). Additionally, government has an important role to play as a leader in facilitating the necessary regulatory and legislative reforms, whether at the state or local level, to ensure that rental and multifamily housing is feasible in existing zoning codes, or can conceivably be subsidized in the municipal tax code, for example.

By offering greater variety and lower cost housing options to new households, rental housing can support greater labor mobility as individuals are able to relocate more easily for work (Baird-Zars et al. n.d.). Rental housing also responds to situations in which the housing market is experiencing high rates of abandonment, suggesting that available housing is not suitably located or serviced for the labor market; or high rates of informality, suggesting that households are not able to find accessible or affordable housing. Government-managed, constructed, or subsidized rental housing is generally more common outside of Latin America and the Caribbean, with so called “public housing” or “social housing” constituting 20% of total housing in the United Kingdom, or higher than 30% in the Netherlands, for example (Directorate General For Internal Policies 2013, 9). In some of these cases, social housing is coordinated and promoted

Informal Housing in Mexico

Though irregular tenure and informal housing is predominant in Mexico, the Revitalizing Places report focuses principally on formal housing and the strategies necessary to promote high quality social housing and sustainable urban development. INFONAVIT is a major player in the formal housing market. For example, INFONAVIT was responsible for 74% of mortgage credits originated between September 2013 and 2014 (OECD 2015, 5).

It is important to note, nonetheless, that an estimated 67% of the country's housing is informal or irregular, according to Mexico's Secretary for Rural, Territorial and Urban Development (SEDATU). This irregularity means that housing is constructed on land that is not properly regulated or registered (Gutierrez 2014). Against this backdrop, one recent effort by the federal government has been to create the *Crezcamos Juntos* (Let's Grow Together) program, to encourage informal workers to register their earnings and gain social security benefits and eligibility for a formal government mortgage (INFONAVIT 2016). In addition many of the broad policies for densification, development on new land, and urban redevelopment are also applicable to informal housing development.

The Brazilian ZEIS case study included in Appendix D is a relevant example of how to address and include informal and formal housing tenure in a development project. Examples from observations in Mexico in Appendix E also demonstrate the range of informal and formal housing across the country.

by the nonprofit housing sector and enabled through supportive tax codes that allow for exemptions or deductions that make social housing production feasible (Directorate General For Internal Policies 2013, 11). In the Latin American context, public or social housing (*vivienda social*) typically takes the form of homeownership rather than rental housing (Baird-Zars et al. n.d.).

Example: In countries without this legacy of state-built rental housing, household level subsidies are one approach to facilitating rental housing options for a previously unattended market. A recently emerging program in Chile known as “*Chau Suegra*,” or “Goodbye Mother-in-Law,” is a rental subsidy promoted by the Ministry of Housing and Urban Development (MINVU) at the federal level, aimed at reducing overcrowding and supporting labor mobility for younger households. The 5-year, flat rate voucher is intended to be used in the private market, and to serve as a bridge to eventual homeownership for eligible low-income households between the ages of 18 and 30 (Ross and Pelletiere 2014). It will be critical to evaluate the performance of this subsidy over time to see how support for rental housing aids low-income households and potentially encourages more investment in rental housing by homeowners, developers, or investors.

Rental housing: Implications for Mexico.

Though relatively uncommon throughout Mexico, there is a growing interest in the rental market across the country. Though many cities are seeing growth in the high end and luxury rental market, there are relatively few examples of multiunit (multifamily) rental housing that is accessible for middle or lower income households. Supporting a broader range of housing tenure in accessible urban areas could be a great benefit to the Mexican economy by offering more flexibility in the labor market for workers to relocate more easily, or preventing the housing abandonment seen when workers ultimately find the commuting distance from a purchased home too great. INFONAVIT’s *Arrendavit* pilot rental program is one such example of an emerging role for the rental market, in which the institute is enabling credit holders to opt to rent designated homes renovated by the institute after abandonment.

Takeaways:

- Rental housing must confront the general tendency and policy bias toward homeownership in many markets, whether for reasons of availability, cultural custom, density limitations, etc.
- Rental housing is often made possible through partnership

between the public and private sectors.

- Regulatory reform is often necessary to enable the construction and incentivizing of rental housing.

1.4.2 Accessory Apartments

What it is: Accessory apartments are an important strategy for promoting densification in neighborhoods with single detached houses and offer a wider range of housing types in a community. Accessory apartments are secondary housing units built, usually, on an individual housing lot and can be attached or detached from the primary unit. In almost all cases, these units have their own kitchens, bathrooms, living spaces, and entrances/exits (Wegmann and Nemirow 2011, 1). Accessory apartments typically require zoning and building code amendments, as most codes prohibit accessory apartments. Additionally, ensuring titling and property rights are prerequisites to promoting accessory apartments, as well as clear property titles. Sound landlord and tenant protections are also important. Technical, financial, and design assistance is required to avoid overcrowding, construction faults, inadequate service provision, and neighborhood conflicts.

How it Works: These units—also called accessory dwellings, secondary suites, or granny flats, among other names—represent an important opportunity to increase densities in low-density neighborhoods with a predominant typology of one home per lot. In addition, they provide the community with a more diverse supply of housing types, as well as a potential source of supplementary income for homeowners. For instance, according to Camargo Sierra, documenting socioeconomic characteristics of informal housing residents in Bogotá, Colombia, he discovered that 25% of property owners reported an additional rental income from bedrooms or units in their own home. Even more, this percentage increased by 10% when residents reported an income less than one minimum wage (Camargo Sierra 2015). While residents of detached housing tend to object to their neighbors constructing accessory apartments, accessory units tend to be less contentious than other forms of infill development, such as multiunit dwellings, because of their small size.

Example: The City of Santa Cruz in California (U.S.) is often lauded for its accessory apartment program. The program has five components: zoning changes, community outreach, design prototypes, technical assistance, and financial assistance (Andrews 2005, 9). To make the process of building accessory apartments easier for inexperienced homeowners, the city commissioned local architects to create various

prototypes designed for a variety of situations. These plans are preapproved by the building and planning department, and are available for a small fee to the public to purchase and use. A manual describing the program and the design requirements was also created. For financial assistance, the city provides homeowners with low interest loans and fees are waived for people under a certain income level (Andrews 2005, 9).

Example: Much like Santa Cruz, Portland, Oregon (U.S.) has long had a program to allow the construction of accessory apartments. However, because of the strict regulations and requirements, the program was not very popular until 1998, when the city decided to relax regulations in an effort to encourage more accessory units. Portland eliminated minimum size requirements and owner-occupancy requirements (Sage Computing, Inc. 2008, 4). Now, accessory unit construction is allowed in all single home lots, so long as the accessory structures are no bigger than 800 square feet or the primary residence, whichever is smaller. In addition, all permits that meet the standards of the program are given as-of-right without going through further land use review processes. According to the city, these changes have been positive, and helped to encourage more accessory construction (Sage Computing, Inc. 2008, 4).

Accessory apartments: Implications for Mexico.

Accessory apartments are one strategy that can help integrate higher density living into Mexico's predominant single home typology without significant costs or need for regulatory reform. This could be a very viable way of increasing densities in smaller cities and towns. It requires, however, a focus on individual owners rather than medium and large-scale professional property developers. At the federal level, INFONAVIT's strong position in the Mexican mortgage market gives them a unique capacity to create a program

to support homeowners in developing additional units, and has the potential to unleash a wave of development. INFONAVIT would be particularly suited to offer second mortgages or other financial support for incrementally built accessory apartments. **The Brazilian ZEIS case study included in Appendix D is a relevant example as are examples from observations in Mexico in Appendix E.**

Takeaways:

- Accessory apartments can provide an option for incremental densification, particularly in areas where more intensive forms of infill development are not possible.
- Zoning and other building regulations in most areas with high rates of owner occupancy and residential lots with single structures prohibit the construction of accessory apartments, regardless of whether the unit is detached or a part of the primary dwelling. Allowing the legal, as-of-right construction of these units is an important first-step in promoting accessory apartments.
- Given that construction of accessory apartments is initiated not by developers but instead by homeowners who may not have any construction or rental management experience, challenges may arise. Negative externalities may include a loss of privacy, parking complications, or other undesirable outcomes. In addition, in areas with substantial infill potential, such modest densification may delay more intensive development.
- Technical assistance can foster better development.

1.4.3 Progressive Housing

What it is: Progressive housing can be viewed as a version of “assisted self-help housing,”



Incremental construction over existing structures allows people to expand living space and create room for business. Providing resources to do this in a way that is structurally sound and does not overly harm neighbors is a role for government. This image is from Zumpango, State of Mexico.

Photo: Irene Figueroa Ortiz



Juan Pablo II in Facatativá, Colombia, showing incremental development over time.

Source: Lizarralde 2011, 184.

where residents receive assistance to build, expand, or renovate their homes (Bredenoord and Lindert 2010, 278), while still remaining in control of the expansion process (Andrade n.d. 173). A defining feature of progressive housing is incremental development: households incrementally expand their homes according to need and financial resources (Brendoor and Lindert 2010, 279; Lizarralde 2011, 176).

How it Works: In progressive housing schemes, various levels of government may provide land, new infrastructure, building materials, legal land title, technical assistance, micro-financing, or up-front grants (“direct demand subsidies”) (Bredenoord and Lindert 2010, 278 and 285; Ferguson and Navarrete 2003, 316-21). Other financing mechanisms might include community lending programs or consumer credit to access building materials (Ferguson and Smets 2009, 288).

Progressive housing may create new access to housing for poor and informal residents that the private sector is not interested in serving. Homeownership provides households with an appreciable asset, and the dwellings can also serve as places of work (Brendoor and Lindert 2010, 281). Incremental housing is very common in developing countries, making up anywhere between 50-90% of residential development (Lizarralde 2011, 176). In Mexico, more than 40% of dwellings are built by the occupants of the buildings (Andrade n.d., 173).

Example: Through case studies of incremental housing in South Africa and Colombia, Lizarralde (2011) finds that decisions made during initial construction shape the possibilities for progressive expansion later. Lizarralde (2011) examines the Negreg development in Cape Town, South Africa and the Juan Pablo II (JP II) development in Facatativá, Colombia. For both cases, the government and nonprofit stakeholders focused on initial development and provided little follow-up financial support or code enforcement for incremental construction post-occupancy (Lizarralde 2011, 180). In Negreg, the configurations of the units on the lots complicated add-on construction (Lizarralde 2011, 179). Overall, the JP II case study comprises a more successful example of progressive housing in that many residents were able to almost double the size of their homes as initially constructed, and “home-based economic activities were quickly developed in the units” (Lizarralde 2011, 180).

Example: In Buenos Aires, Argentina, Habitat for Humanity Argentina (HPHA), an affiliate of Habitat for Humanity International, uses a “seed house” or “*casa semilla*” model when working with low-income families. The so-called “seed homes” are built with construction

supervisors from HPHA, teams of volunteers, and the families themselves. Depending on the family size, homes are built with one or two bedrooms, with techniques and tools that are intentionally accessible for the families, so that the homeowners can continue to expand the homes independently and incrementally over time (Habitat for Humanity 2012).

Progressive housing: Implications for Mexico.

Mexico has a long tradition of incremental or self-built housing, where dwellings evolve over time. Programs are already in place for low-income homeowners to access financial assistance for self-built housing through CONAVI and FONHAPO, as well as many state level housing institutes, typically in more rural areas. SEDATU's recent "*Un cuarto mas*" program (this time assisting owners of social housing units that initially had only one bedroom homes) is another example of how federal programs are acknowledging the tendency and need for families to expand their homes over time. In addition, many owners of INFONAVIT housing add rooms even where the units were not specifically designed for this kind of expansion.

To better promote infill and alternative tenure in urban areas, adaptations could be further encouraged by changes in regulation and technical assistance, allowing homeowners to more safely approach the building process and empowering municipalities to better ensure safe and sustainable construction practices. Housing additions and retrofits are particularly common in social housing developments, where homeowners may make changes in order to provide more security, make the home more accessible for disabled or elderly family members, house a growing family, open a small business, etc.

Takeaways:

- For formal progressive housing to be widely

adopted, it is important that residents feel that they have secure land tenure. An essential consideration is figuring out how to reach the groups targeted by progressive housing initiatives (Brendoor and Lindert 2010, 280).

- Locating progressive housing projects on the urban periphery may take advantage of lower land prices in these areas but may lead to high infrastructure costs (Brendoor and Lindert 2010, 279).

To promote densification, it is important that buildings be properly designed so that additions can be safely made and separate units can be independently and affordably added over time.

Benefits and Challenges

Benefits of Promoting Alternative Tenures

Relatively easy construction: Depending on the type, alternative tenure can usher in infill development in a relatively straightforward manner. The construction of multifamily rental or single homes may usually require private developers to undergo the expensive and complicated process of assembling parcels of land to be developed or redeveloped. Building accessory apartments or progressive housing, by contrast, is relatively simple, as the person initiating the construction already owns the land required. In addition, most of the infrastructure required already exists, as the new or expanded unit can use the water, electricity, and sewer infrastructure already servicing the primary dwelling.

Given the small scale of accessory or progressive construction, they offer a unique opportunity to retrofit existing low-density neighborhoods without creating large impacts on the character of the neighborhood (as opposed to building multiunit housing complexes). However, it is

important to note that this is only true when the regulations and requirements governing the construction of accessory apartments are not too onerous. If they become too complex, or too expensive, then this benefit will be lost.

Flexibility for the rental and labor markets:

First, the availability of a wider range of decent and affordable housing options in the housing market gives lower income or smaller households much needed flexibility to find housing that suits their needs and budget. This alleviates the burden of homeownership for households that are not prepared, whether with regard to finances, long-term plans, or preferences. Additionally, a greater number of non-ownership tenure housing options can allow workers to relocate more easily for work, and with well-located residential development, to find housing closer to their workplace.

Rental income for households: Creating accessory apartments or new rooms or units via progressive housing presents the opportunity for a household to create a new source of income. In addition, the potential to earn income from the property may add value to it, as well as allowing families to afford mortgage payments on houses they normally could not manage. Rental income can make a large difference to homeowners with modest means, while also expanding the range of housing options available to those who cannot afford or are not seeking homeownership.

Municipal income for governments: Through the encouragement and enabling of more diverse development, governments will ideally be able to capture more tax revenue through construction licenses and fees as well as ongoing revenue through property taxes. It is critical that property taxation is in place, particularly with higher density multifamily rental units, so that governments have the revenue necessary to provide services and ensure that adequate infrastructure is in place for new construction and

new residents. Additionally, by creating formal avenues for households to construct accessory units or make progressive improvements to the home, governments are able to exercise greater oversight over the process (and ensure safety standards) while also gaining some revenue (albeit minimal) from the licensing or processing fees for construction permits from new development.

Challenges of Promoting Alternative Tenures

Resident initiated: The construction of accessory apartments and progressive housing expansion depends to a large degree on the preference of the homeowner. Even if the process is simple and easy, homeowners may still be hesitant to build an accessory unit because they have little experience with construction, or that they do not wish to become a landlord and deal with renters. So even when zoning and regulation allow for the construction of accessory apartments, governments cannot force homeowners to build accessory units. The voluntary nature of accessory apartment construction is one of its largest drawbacks, and one that is not easily overcome. Prototypes like those used in the Santa Cruz example (**Section 1.4.2**) become important, as they allow those unfamiliar with construction or housing design to easily select a pre-approved plan to build. Regardless, government policy and programs should realize that accessory apartment owners likely are not private developers, and have different concerns and a greater need for technical assistance than that of an experienced developer.

Costly for urban infill: Though rental housing is very appropriate for urban infill, the costs can be prohibitively high. Although rental housing very effectively enables an area to densify, the costs of purchasing and assembling sufficient land, ensuring proper zoning, and constructing at higher densities in central areas can prove very challenging for housing developers. This is particularly true if the housing in question is

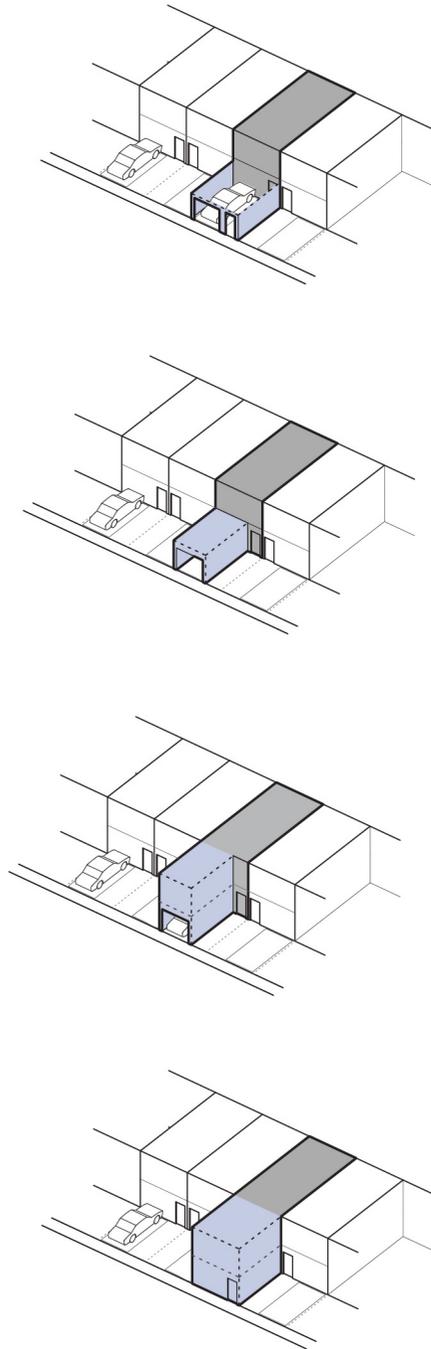
intended as affordable or mixed income housing, and thus offers less assurance of a sufficiently profitable return. Additionally, this in turn may imply that multifamily rental housing may prove too costly for governments to be able to sufficiently subsidize or incentivize.

Construction quality: The quality of owner-built progressive housing and accessory apartments is an ongoing challenge. There is also a need to upgrade existing stock of this type—either structurally or in terms of infrastructure. Because each situation is unique it can be expensive to assess each issue.

Regulatory constraints: Rental housing faces significant regulatory constraints, in large part due to policy bias toward homeownership. Particularly for higher density multiunit construction, existing zoning may not permit the building heights or unit numbers needed for such development. The challenges of site-specific zoning changes or regulatory reform may be too costly or time consuming for developers or nonprofit organizations to take on without significant government support. To a certain extent, it will be impossible to completely remove regulatory barriers to building accessory apartments. However, efforts should be made to ensure that the barriers are not too onerous. Many of the same reforms to the regulatory reforms needed to facilitate infill development, described in **Part 1.2 on Simplifying the Urban Development Process**, apply to the construction of accessory apartments as well. One significant barrier to the construction of accessory units is parking requirements.

Promoting Alternative Tenure: Conclusions

Alternative tenure options should be included in any strategy to promote densification, as they constitute a significant and at times simpler way to create affordable housing and to increase density in low-density neighborhoods. Accessory



Typical construction sequence of incremental housing.
For more detail see Appendix E.
Diagrams by Irene Figueroa Ortiz

apartments, for example, unlike other types of infill development, are less costly and generally more acceptable to other neighbors.

Although formal, high-density rental developments are uncommon outside of Mexico City and major urban centers, accessory apartments and progressive housing are already part of the Mexican landscape. They can be constructed within existing structures, behind them, in an addition on top, or in the yard by converting an outbuilding like a garage or laundry, or building a new small house. Progressive adaptations or accessory units are flexible—the same unit might house an older or younger family member, a tenant providing income, or a small business.

Their great advantage is that they can be developed incrementally as long as regulations allow and financing is available (i.e. loans for construction and renovation of such units). They are particularly appropriate in lower-density areas and in smaller towns and cities. Where household sizes have been decreasing, they can help to maintain populations in the area by having more units with fewer people per unit.

The main disadvantage of accessory units is that, by adding value to a property, they make it less likely that it will be redeveloped at a much higher density (e.g. having townhomes or apartments placed on the lot). This is mainly a disadvantage in key locations such as around train stations and in the centers of large cities. In these areas, planning controls and other incentives, outlined in the next sections, can be put in place to make it attractive to redevelop at even higher densities.