Principle 5
Mix Uses and Users

Principle 5
Mix Uses and Users

Create diverse mixed-use neighborhoods and districts that integrate affordable housing

GOALS

5A **Encourage an optimal balance of housing, shops, and services**

ACTION 1: Create a great walking experience with ground floor shops and services

ACTION 2: Provide opportunities for residential development in commercial blocks

ACTION 3: Within each residential neighborhood, cluster schools, social services, and civic uses

5B **Create a jobs/housing balance within a short transit commute distance**

ACTION 4: Develop a citywide pattern of mixed-use districts that balance jobs and housing

5C **Integrate affordable and senior housing in each neighborhood**

ACTION 5: Establish districtwide affordable housing strategies and financing mechanisms

METRICS

5.1 **Services Minimum**

High-density residential blocks of more than 50 dwelling units/acre must provide at least 0.15 floor area ratio to publicly accessible shops and services at block corners

5.2 **Commercial Destinations**

Cluster shopping districts with civic uses and services within 800 meters of 80 percent of housing

5.3 **Affordable Housing**

At least 20 percent of housing in a neighborhood should be affordable

RATIONALE AND CHALLENGES

Mixed-use—the intermingling of residential, commercial, civic services, and workplace opportunities—guarantees access to amenities and services that are close to where people live. Mixed *users* means providing housing and services for a complete range of incomes and household types. Requiring a certain level of both types of mix in each area allows residents to access important amenities without traveling far distances, thus saving time, decreasing car use, improving quality of life, and integrating a complete, inclusive community. This is especially important for developments with elderly or children, as it is more difficult for them to travel independently, especially in areas with wide roads dominated by cars. Mixed-use districts and neighborhoods should be established in a city master plan to seamlessly combine TODs, major commercial areas, and residential districts.

Mixed-use is one of the most difficult principles to quantify for every neighborhood, region, or country. Yet, for neighborhoods to be accessible and vibrant, it is one of the most important. Lack of appropriate zoning, inattention to human-scale, loss of pedestrian connections, and urban sprawl are some of the most significant challenges to implementing mixed-use development. While informal housing neighborhoods organically create local services and shops, in planned areas of higher income housing, most retail is pushed away into distant centers and malls. In addition, schools, parks, and local civic services are too often underfunded or consolidated for economic "efficiencies" that produce larger and more distant facilities.

Figure P5-1: This mixed-use development near transit in Chenggong, China provides many retail and live/work options and creates a safe around-the-clock community with an unique identity. (Source: HDR | Calthorpe)

In the private sector, developers often lack incentives or zoning to engage in mixed-use development, which is harder to finance, permit, and market. In addition, lack of commercial property management in residential areas often results in mixed-use areas that are too noisy, dirty, or plagued with vacancies. While mixed-use neighborhoods require more attention in terms of management and planning for larger developers, they can increase property values, strengthen community, and improve economic growth for the area.

The details and function of what makes for a truly successful mixed-use area are sometimes missing from those that have been developed. For example, clusters of office parks, apartments, and shopping centers (sometimes called activity centers) are often isolated from one another by major arterials, difficult intersections, and a lack of local street connections. The mix is present, but the pedestrian connections and critical mass are not. Likewise, gated residential superblocks or mid-rise housing buildings may have small quantities of first-floor commercial spaces, but these do not create a vibrant street life because they are internalized, isolated, and fragmented.

Another challenge for some mixed-use commercial buildings is how large setbacks and parking lots isolate the development from surrounding neighborhoods. In contrast, many of the best mixed-use areas feature setbacks that are typically narrow and building entrances that are placed close to the sidewalk. First floors are open to the public as commercial or active spaces, building façades are active, and scaled signs, lighting, and awnings are shaped to the human-scale.

Low-density development is posing a challenge to the retail and services dimension of mixed-use development. In low-density areas, it is more difficult for mixed-use to flourish as there is insufficient market demand for frequent and accessible shops and services. A combination of policy, financial incentives, new business models, and more sophisticated urban planning will be needed to solve these challenges. Projects based on urban regeneration have potential to become successful mixed-use developments as there is already a sizeable residential population nearby and the location is often within an urban core with greater regional access.

Diversity is key to a successful mixed-use development. It is critical to integrate and combine differing housing types, family sizes, and affordability into a mixed-use development. Achieving complete life-cycle neighborhoods include mixing social housing, affordable rental, first-time low-cost home ownership, larger family housing, empty nester condos, and senior housing. Too often, each of these housing categories are built separately and isolated from one another. The challenge is that each is produced and marketed by specialists with differing financing, zoning, and construction types. The results of this housing stratification are isolated demographics and stigmatized social groups that lead to stereotypes, lack of opportunity for low-income populations, and regressive pollical policies. Appropriate planning, financing, inclusionary requirements, and organic building opportunities can support integrating differing incomes and age groups.

BENEFITS

ECONOMIC

Increases property values: Property values increase from mixed-use neighborhoods.[1]

Saves households money: Households save money and time due to the availability of local goods and services. This allows people to meet their everyday needs with fewer long-distance trips.[2]

ENVIRONMENTAL

Improves air quality: Mixed-use promotes non-motorized transit which decreases energy use and related air emissions.[3]

Reduces car use: Mixed-use neighborhoods are less likely to have car commuters because of a better jobs/residents balance and transit opportunities.[4]

Optimizes energy use: Creates a more varied energy load demand profile, reducing peak load pressure for more cost-effective and reliable electricity demand conditions.

SOCIAL

Improves health: Provides opportunities for increased walking and active transportation. [5]

Increases access to amenities: For the elderly, children, and handicapped residents.

Zhangma District, Jinan, China

The Zhangma site, located in Jinan near the New East High Speed Rail Station, is well integrated into the land-use, transportation, and open space structure of its surrounding areas and is a model for mixed-use development. The plan is centered around three high-density mixed-use TODs. One of the major TODs is at the intersection of the transit spine and the major open space, which is a transfer station between the Metro and BRT. This location makes the center easily accessible by walking, bicycling, BRT, and automobile, while allowing easy access from the wider region via the Metro. Another major TOD is at the southern gateway to the development, also at a Metro-BRT transfer station. The third

TOD is on the eastern corner of the site at a Metro station. These TODs will be mixed-use employment and retail hubs for the community and surrounding neighborhoods. The master plan's urban form is defined by two major elements: a couplet surrounding a transit green street (together forming a transit spine) which runs north and south through the plan area and a major open space running east and west. The transit spine creates a walkable yet highly transit-served core for dense mixed-use development. The site is 545 hectares designed to support the projected population of 151,000 with 47,000 dwelling units, and a total built-up area of seven million square meters.
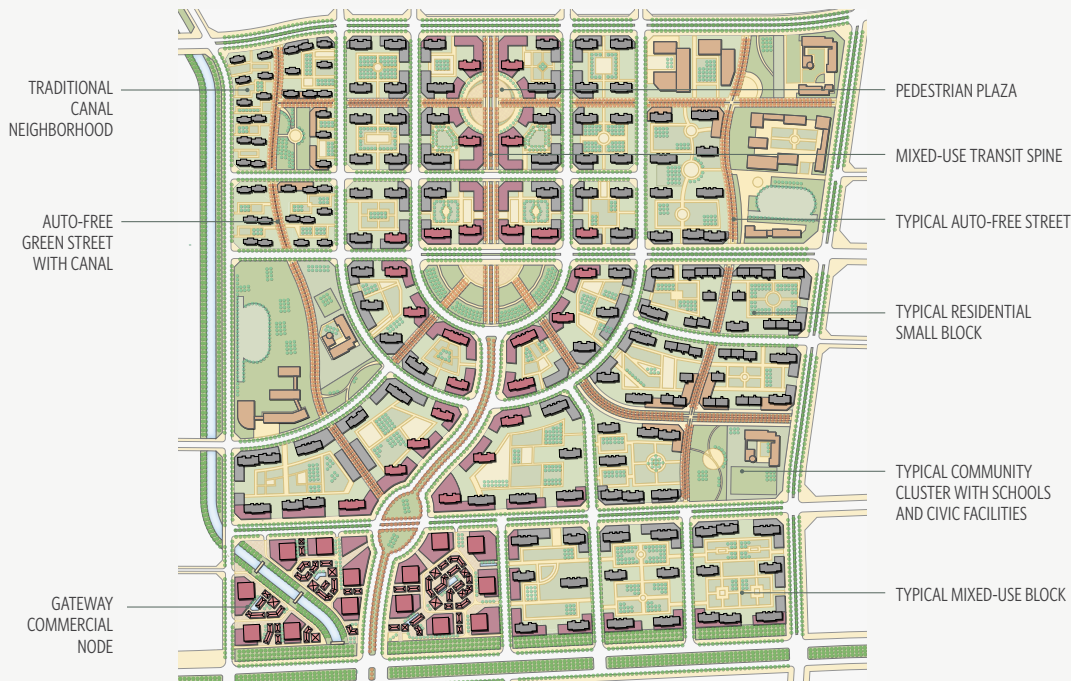

Figure P5-2: This plan illustrates a detailed design area within Jinan's Zhangma District where mixed-use blocks line the transit spine. (Source: HDR | Calthorpe)

GOAL 5A:
Encourage an optimal balance of housing, shops, and services

Traditional neighborhoods had lively streets where children walked with families and the elderly met. These mixed-use neighborhoods had problems too, but it was the lively mix of shops and services near homes and jobs that gave these areas their charm and identity. By trading a mix of traditional housing types for isolated housing complexes, cities are losing their unique sense of place and the efficiency of compact neighborhoods. In response, cities need to combine the benefits of modern housing with the best qualities of traditional urban neighborhoods. An optimal balance of housing, shops, and services should be encouraged, with housing options that accommodate a mix of income levels and age groups. In residential blocks, corner shops and local services that cater to the needs of the neighborhood will add neighborhood vibrancy and enforce the pedestrian realm. In addition, housing, shops, and services should be mixed within commercial districts to create 24-hour communities.

Figure P5-3: Rendering of proposed mixed-use blocks along a transit spine in Chenggong, China accommodates a lively mix of housing, jobs and shopping (Source: HDR | Calthorpe)

Figure P5-4: Providing the right mix of residential, commercial, and civic uses leads to a '24-hour' community, which is safer, more vibrant, and has a unique identity. (Source: HDR | Calthorpe)

ACTION 1:
Create a great walking experience with ground floor shops and services

For mixed-use to be successful, creating an environment that encourages walking is critical. On residential streets, entries, windows, stoops, and porches create a human-scale environment for casual interaction. Lining commercial and high-density residential streets with a variety of services, shops and multiple entries at the ground floor will ensure pedestrian activity at street level and create vibrancy. In addition to providing ground-level services, sidewalks and walkways should be unobstructed to allow pedestrians easy access to shops, between blocks, and between adjacent sites. Ensuring that pedestrians feel welcome and safe will improve pedestrian experience and promote walking. It can also relieve traffic congestion. It is important that shops and services fronting the sidewalk have limited setbacks and frequent entries to bring activity and visibility to the street.

Figure P5-5: The Eastwood Mixed Use Development is set to develop a new town center for the Sydney, Australia suburb, creating convenient access between home, work, retail, and leisure. This mixed-used development of 450 apartments and 13,000 m² of retail connects both private and public spaces with landscaped gardens and pedestrian-oriented, open air promenades that transform into dining destinations by night. (Source: HDR)

ACTION 2: Provide opportunities for residential development in commercial blocks

In commercial areas like central business districts and commercial centers, it is important to incorporate residential development close by to ensure that these districts function as 24-hour communities. Typically, commercial areas and office parks are devoid of activity after work hours and during weekends because no pedestrian traffic occurs to support services, parks, and shops. The absence of housing largely contributes to this phenomenon. To ensure that these areas are as lively at night as they are during the day, residential development should be promoted in commercial districts. Edmondson Park in southwest Sydney, Australia is a good example of how residential is incorporated alongside retail and office uses to create a human-scaled, mixed-use, small block development that is vibrant round-the-clock.

Figure P5-6: Edmondson Park aims to knit the town center to homes within the community as well as to the adjoining national park. The community is drawn through a green spine of activity which transforms along its length from civic to communal. (Source: HDR)

ACTION 3: Cluster schools, social services, and civic uses within each residential neighborhood

Neighborhoods need local services as well as shops. Schools and parks are the foundation of the shared places of a healthy community. These can be augmented with senior centers, health clinics, day care centers, recreation centers, religious institutions, and other social services. Clustering these civic facilities can reinforce a sense of place and the strength of local interactions and social capital.

Figure P5-7: The vision for the Focal Point Community Campus is a mixed-use development that includes a replacement hospital, retail parks, and an integrated community center serving the surrounding lower socioeconomic neighborhoods of southwest Chicago. It will be an urban campus that fosters a relationship between the hospital and its community with a band of food and retail markets, fitness centers, and community services like day care and continuing education. (Source: HDR)

GOAL 5B:
Create a jobs/housing balance within a short transit commute distance

Balancing housing and jobs has a long-term impact on sustainability and mobility at the regional scale. Each city master plan should designate commuter shed areas that combine TOD, employment areas, and mixed-use residential neighborhoods to balance jobs and housing. City planners should locate new commercial projects within or adjacent to existing development in ways the shorten average commutes and encourage reverse commutes. In addition to potentially protecting open space, this strategy significantly decreases the cost of providing transit, utilities, and other services to remote areas, while reducing most residents' daily commute. Where possible, workforce housing should be located in close proximity to major job centers with easy and direct transit service. Decentralizing employment in locations that encourage reverse commutes will reduce peak-hour congestion on roads and transit systems.

The keys to creating a jobs/housing balance within a short commute distance include: providing multiple high-capacity transit connections to all new development areas; locating new job centers to limit commutes to approximately 15 kilometers or 30 minutes by transit or car; and creating smaller, decentralized job centers that encourage reverse commutes.
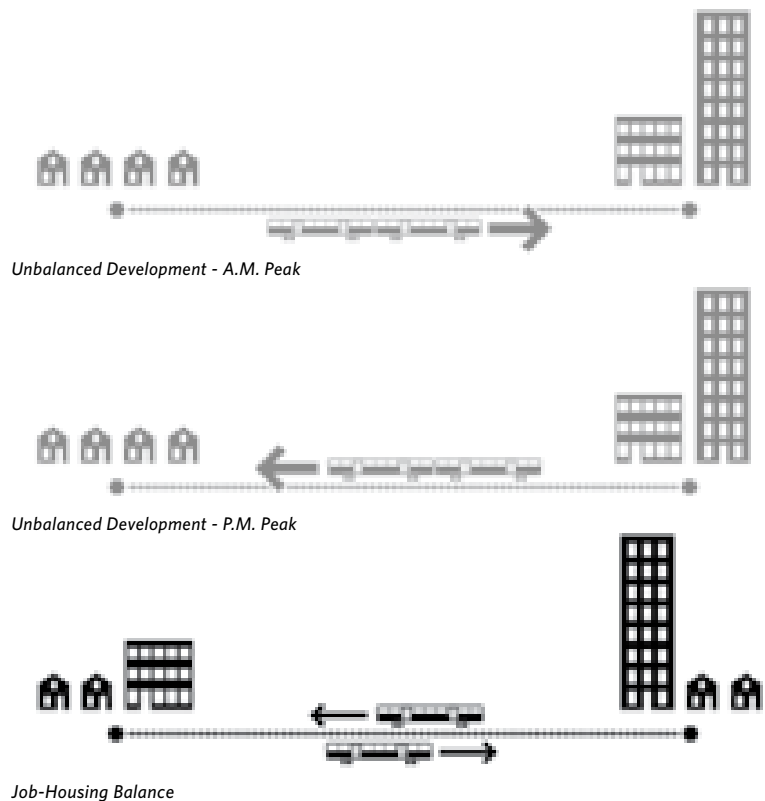

Unbalanced Development - A.M. Peak

Unbalanced Development - P.M. Peak

Figure P5-8: Unbalanced development during morning and evening hours in comparison to a more desirable job/housing balance (Source: HDR | Calthorpe)

Job-Housing Balance

ACTION 4:
Develop a citywide pattern of mixed-use districts that balance jobs and housing

It is very important for the city as a whole to have districts that are in balance. This does not ensure that all who work in the area also live in the area, but it does increase the probability and creates an equal directional load on the transit and circulation systems—the same number of in and out commuters at peak hours. In addition, all basic needs and destinations should be provided close to home and transit. A range of neighborhood, community, and regional retail should be distributed within each commuter shed district as well. Balance should be created within a development and in relation to the surrounding districts.
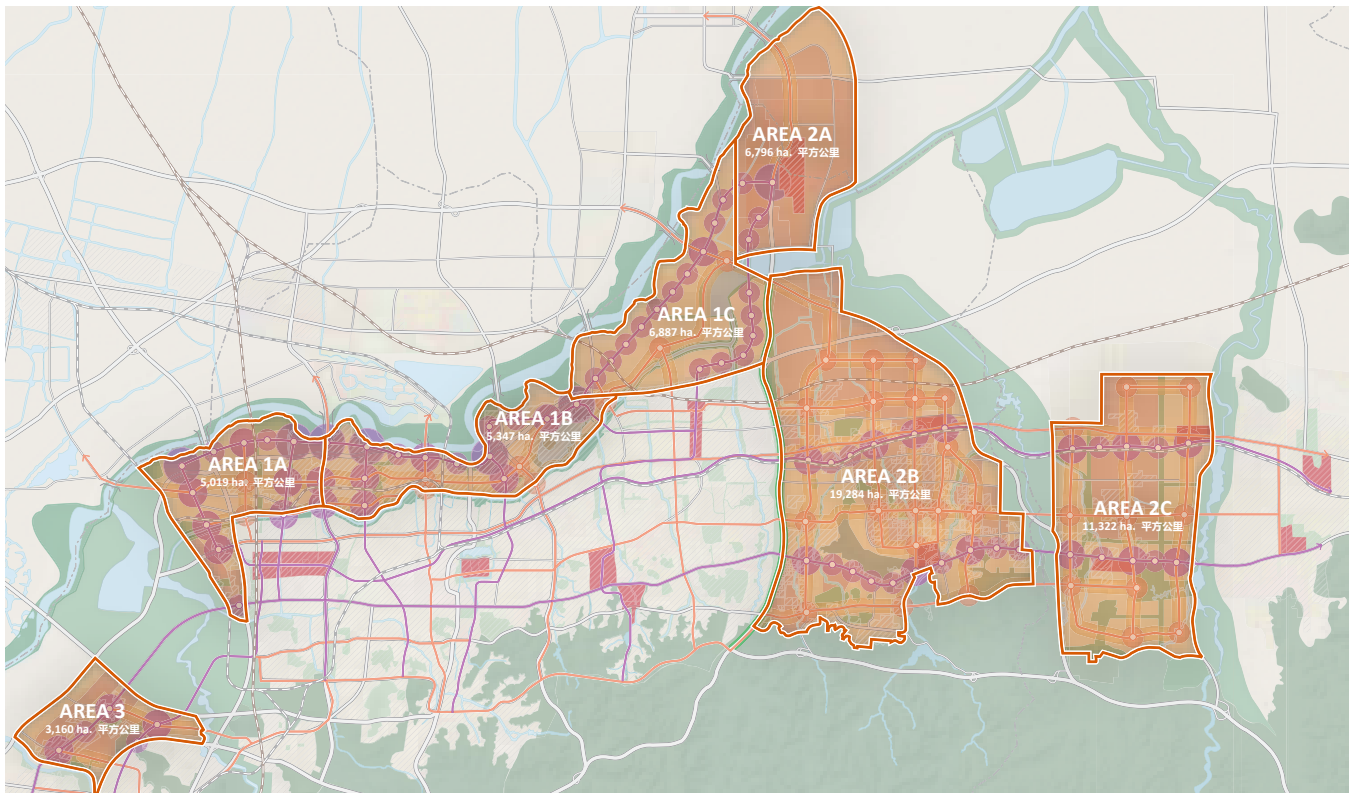

Figure P5-9: Development capacity study calculations summarize future targets for population and jobs by districts for the regional Plan in Jinan, China. (Source: HDR | Calthorpe)

GOAL 5C:
Integrate affordable and age-diverse housing in each neighborhood

Housing diversity is a great indicator of successful cities. This includes providing housing options that accommodate a mix of income levels and age groups. In doing so, neighborhoods become complete communities that integrate a full range of the population and the social capital that results. In this context, it is important to provide services for all—from day care and senior centers to health facilities, schools, and shops.

Low-income opportunities should be mixed with market rate buildings to eliminate stigma or social isolation. The full-age spectrum neighborhood offers the opportunity for mutual aid with elderly, families, singles, and children, all interacting in positive ways. In fact, studies show that those seniors living in age diverse communities have greater life expectancies.

Figure P5-10: Dunedin, Florida is an example of a community designed to accommodate the needs and interests of multiple generations. (Source: JC Sullivan, CC BY 2.0, https://www.flickr.com/photos/jcsullivan24/13633897495)

Figure P5-11: The Seattle Parks and Recreation Big Day of Play is a community event that includes activities for all ages and abilities. (Source: CC BY 2.0, www.flickr.com/photos/seattleparks/48673275376)

ACTION 5: Establish districtwide affordable housing strategies and financing mechanisms

Affordable housing is a global challenge that must be addressed in a very proactive way by providing housing opportunities in cities where services and jobs are more accessible. It is important that as cities and middle-class wealth grows, the poor are not left behind in isolated housing blocks, slums, and neighborhoods. Each district should have its proportional amount of affordable housing that

can be integrated in a seamless manner into the fabric of each neighborhood. Targets for the ratio of affordable and senior housing should be established in each regulatory plan along with urban design standards that help to integrate this housing into the community's vernacular architecture. In addition, subsidized housing can be integrated within the larger developments through inclusionary requirements on a project by project basis.

METRIC 5.1:
Services Minimum

High-density residential blocks of more than 50 dwelling units/acre must provide at least 0.15 floor area ratio (FAR) to publicly accessible shops and services at block corners

To ensure an active pedestrian realm, shops and local services should line the ground floor of street fronts within an easy walking distance of housing and jobs. All residential blocks must have a minimum ratio of 0.15 (of the total FAR) dedicated to publicly accessible uses at ground level. Uses that activate and provide direct entries are encouraged, such as shops, cafés, restaurants, and small businesses. This set aside also includes ground-floor retail and community facilities. Other allowable ground-floor uses may be civic uses (such as clinics, community centers, day care, etc.) and publicly accessible entry lobbies.

RESIDENTIAL BLOCK: NON-SHOPPING DISTRICT

Figure P5-12: An illustration of a 100m x 100m residential block in a non-shopping district showing a minimum 0.15 FAR at block corners (Source: HDR | Calthorpe)

Figure P5-13: Perspective view of residential block in a non-shopping district with minimum 0.15 FAR at block corners (Source: HDR | Calthorpe)

METRIC 5.2:
Commercial Destinations

Cluster shopping districts or main streets with civic uses and services within 800 meters of 80 percent of housing.
Provide a minimum of 0.3 FAR in shopping districts and within commercial parcels along shopping streets

Bringing neighborhood amenities, services, and retail close to housing, within an 800-meter radius of at least 80 percent of all housing, ensures that communities have a vibrant mix of uses and are walkable. Amenities include services that relate to neighborhood needs such as convenience shops, retail, post offices, banks, clinics, activity centers, restaurants, and farmers' markets.
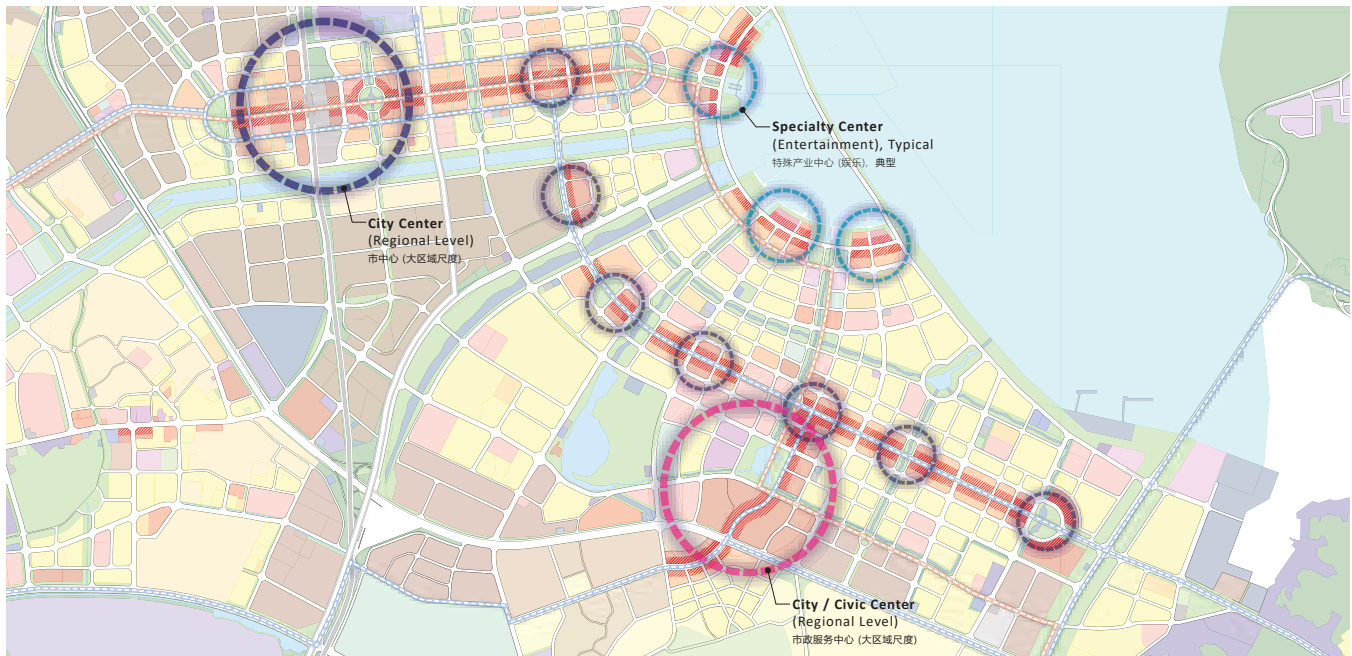

Figure P5-14: Planned shopping districts in Zhuhai, China follow planned transit lines. (Source: HDR | Calthorpe)
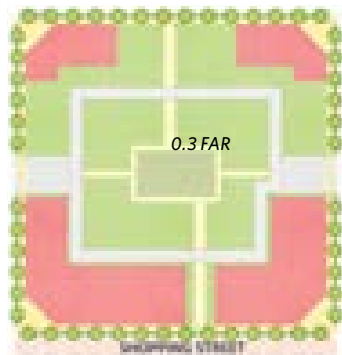
RESIDENTIAL/COMMERCIAL BLOCK: SHOPPING DISTRICT

Figure P5-15 (far left): An illustration of a 100m x 100m residential/commercial block along a shopping street showing a minimum 0.3 FAR at block corners (Source: HDR | Calthorpe)

Figure P5-16 (left): Perspective view of residentialcommercial block in a non-shopping district with minimum 0.3 FAR at block corners (Source: HDR | Calthorpe)

METRIC 5.3:
Affordable Housing

At least 20 percent of housing in a neighborhood should be affordable

Income inequalities have been rising in urban as well as rural areas throughout China, and the gap between urban and rural incomes is as high as it was at the start of reforms in 1978. In response, the Chinese government's 12th Five-Year Plan adopted in 2011 targets 35 million units of social housing, bringing total coverage to 20 percent of households, which is higher than in most developed countries. Land availability, financing, effective targeting of public subsidies, and operating and maintenance of housing units are among the key challenges that China faces in meeting its affordable housing goals. Many developing countries experiencing a migration from rural, agrarian industry to urban service economies are facing similar housing challenges.

Too much low-income housing is currently provided outside formally established government programs through collective housing, such as dormitories provided by employers, or private rental units in 'urban villages' or on the urban fringe. In Shanghai, 80 percent of migrant households are renters and a mere 5.5 percent can afford to purchase commercial housing, while the rest live mainly in employer-provided dormitories. Affordable housing policies should address this group as well as non-migrant needs.

Aside from improving the functioning of the housing market more generally and encouraging industries to move to more affordable locations in secondary cities, lessons from international experience suggest that China and other countries in similar situations can introduce specific policies to promote social housing.

Increasing flexibility for municipalities in achieving their social housing construction goals rather than mandating a specific number of a particular type of unit could stand as a solution.

Broad goals could be set for each municipality that could then be required to develop a specific plan on how to achieve these targets. The plan should be done based on careful analysis of housing demand (such as demographic and socioeconomic conditions) and supply (such as types of housing available for different income groups, at what cost). The overall plan would include a market study, a market plan, a financial plan, an analysis of job growth and infrastructure needs, and a long-term management plan including contingencies. The findings of the analysis should determine the housing needs of a locality and enable local governments to define the nature, scope, and policy interventions required to effectively align housing demand and supply.

Improving availability of land for social housing and promoting mixed-use developments can increase the availability of social housing throughout a municipality. Planning for housing should bring together many stakeholders including those involved in planning for local economic development, transportation, urban space, and infrastructure services. "Inclusionary zoning" policies, an instrument used in many U.S. municipalities and in European countries, can be applied to require developers to set aside 10 to 30 percent of the units for affordable housing.

Rezoning some industrial land for housing could increase the availability of residential land in many cities and bring down prices. In addition, improving the inventory of public land and identifying underused parcels could expand the availability of land for social housing development and infill. Including urban villages in the city and zoning them for low-income housing is another option, while better connecting existing social housing in remote locations would improve their usefulness.

Sydney, New South Wales, Australia

Population (Metro): 5,250,815 [10]
2030 forecast (UN): 6,671,617 [11]
Size: 1,687 km² [12]

GREATER SYDNEY PLAN: A POLYCENTRIC FUTURE

The Greater Sydney Plan aligns transport, infrastructure, and land-use plans to create "A Metropolis of Three Cities" where most residents live within 30 minutes of their jobs, education, health facilities, services and great places.[13] Focusing a regional vision on travel time is an innovative, human-centric goal which informs a standard for quality of life, but also informs land-use and zoning policies in the regional as well as neighborhood scale.

The main goal of the plan is to tackle the challenge of 500,000 employees commuting from Sydney's suburban neighborhoods into the central harbor central business district every day. The vision calls for reconfiguring and adding transportation infrastructure to connect three urban clusters, rather than invest in ring roads around a single center. The clusters are enabled by partnerships with multiple municipalities to form a "Metropolis of Three Cities: Eastern Harbour City, Central River City, and Western Parkland City."

Each of the three clusters will form around transit lines and walkable urban centers built in a fine-grain fabric to support a human-scale design. The region's population growth will be accommodated through mixed-use development and cultural, educational, and open space anchors. With environmental and technical constraints in mind, the plan encourages denser development to avoid expensive infrastructure investments on the ridges defining the fringes of the city.

The plan also accounts for climate change and sets a roadmap for greater resilience, while enhancing livability for senior people in Australia's aging society. One way to achieve both objectives is to improve access to open spaces through the Greater Sydney Green Grid, a network of walking and cycling links beneficial in reducing urban heat island effect and in improving the mobility, independence, and wellbeing of residents of different generations.

Figure P5-17: Three interconnected urban centers form the future Sydney metropolitan area. (Source: © State of New South Wales Greater Cities Commission, CC BY 4.0)
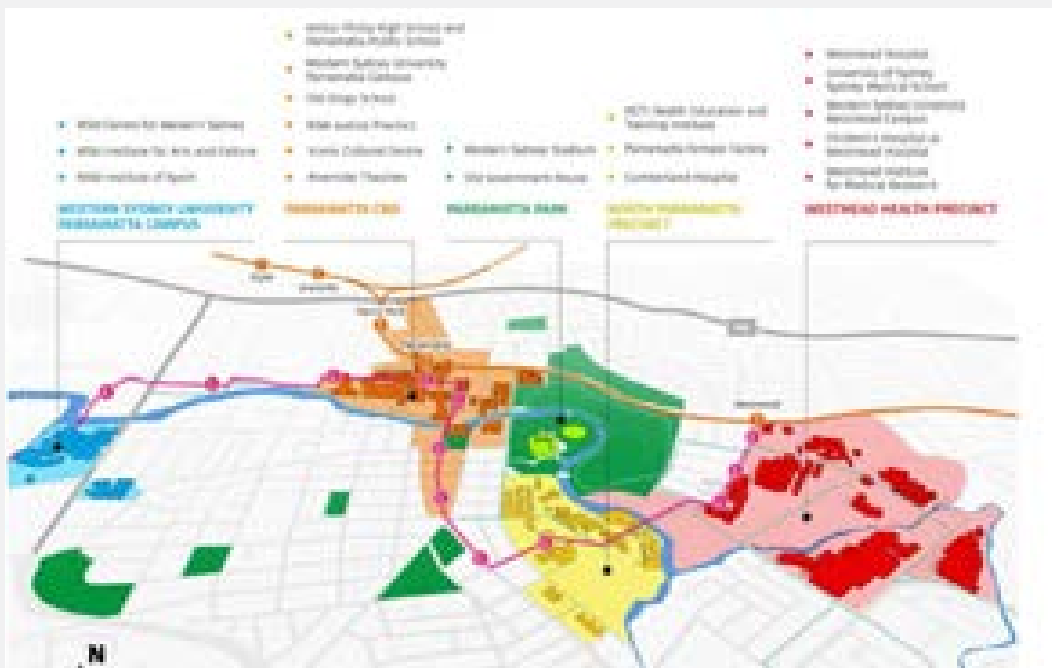

Figure P5-18: Each center will function independently and offer jobs, education, services, and recreation. (Source: Source: © State of New South Wales Greater Cities Commission, CC BY4.0)

Oakland, California, USA

Pop. 425,195 [14]
2030 forecast (Alameda County): 470,000 [15]
Size: 144 km² [16]

COMMUNITY-LED EQUITY IN FRUITVALE TRANSIT VILLAGE

Fruitvale Village is a 19-acre (7.7 hectare) transit-oriented development adjacent to the Fruitvale Bay Area Rapid Transit (BART) station in East Oakland, California, It is a 16-minute ride from downtown San Francisco. Phase I, a four-acre mixed-use, mixed-income development, includes a senior center, child development center, public library, and free health clinic. Twenty retail spaces face the main pedestrian street to connect the station with the neighborhood, while higher stories include 37 market-rate loft apartments and 10 affordable units.[17]

The project was developed by the Unity Council, a local nonprofit community development corporation, in a joint venture with multiple community stakeholders, the city, and BART, who owned the land and replaced the previous use of the site (a parking lot) with a multistory parking structure on site.

The project enhances local identity thanks to its mixed private, public, and community uses integrated into the local visual language thanks to a California-style architecture. It also establishes the community as the gateway to the district. The project increased passenger ridership from the station by 2,500 per day, showing a greater impact on the neighborhood's mobility patterns.[18]

Balanced market and affordable housing development helped reduce the displacement of existing communities and amplify local voices through civic society entrepreneurship. The project is seen as a unique success story of development without gentrification, a highly contested issue affecting mainly lower-income communities of color in the stressed housing market of the San Francisco Bay Area.[8]

Figure P5-19: Stacking multiple uses on a former transit company-owned parking lot provided a win-win for community and developers. (Source: BART)

Figure P5-20: Fruitvale Village acts as a proud gateway to a vibrant, economically and ethnically diverse neighborhood. (Source: LocalWiki.org, CC BY-SA 2.0)

Chicago, Illinois, USA

Population: 2,693,976[6]
2030 Forecast: 9,400,000 [7]
Size: 607 km² [8]

HOPE VI: REHABILITATING PUBLIC HOUSING INTO A DIVERSE, PLANNED COMMUNITY

In the United States, Hope VI projects correct the mistakes of past urban renewal attempts. In teaming up with residents and community leaders, a consensus is formed on redevelopment and the creation of a mixed-income community. Additionally, the designs integrate all units into the existing community and create a traditional urban residential neighborhood. This is accomplished with 12 different unit types, including live-work, three flat tuck-unders, townhomes, and four flats over ground-floor retail. These building types are distributed over the 100-acre site to create 3,000 units of housing, with each of the unit types distributed equally to the three income levels: low-income, affordable, and market rate.

Figure P5-21: This Hope VI planned community features traditional Chicago-style buildings that provide mixed-income housing within close proximity to downtown Chicago. (Source: HDR | Calthorpe)

ABLA Homes, one of Chicago's oldest and largest public housing communities, serves as a model of public housing redevelopment for both the city and the United States. The perception of ABLA Homes as a collection of deteriorating public housing projects was transformed to one of a diverse, traditional Chicago neighborhood in the early 2000s. Backed by Hope VI funding, the ABLA rehabilitation and renewal plan was the result of collaboration with residents and community leaders. The outcome most resembles a traditional urban neighborhood rather than a public housing project. The planned community features traditional Chicago-style buildings that support housing for a spectrum of income levels. The proximity of downtown Chicago increases the allure of the site by not only allowing residents shorter travel times, but also striking views of the skyline and lakefront.

The ABLA homes have evolved into a development named Roosevelt Square that includes an integrated campus green space and connects with the reopened Fosco Park, a community center that includes an indoor swimming pool, gymnasium, and day care facility. Upon Roosevelt Square's completion, the community will be home to 2,441 units of new rental (including affordable and Chicago Housing Authority units) and for-sale housing accompanied by a mix of services and public amenities.[9]

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